

**REQUEST FOR QUALIFICATIONS
FOR DESIGN-BUILD SERVICES CONTRACT
FOR PROJECT NO. 81000984 – CONTRACT NUMBER 1638
BLUE RIVER WWTP BIOSOLIDS FACILITY PROJECT
WATER SERVICES DEPARTMENT
CITY OF KANSAS CITY, MISSOURI**

1. **Purpose.** This is a Request for Qualifications (“RFQ”) issued by the City of Kansas City, Missouri (“City” or “Owner”) acting through its Water Services Department (WSD) for Design-Build Services including design, construction, startup, and extended commissioning for the Blue River Screen House Facility Project (Project).

This RFQ represents the first step of the procurement process and establishes the process for soliciting and evaluating Statements of Qualifications (SOQs) from those entities (Proposers or Design-Builders) interested in serving as the Design-Builder. The SOQs will be reviewed and evaluated in accordance with the provisions of this RFQ to develop a shortlist (of qualified Design-Builders (Shortlisted Design-Builders or Shortlist). Shortlist will be determined solely on SOQs submitted. Only those Design-Builders selected as Shortlisted Design-Builders will be issued a Request for Proposals (RFP) and invited to submit a proposal in response to the RFP.

The RFP will represent the second step of the procurement process and will solicit detailed technical and cost proposals from the Shortlisted Design-Builders. The award of the Contract for Design-Build Services will be subject to the terms and conditions of the RFP. Shortlisted Design-Builders not selected and contracted with will be offered a stipend of \$25,000.00 upon their submittal of a responsive Proposal and City Council approval to contract with the successful design-build team.

Design-Builder must be thoroughly familiar with the scope of work and performance requirements discussed in this RFQ. The City may disqualify any Design-Builder that fails to demonstrate such familiarity in its SOQ.

It is anticipated that the RFP will include a process by which shortlisted Design-Builders will be able to have proprietary, confidential discussions with the City to discuss the Project, design development, and comments on the draft Contract for Design-Build Services. The City’s project specific design-build solicitation will not be changed except via addendum during the RFP phase. Design-builders are encouraged to review the City’s standard contract on the project website and submit their recommendations to the City’s Project Manager. Additional contract modifications may be considered during negotiations with the selected design-build team.

2. **Definition of Request for Qualifications.** This RFQ is an invitation by the City to interested Design-Builders to submit an SOQ and all other required submissions as specified in this RFQ. Determination of the Shortlisted Design-Builders will be based upon the judgment of the City in eventually selecting a Design-Builder that will be in the best interest of the City. This RFQ is not a request for a competitive bid. The Design-Builder’s submittal of an SOQ in response to this RFQ does not create any right in or expectation to a contract with the City.

Due Date. Sealed SOQs are due by **August 25, 2022 at 2:00pm (local time)**. SOQs shall be sent to Derrick Smith, Procurement Officer, **Procurement Services, General Services Department, 414 East 12th Street, City Hall 1st Floor-RM 102W, Kansas City, MO 64106**. Design-Builders should submit six (6) spiral bound copies of their SOQs, and one (1) electronic version of the SOQ on a USB flash drive (in indexed and searchable PDF format). All SOQs must be submitted in a sealed envelope or box and shall not be opened until after the due date. The SOQ document package shall be plainly labeled with the words “STATEMENT OF QUALIFICATIONS FOR BLUE RIVER SCREEN HOUSE FACILITY PROJECT”. The City reserves the right at any time to change or extend the due date and time for any reason.

Each Design-Builder assumes full responsibility for the timely delivery of its SOQ at the required location. Any SOQ received after the submittal deadline will be deemed nonresponsive and returned unopened to the Design-Builder, and that Design-Builder will be eliminated from consideration. A delivery acknowledgement will be issued upon receipt of the SOQ package and will be provided to the Design-Builder via e-mail by the City’s Project Manager.

3. **RFQ Package.** The RFQ package for this Project contains the following:

Section 1: Project Overview

Section 2: Fixed-Price Design-Build Services

Section 3: Procurement Process

Section 4: SOQ Submission Requirements

Section 5: SOQ Evaluation and Selection

Section 6: Conditions for Design-Builder

Attachments:

Attachment A: Definition of Terms

Attachment B: Forms for Affirmation of Compliance (including Human Relations Department (HRD) Documents)

- HRD Form 06: Instructions for RFQPs (Informational Only)
- HRD Form 8A: Contractor Utilization Plan/Request for Waiver (Informational Only)
- HRD Form 10: Timetable for MBE/WBE Utilization (Informational Only)
- HRD Form 11: Request for Modification or Substitution (Informational Only)

- HRD Form 13: Affidavit of Intended Utilization (Informational Only)

- 00450.01 Letter of Intent to Subcontract (Informational Only)

Attachment C: Forms to be Submitted with SOQ

- DB 00210.01 Design-Build Background Information Form
- Form 00515.01 Employee Eligibility Verification Affidavit

Attachment D: Request for Proposal (Informational Only)

4. **Pre-SOQ Conference.** A mandatory pre-SOQ conference will be held on **August 4, 2022 at 11:30 a.m., held via Microsoft Teams Attendance** at the pre-Proposal conference is mandatory for all Design Professionals. Virtual meeting information will be issued as an addenda.

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

[Learn More](#) | [Meeting options](#)

5. **Questions.** Forward all questions by email to the following Project Manager and Contract Administrator. Questions received less than ten (10) days prior to the Submittal Date may not be answered. Interpretations or clarifications considered necessary by the Project Manager in response to such questions will be issued by Addenda to all Design-Builders. Oral or other interpretations or clarifications shall be without legal effect, even if made during formal meetings.

Isaac Garlington, Project Manager
4800 East 63rd Street,
Kansas City, MO 64130
Phone: (816) 513-0436
E-mail: isaac.garlington@kcmo.org

Derrick Smith, Procurement Officer
Procurement Services, General Services Department
414 East 12th Street, City Hall 1st Floor-RM 102W
Kansas City, MO 64106
(816) 513-0807 Phone
(816) 513-2812 Fax
Email: derrick.smith@kcmo.org



For persons with disabilities needing reasonable accommodations please contact the City's ADA Specialist at 816-513-6589.

SECTION 1: PROJECT OVERVIEW

1.1 Project Background

The Blue River WWTP was constructed between 1964 and 1965 and expanded in 1987. It is a 120 million gallons per day (mgd) municipal wastewater treatment facility that discharges treated effluent into the Missouri River. WSD's solids management program currently employs a centralized approach with the Blue River WWTP receiving and processing over 95 percent of the solids from the City's service area wastewater treatment plants.

Project will upgrade the screen house facility and improve the operability of the screen house for the Blue River WWTP operation personnel and will comply with federal and state regulatory requirements through 2035.

WSD conducted a condition assessment at each of its six WWTPs in 2017. According to the assessment, the Blue River WWTP facilities were significantly deteriorated and improvements to the solids management processes were identified as necessary for meeting anticipated solids capacity, reliability, and regulatory requirements through 2035. Influent flowing through Screen House will flow to the THP process at Blue River WWTP. Flows are anticipated to increase through the Blue River Screen House by 2035 and inadequate screenings could cause abnormal events within the THP equipment.

Due to criticality of adequate screening, and the desire to allocate risk to one entity, the City decided there is benefit in utilizing a Design-Build method for the Project and a Fixed-Price Design-Build (FPDB) method was selected. The FPDB method outlined in this RFQ was chosen to allow WSD staff involvement in the design process for the Project while leveraging the schedule, collaboration, and other advantages that result from use of a design-build process.

Ongoing coordination services and meetings with WSD will be required.

1.2 Project Scope

This RFQ is to provide Design-Builder Services for design, construction, and commissioning the following scope of work as defined in the Project Technical Requirements (Attachment E), within the City's Budget and Scopes Rank Ordered as follows:

Rank Order

- 1) Multi-Rake Screens and Conveyors
- 2) Channel Separation System
- 3) Grit Equalization across Channels
- 4) Actuated Slide Gates
- 5) Westside Line-Reroute
- 6) Power Upgrades
- 7) Heating, Ventilation, and Air Conditioning (HVAC)

For full scope of services, refer to Section 01110 – Summary of Work

Under the FPDB method, the Design-Builder's scope of work for the Project will be performed in two (2) phases under a single Contract for Design-Build Services between the City and Design-Builder. These phases may run concurrently. The Project phases are generally described as follows:

- **Design Phase** services performed under the Contract for Design-Build Services include completing the entirety of the Project's final design and pre-construction activities.
- **Construction Phase** services performed under the Contract for Design-Build Services include: performing construction; performing post-construction tasks, such as commissioning and initial performance testing; and performing warranty and other work required.

1.3 City's Objectives

The City's objectives for delivery of the Project are as follows:

- **Quality:** Provide treatment facilities and equipment that will be sustainable and will reliably remove wastewater screenings in full compliance with federal and state regulations and contractual standards for the full range of wastewater flows set forth in the RFP.
- **Cost:** Minimize capital cost with consideration of optimizing life-cycle cost.
- **Schedule:** Achieve the scheduled completion dates for design, construction and performance testing of the Project.
- **Risk:** Achieve an optimal balance of risk allocation between the City and the Design-Builder.
- **Safety:** Implement an effective safety program incorporating best industry practices.
- **Operations and Maintenance (O&M):** Optimize operating and maintenance requirements so that the facility is capable of reliably and continuously operating in a cost-effective manner over the long-term. Develop and deliver, in conjunction with City management, program that provides effective class room and hands on training for WSD staff to transition to full-time operation of new facilities.
- **Accountability:** Provide for Design-Builder to assume single point of accountability for performance of all services under the Contract for Design-Builder Services.
- **Smooth Transition:** Smooth transition of design deliverables (i.e. as-builts, O&M manuals, submittals, building information models (BIM)) from the Design-Builder to the City for use in the City's O&M systems, such as maintenance management and asset

management. Smooth transition of facility operations following commissioning activities between the Design-Builder and the City.

- **Collaboration:** Provide for coordinated design development with City input in a manner that preserves Design-Builder’s sole responsibility for the achievement of Project performance objectives while meeting City objectives associated with cost, quality, aesthetics, and long-term operability.

By selecting the FPDB delivery method for the Project, the City is committed to working in close collaboration with the Design-Builder. The project technical requirements and standards for the Project’s design will be provided to the Shortlisted Design-Builders with the RFP.

1.4 Project Funding

The cost for design and construction of the Project is currently estimated at **\$5 million**. This budget does not include the City’s other Project costs, such as professional advisory services, site investigations, environmental studies, certain governmental approvals, taxes, and other related costs.

The Project may be financed through a combination of City municipal revenue bonds and cash on-hand.

1.5 Project Schedule

The Project schedule is anticipated as follows:

- Design-Builder Notice-to-Proceed
February 2023
- Facility Commissioning
August 2024
- Substantial Completion
September 2024
- Final Completion
November 2024

1.6 Sustainability

The City has adopted an overall policy supporting a greater use of “green solutions” or enhanced sustainability measures that consider environmental quality, social equity and economic vitality. In order to minimize waste, enhance efficiencies, and achieve multiple benefits and project synergies, all City projects must identify opportunities for sustainability improvements and implement those improvements when financially reasonable and operationally practical.

The Envision™ rating system is used by WSD to promote sustainability in a variety of infrastructure projects and to encourage sustainable approaches as an important part of project design. Envision™ will also be used to evaluate and grade the sustainability of Project components as they are developed.

City also desires for all City of Kansas City, MO services to be carbon neutral by the year, 2030.

SECTION 2: FIXED-PRICE DESIGN-BUILD SERVICES

2.1 General

The Design-Builder shall perform all design and construction services, and provide all materials, equipment, tools, supervision, labor, and all other items and services necessary to complete the Work described in, and reasonably inferred from the Contract Documents as defined in the Contract General Conditions. This Work will include, but not be limited to, the following services:

Design Phase:

- Develop the Project execution plan, including Project schedule.
- Develop the final engineering design (including preparing and submitting intermediate design review packages) in conjunction with City. Design exhibits will include, but are not limited to, drawings, lists, and specifications.
- Perform additional engineering studies and site investigations (such as subsurface investigations, raw water/ wastewater analysis, etc.) to support the design.
- Complete final design documents for the purposes of obtaining necessary permits and to use for construction, and obtain City and other Authorities Having Jurisdiction (AHJ) that may require approvals of the design.
- Value-engineering activities to further confirm the Project budget through evaluation of any additional cost savings opportunities not identified in the Proposer's Proposal.

Construction Phase:

- Attend regular meetings with the City on a mutually agreed-upon schedule to communicate objectives, report on schedule and progress, discuss and resolve issues, obtain clarifications, etc.
- Secure identified permits.
- Procure materials, equipment, and subcontractors.
- Supervise subcontractors and Design-Builder personnel.
- Construct Project.

- Coordinate with the City for supply of power, telecommunications, and potable water to the site for purposes of construction facilities and for final commissioning.
- Maintain site security.
- Implement Project health and safety practices.
- Implement quality-management procedures.
- Conduct startup, commissioning, and performance testing.
- Provide operator training and prepare an operations transition plan.
- Provide closeout documentation (as-built drawings, BIM, O&M manuals, itemized asset management information, etc.).
- Provide warranty coverage.

2.2 Roles and Responsibilities

City: The City will cooperate with the Design-Builder and will fulfill its responsibilities in a timely manner to facilitate the Design-Builder's timely and efficient performance of services. The City's responsibilities include:

- Review submissions and provide comments to Design-Builder in a timely manner.
- Furnish existing studies and provide complete, accurate, and reliable data and information regarding the Project, including record drawings, preliminary studies, environmental impact assessments, BIM models, Site plans etc.
- Provide information and provide (or engage Design-Builder to perform) additional studies that may be necessary to complete the Project.
- Provide adequate funding.
- Provide access to the Project site and any necessary easements.
- Obtain the governmental approvals and permits the City is responsible for and assist Design-Builder in obtaining governmental approvals and permits Design-Builder is responsible for.
- Provide necessary data and inputs, characteristics and ranges (e.g. wastewater influent) for Project start-up and performance testing.

Design-Builder: The Design-Builder will cooperate with the City and will provide in a timely manner the services, as described in Section 2.1, necessary to complete the general Project scope specified in this RFQ.

The roles and responsibilities of the City and the Design-Builder will be more fully described and clarified in the RFP.

SECTION 3: PROCUREMENT PROCESS

3.1 Communications and City Contact

On behalf of the City, **Darrell Everette, Procurement Manager, Procurement Services Department** will act as the sole point of contact (City Contact) for this RFQ and shall administer the RFQ process. All communications shall be submitted in writing by email and shall specifically reference this RFQ. All questions or comments should be directed to the Contract Administrator as identified under Paragraph 5 of this RFQ. All communications and questions regarding the Project shall only be made through the City Contact with the exceptions of City-certified Disadvantaged Business Enterprises, Minority Business Enterprises, and Women Business Enterprises (D/M/WBE) and of Design-Builders contacting the Human Relations Department to assist in meeting MBE/WBE goals. D/M/WBEs may contact WSD, General Services, and HRD staff directly regarding the Project.

No oral communication from the City Contact or any other individual is binding. Oral or written contact with other City staff, WSD staff, or any public official specific to the Project during the RFQ/Shortlist process is prohibited. A violation of this provision may result in disqualification of the Design-Builder from the RFQ/Shortlist process.

3.2 Procurement Schedule

The approximate procurement schedule is as follows:

- Advertise RFQ July 25, 2022
- Mandatory Pre-SOQ Conference August 4, 2022
- Deadline for Receipt of Written Questions July 27, 2022
- SOQ Submission Date August 25, 2022
- Shortlist Selection Date (provisional)* September 2, 2022
- Issuance of RFP (provisional) September 7, 2022
- Proposal Submission (provisional) November 9, 2022
- Notice of Intent to Contract (provisional) December 28, 2022

The Mandatory Pre-SOQ Conference is discussed in Paragraph 6 of this RFQ.

* Note: Shortlisting will be performed using the Statement of Qualifications

SECTION 4: SOQ SUBMISSION REQUIREMENTS

4.1 Submittal Due Date

Refer to Paragraph 2 above for submittal location and due date.

4.2 Submission Format

The SOQ must not exceed **twenty-five (25)** total narrative pages in 11-point font (most or all 8½ x 11 inch with 1-inch or greater margins). Each page will count as one page if printed only on one side, and two pages if printed on front and back. Page count excludes the transmittal letter, index or table of contents, front and back covers, title pages/separation tabs, and appendices. A maximum of **five (5)** of the total pages may be 11 x 17 inch z-fold format. The SOQ shall be typed or printed double-sided to the extent possible, and shall have continuously numbered pages. Each SOQ Part shall be labeled with title headers.

Any supplemental information or documents (i.e., not required by this RFQ) that are included in the proposal should be marked as an attachment and clearly identified in the Table of Contents.

4.3 Submission Content

The content requirements set forth in this RFQ represent the minimum content requirements for the SOQ. It is the Design-Builder's responsibility to include information in its SOQ to present all relevant qualifications and other materials. The SOQ, however, should not contain standard marketing or other general materials. It is the Design-Builder's responsibility to modify such materials so that only directly relevant information is included in the SOQ. The City is interested in only receiving information regarding the Design-Builder (Prime), Lead Designer, major sub-contractors, systems integrators, and proposed MBE/WBE teaming partners as part of the Design-Builder's SOQ.

The SOQ must include the following information in the order listed:

- Transmittal Letter
- Part 1 – Design-Builder Profile
- Part 2 – Key Personnel
- Part 3 – Experience
- Part 4 – Safety Record
- Appendix A – Forms for Affirmation and Compliance

- Copies of Missouri Construction and Engineering Licenses for Lead Contractor, Design Manager, and Engineer of Record (and/or letter of commitment to retain licenses by Issuance of RFP)
- Joint Venture Agreement (if applicable)
- Bonding Capacity (notarized letter confirming Design-Builder can meet minimum bonding requirements)
- Declaration of Insurance (notarized letter confirming Design-Builder can meet required limits)
- DB 00210.01 Design-Build Background Information Form
- Additional Information Related to Termination for Default, Criminal Convictions, and Debarment
- Form 00515.01 Employee Eligibility Verification Affidavit
- Appendix B – Resumes
- Appendix C – Safety Record Documentation

4.3.1 Transmittal Letter

Design-Builder will submit a transmittal letter on the Design-Builder’s letterhead. The letter must be signed by the Design-Builder Principal, the authorized representative of the Design-Builder listed on Form 00515.01, who is empowered to sign such material and to commit the Design-Builder to the obligations contained in the SOQ. If Design-Builder is a corporation or a limited liability company (LLC), an authorized officer shall sign his/her name and indicate his/her title beneath the full corporate name. If Design-Builder is a joint venture, an authorized representative for each member of the joint venture shall sign the letter, and specifically state that, if the joint venture is selected as the Design-Builder, each member will be jointly and severally liable to the City for the obligations arising out of the contracts between the joint venture and the City.

The transmittal letter must include:

- The name of Design-Builder’s authorized representative(s), address(es), phone number(s), and e-mail address(es).
- The name of the proposed Design-Builder, Lead Contractor and Lead Designer.

- The identity of the individual(s) who will be the signatory(ies) to the contract(s) with the City, if awarded to Design-Builder, including title(s), address(es), phone number(s), and e-mail address(es).
- Acknowledge the receipt of any addenda.

The transmittal letter shall be limited to two (2) 8½ x 11-inch pages. The transmittal letter may include other information deemed relevant by the Design-Builder. **A SOQ that does not include a transmittal letter will be considered non-responsive and the Design-Builder will not be considered for the Shortlist.**

4.3.2 Part 1 – Design-Builder Profile

At a minimum, the following information must be submitted, otherwise the SOQ will be deemed non-responsive and the Design-Builder will not be considered for the Shortlist:

- **Executive Summary.** The executive summary (maximum three pages) must include a concise overview of the key elements of the SOQ and must summarize and refer to information in the SOQ concerning satisfaction of the Mandatory Requirements. The executive summary shall not be used to convey additional information not found elsewhere in the SOQ.
- **General.** Provide general information about the Design-Builder, Lead Designer and Lead Contractor organization(s), such as lines of business and service offerings, locations of home and other offices, number of employees (professional and non-professional), years in business, and evidence of required licenses.

Identify which members of the Project Team will function as the Lead Contractor and Lead Designer, as defined in Attachment A (Definition of Terms). Identify Key subcontractors such as systems integrators and Kansas City certified MBE and WBE firms. Identify the scopes of work of each MBE/WBE firm and available bonding capacity of MBE/WBE firms for this project if practical. Provide copies of the construction licenses for Lead Contractor and copies of engineering license of the Design Manager and the individual that will act as the engineer of record in Appendix A (Forms for Affirmation and Compliance). The Design-Builder and Lead Contractor must each possess and maintain current, valid, and appropriate State of Missouri construction licenses for performance of the construction work. The Design Manager and the individual that will act as the engineer of record must possess and maintain a current, valid and appropriate State of Missouri engineering license for performance of design services. If Design-Builder, Lead Contractor, Design Manager, or individual that will act as engineer of record does not currently maintain a State of Missouri license, please provide a letter of commitment to retain such required license by the time of the Issuance of the RFP.

The Design-Builder's and Lead Contractor's construction licenses may not have been suspended or revoked in the last five (5) years; and the engineering licenses for the

Design Manager and the individual that will act as the engineer of record may not have been suspended or revoked in the last seven (7) years.

- **Legal Structure.** Identify whether the Design-Builder is organized as a corporation, LLC, or joint venture and which entity will obtain the performance and payment bonds that will be used; and provide a copy of joint venture agreement that was filed with the State of Missouri in Appendix A (Forms for Affirmation and Compliance). **If Design-Builder is a joint venture, all information required of a single entity must be submitted by each member of the joint venture.**
- **Project Team Organization.** Provide an organizational chart showing Design-Builder's proposed organizational and management structure that clearly identifies which Design-Builder's Project Team members are responsible for the major functions to be performed. Include significant design consultants and construction subcontractors including MBE/WBE firms and systems integrator(s). The organizational chart may be 8½ x 11 inch or 11 x 17-inch paper, folded to 8½ x 11 inch size. Describe the roles, responsibilities, functional arrangements, and reporting relationships showing clear lines of authority and communication between and among the members of Design-Builder's Project Team, including Key Personnel (defined in Attachment A Definition of Terms) that will be used to manage, design, and construct the Project. The organizational chart should also indicate the firms for the respective Team Members via text and color coding.
- **Bonding Capacity.** A potential "step-up and step-down" bonding approach may be used for the Project. Such an approach could allow different bonding limits between Project phases (e.g. Construction and Extended Commissioning). In Appendix A (Forms and Affirmation of Compliance), Design-Builder shall provide a notarized letter(s) from its surety (or sureties) verifying the Design-Builder has a minimum bonding capacity of \$5 million available for this Project for performance and payment bonds. The Design-Builder's surety (or sureties) must have a rating of A- or better in the latest revision of the A.M. Best Company's Insurance Report, must be authorized by law to do business in the State of Missouri, and must be listed in the U.S. Department of Treasury Circular 570. The Design-Builder should note that the City intends for the Design-Builder's performance bond to remain in place either through Final Completion or through the Extended Commissioning Phase (i.e., up to two [2] years after completion of construction).
- **Quality Services Assurance Act.** Comply with the City's Quality Services Assurance Act, Section 3-66, Code of Ordinances.
- **Sustainability.** Include a concise (maximum of two pages) summary of your company's policies, strategies, and actions that demonstrate your philosophy and commitment to sustainability in accordance with Section 1.6.
- **Insurance.** The selected Design-Builder will be required to maintain for the duration of the Contract for Design-Build Services and provide certifications of insurance coverage(s). In Appendix A (Forms and Affirmations of Compliance), Design-Builders

are required to provide a notarized declaration from their insurance carrier(s) that their firm is able to obtain insurance coverage in the following limits:

- General Liability \$2,000,000(Aggregate)
\$1,000,000 (per occurrence)

- Builder's Risk or Property Insurance \$5,000,000
(Full Replacement Cost)

- Professional Liability \$1,000,000

The Lead Designer may provide the professional liability insurance if Lead Designer will be a subcontractor to the Design-Builder. The required insurance must be obtained and maintained from insurance companies that have an A.M. Best Rating of no less than A:VII, unless otherwise acceptable to the City, and are duly licensed or authorized. The City shall be named as an additional insured as appropriate and shall be entitled to the fullest coverage permitted by law.

The SOQ must provide the following additional information pertaining to factors or events that have the potential to adversely impact the Design-Builder's ability to perform its contractual commitments.

- **Termination for Default, Criminal Convictions, and Debarment.** Design-Builder shall submit the following information with respect to the Design-Builder, Lead Contractor and Lead Designer:
 - Identification of any contract that has been terminated for default within the last five (5) years.
 - Identification of any criminal conviction, and any violation of any federal, state, or local statute or regulation, or of any court order addressing or governing antitrust, public contracting, employment discrimination, false claims, or prevailing wages within the last five (5) years.
 - Identification of any debarment, or any consideration for debarment, on public contracts by the federal, state, or local government, or by any agency of such government within the last five (5) years.

Present the Design-Builder's position on the matter. The City will evaluate the facts and may, at its sole discretion, reject the Design-Builder's SOQ if the facts discovered indicate that completion of a contract resulting from the RFP may be jeopardized by selection of such Design-Builder.

If any of the above questions is answered in a manner that indicates that any of these unfavorable factors or events are present, it is the Design-Builder's responsibility to: (1) describe in detail the unfavorable factor or event; and (2) provide sufficient information

to demonstrate that the unfavorable factor or event will not adversely impact the Design-Builder's ability to perform its contractual commitments. **Include these responses, as well as the completed DB 00210.01 Design-Build Background Information Form (provided in Attachment C, Forms to be Submitted with SOQ) in Appendix A (Forms and Affirmation of Compliance) of the SOQ.**

The Design-Builder must notify the City of any changes subsequent to submission of the SOQ and before the selection process is completed related to the Design-Builder Profile (and, in the case of the selected Design-Builder, before execution of the Contract for Design-Build Services).

4.3.3 Part 2 – Key Personnel

Identify the proposed Key Personnel (and their firm affiliations), as defined in Attachment A (Definition of Terms). Provide the names, e-mails addresses, intended utilization rate on this project, primary office location, percent of working time in the Kansas City Metropolitan Area during this project, and phone numbers of all such Key Personnel. The City expects Key Personnel named in this SOQ to remain on the Project Team for the duration of the Project and may not be removed or substituted without the City's prior written consent. The City also expects the Key Personnel to be utilized at the rate indicated at the specified locations. The Design-Builder's Proposal score may be impacted if the Shortlisted Design-Builder changes Key Personnel from those indicated in the SOQ and/or Key Personnel location/utilization. Design-Builder shall provide information regarding at most 5-8 project team personnel other than those team members defined as Key Personnel in Attachment A (Definition of Terms).

Provide resumes for all Key Personnel in SOQ Appendix B (Resumes). Resumes must be limited to two (2), single-sided 8½ x 11-inch pages per Key Personnel and half a page for other team members. Provide the following background information for each Key Personnel:

- Total years of experience in the design and/or construction of water/wastewater public works projects.
- Years of employment with current employer.
- City of residence.
- Percent of working time anticipated to be in the Kansas City Metropolitan area during this project.
- Intended utilization during this project. DB may break utilization down by phases.
- Academic and professional qualifications.
- Professional registration(s) (as applicable) and certifications such as Design-Build Institute of America's "Designated Design-Build Professional" that are applicable to the Project. (At least one credentialed Envision™ Sustainability Professional (ENV SP) must be on the project team in a leadership role to submit a proposal for this project.)

- Experience as it relates to the Project (including reference projects and the individual's role in referenced project) and to the individual's specified role on the Project.
 - Provide staff capacity for meeting CITY's requirements.
 - Identify Key Personnel who are likely to be assigned to this Contract if proposal is selected. Key Personnel must be committed to contract duration and may not be removed or substituted without CITY's prior written consent.
 - For each Key Personnel member, provide a resume and/or summary with at least the following background information:
 - Description of relevant experience.
 - Years of employment with business/firm
 - Years of employment in Industry
 - City and State of Residence
 - State time commitment on other accounts
 - Applicable professional registrations, education, certifications, and credentials.
 - Experience relevant to position on this project team.
 - Comment on recovery plan in the event your business/firm sustains loss of Key Employee.
 - Provide staffing plan for the Contract including locations of the positions.
 - Provide an organizational chart for assigned staff. Provide certifications that indicates all employees working on this Contract in city limits of Kansas City, Missouri are paid a minimum of \$12.50 per hour in compliance with City's Quality Services Assurance act, Section 3-66, Code of Ordinances.
 - If certification can not be provided, submit the following items for CITY to evaluate potential quality of personnel.
 - Turnover rate for the last three (3) calendar years for non-exempt employees and exempt employees
 - Employee benefits provided to exempt and non-exempt employees.
 - Training provided to exempt and non-exempt employees including those providing services to CITY
 - Promotional opportunities for non-exempt and exempt
 - Average tenure of exempt and non-exempt employees during the immediately preceding three (3) calendar years
 - Employee incentive rewards and employee recognition policies
 - How your firm provides and receives employee feedback and communication
 - Mentorship programs provided to employees
 - Education benefits provided for exempt and nonexempt employees.
 - Design-Build experience of team members may be considered a larger significance by CITY.

- The following roles must be identified, demonstrated as they pertain to the project including construction manager, design project manager, construction superintendent, safety, quality, sustainability, project engineer, architect, and engineers responsible for civil, structural, process, mechanical, fire protection, electrical, and instrumentation & controls.
- Experience working at the Blue River WWTP and/or with the City of Kansas City, Missouri, as well as within the greater Kansas City area.
- Identify any other projects Key Personnel will be involved with concurrently with the Project, and indicate the estimated time commitment for the Project and other projects listed if greater than 10%.

Provide three (3) project references for each of the Design-Builder's Key Personnel.

4.3.4 Part 3 – Past Experience

The City is interested in reviewing the past performance and experience of the members of the Lead Contractor and Lead Designer, including their individual and collective past performance and experience. The Design-Builder shall provide descriptions for a minimum of four (4) reference projects each for the Lead Designer and Lead Contractor to demonstrate experience relevant to the Project. Representative projects shall be projects of similar size, complexity, challenges, and functionality as the Project described in this RFQ. A maximum of a total of ten (10) representative projects may be provided.

Each project description shall contain at least the following information:

- Name of Owner.
- Owner reference and contact information.
- Role of Project Team Member.
- Original construction cost, at selection for construction manager at risk and progressive design-build or bid for fixed fee design build and traditional delivery, negotiated Guaranteed Maximum Price if relevant, and final construction cost (and reason for difference between original and final costs).
- Original completion date of project and actual completion date.
- Description of the project showing relevance to this Project.
- Firms and Key Personnel who participated in the project and are included in this SOQ, along with a clear description of the project roles and responsibilities of each. Indicate if the Firms and Key Personnel will have the same role and responsibility on this project.

Design-Builders shall submit completed DB 00210.01 Design-Builder Background Information Form, Form 00515.01 Employee Eligibility Verification Affidavit (forms provided in Attachment C, Forms to be Submitted with SOQ) in Appendix A (Forms for Affirmation and Compliance).

Include a concise written narrative of the qualifications and experience of the Lead Designer and Lead Contractor that is relevant to the design-build services for the Project. SOQ may include projects of subcontractors containing Key Personnel that have a written agreement to provide the scope of work indicated in the narrative to the design-builder on this project at the time of submission of the SOQ. Clearly and specifically identify the in-house capabilities of the Design-Builder and those disciplines for which the entity normally subcontracts.

Design-Builders shall identify the reference projects that demonstrate experience with BIM or 3D-based design and construction models, Envision™ certification, and completed projects funded using SRF and the WIFIA program administered by EPA.

City staff or advisors reserve the right to contact references listed or implied and obtain information on representative projects to confirm the information provided by Design-Builder. The evaluation of Design-Builder for this section may be negatively impacted by the inability to contact and verify references.

International project reference and contact information will be considered only to the extent the Design-Builder is able to provide information in its SOQ that adequately describes how the project reference is relevant to projects completed in the United States (e.g., similar project delivery method; similar technologies employed; similar regulatory requirements; similar materials and equipment procurement requirements; etc.).

4.3.5 Part 4 – Safety Record

The SOQ must provide information concerning the Design-Builder's safety record, including safety statistics or records indicating categories of accidents and their incidence or frequency rates for the past five (5) years. Include any major incidents and any OSHA or equivalent citations issued. Design-builder may add commentary. The following safety records must be provided for the Lead Contractor for the current and past five (5) years:

- The experience modification rate (EMR) calculated by the National Council on Compensation Insurance or similar rating bureau (the EMR is also referred to as the experience modification rating, experience modification factor, experience modifier or X-mod). The EMR is calculated by comparing a company's actual workers compensation loss data against average loss data for other employers in the same state who share the same industry classification code. The Design-Builder must submit written evidence from an insurance underwriter having a financial rating from A.M. Best & Co. rating of at least A:VII confirming the Design-Builder's current EMR.
- The completed Occupational Safety and Health Administration (OSHA) Form 300A, Summary of Work-Related Injuries and Illnesses, or equivalent.

Provide written evidence documentation in Appendix C (Safety Record Documentation).

SECTION 5: SOQ EVALUATION AND SELECTION

5.1 General Evaluation Procedure

The submission of a SOQ by Design-Builder shall constitute acknowledgement of acceptance of all terms and conditions set forth in this RFQ unless otherwise expressly stated herein. All SOQs must be submitted in writing and must include all required documents including forms, appendices, and other information requested in this RFQ.

In general, the procedure for evaluation of SOQs and determining a Shortlist will consist of the following:

- City staff will open the SOQs.
- City staff will review the SOQs (with assistance provided by outside advisors if desired by City) to determine if Responsiveness Requirements and Mandatory (Pass/Fail) Requirements are met.
- City staff may conduct interviews for any or all submitted SOQs.
- City staff and/or advisors will attempt to contact references and verify information relating to representative projects.
- For those SOQs that meet the Responsiveness Requirements and Mandatory (Pass/Fail) Requirements, the SOQ will be evaluated by a committee composed of City staff and elected Officials. A Shortlist will be determined which will include no more than three (3) Design-Builders.
- Design-Builders who submitted a SOQ will be formally notified of the Shortlist via a letter or email. SOQs received from Design-Builders will not be returned.
- Shortlisted Design-Builders will be issued the RFP and will be invited to prepare Proposals in response to the RFP.

During the SOQ evaluation process, written questions or requests for clarifications may be submitted to one or more Design-Builders regarding its SOQ or related matters. Failure to respond in a timely manner to any such questions or requests may be grounds for elimination of the Design-Builder from further consideration. Design-Builder is responsible for the accuracy of its SOQ. Discrepancies between words and figures will be resolved in favor of the words.

5.2 Responsiveness Requirements

Each SOQ will be reviewed to determine whether it is responsive to the RFQ. Design-Builder must comply with all terms and conditions of this RFQ, including, without limitation, the requirement to provide all documentation requested in this SOQ. Failure to comply with the

requirements of this RFQ may result in a SOQ being rejected as nonresponsive. At its sole discretion, however, the City may waive any such failure to meet a requirement of this RFQ and may request clarification or additional information to remedy a failure.

5.3 Mandatory (Pass/Fail) Requirements

Each responsive SOQ will be reviewed to determine whether it meets the Mandatory (Pass/Fail) Requirements outlined in this subsection and as provided in Part 1 of the Design-Builder's SOQ. At its sole discretion, the City may waive any failure to satisfy such requirements and may request clarification or additional information to address any questions that may arise in this regard. Any SOQ that does not satisfy all the following Mandatory (Pass/Fail) Requirements may be rejected:

- **Bonding Capacity.** Design-Builder must provide notarized letter(s) from its surety (or sureties) verifying the Design-Builder has a minimum bonding capacity of \$5 million available for this project as required in Section 4.3.2 of this RFQ.
- **Insurance.** The Design-Builder must demonstrate that it has the ability to obtain insurance meeting the minimum requirements presented in Section 4.3.2 of this RFQ.
- **Licensing and Registration.** The Design-Builder must demonstrate that it and the Lead Contractor possess, or will possess by time of contract award, the necessary Missouri construction licenses and are properly registered, and that the Design Manager and the individual who will act as the engineer of record possesses the necessary engineering license for the type of work to be performed.

5.4 Evaluation Criteria

The City's evaluation of SOQs will assess the Design-Builder's experience, technical competence, and capability to perform the services as described and required in Section 2 of the SOQ.

- **Key Personnel** – Demonstrated qualifications and experience that Design-Builder's Key Personnel have the ability to fulfill their roles and responsibilities and will enable Design-Builder to successfully complete the design, construction, startup, commissioning, and testing of the Project. See Attachment A.

Design-Builders will be evaluated based on the qualifications, experience, and past performance of Key Personnel, with the evaluation considering, among other things, his/her experience working in similar roles to those proposed on this Project. This evaluation will include their experience based on projects of similar complexity, challenges, and functionality as this Project. Design-builders may be evaluated based on proposed MBE/WBE subcontractors and their proposed scopes of work.

- **Past Experience** – Demonstrated experience that the Design-Builder’s Project Team (Lead Contractor and Lead Designer) has the ability to successfully complete the design, construction, startup, commissioning, and performance testing of the Project.

Specifically, the experience of Design-Builder’s Project Team will also include their individual (Key Personnel) and collective (Lead Contractor, Lead Designer) performance history and experience on previous and current projects of similar complexity, challenges and functionality.

- The design, construction, startup, performance testing, commissioning, and extended commissioning experience of Design-Builder’s Project Team members with a focus on Headworks facilities.
 - Experience in executing projects utilizing BIM or another 3D design software.
 - The Design-Builder project team members’ experience completing design-build and/or other collaborative delivery projects.
 - The design, construction, startup, performance testing, commissioning, and extended commissioning experience of Design-Builder’s Project Team members when the proposed team members have worked together.
 - The Design-Builder’s experience with Envision™ certification and SRF or WIFIA funding for design and construction projects.
 - The Design-Builder’s Project Team members’ experience working at the Blue River WWTP facility, with the City of Kansas City, Missouri, and/or locally within the greater Kansas City area.
- **Safety Record** – Demonstrated capability to deliver the Project safely. Design-Builders will be evaluated based on the past safety performance of the Lead Contractor.

SECTION 6: CONDITIONS FOR DESIGN-BUILDER

6.1 City Policies and Ordinances

The City will administer the RFP process under competitive proposal policies. The following is a summary of some of the policies and ordinance packages to be followed and completed as part of the RFP process. The City encourages and expects Proposers to pursue subcontracting, mentoring, joint venturing, teaming and partnering opportunities with the types of firms described in this Section in the ordinary course of its teaming/business strategies for all aspects of the Project. Additional policies and ordinances otherwise not specifically listed below may also apply at time of the Proposal.

- Code of Ordinances, Sections 3-501 through 3-525, also known as the “Workforce Program.”

6.2 Prohibited Activities by Former City Employees and Officials

Section 2-2044 of the City’s Code prohibits former elected City officials and former executive or administrative employees of the City from trying to influence a decision of the City on behalf of an employer or client for one year after that former employee or official leaves the City’s employ. By submitting a SOQ, the Design-Builder affirms that Design-Builder and its team members and employees are in compliance with the requirements of Section 2-2044. Failure to comply with the requirements of Section 2-1018 may cause the SOQ and future Proposal to be rejected.

6.3 Change in RFQ, Contract and Additional Work

The City reserves the right to add to, delete, modify or enlarge this RFQ, including any specifications and/or statement of work, the proposed contract, the terms and conditions, and any subsequently executed contract. The City reserves the right to award additional contracts for related work or subsequent Project phases to the selected Design-Builder.

6.4 Late SOQs

Statement of Qualifications and modifications of SOQs received after the hour and date specified for receipt will not be considered unless: (1) they are sent via the U.S. Postal Service, common carrier or contract carrier, by a delivery method that guarantees the proposal will be delivered to the City prior to the submission deadline; or (2) if submitted by mail, common carrier or contract carrier it is determined by the City that the late receipt was due solely to an error by the U.S. Postal Service, common carrier or contract carrier; or (3) the SOQ is timely delivered to the City, but is at a different City location than that specified in this RFQ; or (4) the City extends the time after the deadline for a force majeure event that could potentially affect any or all Design-Builders meeting the deadline.

6.5 Interviews, Discussions and Negotiations with Design-Builders

The Design-Builders' SOQ, including any proposed personnel and any other required proposal documents may be subject to negotiation by the City at any time. The City may interview none, one, some or all of the Design-Builders that submit SOQs. SOQs may be evaluated and award made with or without, discussions and/or negotiations with the Design-Builder. The City reserves the right to request additional information from any or all Design-Builders. Negotiations by the City will not be deemed a counter offer or a rejection of any original SOQ or Proposal.

6.6 Rejection of SOQs

The City reserves the right to reject any and all SOQs.

6.7 Waivers

The City Manager or his delegate at any time may waive any requirements imposed in this RFQ or by any City regulation when the requirement waived would be waived for all Design-Builders for this RFQ and it is in the best interest of the City to grant the waiver. The City Council at any time may waive any requirements imposed in this RFQ by the City's code of ordinances when the waived requirement would be waived for all Design-Builders for this RFQ and it is in the best interest of the City to grant the waiver. The City reserves the right to waive any irregularities and/or formalities as deemed appropriate. The City Council may waive any and all D/M/WBE requirements imposed by any SOQ or Proposal document or the MBE/WBE Ordinance and award the Contract to the most qualified Design-Builder if the City Council determines a waiver is in the best interests of the City.

6.8 Closed Records

All SOQs, Proposals and documents and meetings relating thereto may remain closed records or meetings under the Missouri Sunshine Act until a contract is executed or until all Proposals are rejected.

6.9 Disclosure of Proprietary Information

A Design-Builder may restrict the disclosure of scientific and technological innovations in which it has a proprietary interest, or other information that is protected from public disclosure by law, which is contained in the Proposal by:

- Marking each page of each such document prominently in at least 16-point font with the words "Proprietary Information"; and
- Printing each page of each such document on a different color paper than the paper on which the remainder of the proposal is printed; and

- Segregating each page of each such document in a sealed envelope, which shall prominently display, on the outside, the words “Proprietary Information” in at least 16 point font, along with the name and address of the Design-Builder; and
- After either a contract is executed pursuant to the RFQ/P, or all submittals are rejected, if access to documents marked “Proprietary Information”, as provided above, is requested under the Missouri Sunshine Law, the City will notify the Design-Builder of the request, and it shall be the burden of the Design-Builder to establish that such documents are exempt from disclosure under the law.

6.10 Contract Information Management System

The selected Design-Builder shall be required to use City’s Internet web based Contract Information Management System/Project Management Communications Tool provided by City and protocols included in that software during the term of this Contract. The selected Design-Builder shall submit user applications to City’s provided Contract Information Management System for all personnel, subcontractors or suppliers as applicable.

6.11 Affirmative Action

It is the policy of the City that any person or entity entering into a contract with the City, will employ applicants and treat employees equally without regard to their race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age. The City’s Affirmative Action ordinance requires that any person or entity who employs fifty (50) or more persons and is awarded a contract from the City totaling more than \$300,000.00 must:

- Execute and submit an affidavit, in a form prescribed by the City, warranting that the contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the contract.
- Submit, in print or electronic format, a copy of the contractor’s current certificate of compliance to the City’s CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years. If, and only if, contractor does not possess a current certification of compliance, contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years.
- Require any subcontractor awarded a subcontract exceeding \$300,000.00 to affirm that subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.
- Obtain from any subcontractor awarded a subcontract exceeding \$300,000.00 a copy of the subcontractor’s current certificate of compliance and tender a copy of the same, in print or electronic format, to HRD within thirty (30) days from the date the subcontract is

executed. If, and only if, subcontractor does not possess a current certificate of compliance, contractor shall obtain a copy of the subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.

- If you have any questions regarding the City's Affirmative Action requirements, please contact CREO at (816) 513-1836 or visit the City's website at www.kcmo.org.

6.12 Minority/Women Business Enterprise Program

The City of Kansas City, Missouri desires that MBE and WBE have a maximum opportunity to participate in the performance of City contracts. The goals for this specific project are **14 % MBE** participation and **14% WBE** participation. If requested, the CREO Specialist will provide a D/M/WBE Directory and assistance. Please call the CREO Specialist at 816-513-1818.

6.13 Americans with Disabilities Act (ADA) Standards

It is the policy of the City and required by law that any new or renovated facility meet the scoping and technical requirements of the 2010 ADA Standards for newly designed and constructed or altered local government facilities, public accommodations, and facilities. The selected Design-Builder shall design the project so it conforms to the 2010 ADA Standards, as applicable and as amended from time to time, and is readily accessible to and usable by individuals with disabilities. The City will make available to the selected Design-Builder the City's ADA Compliance Manager, who can facilitate interaction with advocates in the disability community.

6.16 Design-Builder Conflict of Interest

A conflict of interest situation may disqualify an organization. If the Design-Builder believes there may be a conflict of interest, it must list the organizations and the names of entities or persons associated with the Design-Builder who may have a conflict of interest, or appearance of a conflict of interest, with the City.

Details of the potential conflict of interest must also be included. Names of entities associated with the Design-Builder who may have a conflict of interest with any activity of this Project should be included in the SOQ. Provide details and reasons. Design-Builders are subject to disqualification on the basis of conflict of interest as determined by the City.

6.17 Minimum Self-Performance and Subcontracting Requirements

The selected Design-Builder shall perform with its own organization not less than thirty-five percent (35%) of the total contract price (contract price excludes Extended Commissioning Phase services). The dollar value included in this percentage performed by the Design-Builder shall include the value of labor, materials and equipment directly performed or procured by the Design-Builder and shall not include the value of work performed or provided by subcontractors.

ATTACHMENT A: Definition of Terms

The definitions of some of the capitalized terms used in this RFQ are presented below:

- **City** – The City of Kansas City, Missouri. Also “Owner.”
- **Contract for Design-Build Services** – The entire agreement between the City and the Design-Builder, including all amendments, which will establish the terms and conditions for the performance of the design-build services for the Project.
- **Design-Builder** – The entity that will serve as the Project developer and enter into a contractual relationship with the City, and that will be the single point of accountability to the City for delivery of the services and the Project. The entity is required to be a licensed contractor in Missouri.
- **Design Manager**- Engineer employed by the Leader Designer or Lead Contractor who will manage all the design work on this project.
- **Discipline Design Lead(s)/Manager(s)**- Engineers leading the effort to design specific disciplines.
- **Headworks** –Preliminary systems for wastewater treatment plants including wastewater coarse screens, fine screens, and grit removal for the purpose of removing trash, debris, or other large solids from influent flow.
- **Key Personnel** – The individuals, employed by Design-Builder or other firm included on the Project Team, who would fill certain key roles in delivery of the Project and related services if Design-Builder is chosen and may not be removed or substituted without City’s written consent, including the following positions:
 - Design-Build Principal-in-Charge
 - Design-Build Project Manager
 - General Contractor’s Project Manager or Construction Manager (if different than Design-Build Project Manager)
 - Design Manager (if different than Design-Build Project Manager)
 - Discipline Design Leads/Managers
 - Process Engineering Lead/Manager
 - On-Site Field Superintendent(s)
 - Quality Control/Quality Assessment Manager

- Safety Officer
- Commissioning Manager for Design and Construction
- Commissioning Manager for Extended Commissioning
- Envision™ Sustainability Professional (ENV SP) (if different from other roles identified)
- **Lead Contractor** – The member of the Project Team that is licensed as a Missouri general contractor and that has primary responsibility for construction services for the Project.
- **Lead Designer**– The member of the Project Team that employs professional engineers licensed in Missouri and that has primary responsibility for design services for the Project.
- **Mandatory (Pass/Fail) Requirements** – The requirements set forth in Section 5.3 of this RFQ that, at a minimum, must be satisfied (or waived by the City) in order for the SOQ to be evaluated and ranked according to the comparative evaluation criteria.
- **On-Site Field Superintendent(s)** – Contractor or Sub-Contractor staff that will be leading the construction effort in specific disciplines.
- **Owner’s Advisor** – The firm retained by the City to provide assistance with design review and Construction Phase oversight. The Owner’s Advisor may fill the role of Resident Project Representative during Construction and will be further defined in the RFP. The Owner’s Advisor will not serve as Designer of Record.
- **Process Engineering Lead/Manager** – Engineer leading the processing design effort for the thermal hydrolysis process.
- **Project** – Blue River Screen House (Project)
- **Project Team** – The Design-Builder; the Lead Contractor, and the Lead Designer; and Key Personnel.
- **Responsiveness Requirements** – The requirements set forth in Subsection 5.2 of this Solicitation that, at a minimum, must be satisfied (or waived by the City) in order for the SOQ to be evaluated and ranked according to the comparative evaluation criteria.
- **Shortlist** – A limited list of Design-Builders selected by the City to compete in the RFP process.

- **Shortlisted Design-Builder(s)** – Those entities who submit a SOQ in response to the RFQ and are invited to submit proposals in response to a City RFP. The RFP is the second step in the City’s two-step procurement process employed to procure a Design-Builder for the Project.



DESIGN-BUILD BACKGROUND INFORMATION FORM

Project Number 81000984

Project Title Blue River Screen House Project

(Proposer shall complete this form and return it as part of the **STATEMENT OF QUALIFICATIONS PART 3 – EXPERIENCES** submittal)

Each question below shall be answered on behalf of each of the Design-Builder, the Lead Designer, and the Lead Contractor by circling the appropriate response. Unless specifically stated otherwise in a question, the terms "you" or "your" refer to each of the Design-Builder, the Lead Engineer, and the Lead Contractor. If any response is "Yes," provide a detailed explanation (attach additional sheets as necessary) that includes identification of the entity in question (i.e., Design-Builder, Lead Engineer, and/or Lead Contractor) and all relevant information, including appropriate contact information, in Appendix A (Forms and Affirmation of Compliance).

1. Have any of your licenses and/or certificates of authority, or any of those of the Lead Engineer and any other design professional you anticipate involving in the Project, been subject to disciplinary action, in Missouri or in any other State, resulting in suspension, revocation, censure, probation, reprimand, or other discipline; or has such license number or certificate of authority number changed within the past five (5) years?

CIRCLE ONE: Yes No

2. Are you currently for sale or involved in any transaction to become acquired by another business entity?

CIRCLE ONE: Yes No

3. Are you currently in default on any loan agreement or financing agreement with any bank, financial institution, or other entity? If so, please specify date(s), details, circumstances, and prospects for resolution.

CIRCLE ONE: Yes No

4. Have you, your predecessor, successors, or Affiliates ever been found guilty in a criminal action or liable in a civil suit for fraud, any act of dishonesty, making any false claim or material misrepresentation, or violating any federal, state or local statute, law, Code regulation, or order related to design or construction?

CIRCLE ONE: Yes No

5. Are you a subsidiary, parent, holding company, or Affiliate of another company? If so, identify the other company and describe the relationship.

CIRCLE ONE: Yes No

6. Have you ever filed a claim against the City?

CIRCLE ONE: Yes No

Answer the following questions No. 7 through 20 with respect to the five (5) years immediately preceding the issue date of this RFQ.

7. Have you been a debtor in any bankruptcy proceeding?

CIRCLE ONE: Yes No

8. Have you, your predecessors, successors, or Affiliates been debarred, disqualified, declared ineligible, removed from, or otherwise prevented from bidding on, being awarded, or being allowed to perform on a government contract?

CIRCLE ONE: Yes No

9. Have you changed names?

CIRCLE ONE: Yes No

10. Has the U.S. Department of Labor's Occupational Safety and Health Administration or any State's workers' safety and health enforcement department cited and assessed penalties against you?

CIRCLE ONE: Yes No

11. Has there ever been a period when you were required by Missouri law or the law of any other State to maintain workers' compensation insurance but you were without workers' compensation insurance and were not a State-approved self-insurer?

CIRCLE ONE: Yes No

12. Have you (Design-Builder or Lead Contractor) been required to pay back wages and/or penalties for your failure (not the failure of a subcontractor) to comply with the federal Davis-Bacon prevailing wage requirements or any State's prevailing wage requirements?

CIRCLE ONE: Yes No

13. Have you, your predecessors, successors, or Affiliates been found in violation of any U.S. or State regulations relating to taxes, employment matters (including wage scales, discrimination claims, collective bargaining matters, etc.), permit or licensing requirements, etc.?

CIRCLE ONE: Yes No

14. Has a citation or notice of violation been issued pursuant to any state or local environmental laws, the U.S. Clean Air Act, Clean Water Act, CERCLA, RCRA, TSCA, or similar environmental protection statute against you on a project, or against the owner of a project on which you were involved?

CIRCLE ONE: Yes No

15. Have you, your predecessors, successors, or Affiliates defaulted on a design or construction contract?

CIRCLE ONE: Yes No

16. Have you been required to pay liquidated damages on a construction project, public or private?

CIRCLE ONE: Yes No

17. Has any surety company made any payments on your behalf, or on behalf of any of your predecessors, successors, or Affiliates, as the result of a default or to satisfy any other claims made against a performance or payment bond, in connection with a public or private construction project?

CIRCLE ONE: Yes No

18. Has any insurance carrier cancelled or refused to renew any of your insurance policies, for any type of insurance?

CIRCLE ONE: Yes No

19. Have you, your predecessors, successors, or Affiliates filed a claim, for payment or otherwise, in a court or arbitration tribunal against the owner of any public or private construction project, or has any owner of any construction project filed a claim against you or any of your predecessors, successors, or Affiliates? Information need not be provided about disputes with another contractor, a subcontractor, or a supplier; about "pass-through" disputes in which the actual dispute was between a subcontractor and the project owner; or about disputes involving amounts less than \$50,000.

CIRCLE ONE: Yes No

4. Bidder/Proposer will identify before contract award, those MBE/WBE subcontractors with dollar amounts and scopes of work which apply to or exceed the MBE/WBE goals for the Project on the ***Contractor Utilization Plan/Request for Waiver (HRD 08)***.
5. Bidder/Proposer agrees that failure to meet or exceed the MBE/WBE Goals for the above project will automatically render this bid/proposal non-responsive if Bidder/Proposer fails to establish good faith efforts towards meeting the goals as set forth in the HRD Forms and Instructions.
6. If applicable, Bidder/Proposer assures that it will meet or exceed the minimum employment goals of 10% minority and 2% women during the term of its contract with City, or request a waiver of the goals. **NOTE: This paragraph is applicable ONLY if you are submitting a bid/proposal on a construction contract that was estimated by the City, prior to solicitation, as requiring more than 800 construction labor hours and costing in excess of \$324,000.00.**
7. I am authorized to make this Affidavit on behalf of the Bidder/Proposer named below as:

_____ of _____
 (Title) (Name of Bidder/Proposer)

Dated: _____ By: _____
 (Affiant)

Subscribed and sworn to before me this _____ day of _____, 20____.

My Commission Expires: _____
 Notary Public

**HRD INSTRUCTIONS
FOR REQUESTS FOR QUALIFICATIONS/PROPOSALS**

PART A. MINORITY/WOMEN BUSINESS ENTERPRISE REQUIREMENTS

I. City's MBE/WBE Program.

- A. The City has adopted a Minority/Women Business Enterprise ("MBE/WBE") Program (Sections 4-421 through 3-469, Code of Ordinances) (the "Program") to implement the City's policy of supporting the fullest possible participation in City contracts and change orders of firms owned and controlled by minorities and women. Each construction project may have an MBE and/or WBE goal for participation. An MBE or WBE goal is a numerical objective the City has set for the contract. Goals are stated as a percentage of contract dollars. For example, if an MBE goal for a contract is 10% and a Proposer submits a proposal of \$100,000, the goal for MBE participation would equal \$10,000. The specific MBE/WBE goals on this project are set forth elsewhere in the proposal specifications.
- B. By submitting a proposal, the Proposer agrees, as a material term of the contract, to carry out the City's MBE/WBE Program by making good faith efforts to include certified MBE/WBEs in the project work to the extent of the goals listed for the project and to the fullest extent consistent with submitting the best proposal to the City. Proposer agrees that the Program is incorporated into this document and agrees to follow the Program. Although it is not a requirement that a Proposer in fact meet or exceed both the MBE and WBE Goals, it is a requirement for approval of the proposal that a Proposer objectively demonstrate to the City that good faith efforts have been made to meet the Goals.
- C. The following HRD Forms are attached and must be used for MBE/WBE submittals:
 - 1. Affidavit of Intended Utilization (HRD Form 13); and
 - 2. Contractor Utilization Plan/Request for Waiver (HRD Form 8A); and
 - 3. Letter of Intent to Subcontract (HRD Form 00450.01); and
 - 4. Timetable for MBE/WBE Utilization (HRD Form 10); and
 - 5. Request for Modification or Substitution (HRD Form 11); and
 - 6. Contractor Affidavit for Final Payment (Form 01290.14); and
 - 7. Subcontractor Affidavit for Final Payment (Form 01290.15).

Warning: The City only gives MBE/WBE credit for a Proposer's use of City certified MBE/WBEs. A certified MBE/WBE firm is a firm that has been certified by the City's Human Relations Department as such. An MBE/WBE firm must be certified before the date on which the contractor utilization plan is due. Certified MBEs and WBEs are listed in the M/W/DBE Kansas City Mo. Online Directory, which is available on the City's website at www.kcmo.org. Before a Proposer submits a proposal, Proposer should contact HRD and consult the directory to make sure any firm proposed for use for MBE/WBE participation has been certified.

II. Required Submissions with Proposal.

A. Proposer must submit the following document with its proposal:

1. **Affidavit of Intended Utilization (HRD Form 13).** This form states a Proposer's intent to use certified MBE/WBEs in the performance of the contract.

III. Required Submissions Prior to Contract Award.

A. Proposer must submit the following documents prior to contract award.

1. **Contractor Utilization Plan/Request for Waiver (HRD Form 8).** This form states a Proposer's plan to use specific certified MBE/WBEs in the performance of the contract and includes the following:
 - a. The work to be performed by each MBE/WBE and the amounts each is to be paid for the work; and
 - b. The name, address, race or ethnic origin, gender and employer identification number or social security number of each MBE/WBE that will perform the work.
 - c. An automatic request for waiver in the event Proposer has not met or exceeded the MBE and/or WBE goals for the contract but believes that it has made good faith efforts to meet or exceed the goals and desires a waiver of the goals. If a waiver is requested, HRD will examine the Proposer's documentation of good faith efforts and make a recommendation to grant or deny the waiver. HRD will recommend a waiver be granted only if the Proposer has made good faith efforts to obtain MBE/WBE participation.
2. **Letter(s) of Intent to Subcontract (HRD Form 00450.01).** A letter must be provided from each MBE/WBE listed on the Contractor Utilization Plan. These letters verify that the MBE/WBE has agreed to execute a formal agreement for the work and indicate the scope of work to be performed and the price agreed upon for the work.

IV. Additional Required Submissions when Requested by City.

A. Proposer must submit the following documents when requested by City:

1. **Timetable for MBE/WBE Utilization (HRD Form 10).**
2. **Documentation of good faith efforts.**

V. Required Monthly Submissions during term of Contract.

A. Proposers must submit the following document on a monthly basis if awarded the contract:

1. **M/WBE Monthly Utilization Report (HRD Form 00485.01).** This report must be submitted to the Director by the 15th of each month. Failure to submit timely reports may result in delays in processing of current and future contract approvals and payment applications.

VI. Required Submittals for Final Contract Payment.

- A. Proposer must submit the following documents with its request for final payment under the contract:
1. **Contractor Affidavit for Final Payment (Form 01290.14)**
 2. **Subcontractor Affidavit(s) for Final Payment (Form 01290.15)**

VII. Additional Submittals.

- A. Proposer may be required to make additional submittals during the term of the Contract, including **Request for Modification or Substitution (HRD Form 11)**. Refer to Section X, Modification of the Contractor Utilization Plan or Substitution of an MBE/WBE, for additional instructions on when this form must be submitted.

VIII. MBE/WBE Participation Credit.

- A. The following shall be credited towards achieving the goals:
1. The total contract dollar amount that a prime contractor has paid or is obligated to pay to a subcontractor that is a certified MBE or WBE, except as otherwise expressly provided for herein.
 2. The total contract dollar amount that a prime contractor that is a certified MBE or WBE performed itself.
 3. Sixty percent (60%) of the total dollar amount paid or to be paid by a prime contractor to obtain supplies or goods from a supplier who is a certified MBE or WBE.
 4. Ten percent (10%) of the total dollar amount paid or to be paid by a prime contractor to obtain supplies or goods from a supply broker who is a certified MBE or WBE.
 5. One hundred percent (100%) of the total dollar amount paid or to be paid by a prime contractor to a manufacturer of construction supplies who is a certified MBE or WBE.
 6. Subcontractor participation with a lower tier MBE/WBE subcontractor using one of the above methods of participation.
- B. **NO CREDIT**, however, will be given for the following:
1. Participation in a contract by a MBE or WBE that does not perform a commercially useful function as defined by the Program; and
 2. Any portion of the value of the contract that an MBE or WBE subcontractor subcontracts back to the prime contractor or any other contractor who is not a qualified MBE/WBE; and
 3. Materials and supplies used on the contract unless the MBE/WBE is responsible for negotiating the price, determining quality and quantity, ordering the materials and installing (where applicable) and paying for material itself; and
 4. Work performed by an MBE or WBE in a scope of work other than that in which the

MBE or WBE is currently certified.

IX. Methods for Securing Participation of MBE/WBEs and Good Faith Efforts.

- A. A Proposer is required to make good faith efforts to achieve the MBE/WBE goals. Good faith efforts are efforts that, given all relevant circumstances, a Proposer actively and aggressively seeking to meet the goals can reasonably be expected to make. Good faith efforts must be made before the Proposer submits a Contractor Utilization Plan/Request for Waiver (HRD Form 8). However, efforts made to increase participation of MBEs and WBEs following submission of the CUP can be considered as evidence of good faith efforts to meet the goals.
- B. In evaluating good faith efforts, the Director of HRD will consider whether the Proposer has performed the following, along with any other relevant factors:
 - 1. Advertised for at least 15 calendar days prior to the bid or proposal due date opportunities to participate in the contract in general circulation media, trade and professional association publications, small and minority business media, and publications of minority and women's business organizations which are included in a list along with their current contact information identified on the directory as the list of publications available to publish such advertisements, which list shall be updated by HRD no less than every three (3) months.
 - 2. Sent written notices at least fifteen (15) calendar days prior to the bid or proposal due date containing the information required in section (9) below, by certified mail, e-mail, or facsimile, to at least 80% of MBEs and WBEs which are included in a list along with their contact information identified on the directory as the list of organizations available to receive such notices, which list shall be updated by HRD no less than every three (3) months.
 - 3. Sent written notices, containing the information required by section (9) below, by certified mail, e-mail or facsimile, to at least 80% of MBEs and WBEs listed on the directory certified in the applicable scopes of work for the particular bid soliciting their participation in the contract at least 15 calendar days prior to the bid or proposal due date.
 - 4. Attempted to identify portions of the work for qualified MBE and/or WBE participation in order to increase the likelihood of meeting the goals, including breaking down contracts into economically feasible units that take into consideration the capacity of available MBEs/WBEs appearing on the HRD directory.
 - 5. At any time prior to submission of the CUP or submittal of a request for modification of a CUP, requested assistance in achieving the goals from the Director and acted on the Director's recommendations.
 - 6. Conferred with certified MBEs and WBEs which inquired about or responded to the bid solicitation and explained to such MBEs and WBEs the scope and requirements of the work for which their bids or proposals were solicited, and if not all certified MBEs and WBEs in the particular scopes listed on the directory have inquired about or responded to the bid solicitation for each scope of work, then contact by certified

mail, e-mail or telephone the greater of ten (10) or 80% of additional certified MBEs and WBEs in the particular scopes of work listed on the directory and offer to confer with such MBEs and WBEs for such particular scope of work and request such MBEs and WBEs to submit a proposal.

7. Attempted to negotiate in good faith with certified MBEs and WBEs which responded to the bid solicitation or those certified MBEs and WBEs that were conferred with as contemplated in section (6) above, and other qualified MBEs and WBEs, at the option of the bidder, proposer, or contractor, as applicable, to perform specific subcontracts; not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities by the bidder, proposer, or contractor; in the event an MBE or WBE is the low bid, but rejected as unqualified, the bidder, proposer, or contractor and the director or board, as applicable, shall provide sound reasons for rejecting such MBE or WBE.
8. Attended pre-bid meeting when such meetings were indicated in the solicitation of bids or otherwise by the bidder, proposer, or contractor, as applicable or by the director provided the director provides written direction to the bidder, proposer, or contractor at the time the goals are recommended.
9. Written notices and advertisements to be provided pursuant to sections (1), (2) and (3) above shall include the following information:
 - a. The bid due date;
 - b. The name of the project;
 - c. The address or general location of the project;
 - d. The location of plans and specifications for viewing;
 - e. Contact information of the prime contractor;
 - f. A general description of the scopes of work that are the subject of the solicitation;
 - g. The goals established for the applicable contract, and if the goals are still subject to board approval, then a statement that the goals as stated are preliminary and are subject to board approval;
 - h. If the project or any portion of the project is subject to prevailing wage then a statement that all or a portion of the project will be subject to the prevailing wage, as applicable; and if only a portion of the scopes are subject to prevailing wage, then identification of such scopes provided that such scopes are known as of the time of bid solicitation;
 - i. The date and time of any pre-bid meeting(s), if any, which have been scheduled by the bidder, proposer, or contractor as of the bid solicitation; and
 - j. Any other information deemed relevant by the bidder, proposer, or contractor, as applicable, or the director to the extent the director provides

written direction to the bidder, proposer, or contractor of such additional information at the time the goals are recommended by the director.

- C. A Proposer will be required to give the City documentation to prove that it made good faith efforts. The Proposer will be contacted by the City with further instructions about when this documentation must be submitted.

X. Modification of the Contractor Utilization Plan or Substitution of an MBE/WBE.

- A. A Proposer may need to substitute an MBE and/or WBE or request that the amount of MBE/WBE participation listed in its Contractor Utilization Plan be modified. Proposer must file a **Request for Modification or Substitution (HRD Form 11) prior to actual substitution and within a reasonable time after learning that a modification or substitution is necessary.** The Director may approve substitutions or modifications and upon approval, the modifications and substitutions will become an amendment to the Contractor Utilization Plan. Modifications or substitutions may be approved when:

1. The Director finds that the Proposer made and provided evidence of good faith efforts to substitute the MBE/WBE listed on the Contractor Utilization Plan with other certified MBE/WBEs for the scope of work or any other scope of work in the contract; and
2. The Proposer or Contractor has not attempted intentionally to evade the requirements of the program and it is in the best interests of the City to allow a modification or substitution; and
3. The Director also finds one of the following:
 - a. The listed MBE/WBE is non-responsive or cannot perform; or
 - b. The listed MBE/WBE has increased its previously quoted price to the bidder, proposer or contractor without a corresponding change in the scope of the work; or
 - c. The listed MBE/WBE has committed a material default or breach of its contract with the contractor; or
 - d. Requirements of the scope of work of the contract have changed and render subcontracting not feasible or not feasible at the levels required by the goals established for the contract; or
 - e. The listed MBE/WBE is unacceptable to the contracting department; or
 - f. The listed MBE/WBE thereafter had its certification revoked; or

- B. A modification shall not be made unless the modification or substitution has first been requested and approved by the Director.

XI. Appeals.

- A. In conformance with the Act, appeals may be made to the City Fairness in Construction Board or Fairness in Professional Services and Goods Board on the following:
 1. The grant or denial of a Request for Waiver;

2. Substitution for an MBE/WBE listed on a Contractor Utilization Plan;
 3. Modification of the percentage of MBE/WBE participation on a Contractor Utilization Plan;
 4. Liquidated Damages;
 5. The amount of MBE/WBE credit the Contractor may receive for MBE/WBE participation identified in the contractor utilization plan.
- B. Any appeal must be filed in writing with the Director within fifteen (15) calendar days of notice of the determination. Mailing, faxing, personal delivery or posting at HRD of determinations shall constitute notice. The appeal shall state with specificity why the Proposer or Contractor believes the determination is incorrect
 - C. Failure to file a timely appeal shall constitute a waiver of a Proposer's or Contractor's right to appeal such determination and such person shall be estopped to deny the validity of any determination which could have been timely appealed.

XII. Access to Documents and Records.

- A. By submitting a proposal, each Proposer agrees to permit the City, its duly authorized agents or employees, access at all reasonable times to all books and business records of Proposer as may be necessary to ascertain compliance with the requirements of this document and the Act, within ten (10) calendar days of the date of the written request.
- B. All Proposers agree to cooperate with the contracting department and HRD in studies and surveys regarding the MBE/WBE program.

XIII. Miscellaneous.

- A. A Proposer or Contractor shall bear the burden of proof with regard to all issues on appeal.
- B. In the event of any conflict between this document and the Program, the provisions of the Program shall control. The terms used in this document are defined in the Program.
- C. Oral representations are not binding on the City.
- D. The City Council may waive the requirements of this document and the Program and award the contract to the best proposer if the City Council determines a waiver is in the best interests of the City.

XIV. Liquidated Damages – MBE/WBE Program.

- A. If Contractor fails to achieve the MBE/WBE goals stated in its Contractor Utilization Plan, as amended, the City will sustain damages, the exact extent of which would be difficult or impossible to ascertain. Therefore, in order to liquidate those damages, the monetary difference between either (1) the amount of the MBE/WBE goals set forth in the Contractor Utilization Plan, as amended, or (2) the goals established (whichever is lower) and the amount actually paid to qualified MBEs and WBEs for performing a commercially useful function will be deducted from the Contractor's payments as liquidated damages. In determining the amount actually paid to qualified MBEs and WBEs, no credit will be given for the portion of participation that was not approved by

the Director, unless the Director determines that the Contractor acted in good faith. No deduction for liquidated damages will be made when, for reasons beyond the control of the Contractor, the MBE/WBE participation stated in the Contractor Utilization Plan, as amended and approved by the Director is not met.

[Specifier: The remainder of this document is applicable ONLY IF the RFQ/P is for a construction project that the City estimates will require more than 800 construction labor hours and cost in excess of \$324,000.00 to construct. If this is not applicable to your RFQ/P, delete the remainder of this document. Be sure to delete this note before printing]

PART B. CONSTRUCTION EMPLOYMENT PROGRAM REQUIREMENTS

(THIS PART IS APPLICABLE TO CITY CONSTRUCTION CONTRACTS ESTIMATED BY THE CITY PRIOR TO SOLICITATION AS REQUIRING MORE THAN 800 CONSTRUCTION LABOR HOURS AND COSTING IN EXCESS OF \$324,000.00.)

I. City's Construction Employment Program.

- A. The City has adopted a Construction Employment Program (Sections 3-501 through 3-525, Code of Ordinances) (the "Program") to implement the City's policy of supporting the fullest possible utilization of minority and women workers in the construction industry. A person or firm who is awarded a contract to construct, reconstruct, improve, enlarge or alter any fixed work that is estimated by the City prior to solicitation as requiring more than 800 construction labor hours, has an estimated costs that exceeds \$324,000.00, and involves the expenditure of public funds, is subject to company-wide construction employment goals. The minimum goals are currently set at 10% for minorities and 2% for women, but public recognition may be provided if the Proposer achieves at least twice the minimum participation. The successful Proposer may meet these company-wide goals by counting the Proposer's utilization of minorities and women throughout the Kansas City metropolitan statistical area.
- B. By submitting a proposal, the Proposer agrees, as a material term of the contract, to carry out the City's Construction Employment Program by making good faith efforts to utilize minority and women workers on the Proposer's job sites to the fullest extent consistent with submitting the best proposal to the City. Proposer agrees that the Program is incorporated into this document and agrees to follow the Program. Although it is not a requirement that a Proposer in fact meet or exceed the construction employment goals to receive approval from HRD, a Proposer not doing so is required to objectively demonstrate to HRD that good faith efforts have been made.
- C. The following HRD Forms are to be used for Construction Employment Program submittals:
 1. Project Workforce Monthly Report (HRD Form 00485.02)

2. Company-Wide Workforce Monthly Report (HRD Form 00485.03)

II. Required Monthly Submissions during Term of Contract.

- A. Proposer must submit the following documents on a monthly basis if awarded the contract:
 1. **Project Workforce Monthly Report (HRD Form 00485.02).** This report is contract specific. Two copies of this report must be submitted to the Director by the 15th of each month. The first copy will be utilized to report the Proposer's own workforce compliance data with regard to the City's construction contract. The second copy will be utilized to report consolidated workforce compliance data for every subcontractor retained on the City's construction contract. Failure to submit timely reports may result in delays in processing of current and future contract approvals and payment applications.
 2. **Company-Wide Workforce Monthly Report (HRD Form 00485.03).** This report is not contract specific; it is used to report on the utilization of females and minorities, by trade, company-wide. Two copies of this report must be submitted to the Director by the 15th of each month. The first copy will be utilized to report the Proposer's own workforce compliance data with regard to every contract (both privately and publicly funded) Proposer has in progress throughout the Kansas City metropolitan statistical area. The second copy will be utilized to report consolidated workforce compliance data for every subcontractor retained by Proposer on every contract Proposer has in progress throughout the Kansas City metropolitan statistical area. Failure to submit timely reports may result in delays in processing of current and future contract approvals and payment applications.

III. Submittal Required for Final Contract Payment.

- A. The last Project Workforce Monthly Report(s) and Company-Wide Workforce Monthly Report(s) shall serve as the final reports and must be submitted before final payment will be made and/or retainage released. Proposer shall note the submittal of the final reports by notation in the box entitled "Final Cumulative Report"

IV. Methods for Securing Workforce Participation and Good Faith Efforts.

- A. A Proposer is required to make good faith efforts to achieve the construction employment goals. If a Proposer will be unable to secure enough minority and female participation to meet or exceed the construction employment goals, a Proposer must, within a reasonable time after so learning, request a waiver or modification of the goals by the Director of HRD. The Director will examine the Proposer's request and the Proposer's documentation of good faith efforts and grant or deny a waiver or modification. The Director will grant a waiver or modification only if the Proposer has made good faith efforts to secure minority and female participation.
- B. In evaluating good faith efforts, the Director will consider whether the Proposer has performed the following:
 1. For those Proposers that are not signatories to a collective bargaining agreement with organized labor:

- a. Requested in writing the assistance of the Director with respect to efforts to promote the utilization of minorities and women in the workforce and acted upon the Director's recommendations; and
 - b. Advertised in minority or women trade association newsletters and/or minority or women owned media at least 15 calendar days prior to the utilization of any construction services on the city construction contract and used terminology that sufficiently describes the work available, the pay scale, the application process, and anything else that one might reasonably be expected to be informed of relevant to the position being advertised; and
 - c. Maintained copies of each advertisement and a log identifying the publication and date of publication; and
 - d. Conducted real and substantial recruitment efforts, both oral and written, targeting resident, minority and women community-based organization, schools with a significant minority student population, and training organizations serving the recruitment area; and
 - e. Established and maintained a current list of resident, minority and women recruitment sources, providing written notification to the recruitment sources of available employment opportunities, and maintained records of the notices submitted to the organizations and any responses thereto; and
 - f. Maintained a current file for the time period of the city construction contract with the name, address, and telephone number of each resident, minority and woman job applicant, the source of the referral, whether or not the person was hired, and in the event that the applicant was not hired, the reason therefore; and
 - g. Promoted the retention of minorities and women in its workforce with the goals of achieving sufficient annual hours for minorities and women to qualify for applicable benefits; and
 - h. Required by written contract that all subcontractors comply with the above efforts.
2. For those Proposers that are signatories to collective bargaining agreements with organized labor:
- a. Supported the efforts of the Joint Apprenticeship Training Committee (JATC), a joint effort of Labor Unions and contractors, or some other apprenticeship program, whose purpose is to recruit, train and employ new workers for a full time career in the construction industry; and
 - b. Requested in writing from each labor union representing crafts to be employed that:
 - i. the labor union make efforts to promote the utilization of residents of the City, minorities and women in the workforce; and
 - ii. the labor union identify any residents of the City, minorities and

women in its membership eligible for employment; and

- iii. the JATC take substantial and real steps to increase the participation of minorities in the union apprenticeship programs in the aggregate to 30% by 2011 and encourage other labor unions to do the same; and
 - iv. the JATC take substantial and real steps to increase the participation of women in the union apprenticeship programs in the aggregate to 5% by 2011 and encourage other labor unions to do the same; and
 - v. the JATC partner with workforce preparedness programs, community based organizations, employment referral programs and school-sponsored programs to accomplish these goals.
- c. Collaborated with labor unions in promoting mentoring programs intended to assist minorities and women in increasing retention with the goals of achieving sufficient annual hours to qualify for applicable benefits; and
 - d. Maintained a current file with the name, address, and telephone number of each resident, minority and women worker identified by the labor union, whether or not the person was hired, and in the event the person was not hired, the reason therefore.
 - e. To the extent the good faith efforts applicable to Proposers that are signatories to collective bargaining agreements with organized labor conflict with the procedures implemented by the Proposer in order to comply with the relevant bargaining agreement, the Proposer shall substitute other procedures as may be approved by the Director in writing.
- C. A Proposer will be required to give the City documentation to prove that it made good faith efforts. The Proposer will be contacted by the City with further instructions about when this documentation must be submitted.

V. Appeals.

- A. In conformance with the Program, appeals may be made to the Construction Workforce Board on the following:
 1. Determinations by the Director that a contractor did not meet the construction employment goals and did not make a good faith effort to meet the goals;
 2. Recommendations by the Director to assess liquidated damages;
 3. Recommendation by the Director that a contractor be declared ineligible to receive any city construction contract for a period of time up to one year.
- B. Any appeal must be filed in writing with the Director within ten (10) working days of notice of the recommendation or determination. The appeal shall state with specificity why the Proposer believes the recommendation or determination is incorrect.
- C. Failure to file a timely appeal shall constitute a waiver of a Proposer's right to appeal such determination or recommendation and such person shall be estopped to deny the validity of any order, determination, recommendation or action of HRD which could have

been timely appealed.

VI. Access to Documents and Records.

- A. By submitting a proposal, each Proposer agrees to permit the City, its duly authorized agents or employees, access at all reasonable times to all books and business records of Proposer as may be necessary to ascertain compliance with the requirements of this document and the Program, within ten (10) days of the date of the written request. Each Proposer further agrees to require, if awarded the contract, that every subcontractor permit the City the same access to documents and records.
- B. All Proposers agree to cooperate with the contracting department and HRD in studies and surveys regarding the construction employment program.

VII. Miscellaneous.

- A. A Proposer shall bear the burden of proof with regard to all issues on appeal.
- B. The successful Proposer may be required to meet with the Director of HRD or the Director's designee for the purpose of discussing the construction employment program, the Proposer's efforts to realize the goals, and any other problems and/or issues affecting the realization of the goals or the program in general.
- C. In the event of any conflict between this document and the Program, the provisions of the Program shall control. The terms used in this document are defined in the Program.
- D. Oral representations are not binding on the City.

VIII. Liquidated Damages; Suspension – Workforce Program.

- A. If a Proposer fails to achieve the construction employment goals without having previously obtained a waiver or modification of those goals, the City will sustain damages, the exact extent of which would be difficult or impossible to ascertain. These damages are magnified if the failure to abide by the requirements of the Workforce Program is recurring. Therefore, in order to liquidate those damages, City shall be entitled to deduct and withhold the following amounts:

If Proposer failed to meet or exceed the minimum employment goals or otherwise establish that Proposer is entitled to a waiver under circumstances in which Proposer has failed to meet or exceed the goals on one prior occasion within the twenty-four month period immediately preceding the completion of the work under the Contract, the sum of three thousand dollars (\$3,000.00).

If Proposer failed to meet or exceed the minimum employment goals or otherwise establish that Proposer is entitled to a waiver under circumstances in which Proposer has failed to meet or exceed the goals on two or more prior occasions within the twenty-four month period immediately preceding the completion of the work under the Contract, the sum of seven thousand dollars (\$7,000.00).

- B. In addition, Proposer shall be required to attend mandatory compliance training or be declared ineligible to contract with the City for a term provided herein, and as authorized by City's Code of Ordinances:

If Proposer failed to meet or exceed the minimum employment goals or otherwise establish that Proposer is entitled to a waiver under circumstances in which Proposer has not previously failed to meet or exceed the goals within the twenty-four month period immediately preceding the completion of the work under the Contract, Proposer shall be required to attend a mandatory training class on Workforce Program compliance.

If Proposer failed to meet or exceed the minimum employment goals or otherwise establish that Proposer is entitled to a waiver under circumstances in which Proposer has failed to meet or exceed the goals on one prior occasion within the twenty-four month period immediately preceding the completion of the work under the Contract, Proposer shall be suspended from participating, either as a contractor or subcontractor, on any future contract with the City for a period of thirty (30) days. Proposer waives any right to invoke any proceeding or procedure under Sections 3-321 of City's Code of Ordinances with regards to any suspension arising hereunder.

If Proposer failed to meet or exceed the minimum employment goals or otherwise establish that Proposer is entitled to a waiver under circumstances in which Proposer has failed to meet or exceed the goals on two or more prior occasions within the twenty-four month period immediately preceding the completion of the work under the Contract, Proposer shall be suspended from participating, either as a contractor or subcontractor, on any future contract with the City for a period of six (6) months. Proposer waives any right to invoke any proceeding or procedure under Sections 3-321 of City's Code of Ordinances with regards to any suspension arising hereunder.

CONTRACTOR UTILIZATION PLAN/REQUEST FOR WAIVER

Project Number **81000984/1638**

Project Title **Blue River WWTP Screen House Facility Project**

(Department Project)

Department

(Bidder/Proposer)

STATE OF _____)

) ss

COUNTY OF _____)

I, _____, of lawful age and upon my oath state as follows:

1. This Affidavit is made for the purpose of complying with the provisions of the MBE/WBE submittal requirements on the above project and the MBE/WBE Program and is given on behalf of the Bidder/Proposer listed below. It sets out the Bidder/Proposer's plan to utilize MBE and/or WBE contractors on the project.
2. The project goals are **14 % MBE** and **14% WBE**. Bidder/Proposer assures that it will utilize a minimum of the following percentages of MBE/WBE participation in the above project:

BIDDER/PROPOSER PARTICIPATION: _____% MBE _____% WBE

3. The following are the M/WBE subcontractors whose utilization Bidder/Proposer warrants will meet or exceed the above-listed Bidder/Proposer Participation. Bidder/Proposer warrants that it will utilize the M/WBE subcontractors to provide the goods/services described in the applicable Letter(s) of Intent to Subcontract, copies of which shall collectively be deemed incorporated herein. (*All firms must currently be certified by Kansas City, Missouri*)

Name of M/WBE Firm _____

Address _____

Telephone No. _____

I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

(List additional M/WBEs, if any, on additional page and attach to this form)

4. The following is a breakdown of the percentage of the total contract amount that Bidder/Proposer agrees to pay to each listed M/WBE:

MBE/WBE BREAKDOWN SHEET

MBE FIRMS:

Name of MBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

TOTAL MBE \$ / TOTAL MBE %: \$ _____ %

WBE FIRMS:

Name of WBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract

TOTAL WBE \$ / TOTAL WBE %: \$ _____ %

*“Subcontract Amount” refers to the dollar amount that Bidder/Proposer has agreed to pay each M/WBE subcontractor as of the date of contracting and is indicated here solely for the purpose of calculating the percentage that this sum represents in proportion to the total contract amount. Any contract amendments and/or change orders changing the total contract amount may alter the amount due an M/WBE under their subcontract for purposes of meeting or exceeding the Bidder/Proposer participation.

**“Weighted Value” means the portion of the subcontract amount that will be credited towards meeting the Bidder/Proposer participation. See HRD Forms and Instructions for allowable credit and special instructions for suppliers.

- Bidder/Proposer acknowledges that the monetary amount to be paid each listed M/WBE for their work, and which is approved herein, is an amount corresponding to the percentage of the total contract amount allocable to each listed M/WBE as calculated in the MBE/WBE Breakdown Sheet. Bidder/Proposer further acknowledges that this amount may be higher than the subcontract amount listed therein as change orders and/or amendments changing the total

contract amount may correspondingly increase the amount of compensation due an M/WBE for purposes of meeting or exceeding the Bidder/Proposer participation

6. Bidder/Proposer acknowledges that it is responsible for considering the effect that any change orders and/or amendments changing the total contract amount may have on its ability to meet or exceed the Bidder/Proposer participation. Bidder/Proposer further acknowledges that it is responsible for submitting a Request for Modification or Substitution if it will be unable to meet or exceed the Bidder/Proposer participation set forth herein.
7. If Bidder/Proposer has not achieved both the M/WBE goal(s) set for this Project, Bidder/Proposer hereby requests a waiver of the MBE and/or WBE goal(s) that Bidder/Proposer has failed to achieve
8. Bidder/Proposer will present documentation of its good faith efforts, a narrative summary detailing its efforts and the reasons its efforts were unsuccessful when requested by the City.
9. I hereby certify that I am authorized to make this Affidavit on behalf of the Bidder/Proposer named below and who shall abide by the terms set forth herein:

Bidder/Proposer primary contact: _____

Address: _____

Phone Number: _____

Facsimile number: _____

E-mail Address: _____

By: _____

Title: _____

Date: _____

(Attach corporate seal if applicable)

Subscribed and sworn to before me this _____ day of _____, 20__.

My Commission Expires: _____

Notary Public



LETTER OF INTENT TO SUBCONTRACT

Check one:

Original LOI:

Updated LOI:

Project Name/Title _____

Project Location/Number _____

PART I: Prime Contractor _____ agrees to enter into a contractual agreement with M/W/DBE/Section 3 Subcontractor _____ who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

for an estimated amount of \$ _____ (or _____ % of the total estimated contract value.)

- M/WBE Vendor type:
- Subcontractor/manufacturer (counts as 100% of contract value towards goals)
 - Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
 - Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE/Section 3 Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Human Relations Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

- Select one:
- The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
 - The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____

Street number and name

City, State and Zip Code

Primary contact: _____

Name

Phone

a) This subcontractor is (circle one): MBE WBE DBE N/A

i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.

ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____

TIMETABLE FOR MBE/WBE UTILIZATION

(This form should be submitted to the City after contract award.)

I, _____, acting in my capacity as _____
(Name) (Position with Firm)
of _____, with the submittal of this Timetable, certify that
(Name of Firm)
the following timetable for MBE/WBE utilization in the fulfillment of this contract is correct and true to the best of my knowledge.

ALLOTTED TIME FOR THE COMPLETION OF THIS CONTRACT

(Check one only)

15 days	___	75 days	___	135 days	___
30 days	___	90 days	___	150 days	___
45 days	___	105 days	___	165 days	___
60 days	___	120 days	___	180 days	___
Other	_____ (Specify)				

Throughout _____ Beginning 1/3 _____
Middle 1/3 _____ Final 1/3 _____
Beginning 1/3 _____% Middle 1/3 _____% Final 1/3 _____%

PLEASE NOTE: Any changes in this timetable require approval of the Human Relations Department in advance of the change.

If you have any questions regarding the completion of this form, please contact the Department of Human Relations at: (816) 513-1818.

(Signature)

(Position with Firm)

(Date)



REQUEST FOR MODIFICATION OR SUBSTITUTION

(This Form **must** be submitted to HRD to request substitutions for an MBE/WBE listed in the Contractor Utilization Plan or for modification of the amount of MBE/WBE participation listed in the Contractor Utilization Plan. This Form shall be an amendment to the Contractor Utilization Plan.)

BIDDER/PROPOSER/CONTRACTOR: _____

ADDRESS: _____

PROJECT NUMBER OR TITLE: _____

AMENDMENT/CHANGE ORDER NO: (if applicable) _____

Project Goals:	_____ % MBE	_____ % WBE
Contractor Utilization Plan:	_____ % MBE	_____ % WBE

1. I am the duly authorized representative of the above Bidder/Contractor/Proposer and am authorized to request this substitution or modification on behalf of the Bidder/Contractor/Proposer.

2. I hereby request that the Director of HRD recommend or approve: (check appropriate space(s))

a. _____ A substitution of the certified MBE/WBE firm _____,
(Name of new firm)
 to perform _____,
(Scope of work to be performed by new firm)

for the MBE/WBE firm _____ which is currently
(Name of old firm)
 listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan to
 perform the following scope of work: _____.
(Scope of work of old firm)

b. _____ A modification of the amount of MBE/WBE participation currently listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan from
 _____ % MBE _____ % WBE *(Fill in % of MBE/WBE Participation currently listed on Contractor Utilization Plan)*

TO

_____ % MBE _____ % WBE *(Fill in New % of MBE/WBE Participation requested for Contractor Utilization Plan)*

- c. Attach 00450.01 Letter of Intent to Subcontract letter for each new MBE/WBE to be added.
- d. Attach a copy of the most recent 00485.01 or on-line M/WBE Monthly Utilization Report

3. Bidder/Contractor/Proposer states that a substitution or modification is necessary because: (check applicable reason(s))

___ The MBE/WBE listed on the Contractor Utilization Plan is non-responsive or cannot perform.

___ The MBE/WBE listed on the Contractor Utilization Plan has increased its previously quoted price without a corresponding change in the scope of work.

___ The MBE/WBE listed on the Contractor Utilization Plan has committed a material default or breach of its contract.

___ Requirements of the scope of work of the contract have changed and make subcontracting not feasible or not feasible at the levels required by the goals established for the contract.

___ The MBE/WBE listed on the Contractor Utilization Plan is unacceptable to the City contracting department.

___ Bidder/Contractor/Proposer has not attempted intentionally to evade the requirements of the Act and it is in the best interests of the City to allow a modification or substitution.

- 4. The following is a narrative summary of the Bidder's/Contractor's/Proposer's good faith efforts exhausted in attempts to substitute the MBE/WBE firm named above which is currently listed on the Contractor Utilization Plan with other qualified, certified MBE/WBE firms for the listed scope of work or any other scope of work in the project:

- 5. Bidder/Proposer/Contractor will present documentation when requested by the City to evidence its good faith efforts.

Dated: _____

(Bidder/Proposer/Contractor)

By: _____
(Authorized Representative)

EMPLOYEE ELIGIBILITY VERIFICATION AFFIDAVIT

(Required for any contract with the City of Kansas City, Missouri in excess of \$5,000.00)

STATE OF _____)
) ss
COUNTY OF _____)

On this _____ day of _____, 20____, before me appeared _____, personally known by me or otherwise proven to be the person whose name is subscribed on this affidavit and who, being duly sworn, stated as follows:

I am of sound mind, capable of making this affidavit, and personally swear or affirm that the statements made herein are truthful to the best of my knowledge. I am the _____ (title) of _____ (business entity) and I am duly authorized, directed or empowered to act with full authority on behalf of the business entity in making this affidavit.

I hereby swear or affirm that the business entity does not knowingly employ any person in connection with the contracted services who does not have the legal right or authorization under federal law to work in the United States as defined in 8 U.S.C. § 1324a(h)(3).

I hereby additionally swear or affirm that the business entity is enrolled in an electronic verification of work program operated by the United States Department of Homeland Security (E-Verify) or an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, under the Immigration Reform and Control Act of 1986, and that the business entity will participate in said program with respect to any person hired by the business entity to perform any work in connection with the contracted services. I have attached hereto documentation sufficient to establish the business entity’s enrollment and participation in the required electronic verification of work program.

I am aware and recognize that unless certain contractual requirements are satisfied and affidavits obtained as provided in Section 285.530, RSMo, the business entity may face liability for violations committed by its subcontractors, notwithstanding the fact that the business entity may itself be compliant.

I acknowledge that I am signing this affidavit as the free act and deed of the business entity and that I am not doing so under duress.

Affiant's signature

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Public

My Commission expires:



ADDENDUM NUMBER 1

Contract/Project Number 81000984

Title/Description DB – Blue River Screen House Facility Project

ISSUE DATE: August 3, 2022

TO ALL PROSPECTIVE PROPOSERS:

This addendum revises referenced proposal and/or specifications documents as follows:

1. Delete and replace the following section(s):
 - a. Delete Document *Request for Qualifications for Design-Build Services Contract for Project No. 81000984 – Contract Number 1638 Blue River WWTP Biosolids Facility Project Water Services Department City of Kansas City, Missouri* Subparagraph 4, Page 3 with the following Document *Request for Qualifications Design-Build Services Contract for Project No. 81000984 – Contract Number 1638 Blue River WWTP Biosolids Facility Project Water Services Department City of Kansas City, Missouri* Subparagraph 4, Page 3.

4. Pre-SOQ Conference. A mandatory pre-SOQ conference will be held **Wednesday, August 10, 2022 at 12:00pm**, held via Microsoft Teams. Attendance at the pre-Proposal conference is mandatory for all Design Professionals. Virtual meeting information is listed below.

https://teams.microsoft.com/l/meetup-join/19%3ameeting_MDgzOTc0MjMtODM4Mi00N2RmLWIwZTItMmMzMTk3MjUwZmly%40thread.v2/0?context=%7b%22Tid%22%3a%22ec240911-5979-4419-a8ec-c808b076019b%22%2c%22Oid%22%3a%222aa6f924-3726-41fb-82b9-548a35d74571%22%7d

2. Delete and replace the following section(s):
 - a. Delete Document *Request for Qualifications for Design-Build Services Contract for Project No. 81000984 – Contract Number 1638 Blue River WWTP Biosolids Facility Project Water Services Department City of Kansas City, Missouri* Subparagraph 3.2 with the following Document *Request for Qualifications for Design-Build Services Contract for Project No. 81000984 – Contract Number 1638 Blue River WWTP Biosolids Facility Project Water Services Department City of Kansas City, Missouri* Subparagraph 3.2

3.2 Procurement Schedule

The approximate procurement schedule is as follows:

- Advertise RFQ July 25, 2022
- Mandatory Pre-SOQ Conference August 10, 2022
- SOQ Submission Date August 25, 2022
- Shortlist Selection Date (provisional)* September 2, 2022
- Issuance of RFP (provisional) September 7, 2022
- Deadline for Receipt of Written Questions October 26, 2022
- Proposal Submission (provisional) November 9, 2022
- Notice of Intent to Contract (provisional) December 28, 2022

NOTE: Unless otherwise stated, all other requirements of the RFQ are still in effect.

CITY OF FOUNTAINS
HEART OF THE NATION



KANSAS CITY
MISSOURI

ADDENDUM NUMBER 2

Contract/Project Number 81000984

Title/Description DB – Blue River Screen House Facility Project

ISSUE DATE: August 11, 2022

TO ALL PROSPECTIVE PROPOSERS:

Information to Proposers The following is provided to Proposers for information only:

1. Pre-Proposal Conference Attendance List 081022.pdf
2. Request for Proposal (for Information only)

NOTE: Unless otherwise stated, all other requirements of the RFQ are still in effect.



Pre-Proposal Conference Attendance List

Project Number **81000984/C1638**

Project Title **Blue River Screen House Project**

Water Services Department held virtually via Microsoft Teams.

Day/Date August 10, 2022 Time 12:00 p.m. Mandatory Optional

Attendance is listed in alphabetical order of organizations attended.

Name	Organization	E-Mail Address
Gabriel Okafor	Alpha Energy and Electric Inc.	Gabriel.Okafor@alphaee.com
Suzie Carpenter	Black & Veatch	CarpenterS@bv.com
Timothy P. Adams	CDM Smith	adamstp@cdmsmith.com
Sarah Stewart	CDM Smith	StewartSA@cdmsmith.com
Christopher L. Burns	CDM Smith	burnscl@cdmsmith.com
Tammy Blanchard	Duperon	tblanchard@duperon.com
Jack Greiner	Duperon	Jgreiner@duperon.com
Bob Lipscomb	Duperon	rlipscomb@duperon.com
Jill Biesma	Environmental Advisors and Engineers, Inc.	jbiesma@eaei.com
Tina Bass	Garney	tmbass@garney.com
Scott Phillips	Garney	sphillips@garney.com
Dave Hoover	Goodwin Brothers	dhoover@goodwinbros.com
Brad Boyles	MegaKC	bboyles@megakc.com; megabids@megakc.com
Corey O'Neill	MegaKC	coneill@megakc.com
Molly Pesce	Olsson	mpesce@olsson.com
Kevin Waldron	Olsson	kwaldron@olsson.com
Dallas Massie	RE Pedrotti	dallasm@repedrotti.com
Clint Hayes	Radmacher Brothers	chayes@radbroex.com
Michael J. Trettel	Tarlton Corporation	MJTrettel@tarltoncorp.com

**REQUEST FOR PROPOSALS
FOR DESIGN-BUILD SERVICES CONTRACT
FOR PROJECT NO. 81000984 - CONTRACT NUMBER 1638
BLUE RIVER SCREEN HOUSE PROJECT
WATER SERVICES DEPARTMENT
CITY OF KANSAS CITY, MISSOURI**

1. **Purpose.** This is a Request for Proposals (“RFP”) issued by the City of Kansas City, Missouri (“City” or “Owner”) acting through its Water Services Department (WSD) for Design-Build services including design, construction, startup, and extended commissioning for the Blue River Screen House Facility Project (Project).

The City will use Fixed-Price Design-Build (FPDB) contracting method to deliver the Project, and is utilizing a two-step procurement process for selecting the entity that will provide best value as the Design-Builder for the Project. This RFP represents the second step of the procurement process and establishes the process for soliciting and evaluating Technical and Cost Proposals (Proposal) from those entities shortlisted as part of the Statement of Qualifications (SOQ) process. Only those Respondents identified in Paragraph 2 below are invited to submit a Proposal in response to the RFP. The City will review and evaluate Proposals in accordance with this RFP and select the Design-Builder.

The execution of a Contract will be subject to the terms and conditions of the RFP. This RFP is not a tender or an offer. Respondents must be thoroughly familiar with the scope of work and performance requirements discussed in this RFP. The City may reject any Proposal that fails to demonstrate such familiarity. In no event will the City be liable for any costs incurred by any Respondent or any other party in developing or submitting a Proposal, except as described in Section 3.10, below.

The Proposals must be submitted in accordance with the requirements set forth in this document.

2. **Definition of Request for Proposals.** This RFP is an invitation by the City to Design-Build Professionals soliciting Proposals from the following entities (“Shortlisted Respondents”, “Respondents”, or “Bidders”), listed in alphabetical order:

- (List of Shortlisted Respondents to be entered after Shortlisted by Selection Committee)

Selected Respondents were shortlisted based on the qualifications of the Project Team that were submitted in their SOQs and are invited to submit their proposal for performing the services specified in this RFP.

Selection will be based upon the judgment of the City in obtaining a Design-Builder Professional that will be in the best interests of the City. Respondent’s submittal of a proposal in response to this RFP does not create any right in or expectation to a contract with the City.

3. **Submittal Date.** Sealed Proposals are due by [REDACTED] local time. Proposals shall be sent to Derrick Smith, Contract Administrator, Procurement Services, General

Services Department, 414 East 12th Street, City Hall 1st Floor-RM 102W, Kansas City, MO 64106.. Respondents should submit six (6) paper documents (one original and five [5] copies) as well as one electronic version of the **Technical Proposal** on a USB flash drive (in searchable PDF format). **One (1)** paper document (one original) of the **Cost Proposal**, as well as one electronic version of the **Cost Proposal** on a USB flash drive (in searchable PDF format), must be submitted in a single, sealed envelope or package separate from the Respondent's Technical Proposal.

Both Technical and Cost Proposals must be submitted in separate, sealed envelope or box and shall not be opened until after the due date. Each Technical and Cost Proposal document package shall be plainly labeled with the words "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984" and "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984," respectively, along with Proposer name and identification. The City reserves the right at any time to change or extend the due date and time for any reason.

Each Respondent assumes full responsibility for the timely delivery of its Proposals at the required location. Proposals received after the Submittal Date may be deemed non-responsive and be excluded from consideration. A delivery acknowledgement will be issued upon receipt of the Proposal package and will be provided to the Respondent via e-mail by the City's Project Manager.

Only written responses will be considered. All materials submitted will become part of the response, and may be incorporated into any subsequent contract(s) between the City and the selected Respondent.

4. **RFP Package.** The RFP package for this project contains the following:

- Section 1: Project Overview
- Section 2: Fixed-Price Design-Build Services
- Section 3: Procurement Process
- Section 4: Proposal Submission Requirements
- Section 5: Final Proposal Evaluation and Selection
- Section 6: Conditions for Respondents

Attachments:

- Attachment A: Definition of Terms
- Attachment B: Scope of Design-Build Services
- Attachment C: Draft Contract for Design-Build Services
- Attachment D: Project Background Documents (under separate cover)
- Attachment E: Project Technical Requirements (under separate cover)
- Attachment F: Technical Proposal Forms
 - (1) Form F-1. Project Design Criteria Checklist
 - (2) Form F-X (number to be provided by Respondent). Equipment Cut Sheet

Attachment G: Cost Proposal Forms

- (1) DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
- (2) 00430 Bid Bond

(3) Form 01290.02 Schedule of Values
Attachment H: Submission Forms including Civil Rights and Equal Opportunity Department (CREO) Documents (To be submitted within 48 hours of Public Bid Opening, in accordance with Section 5.5.1)

- (1) HRD Form 06: Design-Builder Contract Instructions
- (2) HRD Form 8A: Contractor Utilization Plan/Request for Waiver
- (3) HRD Form 10: Timetable for MBE/WBE Utilization
- (4) HRD Form 11: Request for Modification or Substitution
- (5) 00450.01 Letter of Intent to Subcontract
- (6) 00515.01 Employee Eligibility Verification Affidavit
- (7) 01290.14 Contractor Affidavit for Final Payment
- (8) 01290.15 Subcontractor Affidavit for Final Payment
- (9) HRD Employee Identification Report Form
- (10) HRD Affidavit of Training Program
- (11) Best Faith Efforts, if MBE/WBE goals are not met.
- (12) Proposal Development Stipend Agreement Form

5. **Questions.** Forward all questions by email to both the following Project Manager and Procurement Manager. Questions received after the Deadline for Receipt of Written Questions (Section 3.2 Procurement Schedule) may not be answered. Interpretations or clarifications considered necessary by the Project Manager in response to such questions will be issued by Addenda to all Respondents. Oral or other interpretations or clarifications shall be without legal effect, even if made during formal meetings.

Isaac Garlington, Project Manager
4800 East 63rd Street,
Kansas City, MO 64130
Phone: (816) 513-0436
E-mail: isaac.garlington@kcmo.org

Derrick Smith, Procurement Manager
Procurement Services, General Services Department
414 East 12th Street, City Hall 1st Floor-RM 102W
Kansas City, MO 64106
(816) 513-0807 Phone
(816) 513-2812 Fax
Email: derrick.smith@kcmo.org



For persons with disabilities needing reasonable accommodations please contact the City's ADA Specialist at 816-513-6589.

SECTION 1: PROJECT OVERVIEW

1.1 Project Background

The Blue River WWTP is a 120 million gallons per day (mgd) municipal wastewater treatment facility that discharges treated effluent into the Missouri River.

Certain project background documents are being made available to the Respondents, as referenced in Attachments D (Project Background Documents) and E (Project Technical Requirements), for the purpose of preparing Proposals. The City is providing these documents only for the purpose of obtaining Proposals for the Project and does not confer a license or grant permission for any other use. Documents referenced in Attachment D (Project Background Documents) and Attachment E (Project Technical Requirements) will only be made available in electronic format.

Due to criticality of adequate screening, and the desire to allocate risk to one entity, the City decided there is benefit in utilizing a Design-Build method for the Project and a Fixed-Price Design-Build (FPDB) method was selected. The FPDB method outlined in this RFP was chosen to allow WSD staff involvement in the design process for the Project while leveraging the schedule, collaboration, and other advantages that result from use of a design-build process.

Ongoing coordination services and meetings with WSD will be required.

Because the City has specific technical requirements, preferences, and standards regarding some elements of the facilities design, as well as the desire to control how and where risk will be assigned as part of this Project, preliminary project design parameters are provided in Attachment E (Project Technical Requirements) and further described in Section 1.2.1. Project Technical Requirements.

1.2 Project Scope

This RFP is to provide Design-Builder Services for design, construction, and commissioning the following scope of work as defined in the Project Technical Requirements (Attachment E), within the City's Budget and Scopes Rank Ordered as follows:

Rank Order

- 1) Multi-Rake Screens and Conveyors
- 2) Channel Separation System
- 3) Grit Equalization across Channels
- 4) Actuated Slide Gates
- 5) Westside Line-Reroute
- 6) Power Upgrades
- 7) Heating, Ventilation, and Air Conditioning (HVAC)

For full scope of services, refer to Section 01110 – Summary of Work

Under the FPDB method, the Design-Builder's scope of work for the Project will be performed in two (2) phases under a single Contract for Design-Build Services between the City and Design-

Builder. These phases (described in Attachment B (Scope of Design-Build Services)) may run concurrently and are generally described as follows:

- **Design Phase** services performed under the Contract for Design-Build Services include completing the entirety of the Project's final design and pre-construction activities.
- **Construction Phase** services performed under the Contract for Design-Build Services include: performing construction; performing post-construction tasks, such as commissioning and initial performance testing; providing a "Smart BIM", as specified by the City; and performing warranty and other work required.

1.2.1 Project Technical Requirements

The Project Technical Requirements, as provided in Attachment E (Project Technical Requirements), are considered Contract Documents and define the basis of project design and definition as developed to-date for this RFP. Technical Proposals must incorporate all Project Technical Requirements. Attachment E (Project Technical Requirements) includes the native files for the Respondents to use in developing Proposals. Project Technical Requirements are included within:

- Basis of Design Report
- Preliminary Drawings
- Technical Specifications

The Project Technical Requirements describe the "Representative Project." Respondents may deviate from the Representative Project ("Respondent's Proposed Modified Project"), if justified and approved by the City. **All Technical Proposals and Cost Proposals must be based on either the Representative Project or the approved Proposed Modified Project.** The Project Technical Requirements (Attachment E) are available on a USB flash drive or eBuilder for Shortlisted Respondents.

The Project Technical Requirements identify both **Fixed Design Criteria, Indicative Design Criteria, and Preferred Indicative Design Criteria** for the Representative Project. Fixed Design Criteria must be adhered to and followed by the Respondent. However, the City would like to promote innovation and encourage best value; therefore, the City will consider technical alternatives that are better than or equal to the Indicative Design Criteria. Proposed variances from Indicative Design Criteria must be included within and submitted as part of the Technical Submittal (see Section 4). Recommended variances will be discussed between the City and the Respondent, and the City will determine if the variation is "approved" or "not approved." Respondent recommendations (both "approved" and "not approved" variances) for Indicative Design Criteria and Preferred Indicative Design Criteria will be considered proprietary and will be kept confidential. The Respondent must also document the recommended technical alternatives to the Indicative Design Criteria in its Technical Proposal.

1.3 City's Objectives

The City's objectives for delivery of the Project are as follows:

- **Quality:** Provide treatment facilities and equipment that will be sustainable and will reliably produce required quantities of Class A biosolids in full compliance with federal and state regulations and contractual standards for the full range of the sludge conditions set forth in this RFP.
- **Cost:** Minimize capital cost with consideration of optimizing life-cycle cost.
- **Schedule:** Achieve the scheduled completion dates for design, construction and performance testing of the Project.
- **Risk:** Achieve an optimal balance of risk allocation between the City and the Design-Builder. In general, the party best suited to manage the risk owns the risk
- **Safety:** Implement an effective safety program incorporating best industry practices.
- **Operations and Maintenance (O&M):** Optimize operating and maintenance requirements so that the facility is capable of reliably and continuously operating in a cost-effective manner over the long-term. Develop and deliver, in conjunction with City and WSD management, a program that provides effective class room and hands on training for WSD staff to transition to full-time operation and maintenance of new facilities, electronic O&M manuals, and Standard Operating Procedures.
- **Accountability:** Provide for Design-Builder assumption of single point of accountability for performance of all services under the Contract for Design-Builder Services.
- **Smooth Transition:** Smooth transition of design deliverables (i.e. as-builts, building information models [BIM]), electronic O&M Manuals, etc. from the Design-Builder to the City for use in the City's O&M systems, such as maintenance management and asset management. Smooth transition of facility operations following commissioning activities between the Design-Builder and the City.
- **Collaboration:** Provide for coordinated design development with City input in a manner that preserves Design-Builder's sole responsibility for the achievement of Project performance objectives while meeting City objectives associated with cost, quality, aesthetics, and long-term operability.
- **Sustainability:** Per Section 1.6, all solutions identified to improve the quality of life of facility personnel, reduce labor usage, reduce material usage, and reduce waste created after construction is completed.

By selecting the FPDB delivery method for the Project, the City is committed to working in close collaboration with the Design-Builder.

1.4 Project Funding

The cost for design and construction of the Project is currently estimated at **\$5 million**. This budget does not include the City's other Project costs, such as professional advisory services, site investigations, environmental studies, certain governmental approvals, taxes, and other related costs.

The Project may be financed through a combination of City municipal revenue bonds and cash.

1.5 Project Schedule

The Project schedule is anticipated as follows:

- Design-Builder Notice-to-Proceed February 2023
- Facility Commissioning August 2024
- Substantial Completion September 2024
- Final Completion November 2024

1.6 Sustainability

The City has adopted an overall policy supporting a greater use of “green solutions” or enhanced sustainability measures that consider environmental quality, social equity and economic vitality. In order to minimize waste, enhance efficiencies, and achieve multiple benefits and project synergies, all City projects must identify opportunities for sustainability improvements and implement those improvements when financially reasonable and operationally practical.

The Envision™ rating system is used by WSD to promote sustainability in a variety of infrastructure projects and to encourage sustainable approaches as an important part of project design. Envision™ will also be used to evaluate and grade the sustainability of Project components as they are developed.

City also desires for all City of Kansas City, MO services to be carbon neutral by the year, 2030.

SECTION 2: FIXED-PRICE DESIGN-BUILD SERVICES

2.1 General

The services to be undertaken by the Design-Builder include all Work defined in the Contract, including all Design Professional Services, Construction Services, and other obligations to be performed by Design/Builder under the Contract Documents, including without limitation project management, supervision, training, testing, permitting, commissioning, and all other services and deliverables required by Contractor to achieve Final Acceptance of the Project in accordance with the Contract Documents.

Design-Builder services are as noted in Section 1 and more fully described in Attachment B (Scope of Design-Builder Services).

2.2 Roles and Responsibilities

City: The City will cooperate with the Design-Builder and will fulfill its responsibilities in a timely manner to facilitate the Design-Builder's timely and efficient performance of services. The City's responsibilities include:

- Review submissions and provide comments to Design-Builder in a timely manner.
- Furnish existing studies and provide complete, accurate, and reliable data and information regarding the Project, including record drawings, preliminary studies, environmental impact assessments, Preliminary Design BIM models, Site plans, etc.
- Provide information and provide (or engage Design-Builder to perform) additional studies that may be necessary to complete the Project.
- Provide adequate funding.
- Provide access to the Project site and any necessary easements.
- Obtain the governmental approvals and permits the City is responsible for and assist Design-Builder in obtaining governmental approvals and permits Design-Builder is responsible for.
- Provide necessary data and inputs, characteristics and ranges (e.g., wastewater influent or biosolids) for Project start-up and performance testing.

Design-Builder: The Design-Builder will cooperate with the City and will provide in a timely manner the services, as described in Section 2.1, necessary to complete the general Project scope specified in Attachment B (Scope of Design-Build Services).

The roles and responsibilities of the City and the Design-Builder are more fully described Attachments B (Scope of Design-Build Services) and C (Draft Contract for Design-Build Services) in the RFP.

FOR INFORMATION PURPOSES ONLY

SECTION 3: PROCUREMENT PROCESS

3.1 Communications and City Contact

On behalf of the City, **Derrick Smith, Procurement Services Department** will act as the Procurement Manager and as the sole point of contact (City Contact) and administrator for the RFP process. All communications shall be submitted in writing by email, sent to the procurement manager, carbon copy the Project Manager, and shall specifically reference this RFP. All questions or comments should be directed to the Procurement Manager as identified under Paragraph 5 of this RFP. All communications and questions regarding the Project shall only be made through the City Contact with the exception of City-certified Disadvantaged Business Enterprises, Minority Business Enterprises, and Women Business Enterprises (D/M/WBE) and of Respondents contacting the Civil Rights and Equal Opportunity Department to assist in meeting MBE/WBE goals. D/M/WBEs may contact WSD, General Services, and CREO staff directly regarding the Project.

No oral communication from the City Contact or any other individual is binding. Oral or written contact with other City staff, WSD staff, the Owner's Advisor, or any public official specific to the Project during the RFP/Design-Builder Selection process is prohibited. A violation of this provision may result in disqualification of the Respondent from the RFP/Design-Builder Selection process.

3.2 Procurement Schedule

The procurement process includes several confidential meetings which are discussed in further detail in Section 3.4 Confidential Meetings. The approximate procurement schedule is as follows:

- Issuance of RFP September 2, 2022
- Confidential Meetings (2) Sept. 7, 2022 – Oct. 26, 2022
- Site visit Sept. 7, 2022 – Sept. 21, 2022
- Deadline for Receipt of Written Questions October 26, 2022
- Issuance of Final Addendum November 2, 2022
- Proposal (Technical and Cost) Submission November 9, 2022
- Interviews (Provisional) Week of Nov. 15, 2022
- Public Bid Opening Date November 22, 2022
- Notice of Intent to Contract December 28, 2022

3.3 Confidential Meetings

Following the issuance of the RFP, the Owner intends to conduct **two (2)** confidential individual meetings with each Respondent during various times of the RFP Period as listed in Section 3.2 Procurement Schedule and as described in the following Sections 3.4.1 through 3.4.3.

All information discussed in these meetings will remain confidential with the exception of clarifications to the RFP made by the City, which will be issued by addenda. The City anticipates that the confidential meetings will be held at **4800 East 63rd Street, Kansas City, MO, 64130** or Blue River located at **7300 Hawthorne Road, Kansas City, MO 64120**. The City will advise each Respondent of its proposed meeting time for Confidential Meeting #1 no later than one week prior to meeting and Confidential Meeting #2 no later than two weeks prior to meeting. The City may hold further confidential meetings at its sole discretion upon notice to the Respondents.

The meetings are intended to provide additional information about the Project, the RFP, Project Technical Requirements, Preliminary Design Contract Documents, technical questions/clarifications, scope of services, and the Draft Contract. The City's commitment to confidentiality is subject to applicable law. The City reserves the right to determine whether any element or feature of the preliminary technical concepts is objectionable or non-objectionable for any reason. The RFP will be amended as necessary to preclude the use of any elements or features determined to be objectionable by the City. The meetings will be conducted to allow:

- a) Respondents to present the concepts to the City and convey to the City the value and benefit of the Respondent's approach to meeting the City's Project requirements as defined in the RFP;
- b) The City to understand each Respondent's technical approach/concepts and to review the approach/concepts for compliance with the City's Project requirements as defined in this RFP;
- c) The City to evaluate any alternative technologies and variances, and to inform Respondents if any are found to be objectionable;
- d) Clarification of the City's Project Technical Requirements through addenda to the RFP; and
- e) Respondents to comment on the RFP, including the Draft Contract for Design-Build Services, and the City to clarify the Draft Contract for Design-Build Services after consideration of Respondent comments.

The City plans to conduct such informational meetings in a responsive manner, affording comparable opportunities for discussion to each Respondent.

Except as expressly provided otherwise in this RFP, the confidential meetings are subject to the following rules:

- a) The City will not discuss with any Respondent any information submitted as part of this

procurement other than its own;

- b) Respondents shall not seek to obtain commitments from the City in the meetings or otherwise seek to obtain an unfair competitive advantage over any other Respondent;
- c) No aspect of these meetings is intended to provide any Respondent with access to information that is not similarly available to other Respondents. Accordingly, material information about the Project or procurement that the City reveals or discusses in response to questions raised in a confidential meeting will be revealed to the other Respondents unless the City, in its sole discretion, determines that disclosure (i) would (a) impair the confidentiality of information submitted as part of this procurement or (b) reveal a Respondent's confidential business strategies; (ii) is not necessary in order to address an error in the RFP Documents, (iii) is not necessary for purposes of fairness and transparency; and (iv) is not required by the Public Records Act;
- d) The content or discussions that occur during confidential meetings will not be considered in Proposal evaluations; and
- e) A non-disclosure agreement will be signed by each meeting attendee, including City staff and others attending on the City's behalf, prior to the start of each confidential meeting.

During confidential meetings, Respondents may ask questions, and the City may provide responses. Responses provided by the City during meetings may not be relied upon unless such questions are submitted in writing and the City provides written responses by an addendum to this RFP.

3.4.1 Confidential Meeting #1 (Mandatory)

Confidential Meeting #1 will occur as scheduled in Section 3.2, after the issuance of the RFP with the purpose of reviewing with the Respondent's the RFP, procurement process, and RFP documents. The Respondent may discuss technical ideas with the City during this meeting. The City Contacts will initiate scheduling the optional meeting with Respondents upon issuance of the RFP.

The duration for this meeting will be up to two (2) hours and attendance from the Respondent's team shall be limited to two (2) hours and attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions.

3.4.2 Confidential Meeting #2 (Mandatory)

Confidential Meeting #2 will occur no earlier than twenty-one (21) days before the Proposal Submission date with the purpose of discussing technical ideas provided as well as the Draft Contract for Design-Build Services. This meeting may also include representatives from the City's Legal Department and the duration is expected to be four (4) to eight (8) hours depending on Respondent's agenda. Respondent shall send agenda to City Contacts one week prior to meeting. Attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions. Attendance may also include the Respondent's legal representative or counsel for discussions related to the Draft Contract for Design-Build Services. This meeting will be scheduled by City at least two (2) weeks in advance.

Any proposed variances from the Indicative Design Criteria or Preferred Indicative Criteria must be discussed during this meeting. If the City does not approve a Respondent's proposal for a variation from Indicative Criteria, it will inform the Respondent by e-mail within two (2) weeks after Confidential Meeting #1.

3.4 Interviews

The City may conduct an interview/oral presentation with each Respondent after proposals are submitted. The interviews may consist of an oral presentation by the Respondent, as well as a questions and answers portion administered by the City. An agenda for the interview/oral presentation will be sent to each Respondent prior to the interview.

The purpose of the interview is to enable each Respondent to: (a) demonstrate Proposal clarity of expression and thoroughness; (b) demonstrate a strong understanding of Project issues; (c) articulate its thoughts and ideas in a logical and factual manner; (d) demonstrate communication between team members and impressions of ability to work cohesively; (e) confirm Respondent's key personnel commitments; (f) provide direct, clear, thorough and insightful answers to questions; and (g) clarify the City's understanding of the proposal and what is covered by it.

3.5 Withdrawal from Proposing

A Respondent may withdraw from submitting a Proposal by providing a written request, duly executed by an authorized representative, and delivered to the City Contact at any time prior to the Proposal Submittal Due Date. Individuals making the withdrawal will be required to provide evidence of authorization to represent the Respondent. After the Proposal Submittal Due Date, Proposals shall not be withdrawn or modified except to the extent agreed to by the City. If a Respondent withdraws from submitting a Proposal, a Stipend from the City will not be paid to that Respondent.

3.6 Validity of Proposal

The offer represented by each Proposal will remain in full force and effect after the Proposal Submittal Due Date and cannot be withdrawn for a period of 180 days unless:

- The City has cancelled the RFP;
- The City has awarded the Contract to another Respondent and Contract execution has occurred; or
- The City, in its sole discretion, allows a Respondent to withdraw its Proposal prior to such deadline.

The City and the Respondent may mutually agree, in writing, to extend the validity of a Proposal beyond the validity period. If a Respondent agrees to extend the validity of its Proposal beyond

the validity period, the Proposal Security (see Section 3.7 Proposal Bid Security) shall also be extended and/or replaced with compliant Proposal Security.

3.7 Proposal Bid Security

The Cost Proposal shall include security for the Respondent's obligations under the Proposal in the amount of 5% of Base Bid which shall be in the form of a Bid Bond (on Form 00430 Bid Bond provided in Attachment G, Cost Proposal Forms), Cashier's Check, Letter of Credit, Certificate of Deposit or other instrument approved in advance by the City. Prior to submittal of the Cost Proposal the City Treasurer must approve both the financial institution and text of a Letter of Credit. A Cashier's Check or a Certificate of Deposit shall be payable to the City Treasurer. The proposal bid bond must be valid until at least the end of the Proposal validity period in Section 3.6.

By submitting its Proposal, each Respondent understands and agrees that the City shall be entitled to draw on the proposal bid security in its entirety and Respondent if:

- Respondent withdraws, repudiates or otherwise indicates in writing that it will not meet any commitments made in the Proposal, except as specifically permitted under this RFP;
- Respondent is selected for negotiations under Section 5 of this RFP and fails to negotiate with the City in good faith;
- Respondent refuses or is unable to execute and deliver the Contract, evidence of insurance, payment and performance bonds and any other documents required by the City as a condition to award.

By submitting a Proposal, Respondent is agreeing to correct any mistakes on a proposal security submission when requested by the City. When such a mistake occurs and a Respondent fails or refuses to correct the mistake or execute the Contract when requested by the City, any proposal security shall be forfeited to the City and the Respondent shall also be subject to debarment and damages.

3.8 Addenda

This RFP is subject to revision after the date of issuance via written addenda until the Issuance of Final Addendum date in Section 3.2 Procurement Schedule . The City may extend the Submittal Due Date (and any dates in the Procurement Schedule) via addendum at any time. A copy of all such written addenda will be posted at the Kansas City, Missouri Plan Room, <http://www.kcmoplanroom.org>. All addenda will be posted at this location. Any document or plan may be viewed or downloaded from this location.

The following documents will be made available for download: (1) the RFP (including all Attachments) and (2) addenda to the RFP. It is each Respondent's responsibility to obtain all RFP addenda prior to submitting its Proposal.

If the Respondent has any doubt as to the true meaning of any part of this RFP, or if any discrepancies in or omissions from this RFP are discovered by Respondent, a written request for an interpretation or correction may be submitted to the City Contact (see Section 3.1) for response. The Respondent submitting the request will be responsible for delivery no later than the Deadline for Receipt of Written Questions. The City will not be responsible for any other explanation or interpretations of the documents.

It is the responsibility of all Respondents to ascertain whether any addenda have been issued before the Submittal Due Date by checking the Kansas City, Missouri Plan Room. If an Addendum is issued, Respondent must acknowledge receipt of Addendum on the DB 00410 Design-Build Bid Form submitted with the Cost Proposal (see Section 4.3.11 Cost Proposal).

3.9 Inclusion of Proposal in the Contract

Portions of the successful Respondent's Proposal will be used to complete various Contract provisions and Exhibits and will therefore become part of the Contract. All other information is for evaluation purposes only and will not become part of the Contract.

3.10 Reimbursement for Proposal Submitted

For those Respondents that submit a responsive Proposal and are not awarded the Contract, the City will reimburse each unsuccessful Respondent for Proposal preparation costs with a not-to-exceed value of \$45,000. The City will have no further obligation for cost reimbursement. All work performed by a Respondent pursuant to submitting a Proposal, shall be considered works for hire and shall become the property of the City without restriction or limitation on the City's use. Payment of reimbursement shall be made within sixty (60) days after receipt of invoice from Respondent for reimbursement. The Respondent's invoice should include documentation that supports the actual costs incurred for approval of goods and services, providing the Notice of Intent to Award for this project's FPDB Contract has been issued to the successful Respondent. **The Respondent shall complete the Proposal Development Stipend Agreement Form included in Attachment H (Submission Forms) as acknowledgement that the Respondent will accept the reimbursement and that the Respondent agrees with the terms and conditions associated with the reimbursement. If the Respondent chooses not to accept reimbursement, then Respondent shall provide a copy of the Proposal Development Stipend Agreement Form, unsigned, accompanied with a brief statement that the Respondent chooses not to accept Reimbursement.** The completed Proposal Development Stipend Agreement Form shall serve as the legal agreement between the City and Respondent as it specifically relates to the reimbursement.

The stipend shall be paid to the Respondent(s) following the council approval of the ordinance of the Construction contract with the selected Design Builder. Design-Builders are encouraged to become City vendor prior to proposal submission for the Project. Upon such payment, the City shall acquire from the Respondent perpetual, nonexclusive, royalty-free licenses to allow the City to use the design, or any part thereof, any ideas and/or information contained in the Proposal and to use such design, or any part thereof, any ideas and/or information in this Project or in connection with other projects. In order to receive a stipend, a Respondent must obtain a Vendor Number from

the City. Respondents can obtain the necessary forms for obtaining a Vendor Number by calling (816) 513-1836.

3.11 Site Access Period

The City will provide Respondents scheduled access, during periods shown in Section 3.2, to Project site located at the Blue River WWTP by appointment. Each Respondent shall contact the City Contact to schedule a date and time to tour the Facilities. The City will provide up to two (2) hours of site access for each Respondent. City staff will accompany the Respondent in touring the Facilities, however, staff will not be allowed to answer procurement or Proposal-related questions. Site access will be granted approximately one (1) week after the Request for Proposal is provided.

Respondents visiting the Project site shall be responsible for their own safety including equipment and safety procedures. No information conveyed by the City to Respondent resulting from these site tours shall act to modify the RFP unless such modifications are made by Addendum.

FOR INFORMATION PURPOSES ONLY

SECTION 4: PROPOSAL SUBMISSION REQUIREMENTS

4.1 Submittal Due Date

Refer to Paragraph 3 above for submittal location and due date.

4.2 Submission Format

Except as expressly provided in this Section, the Technical Proposal must not exceed **twenty-five (25)** total narrative pages (most or all 8½ x 11 inch with 1-inch or greater margins), excluding the transmittal letter, index or table of contents, front and back covers, title pages/separation tabs, and appendices. A maximum of **five (5)** of the total pages may be 11 x 17-inch z-fold format. Eleven (11) point font or larger must be used in Parts 1 and 2 of the Technical Proposal. The Technical Proposal shall be typed or printed double-sided to the extent possible, with each double-sided page counting as two pages, on recycled and recyclable paper, and shall be continuously numbered. Each Technical Proposal Part and Appendix shall be labeled with title headers.

The Technical Proposal submission envelope or box shall include Respondent's name and address and shall be labeled "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

The Cost Proposal submission envelope or box shall include the completed Cost Proposal submission forms in Attachment G (Cost Proposal Forms) and any supporting documentation requested in this RFP. Cost Proposal must be accompanied by Proposal bid security in accordance with Section 3.8 Proposal Bid Security.

The Cost Proposal envelope shall include Respondent's name and address and shall be labeled "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

Drawings shall be half-size versions (11" x 17") of ANSI 22" x 34" sheets. The set shall include a cover sheet and index of all drawings included in the set. Drawings are excluded from the page limit of the Technical Proposal.

4.3 Submission Content

4.3.1 General Outline

The **Technical Proposal** must include the following in the order listed:

- Transmittal Letter
- Part 1 – Project Plans/Management Approach
 - Project Team/SOQ Confirmation

- Design-Build Coordination and Management
- Quality Control and Management
- Safety Plan
- Permitting
- Self-Performance and Subcontracting
- Part 2 – Technical Proposal
 - Project Understanding
 - Technical Narratives
 - Including variances from Indicative Design Criteria
 - Technical Drawings (reference Appendix B)
 - Equipment Information (reference Appendix C)
- Part 3 – Construction Schedule, Planning and Sequencing (reference Appendix D)
- Part 4 – MBE/WBE Utilization
- Appendix A – Forms for Affirmation and Compliance (not included in page count)
 - Copies of Missouri Construction and Engineering Licenses for Lead Contractor, Design Manager, and Engineer of Record
 - Bonding Capacity
 - Declaration of Insurance
 - Form 00515.01 Employee Eligibility Verification Affidavit
- Appendix B – Design Drawings (not included in page count)
- Appendix C – Equipment Forms (not included in page count)
- Appendix D – Project Schedule (not included in page count)

The content requirements set forth in this RFP represent the minimum content requirements for the Technical Proposal. It is the Respondent's responsibility to present all relevant information and

other materials in its Technical Proposal. The Technical Proposal, however, should not contain standard marketing or other general materials. It is the Respondent's responsibility to modify such materials so that only directly relevant information is included in the Technical Proposal.

Per Section 2-1585, City Code of Ordinances, the Technical Proposal may not contain any reference to the cost of the Project.

The **Cost Proposal** must include the following:

- Cost Proposal
 - DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
 - 00430 Bid Bond

4.3.2 *Transmittal Letter*

Each Respondent must provide a Transmittal Letter following the Proposal cover that formally conveys the Proposal to the City. The letter must be signed by an authorized representative of the Respondent who is empowered to sign such material and to commit the Respondent to the obligations contained in the Proposal. If Respondent is a corporation or an LLC, an authorized officer shall sign his/her name and indicate his/her title beneath the full corporate name. If Respondent is a joint venture, an authorized representative for each member of the joint venture shall sign the letter, and specifically state that, if the joint venture is selected as the Design-Builder entity, each member will be jointly and severally liable to the City for the obligations arising out of the contract between the joint venture and the City.

The Transmittal Letter may include any information deemed relevant to the Respondent, but must include the following:

1. An identification of the Respondent's Point of Contact, including name, address, phone number, and email address, and must specify who would be the Design-Builder's signatory to any contract documents executed with the City.
2. An Executive Summary of the Proposal, with no references whatsoever to the Cost Proposal.
3. A declaration of the Respondent's intent, if selected, to enter into a contract with the City for the Project in accordance with the terms of this RFP;
4. An affirmation that all professional and business registrations and licenses required for the Project have been obtained or will be obtained prior to award of the Contract for Design-Build Services. This includes, but is not limited to the registrations/licenses for the members of the Respondent's team that are professional engineers and will be the Engineer-of-Record for the Project;
5. A statement of the Respondent's intent to provide Performance and Payment Bonds and all insurance required under the Contract for Design-Build Services, respectively by the date of award of the Contract.
6. An affirmation that the representations made in the Proposal will remain in force and effect for one hundred and eighty (180) days from the Proposal Submission Due Date.

7. An affirmation that the Respondent has completed and included in either Appendix A (Forms for Affirmation of Compliance), Appendix C (Equipment Forms), or in Part 5 – Cost Proposal all required submission forms provided in Attachment F (Technical Proposal Forms), Attachment G (Cost Proposal Forms), and Attachment H (Submission Forms including CREO Documents).

The Transmittal Letter shall be limited to three (3), 8 ½ x 11 inch pages.

4.3.3 Part 1 – Project Plans/Management Approach

The Respondent shall use Part 1 of the Technical Proposal to demonstrate their approach for managing the Project from Design Phase through Extended Commissioning Phase. It is not expected that the Respondent will include specific and developed plans, but should concisely demonstrate how the project will be executed with regards to project management, controls, quality, safety, permitting, and self-performing/subcontracting. The approaches should discuss who will manage the plan, how it will be assured/ensured, and provide a summary of the plan including discussion on how they comply with the City's practices.

Project Team/SOQ Confirmation. The purpose of this subsection of the Proposal is for the Respondent to confirm that the Project team submitted in its SOQ has not changed; or to provide information and an explanation regarding any changes to its Project Team differing from that submitted in its SOQ. Any changes to the Respondent's Project Team from the SOQ are subject to acceptance or rejection by the City, at its sole discretion. If the Respondent's Project Team has not changed from the SOQ, the Respondent shall include the following statement in this section of its Proposal:

“ _____ (Name of Respondent's Team or Organization) confirms that all qualifications and experience information, including the members and composition of our Project Team, provided in our Statement of Qualifications previously submitted to the City for the Blue River Screen House Facility Project has not changed, and is valid, true, and accurate.”

No changes of the primary member organizations that comprise the Project Team (Lead Designer and Lead Contractor) are allowed, and no changes to the Key Personnel as represented in the Respondent's SOQ are allowed. If extenuating circumstances require a change to any of the primary member organizations or Key Personnel, the Respondent shall provide an explanation for the change and present qualifications and experience information for the new team member(s) for the City to evaluate. The City reserves the right to reject as non-responsive the Proposal of a Respondent that changes primary member organizations or Key Personnel from that indicated in the SOQ.

Respondent shall identify the Lead Operations Coordinator, an additional role in Key Personnel, in this section and provide the information required below in the following section for this additional Key Personnel and verify proposed Staffing in RFQ.

Change in Key Personnel. Respondent shall identify any Key Personnel, as defined in Section 01420 found in RFP Attachment A, that have changed from what was previously provided in the Respondent's SOQ. The City expects Key Personnel named in this Proposal to remain on the

Project Team for the duration of the Project unless changes are beyond the Respondents control and approved by the City.

For any additions or changes that have occurred to the Respondent's Project Team, the Respondent shall provide the following information relative to the assignments and qualifications of the Respondent's team:

- For any new personnel, provide sufficient reasoning and detail for the City to understand how such personnel would enhance the Respondent's ability to deliver the Project and to provide value to the City.
- Proposal Appendix A (Forms for Affirmation of Compliance) should include resumes (see RFQ for resume format and requirements), copies of licenses or registrations, and project references for any additional or new personnel that the Respondent proposes as part of its Project Team that were not identified in the SOQ.

Design-Build Coordination and Management Plan. The Respondent shall demonstrate that: (a) its coordination and management approach during design and construction includes specific measures to control budget, documentation, and schedule; and (b) it will implement policies and procedures to facilitate communication and input from members of the Project Team and City. At a minimum, Respondent shall:

- Describe the roles and responsibilities of the Project Team members, and how the Project Team is going to function to benefit the Project. Include an organization chart of the Project Team to illustrate its functionality, team reporting structure, etc.
- Describe the Respondent's concepts for managing the design, construction, and commissioning phases of the Project and how the Respondent intends to control budget, documentation, and schedule.
- Describe how the Respondent intends to control and coordinate the flow of information between design and construction teams, and how the Respondent plans to interface with the City and permitting agencies.
- Describe the communications methods for facilitating City review during all phases of the Project, including but not be limited to meetings, progress reports, submission of BIM updates, and document management tools.
- Describe Respondent's design process, including procedures for equipment selection, constructability reviews by the Lead Contractor, obtaining City input and Lead Designer's involvement in oversight of construction. Describe where the design team will be geographically located and how operations team members will be involved in design and construction. Describe how Respondent will leverage Project Team's experience and expertise, including Lead Operations Coordinator, that is specifically applicable to this Project, including expertise related to Headworks Operations.

- Describe the Respondents approach to involving City staff in the operations and maintenance of the facilities during the Construction and Extended Commissioning Phases, the training of City staff, and other activities to efficiently transfer operations and maintenance responsibilities to the City following the completion of the Extended Commissioning Phase. Describe Respondent's approach for development of standard operating procedures (SOPs), maintenance verification systems, and how the Respondent will work with the City's existing computerized maintenance management system.

Quality Control and Management. Respondent shall demonstrate: (a) clear and comprehensive quality assurance and control procedures during both design and construction; and extended commissioning (b) the availability and proposed utilization of established quality management procedures previously implemented on other similar projects. At a minimum, Respondent shall:

- Describe the Respondent's quality control and management methods, policies, and procedures during design. This shall include a description of Respondent's approach for monitoring and managing the quality of its work from initiation to completion of the Project, including but not limited to checking of all calculations, discipline design checklists, interdisciplinary design checklists, and standardized comment forms that document all check comments and responses for each design submittal. Use of the Revit-based BIM is required for design purposes.
- Provide a summary of quality control procedures to be utilized during construction, which includes but is not limited to materials testing for concrete and soils at a minimum, and independent special inspections.

Safety Plan. Respondent shall demonstrate that its proposed safety measures, policies, and procedures will maintain a safe construction site and will consider public safety. At a minimum, Respondent shall:

- Submit a summary description of the corporate safety program that has been established by the Lead Contractor.
- Provide a description of safety programs or procedures that would be specifically applicable to and utilized for the Project. Include how Respondent proposes to address any unique safety issues for the Project.
- Provide experience, training, and qualifications of onsite safety supervisor.

Permitting. Respondent shall describe its specific approach to the permitting and regulatory requirements anticipated for the Project. In conjunction with the Project Technical Requirements and assignments of permit responsibilities, Respondent shall identify any additional anticipated permits, special considerations for obtaining permits and compliance, approach to coordinating with regulatory agencies and City, and proposed strategies to obtaining permits to minimize the influence on project schedule.

Self-Performance and Subcontracting. The selected Design-Builder shall perform with its own organization not less than fifty-percent (50%) of the total contract price. The dollar value included in this percentage performed by the Design-Builder shall include the value of labor, materials and equipment directly performed or procured by the Design-Builder and shall not include the value of work performed or provided by subcontractors.

Respondent shall provide a description of the general delivery approach of the Project, including use of subcontractors and proposed approach for self-performance. Identify proposed components Respondent would self-perform and the Respondent's approach to managing this work and subcontracted work.

4.3.4 Part 2 – Technical Approach

Part 2 of the Technical Proposal will be used by the City to understand and evaluate the Proposer's: (a) approach to meeting/exceeding the RFP Technical Requirements; (b) incorporation of innovative ideas and cost savings measures; and (c) incorporation of quality materials/equipment that will provide the City with cost effective operations and maintenance.

Project Understanding. Respondent shall discuss generally the tasks involved in the Project to demonstrate its knowledge of the overall Project and Project requirements and needs. Identify and describe how the Respondent would define and approach key Project challenges. Describe how the Respondent would be structured to best manage its activities and satisfy the needs of the Project, including the Lead Contractor's involvement/role during design, the Lead Designer's involvement/role during construction, and the Lead Operations Coordinator's involvement/role during design, construction, and extended commissioning phases. Include the following discussions regarding the Respondent's project understanding:

- Define 5 key issues and challenges in both the design and construction of the Project. Describe how to mitigate potential negative impacts (i.e., risk mitigation strategy) of each key issue and any unique approaches or strengths the Respondent may have relative to the issues and challenges. Describe Respondent's contingency plans for various performance issues that might be encountered on the Project.
- Discuss any innovative ideas and approaches to completing the design and construction of the Project. Demonstrate the Respondent's ingenuity through design concepts, construction materials, and construction methods to achieve the most efficient and long-lasting treatment facility.
- Discuss any prominent concerns with the Respondent's capacity to meet the Project's schedule and budget and how the Respondent will manage budget and schedule requirements. The Respondent may provide situations and examples where its approach to managing the schedule and budget has been successful, but may not include any specific cost information in the Technical Proposal.
- Describe how the Respondent will approach start-up and commissioning including the key tasks the Respondent would recommend for achieving compliance with the Project

requirements. Identify concerns and challenges with commissioning and how Respondent's team will address the risks. Respondent shall present an approach to start-up and commissioning with the key tasks the Respondent would recommend. Identify future start-up and commissioning plans that will be developed and approved by the Owner and indicate when they will be developed and submitted.

- Describe how the Respondent shall describe its ability and approach to providing Extended Commissioning Phase services for an initial one-year period with optional one-year extension. Respondent shall provide a description of its staffing plan and organization chart; and its approach to assisting the City in the necessary operations and maintenance activities. The Respondent is expected to conform to City standard operating procedures in completing its operations and maintenance duties.

Technical Approach Narratives. Proposer shall provide a Technical Approach Narrative that clearly describes its specific technical approach to the Project with respect to the Project Areas and major Project elements as listed below. The intent of the technical approach narratives is to identify areas of compliance with the Fixed Design Criteria, as defined in the Project Technical Requirements, identify the Respondent's approach for the Indicative Design Criteria, and to provide justification for the approved design criteria variances as proposed in the Interim Deliverable submittal.

The organization of the Technical Approach Narrative shall follow the organization and content of the Project Design Criteria:

Performance Requirements

Project Site and Existing Facilities

Hydraulic Model Design Criteria

Discipline Design Criteria:

A – Architectural

C – Civil

E - Electrical

F - Fire Protection

IC - Instrumentation and Controls

M - Mechanical

P – Plumbing

S - Structural

Within major Project elements describe the approach to each of the following technical aspects:

1. Design criteria used and comparison to Project Technical Requirements (Fixed and Indicative Design Criteria). Indicate approach for the Fixed Design Criteria and any deviations from the Indicative Design Criteria using Form F-1 Project Design Criteria.
2. Operational strategies for unit process and equipment.
3. Construction sequence narrative including identifying shut-downs and temporary facilities (electricity, water, conveyance or others).
4. List required standard operating procedures and operating manuals to be provided.

Drawings. Respondent shall include drawings in Appendix B (Design Drawings) to illustrate and document its proposed technical design approach for the Representative Project (or approved Proposed Modified Project) and to complement the technical narrative. Reference shall be made to drawings within the major element narratives.

It is anticipated that the Respondent will use the provided electronic BIM Model and Preliminary Drawings, as provided in Attachment E (Project Technical Requirements), as the basis for their design of the Representative Project (or approved Proposed Modified Project).

Organization. Drawings shall be organized first by area and then by discipline matching the organization of the Preliminary Drawings as provided in Attachment E (Project Technical Requirements)

Content. Naming convention shall be consistent with the drawing list provided as part of the Project Technical Requirements. At a minimum, the following drawings shall be prepared and submitted by the Shortlisted Respondent, with the drawings being 11" x 17" size, indicate north on layouts, and use 1/4" or 1/8" scale (facility and layout drawings):

General

- Cover sheet
- Index of Drawings
- Legend, abbreviations and general notes
- Hydraulic Profile (preliminary) - include hydraulic grade elevations (NAVD and NGVD) for maximum, minimum and design flows
- Process Flow Diagram (PFD) – indicate major equipment, tanks and channels, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs

Civil

- Existing conditions and demolition plan
- Site Plans showing concept location of major structures, roads, utilities and grading - At a minimum, show the layout of the project site including property limits, existing features, proposed features, proposed and existing utilities as applicable, site drainage features, and access roads. The project site and project feature locations should be tied to the project site datum.
- Outside yard piping plan with major process piping and or site channels (≥ 24 in)
- Contract limits and construction access and parking

Building Demolition

- Plan drawings illustrating the demolition requirements for existing assets.

Architecture

- Life safety plan and code analysis
- Floor plans
- Building elevations
- 3D views of buildings

Structural

- Foundation plans
- Floor plans
- Basic Building plans and sections
- Basic tanks/channels plans and sections

Mechanical (Process)

- Plans and sections of each facility identifying equipment and piping located and shown
 - Show proposed layout of spaces or separate buildings that includes pump space, other mechanical spaces, maintenance space, storage space as well as major dimensions for pump equipment, flow control gates, isolation gates, major piping, isolation valves, access corridors, maintenance areas, and other appurtenant facilities included in Respondent's proposed design concept
 - Show proposed locations for doors, overhead doors
- Plans and sections of each equipment asset and piping located and shown
- Layout of major interconnecting process piping between structures
- Show elevations and piping elevations (≥ 6 in)
- Show outline of control panels for large equipment (e.g., mechanical screens) that are installed within 15 feet of the building

Mechanical (Plumbing)

- Show water piping, trench drains, and associated piping (≥ 6 in)

HVAC

- Floor plan with equipment and duct runs and control panels
- Heating Flow Diagram (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)
- Ventilation Flow Diagram process areas (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)

Electrical

- Overall building-wide single line diagram
- Basic layout of power supply and distribution routing
- Site Plan
- Basic floor plan of electrical rooms and elevations
- Show proposed power distribution wiring, and instrumentation and communication wiring
- Show proposed layout of spaces that includes electrical space, control space and communications space

Instrumentation and Controls:

- Process P&IDs (all treatment process - major equipment, valves, gates, piping and instrumentation only; names and tags per Project Technical Requirements)
- Plant-wide SCADA system architecture diagram
- Basic floor plans showing proposed control panels with names and equipment tags

Equipment Cut Sheets. Respondent shall complete equipment cut sheets provided in Attachment F (Technical Proposal Forms) for the following major equipment, and include the completed forms within Appendix C Equipment Forms in its Technical Proposal:

1. Slide Gates
2. Multi-Rake Screens
3. HVAC System
4. Major Building Appurtenances (Doors, Windows, Skylights)
5. Electrical Gear (including switchgear, variable frequency drives, and motor control centers)
6. Other Major Equipment and Ancillary Systems

4.3.5 Part 3 – Construction Schedule, Planning and Sequencing

Provide a summary version of the Respondent's proposed project schedule. Summarized schedule will include the Respondents proposed dates for achieving the Design, Construction, and Extended Commissioning milestones - these proposed dates will be included within the Agreement executed by the City and successful Respondent.

Respondents shall: (a) describe construction sequencing of major Project elements and how sequencing may affect the critical path; (b) discuss any concerns with the capacity to meet the Project's schedule and how the Respondent will manage the schedule. Respondent shall describe how they would approach site logistics and limitations during construction, such as construction staging areas, etc.

Respondent shall develop a detailed Project Schedule and provided within Appendix D (Construction Schedule) of its Proposal. The detailed Project Schedule shall be a preliminary resource-loaded CPM construction schedule without any reference to cost, prepared using Microsoft Project 2007 or later format. Include no more than three hundred (300) individual activities, for identifying tasks, durations, and key milestones during the design, construction, and commissioning phases. Show milestones for key decision points, milestones, shutdown periods, OCCP and permit review periods for WSD and AHJs, approvals, purchasing and testing dates associated with Schedule based upon the City's anticipated award date. Include time for permit or regulatory approval processes required prior and during construction. Include schedule for start-up and commissioning period and performance verification testing.

4.3.6 Part 4 – MBE/WBE Utilization

City desires that Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) have a maximum opportunity to participate in the performance of City contracts. The goals for this specific Project are 14% MBE participation and 14% WBE participation. The Respondent shall

identify any MBE/WBE subconsultants or subcontractors that are part of the Respondent's Project Team.

The City's CREO Forms and CREO Instructions for Construction Projects are incorporated into this RFP and the Contract Documents. The MBE/WBE Directory is available on the City's website at www.kcmo.org. Please call the Civil Rights and Equal Opportunity Department at (816) 513-1836 for assistance.

Waiver of MBE/WBE Requirements. The City Council may waive any and all MBE/WBE requirements imposed by any Bidding Document or the MBE/WBE Ordinance and Contract with the lowest and best Bidder if the City Council determines a waiver is in the best interests of the City.

Workforce Program Requirements. City desires that minorities and women have a maximum opportunity to practice their trades on city construction projects. The minimum company-wide goals are a ten percent (10%) minority workforce and two percent (2%) women workforce. The City's HRD Forms and HRD Instructions for Construction Projects are incorporated into this RFP and the Contract Documents.

4.3.7 Appendix A - Forms for Affirmation of Compliance

Include in Appendix A of the Proposal the completed forms provided in RFP Attachment H (Submission Forms including HRD Documents).

In accordance with Section 4.3.3 of this RFP, for any new Key Personnel that the Respondent intends to use that are not identified in its SOQ and for the Lead Operations Coordinator, Respondent shall provide resumes for such individuals within Appendix A. Provide certifications and licenses for the Lead Operations Coordinator and any new Key Personnel (if applicable), and otherwise required by Section 4.3.3.

4.3.8 Appendix B – Design Drawings

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix B all design drawings necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.9 Appendix C – Equipment Forms

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix C all equipment forms necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.10 Appendix D – Project Schedule

In accordance with Section 4.3.5 of this RFP, Respondent shall provide in Appendix D a detailed-level schedule for the Project. The schedule shall identify critical path, proposed early work packages, and projected float.

4.3.11 Part 5 - Cost Proposal

A Proposal submitted in response to this RFP must contain a Cost Proposal that fully conforms with and satisfies the format and content requirements described herein, and sets forth the Respondent's proposed Fixed Price Design-Build to perform the Design-Build Contract services. In evaluating the Cost Proposal, the City will apply the price evaluation criteria set forth in Section 5 of this RFP. Accordingly, Respondents are required to complete and submit all forms provided in Attachment G (Cost Proposal Forms) and include in their Cost Proposal all other information necessary to permit the City to perform informed evaluation.

DB 00410 Design-Build Bid Form. This form must be completed in its entirety and submitted with the Cost Proposal. Respondent shall provide a price for Design Services and Construction Services, the sum of which comprises the "Base Bid." The Base Bid is the Cost of Work for the Representative Project (or approved Proposed Modified Project), including allowances as described below. Variations or deviations from the Representative Project that do not have City approval shall be excluded.

Additionally, Respondent shall provide as supplemental to the Cost Proposal the Vendor's Proposals for the below-listed equipment as listed in Form F.1, clearly indicating what is included in the scope.

- Forebay Slide Gates
- Multi-Rake Screens
- Shaftless Screw Conveyor

Scoring of the Cost Proposal will be based on the Base Bid.

THE COST PROPOSAL SHALL BE SUBMITTED, IN A SEPARATE SEALED ENVELOPE OR PACKAGE CLEARLY MARKED "COST PROPOSAL."

ALL PRICE AND COST INFORMATION SHALL BE INCLUDED ONLY IN THE COST PROPOSAL. NO PRICE INFORMATION SHALL BE INCLUDED IN THE OTHER PARTS OF THE PROPOSAL (INCLUDING THE TRANSMITTAL LETTER AND APPENDICES). IF ANY PRICE INFORMATION IS INCLUDED IN THE OTHER PARTS OF THE PROPOSAL, THE ENTIRE PROPOSAL MAY BE REJECTED.

SECTION 5: FINAL PROPOSAL EVALUATION AND SELECTION

5.1 Selection Committee

The City will appoint a committee (“Selection Committee”) consisting of no more than five (5) members, which will include staff designated by the WSD Director per Ordinance No. 190622, as deemed necessary, with the expertise appropriate for the evaluation of all technical aspects of the Project. Copies of Proposals will be distributed to the Selection Committee members who will rely on the contents for scoring purposes. The Selection Committee will review the Proposals, excluding the Cost Proposal.

5.2 General Evaluation Procedure

The submission of a Proposal by Respondents shall constitute acknowledgement of acceptance of all terms and conditions set forth in this RFP unless otherwise expressly stated herein. All Proposals must be submitted in writing and must include all required documents including forms, appendices, and other information requested in this RFP.

All Technical Proposals and documents, and meetings related thereto, shall be considered to be "closed records" and "closed meetings," respectively, as defined in Chapter 610, RSMo (the "Missouri Sunshine Law") and therefore protected from disclosure until the Public Bid Opening Date (Section 3.2).

In general, the procedure for evaluation of Proposals and selecting a Design-Builder will consist of the following:

- Selection Committee will open Technical Proposals.
- Selection Committee will review the Technical Proposals (with assistance provided by outside advisors if desired by City) to determine if Responsiveness Requirements and Mandatory (Pass/Fail) Requirements are met.
- City staff may conduct interviews for any or all submitted Proposals.
- Selection Committee will score Technical Proposals based on evaluation criteria described in Section 5.4.
- For those Proposals that meet the Responsiveness Requirements and Mandatory (Pass/Fail) Requirements, the Cost Proposal will be opened publicly as described in Section 5.5.1 Public Bid Opening.
- The ranking of Respondents and the Successful Shortlisted Respondent will be publicly posted of the City’s Plan Room Websitewhich will begin the five (5) day appeal period.
- After the five (5) day appeal period has expired and no appeals have been recorded, contract negotiations will begin with the Successful Shortlisted Respondent.

- Award of the Contract for Design-Build Services will be made only after the successful negotiation of the Contract and the City. Council's ordinance adopting the Contract for Design-Build Services takes effect.

During the Proposal evaluation process, written questions or requests for clarifications may be submitted to one or more Respondents regarding its Proposal or related matters. Failure to respond in a timely manner to any such questions or requests may be grounds for elimination of the Respondent from further consideration. Respondent is responsible for the accuracy of its Proposals. Discrepancies between words and figures will be resolved in favor of the words.

5.3 Responsiveness Requirements

Each Proposal will be reviewed to determine whether it is responsive to the RFP. Respondents must comply with all terms and conditions of this RFP, including, without limitation, the requirement to provide all documentation requested in this RFP. Failure to comply with the requirements of this RFP may result in a Proposal being rejected as non-responsive. Each Proposal shall be reviewed for responsiveness in accordance with the following conditions:

1. Timely submittal (refer to Section 4.1 of RFP for the Submittal Due Date).
2. Compliance with submittal requirements in accordance with Section 4 of RFP, including submittal of all information and documentation required in Section 4.

If a Respondent fails to satisfy these conditions, the Proposal may be deemed non-responsive by the City and not considered for further review.

At its sole discretion at any time, however, the City Manager or his delegate may waive any requirements imposed by this solicitation or by any City regulation when failure to grant the waiver will result in an increased cost to the City and the requirement waived would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City Council at any time may waive any requirements imposed in this solicitation by the City's Code of Ordinances when it finds failure to grant the waiver will result in an increased cost to the City and the waived requirement would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City reserves the right to waive any irregularities and/or formalities as deemed appropriate.

The City Council may waive any and all D/M/WBE requirements imposed by any SOQ or Proposal document or the MBE/WBE Ordinance and award the Contract to the most qualified Design-Builder if the City Council determines a waiver is in the best interests of the City.

5.4 Evaluation Criteria

The City will evaluate and rank the responsive Proposals by applying the weighted evaluation criteria set forth below to determine the Successful Respondent. The total number of points that will be used in evaluating all of the factors for a Proposal is 200, allocated as illustrated in the following table:

Criterion	Maximum Score Possible (Points)
Part 1. Project Plans/Management Approach	30
Part 2. Technical Approach	60
Part 3. Construction Schedule, Planning and Sequencing	10
Part 4. MBE/WBE Utilization	Pass/Fail
Cost Proposal	100
Total Possible Score	200

The highest Technical Proposal will be awarded 100 points. Points will be added to each of the other Technical Proposals corresponding to the 100 points and the original points earned by that Proposal. For example:

Technical Proposal	Number of Points	Score
Highest	94	100 pts.
2nd Highest	87 (94-87=7)	93 pts. (100-7 points)
3rd Highest	84 (94-84=10)	90 pts. (100-10 points)

5.5 Cost Proposal Evaluation

The Cost Proposal with the lowest Base Bid will be awarded 100 points.

One (1) point will be deducted from each of the other Cost Proposals for each percentage that the Base Bid exceeds the lowest Base Bid using the following formula:

$$\left(1 - \frac{\text{Proposer's Bid} - \text{Lowest Bid}}{\text{Lowest Bid}}\right) \times 100$$

5.5.1 Public Bid Opening

Cost Proposals will be opened publicly on at 2:00 PM on the Public Bid Opening Date (Section 3.2). The City will publicly announce the scores earned by each Technical Proposal, and then will publicly open and read aloud the corresponding Cost Proposal. Cost Proposal scores will be calculated and added to previously determined Proposal scores. Proposals and corresponding Respondents will be ranked based upon the Proposal scores.

The 48-hour period for providing CREO documents (e.g., HRD Form 8, Contractor Utilization Plan/Request for Waiver) shall begin to run as of this date and time.

5.6 Final Selection

The lowest and best Bid is that Proposal with the highest combined points for the Technical Proposal and Cost Proposal, and that has been determined by the City to be responsive. Respondent agrees that all representations made in its SOQ, its Technical Proposal, and its Cost Proposal shall

continue to be binding on Respondent if it is the successful Respondent on the Project, and that this RFP, the RFQ, Respondent's Technical Proposal, Respondent's Cost Proposal, and Respondent's SOQ shall be deemed incorporated into any Contract issued to Respondent for the Project.

After the evaluation process is complete, the City will notify Respondents of the rankings. The top-ranked Respondent will be selected to serve as the Design-Builder and to begin negotiations with the City for the Contract for Design-Build Services award. If negotiations with the top-ranked Respondent are not successful, the City will select the next-ranked Respondent for award and negotiate the final terms of the Contract.

FOR INFORMATION PURPOSES ONLY

SECTION 6: CONDITIONS FOR RESPONDENTS

6.1 City Policies and Ordinances

The City will administer the RFP process under competitive proposal policies. The following is a summary of some of the policies and ordinance packages to be followed and completed as part of the RFP process. The City encourages and expects Proposers to pursue subcontracting, mentoring, joint venturing, teaming and partnering opportunities with the types of firms described in this Section in the ordinary course of its teaming/business strategies for all aspects of the Project. Additional policies and ordinances otherwise not specifically listed below may also apply at time of the Proposal.

- Code of Ordinances, Sections 3-501 through 3-525, also known as the “Workforce Program.”

6.2 Prohibited Activities by Former City Employees and Officials

Section 2-2044 of the City’s Code prohibits former elected City officials and former executive or administrative employees of the City from trying to influence a decision of the City on behalf of an employer or client for one year after that former employee or official leaves the City’s employ. By submitting an RFP, the Design-Builder affirms that Design-Builder and its team members and employees are in compliance with the requirements of Section 2-2044. Failure to comply with the requirements of Section 2-1018 may cause the SOQ and Proposal to be rejected.

6.3 Change in RFP, Contract and Additional Work

The City reserves the right to add to, delete, modify or enlarge this RFP, including any specifications and/or statement of work, the proposed contract, the terms and conditions, and any subsequently executed contract. The City reserves the right to award additional contracts for related work or subsequent Project phases to the selected Design-Builder.

6.4 Late Proposals

Proposals and modifications of proposals received after the exact hour and date specified for receipt will not be considered unless: (1) they are sent via the U.S. Postal Service, common carrier or contract carrier, by a delivery method that guarantees the proposal will be delivered to the City prior to the submission deadline; or (2) if submitted by mail, common carrier or contract carrier it is determined by the City that the late receipt was due solely to an error by the US Postal Service, common carrier or contract carrier; or (3) the Proposal is timely delivered to the City but is at a different City location than that specified in this RFP; or (4) the City extends the time after the deadline for a force majeure event that could potentially affect any or all Respondents meeting the deadline.

6.5 Interviews, Discussions and Negotiations with Design-Builders

The Respondent's Proposals, including any proposed personnel and any other required proposal documents may be subject to negotiation by the City at any time. The City may interview none, one, some or all of the Respondents that submit Proposals. Proposals may be evaluated and award made with or without, discussions and/or negotiations with the Respondent. The City reserves the right to request additional information from any or all Respondents. Negotiations by the City will not be deemed a counter offer or a rejection of any original SOQ or Proposal.

6.6 Rejection of Proposals

If the City rejects all Proposals, the City may re-solicit Proposals only from those Respondents who submitted a Proposal pursuant to this RFP and/or use an expedited Bid submission schedule with or without re-advertising or issuing any other public notice when the City determines, in its sole discretion, that the delay due to the normal solicitation procedures would not be in the City's best interests.

6.7 Disclosure of Proprietary Information

A Respondent may restrict the disclosure of scientific and technological innovations in which it has a proprietary interest, or other information that is protected from public disclosure by law, which is contained in any portion of its Proposal by:

- a. Marking each page of each such document in at least 16-point font with the words "Proprietary Information"; and
- b. Printing each page of such document on a different color paper than the paper on which the remainder of the Proposal is printed; and
- c. Segregating each page of each such portion of its Technical Proposal in a sealed envelope/package, which shall prominently display, on the outside, the words "Proprietary Information" in at least 16-point font, along with the name and address of the Respondent; and
- d. After either the Public Bid Opening Date or the rejection of all Proposals, if a request is made under the Missouri Sunshine Law for access to portion(s) of a Respondent's Technical Proposal that has been marked "Proprietary Information," as provided above, the City will notify that Respondent of the request, and it shall be the burden of that Respondent to establish that such documents are exempt from disclosure under the law.

6.8 Contract Information Management System

The selected Design-Builder shall be required to use City's Internet web based Contract Information Management System/Project Management Communications Tool provided by City and protocols included in that software during the term of this Contract. The selected Design-Builder shall submit user applications to City's provided Contract Information Management

System for all personnel, subcontractors or suppliers as applicable. The City will use e-Builder (by Trimble) for document control and workflows.

6.9 Affirmative Action

It is the policy of the City that any person or entity entering into a contract with the City, will employ applicants and treat employees equally without regard to their race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age. The City's Affirmative Action ordinance requires that any person or entity who employs fifty (50) or more persons and is awarded a contract from the City totaling more than \$300,000.00 must:

- Execute and submit an affidavit, in a form prescribed by the City, warranting that the contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the contract.
- Submit, in print or electronic format, a copy of the contractor's current certificate of compliance to the City's CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years. If, and only if, contractor does not possess a current certification of compliance, contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years.
- Require any subcontractor awarded a subcontract exceeding \$300,000.00 to affirm that subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.
- Obtain from any subcontractor awarded a subcontract exceeding \$300,000.00 a copy of the subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, subcontractor does not possess a current certificate of compliance, contractor shall obtain a copy of the subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.
- If you have any questions regarding the City's Affirmative Action requirements, please contact CREO at (816) 513-1836 or visit the City's website at www.kcmo.org.

6.10 American with Disabilities Act (ADA) Standards

It is the policy of the City and required by law that any new or renovated facility meet the scoping and technical requirements of the 2010 ADA Standards for newly designed and constructed or altered local government facilities, public accommodations, and facilities. The selected Design-Builder shall design the project so it conforms to the 2010 ADA Standards, as applicable and as amended from time to time, and is readily accessible to and usable by individuals with disabilities.

The City will make available to the selected Design-Builder the City's ADA Compliance Manager, who can facilitate interaction with advocates in the disability community.

6.11 Design-Builder Conflict of Interest

A conflict of interest situation may disqualify an organization. If the Design-Builder believes there may be a conflict of interest, it must list the organizations and the names of entities or persons associated with the Design-Builder who may have a conflict of interest, or appearance of a conflict of interest, with the City.

Details of the potential conflict of interest must also be included. Names of entities associated with the Design-Builder who may have a conflict of interest with any activity of this Project should be included in the Proposal. Provide details and reasons. Design-Builders are subject to disqualification on the basis of conflict of interest as determined by the City.

6.12 Additional Information

The City reserves the right, in its sole discretion, to request additional information or documents from any or all Respondents, including supplements or corrections to the Proposals.

6.13 City's Buy American and Missouri Preference Policies

It is the policy of the City that any manufactured goods or commodities used or supplied in the performance of any City contract or any subcontract thereto shall be manufactured or produced in the United States whenever possible. When Bids offer quality, price, conformity with specifications, term of delivery and other conditions imposed in the specifications that are equal, the City shall select the Bid that uses manufactured goods or commodities that are manufactured or produced in the United States. The City shall give preference to all commodities manufactured, produced, or grown within the State of Missouri and to all firms, corporations, or individuals doing business as Missouri firms, corporations or individuals, when quality is equal or better and delivered price is the same or less. It is the bidder's responsibility to claim these preferences.

6.14 Tax Clearance

Respondent will be required to furnish to Owner sufficient proof from City's Commissioner of Revenue, verifying that Respondent is in compliance with the license and tax ordinances administered by City's Revenue Division as a precondition to Owner making its first payment under any Contract over \$50,000.00. Respondent will also be required to obtain proof of City tax compliance from all of its Subcontractors prior to the Subcontractors performing any Work.

6.15 Prevailing Wage Requirements

The successful Respondent shall pay the prevailing hourly rate of wages as determined by the Missouri Annual Wage Order and/or Federal Wage Determination set forth in the Project Manual. In case of a conflict between Missouri and Federal wage rates, the higher rate shall apply.

6.16 Indemnification – City of Kansas City

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the City and any of its agencies, officials, officers, or employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable, including negligent acts or omissions of the City, its agencies, officials, officers, or employees. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

6.17 Indemnification – State of Missouri

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the Missouri Highways and Transportation Commission (MHTC) and the Missouri Department of Transportation (MoDOT) and their respective employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.



ADDENDUM NUMBER 3

Project Number 81000984

Project Title Blue River Screen House Improvements

ISSUE DATE: **September 20, 2022**

Shortlisted Respondents are hereby notified that the Proposal and Contract Documents for the above project, for which Proposals are to be received on **November 9, 2022**, are amended as follows:

Information to Proposers The following is provided to Proposers for information only:

1. In Folder **Attachment F – Technical Proposal Forms**, File **Form F-1 – Project Design Criteria**, Section **Existing Screen House Parameters**, all parameters listed correspond to the existing condition of the Screen House and does not reflect new design changes made by Successful Respondent.

Site Information

2. Active Site Plan.pdf
3. Basemap – Blue River Primary.pdf
4. Flow Data – Blue River Screen House.xlsx

Elevations

5. 1062.05 – Sheet S39-2 – Structural Details – Lines A1 & A2
6. 1062.05 – Sheet S40-1 – Structural Details – Lines B1, B2, and B3
7. 1062.05 – Sheet M6-2 – Pumping Station-Sections and Hanger Support Details
8. 1062.136 – Sheet 67 – Rock box Plans and Sections
9. 1062.136 – Sheet 70 – Rock Box Plan and Section – Hydraulic Profile

Electrical

10. SC 4.02.4 – Sheet 4 Redline
11. 1062.136 – Sheet 16 – Electrical Site Plan

Q1.	Please provide the site plan and system architecture drawings from the THP project in CADD file format?
A1.	Active Site Plan is attached for information purposes. System Architecture Drawings will be made available upon request.
Q2.	Please provide the flow data and as-built drawings for the Westside sludge line tie-ins for the screenhouse
A2.	Basemap of Blue River Primary has been marked to indicate the routing of the line feeding into the afterbay of the Blue River Screen House.
Q3.	Please provide the flow data and record drawings for the RAS tie-in to the upstream wet

	well.
A3.	Flow data from the Parshall flume has been provided in “Flow Data – Blue River Screen House.xlsx”
Q4.	Please provide the flow data for the new screens such as minimum, average, and peak hour current flows and the 2035 design flow.
A4.	Blue River watershed is built out and is expected to have the same flows as anticipated in 2035.
Q5.	Please provide the existing hydraulic profile from the diversion structure upstream of the Parshall flume through to the wetwell pump station
A5.	KC Water does not have a full hydraulic profile. KC Water has supplied the information below to allow the determination of head losses based upon actual flows through existing structure. <ul style="list-style-type: none"> - Parshall Flume data - The last year of flows into the Blue River Screen House - SC 4.02.7 - Sheet M25-2 provides the elevation of the Trunk Sewer - 1062.136 – Sheet 70 – Provides hydraulic profile of Rock Box and Parshall Flume - 1062.136 – Sheet 67 – provides the elevation of the Rock Box - 1062.05 – Sheet S39-2 – Provides Sewer Elevations between Rock Box and Parshall Flume - SC 4.02.7 - Sheet M24-1 provides the elevations of the Parshall Flume - 1062.05 – Sheet S40-1 provides sewer elevations between Parshall Flume and Screen House. - SC 4.02.7 - Sheet M23-1 provides elevations for the Screen House - 1062.05 – Sheet M6-2 provides elevations for the Blue River Pump Station
Q6.	Please provide drawings for the electrical work and PLCs installed near the wall panels inside the building.
A6.	SC 4.02.4 – Sheets 3 and 4 provide information on the MCC located outside. A supplemental redline of MCC 5 on Sheet 4 has been provided. The Electrical Site Plan shows the duct bank feed to MCC 5. Additionally, Shortlisted Respondents may view the Motor Control Center (MCC) located outside of the Blue River Screen House during the site visit.
Q7.	The RFP references BIM modeling and preliminary drawings in Attachment E on Page 25. Please provide Attachment E and the supported BIM modeling or representative Preliminary Drawings
A7.	Refer to Delete and Replace 1. listed below.
Q8.	In order to confirm hydraulics, please provide the operating ranges for the downstream pump station wetwell. Specifically focusing on high water events during peak flows and typical set points.
A8.	The Blue River Pump Station Wet Well elevations are provided in A4. Flow data has been provided for influent flow from the parshall flume. As well as the sources entering the Blue River facility that feed the Blue River Return line.

Bidding Requirements

1. Delete and replace the following section(s):

- a. Delete Document **Request For Proposals**, Sec. **4.3.4**, Subparagraph **Drawings**, Page **25** and replace with the following Document **Request For Proposals**, Sec. **4.3.4**, Subparagraph **Drawings**, Page **25**:

~~It is anticipated that the Respondent will use the provided electronic BIM Model and Preliminary Drawings, as provided in Attachment E (Project Technical Requirements), as the basis for their Representative Project (or approved Proposed Modified Project)~~

It is anticipated that the Respondent will use the existing drawings, as provided in Attachment D (Project Background Documents), the specifications in Attachment E (Project Technical Requirements), and the project design criteria in Attachment F (Technical Proposal Forms) as the basis for their Representative Project (or approved Proposed Modified Project)

- b. Delete Document **Request For Proposals**, Sec. **4.3.4**, Subparagraph **Drawings**, Subparagraph **Organization**, Page **25** and replace with the following Document **Request For Proposals**, Sec. **4.3.4**, Subparagraph **Drawings**, Subparagraph **Organization**, Page **25**:

~~Organization. Drawings shall be organized first by area and then by discipline matching the organization of the Preliminary Drawings as provided in Attachment E (Project Technical Requirements)~~

Organization. Drawings shall be organized first by area and then by discipline matching the organization of disciplines listed herein (General, Civil, Building Demolition, Architecture, Structural, Mechanical (Process), Mechanical (Plumbing), HVAC, Electrical, Instrumentation and Controls)

- c. Delete Document **Form F-1. Project Design Criteria**, Sec. **Process Design Parameters**, Subparagraph **Number of Active channels during Peak Flow**, Page **1** and replace with the following Document **Form F-1. Project Design Criteria**, Sec. **Process Design Parameters**, Subparagraph **Number of Active channels during Peak Flow**, Page **1**

Number of Active Channels During Peak Flow	I	4	-
--	---	---	---

Number of Active Channels During Peak Flow	I	3 + 1 Backup	-
--	---	--------------	---

NOTE: Shortlisted Respondents must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

Road Closed

Exclusion Zone

Road Closed

Biosolids Laydown Yard

Construction Trailer

Ongoing Pipe
Asbestos
Remediation
(Underground)

Dewatering

Note: Exclusion zones and road closures subject to change depending on scheduled construction activities.



Start End
 9/1/2021 9/15/2022

Pi Tags → \\WW710-APP01\BR Plant Parchall Flume Influent Flow.Val \\WW710-APP01\BR Prim Sec/Birmingha m Sludge Flow.Val \\WW710-APP01\BR Prim Sec/Birmingha m Sludge Totalized Flow MGD \\WW710-APP01\BR Prim Westside Sludge Flow.Val \\WW710-APP01\BR Prim Westside Sludge Totalized Flow MGD

Pi Name → BR Plant Parchall Flume Influent Flow.Val BR Prim Sec/Birmi ngham Sludge Flow.Val BR Prim Sec/Birmi ngham Sludge Totalized Flow MGD BR Prim Westside Sludge Totalized Flow MGD

Time Hour Res. (mm.dd.yy) HH:mm Blue River Parshall Flow (MGD) Combined Blue River Secondary /Birmingha m Sludge Flow (GPM) Combined Blue River Secondary /Birmingha m Sludge Flow (Tot) Westside Sludge Flow (GPM) Westside Sludge Flow (Tot.)

(09.01.21) 00:00	0.00				
(09.01.21) 01:00	0.00				
(09.01.21) 02:00	0.00				
(09.01.21) 03:00	0.00				
(09.01.21) 04:00	0.00				
(09.01.21) 05:00	0.00				
(09.01.21) 06:00	0.00				
(09.01.21) 07:00	0.00				
(09.01.21) 08:00	0.00				
(09.01.21) 09:00	0.00				
(09.01.21) 10:00	0.00				
(09.01.21) 11:00	0.00				
(09.01.21) 12:00	0.00				
(09.01.21) 13:00					
(09.01.21) 14:00		160.00		200.00	
(09.01.21) 15:00					
(09.01.21) 16:00					
(09.01.21) 17:00					
(09.01.21) 18:00	0.00	160.00	15.55	200.00	21.10

(09.01.21) 19:00	0.00	160.00	15.56	200.00	21.11
(09.01.21) 20:00	0.00	160.00	15.56	200.00	21.11
(09.01.21) 21:00	0.00	160.00	15.57	200.00	21.12
(09.01.21) 22:00	0.00	160.00	15.58	200.00	21.13
(09.01.21) 23:00	0.00	160.00	15.59	200.00	21.14
(09.02.21) 00:00	0.00	160.00	15.59	200.00	21.15
(09.02.21) 01:00	0.00	160.00	15.60	200.00	21.16
(09.02.21) 02:00	0.00	160.00	15.61	200.00	21.17
(09.02.21) 03:00	0.00	160.00	15.61	200.00	21.18
(09.02.21) 04:00	0.00	160.00	15.62	200.00	21.19
(09.02.21) 05:00	0.00	160.00	15.63	200.00	21.19
(09.02.21) 06:00	0.00	160.00	15.64	200.00	21.20
(09.02.21) 07:00	0.00	160.00	15.64	200.00	21.21
(09.02.21) 08:00	0.00	160.00	15.65	200.00	21.22
(09.02.21) 09:00	0.00	160.00	15.66	200.00	21.23
(09.02.21) 10:00	0.00	160.00	15.66	200.00	21.24
(09.02.21) 11:00	0.00	160.00	15.67	200.00	21.25
(09.02.21) 12:00	0.00	160.00	15.68	200.00	21.26
(09.02.21) 13:00	0.00	160.00	15.68	200.00	21.27
(09.02.21) 14:00	0.00	160.00	15.69	200.00	21.27
(09.02.21) 15:00	0.00	160.00	15.70	200.00	21.28
(09.02.21) 16:00	0.00	160.00	15.71	200.00	21.29
(09.02.21) 17:00	0.00	160.00	15.71	200.00	21.30
(09.02.21) 18:00	0.00	160.00	15.72	200.00	21.31
(09.02.21) 19:00	0.00	160.00	15.73	200.00	21.32
(09.02.21) 20:00	0.00	160.00	15.74	200.00	21.33
(09.02.21) 21:00	0.00	160.00	15.74	200.00	21.34
(09.02.21) 22:00	0.00	160.00	15.75	200.00	21.35
(09.02.21) 23:00	0.00	160.00	15.76	200.00	21.35
(09.03.21) 00:00	0.00	160.00	15.76	200.00	21.36
(09.03.21) 01:00	0.00	160.00	15.77	200.00	21.37
(09.03.21) 02:00	0.00	160.00	15.78	200.00	21.38
(09.03.21) 03:00	0.00	160.00	15.79	200.00	21.39
(09.03.21) 04:00	0.00	160.00	15.79	200.00	21.40
(09.03.21) 05:00	0.00	160.00	15.79	200.00	21.40
(09.03.21) 06:00	0.00	160.00	15.80	200.00	21.41
(09.03.21) 07:00	0.00	160.00	15.80	200.00	21.41
(09.03.21) 08:00	0.00	160.00	15.81	200.00	21.42
(09.03.21) 09:00	0.00	160.00	15.81	200.00	21.42
(09.03.21) 10:00	0.00	160.00	15.81	200.00	21.42
(09.03.21) 11:00	0.00	160.00	15.82	200.00	21.43
(09.03.21) 12:00	0.00	160.00	15.82	200.00	21.44
(09.03.21) 13:00	0.00	160.00	15.83	200.00	21.44
(09.03.21) 14:00	0.00	160.00	15.83	200.00	21.45
(09.03.21) 15:00	0.00	160.00	15.84	200.00	21.46
(09.03.21) 16:00	0.00	160.00	15.85	200.00	21.47
(09.03.21) 17:00	0.00	160.00	15.85	200.00	21.48

	(09.03.21) 18:00	0.00	160.00	15.86	200.00	21.48	
	(09.03.21) 19:00	0.00	160.00	15.86	200.00	21.48	
	(09.03.21) 20:00	0.00	160.00	15.86	200.00	21.48	
	(09.03.21) 21:00	0.00	160.00	15.86	200.00	21.48	
	(09.03.21) 22:00	0.00	160.00	15.86	200.00	21.48	
**	(09.03.21) 23:00						
	(09.04.21) 00:00						**
	(09.04.21) 01:00						
	(09.04.21) 02:00						
	(09.04.21) 03:00						
	(09.04.21) 04:00						
	(09.04.21) 05:00						
	(09.04.21) 06:00						
	(09.04.21) 07:00						
	(09.04.21) 08:00						
	(09.04.21) 09:00						
	(09.04.21) 10:00						
	(09.04.21) 11:00						
	(09.04.21) 12:00						
	(09.04.21) 13:00						
	(09.04.21) 14:00						
	(09.04.21) 15:00						
	(09.04.21) 16:00						
	(09.04.21) 17:00						
	(09.04.21) 18:00						
	(09.04.21) 19:00						
	(09.04.21) 20:00						
	(09.04.21) 21:00						
	(09.04.21) 22:00						
	(09.04.21) 23:00						
	(09.05.21) 00:00						
	(09.05.21) 01:00						
	(09.05.21) 02:00						
	(09.05.21) 03:00						
	(09.05.21) 04:00						
	(09.05.21) 05:00						
	(09.05.21) 06:00						
	(09.05.21) 07:00						
	(09.05.21) 08:00						
	(09.05.21) 09:00						
	(09.05.21) 10:00						
	(09.05.21) 11:00						
	(09.05.21) 12:00						
	(09.05.21) 13:00						
	(09.05.21) 14:00						
	(09.05.21) 15:00						
	(09.05.21) 16:00						

(09.05.21) 17:00
(09.05.21) 18:00
(09.05.21) 19:00
(09.05.21) 20:00
(09.05.21) 21:00
(09.05.21) 22:00
(09.05.21) 23:00
(09.06.21) 00:00
(09.06.21) 01:00
(09.06.21) 02:00
(09.06.21) 03:00
(09.06.21) 04:00
(09.06.21) 05:00
(09.06.21) 06:00
(09.06.21) 07:00
(09.06.21) 08:00
(09.06.21) 09:00
(09.06.21) 10:00
(09.06.21) 11:00
(09.06.21) 12:00
(09.06.21) 13:00
(09.06.21) 14:00
(09.06.21) 15:00
(09.06.21) 16:00
(09.06.21) 17:00
(09.06.21) 18:00
(09.06.21) 19:00
(09.06.21) 20:00
(09.06.21) 21:00
(09.06.21) 22:00
(09.06.21) 23:00
(09.07.21) 00:00
(09.07.21) 01:00
(09.07.21) 02:00
(09.07.21) 03:00
(09.07.21) 04:00
(09.07.21) 05:00
(09.07.21) 06:00
(09.07.21) 07:00
(09.07.21) 08:00
(09.07.21) 09:00
(09.07.21) 10:00
(09.07.21) 11:00
(09.07.21) 12:00
(09.07.21) 13:00
(09.07.21) 14:00
(09.07.21) 15:00

(09.07.21) 16:00						
(09.07.21) 17:00						
(09.07.21) 18:00						
(09.07.21) 19:00						
(09.07.21) 20:00						
(09.07.21) 21:00						
(09.07.21) 22:00						
(09.07.21) 23:00						
(09.08.21) 00:00						
(09.08.21) 01:00						
(09.08.21) 02:00						
(09.08.21) 03:00						
(09.08.21) 04:00						
(09.08.21) 05:00						
(09.08.21) 06:00						
(09.08.21) 07:00						
(09.08.21) 08:00						
(09.08.21) 09:00						
(09.08.21) 10:00						
(09.08.21) 11:00						
(09.08.21) 12:00						
(09.08.21) 13:00						
(09.08.21) 14:00						
(09.08.21) 15:00						
(09.08.21) 16:00						
(09.08.21) 17:00						
(09.08.21) 18:00						
(09.08.21) 19:00						
(09.08.21) 20:00	0.00	193.20	16.65	241.48	22.47	**
(09.08.21) 21:00	0.00	228.96	16.65	286.16	22.47	
(09.08.21) 22:00	0.00	264.73	16.66	330.84	22.48	
(09.08.21) 23:00	0.00	300.49	16.67	375.52	22.49	
(09.09.21) 00:00	0.00	336.25	16.67	420.20	22.50	
(09.09.21) 01:00	0.00	372.01	16.68	464.88	22.51	
(09.09.21) 02:00	0.00	407.77	16.68	509.56	22.51	
(09.09.21) 03:00	0.00	443.53	16.69	554.24	22.52	
(09.09.21) 04:00	0.00	479.29	16.70	598.92	22.53	
(09.09.21) 05:00	0.00	515.05	16.70	643.60	22.54	
(09.09.21) 06:00	0.00	550.81	16.71	688.28	22.55	
(09.09.21) 07:00	0.00	586.57	16.72	732.96	22.55	
(09.09.21) 08:00	0.00	622.33	16.72	777.64	22.56	
(09.09.21) 09:00	0.00	658.09	16.73	822.32	22.57	
(09.09.21) 10:00	0.00	693.85	16.74	867.00	22.58	
(09.09.21) 11:00	0.00	729.62	16.74	911.68	22.59	
(09.09.21) 12:00	0.00	765.38	16.76	956.36	22.61	
(09.09.21) 13:00	0.00	500.00	16.78	625.00	22.63	
(09.09.21) 14:00	0.00	500.00	16.79	625.00	22.65	

(09.09.21) 15:00	0.00	500.00	16.81	625.00	22.67
(09.09.21) 16:00	0.00	500.00	16.83	625.00	22.69
(09.09.21) 17:00	0.00	500.00	16.84	625.00	22.71
(09.09.21) 18:00	0.00	500.00	16.86	625.00	22.73
(09.09.21) 19:00	0.00	500.00	16.88	625.00	22.75
(09.09.21) 20:00	0.00	500.00	16.90	625.00	22.78
(09.09.21) 21:00	0.00	500.00	16.92	625.00	22.80
(09.09.21) 22:00	0.00	500.00	16.94	625.00	22.83
(09.09.21) 23:00	0.00	500.00	16.96	625.00	22.85
(09.10.21) 00:00	0.00	500.00	16.98	625.00	22.88
(09.10.21) 01:00	0.00	500.00	17.00	625.00	22.90
(09.10.21) 02:00	0.00	500.00	17.02	625.00	22.93
(09.10.21) 03:00	0.00	500.00	17.04	625.00	22.95
(09.10.21) 04:00	0.00	500.00	17.06	625.00	22.98
(09.10.21) 05:00	0.00	500.00	17.08	625.00	23.00
(09.10.21) 06:00	0.00	500.00	17.10	625.00	23.03
(09.10.21) 07:00	0.00	500.00	17.12	625.00	23.05
(09.10.21) 08:00	0.00	500.00	17.14	625.00	23.08
(09.10.21) 09:00	0.00	500.00	17.16	625.00	23.10
(09.10.21) 10:00	0.00	500.00	17.18	625.00	23.13
(09.10.21) 11:00	0.00	500.00	17.20	625.00	23.15
(09.10.21) 12:00	0.00	500.00	17.22	625.00	23.18
(09.10.21) 13:00	0.00	500.00	17.24	625.00	23.20
(09.10.21) 14:00	0.00	500.00	17.26	625.00	23.23
(09.10.21) 15:00	0.00	500.00	17.28	625.00	23.25
(09.10.21) 16:00	0.00	500.00	17.30	625.00	23.28
(09.10.21) 17:00	0.00	500.00	17.32	625.00	23.30
(09.10.21) 18:00	0.00	500.00	17.34	625.00	23.33
(09.10.21) 19:00	0.00	500.00	17.36	625.00	23.35
(09.10.21) 20:00	0.00	500.00	17.38	625.00	23.38
(09.10.21) 21:00	0.00	500.00	17.40	625.00	23.40
(09.10.21) 22:00	0.00	500.00	17.42	625.00	23.43
(09.10.21) 23:00	0.00	500.00	17.44	625.00	23.45
(09.11.21) 00:00	0.00	500.00	17.46	625.00	23.48
(09.11.21) 01:00	0.00	500.00	17.48	625.00	23.50
(09.11.21) 02:00	0.00	500.00	17.50	625.00	23.53
(09.11.21) 03:00	0.00	500.00	17.52	625.00	23.55
(09.11.21) 04:00	0.00	500.00	17.54	625.00	23.58
(09.11.21) 05:00	0.00	500.00	17.56	625.00	23.60
(09.11.21) 06:00	0.00	500.00	17.58	625.00	23.63
(09.11.21) 07:00	0.00	500.00	17.60	625.00	23.65
(09.11.21) 08:00	0.00	500.00	17.62	625.00	23.68
(09.11.21) 09:00	0.00	500.00	17.64	625.00	23.70
(09.11.21) 10:00	0.00	500.00	17.66	625.00	23.73
(09.11.21) 11:00	0.00	500.00	17.68	625.00	23.75
(09.11.21) 12:00	0.00	500.00	17.70	625.00	23.78
(09.11.21) 13:00	0.00	500.00	17.72	625.00	23.80

(09.11.21) 14:00	0.00	500.00	17.74	625.00	23.83
(09.11.21) 15:00	0.00	500.00	17.76	625.00	23.85
(09.11.21) 16:00	0.00	500.00	17.78	625.00	23.88
(09.11.21) 17:00	0.00	500.00	17.80	625.00	23.90
(09.11.21) 18:00	0.00	500.00	17.82	625.00	23.93
(09.11.21) 19:00	0.00	500.00	17.84	625.00	23.95
(09.11.21) 20:00	0.00	500.00	17.86	625.00	23.98
(09.11.21) 21:00	0.00	500.00	17.88	625.00	24.00
(09.11.21) 22:00	0.00	500.00	17.90	625.00	24.03
(09.11.21) 23:00	0.00	500.00	17.92	625.00	24.05
(09.12.21) 00:00	0.00	500.00	17.94	625.00	24.08
(09.12.21) 01:00	0.00	500.00	17.96	625.00	24.10
(09.12.21) 02:00	0.00	500.00	17.98	625.00	24.13
(09.12.21) 03:00	0.00	500.00	18.00	625.00	24.15
(09.12.21) 04:00	0.00	500.00	18.02	625.00	24.18
(09.12.21) 05:00	0.00	500.00	18.04	625.00	24.20
(09.12.21) 06:00	0.00	500.00	18.06	625.00	24.23
(09.12.21) 07:00	0.00	500.00	18.08	625.00	24.25
(09.12.21) 08:00	0.00	500.00	18.10	625.00	24.28
(09.12.21) 09:00	0.00	500.00	18.12	625.00	24.30
(09.12.21) 10:00	0.00	500.00	18.14	625.00	24.33
(09.12.21) 11:00	0.00	500.00	18.16	625.00	24.35
(09.12.21) 12:00	0.00	500.00	18.18	625.00	24.38
(09.12.21) 13:00	0.00	500.00	18.20	625.00	24.40
(09.12.21) 14:00	0.00	500.00	18.22	625.00	24.43
(09.12.21) 15:00	0.00	500.00	18.24	625.00	24.45
(09.12.21) 16:00	0.00	500.00	18.25	625.00	24.48
(09.12.21) 17:00	0.00	500.00	18.27	625.00	24.50
(09.12.21) 18:00	0.00	500.00	18.29	625.00	24.53
(09.12.21) 19:00	0.00	500.00	18.31	625.00	24.55
(09.12.21) 20:00	0.00	500.00	18.33	625.00	24.58
(09.12.21) 21:00	0.00	500.00	18.35	625.00	24.60
(09.12.21) 22:00	0.00	500.00	18.37	625.00	24.63
(09.12.21) 23:00	0.00	500.00	18.39	625.00	24.65
(09.13.21) 00:00	0.00	500.00	18.41	625.00	24.68
(09.13.21) 01:00	0.00	500.00	18.43	625.00	24.70
(09.13.21) 02:00	0.00	500.00	18.45	625.00	24.73
(09.13.21) 03:00	0.00	500.00	18.47	625.00	24.75
(09.13.21) 04:00	0.00	500.00	18.49	625.00	24.78
(09.13.21) 05:00	0.00	500.00	18.51	625.00	24.80
(09.13.21) 06:00	0.00	500.00	18.53	625.00	24.83
(09.13.21) 07:00	0.00	500.00	18.55	625.00	24.85
(09.13.21) 08:00	0.00	500.00	18.57	625.00	24.88
(09.13.21) 09:00	0.00	500.00	18.59	625.00	24.90
(09.13.21) 10:00	0.00	500.00	18.61	625.00	24.93
(09.13.21) 11:00	0.00	500.00	18.63	625.00	24.95
(09.13.21) 12:00	0.00	500.00	18.65	625.00	24.98

(09.13.21) 13:00	0.00	500.00	18.67	625.00	25.00
(09.13.21) 14:00	0.00	500.00	18.69	625.00	25.03
(09.13.21) 15:00	0.00	500.00	18.71	625.00	25.05
(09.13.21) 16:00	0.00	500.00	18.73	625.00	25.08
(09.13.21) 17:00	0.00	500.00	18.75	625.00	25.10
(09.13.21) 18:00	0.00	500.00	18.77	625.00	25.13
(09.13.21) 19:00	0.00	500.00	18.79	625.00	25.15
(09.13.21) 20:00	0.00	500.00	18.81	625.00	25.18
(09.13.21) 21:00	0.00	500.00	18.83	625.00	25.20
(09.13.21) 22:00	0.00	500.00	18.85	625.00	25.23
(09.13.21) 23:00	0.00	500.00	18.87	625.00	25.25
(09.14.21) 00:00	0.00	500.00	18.89	625.00	25.28
(09.14.21) 01:00	0.00	500.00	18.91	625.00	25.30
(09.14.21) 02:00	0.00	500.00	18.93	625.00	25.33
(09.14.21) 03:00	0.00	500.00	18.95	625.00	25.35
(09.14.21) 04:00	0.00	500.00	18.97	625.00	25.38
(09.14.21) 05:00	0.00	500.00	18.99	625.00	25.40
(09.14.21) 06:00	0.00	500.00	19.01	625.00	25.43
(09.14.21) 07:00	0.00	500.00	19.03	625.00	25.45
(09.14.21) 08:00	0.00	500.00	19.05	625.00	25.48
(09.14.21) 09:00	0.00	500.00	19.07	625.00	25.50
(09.14.21) 10:00	0.00	500.00	19.09	625.00	25.53
(09.14.21) 11:00	0.00	500.00	19.11	625.00	25.55
(09.14.21) 12:00	0.00	500.00	19.13	625.00	25.58
(09.14.21) 13:00	0.00	500.00	19.15	625.00	25.60
(09.14.21) 14:00	0.00	500.00	19.17	625.00	25.63
(09.14.21) 15:00	0.00	500.00	19.19	625.00	25.65
(09.14.21) 16:00	0.00	500.00	19.24	625.00	25.70
(09.14.21) 17:00	0.00	500.00	19.32	625.00	25.80
(09.14.21) 18:00	0.00	500.00	19.40	625.00	25.90
(09.14.21) 19:00	0.00	500.00	19.47	625.00	26.00
(09.14.21) 20:00	0.00	500.00	19.51	625.00	26.05
(09.14.21) 21:00	0.00	500.00	19.47	625.00	26.00
(09.14.21) 22:00	0.00	500.00	19.43	625.00	25.95
(09.14.21) 23:00	0.00	500.00	19.39	625.00	25.90
(09.15.21) 00:00	0.00	500.00	19.37	625.00	25.88
(09.15.21) 01:00	0.00	500.00	19.39	625.00	25.90
(09.15.21) 02:00	0.00	500.00	19.41	625.00	25.93
(09.15.21) 03:00	0.00	500.00	19.43	625.00	25.95
(09.15.21) 04:00	0.00	500.00	19.45	625.00	25.98
(09.15.21) 05:00	0.00	500.00	19.47	625.00	26.00
(09.15.21) 06:00	0.00	500.00	19.49	625.00	26.03
(09.15.21) 07:00	0.00	500.00	19.51	625.00	26.05
(09.15.21) 08:00	0.00	500.00	19.53	625.00	26.08
(09.15.21) 09:00	0.00	500.00	19.55	625.00	26.10
(09.15.21) 10:00	0.00	500.00	19.57	625.00	26.13
(09.15.21) 11:00	0.00	500.00	19.59	625.00	26.15

(09.15.21) 12:00	0.00	500.00	19.61	625.00	26.18
(09.15.21) 13:00	0.00	500.00	19.63	625.00	26.20
(09.15.21) 14:00	0.00	500.00	19.65	625.00	26.23
(09.15.21) 15:00	0.00	500.00	19.67	625.00	26.25
(09.15.21) 16:00	0.00	500.00	19.69	625.00	26.28
(09.15.21) 17:00	0.00	500.00	19.71	625.00	26.30
(09.15.21) 18:00	0.00	500.00	19.73	625.00	26.33
(09.15.21) 19:00	0.00	500.00	19.75	625.00	26.35
(09.15.21) 20:00	0.00	500.00	19.77	625.00	26.38
(09.15.21) 21:00	0.00	500.00	19.79	625.00	26.40
(09.15.21) 22:00	0.00	500.00	19.81	625.00	26.43
(09.15.21) 23:00	0.00	500.00	19.83	625.00	26.45
(09.16.21) 00:00	0.00	500.00	19.85	625.00	26.48
(09.16.21) 01:00	0.00	500.00	19.87	625.00	26.50
(09.16.21) 02:00	0.00	500.00	19.89	625.00	26.53
(09.16.21) 03:00	0.00	500.00	19.91	625.00	26.55
(09.16.21) 04:00	0.00	500.00	19.93	625.00	26.58
(09.16.21) 05:00	0.00	500.00	19.95	625.00	26.60
(09.16.21) 06:00	0.00	500.00	19.97	625.00	26.63
(09.16.21) 07:00	0.00	500.00	19.99	625.00	26.65
(09.16.21) 08:00	0.00	500.00	20.01	625.00	26.68
(09.16.21) 09:00	0.00	500.00	20.03	625.00	26.70
(09.16.21) 10:00	0.00	500.00	20.05	625.00	26.73
(09.16.21) 11:00	0.00	500.00	20.07	625.00	26.75
(09.16.21) 12:00	0.00	500.00	20.09	625.00	26.78
(09.16.21) 13:00	0.00	500.00	20.11	625.00	26.80
(09.16.21) 14:00	0.00	500.00	20.13	625.00	26.83
(09.16.21) 15:00	0.00	500.00	20.15	625.00	26.85
(09.16.21) 16:00	0.00	500.00	20.17	625.00	26.88
(09.16.21) 17:00	1.08	500.00	20.19	625.00	26.90
(09.16.21) 18:00	5.19	500.00	20.21	625.00	26.93
(09.16.21) 19:00	9.29	500.00	20.23	625.00	26.95
(09.16.21) 20:00	13.39	500.00	20.25	625.00	26.98
(09.16.21) 21:00	17.49	500.00	20.27	625.00	27.00
(09.16.21) 22:00	21.59	500.00	20.29	625.00	27.03
(09.16.21) 23:00	25.69	500.00	20.31	625.00	27.05
(09.17.21) 00:00	29.80	500.00	20.33	625.00	27.08
(09.17.21) 01:00	33.90	500.00	20.35	625.00	27.10
(09.17.21) 02:00	38.00	500.00	20.37	625.00	27.13
(09.17.21) 03:00	42.10	500.00	20.39	625.00	27.15
(09.17.21) 04:00	46.20	500.00	20.41	625.00	27.18
(09.17.21) 05:00	50.30	500.00	20.43	625.00	27.20
(09.17.21) 06:00	54.41	500.00	20.45	625.00	27.23
(09.17.21) 07:00	58.51	500.00	20.47	625.00	27.25
(09.17.21) 08:00	61.25	500.00	20.49	625.00	27.28
(09.17.21) 09:00	61.25	500.00	20.51	625.00	27.30
(09.17.21) 10:00	61.25	500.00	20.53	625.00	27.33

(09.17.21) 11:00	61.25	500.00	20.55	625.00	27.35
(09.17.21) 12:00	61.25	500.00	20.57	625.00	27.38
(09.17.21) 13:00	61.25	500.00	20.59	625.00	27.40
(09.17.21) 14:00	61.25	500.00	20.61	625.00	27.43
(09.17.21) 15:00	61.25	500.00	20.63	625.00	27.45
(09.17.21) 16:00	61.25	500.00	20.65	625.00	27.48
(09.17.21) 17:00	61.25	500.00	20.67	625.00	27.50
(09.17.21) 18:00	61.25	500.00	20.69	625.00	27.53
(09.17.21) 19:00	61.25	500.00	20.71	625.00	27.55
(09.17.21) 20:00	61.25	500.00	20.73	625.00	27.58
(09.17.21) 21:00	61.25	500.00	20.75	625.00	27.60
(09.17.21) 22:00	61.25	500.00	20.77	625.00	27.63
(09.17.21) 23:00	61.25	500.00	20.79	625.00	27.65
(09.18.21) 00:00	61.25	500.00	20.81	625.00	27.68
(09.18.21) 01:00	61.25	500.00	20.83	625.00	27.70
(09.18.21) 02:00	61.25	500.00	20.85	625.00	27.73
(09.18.21) 03:00	61.25	500.00	20.87	625.00	27.75
(09.18.21) 04:00	61.25	500.00	20.89	625.00	27.78
(09.18.21) 05:00	61.25	500.00	20.91	625.00	27.80
(09.18.21) 06:00	61.25	500.00	20.93	625.00	27.83
(09.18.21) 07:00	61.25	500.00	20.95	625.00	27.85
(09.18.21) 08:00	61.25	500.00	20.97	625.00	27.88
(09.18.21) 09:00	61.25	500.00	20.99	625.00	27.90
(09.18.21) 10:00	61.25	500.00	21.01	625.00	27.93
(09.18.21) 11:00	61.25	500.00	21.03	625.00	27.95
(09.18.21) 12:00	61.25	500.00	21.05	625.00	27.98
(09.18.21) 13:00	61.25	500.00	21.07	625.00	28.00
(09.18.21) 14:00	61.25	500.00	21.09	625.00	28.02
(09.18.21) 15:00	61.25	500.00	21.11	625.00	28.05
(09.18.21) 16:00	61.25	500.00	21.13	625.00	28.07
(09.18.21) 17:00	61.25	500.00	21.15	625.00	28.10
(09.18.21) 18:00	61.25	500.00	21.17	625.00	28.12
(09.18.21) 19:00	61.25	500.00	21.19	625.00	28.15
(09.18.21) 20:00	61.25	500.00	21.21	625.00	28.17
(09.18.21) 21:00	61.25	500.00	21.23	625.00	28.20
(09.18.21) 22:00	61.25	500.00	21.25	625.00	28.22
(09.18.21) 23:00	61.25	500.00	21.27	625.00	28.25
(09.19.21) 00:00	61.25	500.00	21.29	625.00	28.27
(09.19.21) 01:00	61.25	500.00	21.31	625.00	28.30
(09.19.21) 02:00	61.25	500.00	21.33	625.00	28.32
(09.19.21) 03:00	61.25	500.00	21.35	625.00	28.35
(09.19.21) 04:00	61.25	500.00	21.37	625.00	28.37
(09.19.21) 05:00	61.25	500.00	21.39	625.00	28.40
(09.19.21) 06:00	61.25	500.00	21.41	625.00	28.42
(09.19.21) 07:00	61.25	500.00	21.43	625.00	28.45
(09.19.21) 08:00	61.25	500.00	21.45	625.00	28.47
(09.19.21) 09:00	61.25	500.00	21.47	625.00	28.50

(09.19.21) 10:00	61.25	500.00	21.49	625.00	28.52
(09.19.21) 11:00	61.25	500.00	21.51	625.00	28.55
(09.19.21) 12:00	61.25	500.00	21.53	625.00	28.57
(09.19.21) 13:00	61.25	500.00	21.55	625.00	28.60
(09.19.21) 14:00	61.25	500.00	21.57	625.00	28.62
(09.19.21) 15:00	61.25	500.00	21.59	625.00	28.65
(09.19.21) 16:00	61.25	500.00	21.61	625.00	28.67
(09.19.21) 17:00	61.25	500.00	21.63	625.00	28.70
(09.19.21) 18:00	61.25	500.00	21.65	625.00	28.72
(09.19.21) 19:00	61.25	500.00	21.67	625.00	28.75
(09.19.21) 20:00	61.25	500.00	21.69	625.00	28.77
(09.19.21) 21:00	61.25	500.00	21.71	625.00	28.80
(09.19.21) 22:00	61.25	500.00	21.73	625.00	28.82
(09.19.21) 23:00	61.25	500.00	21.75	625.00	28.85
(09.20.21) 00:00	61.25	500.00	21.77	625.00	28.87
(09.20.21) 01:00	61.25	500.00	21.79	625.00	28.90
(09.20.21) 02:00	61.25	500.00	21.81	625.00	28.92
(09.20.21) 03:00	61.25	500.00	21.83	625.00	28.95
(09.20.21) 04:00	61.25	500.00	21.85	625.00	28.97
(09.20.21) 05:00	61.25	500.00	21.87	625.00	29.00
(09.20.21) 06:00	61.25	500.00	21.89	625.00	29.02
(09.20.21) 07:00	61.25	500.00	21.91	625.00	29.05
(09.20.21) 08:00	61.25	500.00	21.93	625.00	29.07
(09.20.21) 09:00	61.25	500.00	21.95	625.00	29.10
(09.20.21) 10:00	61.25	500.00	21.97	625.00	29.12
(09.20.21) 11:00	61.25	500.00	21.99	625.00	29.15
(09.20.21) 12:00	61.25	500.00	22.01	625.00	29.17
(09.20.21) 13:00	61.25	500.00	22.03	625.00	29.20
(09.20.21) 14:00	61.25	500.00	22.05	625.00	29.22
(09.20.21) 15:00	61.25	500.00	22.07	625.00	29.25
(09.20.21) 16:00	61.25	500.00	22.09	625.00	29.27
(09.20.21) 17:00	61.25	500.00	22.11	625.00	29.30
(09.20.21) 18:00	61.25	500.00	22.13	625.00	29.32
(09.20.21) 19:00	61.25	500.00	22.15	625.00	29.35
(09.20.21) 20:00	61.25	500.00	22.17	625.00	29.37
(09.20.21) 21:00	61.25	500.00	22.19	625.00	29.40
(09.20.21) 22:00	61.25	500.00	22.21	625.00	29.42
(09.20.21) 23:00	61.25	500.00	22.23	625.00	29.45
(09.21.21) 00:00	61.25	500.00	22.25	625.00	29.47
(09.21.21) 01:00	61.25	500.00	22.27	625.00	29.50
(09.21.21) 02:00	61.25	500.00	22.29	625.00	29.52
(09.21.21) 03:00	61.25	500.00	22.31	625.00	29.55
(09.21.21) 04:00	61.25	500.00	22.33	625.00	29.57
(09.21.21) 05:00	61.25	500.00	22.35	625.00	29.60
(09.21.21) 06:00	61.25	500.00	22.37	625.00	29.62
(09.21.21) 07:00	61.25	500.00	22.39	625.00	29.65
(09.21.21) 08:00	61.25	500.00	22.41	625.00	29.67

(09.21.21) 09:00	61.25	500.00	22.43	625.00	29.70
(09.21.21) 10:00	61.25	500.00	22.45	625.00	29.72
(09.21.21) 11:00	61.25	500.00	22.47	625.00	29.75
(09.21.21) 12:00	61.25	500.00	22.49	625.00	29.77
(09.21.21) 13:00	61.25	500.00	22.51	625.00	29.80
(09.21.21) 14:00	61.25	500.00	22.53	625.00	29.82
(09.21.21) 15:00	61.25	500.00	22.55	625.00	29.85
(09.21.21) 16:00	61.25	500.00	22.57	625.00	29.87
(09.21.21) 17:00	61.25	500.00	22.59	625.00	29.90
(09.21.21) 18:00	61.25	500.00	22.61	625.00	29.92
(09.21.21) 19:00	61.25	500.00	22.63	625.00	29.95
(09.21.21) 20:00	61.25	500.00	22.65	625.00	29.97
(09.21.21) 21:00	61.25	500.00	22.67	625.00	30.00
(09.21.21) 22:00	61.25	500.00	22.69	625.00	30.02
(09.21.21) 23:00	61.25	500.00	22.71	625.00	30.05
(09.22.21) 00:00	61.25	500.00	22.73	625.00	30.07
(09.22.21) 01:00	61.25	500.00	22.75	625.00	30.10
(09.22.21) 02:00	61.25	500.00	22.77	625.00	30.12
(09.22.21) 03:00	61.25	500.00	22.79	625.00	30.15
(09.22.21) 04:00	61.25	500.00	22.81	625.00	30.17
(09.22.21) 05:00	61.25	500.00	22.83	625.00	30.20
(09.22.21) 06:00	61.25	500.00	22.85	625.00	30.22
(09.22.21) 07:00	61.25	500.00	22.87	625.00	30.25
(09.22.21) 08:00	61.25	500.00	22.89	625.00	30.27
(09.22.21) 09:00	61.25	500.00	22.91	625.00	30.30
(09.22.21) 10:00	61.25	500.00	22.93	625.00	30.32
(09.22.21) 11:00	61.25	500.00	22.95	625.00	30.35
(09.22.21) 12:00	61.25	500.00	22.97	625.00	30.37
(09.22.21) 13:00	61.25	500.00	22.99	625.00	30.40
(09.22.21) 14:00	61.25	500.00	23.01	625.00	30.42
(09.22.21) 15:00	61.25	500.00	23.03	625.00	30.45
(09.22.21) 16:00	61.25	500.00	23.05	625.00	30.47
(09.22.21) 17:00	61.25	500.00	23.07	625.00	30.50
(09.22.21) 18:00	61.25	500.00	23.09	625.00	30.52
(09.22.21) 19:00	61.25	500.00	23.11	625.00	30.55
(09.22.21) 20:00	61.25	500.00	23.13	625.00	30.57
(09.22.21) 21:00	61.25	500.00	23.15	625.00	30.60
(09.22.21) 22:00	61.25	500.00	23.17	625.00	30.62
(09.22.21) 23:00	61.25	500.00	23.19	625.00	30.65
(09.23.21) 00:00	61.25	500.00	23.21	625.00	30.67
(09.23.21) 01:00	61.25	500.00	23.23	625.00	30.70
(09.23.21) 02:00	61.25	500.00	23.25	625.00	30.72
(09.23.21) 03:00	61.25	500.00	23.27	625.00	30.75
(09.23.21) 04:00	61.25	500.00	23.29	625.00	30.77
(09.23.21) 05:00	61.25	500.00	23.31	625.00	30.80
(09.23.21) 06:00	61.25	500.00	23.33	625.00	30.82
(09.23.21) 07:00	61.25	500.00	23.35	625.00	30.85

(09.23.21) 08:00	61.25	500.00	23.37	625.00	30.87
(09.23.21) 09:00	61.25	500.00	23.39	625.00	30.90
(09.23.21) 10:00	61.25	500.00	23.41	625.00	30.92
(09.23.21) 11:00	61.25	500.00	23.43	625.00	30.95
(09.23.21) 12:00	61.25	500.00	23.45	625.00	30.97
(09.23.21) 13:00	61.25	500.00	23.47	625.00	31.00
(09.23.21) 14:00	61.25	500.00	23.49	625.00	31.02
(09.23.21) 15:00	61.25	500.00	23.51	625.00	31.05
(09.23.21) 16:00	61.25	500.00	23.53	625.00	31.07
(09.23.21) 17:00	61.25	500.00	23.55	625.00	31.10
(09.23.21) 18:00	61.25	500.00	23.57	625.00	31.12
(09.23.21) 19:00	61.25	500.00	23.59	625.00	31.15
(09.23.21) 20:00	61.25	500.00	23.61	625.00	31.17
(09.23.21) 21:00	61.25	500.00	23.63	625.00	31.20
(09.23.21) 22:00	61.25	500.00	23.65	625.00	31.22
(09.23.21) 23:00	61.25	500.00	23.67	625.00	31.25
(09.24.21) 00:00	61.25	500.00	23.69	625.00	31.27
(09.24.21) 01:00	61.25	500.00	23.71	625.00	31.30
(09.24.21) 02:00	61.25	500.00	23.73	625.00	31.32
(09.24.21) 03:00	61.25	500.00	23.75	625.00	31.35
(09.24.21) 04:00	61.25	500.00	23.77	625.00	31.37
(09.24.21) 05:00	61.25	500.00	23.79	625.00	31.40
(09.24.21) 06:00	61.25	500.00	23.81	625.00	31.42
(09.24.21) 07:00	61.25	500.00	23.83	625.00	31.45
(09.24.21) 08:00	61.25	500.00	23.85	625.00	31.47
(09.24.21) 09:00	61.25	500.00	23.87	625.00	31.50
(09.24.21) 10:00	61.25	500.00	23.89	625.00	31.52
(09.24.21) 11:00	61.25	500.00	23.91	625.00	31.55
(09.24.21) 12:00	61.25	500.00	23.93	625.00	31.57
(09.24.21) 13:00	61.25	500.00	23.95	625.00	31.60
(09.24.21) 14:00	61.25	500.00	23.97	625.00	31.62
(09.24.21) 15:00	61.25	500.00	23.99	625.00	31.65
(09.24.21) 16:00	61.25	500.00	24.01	625.00	31.67
(09.24.21) 17:00	61.25	500.00	24.03	625.00	31.70
(09.24.21) 18:00	61.25	500.00	24.05	625.00	31.72
(09.24.21) 19:00	61.25	500.00	24.07	625.00	31.75
(09.24.21) 20:00	61.25	500.00	24.09	625.00	31.77
(09.24.21) 21:00	61.25	500.00	24.11	625.00	31.80
(09.24.21) 22:00	61.25	500.00	24.13	625.00	31.82
(09.24.21) 23:00	61.25	500.00	24.15	625.00	31.85
(09.25.21) 00:00	61.25	500.00	24.17	625.00	31.87
(09.25.21) 01:00	61.25	500.00	24.19	625.00	31.90
(09.25.21) 02:00	61.25	500.00	24.21	625.00	31.92
(09.25.21) 03:00	61.25	500.00	24.23	625.00	31.95
(09.25.21) 04:00	61.25	500.00	24.25	625.00	31.97
(09.25.21) 05:00	61.25	500.00	24.27	625.00	32.00
(09.25.21) 06:00	61.25	500.00	24.29	625.00	32.02

(09.25.21) 07:00	61.25	500.00	24.31	625.00	32.05
(09.25.21) 08:00	61.25	500.00	24.33	625.00	32.07
(09.25.21) 09:00	61.25	500.00	24.35	625.00	32.10
(09.25.21) 10:00	61.25	500.00	24.37	625.00	32.12
(09.25.21) 11:00	61.25	500.00	24.39	625.00	32.15
(09.25.21) 12:00	61.25	500.00	24.41	625.00	32.17
(09.25.21) 13:00	61.25	500.00	24.43	625.00	32.20
(09.25.21) 14:00	61.25	500.00	24.45	625.00	32.22
(09.25.21) 15:00	61.25	500.00	24.47	625.00	32.25
(09.25.21) 16:00	61.25	500.00	24.49	625.00	32.27
(09.25.21) 17:00	61.25	500.00	24.51	625.00	32.30
(09.25.21) 18:00	61.25	500.00	24.53	625.00	32.32
(09.25.21) 19:00	61.25	500.00	24.55	625.00	32.35
(09.25.21) 20:00	61.25	500.00	24.57	625.00	32.37
(09.25.21) 21:00	61.25	500.00	24.59	625.00	32.40
(09.25.21) 22:00	61.25	500.00	24.61	625.00	32.42
(09.25.21) 23:00	61.25	500.00	24.63	625.00	32.45
(09.26.21) 00:00	61.25	500.00	24.65	625.00	32.47
(09.26.21) 01:00	61.25	500.00	24.67	625.00	32.50
(09.26.21) 02:00	61.25	500.00	24.69	625.00	32.52
(09.26.21) 03:00	61.25	500.00	24.71	625.00	32.55
(09.26.21) 04:00	61.25	500.00	24.73	625.00	32.57
(09.26.21) 05:00	61.25	500.00	24.75	625.00	32.60
(09.26.21) 06:00	61.25	500.00	24.77	625.00	32.62
(09.26.21) 07:00	61.25	500.00	24.79	625.00	32.65
(09.26.21) 08:00	61.25	500.00	24.81	625.00	32.67
(09.26.21) 09:00	61.25	500.00	24.83	625.00	32.70
(09.26.21) 10:00	61.25	500.00	24.85	625.00	32.72
(09.26.21) 11:00	61.25	500.00	24.87	625.00	32.75
(09.26.21) 12:00	61.25	500.00	24.89	625.00	32.77
(09.26.21) 13:00	61.25	500.00	24.91	625.00	32.80
(09.26.21) 14:00	61.25	500.00	24.93	625.00	32.82
(09.26.21) 15:00	61.25	500.00	24.95	625.00	32.85
(09.26.21) 16:00	61.25	500.00	24.97	625.00	32.87
(09.26.21) 17:00	61.25	500.00	24.99	625.00	32.90
(09.26.21) 18:00	61.25	500.00	25.01	625.00	32.92
(09.26.21) 19:00	61.25	500.00	25.03	625.00	32.95
(09.26.21) 20:00	61.25	500.00	25.05	625.00	32.97
(09.26.21) 21:00	61.25	500.00	25.07	625.00	33.00
(09.26.21) 22:00	61.25	500.00	25.09	625.00	33.02
(09.26.21) 23:00	61.25	500.00	25.11	625.00	33.05
(09.27.21) 00:00	61.25	500.00	25.13	625.00	33.07
(09.27.21) 01:00	61.25	500.00	25.15	625.00	33.10
(09.27.21) 02:00	61.25	500.00	25.17	625.00	33.12
(09.27.21) 03:00	61.25	500.00	25.19	625.00	33.15
(09.27.21) 04:00	61.25	500.00	25.21	625.00	33.17
(09.27.21) 05:00	61.25	500.00	25.23	625.00	33.20

(09.27.21) 06:00	61.25	500.00	25.25	625.00	33.22
(09.27.21) 07:00	61.25	500.00	25.27	625.00	33.25
(09.27.21) 08:00	61.25	500.00	25.29	625.00	33.27
(09.27.21) 09:00	61.25	500.00	25.31	625.00	33.30
(09.27.21) 10:00	61.25	500.00	25.33	625.00	33.32
(09.27.21) 11:00	61.25	500.00	25.35	625.00	33.35
(09.27.21) 12:00	61.25	500.00	25.37	625.00	33.37
(09.27.21) 13:00	61.25	500.00	25.39	625.00	33.40
(09.27.21) 14:00	61.25	500.00	25.41	625.00	33.42
(09.27.21) 15:00	61.25	500.00	25.43	625.00	33.45
(09.27.21) 16:00	61.25	500.00	25.45	625.00	33.47
(09.27.21) 17:00	61.25	500.00	25.47	625.00	33.50
(09.27.21) 18:00	61.25	500.00	25.49	625.00	33.52
(09.27.21) 19:00	61.25	500.00	25.51	625.00	33.55
(09.27.21) 20:00	61.25	500.00	25.53	625.00	33.57
(09.27.21) 21:00	61.25	500.00	25.55	625.00	33.60
(09.27.21) 22:00	61.25	500.00	25.57	625.00	33.62
(09.27.21) 23:00	61.25	500.00	25.59	625.00	33.65
(09.28.21) 00:00	61.25	500.00	25.61	625.00	33.67
(09.28.21) 01:00	61.25	500.00	25.63	625.00	33.70
(09.28.21) 02:00	61.25	500.00	25.65	625.00	33.72
(09.28.21) 03:00	61.25	500.00	25.67	625.00	33.75
(09.28.21) 04:00	61.25	500.00	25.69	625.00	33.77
(09.28.21) 05:00	61.25	500.00	25.71	625.00	33.80
(09.28.21) 06:00	61.25	500.00	25.73	625.00	33.82
(09.28.21) 07:00	61.25	500.00	25.75	625.00	33.85
(09.28.21) 08:00	61.25	500.00	25.77	625.00	33.87
(09.28.21) 09:00	61.25	500.00	25.79	625.00	33.90
(09.28.21) 10:00	61.25	500.00	25.81	625.00	33.92
(09.28.21) 11:00	61.25	500.00	25.83	625.00	33.95
(09.28.21) 12:00	61.25	500.00	25.85	625.00	33.97
(09.28.21) 13:00	61.25	500.00	25.87	625.00	34.00
(09.28.21) 14:00	61.25	500.00	25.89	625.00	34.02
(09.28.21) 15:00	61.25	500.00	25.91	625.00	34.05
(09.28.21) 16:00	61.25	500.00	25.93	625.00	34.07
(09.28.21) 17:00	61.25	500.00	25.95	625.00	34.10
(09.28.21) 18:00	61.25	500.00	25.97	625.00	34.12
(09.28.21) 19:00	61.25	500.00	25.99	625.00	34.15
(09.28.21) 20:00	61.25	500.00	26.01	625.00	34.17
(09.28.21) 21:00	61.25	500.00	26.03	625.00	34.20
(09.28.21) 22:00	61.25	500.00	26.05	625.00	34.22
(09.28.21) 23:00	61.25	500.00	26.07	625.00	34.25
(09.29.21) 00:00	61.25	500.00	26.09	625.00	34.27
(09.29.21) 01:00	61.25	500.00	26.11	625.00	34.30
(09.29.21) 02:00	61.25	500.00	26.13	625.00	34.32
(09.29.21) 03:00	61.25	500.00	26.15	625.00	34.35
(09.29.21) 04:00	61.25	500.00	26.17	625.00	34.37

(09.29.21) 05:00	61.25	500.00	26.19	625.00	34.40
(09.29.21) 06:00	61.25	500.00	26.21	625.00	34.42
(09.29.21) 07:00	61.25	500.00	26.23	625.00	34.45
(09.29.21) 08:00	61.25	500.00	26.25	625.00	34.47
(09.29.21) 09:00	61.25	500.00	26.27	625.00	34.50
(09.29.21) 10:00	61.25	500.00	26.29	625.00	34.52
(09.29.21) 11:00	61.25	500.00	26.31	625.00	34.55
(09.29.21) 12:00	61.25	500.00	26.33	625.00	34.57
(09.29.21) 13:00	61.25	500.00	26.35	625.00	34.60
(09.29.21) 14:00	61.25	500.00	26.37	625.00	34.62
(09.29.21) 15:00	61.25	500.00	26.39	625.00	34.65
(09.29.21) 16:00	61.25	500.00	26.41	625.00	34.67
(09.29.21) 17:00	61.25	500.00	26.43	625.00	34.70
(09.29.21) 18:00	61.25	500.00	26.45	625.00	34.72
(09.29.21) 19:00	61.25	500.00	26.47	625.00	34.75
(09.29.21) 20:00	61.25	500.00	26.49	625.00	34.77
(09.29.21) 21:00	61.25	500.00	26.51	625.00	34.80
(09.29.21) 22:00	61.25	500.00	26.53	625.00	34.82
(09.29.21) 23:00	61.25	500.00	26.55	625.00	34.85
(09.30.21) 00:00	61.25	500.00	26.57	625.00	34.87
(09.30.21) 01:00	61.25	500.00	26.59	625.00	34.90
(09.30.21) 02:00	61.25	500.00	26.61	625.00	34.92
(09.30.21) 03:00	61.25	500.00	26.63	625.00	34.95
(09.30.21) 04:00	61.25	500.00	26.65	625.00	34.97
(09.30.21) 05:00	61.25	500.00	26.67	625.00	35.00
(09.30.21) 06:00	61.25	500.00	26.69	625.00	35.02
(09.30.21) 07:00	61.25	500.00	26.71	625.00	35.05
(09.30.21) 08:00	61.25	500.00	26.73	625.00	35.07
(09.30.21) 09:00	61.25	500.00	26.75	625.00	35.10
(09.30.21) 10:00	61.25	500.00	26.77	625.00	35.12
(09.30.21) 11:00	61.25	500.00	26.79	625.00	35.15
(09.30.21) 12:00	61.25	500.00	26.81	625.00	35.17
(09.30.21) 13:00	61.25	500.00	26.83	625.00	35.20
(09.30.21) 14:00	61.25	500.00	26.85	625.00	35.22
(09.30.21) 15:00	61.25	500.00	26.87	625.00	35.25
(09.30.21) 16:00	61.25	500.00	26.89	625.00	35.27
(09.30.21) 17:00	61.25	500.00	26.91	625.00	35.30
(09.30.21) 18:00	61.25	500.00	26.93	625.00	35.32
(09.30.21) 19:00	61.25	500.00	26.95	625.00	35.35
(09.30.21) 20:00	61.25	500.00	26.97	625.00	35.37
(09.30.21) 21:00	61.25	500.00	26.99	625.00	35.40
(09.30.21) 22:00	61.25	500.00	27.01	625.00	35.42
(09.30.21) 23:00	61.25	500.00	27.03	625.00	35.45
(10.01.21) 00:00	61.25	500.00	27.05	625.00	35.47
(10.01.21) 01:00	61.25	500.00	27.07	625.00	35.50
(10.01.21) 02:00	61.25	500.00	27.09	625.00	35.52
(10.01.21) 03:00	61.25	500.00	27.11	625.00	35.55

	(10.01.21) 04:00	61.25	500.00	27.13	625.00	35.57
	(10.01.21) 05:00	61.25	500.00	27.15	625.00	35.60
	(10.01.21) 06:00	61.25	500.00	27.17	625.00	35.62
	(10.01.21) 07:00	61.25	500.00	27.19	625.00	35.65
	(10.01.21) 08:00	61.25	500.00	27.21	625.00	35.67
	(10.01.21) 09:00	61.25	500.00	27.23	625.00	35.70
	(10.01.21) 10:00	61.25	500.00	27.25	625.00	35.72
	(10.01.21) 11:00					
	(10.01.21) 12:00					
	(10.01.21) 13:00	61.25	500.00	27.31	625.00	35.80
	(10.01.21) 14:00		500.00	27.33	625.00	35.82
	(10.01.21) 15:00	61.25	500.00	27.35	625.00	35.85
**	(10.01.21) 16:00					
	(10.01.21) 17:00	61.25	500.00	27.39	625.00	35.90
	(10.01.21) 18:00	61.25	500.00	27.41	625.00	35.92
	(10.01.21) 19:00	61.25	500.00	27.43	625.00	35.95
	(10.01.21) 20:00	61.25	500.00	27.45	625.00	35.97
	(10.01.21) 21:00	61.25	500.00	27.47	625.00	36.00
	(10.01.21) 22:00	61.25	500.00	27.49	625.00	36.02
	(10.01.21) 23:00	61.25	500.00	27.51	625.00	36.05
	(10.02.21) 00:00	61.25	500.00	27.53	625.00	36.07
	(10.02.21) 01:00	61.25	500.00	27.55	625.00	36.10
	(10.02.21) 02:00	61.25	500.00	27.57	625.00	36.12
	(10.02.21) 03:00	61.25	500.00	27.59	625.00	36.15
	(10.02.21) 04:00	61.25	500.00	27.61	625.00	36.17
	(10.02.21) 05:00	61.25	500.00	27.63	625.00	36.20
	(10.02.21) 06:00	61.25	500.00	27.65	625.00	36.22
	(10.02.21) 07:00	61.25	500.00	27.67	625.00	36.25
	(10.02.21) 08:00	61.25	500.00	27.69	625.00	36.27
	(10.02.21) 09:00	61.25	500.00	27.71	625.00	36.30
	(10.02.21) 10:00	61.25	500.00	27.73	625.00	36.32
	(10.02.21) 11:00	61.25	500.00	27.75	625.00	36.35
	(10.02.21) 12:00	61.25	500.00	27.77	625.00	36.37
	(10.02.21) 13:00	61.25	500.00	27.79	625.00	36.40
	(10.02.21) 14:00	61.25	500.00	27.81	625.00	36.42
	(10.02.21) 15:00	61.25	500.00	27.83	625.00	36.45
	(10.02.21) 16:00	61.25	500.00	27.85	625.00	36.47
	(10.02.21) 17:00	61.25	500.00	27.87	625.00	36.50
	(10.02.21) 18:00	61.25	500.00	27.89	625.00	36.52
	(10.02.21) 19:00	61.25	500.00	27.91	625.00	36.55
	(10.02.21) 20:00	61.25	500.00	27.93	625.00	36.57
	(10.02.21) 21:00	61.25	500.00	27.95	625.00	36.60
	(10.02.21) 22:00	61.25	500.00	27.97	625.00	36.62
	(10.02.21) 23:00	61.25	500.00	27.99	625.00	36.65
	(10.03.21) 00:00	61.25	500.00	28.01	625.00	36.67
	(10.03.21) 01:00	61.25	500.00	28.03	625.00	36.70
	(10.03.21) 02:00	61.25	500.00	28.05	625.00	36.72

(10.03.21) 03:00	61.25	500.00	28.07	625.00	36.75
(10.03.21) 04:00	61.25	500.00	28.09	625.00	36.77
(10.03.21) 05:00	61.25	500.00	28.11	625.00	36.80
(10.03.21) 06:00	61.25	500.00	28.13	625.00	36.82
(10.03.21) 07:00	61.25	500.00	28.15	625.00	36.85
(10.03.21) 08:00	61.25	500.00	28.17	625.00	36.87
(10.03.21) 09:00	61.25	500.00	28.19	625.00	36.90
(10.03.21) 10:00	61.25	500.00	28.21	625.00	36.92
(10.03.21) 11:00	61.25	500.00	28.23	625.00	36.95
(10.03.21) 12:00	61.25	500.00	28.25	625.00	36.97
(10.03.21) 13:00	61.25	500.00	28.27	625.00	37.00
(10.03.21) 14:00	61.25	500.00	28.29	625.00	37.02
(10.03.21) 15:00	61.25	500.00	28.31	625.00	37.05
(10.03.21) 16:00	60.73	500.00	28.33	625.00	37.07
(10.03.21) 17:00	58.07	500.00	28.35	625.00	37.10
(10.03.21) 18:00	55.41	500.00	28.37	625.00	37.12
(10.03.21) 19:00	52.76	500.00	28.39	625.00	37.15
(10.03.21) 20:00	50.10	500.00	28.41	625.00	37.17
(10.03.21) 21:00	47.44	500.00	28.43	625.00	37.20
(10.03.21) 22:00	44.78	500.00	28.45	625.00	37.22
(10.03.21) 23:00	42.12	500.00	28.47	625.00	37.25
(10.04.21) 00:00	39.47	500.00	28.49	625.00	37.27
(10.04.21) 01:00	36.81	500.00	28.51	625.00	37.30
(10.04.21) 02:00	34.15	500.00	28.53	625.00	37.32
(10.04.21) 03:00	31.49	500.00	28.55	625.00	37.35
(10.04.21) 04:00	28.84	500.00	28.57	625.00	37.37
(10.04.21) 05:00	26.18	500.00	28.59	625.00	37.40
(10.04.21) 06:00	23.52	500.00	28.61	625.00	37.42
(10.04.21) 07:00	20.86	500.00	28.63	625.00	37.45
(10.04.21) 08:00	18.20	500.00	28.65	625.00	37.47
(10.04.21) 09:00	15.55	500.00	28.67	625.00	37.50
(10.04.21) 10:00	12.89	500.00	28.69	625.00	37.52
(10.04.21) 11:00	10.23	500.00	28.71	625.00	37.55
(10.04.21) 12:00	7.57	500.00	28.73	625.00	37.57
(10.04.21) 13:00	4.91	500.00	28.75	625.00	37.60
(10.04.21) 14:00	2.26	500.00	28.77	625.00	37.62
(10.04.21) 15:00	0.00	500.00	28.79	625.00	37.65
(10.04.21) 16:00	0.00	500.00	28.81	625.00	37.67
(10.04.21) 17:00	0.00	500.00	28.83	625.00	37.70
(10.04.21) 18:00	0.00	500.00	28.85	625.00	37.72
(10.04.21) 19:00	0.00	500.00	28.87	625.00	37.75
(10.04.21) 20:00	0.00	500.00	28.89	625.00	37.77
(10.04.21) 21:00	0.00	500.00	28.91	625.00	37.80
(10.04.21) 22:00	0.00	500.00	28.93	625.00	37.82
(10.04.21) 23:00	0.00	500.00	28.95	625.00	37.84
(10.05.21) 00:00	0.00	500.00	28.97	625.00	37.87
(10.05.21) 01:00	0.00	500.00	28.99	625.00	37.89

(10.05.21) 02:00	0.00	500.00	29.01	625.00	37.92
(10.05.21) 03:00	0.00	500.00	29.03	625.00	37.94
(10.05.21) 04:00	0.00	500.00	29.05	625.00	37.97
(10.05.21) 05:00	0.00	500.00	29.07	625.00	37.99
(10.05.21) 06:00	0.00	500.00	29.09	625.00	38.02
(10.05.21) 07:00	0.00	500.00	29.11	625.00	38.04
(10.05.21) 08:00	0.00	500.00	29.13	625.00	38.07
(10.05.21) 09:00	0.00	500.00	29.15	625.00	38.09
(10.05.21) 10:00	0.00	500.00	29.17	625.00	38.12
(10.05.21) 11:00	0.00	500.00	29.19	625.00	38.14
(10.05.21) 12:00	0.00	500.00	29.21	625.00	38.17
(10.05.21) 13:00	0.00	500.00	29.23	625.00	38.19
(10.05.21) 14:00	0.00	500.00	29.25	625.00	38.22
(10.05.21) 15:00	0.00	500.00	29.27	625.00	38.24
(10.05.21) 16:00	0.00	500.00	29.29	625.00	38.27
(10.05.21) 17:00	0.00	500.00	29.31	625.00	38.29
(10.05.21) 18:00	0.00	500.00	29.33	625.00	38.32
(10.05.21) 19:00	0.00	500.00	29.35	625.00	38.34
(10.05.21) 20:00	0.00	500.00	29.37	625.00	38.37
(10.05.21) 21:00	0.00	500.00	29.39	625.00	38.39
(10.05.21) 22:00	0.00	500.00	29.41	625.00	38.42
(10.05.21) 23:00	0.00	500.00	29.43	625.00	38.44
(10.06.21) 00:00	0.00	500.00	29.45	625.00	38.47
(10.06.21) 01:00	0.00	500.00	29.47	625.00	38.49
(10.06.21) 02:00	0.00	500.00	29.49	625.00	38.52
(10.06.21) 03:00	0.00	500.00	29.51	625.00	38.54
(10.06.21) 04:00	0.00	500.00	29.53	625.00	38.57
(10.06.21) 05:00	0.00	500.00	29.55	625.00	38.59
(10.06.21) 06:00	0.00	500.00	29.57	625.00	38.62
(10.06.21) 07:00	0.00	500.00	29.59	625.00	38.64
(10.06.21) 08:00	0.00	500.00	29.61	625.00	38.67
(10.06.21) 09:00	0.00	500.00	29.63	625.00	38.69
(10.06.21) 10:00	0.00	500.00	29.65	625.00	38.72
(10.06.21) 11:00	0.00	500.00	29.67	625.00	38.74
(10.06.21) 12:00	0.00	500.00	29.69	625.00	38.77
(10.06.21) 13:00	0.00	500.00	29.71	625.00	38.79
(10.06.21) 14:00	0.00	500.00	29.73	625.00	38.82
(10.06.21) 15:00	0.00	500.00	29.75	625.00	38.84
(10.06.21) 16:00	0.00	500.00	29.77	625.00	38.87
(10.06.21) 17:00	0.00	500.00	29.79	625.00	38.89
(10.06.21) 18:00	0.00	500.00	29.81	625.00	38.92
(10.06.21) 19:00	0.00	500.00	29.83	625.00	38.94
(10.06.21) 20:00	0.00	500.00	29.85	625.00	38.97
(10.06.21) 21:00	0.00	500.00	29.87	625.00	38.99
(10.06.21) 22:00	0.00	500.00	29.89	625.00	39.02
(10.06.21) 23:00	0.00	500.00	29.91	625.00	39.04
(10.07.21) 00:00	0.00	500.00	29.93	625.00	39.07

(10.07.21) 01:00	0.00	500.00	29.95	625.00	39.09
(10.07.21) 02:00	0.00	500.00	29.97	625.00	39.12
(10.07.21) 03:00	0.00	500.00	29.99	625.00	39.14
(10.07.21) 04:00	0.00	500.00	30.01	625.00	39.17
(10.07.21) 05:00	0.00	500.00	30.03	625.00	39.19
(10.07.21) 06:00	0.00	500.00	30.05	625.00	39.22
(10.07.21) 07:00	0.00	500.00	30.07	625.00	39.24
(10.07.21) 08:00	0.00	500.00	30.09	625.00	39.27
(10.07.21) 09:00	0.00	500.00	30.11	625.00	39.29
(10.07.21) 10:00	0.00	500.00	30.13	625.00	39.32
(10.07.21) 11:00	0.00	500.00	30.15	625.00	39.34
(10.07.21) 12:00	0.00	500.00	30.17	625.00	39.37
(10.07.21) 13:00	0.00	500.00	30.19	625.00	39.39
(10.07.21) 14:00	0.00	500.00	30.21	625.00	39.42
(10.07.21) 15:00	0.00	500.00	30.23	625.00	39.44
(10.07.21) 16:00	0.00	500.00	30.25	625.00	39.47
(10.07.21) 17:00	0.00	500.00	30.27	625.00	39.49
(10.07.21) 18:00	0.00	500.00	30.29	625.00	39.52
(10.07.21) 19:00	0.00	500.00	30.31	625.00	39.54
(10.07.21) 20:00	0.00	500.00	30.33	625.00	39.57
(10.07.21) 21:00	0.00	500.00	30.35	625.00	39.59
(10.07.21) 22:00	0.00	500.00	30.37	625.00	39.62
(10.07.21) 23:00	0.00	500.00	30.39	625.00	39.64
(10.08.21) 00:00	0.00	500.00	30.41	625.00	39.67
(10.08.21) 01:00	0.00	500.00	30.43	625.00	39.69
(10.08.21) 02:00	0.00	500.00	30.45	625.00	39.72
(10.08.21) 03:00	0.00	500.00	30.47	625.00	39.74
(10.08.21) 04:00	0.00	500.00	30.49	625.00	39.77
(10.08.21) 05:00	0.00	500.00	30.51	625.00	39.79
(10.08.21) 06:00	0.00	500.00	30.53	625.00	39.82
(10.08.21) 07:00	0.00	500.00	30.55	625.00	39.84
(10.08.21) 08:00	0.00	500.00	30.57	625.00	39.87
(10.08.21) 09:00	0.00	500.00	30.59	625.00	39.89
(10.08.21) 10:00	0.00	500.00	30.61	625.00	39.92
(10.08.21) 11:00	0.00	500.00	30.63	625.00	39.94
(10.08.21) 12:00	0.00	500.00	30.65	625.00	39.97
(10.08.21) 13:00	0.00	500.00	30.67	625.00	39.99
(10.08.21) 14:00	0.00	500.00	30.69	625.00	40.02
(10.08.21) 15:00	0.00	500.00	30.71	625.00	40.04
(10.08.21) 16:00	0.00	500.00	30.73	625.00	40.07
(10.08.21) 17:00	0.00	500.00	30.75	625.00	40.09
(10.08.21) 18:00	0.00	500.00	30.77	625.00	40.12
(10.08.21) 19:00	0.00	500.00	30.79	625.00	40.14
(10.08.21) 20:00	0.00	500.00	30.81	625.00	40.17
(10.08.21) 21:00	0.00	500.00	30.83	625.00	40.19
(10.08.21) 22:00	0.00	500.00	30.85	625.00	40.22
(10.08.21) 23:00	0.00	500.00	30.87	625.00	40.24

(10.09.21) 00:00	0.00	500.00	30.89	625.00	40.27
(10.09.21) 01:00	0.00	500.00	30.91	625.00	40.29
(10.09.21) 02:00	0.00	500.00	30.93	625.00	40.32
(10.09.21) 03:00	0.00	500.00	30.95	625.00	40.34
(10.09.21) 04:00	0.00	500.00	30.97	625.00	40.37
(10.09.21) 05:00	0.00	500.00	30.99	625.00	40.39
(10.09.21) 06:00	0.00	500.00	31.01	625.00	40.42
(10.09.21) 07:00	0.00	500.00	31.03	625.00	40.44
(10.09.21) 08:00	0.00	500.00	31.05	625.00	40.47
(10.09.21) 09:00	0.00	500.00	31.07	625.00	40.49
(10.09.21) 10:00	0.00	500.00	31.09	625.00	40.52
(10.09.21) 11:00	0.00	500.00	31.11	625.00	40.54
(10.09.21) 12:00	0.00	500.00	31.13	625.00	40.57
(10.09.21) 13:00	0.00	500.00	31.15	625.00	40.59
(10.09.21) 14:00	0.00	500.00	31.17	625.00	40.62
(10.09.21) 15:00	0.00	500.00	31.19	625.00	40.64
(10.09.21) 16:00	0.00	500.00	31.21	625.00	40.67
(10.09.21) 17:00	0.00	500.00	31.23	625.00	40.69
(10.09.21) 18:00	0.00	500.00	31.25	625.00	40.72
(10.09.21) 19:00	0.00	500.00	31.27	625.00	40.74
(10.09.21) 20:00	0.00	500.00	31.29	625.00	40.77
(10.09.21) 21:00	0.00	500.00	31.31	625.00	40.79
(10.09.21) 22:00	0.00	500.00	31.33	625.00	40.82
(10.09.21) 23:00	0.00	500.00	31.35	625.00	40.84
(10.10.21) 00:00	0.00	500.00	31.37	625.00	40.87
(10.10.21) 01:00	0.00	500.00	31.39	625.00	40.89
(10.10.21) 02:00	0.00	500.00	31.41	625.00	40.92
(10.10.21) 03:00	0.00	500.00	31.43	625.00	40.94
(10.10.21) 04:00	0.00	500.00	31.45	625.00	40.97
(10.10.21) 05:00	0.00	500.00	31.47	625.00	40.99
(10.10.21) 06:00	0.00	500.00	31.49	625.00	41.02
(10.10.21) 07:00	0.00	500.00	31.51	625.00	41.04
(10.10.21) 08:00	0.00	500.00	31.53	625.00	41.07
(10.10.21) 09:00	0.00	500.00	31.55	625.00	41.09
(10.10.21) 10:00	0.00	500.00	31.57	625.00	41.12
(10.10.21) 11:00	0.00	500.00	31.59	625.00	41.14
(10.10.21) 12:00	0.00	500.00	31.61	625.00	41.17
(10.10.21) 13:00	0.00	500.00	31.63	625.00	41.19
(10.10.21) 14:00	0.00	500.00	31.65	625.00	41.22
(10.10.21) 15:00	0.00	500.00	31.67	625.00	41.24
(10.10.21) 16:00	0.00	500.00	31.69	625.00	41.27
(10.10.21) 17:00	0.00	500.00	31.71	625.00	41.29
(10.10.21) 18:00	0.00	500.00	31.73	625.00	41.32
(10.10.21) 19:00	0.00	500.00	31.75	625.00	41.34
(10.10.21) 20:00	0.00	500.00	31.77	625.00	41.37
(10.10.21) 21:00	0.00	500.00	31.79	625.00	41.39
(10.10.21) 22:00	0.00	500.00	31.81	625.00	41.42

(10.10.21) 23:00	0.00	500.00	31.83	625.00	41.44
(10.11.21) 00:00	0.00	500.00	31.85	625.00	41.47
(10.11.21) 01:00	0.00	500.00	31.87	625.00	41.49
(10.11.21) 02:00	0.00	500.00	31.89	625.00	41.52
(10.11.21) 03:00	0.00	500.00	31.91	625.00	41.54
(10.11.21) 04:00	0.00	500.00	31.93	625.00	41.57
(10.11.21) 05:00	0.00	500.00	31.95	625.00	41.59
(10.11.21) 06:00	0.00	500.00	31.97	625.00	41.62
(10.11.21) 07:00	0.00	500.00	31.99	625.00	41.64
(10.11.21) 08:00	0.00				
(10.11.21) 09:00	0.00	500.00	32.03	625.00	41.69
(10.11.21) 10:00	0.00	500.00	32.05	625.00	41.72
(10.11.21) 11:00	0.00	500.00	32.07	625.00	41.74
(10.11.21) 12:00	0.00	500.00	32.09	625.00	41.77
(10.11.21) 13:00	0.00	500.00	32.11	625.00	41.79
(10.11.21) 14:00	0.00	500.00	32.13	625.00	41.82
(10.11.21) 15:00	0.00	500.00	32.15	625.00	41.84
(10.11.21) 16:00	0.00	500.00	32.17	625.00	41.87
(10.11.21) 17:00	0.00	500.00	32.19	625.00	41.89
(10.11.21) 18:00	0.00	500.00	32.21	625.00	41.92
(10.11.21) 19:00	0.00	500.00	32.23	625.00	41.94
(10.11.21) 20:00	0.00	500.00	32.25	625.00	41.97
(10.11.21) 21:00	0.00	500.00	32.27	625.00	41.99
(10.11.21) 22:00	0.00	500.00	32.29	625.00	42.02
(10.11.21) 23:00	0.00	500.00	32.31	625.00	42.04
(10.12.21) 00:00	0.00	500.00	32.33	625.00	42.07
(10.12.21) 01:00	0.00	500.00	32.35	625.00	42.09
(10.12.21) 02:00	0.00	500.00	32.37	625.00	42.12
(10.12.21) 03:00	0.00	500.00	32.39	625.00	42.14
(10.12.21) 04:00	0.00	500.00	32.41	625.00	42.17
(10.12.21) 05:00	0.00	500.00	32.43	625.00	42.19
(10.12.21) 06:00	0.00	500.00	32.45	625.00	42.22
(10.12.21) 07:00	0.00	500.00	32.47	625.00	42.24
(10.12.21) 08:00	0.00	500.00	32.49	625.00	42.27
(10.12.21) 09:00	0.00	500.00	32.51	625.00	42.29
(10.12.21) 10:00	0.00	500.00	32.53	625.00	42.32
(10.12.21) 11:00	0.00	500.00	32.55	625.00	42.34
(10.12.21) 12:00	0.00	500.00	32.57	625.00	42.37
(10.12.21) 13:00	0.00	500.00	32.59	625.00	42.39
(10.12.21) 14:00	0.00	500.00	32.61	625.00	42.42
(10.12.21) 15:00	0.00	500.00	32.63	625.00	42.44
(10.12.21) 16:00	0.00	500.00	32.65	625.00	42.47
(10.12.21) 17:00	0.00	500.00	32.67	625.00	42.49
(10.12.21) 18:00	0.00	500.00	32.69	625.00	42.52
(10.12.21) 19:00	0.00	500.00	32.71	625.00	42.54
(10.12.21) 20:00	0.00	500.00	32.73	625.00	42.57
(10.12.21) 21:00	0.00	500.00	32.75	625.00	42.59

(10.12.21) 22:00	0.00	500.00	32.77	625.00	42.62
(10.12.21) 23:00	0.00	500.00	32.79	625.00	42.64
(10.13.21) 00:00	0.00	500.00	32.81	625.00	42.67
(10.13.21) 01:00	0.00	500.00	32.83	625.00	42.69
(10.13.21) 02:00	0.00	500.00	32.85	625.00	42.72
(10.13.21) 03:00	0.00	500.00	32.87	625.00	42.74
(10.13.21) 04:00	0.00	500.00	32.89	625.00	42.77
(10.13.21) 05:00	0.00	500.00	32.91	625.00	42.79
(10.13.21) 06:00	0.00	500.00	32.93	625.00	42.82
(10.13.21) 07:00	0.00	500.00	32.95	625.00	42.84
(10.13.21) 08:00	0.00	500.00	32.97	625.00	42.87
(10.13.21) 09:00	0.00	500.00	32.99	625.00	42.89
(10.13.21) 10:00	0.00	500.00	33.01	625.00	42.92
(10.13.21) 11:00	0.00	500.00	33.03	625.00	42.94
(10.13.21) 12:00	0.00	500.00	33.05	625.00	42.97
(10.13.21) 13:00	0.00	500.00	33.07	625.00	42.99
(10.13.21) 14:00	0.00	500.00	33.09	625.00	43.02
(10.13.21) 15:00	0.00	500.00	33.11	625.00	43.04
(10.13.21) 16:00	0.00	500.00	33.13	625.00	43.07
(10.13.21) 17:00	0.00	500.00	33.15	625.00	43.09
(10.13.21) 18:00	0.00	500.00	33.17	625.00	43.12
(10.13.21) 19:00	0.00	500.00	33.19	625.00	43.14
(10.13.21) 20:00	0.00	500.00	33.21	625.00	43.17
(10.13.21) 21:00	0.00	500.00	33.23	625.00	43.19
(10.13.21) 22:00	0.00	500.00	33.25	625.00	43.22
(10.13.21) 23:00	0.00	500.00	33.27	625.00	43.24
(10.14.21) 00:00	0.00	500.00	33.29	625.00	43.27
(10.14.21) 01:00	0.00	500.00	33.31	625.00	43.29
(10.14.21) 02:00	0.00	500.00	33.33	625.00	43.32
(10.14.21) 03:00	0.00	500.00	33.35	625.00	43.34
(10.14.21) 04:00	0.00	500.00	33.37	625.00	43.37
(10.14.21) 05:00	0.00	500.00	33.39	625.00	43.39
(10.14.21) 06:00	0.00	500.00	33.41	625.00	43.42
(10.14.21) 07:00	0.00	500.00	33.43	625.00	43.44
(10.14.21) 08:00	0.00	500.00	33.45	625.00	43.47
(10.14.21) 09:00	0.00	500.00	33.47	625.00	43.49
(10.14.21) 10:00	0.00	500.00	33.49	625.00	43.52
(10.14.21) 11:00	0.00	500.00	33.51	625.00	43.54
(10.14.21) 12:00	0.00	500.00	33.53	625.00	43.57
(10.14.21) 13:00	0.00	500.00	33.55	625.00	43.59
(10.14.21) 14:00	0.00	500.00	33.57	625.00	43.62
(10.14.21) 15:00	0.00	500.00	33.59	625.00	43.64
(10.14.21) 16:00	0.00	500.00	33.61	625.00	43.67
(10.14.21) 17:00	0.00	500.00	33.63	625.00	43.69
(10.14.21) 18:00	0.00	500.00	33.65	625.00	43.72
(10.14.21) 19:00	0.00	500.00	33.67	625.00	43.74
(10.14.21) 20:00	0.00	500.00	33.69	625.00	43.77

(10.14.21) 21:00	0.00	500.00	33.71	625.00	43.79
(10.14.21) 22:00	0.00	500.00	33.73	625.00	43.82
(10.14.21) 23:00	0.00	500.00	33.75	625.00	43.84
(10.15.21) 00:00	0.00	500.00	33.77	625.00	43.87
(10.15.21) 01:00	0.00	500.00	33.79	625.00	43.89
(10.15.21) 02:00	0.00	500.00	33.81	625.00	43.92
(10.15.21) 03:00	0.00	500.00	33.83	625.00	43.94
(10.15.21) 04:00	0.00	500.00	33.85	625.00	43.97
(10.15.21) 05:00	0.00	500.00	33.87	625.00	43.99
(10.15.21) 06:00	0.00	500.00	33.89	625.00	44.02
(10.15.21) 07:00	0.00	500.00	33.91	625.00	44.04
(10.15.21) 08:00	0.00	500.00	33.93	625.00	44.07
(10.15.21) 09:00	0.00	500.00	33.95	625.00	44.09
(10.15.21) 10:00	0.00	500.00	33.97	625.00	44.12
(10.15.21) 11:00	0.00	500.00	33.99	625.00	44.14
(10.15.21) 12:00	0.00	500.00	34.01	625.00	44.17
(10.15.21) 13:00	0.00	500.00	34.03	625.00	44.19
(10.15.21) 14:00	0.00	500.00	34.05	625.00	44.22
(10.15.21) 15:00	0.00	500.00	34.07	625.00	44.24
(10.15.21) 16:00	0.00	500.00	34.09	625.00	44.27
(10.15.21) 17:00	0.00	500.00	34.11	625.00	44.29
(10.15.21) 18:00	0.00	500.00	34.13	625.00	44.32
(10.15.21) 19:00	0.00	500.00	34.15	625.00	44.34
(10.15.21) 20:00	0.00	500.00	34.17	625.00	44.37
(10.15.21) 21:00	0.00	500.00	34.19	625.00	44.39
(10.15.21) 22:00	0.00	500.00	34.21	625.00	44.42
(10.15.21) 23:00	0.00	500.00	34.23	625.00	44.44
(10.16.21) 00:00	0.00	500.00	34.25	625.00	44.47
(10.16.21) 01:00	0.00	500.00	34.27	625.00	44.49
(10.16.21) 02:00	0.00	500.00	34.29	625.00	44.52
(10.16.21) 03:00	0.00	500.00	34.31	625.00	44.54
(10.16.21) 04:00	0.00	500.00	34.33	625.00	44.57
(10.16.21) 05:00	0.00	500.00	34.35	625.00	44.59
(10.16.21) 06:00	0.00	500.00	34.37	625.00	44.62
(10.16.21) 07:00	0.00	500.00	34.39	625.00	44.64
(10.16.21) 08:00	0.00	500.00	34.41	625.00	44.67
(10.16.21) 09:00	0.00	500.00	34.43	625.00	44.69
(10.16.21) 10:00	0.00	500.00	34.45	625.00	44.72
(10.16.21) 11:00	0.00	500.00	34.47	625.00	44.74
(10.16.21) 12:00	0.00	500.00	34.49	625.00	44.77
(10.16.21) 13:00	0.00	500.00	34.51	625.00	44.79
(10.16.21) 14:00	0.00	500.00	34.53	625.00	44.82
(10.16.21) 15:00	0.00	500.00	34.55	625.00	44.84
(10.16.21) 16:00	0.00	500.00	34.57	625.00	44.87
(10.16.21) 17:00	0.00	500.00	34.59	625.00	44.89
(10.16.21) 18:00	0.00	500.00	34.61	625.00	44.92
(10.16.21) 19:00	0.00	500.00	34.63	625.00	44.94

(10.16.21) 20:00	0.00	500.00	34.65	625.00	44.97
(10.16.21) 21:00	0.00	500.00	34.67	625.00	44.99
(10.16.21) 22:00	0.00	500.00	34.69	625.00	45.01
(10.16.21) 23:00	0.00	500.00	34.71	625.00	45.04
(10.17.21) 00:00	0.00	500.00	34.73	625.00	45.06
(10.17.21) 01:00	0.00	500.00	34.75	625.00	45.09
(10.17.21) 02:00	0.00	500.00	34.77	625.00	45.11
(10.17.21) 03:00	0.00	500.00	34.79	625.00	45.14
(10.17.21) 04:00	0.00	500.00	34.81	625.00	45.16
(10.17.21) 05:00	0.00	500.00	34.83	625.00	45.19
(10.17.21) 06:00	0.00	500.00	34.85	625.00	45.21
(10.17.21) 07:00	0.00	500.00	34.87	625.00	45.24
(10.17.21) 08:00	0.00	500.00	34.89	625.00	45.26
(10.17.21) 09:00	0.00	500.00	34.91	625.00	45.29
(10.17.21) 10:00	0.00	500.00	34.93	625.00	45.31
(10.17.21) 11:00	0.00	500.00	34.95	625.00	45.34
(10.17.21) 12:00	0.00	500.00	34.97	625.00	45.36
(10.17.21) 13:00	0.00	500.00	34.99	625.00	45.39
(10.17.21) 14:00	0.00	500.00	35.01	625.00	45.41
(10.17.21) 15:00	0.00	500.00	35.03	625.00	45.44
(10.17.21) 16:00	0.00	500.00	35.05	625.00	45.46
(10.17.21) 17:00	0.00	500.00	35.07	625.00	45.49
(10.17.21) 18:00	0.00	500.00	35.09	625.00	45.51
(10.17.21) 19:00	0.00	500.00	35.11	625.00	45.54
(10.17.21) 20:00	0.00	500.00	35.13	625.00	45.56
(10.17.21) 21:00	0.00	500.00	35.15	625.00	45.59
(10.17.21) 22:00	0.00	500.00	35.17	625.00	45.61
(10.17.21) 23:00	0.00	500.00	35.19	625.00	45.64
(10.18.21) 00:00	0.00	500.00	35.21	625.00	45.66
(10.18.21) 01:00	0.00	500.00	35.23	625.00	45.69
(10.18.21) 02:00	0.00	500.00	35.25	625.00	45.71
(10.18.21) 03:00	0.00	500.00	35.27	625.00	45.74
(10.18.21) 04:00	0.00	500.00	35.29	625.00	45.76
(10.18.21) 05:00	0.00	500.00	35.31	625.00	45.79
(10.18.21) 06:00	0.00	500.00	35.33	625.00	45.81
(10.18.21) 07:00	0.00	500.00	35.35	625.00	45.84
(10.18.21) 08:00	0.00	500.00	35.37	625.00	45.86
(10.18.21) 09:00	0.00	500.00	35.39	625.00	45.89
(10.18.21) 10:00	0.00	500.00	35.41	625.00	45.91
(10.18.21) 11:00	0.00	500.00	35.43	625.00	45.94
(10.18.21) 12:00	0.00	500.00	35.45	625.00	45.96
(10.18.21) 13:00	0.00	500.00	35.47	625.00	45.99
(10.18.21) 14:00	0.00	500.00	35.49	625.00	46.01
(10.18.21) 15:00	0.00	500.00	35.51	625.00	46.04
(10.18.21) 16:00	0.00	500.00	35.53	625.00	46.06
(10.18.21) 17:00	0.00	500.00	35.54	625.00	46.09
(10.18.21) 18:00	0.00	500.00	35.56	625.00	46.11

(10.18.21) 19:00	0.00	500.00	35.58	625.00	46.14
(10.18.21) 20:00	0.00	500.00	35.60	625.00	46.16
(10.18.21) 21:00	0.00	500.00	35.62	625.00	46.19
(10.18.21) 22:00	0.00	500.00	35.64	625.00	46.21
(10.18.21) 23:00	0.00	500.00	35.66	625.00	46.24
(10.19.21) 00:00	0.00	500.00	35.69	625.00	46.26
(10.19.21) 01:00	0.00	500.00	35.71	625.00	46.29
(10.19.21) 02:00	0.00	500.00	35.73	625.00	46.31
(10.19.21) 03:00	0.00	500.00	35.74	625.00	46.34
(10.19.21) 04:00	0.00	500.00	35.76	625.00	46.36
(10.19.21) 05:00	0.00	500.00	35.78	625.00	46.39
(10.19.21) 06:00	0.00	500.00	35.80	625.00	46.41
(10.19.21) 07:00	0.00	500.00	35.82	625.00	46.44
(10.19.21) 08:00	0.00	500.00	35.84	625.00	46.46
(10.19.21) 09:00	0.00	500.00	35.86	625.00	46.49
(10.19.21) 10:00	0.00	500.00	35.88	625.00	46.51
(10.19.21) 11:00	0.00	500.00	35.90	625.00	46.54
(10.19.21) 12:00	0.00	500.00	35.92	625.00	46.56
(10.19.21) 13:00	0.00	500.00	35.94	625.00	46.59
(10.19.21) 14:00	0.00	500.00	35.96	625.00	46.61
(10.19.21) 15:00	0.00	500.00	35.98	625.00	46.64
(10.19.21) 16:00	0.00	500.00	36.00	625.00	46.66
(10.19.21) 17:00	0.00	500.00	36.02	625.00	46.69
(10.19.21) 18:00	0.00	500.00	36.04	625.00	46.71
(10.19.21) 19:00	0.00	500.00	36.06	625.00	46.74
(10.19.21) 20:00	0.00	500.00	36.08	625.00	46.76
(10.19.21) 21:00	0.00	500.00	36.10	625.00	46.79
(10.19.21) 22:00	0.00	500.00	36.12	625.00	46.81
(10.19.21) 23:00	0.00	500.00	36.14	625.00	46.84
(10.20.21) 00:00	0.00	500.00	36.16	625.00	46.86
(10.20.21) 01:00	0.00	500.00	36.18	625.00	46.89
(10.20.21) 02:00	0.00	500.00	36.20	625.00	46.91
(10.20.21) 03:00	0.00	500.00	36.22	625.00	46.94
(10.20.21) 04:00	0.00	500.00	36.24	625.00	46.96
(10.20.21) 05:00	0.00	500.00	36.26	625.00	46.99
(10.20.21) 06:00	0.00	500.00	36.28	625.00	47.01
(10.20.21) 07:00	0.00	500.00	36.30	625.00	47.04
(10.20.21) 08:00	0.00	500.00	36.32	625.00	47.06
(10.20.21) 09:00	0.00	500.00	36.34	625.00	47.09
(10.20.21) 10:00	0.00	500.00	36.36	625.00	47.11
(10.20.21) 11:00	0.00	500.00	36.38	625.00	47.14
(10.20.21) 12:00	0.00	500.00	36.40	625.00	47.16
(10.20.21) 13:00	0.00	500.00	36.42	625.00	47.19
(10.20.21) 14:00	0.00	500.00	36.44	625.00	47.21
(10.20.21) 15:00	0.00	500.00	36.46	625.00	47.24
(10.20.21) 16:00	0.00	500.00	36.48	625.00	47.26
(10.20.21) 17:00	0.00	500.00	36.50	625.00	47.29

(10.20.21) 18:00	0.00	500.00	36.52	625.00	47.31
(10.20.21) 19:00	0.00	500.00	36.54	625.00	47.34
(10.20.21) 20:00	0.00	500.00	36.56	625.00	47.36
(10.20.21) 21:00	0.00	500.00	36.58	625.00	47.39
(10.20.21) 22:00	0.00	500.00	36.60	625.00	47.41
(10.20.21) 23:00	0.00	500.00	36.62	625.00	47.44
(10.21.21) 00:00	0.00	500.00	36.64	625.00	47.46
(10.21.21) 01:00	0.00	500.00	36.66	625.00	47.49
(10.21.21) 02:00	0.00	500.00	36.68	625.00	47.51
(10.21.21) 03:00	0.00	500.00	36.70	625.00	47.54
(10.21.21) 04:00	0.00	500.00	36.72	625.00	47.56
(10.21.21) 05:00	0.00	500.00	36.74	625.00	47.59
(10.21.21) 06:00	0.00	500.00	36.76	625.00	47.61
(10.21.21) 07:00	0.00	500.00	36.78	625.00	47.64
(10.21.21) 08:00	0.00	500.00	36.80	625.00	47.66
(10.21.21) 09:00	0.00	500.00	36.82	625.00	47.69
(10.21.21) 10:00	0.00	500.00	36.84	625.00	47.71
(10.21.21) 11:00	0.00	500.00	36.86	625.00	47.74
(10.21.21) 12:00	0.00	500.00	36.88	625.00	47.76
(10.21.21) 13:00	0.00	500.00	36.90	625.00	47.79
(10.21.21) 14:00	0.00	500.00	36.92	625.00	47.81
(10.21.21) 15:00	0.00	500.00	36.94	625.00	47.84
(10.21.21) 16:00	0.00	500.00	36.96	625.00	47.86
(10.21.21) 17:00	0.00	500.00	36.98	625.00	47.89
(10.21.21) 18:00	0.00	500.00	37.00	625.00	47.91
(10.21.21) 19:00	0.00	500.00	37.02	625.00	47.94
(10.21.21) 20:00	0.00	500.00	37.04	625.00	47.96
(10.21.21) 21:00	0.00	500.00	37.06	625.00	47.99
(10.21.21) 22:00	0.00	500.00	37.08	625.00	48.01
(10.21.21) 23:00	0.00	500.00	37.10	625.00	48.04
(10.22.21) 00:00	0.00	500.00	37.12	625.00	48.06
(10.22.21) 01:00	0.00	500.00	37.14	625.00	48.09
(10.22.21) 02:00	0.00	500.00	37.16	625.00	48.11
(10.22.21) 03:00	0.00	500.00	37.18	625.00	48.14
(10.22.21) 04:00	0.00	500.00	37.20	625.00	48.16
(10.22.21) 05:00	0.00	500.00	37.22	625.00	48.19
(10.22.21) 06:00	0.00	500.00	37.24	625.00	48.21
(10.22.21) 07:00	0.00	500.00	37.26	625.00	48.24
(10.22.21) 08:00	0.00	500.00	37.28	625.00	48.26
(10.22.21) 09:00	0.00	500.00	37.30	625.00	48.29
(10.22.21) 10:00	0.00	500.00	37.32	625.00	48.31
(10.22.21) 11:00	0.00	500.00	37.34	625.00	48.34
(10.22.21) 12:00	0.00	500.00	37.36	625.00	48.36
(10.22.21) 13:00	0.00	500.00	37.38	625.00	48.39
(10.22.21) 14:00	0.00	500.00	37.40	625.00	48.41
(10.22.21) 15:00	0.00	500.00	37.42	625.00	48.44
(10.22.21) 16:00	0.00	500.00	37.44	625.00	48.46

(10.22.21) 17:00	0.00	500.00	37.46	625.00	48.49
(10.22.21) 18:00	0.00	500.00	37.48	625.00	48.51
(10.22.21) 19:00	0.00	500.00	37.50	625.00	48.54
(10.22.21) 20:00	0.00	500.00	37.52	625.00	48.56
(10.22.21) 21:00	0.00	500.00	37.54	625.00	48.59
(10.22.21) 22:00	0.00	500.00	37.56	625.00	48.61
(10.22.21) 23:00	0.00	500.00	37.58	625.00	48.64
(10.23.21) 00:00	0.00	500.00	37.60	625.00	48.66
(10.23.21) 01:00	0.00	500.00	37.62	625.00	48.69
(10.23.21) 02:00	0.00	500.00	37.64	625.00	48.71
(10.23.21) 03:00	0.00	500.00	37.66	625.00	48.74
(10.23.21) 04:00	0.00	500.00	37.68	625.00	48.76
(10.23.21) 05:00	0.00	500.00	37.70	625.00	48.79
(10.23.21) 06:00	0.00	500.00	37.72	625.00	48.81
(10.23.21) 07:00	0.00	500.00	37.74	625.00	48.84
(10.23.21) 08:00	0.00	500.00	37.76	625.00	48.86
(10.23.21) 09:00	0.00	500.00	37.78	625.00	48.89
(10.23.21) 10:00	0.00	500.00	37.80	625.00	48.91
(10.23.21) 11:00	0.00	500.00	37.82	625.00	48.94
(10.23.21) 12:00	0.00	500.00	37.84	625.00	48.96
(10.23.21) 13:00	0.00	500.00	37.86	625.00	48.99
(10.23.21) 14:00	0.00	500.00	37.88	625.00	49.01
(10.23.21) 15:00	0.00	500.00	37.90	625.00	49.04
(10.23.21) 16:00	0.00	500.00	37.92	625.00	49.06
(10.23.21) 17:00	0.00	500.00	37.94	625.00	49.09
(10.23.21) 18:00	0.00	500.00	37.96	625.00	49.11
(10.23.21) 19:00	0.00	500.00	37.98	625.00	49.14
(10.23.21) 20:00	0.00	500.00	38.00	625.00	49.16
(10.23.21) 21:00	0.00	500.00	38.02	625.00	49.19
(10.23.21) 22:00	0.00	500.00	38.04	625.00	49.21
(10.23.21) 23:00	0.00	500.00	38.06	625.00	49.24
(10.24.21) 00:00	0.00	500.00	38.08	625.00	49.26
(10.24.21) 01:00	0.00	500.00	38.10	625.00	49.29
(10.24.21) 02:00	0.00	500.00	38.12	625.00	49.31
(10.24.21) 03:00	0.00	500.00	38.14	625.00	49.34
(10.24.21) 04:00	0.00	500.00	38.16	625.00	49.36
(10.24.21) 05:00	0.00	500.00	38.18	625.00	49.39
(10.24.21) 06:00	0.00	500.00	38.20	625.00	49.41
(10.24.21) 07:00	0.00	500.00	38.22	625.00	49.44
(10.24.21) 08:00	0.00	500.00	38.24	625.00	49.46
(10.24.21) 09:00	0.00	500.00	38.26	625.00	49.49
(10.24.21) 10:00	0.00	500.00	38.28	625.00	49.51
(10.24.21) 11:00	0.00	500.00	38.30	625.00	49.54
(10.24.21) 12:00	0.00	500.00	38.32	625.00	49.56
(10.24.21) 13:00	0.00	500.00	38.34	625.00	49.59
(10.24.21) 14:00	0.00	500.00	38.36	625.00	49.61
(10.24.21) 15:00	0.00	500.00	38.38	625.00	49.64

(10.24.21) 16:00	0.00	500.00	38.40	625.00	49.66
(10.24.21) 17:00	0.00	500.00	38.42	625.00	49.69
(10.24.21) 18:00	0.00	500.00	38.44	625.00	49.71
(10.24.21) 19:00	0.00	500.00	38.46	625.00	49.74
(10.24.21) 20:00	0.00	500.00	38.48	625.00	49.76
(10.24.21) 21:00	0.00	500.00	38.50	625.00	49.79
(10.24.21) 22:00	0.00	500.00	38.52	625.00	49.81
(10.24.21) 23:00	0.00	500.00	38.54	625.00	49.84
(10.25.21) 00:00	0.00	500.00	38.56	625.00	49.86
(10.25.21) 01:00	0.00	500.00	38.58	625.00	49.89
(10.25.21) 02:00	0.00	500.00	38.60	625.00	49.91
(10.25.21) 03:00	0.00	500.00	38.62	625.00	49.94
(10.25.21) 04:00	0.00	500.00	38.64	625.00	49.96
(10.25.21) 05:00	0.00	500.00	38.66	625.00	49.99
(10.25.21) 06:00	0.00	500.00	38.68	625.00	50.01
(10.25.21) 07:00	0.00	500.00	38.70	625.00	50.04
(10.25.21) 08:00	0.00	500.00	38.72	625.00	50.06
(10.25.21) 09:00	0.00	500.00	38.74	625.00	50.09
(10.25.21) 10:00	0.00	500.00	38.76	625.00	50.11
(10.25.21) 11:00	0.00	500.00	38.78	625.00	50.14
(10.25.21) 12:00	0.00	500.00	38.80	625.00	50.16
(10.25.21) 13:00	0.00	500.00	38.82	625.00	50.19
(10.25.21) 14:00	0.00	500.00	38.84	625.00	50.21
(10.25.21) 15:00	0.00	500.00	38.86	625.00	50.24
(10.25.21) 16:00	0.00	500.00	38.88	625.00	50.26
(10.25.21) 17:00	0.00	500.00	38.90	625.00	50.29
(10.25.21) 18:00	0.00	500.00	38.92	625.00	50.31
(10.25.21) 19:00	0.00	500.00	38.94	625.00	50.34
(10.25.21) 20:00	0.00	500.00	38.96	625.00	50.36
(10.25.21) 21:00	0.00	500.00	38.98	625.00	50.39
(10.25.21) 22:00	0.00	500.00	39.00	625.00	50.41
(10.25.21) 23:00	0.00	500.00	39.02	625.00	50.44
(10.26.21) 00:00	0.00	500.00	39.04	625.00	50.46
(10.26.21) 01:00	0.00	500.00	39.06	625.00	50.49
(10.26.21) 02:00	0.00	500.00	39.08	625.00	50.51
(10.26.21) 03:00	0.00	500.00	39.10	625.00	50.54
(10.26.21) 04:00	0.00	500.00	39.12	625.00	50.56
(10.26.21) 05:00	0.00	500.00	39.14	625.00	50.59
(10.26.21) 06:00	0.00	500.00	39.16	625.00	50.61
(10.26.21) 07:00	0.00	500.00	39.18	625.00	50.64
(10.26.21) 08:00	0.00	500.00	39.20	625.00	50.66
(10.26.21) 09:00	0.00	500.00	39.22	625.00	50.69
(10.26.21) 10:00	0.00	500.00	39.24	625.00	50.71
(10.26.21) 11:00	0.00	500.00	39.26	625.00	50.74
(10.26.21) 12:00	0.00	500.00	39.28	625.00	50.76
(10.26.21) 13:00	0.00	500.00	39.30	625.00	50.79
(10.26.21) 14:00	0.00	500.00	39.32	625.00	50.81

(10.26.21) 15:00	0.00	500.00	39.34	625.00	50.84
(10.26.21) 16:00	0.00	500.00	39.36	625.00	50.86
(10.26.21) 17:00	0.00	500.00	39.38	625.00	50.89
(10.26.21) 18:00	0.00	500.00	39.40	625.00	50.91
(10.26.21) 19:00	0.00	500.00	39.42	625.00	50.94
(10.26.21) 20:00	0.00	500.00	39.44	625.00	50.96
(10.26.21) 21:00	0.00	500.00	39.46	625.00	50.99
(10.26.21) 22:00	0.00	500.00	39.48	625.00	51.01
(10.26.21) 23:00	0.00	500.00	39.50	625.00	51.04
(10.27.21) 00:00	0.00	500.00	39.52	625.00	51.06
(10.27.21) 01:00	0.00	500.00	39.54	625.00	51.09
(10.27.21) 02:00	0.00	500.00	39.56	625.00	51.11
(10.27.21) 03:00	0.00	500.00	39.58	625.00	51.14
(10.27.21) 04:00	0.00	500.00	39.60	625.00	51.16
(10.27.21) 05:00	0.00	500.00	39.62	625.00	51.19
(10.27.21) 06:00	0.00	500.00	39.64	625.00	51.21
(10.27.21) 07:00	0.00	500.00	39.66	625.00	51.24
(10.27.21) 08:00	0.00	500.00	39.68	625.00	51.26
(10.27.21) 09:00	0.00	500.00	39.70	625.00	51.29
(10.27.21) 10:00	0.00	500.00	39.72	625.00	51.31
(10.27.21) 11:00	0.00	500.00	39.74	625.00	51.34
(10.27.21) 12:00	0.00	500.00	39.76	625.00	51.36
(10.27.21) 13:00	0.00	500.00	39.78	625.00	51.39
(10.27.21) 14:00	0.00	500.00	39.80	625.00	51.41
(10.27.21) 15:00	0.00	500.00	39.82	625.00	51.44
(10.27.21) 16:00	0.00	500.00	39.84	625.00	51.46
(10.27.21) 17:00	0.00	500.00	39.86	625.00	51.49
(10.27.21) 18:00	0.00	500.00	39.88	625.00	51.51
(10.27.21) 19:00	0.00	500.00	39.90	625.00	51.54
(10.27.21) 20:00	0.00	500.00	39.92	625.00	51.56
(10.27.21) 21:00	0.00	500.00	39.94	625.00	51.59
(10.27.21) 22:00	0.00	500.00	39.96	625.00	51.61
(10.27.21) 23:00	0.00	500.00	39.98	625.00	51.64
(10.28.21) 00:00	0.00	500.00	40.00	625.00	51.66
(10.28.21) 01:00	0.00	500.00	40.02	625.00	51.69
(10.28.21) 02:00	0.00	500.00	40.04	625.00	51.71
(10.28.21) 03:00	0.00	500.00	40.06	625.00	51.74
(10.28.21) 04:00	0.00	500.00	40.08	625.00	51.76
(10.28.21) 05:00	0.00	500.00	40.10	625.00	51.79
(10.28.21) 06:00	0.00	500.00	40.12	625.00	51.81
(10.28.21) 07:00	0.00	500.00	40.14	625.00	51.84
(10.28.21) 08:00	0.00	500.00	40.16	625.00	51.86
(10.28.21) 09:00	0.00	500.00	40.18	625.00	51.89
(10.28.21) 10:00					
(10.28.21) 11:00	0.00	500.00	40.22	625.00	51.94
(10.28.21) 12:00	0.00	500.00	40.24	625.00	51.96
(10.28.21) 13:00	0.00	500.00	40.26	625.00	51.99

(10.28.21) 14:00	0.00	500.00	40.28	625.00	52.01
(10.28.21) 15:00	0.00	500.00	40.30	625.00	52.04
(10.28.21) 16:00	0.00	500.00	40.32	625.00	52.06
(10.28.21) 17:00	0.00	500.00	40.34	625.00	52.09
(10.28.21) 18:00	0.00	500.00	40.36	625.00	52.11
(10.28.21) 19:00	0.00	500.00	40.38	625.00	52.14
(10.28.21) 20:00	0.00	500.00	40.40	625.00	52.16
(10.28.21) 21:00	0.00	500.00	40.42	625.00	52.19
(10.28.21) 22:00	0.00	500.00	40.44	625.00	52.21
(10.28.21) 23:00	0.00	500.00	40.46	625.00	52.24
(10.29.21) 00:00	0.00	500.00	40.48	625.00	52.26
(10.29.21) 01:00	0.00	500.00	40.50	625.00	52.29
(10.29.21) 02:00	0.00	500.00	40.52	625.00	52.31
(10.29.21) 03:00	0.00	500.00	40.54	625.00	52.34
(10.29.21) 04:00	0.00	500.00	40.56	625.00	52.36
(10.29.21) 05:00	0.00	500.00	40.58	625.00	52.39
(10.29.21) 06:00	0.00	500.00	40.60	625.00	52.41
(10.29.21) 07:00	0.00	500.00	40.62	625.00	52.44
(10.29.21) 08:00	0.00	500.00	40.64	625.00	52.46
(10.29.21) 09:00	0.00	500.00	40.66	625.00	52.49
(10.29.21) 10:00	0.00	500.00	40.68	625.00	52.51
(10.29.21) 11:00	0.00	500.00	40.70	625.00	52.54
(10.29.21) 12:00					
(10.29.21) 13:00	0.00	500.00	40.74	625.00	52.59
(10.29.21) 14:00	0.00	500.00	40.76	625.00	52.61
(10.29.21) 15:00	0.00	500.00	40.78	625.00	52.64
(10.29.21) 16:00	0.00	500.00	40.80	625.00	52.66
(10.29.21) 17:00	0.00	500.00	40.82	625.00	52.69
(10.29.21) 18:00	0.00	500.00	40.84	625.00	52.71
(10.29.21) 19:00	0.00	500.00	40.86	625.00	52.74
(10.29.21) 20:00	0.00	500.00	40.88	625.00	52.76
(10.29.21) 21:00	0.00	500.00	40.90	625.00	52.79
(10.29.21) 22:00	0.00	500.00	40.92	625.00	52.81
(10.29.21) 23:00	0.00	500.00	40.94	625.00	52.84
(10.30.21) 00:00	0.00	500.00	40.96	625.00	52.86
(10.30.21) 01:00	0.00	500.00	40.98	625.00	52.89
(10.30.21) 02:00	0.00	500.00	41.00	625.00	52.91
(10.30.21) 03:00	0.00	500.00	41.02	625.00	52.94
(10.30.21) 04:00	0.00	500.00	41.04	625.00	52.96
(10.30.21) 05:00	0.00	500.00	41.06	625.00	52.99
(10.30.21) 06:00	0.00	500.00	41.08	625.00	53.01
(10.30.21) 07:00	0.00	500.00	41.10	625.00	53.04
(10.30.21) 08:00	0.00	500.00	41.12	625.00	53.06
(10.30.21) 09:00	0.00	500.00	41.14	625.00	53.09
(10.30.21) 10:00	0.00	500.00	41.16	625.00	53.11
(10.30.21) 11:00	0.00	500.00	41.18	625.00	53.14
(10.30.21) 12:00	0.00	500.00	41.20	625.00	53.16

(10.30.21) 13:00	0.00	500.00	41.22	625.00	53.19
(10.30.21) 14:00	0.00	500.00	41.24	625.00	53.21
(10.30.21) 15:00	0.00	500.00	41.26	625.00	53.24
(10.30.21) 16:00	0.00	500.00	41.28	625.00	53.26
(10.30.21) 17:00	0.00	500.00	41.30	625.00	53.29
(10.30.21) 18:00	0.00	500.00	41.32	625.00	53.31
(10.30.21) 19:00	0.00	500.00	41.34	625.00	53.34
(10.30.21) 20:00	0.00	500.00	41.36	625.00	53.36
(10.30.21) 21:00	0.00	500.00	41.38	625.00	53.39
(10.30.21) 22:00	0.00	500.00	41.40	625.00	53.41
(10.30.21) 23:00	0.00	500.00	41.42	625.00	53.44
(10.31.21) 00:00	0.00	500.00	41.44	625.00	53.46
(10.31.21) 01:00	0.00	500.00	41.46	625.00	53.49
(10.31.21) 02:00	0.00	500.00	41.48	625.00	53.51
(10.31.21) 03:00	0.00	500.00	41.50	625.00	53.54
(10.31.21) 04:00	0.00	500.00	41.52	625.00	53.56
(10.31.21) 05:00	0.00	500.00	41.54	625.00	53.59
(10.31.21) 06:00	0.00	500.00	41.56	625.00	53.61
(10.31.21) 07:00	0.00	500.00	41.58	625.00	53.64
(10.31.21) 08:00	0.00	500.00	41.60	625.00	53.66
(10.31.21) 09:00	0.00	500.00	41.62	625.00	53.69
(10.31.21) 10:00	0.00	500.00	41.64	625.00	53.71
(10.31.21) 11:00	0.00	500.00	41.66	625.00	53.74
(10.31.21) 12:00	0.00	500.00	41.68	625.00	53.76
(10.31.21) 13:00	0.00	500.00	41.70	625.00	53.79
(10.31.21) 14:00	0.00	500.00	41.72	625.00	53.81
(10.31.21) 15:00	0.00	500.00	41.74	625.00	53.84
(10.31.21) 16:00	0.00	500.00	41.76	625.00	53.86
(10.31.21) 17:00	0.00	500.00	41.78	625.00	53.89
(10.31.21) 18:00	0.00	500.00	41.80	625.00	53.91
(10.31.21) 19:00	0.00	500.00	41.82	625.00	53.94
(10.31.21) 20:00	0.00	500.00	41.84	625.00	53.96
(10.31.21) 21:00	0.00	500.00	41.86	625.00	53.99
(10.31.21) 22:00	0.00	500.00	41.88	625.00	54.01
(10.31.21) 23:00	0.00	500.00	41.90	625.00	54.04
(11.01.21) 00:00	0.00	500.00	41.92	625.00	54.06
(11.01.21) 01:00	0.00	500.00	41.94	625.00	54.09
(11.01.21) 02:00	0.00	500.00	41.96	625.00	54.11
(11.01.21) 03:00	0.00	500.00	41.98	625.00	54.14
(11.01.21) 04:00	0.00	500.00	42.00	625.00	54.16
(11.01.21) 05:00	0.00	500.00	42.02	625.00	54.19
(11.01.21) 06:00	0.00	500.00	42.04	625.00	54.21
(11.01.21) 07:00	0.00	500.00	42.06	625.00	54.24
(11.01.21) 08:00	0.00	500.00	42.08	625.00	54.26
(11.01.21) 09:00	0.00	500.00	42.10	625.00	54.29
(11.01.21) 10:00	0.00	500.00	42.12	625.00	54.31
(11.01.21) 11:00	0.00	500.00	42.14	625.00	54.34

(11.01.21) 12:00	0.00	500.00	42.16	625.00	54.36
(11.01.21) 13:00	0.00	500.00	42.18	625.00	54.39
(11.01.21) 14:00	0.00	500.00	42.20	625.00	54.41
(11.01.21) 15:00	0.00	500.00	42.22	625.00	54.44
(11.01.21) 16:00	0.00	500.00	42.24	625.00	54.46
(11.01.21) 17:00	0.00	500.00	42.26	625.00	54.49
(11.01.21) 18:00	0.00	500.00	42.28	625.00	54.51
(11.01.21) 19:00	0.00	500.00	42.30	625.00	54.54
(11.01.21) 20:00	0.00	500.00	42.32	625.00	54.56
(11.01.21) 21:00	0.00	500.00	42.34	625.00	54.59
(11.01.21) 22:00	0.00	500.00	42.36	625.00	54.61
(11.01.21) 23:00	0.00	500.00	42.38	625.00	54.64
(11.02.21) 00:00	0.00	500.00	42.40	625.00	54.66
(11.02.21) 01:00	0.00	500.00	42.42	625.00	54.69
(11.02.21) 02:00	0.00	500.00	42.44	625.00	54.71
(11.02.21) 03:00	0.00	500.00	42.46	625.00	54.74
(11.02.21) 04:00	0.00	500.00	42.48	625.00	54.76
(11.02.21) 05:00	0.00	500.00	42.50	625.00	54.79
(11.02.21) 06:00	0.00	500.00	42.52	625.00	54.81
(11.02.21) 07:00	0.00	500.00	42.54	625.00	54.84
(11.02.21) 08:00	0.00	500.00	42.56	625.00	54.86
(11.02.21) 09:00	0.00	500.00	42.58	625.00	54.88
(11.02.21) 10:00	0.00	500.00	42.60	625.00	54.91
(11.02.21) 11:00	0.00	500.00	42.62	625.00	54.93
(11.02.21) 12:00	0.00	500.00	42.64	625.00	54.96
(11.02.21) 13:00	0.00	500.00	42.66	625.00	54.98
(11.02.21) 14:00	0.00	500.00	42.68	625.00	55.01
(11.02.21) 15:00	0.00	500.00	42.70	625.00	55.03
(11.02.21) 16:00	0.00	500.00	42.72	625.00	55.06
(11.02.21) 17:00	0.00	500.00	42.74	625.00	55.08
(11.02.21) 18:00	0.00	500.00	42.76	625.00	55.11
(11.02.21) 19:00	0.00	500.00	42.78	625.00	55.13
(11.02.21) 20:00	0.00	500.00	42.80	625.00	55.16
(11.02.21) 21:00	0.00	500.00	42.82	625.00	55.18
(11.02.21) 22:00	0.00	500.00	42.84	625.00	55.21
(11.02.21) 23:00	0.00	500.00	42.86	625.00	55.23
(11.03.21) 00:00	0.00	500.00	42.88	625.00	55.26
(11.03.21) 01:00	0.00	500.00	42.90	625.00	55.28
(11.03.21) 02:00	0.00	500.00	42.92	625.00	55.31
(11.03.21) 03:00	0.00	500.00	42.94	625.00	55.33
(11.03.21) 04:00	0.00	500.00	42.96	625.00	55.36
(11.03.21) 05:00	0.00	500.00	42.98	625.00	55.38
(11.03.21) 06:00	0.00	500.00	43.00	625.00	55.41
(11.03.21) 07:00	0.00	500.00	43.02	625.00	55.43
(11.03.21) 08:00	0.00	500.00	43.04	625.00	55.46
(11.03.21) 09:00	0.00	500.00	43.06	625.00	55.48
(11.03.21) 10:00	0.00	500.00	43.08	625.00	55.51

(11.03.21) 11:00	0.00	500.00	43.10	625.00	55.53
(11.03.21) 12:00	0.00	500.00	43.12	625.00	55.56
(11.03.21) 13:00	0.00	500.00	43.14	625.00	55.58
(11.03.21) 14:00	0.00	500.00	43.16	625.00	55.61
(11.03.21) 15:00	0.00	500.00	43.18	625.00	55.63
(11.03.21) 16:00	0.00	500.00	43.20	625.00	55.66
(11.03.21) 17:00	0.00	500.00	43.22	625.00	55.68
(11.03.21) 18:00	0.00	500.00	43.24	625.00	55.71
(11.03.21) 19:00	0.00	500.00	43.26	625.00	55.73
(11.03.21) 20:00	0.00	500.00	43.28	625.00	55.76
(11.03.21) 21:00	0.00	500.00	43.30	625.00	55.78
(11.03.21) 22:00	0.00	500.00	43.32	625.00	55.81
(11.03.21) 23:00	0.00	500.00	43.34	625.00	55.83
(11.04.21) 00:00	0.00	500.00	43.36	625.00	55.86
(11.04.21) 01:00	0.00	500.00	43.38	625.00	55.88
(11.04.21) 02:00	0.00	500.00	43.40	625.00	55.91
(11.04.21) 03:00	0.00	500.00	43.42	625.00	55.93
(11.04.21) 04:00	0.00	500.00	43.44	625.00	55.96
(11.04.21) 05:00	0.00	500.00	43.46	625.00	55.98
(11.04.21) 06:00	0.00	500.00	43.48	625.00	56.01
(11.04.21) 07:00	0.00	500.00	43.50	625.00	56.03
(11.04.21) 08:00	0.00	500.00	43.52	625.00	56.06
(11.04.21) 09:00	0.00	500.00	43.54	625.00	56.08
(11.04.21) 10:00	0.00	500.00	43.56	625.00	56.11
(11.04.21) 11:00	0.00	500.00	43.58	625.00	56.13
(11.04.21) 12:00	0.00	500.00	43.60	625.00	56.16
(11.04.21) 13:00	0.00	500.00	43.62	625.00	56.18
(11.04.21) 14:00	0.00	500.00	43.64	625.00	56.21
(11.04.21) 15:00	0.00	500.00	43.66	625.00	56.23
(11.04.21) 16:00	0.00	500.00	43.68	625.00	56.26
(11.04.21) 17:00	0.00	500.00	43.70	625.00	56.28
(11.04.21) 18:00	0.00	500.00	43.72	625.00	56.31
(11.04.21) 19:00	0.00	500.00	43.74	625.00	56.33
(11.04.21) 20:00	0.00	500.00	43.76	625.00	56.36
(11.04.21) 21:00	0.00	500.00	43.78	625.00	56.38
(11.04.21) 22:00	0.00	500.00	43.80	625.00	56.41
(11.04.21) 23:00	0.00	500.00	43.82	625.00	56.43
(11.05.21) 00:00	0.00	500.00	43.84	625.00	56.46
(11.05.21) 01:00	0.00	500.00	43.86	625.00	56.48
(11.05.21) 02:00	0.00	500.00	43.88	625.00	56.51
(11.05.21) 03:00	0.00	500.00	43.90	625.00	56.53
(11.05.21) 04:00	0.00	500.00	43.92	625.00	56.56
(11.05.21) 05:00	0.00	500.00	43.94	625.00	56.58
(11.05.21) 06:00	0.00	500.00	43.96	625.00	56.61
(11.05.21) 07:00	0.00	500.00	43.98	625.00	56.63
(11.05.21) 08:00	0.00	500.00	44.00	625.00	56.66
(11.05.21) 09:00	0.00	500.00	44.02	625.00	56.68

(11.05.21) 10:00	0.00	500.00	44.04	625.00	56.71
(11.05.21) 11:00		500.00	44.06	625.00	56.73
(11.05.21) 12:00		500.00	44.08	625.00	56.76
(11.05.21) 13:00	0.00	500.00	44.10	625.00	56.78
(11.05.21) 14:00	0.00	500.00	44.12	625.00	56.81
(11.05.21) 15:00	0.00	500.00	44.14	625.00	56.83
(11.05.21) 16:00	0.00	500.00	44.16	625.00	56.86
(11.05.21) 17:00	0.00	500.00	44.18	625.00	56.88
(11.05.21) 18:00	0.00	500.00	44.20	625.00	56.91
(11.05.21) 19:00	0.00	500.00	44.22	625.00	56.93
(11.05.21) 20:00	0.00	500.00	44.24	625.00	56.96
(11.05.21) 21:00	0.00	500.00	44.26	625.00	56.98
(11.05.21) 22:00	0.00	500.00	44.28	625.00	57.01
(11.05.21) 23:00	0.00	500.00	44.30	625.00	57.03
(11.06.21) 00:00	0.00	500.00	44.32	625.00	57.06
(11.06.21) 01:00	0.00	500.00	44.34	625.00	57.08
(11.06.21) 02:00	0.00	500.00	44.36	625.00	57.11
(11.06.21) 03:00	0.00	500.00	44.38	625.00	57.13
(11.06.21) 04:00	0.00	500.00	44.40	625.00	57.16
(11.06.21) 05:00	0.00	500.00	44.42	625.00	57.18
(11.06.21) 06:00	0.00	500.00	44.44	625.00	57.21
(11.06.21) 07:00	0.00	500.00	44.46	625.00	57.23
(11.06.21) 08:00	0.00	500.00	44.48	625.00	57.26
(11.06.21) 09:00	0.00	500.00	44.50	625.00	57.28
(11.06.21) 10:00	0.00	500.00	44.52	625.00	57.31
(11.06.21) 11:00	0.00	500.00	44.54	625.00	57.33
(11.06.21) 12:00	0.00	500.00	44.56	625.00	57.36
(11.06.21) 13:00	0.00	500.00	44.58	625.00	57.38
(11.06.21) 14:00	0.00	500.00	44.60	625.00	57.41
(11.06.21) 15:00	0.00	500.00	44.62	625.00	57.43
(11.06.21) 16:00	0.00	500.00	44.64	625.00	57.46
(11.06.21) 17:00	0.00	500.00	44.66	625.00	57.48
(11.06.21) 18:00	0.00	500.00	44.68	625.00	57.51
(11.06.21) 19:00	0.00	500.00	44.70	625.00	57.53
(11.06.21) 20:00	0.00	500.00	44.72	625.00	57.56
(11.06.21) 21:00	0.00	500.00	44.74	625.00	57.58
(11.06.21) 22:00	0.00	500.00	44.76	625.00	57.61
(11.06.21) 23:00	0.00	500.00	44.78	625.00	57.63
(11.07.21) 00:00	0.00	500.00	44.80	625.00	57.66
(11.07.21) 01:00	0.00	500.00	44.82	625.00	57.68
(11.07.21) 01:00	0.00	500.00	44.84	625.00	57.71
(11.07.21) 02:00	0.00	500.00	44.86	625.00	57.73
(11.07.21) 03:00	0.00	500.00	44.88	625.00	57.76
(11.07.21) 04:00	0.00	500.00	44.90	625.00	57.78
(11.07.21) 05:00	0.00	500.00	44.92	625.00	57.81
(11.07.21) 06:00	0.00	500.00	44.94	625.00	57.83
(11.07.21) 07:00	0.00	500.00	44.96	625.00	57.86

(11.07.21) 08:00	0.00	500.00	44.98	625.00	57.88
(11.07.21) 09:00	0.00	500.00	45.00	625.00	57.91
(11.07.21) 10:00	0.00	500.00	45.02	625.00	57.93
(11.07.21) 11:00	0.00	500.00	45.04	625.00	57.96
(11.07.21) 12:00	0.00	500.00	45.06	625.00	57.98
(11.07.21) 13:00	0.00	500.00	45.08	625.00	58.01
(11.07.21) 14:00	0.00	500.00	45.10	625.00	58.03
(11.07.21) 15:00	0.00	500.00	45.12	625.00	58.06
(11.07.21) 16:00	0.00	500.00	45.14	625.00	58.08
(11.07.21) 17:00	0.00	500.00	45.16	625.00	58.11
(11.07.21) 18:00	0.00	500.00	45.18	625.00	58.13
(11.07.21) 19:00	0.00	500.00	45.20	625.00	58.16
(11.07.21) 20:00	0.00	500.00	45.22	625.00	58.18
(11.07.21) 21:00	0.00	500.00	45.24	625.00	58.21
(11.07.21) 22:00	0.00	500.00	45.26	625.00	58.23
(11.07.21) 23:00	0.00	500.00	45.28	625.00	58.26
(11.08.21) 00:00	0.00	500.00	45.30	625.00	58.28
(11.08.21) 01:00	0.00	500.00	45.32	625.00	58.31
(11.08.21) 02:00	0.00	500.00	45.34	625.00	58.33
(11.08.21) 03:00	0.00	500.00	45.36	625.00	58.36
(11.08.21) 04:00	0.00	500.00	45.38	625.00	58.38
(11.08.21) 05:00	0.00	500.00	45.40	625.00	58.41
(11.08.21) 06:00	0.00	500.00	45.42	625.00	58.43
(11.08.21) 07:00	0.00	500.00	45.44	625.00	58.46
(11.08.21) 08:00	0.00	500.00	45.46	625.00	58.48
(11.08.21) 09:00	0.00	500.00	45.48	625.00	58.51
(11.08.21) 10:00	0.00	500.00	45.50	625.00	58.53
(11.08.21) 11:00	0.00	500.00	45.52	625.00	58.56
(11.08.21) 12:00	0.00	500.00	45.54	625.00	58.58
(11.08.21) 13:00	0.00	500.00	45.56	625.00	58.61
(11.08.21) 14:00	0.00	500.00	45.58	625.00	58.63
(11.08.21) 15:00	0.00	500.00	45.60	625.00	58.66
(11.08.21) 16:00	0.00	500.00	45.62	625.00	58.68
(11.08.21) 17:00	0.00	500.00	45.64	625.00	58.71
(11.08.21) 18:00	0.00	500.00	45.66	625.00	58.73
(11.08.21) 19:00	0.00	500.00	45.68	625.00	58.76
(11.08.21) 20:00	0.00	500.00	45.70	625.00	58.78
(11.08.21) 21:00	0.00	500.00	45.72	625.00	58.81
(11.08.21) 22:00	0.00	500.00	45.74	625.00	58.83
(11.08.21) 23:00	0.00	500.00	45.76	625.00	58.86
(11.09.21) 00:00	0.00	500.00	45.78	625.00	58.88
(11.09.21) 01:00	0.00	500.00	45.80	625.00	58.91
(11.09.21) 02:00	0.00	500.00	45.82	625.00	58.93
(11.09.21) 03:00	0.00	500.00	45.84	625.00	58.96
(11.09.21) 04:00	0.00	500.00	45.86	625.00	58.98
(11.09.21) 05:00	0.00	500.00	45.88	625.00	59.01
(11.09.21) 06:00	0.00	500.00	45.90	625.00	59.03

(11.09.21) 07:00	0.00	500.00	45.92	625.00	59.06
(11.09.21) 08:00	0.00	500.00	45.94	625.00	59.08
(11.09.21) 09:00	0.00	500.00	45.96	625.00	59.11
(11.09.21) 10:00	0.00	500.00	45.98	625.00	59.13
(11.09.21) 11:00	0.00	500.00	46.00	625.00	59.16
(11.09.21) 12:00	0.00	500.00	46.02	625.00	59.18
(11.09.21) 13:00	0.00	500.00	46.04	625.00	59.21
(11.09.21) 14:00	0.00	500.00	46.06	625.00	59.23
(11.09.21) 15:00	0.00	500.00	46.08	625.00	59.26
(11.09.21) 16:00	0.00	500.00	46.10	625.00	59.28
(11.09.21) 17:00	0.00	500.00	46.12	625.00	59.31
(11.09.21) 18:00	0.00	500.00	46.14	625.00	59.33
(11.09.21) 19:00	0.00	500.00	46.16	625.00	59.36
(11.09.21) 20:00	0.00	500.00	46.18	625.00	59.38
(11.09.21) 21:00	0.00	500.00	46.20	625.00	59.41
(11.09.21) 22:00	0.00	500.00	46.22	625.00	59.43
(11.09.21) 23:00	0.00	500.00	46.24	625.00	59.46
(11.10.21) 00:00	0.00	500.00	46.26	625.00	59.48
(11.10.21) 01:00	0.00	500.00	46.28	625.00	59.51
(11.10.21) 02:00	0.00	500.00	46.30	625.00	59.53
(11.10.21) 03:00	0.00	500.00	46.32	625.00	59.56
(11.10.21) 04:00	0.00	500.00	46.34	625.00	59.58
(11.10.21) 05:00	0.00	500.00	46.36	625.00	59.61
(11.10.21) 06:00	0.00	500.00	46.38	625.00	59.63
(11.10.21) 07:00	0.00	500.00	46.40	625.00	59.66
(11.10.21) 08:00	0.00	500.00	46.42	625.00	59.68
(11.10.21) 09:00	0.00	500.00	46.44	625.00	59.71
(11.10.21) 10:00	0.00	500.00	46.46	625.00	59.73
(11.10.21) 11:00	0.00	500.00	46.48	625.00	59.76
(11.10.21) 12:00	0.00	500.00	46.50	625.00	59.78
(11.10.21) 13:00	0.00	500.00	46.52	625.00	59.81
(11.10.21) 14:00					
(11.10.21) 15:00					
(11.10.21) 16:00					
(11.10.21) 17:00					
(11.10.21) 18:00					
(11.10.21) 19:00					
(11.10.21) 20:00					
(11.10.21) 21:00					
(11.10.21) 22:00					
(11.10.21) 23:00					
(11.11.21) 00:00					
(11.11.21) 01:00					
(11.11.21) 02:00					
(11.11.21) 03:00					
(11.11.21) 04:00					
(11.11.21) 05:00					

(11.11.21) 06:00					
(11.11.21) 07:00					
(11.11.21) 08:00					
(11.11.21) 09:00					
(11.11.21) 10:00					
(11.11.21) 11:00					
(11.11.21) 12:00					
(11.11.21) 13:00					
(11.11.21) 14:00	0.00	500.00	47.02	625.00	60.43
(11.11.21) 15:00					
(11.11.21) 16:00					
(11.11.21) 17:00					
(11.11.21) 18:00					
(11.11.21) 19:00					
(11.11.21) 20:00					
(11.11.21) 21:00					
(11.11.21) 22:00					
(11.11.21) 23:00					
(11.12.21) 00:00					
(11.12.21) 01:00					
(11.12.21) 02:00					
(11.12.21) 03:00					
(11.12.21) 04:00					
(11.12.21) 05:00					
(11.12.21) 06:00					
(11.12.21) 07:00					
(11.12.21) 08:00	0.00	500.00	47.38	625.00	60.88
(11.12.21) 09:00	0.00	500.00	47.40	625.00	60.91
(11.12.21) 10:00	0.00	500.00	47.42	625.00	60.93
(11.12.21) 11:00	0.00	500.00	47.44	625.00	60.96
(11.12.21) 12:00	0.00	500.00	47.46	625.00	60.98
(11.12.21) 13:00	0.00	500.00	47.48	625.00	61.01
(11.12.21) 14:00	0.00	500.00	47.50	625.00	61.03
(11.12.21) 15:00	0.00	500.00	47.52	625.00	61.06
(11.12.21) 16:00	0.00	500.00	47.54	625.00	61.08
(11.12.21) 17:00	0.00	500.00	47.56	625.00	61.11
(11.12.21) 18:00	0.00	500.00	47.58	625.00	61.13
(11.12.21) 19:00	0.00	500.00	47.60	625.00	61.16
(11.12.21) 20:00	0.00	500.00	47.62	625.00	61.18
(11.12.21) 21:00	0.00	500.00	47.64	625.00	61.21
(11.12.21) 22:00	0.00	500.00	47.66	625.00	61.23
(11.12.21) 23:00	0.00	500.00	47.68	625.00	61.26
(11.13.21) 00:00	0.00	500.00	47.70	625.00	61.28
(11.13.21) 01:00	0.00	500.00	47.72	625.00	61.31
(11.13.21) 02:00	0.00	500.00	47.74	625.00	61.33
(11.13.21) 03:00	0.00	500.00	47.76	625.00	61.36
(11.13.21) 04:00	0.00	500.00	47.78	625.00	61.38

(11.13.21) 05:00	0.00	500.00	47.80	625.00	61.41
(11.13.21) 06:00	0.00	500.00	47.82	625.00	61.43
(11.13.21) 07:00	0.00	500.00	47.84	625.00	61.46
(11.13.21) 08:00	0.00	500.00	47.86	625.00	61.48
(11.13.21) 09:00	0.00	500.00	47.88	625.00	61.51
(11.13.21) 10:00	0.00	500.00	47.90	625.00	61.53
(11.13.21) 11:00	0.00	500.00	47.92	625.00	61.56
(11.13.21) 12:00	0.00	500.00	47.94	625.00	61.58
(11.13.21) 13:00	0.00	500.00	47.96	625.00	61.61
(11.13.21) 14:00	0.00	500.00	47.98	625.00	61.63
(11.13.21) 15:00	0.00	500.00	48.00	625.00	61.66
(11.13.21) 16:00	0.00	500.00	48.02	625.00	61.68
(11.13.21) 17:00	0.00	500.00	48.04	625.00	61.71
(11.13.21) 18:00	0.00	500.00	48.06	625.00	61.73
(11.13.21) 19:00	0.00	500.00	48.08	625.00	61.76
(11.13.21) 20:00	0.00	500.00	48.10	625.00	61.78
(11.13.21) 21:00	0.00	500.00	48.12	625.00	61.81
(11.13.21) 22:00	0.00	500.00	48.14	625.00	61.83
(11.13.21) 23:00	0.00	500.00	48.16	625.00	61.86
(11.14.21) 00:00	0.00	500.00	48.18	625.00	61.88
(11.14.21) 01:00	0.00	500.00	48.20	625.00	61.91
(11.14.21) 02:00	0.00	500.00	48.22	625.00	61.93
(11.14.21) 03:00	0.00	500.00	48.24	625.00	61.96
(11.14.21) 04:00	0.00	500.00	48.26	625.00	61.98
(11.14.21) 05:00	0.00	500.00	48.28	625.00	62.01
(11.14.21) 06:00	0.00	500.00	48.30	625.00	62.03
(11.14.21) 07:00	0.00	500.00	48.32	625.00	62.06
(11.14.21) 08:00	0.00	500.00	48.34	625.00	62.08
(11.14.21) 09:00	0.00	500.00	48.36	625.00	62.11
(11.14.21) 10:00	0.00	500.00	48.38	625.00	62.13
(11.14.21) 11:00	0.00	500.00	48.40	625.00	62.16
(11.14.21) 12:00	0.00	500.00	48.42	625.00	62.18
(11.14.21) 13:00	0.00	500.00	48.44	625.00	62.21
(11.14.21) 14:00	0.00	500.00	48.46	625.00	62.23
(11.14.21) 15:00	0.00	500.00	48.48	625.00	62.26
(11.14.21) 16:00	0.00	500.00	48.50	625.00	62.28
(11.14.21) 17:00	0.00	500.00	48.52	625.00	62.31
(11.14.21) 18:00	0.00	500.00	48.54	625.00	62.33
(11.14.21) 19:00	0.00	500.00	48.56	625.00	62.36
(11.14.21) 20:00	0.00	500.00	48.58	625.00	62.38
(11.14.21) 21:00	0.00	500.00	48.60	625.00	62.41
(11.14.21) 22:00	0.00	500.00	48.62	625.00	62.43
(11.14.21) 23:00	0.00	500.00	48.64	625.00	62.46
(11.15.21) 00:00	0.00	500.00	48.66	625.00	62.48
(11.15.21) 01:00	0.00	500.00	48.68	625.00	62.51
(11.15.21) 02:00	0.00	500.00	48.70	625.00	62.53
(11.15.21) 03:00	0.00	500.00	48.72	625.00	62.56

(11.15.21) 04:00	0.00	500.00	48.74	625.00	62.58
(11.15.21) 05:00	0.00	500.00	48.76	625.00	62.61
(11.15.21) 06:00	0.00	500.00	48.78	625.00	62.63
(11.15.21) 07:00	0.00	500.00	48.80	625.00	62.66
(11.15.21) 08:00	0.00	500.00	48.82	625.00	62.68
(11.15.21) 09:00	0.00	500.00	48.84	625.00	62.71
(11.15.21) 10:00	0.00	500.00	48.86	625.00	62.73
(11.15.21) 11:00	0.00	500.00	48.88	625.00	62.76
(11.15.21) 12:00	0.00	500.00	48.90	625.00	62.78
(11.15.21) 13:00	0.00	500.00	48.92	625.00	62.81
(11.15.21) 14:00	0.00	500.00	48.94	625.00	62.83
(11.15.21) 15:00	0.00	500.00	48.96	625.00	62.86
(11.15.21) 16:00	0.00	500.00	48.98	625.00	62.88
(11.15.21) 17:00	0.00	500.00	49.00	625.00	62.91
(11.15.21) 18:00	0.00	500.00	49.02	625.00	62.93
(11.15.21) 19:00	0.00	500.00	49.04	625.00	62.96
(11.15.21) 20:00	0.00	500.00	49.06	625.00	62.98
(11.15.21) 21:00	0.00	500.00	49.08	625.00	63.01
(11.15.21) 22:00	0.00	500.00	49.10	625.00	63.03
(11.15.21) 23:00	0.00	500.00	49.12	625.00	63.06
(11.16.21) 00:00	0.00	500.00	49.14	625.00	63.08
(11.16.21) 01:00	0.00	500.00	49.16	625.00	63.11
(11.16.21) 02:00	0.00	500.00	49.18	625.00	63.13
(11.16.21) 03:00	0.00	500.00	49.20	625.00	63.16
(11.16.21) 04:00	0.00	500.00	49.22	625.00	63.18
(11.16.21) 05:00	0.00	500.00	49.24	625.00	63.21
(11.16.21) 06:00	0.00	500.00	49.26	625.00	63.23
(11.16.21) 07:00	0.00	500.00	49.28	625.00	63.26
(11.16.21) 08:00	0.00	500.00	49.30	625.00	63.28
(11.16.21) 09:00	0.00	500.00	49.32	625.00	63.31
(11.16.21) 10:00	0.00	500.00	49.34	625.00	63.33
(11.16.21) 11:00	0.00	500.00	49.36	625.00	63.36
(11.16.21) 12:00	0.00	500.00	49.38	625.00	63.38
(11.16.21) 13:00	0.00	500.00	49.40	625.00	63.41
(11.16.21) 14:00	0.00	500.00	49.42	625.00	63.43
(11.16.21) 15:00	0.00	500.00	49.44	625.00	63.46
(11.16.21) 16:00	0.00	500.00	49.46	625.00	63.48
(11.16.21) 17:00	0.00	500.00	49.48	625.00	63.51
(11.16.21) 18:00	0.00	500.00	49.50	625.00	63.53
(11.16.21) 19:00	0.00	500.00	49.52	625.00	63.56
(11.16.21) 20:00	0.00	500.00	49.54	625.00	63.58
(11.16.21) 21:00	0.00	500.00	49.56	625.00	63.61
(11.16.21) 22:00	0.00	500.00	49.58	625.00	63.63
(11.16.21) 23:00	0.00	500.00	49.60	625.00	63.66
(11.17.21) 00:00	0.00	500.00	49.62	625.00	63.68
(11.17.21) 01:00	0.00	500.00	49.64	625.00	63.71
(11.17.21) 02:00	0.00	500.00	49.66	625.00	63.73

(11.17.21) 03:00	0.00	500.00	49.68	625.00	63.76
(11.17.21) 04:00	0.00	500.00	49.70	625.00	63.78
(11.17.21) 05:00	0.00	500.00	49.72	625.00	63.81
(11.17.21) 06:00	0.00	500.00	49.74	625.00	63.83
(11.17.21) 07:00	0.00	500.00	49.76	625.00	63.86
(11.17.21) 08:00	0.00	500.00	49.78	625.00	63.88
(11.17.21) 09:00	0.00	500.00	49.80	625.00	63.91
(11.17.21) 10:00	0.00	500.00	49.82	625.00	63.93
(11.17.21) 11:00	0.00	500.00	49.84	625.00	63.96
(11.17.21) 12:00	0.00	500.00	49.86	625.00	63.98
(11.17.21) 13:00	0.00	500.00	49.88	625.00	64.01
(11.17.21) 14:00	0.00	500.00	49.90	625.00	64.03
(11.17.21) 15:00	0.00	500.00	49.92	625.00	64.06
(11.17.21) 16:00	0.00	500.00	49.94	625.00	64.08
(11.17.21) 17:00	0.00	500.00	49.96	625.00	64.11
(11.17.21) 18:00	0.00	500.00	49.98	625.00	64.13
(11.17.21) 19:00	0.00	500.00	50.00	625.00	64.16
(11.17.21) 20:00	0.00	500.00	50.02	625.00	64.18
(11.17.21) 21:00	0.00	500.00	50.04	625.00	64.21
(11.17.21) 22:00	0.00	500.00	50.06	625.00	64.23
(11.17.21) 23:00	0.00	500.00	50.08	625.00	64.26
(11.18.21) 00:00	0.00	500.00	50.10	625.00	64.28
(11.18.21) 01:00	0.00	500.00	50.12	625.00	64.31
(11.18.21) 02:00	0.00	500.00	50.14	625.00	64.33
(11.18.21) 03:00	0.00	500.00	50.16	625.00	64.36
(11.18.21) 04:00	0.00	500.00	50.18	625.00	64.38
(11.18.21) 05:00	0.00	500.00	50.20	625.00	64.41
(11.18.21) 06:00	0.00	500.00	50.22	625.00	64.43
(11.18.21) 07:00	0.00	500.00	50.24	625.00	64.46
(11.18.21) 08:00	0.00	500.00	50.26	625.00	64.48
(11.18.21) 09:00	0.00	500.00	50.28	625.00	64.51
(11.18.21) 10:00	0.00	500.00	50.30	625.00	64.53
(11.18.21) 11:00	0.00	500.00	50.32	625.00	64.56
(11.18.21) 12:00	0.00	500.00	50.34	625.00	64.58
(11.18.21) 13:00	0.00	500.00	50.36	625.00	64.61
(11.18.21) 14:00	0.00	500.00	50.38	625.00	64.63
(11.18.21) 15:00	0.00	500.00	50.40	625.00	64.66
(11.18.21) 16:00	0.00	500.00	50.42	625.00	64.68
(11.18.21) 17:00	0.00	500.00	50.44	625.00	64.71
(11.18.21) 18:00	0.00	500.00	50.46	625.00	64.73
(11.18.21) 19:00	0.00	500.00	50.48	625.00	64.76
(11.18.21) 20:00	0.00	500.00	50.50	625.00	64.78
(11.18.21) 21:00	0.00	500.00	50.52	625.00	64.80
(11.18.21) 22:00	0.00	500.00	50.54	625.00	64.83
(11.18.21) 23:00	0.00	500.00	50.56	625.00	64.85
(11.19.21) 00:00	0.00	500.00	50.58	625.00	64.88
(11.19.21) 01:00	0.00	500.00	50.60	625.00	64.90

(11.19.21) 02:00	0.00	500.00	50.62	625.00	64.93
(11.19.21) 03:00	0.00	500.00	50.64	625.00	64.95
(11.19.21) 04:00	0.00	500.00	50.66	625.00	64.98
(11.19.21) 05:00	0.00	500.00	50.68	625.00	65.00
(11.19.21) 06:00	0.00	500.00	50.70	625.00	65.03
(11.19.21) 07:00	0.00	500.00	50.72	625.00	65.05
(11.19.21) 08:00	0.00	500.00	50.74	625.00	65.08
(11.19.21) 09:00	0.00	500.00	50.76	625.00	65.10
(11.19.21) 10:00					
(11.19.21) 11:00					
(11.19.21) 12:00		500.00	50.80	625.00	65.15
(11.19.21) 13:00		500.00	50.82	625.00	65.18
(11.19.21) 14:00					
(11.19.21) 15:00					
(11.19.21) 16:00					
(11.19.21) 17:00					
(11.19.21) 18:00					
(11.19.21) 19:00					
(11.19.21) 20:00					
(11.19.21) 21:00					
(11.19.21) 22:00					
(11.19.21) 23:00					
(11.20.21) 00:00					
(11.20.21) 01:00					
(11.20.21) 02:00					
(11.20.21) 03:00					
(11.20.21) 04:00					
(11.20.21) 05:00					
(11.20.21) 06:00					
(11.20.21) 07:00					
(11.20.21) 08:00					
(11.20.21) 09:00					
(11.20.21) 10:00					
(11.20.21) 11:00					
(11.20.21) 12:00					
(11.20.21) 13:00					
(11.20.21) 14:00					
(11.20.21) 15:00					
(11.20.21) 16:00					
(11.20.21) 17:00					
(11.20.21) 18:00					
(11.20.21) 19:00					
(11.20.21) 20:00					
(11.20.21) 21:00					
(11.20.21) 22:00					
(11.20.21) 23:00					
(11.21.21) 00:00					

(11.21.21) 01:00
(11.21.21) 02:00
(11.21.21) 03:00
(11.21.21) 04:00
(11.21.21) 05:00
(11.21.21) 06:00
(11.21.21) 07:00
(11.21.21) 08:00
(11.21.21) 09:00
(11.21.21) 10:00
(11.21.21) 11:00
(11.21.21) 12:00
(11.21.21) 13:00
(11.21.21) 14:00
(11.21.21) 15:00
(11.21.21) 16:00
(11.21.21) 17:00
(11.21.21) 18:00
(11.21.21) 19:00
(11.21.21) 20:00
(11.21.21) 21:00
(11.21.21) 22:00
(11.21.21) 23:00
(11.22.21) 00:00
(11.22.21) 01:00
(11.22.21) 02:00
(11.22.21) 03:00
(11.22.21) 04:00
(11.22.21) 05:00
(11.22.21) 06:00
(11.22.21) 07:00
(11.22.21) 08:00
(11.22.21) 09:00
(11.22.21) 10:00
(11.22.21) 11:00
(11.22.21) 12:00
(11.22.21) 13:00
(11.22.21) 14:00
(11.22.21) 15:00
(11.22.21) 16:00
(11.22.21) 17:00
(11.22.21) 18:00
(11.22.21) 19:00
(11.22.21) 20:00
(11.22.21) 21:00
(11.22.21) 22:00
(11.22.21) 23:00

(11.23.21)	00:00					
(11.23.21)	01:00					
(11.23.21)	02:00					
(11.23.21)	03:00					
(11.23.21)	04:00					
(11.23.21)	05:00					
(11.23.21)	06:00					
(11.23.21)	07:00					
(11.23.21)	08:00					
(11.23.21)	09:00					
(11.23.21)	10:00					
(11.23.21)	11:00					
(11.23.21)	12:00					
(11.23.21)	13:00					
(11.23.21)	14:00					
(11.23.21)	15:00					
(11.23.21)	16:00					
(11.23.21)	17:00					
(11.23.21)	18:00					
(11.23.21)	19:00					
(11.23.21)	20:00					
(11.23.21)	21:00					
(11.23.21)	22:00					
(11.24.21)	00:00					
(11.24.21)	01:00					
(11.24.21)	02:00					
(11.24.21)	03:00					
(11.24.21)	04:00					
(11.24.21)	05:00					
(11.24.21)	06:00					
(11.24.21)	07:00					
(11.24.21)	08:00					
(11.24.21)	09:00					
(11.24.21)	10:00					
(11.24.21)	11:00					
(11.24.21)	12:00					
(11.24.21)	13:00					
(11.24.21)	14:00					
(11.24.21)	15:00					
(11.24.21)	16:00					
(11.24.21)	17:00					
(11.24.21)	18:00					
(11.24.21)	19:00					
(11.24.21)	20:00					
(11.24.21)	21:00					
(11.24.21)	22:00					

(11.24.21) 23:00
(11.25.21) 00:00
(11.25.21) 01:00
(11.25.21) 02:00
(11.25.21) 03:00
(11.25.21) 04:00
(11.25.21) 05:00
(11.25.21) 06:00
(11.25.21) 07:00
(11.25.21) 08:00
(11.25.21) 09:00
(11.25.21) 10:00
(11.25.21) 11:00
(11.25.21) 12:00
(11.25.21) 13:00
(11.25.21) 14:00
(11.25.21) 15:00
(11.25.21) 16:00
(11.25.21) 17:00
(11.25.21) 18:00
(11.25.21) 19:00
(11.25.21) 20:00
(11.25.21) 21:00
(11.25.21) 22:00
(11.25.21) 23:00
(11.26.21) 00:00
(11.26.21) 01:00
(11.26.21) 02:00
(11.26.21) 03:00
(11.26.21) 04:00
(11.26.21) 05:00
(11.26.21) 06:00
(11.26.21) 07:00
(11.26.21) 08:00
(11.26.21) 09:00
(11.26.21) 10:00
(11.26.21) 11:00
(11.26.21) 12:00
(11.26.21) 13:00
(11.26.21) 14:00
(11.26.21) 15:00
(11.26.21) 16:00
(11.26.21) 17:00
(11.26.21) 18:00
(11.26.21) 19:00
(11.26.21) 20:00
(11.26.21) 21:00

(11.26.21) 22:00
(11.26.21) 23:00
(11.27.21) 00:00
(11.27.21) 01:00
(11.27.21) 02:00
(11.27.21) 03:00
(11.27.21) 04:00
(11.27.21) 05:00
(11.27.21) 06:00
(11.27.21) 07:00
(11.27.21) 08:00
(11.27.21) 09:00
(11.27.21) 10:00
(11.27.21) 11:00
(11.27.21) 12:00
(11.27.21) 13:00
(11.27.21) 14:00
(11.27.21) 15:00
(11.27.21) 16:00
(11.27.21) 17:00
(11.27.21) 18:00
(11.27.21) 19:00
(11.27.21) 20:00
(11.27.21) 21:00
(11.27.21) 22:00
(11.27.21) 23:00
(11.28.21) 00:00
(11.28.21) 01:00
(11.28.21) 02:00
(11.28.21) 03:00
(11.28.21) 04:00
(11.28.21) 05:00
(11.28.21) 06:00
(11.28.21) 07:00
(11.28.21) 08:00
(11.28.21) 09:00
(11.28.21) 10:00
(11.28.21) 11:00
(11.28.21) 12:00
(11.28.21) 13:00
(11.28.21) 14:00
(11.28.21) 15:00
(11.28.21) 16:00
(11.28.21) 17:00
(11.28.21) 18:00
(11.28.21) 19:00
(11.28.21) 20:00

(11.28.21) 21:00
(11.28.21) 22:00
(11.28.21) 23:00
(11.29.21) 00:00
(11.29.21) 01:00
(11.29.21) 02:00
(11.29.21) 03:00
(11.29.21) 04:00
(11.29.21) 05:00
(11.29.21) 06:00
(11.29.21) 07:00
(11.29.21) 08:00
(11.29.21) 09:00
(11.29.21) 10:00
(11.29.21) 11:00
(11.29.21) 12:00
(11.29.21) 13:00
(11.29.21) 14:00
(11.29.21) 15:00
(11.29.21) 16:00
(11.29.21) 17:00
(11.29.21) 18:00
(11.29.21) 19:00
(11.29.21) 20:00
(11.29.21) 21:00
(11.29.21) 22:00
(11.29.21) 23:00
(11.30.21) 00:00
(11.30.21) 01:00
(11.30.21) 02:00
(11.30.21) 03:00
(11.30.21) 04:00
(11.30.21) 05:00
(11.30.21) 06:00
(11.30.21) 07:00
(11.30.21) 08:00
(11.30.21) 09:00
(11.30.21) 10:00
(11.30.21) 11:00
(11.30.21) 12:00
(11.30.21) 13:00
(11.30.21) 14:00
(11.30.21) 15:00
(11.30.21) 16:00
(11.30.21) 17:00
(11.30.21) 18:00
(11.30.21) 19:00

(11.30.21) 20:00
(11.30.21) 21:00
(11.30.21) 22:00
(11.30.21) 23:00
(12.01.21) 00:00
(12.01.21) 01:00
(12.01.21) 02:00
(12.01.21) 03:00
(12.01.21) 04:00
(12.01.21) 05:00
(12.01.21) 06:00
(12.01.21) 07:00
(12.01.21) 08:00
(12.01.21) 09:00
(12.01.21) 10:00
(12.01.21) 11:00
(12.01.21) 12:00
(12.01.21) 13:00
(12.01.21) 14:00
(12.01.21) 15:00
(12.01.21) 16:00
(12.01.21) 17:00
(12.01.21) 18:00
(12.01.21) 19:00
(12.01.21) 20:00
(12.01.21) 21:00
(12.01.21) 22:00
(12.01.21) 23:00
(12.02.21) 00:00
(12.02.21) 01:00
(12.02.21) 02:00
(12.02.21) 03:00
(12.02.21) 04:00
(12.02.21) 05:00
(12.02.21) 06:00
(12.02.21) 07:00
(12.02.21) 08:00
(12.02.21) 09:00
(12.02.21) 10:00
(12.02.21) 11:00
(12.02.21) 12:00
(12.02.21) 13:00
(12.02.21) 14:00
(12.02.21) 15:00
(12.02.21) 16:00
(12.02.21) 17:00
(12.02.21) 18:00

(12.02.21) 19:00
(12.02.21) 20:00
(12.02.21) 21:00
(12.02.21) 22:00
(12.02.21) 23:00
(12.03.21) 00:00
(12.03.21) 01:00
(12.03.21) 02:00
(12.03.21) 03:00
(12.03.21) 04:00
(12.03.21) 05:00
(12.03.21) 06:00
(12.03.21) 07:00
(12.03.21) 08:00
(12.03.21) 09:00
(12.03.21) 10:00
(12.03.21) 11:00
(12.03.21) 12:00
(12.03.21) 13:00
(12.03.21) 14:00
(12.03.21) 15:00
(12.03.21) 16:00
(12.03.21) 17:00
(12.03.21) 18:00
(12.03.21) 19:00
(12.03.21) 20:00
(12.03.21) 21:00
(12.03.21) 22:00
(12.03.21) 23:00
(12.04.21) 00:00
(12.04.21) 01:00
(12.04.21) 02:00
(12.04.21) 03:00
(12.04.21) 04:00
(12.04.21) 05:00
(12.04.21) 06:00
(12.04.21) 07:00
(12.04.21) 08:00
(12.04.21) 09:00
(12.04.21) 10:00
(12.04.21) 11:00
(12.04.21) 12:00
(12.04.21) 13:00
(12.04.21) 14:00
(12.04.21) 15:00
(12.04.21) 16:00
(12.04.21) 17:00

(12.04.21) 18:00
(12.04.21) 19:00
(12.04.21) 20:00
(12.04.21) 21:00
(12.04.21) 22:00
(12.04.21) 23:00
(12.05.21) 00:00
(12.05.21) 01:00
(12.05.21) 02:00
(12.05.21) 03:00
(12.05.21) 04:00
(12.05.21) 05:00
(12.05.21) 06:00
(12.05.21) 07:00
(12.05.21) 08:00
(12.05.21) 09:00
(12.05.21) 10:00
(12.05.21) 11:00
(12.05.21) 12:00
(12.05.21) 13:00
(12.05.21) 14:00
(12.05.21) 15:00
(12.05.21) 16:00
(12.05.21) 17:00
(12.05.21) 18:00
(12.05.21) 19:00
(12.05.21) 20:00
(12.05.21) 21:00
(12.05.21) 22:00
(12.05.21) 23:00
(12.06.21) 00:00
(12.06.21) 01:00
(12.06.21) 02:00
(12.06.21) 03:00
(12.06.21) 04:00
(12.06.21) 05:00
(12.06.21) 06:00
(12.06.21) 07:00
(12.06.21) 08:00
(12.06.21) 09:00
(12.06.21) 10:00
(12.06.21) 11:00
(12.06.21) 12:00
(12.06.21) 13:00
(12.06.21) 14:00
(12.06.21) 15:00
(12.06.21) 16:00

(12.06.21) 17:00
(12.06.21) 18:00
(12.06.21) 19:00
(12.06.21) 20:00
(12.06.21) 21:00
(12.06.21) 22:00
(12.06.21) 23:00
(12.07.21) 00:00
(12.07.21) 01:00
(12.07.21) 02:00
(12.07.21) 03:00
(12.07.21) 04:00
(12.07.21) 05:00
(12.07.21) 06:00
(12.07.21) 07:00
(12.07.21) 08:00
(12.07.21) 09:00
(12.07.21) 10:00
(12.07.21) 11:00
(12.07.21) 12:00
(12.07.21) 13:00
(12.07.21) 14:00
(12.07.21) 15:00
(12.07.21) 16:00
(12.07.21) 17:00
(12.07.21) 18:00
(12.07.21) 19:00
(12.07.21) 20:00
(12.07.21) 21:00
(12.07.21) 22:00
(12.07.21) 23:00
(12.08.21) 00:00
(12.08.21) 01:00
(12.08.21) 02:00
(12.08.21) 03:00
(12.08.21) 04:00
(12.08.21) 05:00
(12.08.21) 06:00
(12.08.21) 07:00
(12.08.21) 08:00
(12.08.21) 09:00
(12.08.21) 10:00
(12.08.21) 11:00
(12.08.21) 12:00
(12.08.21) 13:00
(12.08.21) 14:00
(12.08.21) 15:00

(12.08.21)	16:00	
(12.08.21)	17:00	
(12.08.21)	18:00	
(12.08.21)	19:00	
(12.08.21)	20:00	
(12.08.21)	21:00	
(12.08.21)	22:00	
(12.08.21)	23:00	
(12.09.21)	00:00	
(12.09.21)	01:00	
(12.09.21)	02:00	
(12.09.21)	03:00	
(12.09.21)	04:00	
(12.09.21)	05:00	
(12.09.21)	06:00	
(12.09.21)	07:00	
(12.09.21)	08:00	
(12.09.21)	09:00	
(12.09.21)	10:00	29.44
(12.09.21)	11:00	31.47
(12.09.21)	12:00	32.63
(12.09.21)	13:00	34.67
(12.09.21)	14:00	36.35
(12.09.21)	15:00	36.97
(12.09.21)	16:00	35.91
(12.09.21)	17:00	34.73
(12.09.21)	18:00	34.48
(12.09.21)	19:00	35.13
(12.09.21)	20:00	34.91
(12.09.21)	21:00	34.88
(12.09.21)	22:00	34.67
(12.09.21)	23:00	34.54
(12.10.21)	00:00	34.79
(12.10.21)	01:00	34.35
(12.10.21)	02:00	33.28
(12.10.21)	03:00	31.75
(12.10.21)	04:00	29.61
(12.10.21)	05:00	27.82
(12.10.21)	06:00	25.72
(12.10.21)	07:00	25.05
(12.10.21)	08:00	25.63
(12.10.21)	09:00	25.51
(12.10.21)	10:00	28.01
(12.10.21)	11:00	30.67
(12.10.21)	12:00	34.15
(12.10.21)	13:00	36.12
(12.10.21)	14:00	36.78

*

(12.10.21)	15:00	36.93
(12.10.21)	16:00	36.44
(12.10.21)	17:00	36.62
(12.10.21)	18:00	36.09
(12.10.21)	19:00	34.90
(12.10.21)	20:00	34.31
(12.10.21)	21:00	34.73
(12.10.21)	22:00	34.80
(12.10.21)	23:00	34.61
(12.11.21)	00:00	33.77
(12.11.21)	01:00	33.08
(12.11.21)	02:00	32.51
(12.11.21)	03:00	30.99
(12.11.21)	04:00	28.21
(12.11.21)	05:00	28.24
(12.11.21)	06:00	25.98
(12.11.21)	07:00	25.27
(12.11.21)	08:00	24.38
(12.11.21)	09:00	24.33
(12.11.21)	10:00	25.28
(12.11.21)	11:00	26.82
(12.11.21)	12:00	29.34
(12.11.21)	13:00	32.86
(12.11.21)	14:00	35.42
(12.11.21)	15:00	36.57
(12.11.21)	16:00	36.89
(12.11.21)	17:00	36.71
(12.11.21)	18:00	35.77
(12.11.21)	19:00	35.81
(12.11.21)	20:00	35.06
(12.11.21)	21:00	34.45
(12.11.21)	22:00	34.82
(12.11.21)	23:00	34.44
(12.12.21)	00:00	33.67
(12.12.21)	01:00	32.73
(12.12.21)	02:00	31.15
(12.12.21)	03:00	30.44
(12.12.21)	04:00	28.59
(12.12.21)	05:00	27.24
(12.12.21)	06:00	26.05
(12.12.21)	07:00	24.29
(12.12.21)	08:00	23.67
(12.12.21)	09:00	25.41
(12.12.21)	10:00	26.59
(12.12.21)	11:00	28.58
(12.12.21)	12:00	30.31
(12.12.21)	13:00	33.64

(12.12.21)	14:00	36.66
(12.12.21)	15:00	37.76
(12.12.21)	16:00	37.75
(12.12.21)	17:00	37.31
(12.12.21)	18:00	36.66
(12.12.21)	19:00	36.68
(12.12.21)	20:00	36.93
(12.12.21)	21:00	37.07
(12.12.21)	22:00	37.15
(12.12.21)	23:00	36.88
(12.13.21)	00:00	36.35
(12.13.21)	01:00	35.97
(12.13.21)	02:00	33.60
(12.13.21)	03:00	31.10
(12.13.21)	04:00	28.36
(12.13.21)	05:00	27.22
(12.13.21)	06:00	23.67
(12.13.21)	07:00	23.39
(12.13.21)	08:00	23.99
(12.13.21)	09:00	26.57
(12.13.21)	10:00	28.33
(12.13.21)	11:00	30.70
(12.13.21)	12:00	32.76
(12.13.21)	13:00	34.24
(12.13.21)	14:00	35.19
(12.13.21)	15:00	36.04
(12.13.21)	16:00	35.14
(12.13.21)	17:00	34.65
(12.13.21)	18:00	34.40
(12.13.21)	19:00	34.04
(12.13.21)	20:00	34.46
(12.13.21)	21:00	35.33
(12.13.21)	22:00	34.47
(12.13.21)	23:00	34.80
(12.14.21)	00:00	34.95
(12.14.21)	01:00	33.97
(12.14.21)	02:00	33.03
(12.14.21)	03:00	31.85
(12.14.21)	04:00	29.73
(12.14.21)	05:00	27.56
(12.14.21)	06:00	27.07
(12.14.21)	07:00	25.82
(12.14.21)	08:00	25.32
(12.14.21)	09:00	27.03
(12.14.21)	10:00	38.08
(12.14.21)	11:00	31.36
(12.14.21)	12:00	33.56

(12.14.21)	13:00	34.93
(12.14.21)	14:00	35.52
(12.14.21)	15:00	36.60
(12.14.21)	16:00	36.08
(12.14.21)	17:00	35.46
(12.14.21)	18:00	34.95
(12.14.21)	19:00	34.99
(12.14.21)	20:00	35.07
(12.14.21)	21:00	35.79
(12.14.21)	22:00	36.29
(12.14.21)	23:00	36.59
(12.15.21)	00:00	35.78
(12.15.21)	01:00	35.04
(12.15.21)	02:00	33.64
(12.15.21)	03:00	32.05
(12.15.21)	04:00	30.07
(12.15.21)	05:00	28.40
(12.15.21)	06:00	26.77
(12.15.21)	07:00	26.18
(12.15.21)	08:00	25.87
(12.15.21)	09:00	26.40
(12.15.21)	10:00	27.92
(12.15.21)	11:00	31.07
(12.15.21)	12:00	32.68
(12.15.21)	13:00	34.28
(12.15.21)	14:00	34.80
(12.15.21)	15:00	35.38
(12.15.21)	16:00	34.62
(12.15.21)	17:00	34.67
(12.15.21)	18:00	34.67
(12.15.21)	19:00	199.99
(12.15.21)	20:00	199.98
(12.15.21)	21:00	199.96
(12.15.21)	22:00	199.94
(12.15.21)	23:00	199.93
(12.16.21)	00:00	199.91
(12.16.21)	01:00	199.89
(12.16.21)	02:00	199.88
(12.16.21)	03:00	199.86
(12.16.21)	04:00	199.84
(12.16.21)	05:00	199.83
(12.16.21)	06:00	199.74
(12.16.21)	07:00	199.34
(12.16.21)	08:00	199.91
(12.16.21)	09:00	199.90
(12.16.21)	10:00	187.77
(12.16.21)	11:00	147.66

(12.16.21)	12:00	153.83
(12.16.21)	13:00	164.41
(12.16.21)	14:00	151.44
(12.16.21)	15:00	152.35
(12.16.21)	16:00	127.00
(12.16.21)	17:00	112.42
(12.16.21)	18:00	106.97
(12.16.21)	19:00	104.18
(12.16.21)	20:00	75.23
(12.16.21)	21:00	37.06
(12.16.21)	22:00	35.11
(12.16.21)	23:00	34.62
(12.17.21)	00:00	34.68
(12.17.21)	01:00	33.53
(12.17.21)	02:00	32.87
(12.17.21)	03:00	31.19
(12.17.21)	04:00	28.98
(12.17.21)	05:00	27.93
(12.17.21)	06:00	26.92
(12.17.21)	07:00	26.92
(12.17.21)	08:00	26.95
(12.17.21)	09:00	27.39
(12.17.21)	10:00	30.20
(12.17.21)	11:00	31.29
(12.17.21)	12:00	33.53
(12.17.21)	13:00	34.78
(12.17.21)	14:00	36.16
(12.17.21)	15:00	36.94
(12.17.21)	16:00	35.78
(12.17.21)	17:00	35.22
(12.17.21)	18:00	35.58
(12.17.21)	19:00	35.28
(12.17.21)	20:00	34.71
(12.17.21)	21:00	35.35
(12.17.21)	22:00	34.45
(12.17.21)	23:00	33.99
(12.18.21)	00:00	33.76
(12.18.21)	01:00	32.81
(12.18.21)	02:00	32.58
(12.18.21)	03:00	30.06
(12.18.21)	04:00	28.99
(12.18.21)	05:00	27.17
(12.18.21)	06:00	26.89
(12.18.21)	07:00	25.51
(12.18.21)	08:00	24.69
(12.18.21)	09:00	23.31
(12.18.21)	10:00	23.80

(12.18.21)	11:00	26.14
(12.18.21)	12:00	29.05
(12.18.21)	13:00	31.79
(12.18.21)	14:00	35.21
(12.18.21)	15:00	37.46
(12.18.21)	16:00	38.18
(12.18.21)	17:00	35.85
(12.18.21)	18:00	35.61
(12.18.21)	19:00	35.11
(12.18.21)	20:00	34.49
(12.18.21)	21:00	34.68
(12.18.21)	22:00	33.98
(12.18.21)	23:00	33.14
(12.19.21)	00:00	33.69
(12.19.21)	01:00	30.60
(12.19.21)	02:00	29.40
(12.19.21)	03:00	28.45
(12.19.21)	04:00	27.64
(12.19.21)	05:00	25.25
(12.19.21)	06:00	24.58
(12.19.21)	07:00	23.12
(12.19.21)	08:00	22.31
(12.19.21)	09:00	23.35
(12.19.21)	10:00	24.15
(12.19.21)	11:00	25.93
(12.19.21)	12:00	29.37
(12.19.21)	13:00	30.95
(12.19.21)	14:00	34.11
(12.19.21)	15:00	34.84
(12.19.21)	16:00	36.02
(12.19.21)	17:00	36.08
(12.19.21)	18:00	36.60
(12.19.21)	19:00	35.78
(12.19.21)	20:00	36.75
(12.19.21)	21:00	36.22
(12.19.21)	22:00	35.16
(12.19.21)	23:00	35.08
(12.20.21)	00:00	34.62
(12.20.21)	01:00	34.42
(12.20.21)	02:00	32.22
(12.20.21)	03:00	30.26
(12.20.21)	04:00	28.82
(12.20.21)	05:00	27.38
(12.20.21)	06:00	25.93
(12.20.21)	07:00	24.18
(12.20.21)	08:00	25.08
(12.20.21)	09:00	25.37

(12.20.21)	10:00	28.48
(12.20.21)	11:00	30.36
(12.20.21)	12:00	32.72
(12.20.21)	13:00	33.88
(12.20.21)	14:00	35.77
(12.20.21)	15:00	35.32
(12.20.21)	16:00	34.62
(12.20.21)	17:00	35.07
(12.20.21)	18:00	35.59
(12.20.21)	19:00	35.70
(12.20.21)	20:00	34.66
(12.20.21)	21:00	34.98
(12.20.21)	22:00	34.47
(12.20.21)	23:00	33.97
(12.21.21)	00:00	33.47
(12.21.21)	01:00	33.25
(12.21.21)	02:00	32.30
(12.21.21)	03:00	30.09
(12.21.21)	04:00	27.78
(12.21.21)	05:00	25.23
(12.21.21)	06:00	24.63
(12.21.21)	07:00	23.27
(12.21.21)	08:00	23.97
(12.21.21)	09:00	24.60
(12.21.21)	10:00	28.11
(12.21.21)	11:00	30.34
(12.21.21)	12:00	31.30
(12.21.21)	13:00	32.80
(12.21.21)	14:00	34.88
(12.21.21)	15:00	35.10
(12.21.21)	16:00	35.24
(12.21.21)	17:00	34.24
(12.21.21)	18:00	32.98
(12.21.21)	19:00	33.07
(12.21.21)	20:00	32.38
(12.21.21)	21:00	32.18
(12.21.21)	22:00	32.09
(12.21.21)	23:00	31.72
(12.22.21)	00:00	31.95
(12.22.21)	01:00	31.33
(12.22.21)	02:00	29.65
(12.22.21)	03:00	28.64
(12.22.21)	04:00	26.96
(12.22.21)	05:00	25.38
(12.22.21)	06:00	24.14
(12.22.21)	07:00	23.69
(12.22.21)	08:00	23.25

(12.22.21)	09:00	23.74
(12.22.21)	10:00	26.19
(12.22.21)	11:00	29.16
(12.22.21)	12:00	30.49
(12.22.21)	13:00	32.92
(12.22.21)	14:00	34.49
(12.22.21)	15:00	34.42
(12.22.21)	16:00	34.37
(12.22.21)	17:00	34.08
(12.22.21)	18:00	32.75
(12.22.21)	19:00	33.84
(12.22.21)	20:00	33.48
(12.22.21)	21:00	33.89
(12.22.21)	22:00	33.56
(12.22.21)	23:00	33.15
(12.23.21)	00:00	33.07
(12.23.21)	01:00	33.67
(12.23.21)	02:00	31.74
(12.23.21)	03:00	30.12
(12.23.21)	04:00	28.22
(12.23.21)	05:00	26.33
(12.23.21)	06:00	25.11
(12.23.21)	07:00	24.20
(12.23.21)	08:00	23.69
(12.23.21)	09:00	24.89
(12.23.21)	10:00	25.96
(12.23.21)	11:00	27.06
(12.23.21)	12:00	30.11
(12.23.21)	13:00	31.90
(12.23.21)	14:00	33.91
(12.23.21)	15:00	34.99
(12.23.21)	16:00	34.75
(12.23.21)	17:00	34.91
(12.23.21)	18:00	34.57
(12.23.21)	19:00	34.43
(12.23.21)	20:00	35.10
(12.23.21)	21:00	34.01
(12.23.21)	22:00	33.74
(12.23.21)	23:00	33.58
(12.24.21)	00:00	34.76
(12.24.21)	01:00	33.96
(12.24.21)	02:00	32.36
(12.24.21)	03:00	32.05
(12.24.21)	04:00	30.22
(12.24.21)	05:00	28.82
(12.24.21)	06:00	27.38
(12.24.21)	07:00	25.80

(12.24.21)	08:00	25.25
(12.24.21)	09:00	25.92
(12.24.21)	10:00	26.57
(12.24.21)	11:00	27.48
(12.24.21)	12:00	29.97
(12.24.21)	13:00	32.18
(12.24.21)	14:00	34.44
(12.24.21)	15:00	36.14
(12.24.21)	16:00	37.71
(12.24.21)	17:00	37.73
(12.24.21)	18:00	37.81
(12.24.21)	19:00	37.33
(12.24.21)	20:00	36.49
(12.24.21)	21:00	36.00
(12.24.21)	22:00	34.50
(12.24.21)	23:00	33.32
(12.25.21)	00:00	32.33
(12.25.21)	01:00	31.44
(12.25.21)	02:00	30.50
(12.25.21)	03:00	29.43
(12.25.21)	04:00	28.57
(12.25.21)	05:00	26.89
(12.25.21)	06:00	25.13
(12.25.21)	07:00	24.00
(12.25.21)	08:00	23.25
(12.25.21)	09:00	22.99
(12.25.21)	10:00	23.63
(12.25.21)	11:00	24.74
(12.25.21)	12:00	27.47
(12.25.21)	13:00	29.41
(12.25.21)	14:00	32.24
(12.25.21)	15:00	33.63
(12.25.21)	16:00	34.25
(12.25.21)	17:00	34.06
(12.25.21)	18:00	34.14
(12.25.21)	19:00	33.39
(12.25.21)	20:00	32.75
(12.25.21)	21:00	31.91
(12.25.21)	22:00	31.59
(12.25.21)	23:00	30.16
(12.26.21)	00:00	30.03
(12.26.21)	01:00	29.99
(12.26.21)	02:00	28.25
(12.26.21)	03:00	27.71
(12.26.21)	04:00	26.48
(12.26.21)	05:00	25.04
(12.26.21)	06:00	24.18

(12.26.21) 07:00	23.47				
(12.26.21) 08:00	23.00				
(12.26.21) 09:00	23.43				
(12.26.21) 10:00	24.87				
(12.26.21) 11:00	26.43				
(12.26.21) 12:00	28.10				
(12.26.21) 13:00	30.63				
(12.26.21) 14:00	33.79				
(12.26.21) 15:00	35.99				
(12.26.21) 16:00	37.28				
(12.26.21) 17:00	37.82				
(12.26.21) 18:00	37.91				
(12.26.21) 19:00	36.88				
(12.26.21) 20:00	36.05				
(12.26.21) 21:00	35.98				
(12.26.21) 22:00	34.93				
(12.26.21) 23:00	34.65				
(12.27.21) 00:00	34.18				
(12.27.21) 01:00	33.53				
(12.27.21) 02:00	33.41				
(12.27.21) 03:00	30.12				
(12.27.21) 04:00	27.82				
(12.27.21) 05:00	25.99				
(12.27.21) 06:00	24.86				
(12.27.21) 07:00	24.96				
(12.27.21) 08:00	26.01				
(12.27.21) 09:00	27.07				
(12.27.21) 10:00	28.12				
(12.27.21) 11:00	29.18				
(12.27.21) 12:00	30.23				
(12.27.21) 13:00	31.36				
(12.27.21) 14:00	34.12				
(12.27.21) 15:00	34.85	528.21	50.84	685.59	65.21
(12.27.21) 16:00	34.51	534.48	0.01	692.40	0.02
(12.27.21) 17:00	34.54	516.93	0.03	683.16	0.04
(12.27.21) 18:00	35.08	542.83	0.06	679.92	0.07
(12.27.21) 19:00	34.72	533.67	0.07	676.60	0.09
(12.27.21) 20:00	34.64	519.09	0.09	667.73	0.12
(12.27.21) 21:00	34.50	516.73	0.11	663.80	0.15
(12.27.21) 22:00	33.89	586.86	0.13	663.02	0.17
(12.27.21) 23:00	33.91	547.80	0.15	666.18	0.20
(12.28.21) 00:00	33.78	542.90	0.17	668.16	0.23
(12.28.21) 01:00	32.65	592.73	0.19	664.93	0.25
(12.28.21) 02:00	31.79	472.84	0.20	666.12	0.28
(12.28.21) 03:00	30.68	550.90	0.22	664.67	0.31
(12.28.21) 04:00	28.39	234.11	0.25	664.41	0.33
(12.28.21) 05:00	26.43	257.00	0.27	664.14	0.36

(12.28.21) 06:00	118.00	549.35	0.29	656.35	0.38
(12.28.21) 07:00	134.29	600.44	0.31	692.66	0.41
(12.28.21) 08:00	199.61	241.42	0.33	590.72	0.43
(12.28.21) 09:00	199.92	554.87	0.35	597.21	0.46
(12.28.21) 10:00	199.83	250.14	0.36	598.88	0.48
(12.28.21) 11:00	199.94	589.05	0.38	598.86	0.50
(12.28.21) 12:00	170.63	531.03	0.40	596.84	0.52
(12.28.21) 13:00	112.86	531.87	0.42	528.15	0.55
(12.28.21) 14:00	111.02	517.83	0.44	522.80	0.57
(12.28.21) 15:00	76.36	523.89	0.47	529.18	0.59
(12.28.21) 16:00	63.45	588.88	0.50	654.59	0.62
(12.28.21) 17:00	58.58	248.74	0.53	680.00	0.64
(12.28.21) 18:00	55.76	866.91	0.56	682.09	0.67
(12.28.21) 19:00	53.80	984.76	0.59	678.19	0.69
(12.28.21) 20:00	51.97	1,033.11	0.61	674.20	0.71
(12.28.21) 21:00	49.68	1,031.06	0.64	665.40	0.74
(12.28.21) 22:00	48.36	1,097.10	0.67	661.17	0.76
(12.28.21) 23:00	46.80	1,096.31	0.70	664.08	0.79
(12.29.21) 00:00	45.90	1,095.57	0.73	660.42	0.81
(12.29.21) 01:00	44.47	1,108.28	0.75	668.32	0.84
(12.29.21) 02:00	42.10	417.04	0.78	665.43	0.86
(12.29.21) 03:00	37.82	415.94	0.81	673.38	0.89
(12.29.21) 04:00	36.08	407.83	0.83	670.67	0.91
(12.29.21) 05:00	32.90	419.23	0.86	669.21	0.94
(12.29.21) 06:00	31.08	404.19	0.89	666.46	0.96
(12.29.21) 07:00	30.34	411.43	0.90	663.94	0.99
(12.29.21) 08:00	29.45	506.74	0.91	490.88	1.01
(12.29.21) 09:00	29.45	540.36	0.93	586.59	1.03
(12.29.21) 10:00	30.97	567.91	0.95	588.58	1.05
(12.29.21) 11:00	33.49	449.90	0.96	597.07	1.07
(12.29.21) 12:00	35.58	185.68	0.98	596.48	1.10
(12.29.21) 13:00	37.56	499.83	1.00	604.95	1.12
(12.29.21) 14:00	39.05	482.51	1.01	512.08	1.14
(12.29.21) 15:00	39.90	116.38	1.03	512.90	1.16
(12.29.21) 16:00	39.60	179.23	1.05	692.91	1.18
(12.29.21) 17:00	39.88	771.13	1.08	698.52	1.21
(12.29.21) 18:00	39.08	783.25	1.11	687.27	1.23
(12.29.21) 19:00	38.55	805.66	1.14	683.91	1.26
(12.29.21) 20:00	38.57	902.36	1.17	672.79	1.29
(12.29.21) 21:00	38.14	1,020.67	1.20	672.58	1.31
(12.29.21) 22:00	37.44	757.85	1.22	673.97	1.34
(12.29.21) 23:00	37.04	790.09	1.25	670.52	1.36
(12.30.21) 00:00	37.11	857.43	1.29	664.81	1.39
(12.30.21) 01:00	35.67	824.23	1.32	668.61	1.41
(12.30.21) 02:00	34.23	829.72	1.35	671.28	1.44
(12.30.21) 03:00	32.79	830.29	1.39	673.47	1.46
(12.30.21) 04:00	31.15	952.92	1.42	670.11	1.49

(12.30.21) 05:00	30.05	996.05	1.45	664.02	1.52
(12.30.21) 06:00	28.25	1,004.68	1.49	673.04	1.54
(12.30.21) 07:00	28.03	1,040.31	1.52	674.36	1.57
(12.30.21) 08:00	27.78	1,026.42	1.56	667.55	1.59
(12.30.21) 09:00	27.97	1,025.49	1.59	497.40	1.61
(12.30.21) 10:00	29.24	655.60	1.62	515.06	1.63
(12.30.21) 11:00	30.68	928.81	1.66	501.90	1.65
(12.30.21) 12:00	31.93	892.55	1.69	505.36	1.67
(12.30.21) 13:00	33.56	885.27	1.72	504.07	1.69
(12.30.21) 14:00	37.22	932.24	1.76	514.36	1.70
(12.30.21) 15:00	36.63	926.72	1.79	508.37	1.72
(12.30.21) 16:00	38.28	658.75	1.82	702.18	1.75
(12.30.21) 17:00	38.34	657.46	1.85	693.99	1.77
(12.30.21) 18:00	39.13	894.80	1.88	690.44	1.80
(12.30.21) 19:00	38.72	805.76	1.90	687.20	1.82
(12.30.21) 20:00	37.96	567.25	1.93	679.55	1.85
(12.30.21) 21:00	36.98	515.98	1.96	675.28	1.87
(12.30.21) 22:00	36.73	828.58	1.99	668.74	1.90
(12.30.21) 23:00	36.00	597.19	2.01	672.06	1.93
(12.31.21) 00:00	36.08	905.85	2.04	672.64	1.95
(12.31.21) 01:00	35.09	850.07	2.07	672.56	1.98
(12.31.21) 02:00	33.89	625.63	2.10	666.45	2.00
(12.31.21) 03:00	32.71	915.67	2.13	671.77	2.03
(12.31.21) 04:00	31.02	874.75	2.16	669.03	2.05
(12.31.21) 05:00	29.96	908.41	2.19	663.94	2.08
(12.31.21) 06:00	28.38	864.02	2.21	664.48	2.10
(12.31.21) 07:00	27.47	907.01	2.24	660.93	2.13
(12.31.21) 08:00	27.32	637.55	2.27	269.42	2.15
(12.31.21) 09:00	27.65	864.80	2.30	495.76	2.17
(12.31.21) 10:00	30.00	635.79	2.33	591.80	2.19
(12.31.21) 11:00	32.07	635.13	2.36	595.13	2.21
(12.31.21) 12:00	33.47	865.49	2.39	600.89	2.23
(12.31.21) 13:00	35.02	617.07	2.41	599.24	2.25
(12.31.21) 14:00	37.05	899.80	2.44	610.19	2.27
(12.31.21) 15:00	38.76	870.04	2.47	515.16	2.29
(12.31.21) 16:00	38.45	870.59	2.50	693.00	2.32
(12.31.21) 17:00	38.76	861.19	2.53	691.29	2.34
(12.31.21) 18:00	38.30	854.25	2.56	687.04	2.37
(12.31.21) 19:00	38.03	853.04	2.59	680.98	2.40
(12.31.21) 20:00	37.65	727.20	2.63	673.33	2.42
(12.31.21) 21:00	37.05	833.15	2.66	674.68	2.45
(12.31.21) 22:00	36.42	849.12	2.69	669.97	2.47
(12.31.21) 23:00	35.93	850.78	2.72	673.65	2.50
(01.01.22) 00:00	34.31	841.47	2.75	662.27	2.52
(01.01.22) 01:00	32.98	841.19	2.77	667.50	2.55
(01.01.22) 02:00	32.32	461.78	2.79	666.08	2.57
(01.01.22) 03:00	30.90	494.24	2.81	670.64	2.60

(01.01.22) 04:00	28.92	477.23	2.84	668.94	2.62
(01.01.22) 05:00	27.23	479.38	2.86	659.31	2.65
(01.01.22) 06:00	25.87	503.05	2.88	662.89	2.67
(01.01.22) 07:00	24.62	494.60	2.90	665.24	2.70
(01.01.22) 08:00	24.06	491.92	2.92	662.38	2.72
(01.01.22) 09:00	23.14	489.34	2.94	665.97	2.75
(01.01.22) 10:00	24.16	491.25	2.96	662.84	2.77
(01.01.22) 11:00	23.67	492.34	2.98	660.86	2.79
(01.01.22) 12:00	23.64	493.17	3.00	492.59	2.82
(01.01.22) 13:00	26.19	493.50	3.02	504.66	2.84
(01.01.22) 14:00	29.47	495.97	3.04	681.96	2.86
(01.01.22) 15:00	32.88	575.87	3.06	676.30	2.89
(01.01.22) 16:00	32.68	569.87	3.08	676.36	2.91
(01.01.22) 17:00	34.36	574.67	3.10	678.03	2.94
(01.01.22) 18:00	33.82	557.63	3.12	669.58	2.96
(01.01.22) 19:00	34.48	558.11	3.14	668.96	2.99
(01.01.22) 20:00	34.01	559.63	3.16	659.96	3.01
(01.01.22) 21:00	33.82	563.19	3.18	663.04	3.04
(01.01.22) 22:00	33.10	556.50	3.20	667.93	3.06
(01.01.22) 23:00	33.33	559.47	3.23	666.54	3.09
(01.02.22) 00:00	33.04	567.49	3.25	662.51	3.11
(01.02.22) 01:00	30.69	555.26	3.27	665.96	3.14
(01.02.22) 02:00	30.30	555.51	3.29	661.04	3.16
(01.02.22) 03:00	29.72	553.52	3.31	663.34	3.19
(01.02.22) 04:00	29.03	557.68	3.33	664.24	3.21
(01.02.22) 05:00	27.07	143.74	3.35	664.57	3.24
(01.02.22) 06:00	25.60	503.15	3.37	661.37	3.26
(01.02.22) 07:00	23.93	499.65	3.38	661.49	3.29
(01.02.22) 08:00	24.29	485.64	3.40	666.21	3.31
(01.02.22) 09:00	23.49	511.80	3.42	470.50	3.33
(01.02.22) 10:00	24.60	507.72	3.44	496.90	3.35
(01.02.22) 11:00	25.97	520.39	3.46	501.88	3.37
(01.02.22) 12:00	29.40	515.94	3.48	497.06	3.40
(01.02.22) 13:00	30.96	514.66	3.50	501.69	3.42
(01.02.22) 14:00	34.95	511.49	3.52	678.08	3.44
(01.02.22) 15:00	36.76	503.29	3.54	673.07	3.46
(01.02.22) 16:00	37.46	490.21	3.56	672.97	3.49
(01.02.22) 17:00	38.62	481.71	3.58	666.31	3.51
(01.02.22) 18:00	38.58	483.16	3.59	667.30	3.54
(01.02.22) 19:00	38.30	483.34	3.61	664.34	3.56
(01.02.22) 20:00	37.55	493.83	3.63	670.45	3.59
(01.02.22) 21:00	37.25	501.67	3.65	660.72	3.61
(01.02.22) 22:00	37.42	492.91	3.67	662.71	3.64
(01.02.22) 23:00	37.08	499.62	3.69	664.51	3.66
(01.03.22) 00:00	35.66	498.00	3.71	666.21	3.69
(01.03.22) 01:00	35.79	513.89	3.73	673.69	3.71
(01.03.22) 02:00	33.93	519.29	3.75	669.37	3.74

(01.03.22) 03:00	32.42	517.73	3.77	661.53	3.76
(01.03.22) 04:00	30.09	507.81	3.79	661.68	3.79
(01.03.22) 05:00	28.65	507.80	3.81	666.65	3.81
(01.03.22) 06:00	27.07	565.16	3.82	663.24	3.84
(01.03.22) 07:00	25.17	566.15	3.84	662.71	3.86
(01.03.22) 08:00	26.01	874.17	3.87	658.88	3.88
(01.03.22) 09:00	26.08	472.43	3.89	481.18	3.90
(01.03.22) 10:00	27.95	1,103.40	3.91	375.68	3.92
(01.03.22) 11:00	29.43	482.80	3.93	475.40	3.94
(01.03.22) 12:00	32.89	501.45	3.96	476.74	3.96
(01.03.22) 13:00	35.90	500.72	3.98	494.45	3.98
(01.03.22) 14:00	40.39	499.67	4.00	531.56	4.00
(01.03.22) 15:00	45.52	510.05	4.02	433.42	4.02
(01.03.22) 16:00	47.63	508.28	4.05	648.47	4.04
(01.03.22) 17:00	48.06	497.14	4.08	684.51	4.06
(01.03.22) 18:00	46.26	787.43	4.11	687.85	4.09
(01.03.22) 19:00	43.35	823.79	4.14	688.15	4.11
(01.03.22) 20:00	42.62	882.73	4.16	690.73	4.14
(01.03.22) 21:00	41.12	885.12	4.19	674.29	4.16
(01.03.22) 22:00	41.29	878.91	4.22	671.43	4.19
(01.03.22) 23:00	40.80	655.77	4.25	671.36	4.21
(01.04.22) 00:00	40.57	926.30	4.27	667.69	4.24
(01.04.22) 01:00	38.59	521.88	4.29	669.13	4.26
(01.04.22) 02:00	36.70	520.78	4.31	667.92	4.29
(01.04.22) 03:00	34.97	520.10	4.34	668.79	4.31
(01.04.22) 04:00	33.10	514.89	4.36	668.60	4.34
(01.04.22) 05:00	30.14	511.10	4.38	666.80	4.36
(01.04.22) 06:00	29.99	518.23	4.40	671.96	4.38
(01.04.22) 07:00	28.28	515.58	4.42	667.00	4.41
(01.04.22) 08:00	28.33	521.35	4.44	349.55	4.43
(01.04.22) 09:00	29.65	532.09	4.46	508.44	4.45
(01.04.22) 10:00	30.85	528.87	4.48	509.34	4.47
(01.04.22) 11:00	33.13	534.07	4.50	511.47	4.49
(01.04.22) 12:00	36.28	528.01	4.52	511.90	4.51
(01.04.22) 13:00	39.55	514.57	4.54	509.68	4.53
(01.04.22) 14:00	45.44	514.42	4.56	512.26	4.55
(01.04.22) 15:00	46.66	513.99	4.58	685.18	4.57
(01.04.22) 16:00	46.55	522.29	4.60	689.10	4.59
(01.04.22) 17:00	47.31	506.76	4.61	690.45	4.62
(01.04.22) 18:00	45.73	40.07	4.63	686.87	4.65
(01.04.22) 19:00	45.11	431.40	4.64	682.44	4.67
(01.04.22) 20:00	43.86	510.16	4.66	684.33	4.70
(01.04.22) 21:00	42.48	438.97	4.68	675.15	4.72
(01.04.22) 22:00	42.64	284.77	4.69	672.61	4.75
(01.04.22) 23:00	41.08	500.30	4.71	675.80	4.77
(01.05.22) 00:00	39.01	447.15	4.72	673.84	4.80
(01.05.22) 01:00	37.80	600.42	4.74	666.44	4.82

(01.05.22) 02:00	37.86	422.31	4.75	673.11	4.85
(01.05.22) 03:00	33.21	421.46	4.77	666.16	4.87
(01.05.22) 04:00	31.10	508.68	4.78	669.81	4.90
(01.05.22) 05:00	29.96	0.20	4.80	671.96	4.92
(01.05.22) 06:00	29.33	444.17	4.81	666.69	4.95
(01.05.22) 07:00	28.39	437.54	4.83	664.76	4.97
(01.05.22) 08:00	26.13	510.50	4.86	284.17	4.99
(01.05.22) 09:00	28.39	846.94	4.88	257.89	5.01
(01.05.22) 10:00	29.77	863.30	4.91	498.83	5.03
(01.05.22) 11:00	32.13	866.12	4.94	503.31	5.04
(01.05.22) 12:00	33.81	868.97	4.97	590.81	5.06
(01.05.22) 13:00	34.14	864.07	5.00	598.05	5.08
(01.05.22) 14:00	35.23	872.66	5.03	599.33	5.10
(01.05.22) 15:00	36.58	915.62	5.06	525.83	5.12
(01.05.22) 16:00	36.56	915.03	5.10	660.31	5.15
(01.05.22) 17:00	36.04	1,035.33	5.13	674.22	5.17
(01.05.22) 18:00	35.73	1,047.00	5.17	671.35	5.19
(01.05.22) 19:00	36.38	1,054.39	5.21	672.56	5.22
(01.05.22) 20:00	34.75	1,056.21	5.25	660.87	5.24
(01.05.22) 21:00	35.54	1,024.57	5.28	656.52	5.27
(01.05.22) 22:00	34.57	1,032.67	5.32	673.96	5.29
(01.05.22) 23:00	35.38	1,036.63	5.36	669.87	5.31
(01.06.22) 00:00	35.06	1,048.11	5.40	666.30	5.34
(01.06.22) 01:00	34.98	1,055.18	5.44	661.00	5.36
(01.06.22) 02:00	32.87	1,052.25	5.48	662.92	5.39
(01.06.22) 03:00	31.48	1,058.50	5.52	664.58	5.41
(01.06.22) 04:00	29.31	1,062.23	5.56	658.44	5.44
(01.06.22) 05:00	27.79	1,064.52	5.60	662.49	5.46
(01.06.22) 06:00	25.39	1,066.44	5.64	661.98	5.49
(01.06.22) 07:00	24.90	1,063.06	5.68	665.42	5.51
(01.06.22) 08:00	25.78	1,048.29	5.71	280.27	5.53
(01.06.22) 09:00	27.03	889.22	5.75	249.47	5.54
(01.06.22) 10:00	27.99	890.92	5.78	442.82	5.56
(01.06.22) 11:00	29.84	891.78	5.82	419.41	5.58
(01.06.22) 12:00	34.24	889.94	5.85	425.81	5.59
(01.06.22) 13:00	32.26	884.86	5.89	434.56	5.61
(01.06.22) 14:00	33.15	885.87	5.92	445.29	5.62
(01.06.22) 15:00	36.15	885.70	5.95	445.45	5.64
(01.06.22) 16:00	34.54	883.34	5.97	650.83	5.67
(01.06.22) 17:00	34.76	481.48	5.99	611.84	5.69
(01.06.22) 18:00	35.28	447.99	6.01	625.05	5.71
(01.06.22) 19:00	35.64	426.83	6.03	617.49	5.74
(01.06.22) 20:00	34.86	424.17	6.06	610.80	5.76
(01.06.22) 21:00	35.43	425.78	6.08	609.41	5.78
(01.06.22) 22:00	35.30	429.08	6.10	610.93	5.80
(01.06.22) 23:00	35.51	428.59	6.13	604.34	5.83
(01.07.22) 00:00	35.42	1,003.78	6.16	605.25	5.85

(01.07.22) 01:00	33.95	1,036.51	6.19	600.36	5.87
(01.07.22) 02:00	33.76	1,047.80	6.22	599.86	5.89
(01.07.22) 03:00	32.08	1,076.02	6.25	602.09	5.92
(01.07.22) 04:00	29.44	936.39	6.28	603.39	5.94
(01.07.22) 05:00	27.25	549.16	6.31	601.86	5.96
(01.07.22) 06:00	26.21	539.90	6.35	601.09	5.98
(01.07.22) 07:00	25.75	519.29	6.37	604.78	6.00
(01.07.22) 08:00	25.17	515.27	6.39	499.18	6.02
(01.07.22) 09:00	27.49	518.23	6.41	505.38	6.04
(01.07.22) 10:00	29.31	515.82	6.43	502.42	6.06
(01.07.22) 11:00	30.90	518.55	6.45	510.29	6.08
(01.07.22) 12:00	33.68	539.78	6.47	594.52	6.10
(01.07.22) 13:00	34.90	533.64	6.49	589.98	6.12
(01.07.22) 14:00	36.39	529.38	6.51	592.06	6.14
(01.07.22) 15:00	36.19	525.77	6.53	329.79	6.17
(01.07.22) 16:00	36.89	528.87	6.55	606.72	6.19
(01.07.22) 17:00	38.68	532.02	6.57	625.97	6.21
(01.07.22) 18:00	36.92	534.44	6.59	626.10	6.23
(01.07.22) 19:00	36.91	538.08	6.61	619.59	6.25
(01.07.22) 20:00	36.68	541.74	6.63	614.32	6.27
(01.07.22) 21:00	36.17	543.45	6.65	610.55	6.29
(01.07.22) 22:00	36.64	538.90	6.67	605.45	6.32
(01.07.22) 23:00	36.48	522.31	6.69	602.93	6.34
(01.08.22) 00:00	36.26	527.01	6.71	607.23	6.36
(01.08.22) 01:00	35.36	532.93	6.73	604.55	6.39
(01.08.22) 02:00	35.12	533.94	6.75	603.78	6.41
(01.08.22) 03:00	32.64	475.12	6.76	604.23	6.43
(01.08.22) 04:00	30.70	482.16	6.78	603.91	6.45
(01.08.22) 05:00	29.16	480.34	6.80	604.21	6.48
(01.08.22) 06:00	28.03	481.68	6.82	597.98	6.50
(01.08.22) 07:00	26.14	481.68	6.84	603.68	6.52
(01.08.22) 08:00	27.42	479.73	6.86	599.68	6.54
(01.08.22) 09:00	27.56	477.75	6.87	594.41	6.57
(01.08.22) 10:00	27.96	477.39	6.89	298.10	6.59
(01.08.22) 11:00	28.93	477.94	6.91	483.78	6.61
(01.08.22) 12:00	30.86	475.89	6.93	489.03	6.63
(01.08.22) 13:00	34.30	481.51	6.95	615.35	6.65
(01.08.22) 14:00	36.26	480.21	6.96	610.87	6.67
(01.08.22) 15:00	39.02	474.75	6.98	612.16	6.69
(01.08.22) 16:00	40.27	470.23	7.00	609.36	6.71
(01.08.22) 17:00	40.62	479.99	7.02	607.29	6.73
(01.08.22) 18:00	41.43	475.38	7.04	596.43	6.75
(01.08.22) 19:00	41.19	468.00	7.06	594.62	6.77
(01.08.22) 20:00	40.90	449.87	7.08	604.55	6.80
(01.08.22) 21:00	40.71	438.50	7.11	603.20	6.82
(01.08.22) 22:00	39.66	748.95	7.13	603.63	6.84
(01.08.22) 23:00	38.87	792.51	7.16	602.65	6.86

(01.09.22) 00:00	38.48	848.17	7.18	605.40	6.89
(01.09.22) 01:00	37.82	863.86	7.20	601.66	6.91
(01.09.22) 02:00	36.01	873.77	7.23	603.90	6.93
(01.09.22) 03:00	34.52	930.85	7.27	603.09	6.95
(01.09.22) 04:00	31.86	647.48	7.30	605.08	6.98
(01.09.22) 05:00	29.18	933.83	7.34	607.99	7.00
(01.09.22) 06:00	28.41	1,113.39	7.38	602.31	7.02
(01.09.22) 07:00	25.95	1,110.40	7.42	600.47	7.04
(01.09.22) 08:00	25.38	1,119.21	7.45	596.48	7.06
(01.09.22) 09:00	25.17	1,124.19	7.49	593.46	7.09
(01.09.22) 10:00	26.63	1,122.92	7.53	590.25	7.11
(01.09.22) 11:00	27.80	1,123.17	7.57	490.74	7.13
(01.09.22) 12:00	29.23	1,125.03	7.61	500.88	7.15
(01.09.22) 13:00	32.27	1,134.77	7.65	503.42	7.17
(01.09.22) 14:00	35.30	1,119.52	7.69	502.34	7.19
(01.09.22) 15:00	38.07	1,118.58	7.73	603.23	7.21
(01.09.22) 16:00	39.35	923.43	7.77	602.19	7.23
(01.09.22) 17:00	40.84	924.20	7.81	598.11	7.25
(01.09.22) 18:00	40.71	928.67	7.84	601.77	7.27
(01.09.22) 19:00	39.56	928.89	7.88	596.29	7.29
(01.09.22) 20:00	39.07	927.17	7.91	594.93	7.31
(01.09.22) 21:00	38.89	925.94	7.95	591.80	7.33
(01.09.22) 22:00	38.56	927.40	7.98	588.94	7.35
(01.09.22) 23:00	38.22	927.75	8.02	588.39	7.38
(01.10.22) 00:00	38.04	930.39	8.05	587.06	7.40
(01.10.22) 01:00	37.46	928.93	8.09	592.21	7.42
(01.10.22) 02:00	34.64	928.22	8.12	589.54	7.44
(01.10.22) 03:00	33.25	925.34	8.15	591.46	7.46
(01.10.22) 04:00	31.49	922.41	8.18	594.23	7.48
(01.10.22) 05:00	29.23	808.33	8.22	583.54	7.50
(01.10.22) 06:00	27.83	813.40	8.25	590.73	7.52
(01.10.22) 07:00	27.45	823.53	8.28	590.37	7.55
(01.10.22) 08:00	27.79	836.49	8.31	466.35	7.57
(01.10.22) 09:00	28.43	849.73	8.35	486.21	7.59
(01.10.22) 10:00	29.32	846.96	8.38	462.29	7.61
(01.10.22) 11:00	31.95	843.98	8.41	431.56	7.62
(01.10.22) 12:00	33.78	843.64	8.44	422.44	7.64
(01.10.22) 13:00	36.67	837.07	8.48	429.45	7.66
(01.10.22) 14:00	37.18	853.44	8.51	431.32	7.68
(01.10.22) 15:00	36.61	863.18	8.54	427.61	7.70
(01.10.22) 16:00	36.96	864.40	8.57	530.07	7.71
(01.10.22) 17:00	36.64	916.73	8.61	564.72	7.73
(01.10.22) 18:00	36.14	917.88	8.64	591.29	7.75
(01.10.22) 19:00	36.27	914.63	8.68	602.96	7.77
(01.10.22) 20:00	36.06	913.07	8.71	600.04	7.80
(01.10.22) 21:00	36.29	908.96	8.74	595.00	7.82
(01.10.22) 22:00	36.15	913.23	8.78	588.76	7.84

(01.10.22) 23:00	36.65	913.69	8.81	591.71	7.86
(01.11.22) 00:00	35.93	912.99	8.85	604.98	7.89
(01.11.22) 01:00	34.75	911.97	8.88	605.58	7.91
(01.11.22) 02:00	33.95	915.94	8.92	596.85	7.93
(01.11.22) 03:00	32.49	916.46	8.95	601.57	7.95
(01.11.22) 04:00	29.70	916.47	8.99	599.31	7.97
(01.11.22) 05:00	29.56	924.35	9.02	596.45	7.99
(01.11.22) 06:00	27.81	918.41	9.06	598.16	8.02
(01.11.22) 07:00	27.36	915.46	9.09	596.38	8.04
(01.11.22) 08:00	28.05	920.87	9.12	496.08	8.06
(01.11.22) 09:00	29.19	921.71	9.16	499.22	8.08
(01.11.22) 10:00	31.41	919.12	9.19	571.66	8.10
(01.11.22) 11:00	34.33	918.38	9.23	572.48	8.12
(01.11.22) 12:00	35.24	920.39	9.26	575.83	8.14
(01.11.22) 13:00	36.78	925.01	9.30	580.81	8.17
(01.11.22) 14:00	37.48	919.29	9.33	518.50	8.19
(01.11.22) 15:00	37.77	919.57	9.37	603.01	8.21
(01.11.22) 16:00	37.21	923.06	9.40	605.58	8.23
(01.11.22) 17:00	36.98	828.67	9.44	603.19	8.25
(01.11.22) 18:00	36.37	835.16	9.47	597.33	8.27
(01.11.22) 19:00	37.46	844.92	9.51	595.33	8.30
(01.11.22) 20:00	37.55	970.25	9.55	588.61	8.32
(01.11.22) 21:00	36.80	986.41	9.58	581.03	8.34
(01.11.22) 22:00	36.97	963.56	9.62	584.51	8.37
(01.11.22) 23:00	37.45	986.38	9.65	596.56	8.39
(01.12.22) 00:00	36.78	1,005.94	9.69	597.28	8.41
(01.12.22) 01:00	35.69	872.87	9.73	597.10	8.43
(01.12.22) 02:00	34.29	875.96	9.76	589.41	8.46
(01.12.22) 03:00	32.74	877.83	9.80	589.23	8.48
(01.12.22) 04:00	30.39	870.85	9.83	589.88	8.50
(01.12.22) 05:00	28.19	924.16	9.87	595.74	8.52
(01.12.22) 06:00	26.28	927.87	9.90	589.85	8.54
(01.12.22) 07:00	26.17	925.71	9.94	591.95	8.57
(01.12.22) 08:00	26.88	922.03	9.97	484.32	8.59
(01.12.22) 09:00	28.25	921.72	10.01	486.33	8.61
(01.12.22) 10:00	30.69	925.86	10.04	490.36	8.63
(01.12.22) 11:00	32.47	918.94	10.08	482.09	8.65
(01.12.22) 12:00	33.72	921.87	10.11	483.82	8.67
(01.12.22) 13:00	35.40	921.81	10.15	579.34	8.68
(01.12.22) 14:00	36.41	922.76	10.19	300.27	8.70
(01.12.22) 15:00	36.53	922.37	10.22	624.01	8.72
(01.12.22) 16:00	36.85	921.98	10.26	658.94	8.74
(01.12.22) 17:00	37.16	924.33	10.29	660.09	8.77
(01.12.22) 18:00	36.08	884.29	10.33	586.53	8.79
(01.12.22) 19:00	36.38	974.51	10.37	583.29	8.81
(01.12.22) 20:00	36.22	980.99	10.40	576.79	8.83
(01.12.22) 21:00	36.28	902.50	10.44	577.94	8.86

(01.12.22) 22:00	36.78	899.46	10.47	575.25	8.88
(01.12.22) 23:00	36.96	901.71	10.51	577.75	8.90
(01.13.22) 00:00	36.73	915.07	10.54	577.93	8.92
(01.13.22) 01:00	35.51	912.65	10.58	572.61	8.95
(01.13.22) 02:00	34.16	917.61	10.61	572.38	8.97
(01.13.22) 03:00	33.83	920.75	10.65	575.93	8.99
(01.13.22) 04:00	30.72	919.47	10.68	570.10	9.01
(01.13.22) 05:00	28.69	865.92	10.72	570.30	9.03
(01.13.22) 06:00	27.26	872.75	10.75	570.19	9.06
(01.13.22) 07:00	26.40	869.35	10.79	570.40	9.08
(01.13.22) 08:00	26.95	870.36	10.82	267.30	9.10
(01.13.22) 09:00	28.03	863.78	10.85	494.32	9.12
(01.13.22) 10:00	30.77	870.40	10.89	560.47	9.14
(01.13.22) 11:00	32.99	866.86	10.92	555.49	9.16
(01.13.22) 12:00	34.67	867.01	10.95	556.54	9.18
(01.13.22) 13:00	36.18	866.99	10.99	552.51	9.20
(01.13.22) 14:00	37.15	863.43	11.02	552.49	9.22
(01.13.22) 15:00	37.33	866.13	11.06	568.67	9.24
(01.13.22) 16:00	36.70	858.54	11.09	582.92	9.26
(01.13.22) 17:00	36.92	963.48	11.13	583.24	9.28
(01.13.22) 18:00	36.05	1,030.48	11.17	576.82	9.30
(01.13.22) 19:00	36.66	1,023.75	11.20	583.21	9.33
(01.13.22) 20:00	36.40	1,033.97	11.24	582.15	9.35
(01.13.22) 21:00	35.74	1,000.50	11.28	571.77	9.37
(01.13.22) 22:00	36.06	886.01	11.31	573.51	9.39
(01.13.22) 23:00	36.85	898.97	11.35	568.28	9.41
(01.14.22) 00:00	37.50	914.76	11.38	573.03	9.44
(01.14.22) 01:00	35.47	917.63	11.42	571.27	9.46
(01.14.22) 02:00	34.20	909.28	11.45	568.08	9.48
(01.14.22) 03:00	31.58	916.98	11.49	567.96	9.50
(01.14.22) 04:00	29.70	913.87	11.53	567.23	9.52
(01.14.22) 05:00	28.04	915.10	11.56	567.43	9.55
(01.14.22) 06:00	26.97	914.55	11.60	567.94	9.57
(01.14.22) 07:00	26.15	913.48	11.63	562.36	9.59
(01.14.22) 08:00	25.99	913.90	11.67	277.21	9.61
(01.14.22) 09:00	26.68	912.64	11.70	588.55	9.63
(01.14.22) 10:00	28.07	910.10	11.74	581.30	9.65
(01.14.22) 11:00	31.38	911.55	11.77	578.76	9.67
(01.14.22) 12:00	32.81	912.04	11.81	578.58	9.69
(01.14.22) 13:00	33.22	909.71	11.84	484.51	9.71
(01.14.22) 14:00	35.28	911.03	11.88	481.10	9.73
(01.14.22) 15:00	36.61	913.89	11.92	246.13	9.75
(01.14.22) 16:00	37.22	912.16	11.96	634.96	9.77
(01.14.22) 17:00	37.37	1,024.47	11.99	652.07	9.79
(01.14.22) 18:00	36.59	874.69	12.03	656.86	9.81
(01.14.22) 19:00	35.78	875.63	12.07	603.41	9.84
(01.14.22) 20:00	35.82	876.04	12.10	603.50	9.86

(01.14.22) 21:00	35.96	879.15	12.14	589.88	9.88
(01.14.22) 22:00	40.57	874.08	12.17	598.30	9.91
(01.14.22) 23:00	64.30	867.55	12.21	599.99	9.93
(01.15.22) 00:00	61.45	871.39	12.24	578.41	9.96
(01.15.22) 01:00	77.33	871.96	12.28	606.92	9.98
(01.15.22) 02:00	71.59	866.55	12.31	602.06	10.00
(01.15.22) 03:00	63.65	868.72	12.35	621.17	10.03
(01.15.22) 04:00	53.36	863.42	12.38	618.84	10.05
(01.15.22) 05:00	45.57	869.71	12.42	611.59	10.08
(01.15.22) 06:00	38.71	858.56	12.45	597.86	10.10
(01.15.22) 07:00	34.23	858.40	12.48	596.90	10.13
(01.15.22) 08:00	32.84	858.74	12.52	599.14	10.15
(01.15.22) 09:00	31.88	861.40	12.55	598.68	10.17
(01.15.22) 10:00	32.25	863.40	12.59	593.15	10.20
(01.15.22) 11:00	34.08	858.27	12.62	598.82	10.22
(01.15.22) 12:00	37.37	872.11	12.66	596.63	10.25
(01.15.22) 13:00	40.06	865.18	12.69	616.33	10.27
(01.15.22) 14:00	43.97	854.78	12.73	594.31	10.29
(01.15.22) 15:00	47.96	845.84	12.76	588.16	10.32
(01.15.22) 16:00	48.71	851.27	12.79	590.91	10.34
(01.15.22) 17:00	48.97	833.71	12.83	585.35	10.36
(01.15.22) 18:00	47.72	917.68	12.86	579.62	10.39
(01.15.22) 19:00	46.18	917.22	12.90	583.15	10.41
(01.15.22) 20:00	44.65	911.66	12.93	583.87	10.44
(01.15.22) 21:00	43.89	913.82	12.97	593.56	10.46
(01.15.22) 22:00	42.53	914.44	13.01	579.47	10.48
(01.15.22) 23:00	40.77	878.95	13.04	587.77	10.51
(01.16.22) 00:00	39.69	874.17	13.08	598.60	10.53
(01.16.22) 01:00	38.34	876.35	13.11	607.10	10.55
(01.16.22) 02:00	37.00	876.11	13.15	605.73	10.58
(01.16.22) 03:00	34.85	875.36	13.18	599.76	10.60
(01.16.22) 04:00	33.55	873.46	13.22	601.04	10.62
(01.16.22) 05:00	32.30	851.95	13.25	601.10	10.65
(01.16.22) 06:00	31.14	874.05	13.29	601.79	10.67
(01.16.22) 07:00	29.62	871.42	13.32	600.50	10.69
(01.16.22) 08:00	28.90	873.98	13.36	598.85	10.71
(01.16.22) 09:00	30.24	873.41	13.39	478.09	10.74
(01.16.22) 10:00	29.53	874.31	13.43	487.46	10.76
(01.16.22) 11:00	30.85	875.97	13.46	482.95	10.78
(01.16.22) 12:00	32.07	874.57	13.50	483.10	10.80
(01.16.22) 13:00	34.47	870.94	13.53	480.47	10.83
(01.16.22) 14:00	39.99	872.93	13.57	603.99	10.85
(01.16.22) 15:00	52.11	876.68	13.60	614.65	10.87
(01.16.22) 16:00	59.93	872.11	13.64	614.10	10.89
(01.16.22) 17:00	57.65	867.04	13.67	611.97	10.91
(01.16.22) 18:00	55.10	831.42	13.71	613.05	10.94
(01.16.22) 19:00	52.02	824.45	13.74	608.75	10.96

(01.16.22) 20:00	48.59	814.39	13.77	603.68	10.99
(01.16.22) 21:00	47.27	817.25	13.81	609.29	11.01
(01.16.22) 22:00	45.88	806.20	13.84	606.69	11.03
(01.16.22) 23:00	43.99	815.39	13.87	598.25	11.06
(01.17.22) 00:00	42.78	819.46	13.90	601.83	11.08
(01.17.22) 01:00	40.85	821.56	13.94	599.34	11.11
(01.17.22) 02:00	39.42	824.91	13.97	603.01	11.13
(01.17.22) 03:00	37.30	819.83	14.00	600.90	11.15
(01.17.22) 04:00	35.09	822.82	14.04	605.18	11.17
(01.17.22) 05:00	33.11	823.54	14.07	605.48	11.20
(01.17.22) 06:00	31.99	813.40	14.10	598.90	11.22
(01.17.22) 07:00	30.87	823.58	14.13	599.77	11.24
(01.17.22) 08:00	30.56	823.95	14.17	276.97	11.26
(01.17.22) 09:00	31.28	828.47	14.20	249.55	11.28
(01.17.22) 10:00	31.77	833.69	14.23	436.39	11.30
(01.17.22) 11:00	33.75	833.64	14.27	475.99	11.32
(01.17.22) 12:00	36.24	836.76	14.30	549.50	11.34
(01.17.22) 13:00	41.24	844.23	14.34	547.82	11.36
(01.17.22) 14:00	45.96	843.72	14.37	557.29	11.38
(01.17.22) 15:00	52.47	841.30	14.40	603.05	11.40
(01.17.22) 16:00	56.94	827.56	14.44	594.07	11.42
(01.17.22) 17:00	59.57	837.11	14.47	607.75	11.44
(01.17.22) 18:00	59.78	898.31	14.51	610.65	11.47
(01.17.22) 19:00	57.59	897.10	14.55	604.66	11.49
(01.17.22) 20:00	54.92	989.78	14.58	607.02	11.52
(01.17.22) 21:00	52.62	1,007.85	14.62	591.16	11.54
(01.17.22) 22:00	50.19	996.57	14.66	588.61	11.56
(01.17.22) 23:00	49.47	1,022.36	14.70	602.88	11.59
(01.18.22) 00:00	47.72	1,025.58	14.74	599.34	11.61
(01.18.22) 01:00	45.71	895.13	14.77	605.74	11.64
(01.18.22) 02:00	44.22	893.98	14.81	600.83	11.66
(01.18.22) 03:00	40.75	894.61	14.84	598.26	11.68
(01.18.22) 04:00	37.94	896.76	14.88	601.70	11.71
(01.18.22) 05:00	35.91	893.33	14.91	601.90	11.73
(01.18.22) 06:00	34.53	893.15	14.95	602.03	11.75
(01.18.22) 07:00	33.76	602.78	14.98	599.46	11.78
(01.18.22) 08:00	34.37	512.90	15.01	487.92	11.80
(01.18.22) 09:00	35.37	0.00	15.03	488.23	11.82
(01.18.22) 10:00	37.29	0.00	15.03	486.20	11.84
(01.18.22) 11:00	39.87	0.00	15.03	558.73	11.86
(01.18.22) 12:00	42.57	0.00	15.03	559.53	11.88
(01.18.22) 13:00	44.84	0.01	15.03	562.58	11.90
(01.18.22) 14:00	45.41	0.02	15.03	563.48	11.93
(01.18.22) 15:00	47.12	0.03	15.04	560.77	11.95
(01.18.22) 16:00	47.88	35.45	15.04	577.71	11.97
(01.18.22) 17:00	47.81	0.02	15.04	581.27	12.00
(01.18.22) 18:00	48.10	95.21	15.04	584.71	12.02

(01.18.22) 19:00	47.11	0.01	15.05	569.87	12.04
(01.18.22) 20:00	46.60	0.00	15.05	575.40	12.06
(01.18.22) 21:00	46.21	104.79	15.05	612.11	12.09
(01.18.22) 22:00	45.37	1.56	15.05	597.48	12.11
(01.18.22) 23:00	45.12	82.45	15.05	610.30	12.14
(01.19.22) 00:00	45.54	1.00	15.05	609.34	12.16
(01.19.22) 01:00	44.08	22.99	15.05	603.35	12.18
(01.19.22) 02:00	40.91	35.42	15.05	609.85	12.21
(01.19.22) 03:00	38.78	27.91	15.06	605.06	12.23
(01.19.22) 04:00	36.18	0.04	15.06	598.96	12.26
(01.19.22) 05:00	34.11	0.07	15.06	601.38	12.28
(01.19.22) 06:00	32.35	0.09	15.07	603.80	12.30
(01.19.22) 07:00	31.05	0.13	15.07	598.04	12.32
(01.19.22) 08:00	31.89	26.78	15.07	488.37	12.35
(01.19.22) 09:00	31.50	0.14	15.08	497.04	12.37
(01.19.22) 10:00	33.09	105.75	15.08	490.16	12.39
(01.19.22) 11:00	35.56	434.55	15.09	559.31	12.41
(01.19.22) 12:00	36.83	413.43	15.11	558.07	12.43
(01.19.22) 13:00	38.03	422.45	15.12	558.88	12.46
(01.19.22) 14:00	38.07	424.79	15.14	561.94	12.48
(01.19.22) 15:00	38.05	415.67	15.16	562.93	12.50
(01.19.22) 16:00	38.83	428.59	15.18	643.31	12.53
(01.19.22) 17:00	38.26	425.09	15.19	659.23	12.55
(01.19.22) 18:00	37.88	423.63	15.21	652.76	12.57
(01.19.22) 19:00	38.18	421.19	15.23	652.55	12.60
(01.19.22) 20:00	38.17	424.86	15.25	654.87	12.62
(01.19.22) 21:00	38.80	411.40	15.27	634.82	12.65
(01.19.22) 22:00	38.93	415.27	15.29	648.34	12.67
(01.19.22) 23:00	37.96	420.29	15.31	648.09	12.70
(01.20.22) 00:00	38.83	834.23	15.34	645.69	12.72
(01.20.22) 01:00	36.87	805.49	15.36	648.72	12.75
(01.20.22) 02:00	35.61	810.20	15.38	647.58	12.78
(01.20.22) 03:00	33.81	819.39	15.40	649.84	12.80
(01.20.22) 04:00	32.04	826.47	15.42	643.66	12.83
(01.20.22) 05:00	30.00	417.94	15.44	646.02	12.85
(01.20.22) 06:00	29.65	412.76	15.46	646.48	12.87
(01.20.22) 07:00	28.89	413.56	15.48	638.88	12.89
(01.20.22) 08:00	29.59	403.27	15.50	280.07	12.91
(01.20.22) 09:00	30.79	401.46	15.53	460.31	12.94
(01.20.22) 10:00	32.36	404.91	15.55	460.78	12.96
(01.20.22) 11:00	33.46	520.39	15.56	465.03	12.98
(01.20.22) 12:00	35.39	512.99	15.58	553.00	13.00
(01.20.22) 13:00	36.68	526.97	15.60	559.36	13.02
(01.20.22) 14:00	37.31	441.13	15.62	559.81	13.05
(01.20.22) 15:00	36.62	442.25	15.63	559.45	13.07
(01.20.22) 16:00	36.62	444.64	15.65	590.83	13.09
(01.20.22) 17:00	37.44	0.09	15.67	597.69	13.11

(01.20.22) 18:00	37.52	447.36	15.69	580.07	13.14
(01.20.22) 19:00	36.71	452.31	15.70	574.70	13.16
(01.20.22) 20:00	37.18	436.43	15.72	572.70	13.18
(01.20.22) 21:00	37.61	427.85	15.74	564.70	13.21
(01.20.22) 22:00	38.01	428.31	15.76	567.81	13.23
(01.20.22) 23:00	36.95	419.37	15.77	566.13	13.25
(01.21.22) 00:00	35.50	423.55	15.79	567.09	13.27
(01.21.22) 01:00	35.19	431.14	15.81	563.58	13.30
(01.21.22) 02:00	33.77	426.86	15.83	564.80	13.32
(01.21.22) 03:00	32.50	422.19	15.85	563.79	13.34
(01.21.22) 04:00	39.81	426.00	15.88	563.76	13.37
(01.21.22) 05:00	31.85	809.83	15.91	564.03	13.39
(01.21.22) 06:00	28.16	813.42	15.93	564.23	13.41
(01.21.22) 07:00	27.08	821.11	15.96	562.85	13.43
(01.21.22) 08:00	27.32	818.67	15.99	478.85	13.46
(01.21.22) 09:00	29.55	806.57	16.01	608.27	13.48
(01.21.22) 10:00	40.64	811.24	16.04	610.40	13.50
(01.21.22) 11:00	36.64	816.77	16.07	613.71	13.52
(01.21.22) 12:00	37.87	823.83	16.11	613.54	13.55
(01.21.22) 13:00	40.09	827.66	16.14	611.85	13.57
(01.21.22) 14:00	40.03	830.67	16.17	617.32	13.59
(01.21.22) 15:00	39.54	808.28	16.21	614.37	13.62
(01.21.22) 16:00	39.60	816.21	16.24	562.49	13.64
(01.21.22) 17:00	38.89	818.38	16.27	581.89	13.66
(01.21.22) 18:00	38.85	885.62	16.30	579.09	13.69
(01.21.22) 19:00	37.53	880.93	16.34	576.84	13.71
(01.21.22) 20:00	37.66	878.92	16.37	579.54	13.74
(01.21.22) 21:00	37.29	883.74	16.41	575.43	13.76
(01.21.22) 22:00	37.35	869.23	16.44	563.82	13.78
(01.21.22) 23:00	37.58	824.68	16.47	565.44	13.80
(01.22.22) 00:00	37.93	827.87	16.51	567.81	13.83
(01.22.22) 01:00	37.23	826.64	16.54	564.34	13.85
(01.22.22) 02:00	36.52	822.41	16.58	563.36	13.87
(01.22.22) 03:00	34.48	828.22	16.61	561.13	13.89
(01.22.22) 04:00	32.73	833.52	16.64	564.05	13.92
(01.22.22) 05:00	30.93	827.44	16.67	559.63	13.94
(01.22.22) 06:00	30.44	826.85	16.71	564.66	13.96
(01.22.22) 07:00	28.62	823.69	16.74	562.27	13.98
(01.22.22) 08:00	28.51	822.25	16.77	561.80	14.00
(01.22.22) 09:00	29.80	827.22	16.81	474.29	14.02
(01.22.22) 10:00	30.24	828.77	16.84	477.27	14.04
(01.22.22) 11:00	32.80	828.61	16.87	475.22	14.06
(01.22.22) 12:00	34.96	829.60	16.90	479.93	14.08
(01.22.22) 13:00	36.93	493.65	16.93	474.64	14.11
(01.22.22) 14:00	39.24	505.10	16.96	546.62	14.13
(01.22.22) 15:00	41.21	506.08	16.98	566.62	14.15
(01.22.22) 16:00	41.12	832.91	17.01	562.65	14.17

(01.22.22) 17:00	41.25	971.07	17.04	561.68	14.19
(01.22.22) 18:00	41.77	977.20	17.07	559.80	14.21
(01.22.22) 19:00	41.02	980.21	17.11	563.21	14.24
(01.22.22) 20:00	40.70	983.42	17.15	553.33	14.26
(01.22.22) 21:00	40.47	984.39	17.19	554.32	14.28
(01.22.22) 22:00	40.03	954.06	17.23	565.77	14.30
(01.22.22) 23:00	39.02	934.89	17.27	566.60	14.33
(01.23.22) 00:00	39.09	1,004.20	17.31	569.02	14.35
(01.23.22) 01:00	38.12	1,010.00	17.35	565.16	14.37
(01.23.22) 02:00	37.17	1,019.23	17.38	566.69	14.39
(01.23.22) 03:00	34.96	1,003.20	17.42	559.01	14.42
(01.23.22) 04:00	33.79	1,002.15	17.46	566.57	14.44
(01.23.22) 05:00	31.58	1,005.38	17.50	562.17	14.46
(01.23.22) 06:00	30.25	941.96	17.54	557.95	14.47
(01.23.22) 07:00	29.53	955.03	17.58	558.77	14.49
(01.23.22) 08:00	28.92	957.05	17.61	286.73	14.51
(01.23.22) 09:00	28.55	837.39	17.65	249.71	14.53
(01.23.22) 10:00	29.27	847.22	17.69	285.05	14.55
(01.23.22) 11:00	31.15	836.23	17.72	469.54	14.57
(01.23.22) 12:00	33.30	620.24	17.76	485.96	14.59
(01.23.22) 13:00	36.27	892.36	17.79	489.52	14.61
(01.23.22) 14:00	39.32	614.67	17.83	491.43	14.63
(01.23.22) 15:00	41.28	828.30	17.86	564.36	14.65
(01.23.22) 16:00	42.28	953.86	17.89	550.68	14.67
(01.23.22) 17:00	42.87	968.97	17.93	562.54	14.69
(01.23.22) 18:00	43.16	988.37	17.96	564.67	14.71
(01.23.22) 19:00	43.67	990.80	18.00	562.37	14.74
(01.23.22) 20:00	43.11	994.43	18.04	558.14	14.76
(01.23.22) 21:00	41.85	994.41	18.08	570.18	14.78
(01.23.22) 22:00	41.48	995.03	18.12	566.76	14.80
(01.23.22) 23:00	41.02	994.30	18.16	565.53	14.82
(01.24.22) 00:00	40.40	990.48	18.20	562.96	14.85
(01.24.22) 01:00	40.04	1,000.20	18.24	564.22	14.87
(01.24.22) 02:00	37.83	993.30	18.28	563.42	14.89
(01.24.22) 03:00	35.49	990.95	18.32	563.06	14.92
(01.24.22) 04:00	34.09	992.00	18.36	558.19	14.94
(01.24.22) 05:00	32.19	990.52	18.40	561.73	14.96
(01.24.22) 06:00	30.41	989.41	18.44	559.50	14.97
(01.24.22) 07:00	29.17	983.48	18.48	561.26	14.99
(01.24.22) 08:00	29.81	986.02	18.52	257.04	15.01
(01.24.22) 09:00	30.34	986.00	18.56	439.70	15.03
(01.24.22) 10:00	32.33	987.40	18.60	469.14	15.05
(01.24.22) 11:00	34.64	984.22	18.64	466.55	15.07
(01.24.22) 12:00	35.83	987.01	18.68	467.65	15.09
(01.24.22) 13:00	36.61	990.08	18.72	245.99	15.11
(01.24.22) 14:00	37.59	987.96	18.76	221.65	15.12
(01.24.22) 15:00	37.74	1,028.97	18.80	222.91	15.14

(01.24.22) 16:00	38.01	1,027.60	18.84	542.84	15.16
(01.24.22) 17:00	38.34	1,027.79	18.88	584.85	15.18
(01.24.22) 18:00	37.29	991.70	18.92	579.99	15.19
(01.24.22) 19:00	36.99	996.83	18.96	580.39	15.21
(01.24.22) 20:00	36.48	999.44	19.00	587.46	15.23
(01.24.22) 21:00	36.37	999.75	19.04	570.17	15.25
(01.24.22) 22:00	36.87	999.23	19.08	576.41	15.28
(01.24.22) 23:00	36.92	997.83	19.12	572.02	15.30
(01.25.22) 00:00	35.91	996.76	19.16	577.83	15.32
(01.25.22) 01:00	34.58	993.95	19.20	574.12	15.35
(01.25.22) 02:00	33.92	937.88	19.23	572.08	15.37
(01.25.22) 03:00	31.94	939.68	19.27	578.87	15.39
(01.25.22) 04:00	30.13	954.27	19.31	577.47	15.41
(01.25.22) 05:00	28.48	955.21	19.34	579.42	15.43
(01.25.22) 06:00	27.84	958.46	19.38	575.26	15.45
(01.25.22) 07:00	26.13	965.37	19.41	573.67	15.47
(01.25.22) 08:00	26.74	962.39	19.45	273.69	15.49
(01.25.22) 09:00	27.60	498.11	19.49	236.03	15.51
(01.25.22) 10:00	28.40	418.27	19.51	229.60	15.53
(01.25.22) 11:00	31.35	494.15	19.53	555.69	15.55
(01.25.22) 12:00	31.97	411.82	19.54	554.98	15.57
(01.25.22) 13:00	33.61	525.57	19.56	569.01	15.59
(01.25.22) 14:00	34.69	474.09	19.58	560.71	15.61
(01.25.22) 15:00	34.94	392.15	19.60	250.41	15.63
(01.25.22) 16:00	35.98	464.90	19.62	547.31	15.65
(01.25.22) 17:00	36.67	574.64	19.64	573.46	15.67
(01.25.22) 18:00	36.23	498.98	19.65	555.47	15.69
(01.25.22) 19:00	35.74	530.40	19.67	550.20	15.71
(01.25.22) 20:00	35.64	513.43	19.68	552.69	15.73
(01.25.22) 21:00	35.61	119.70	19.70	554.46	15.76
(01.25.22) 22:00	35.34	457.78	19.72	563.85	15.78
(01.25.22) 23:00	35.08	575.85	19.73	558.16	15.80
(01.26.22) 00:00	36.16	520.92	19.75	563.71	15.82
(01.26.22) 01:00	35.42	647.39	19.76	559.66	15.84
(01.26.22) 02:00	33.57	511.70	19.78	558.37	15.87
(01.26.22) 03:00	32.01	448.03	19.80	562.93	15.89
(01.26.22) 04:00	29.96	510.76	19.82	555.15	15.91
(01.26.22) 05:00	28.35	481.45	19.83	560.11	15.93
(01.26.22) 06:00	26.81	555.36	19.85	558.07	15.95
(01.26.22) 07:00	26.12	494.24	19.87	562.68	15.97
(01.26.22) 08:00	27.15	499.82	19.89	258.33	15.99
(01.26.22) 09:00	28.57	488.43	19.91	233.39	16.01
(01.26.22) 10:00	30.26	493.54	19.93	553.57	16.02
(01.26.22) 11:00	32.99	571.03	19.95	556.86	16.04
(01.26.22) 12:00	35.68	450.95	19.97	560.08	16.06
(01.26.22) 13:00	35.74	615.67	19.99	560.64	16.09
(01.26.22) 14:00	38.02	610.49	20.01	562.68	16.11

(01.26.22) 15:00	37.00	604.62	20.03	569.08	16.13
(01.26.22) 16:00	36.48	602.68	20.05	538.51	16.15
(01.26.22) 17:00	36.28	1,042.83	20.08	578.72	16.18
(01.26.22) 18:00	36.32	1,089.40	20.12	567.52	16.20
(01.26.22) 19:00	36.74	1,092.46	20.17	566.79	16.22
(01.26.22) 20:00	36.14	1,189.88	20.21	565.90	16.24
(01.26.22) 21:00	36.43	1,040.85	20.25	569.37	16.26
(01.26.22) 22:00	36.91	1,048.17	20.30	560.12	16.29
(01.26.22) 23:00	37.15	1,043.48	20.34	553.71	16.31
(01.27.22) 00:00	37.31	1,051.92	20.38	561.15	16.33
(01.27.22) 01:00	36.72	1,197.60	20.43	562.00	16.35
(01.27.22) 02:00	35.98	1,202.75	20.47	558.72	16.38
(01.27.22) 03:00	33.27	1,211.54	20.52	558.09	16.40
(01.27.22) 04:00	30.77	1,214.57	20.56	557.65	16.42
(01.27.22) 05:00	29.36	1,215.07	20.61	557.73	16.44
(01.27.22) 06:00	27.97	1,215.07	20.66	555.56	16.47
(01.27.22) 07:00	27.65	1,214.06	20.70	553.04	16.49
(01.27.22) 08:00	28.10	1,070.43	20.75	557.92	16.51
(01.27.22) 09:00	29.41	544.64	20.79	559.27	16.53
(01.27.22) 10:00	30.69	562.68	20.83	561.59	16.55
(01.27.22) 11:00	32.25	1,203.50	20.87	569.00	16.58
(01.27.22) 12:00	31.20	1,209.61	20.91	573.71	16.60
(01.27.22) 13:00	36.03	1,192.02	20.95	577.89	16.62
(01.27.22) 14:00	37.50	1,019.58	20.99	585.06	16.65
(01.27.22) 15:00	37.81	1,018.87	21.03	659.77	16.67
(01.27.22) 16:00	36.86	1,029.94	21.06	663.49	16.69
(01.27.22) 17:00	36.32	1,123.77	21.10	579.64	16.72
(01.27.22) 18:00	36.05	944.10	21.15	406.28	16.74
(01.27.22) 19:00	35.78	1,143.42	21.19	583.80	16.76
(01.27.22) 20:00	35.37	1,136.89	21.23	587.03	16.79
(01.27.22) 21:00	36.17	1,134.66	21.28	578.86	16.81
(01.27.22) 22:00	36.29	1,144.57	21.32	579.15	16.83
(01.27.22) 23:00	36.27	1,133.40	21.36	577.53	16.86
(01.28.22) 00:00	37.53	1,104.66	21.41	574.77	16.88
(01.28.22) 01:00	35.13	1,104.86	21.45	579.20	16.90
(01.28.22) 02:00	33.94	1,108.25	21.49	578.10	16.93
(01.28.22) 03:00	32.58	1,116.39	21.54	575.79	16.95
(01.28.22) 04:00	29.72	1,119.03	21.58	580.15	16.97
(01.28.22) 05:00	27.44	1,120.78	21.62	575.10	16.99
(01.28.22) 06:00	25.53	1,120.57	21.67	576.63	17.02
(01.28.22) 07:00	24.86	1,116.82	21.71	581.54	17.04
(01.28.22) 08:00	26.07	1,029.38	21.75	616.50	17.06
(01.28.22) 09:00	26.27	510.43	21.79	658.11	17.08
(01.28.22) 10:00	27.67	495.98	21.81	641.28	17.10
(01.28.22) 11:00	30.30	581.13	21.83	169.80	17.12
(01.28.22) 12:00	33.43	579.80	21.85	181.02	17.14
(01.28.22) 13:00	33.23	536.01	21.87	190.65	17.16

(01.28.22) 14:00	34.68	528.13	21.89	551.47	17.18
(01.28.22) 15:00	34.72	603.49	21.91	553.42	17.20
(01.28.22) 16:00	35.65	501.31	21.93	621.80	17.22
(01.28.22) 17:00	35.90	1,026.64	21.96	663.13	17.24
(01.28.22) 18:00	35.29	1,027.57	22.00	661.05	17.26
(01.28.22) 19:00	36.14	1,031.69	22.05	661.91	17.28
(01.28.22) 20:00	35.71	1,107.50	22.09	655.57	17.31
(01.28.22) 21:00	36.01	1,196.92	22.14	642.59	17.33
(01.28.22) 22:00	35.43	1,196.11	22.18	649.04	17.36
(01.28.22) 23:00	35.47	1,199.81	22.23	648.70	17.38
(01.29.22) 00:00	35.27	1,193.01	22.27	644.04	17.41
(01.29.22) 01:00	34.43	1,011.59	22.31	640.64	17.44
(01.29.22) 02:00	33.35	1,013.06	22.34	643.08	17.46
(01.29.22) 03:00	32.27	1,013.79	22.37	644.99	17.49
(01.29.22) 04:00	30.29	1,016.42	22.40	644.76	17.51
(01.29.22) 05:00	28.70	1,014.88	22.44	638.99	17.53
(01.29.22) 06:00	27.59	409.24	22.47	647.56	17.55
(01.29.22) 07:00	27.04	415.40	22.50	644.00	17.57
(01.29.22) 08:00	27.19	430.84	22.53	638.41	17.60
(01.29.22) 09:00	27.85	516.09	22.56	284.52	17.62
(01.29.22) 10:00	35.04	493.12	22.57	249.73	17.64
(01.29.22) 11:00	30.49	533.44	22.59	237.16	17.66
(01.29.22) 12:00	32.07	510.30	22.61	227.91	17.68
(01.29.22) 13:00	34.92	609.30	22.63	636.95	17.71
(01.29.22) 14:00	37.28	176.26	22.65	635.65	17.73
(01.29.22) 15:00	38.77	601.69	22.67	636.51	17.75
(01.29.22) 16:00	39.47	563.63	22.69	640.04	17.78
(01.29.22) 17:00	39.39	552.27	22.72	639.67	17.80
(01.29.22) 18:00	40.09	990.74	22.76	637.61	17.82
(01.29.22) 19:00	38.70	869.37	22.79	638.64	17.85
(01.29.22) 20:00	38.45	881.43	22.83	643.75	17.87
(01.29.22) 21:00	38.43	536.18	22.86	641.26	17.90
(01.29.22) 22:00	37.47	953.72	22.90	639.35	17.92
(01.29.22) 23:00	36.65	961.53	22.93	643.42	17.95
(01.30.22) 00:00	36.98	965.07	22.97	638.37	17.97
(01.30.22) 01:00	35.49	1,138.64	23.01	634.84	18.00
(01.30.22) 02:00	34.46	1,144.58	23.05	639.99	18.02
(01.30.22) 03:00	32.59	1,134.21	23.09	640.93	18.05
(01.30.22) 04:00	30.24	1,134.08	23.14	634.70	18.07
(01.30.22) 05:00	29.15	1,006.68	23.18	639.25	18.09
(01.30.22) 06:00	27.74	1,013.51	23.22	632.81	18.11
(01.30.22) 07:00	26.93	1,025.34	23.26	638.44	18.14
(01.30.22) 08:00	26.63	1,022.04	23.31	400.71	18.16
(01.30.22) 09:00	26.69	942.57	23.34	236.19	18.18
(01.30.22) 10:00	28.01	936.51	23.37	553.13	18.20
(01.30.22) 11:00	30.49	941.30	23.40	562.99	18.22
(01.30.22) 12:00	33.81	687.27	23.43	567.51	18.24

(01.30.22) 13:00	35.46	549.73	23.46	569.61	18.27
(01.30.22) 14:00	38.06	474.22	23.49	577.06	18.29
(01.30.22) 15:00	40.08	468.53	23.52	583.05	18.31
(01.30.22) 16:00	41.60	885.34	23.56	583.31	18.34
(01.30.22) 17:00	41.14	915.00	23.59	582.93	18.36
(01.30.22) 18:00	39.73	912.81	23.62	585.22	18.38
(01.30.22) 19:00	38.65	890.30	23.66	583.77	18.41
(01.30.22) 20:00	38.14	881.21	23.69	586.97	18.43
(01.30.22) 21:00	37.22	887.01	23.73	585.13	18.45
(01.30.22) 22:00	36.29	859.70	23.76	584.92	18.48
(01.30.22) 23:00	35.87	872.24	23.80	580.26	18.50
(01.31.22) 00:00	35.50	881.41	23.83	584.27	18.52
(01.31.22) 01:00	35.06	472.93	23.85	585.22	18.55
(01.31.22) 02:00	33.54	435.27	23.87	583.89	18.57
(01.31.22) 03:00	32.68	492.45	23.89	584.01	18.59
(01.31.22) 04:00	29.62	435.08	23.91	583.21	18.62
(01.31.22) 05:00	27.69	439.48	23.92	581.77	18.64
(01.31.22) 06:00	26.12	526.83	23.94	586.36	18.66
(01.31.22) 07:00	25.51	462.71	23.96	582.39	18.69
(01.31.22) 08:00	25.81	461.57	23.98	621.32	18.71
(01.31.22) 09:00	28.86	984.06	24.01	576.08	18.73
(01.31.22) 10:00	30.81	1,040.89	24.05	580.19	18.76
(01.31.22) 11:00	33.69	758.12	24.09	584.27	18.78
(01.31.22) 12:00	35.60	996.09	24.13	58.22	18.79
(01.31.22) 13:00	36.26	1,001.48	24.16	177.59	18.79
(01.31.22) 14:00	36.97	977.66	24.20	296.97	18.79
(01.31.22) 15:00	37.11	991.08	24.24	416.34	18.79
(01.31.22) 16:00	37.11	990.52	24.28	535.71	18.79
(01.31.22) 17:00	37.00	1,040.02	24.32	655.08	18.79
(01.31.22) 18:00	36.56	1,043.49	24.36	774.45	18.79
(01.31.22) 19:00	36.17	1,037.09	24.40	893.82	18.79
(01.31.22) 20:00	35.67	1,035.78	24.45	1,013.19	18.79
(01.31.22) 21:00	36.89	1,032.52	24.49	1,132.57	18.79
(01.31.22) 22:00	37.16	1,030.16	24.53	1,251.94	18.79
(01.31.22) 23:00	37.41	1,029.89	24.57	1,371.31	18.79
(02.01.22) 00:00	37.23	1,026.19	24.61	1,490.68	18.79
(02.01.22) 01:00	36.53	1,025.10	24.64	1,610.05	18.79
(02.01.22) 02:00	35.18	1,031.03	24.67	1,729.42	18.79
(02.01.22) 03:00	34.08	1,024.18	24.71	1,848.79	18.79
(02.01.22) 04:00	31.77	612.93	24.74	1,968.17	18.79
(02.01.22) 05:00	29.77	524.41	24.77	2,087.54	18.79
(02.01.22) 06:00	28.34	527.32	24.80	2,206.91	18.79
(02.01.22) 07:00	27.26	555.19	24.83	2,326.28	18.79
(02.01.22) 08:00	27.62	590.20	24.86	2,445.65	18.79
(02.01.22) 09:00	28.09	544.02	24.88	572.60	18.80
(02.01.22) 10:00	29.17	442.46	24.90	577.70	18.83
(02.01.22) 11:00	31.74	436.24	24.91	571.87	18.85

(02.01.22) 12:00	34.12	558.78	24.93	576.17	18.87
(02.01.22) 13:00	36.78	439.93	24.95	579.25	18.89
(02.01.22) 14:00	36.54	140.00	24.96	579.76	18.92
(02.01.22) 15:00	36.88	200.51	24.98	286.15	18.94
(02.01.22) 16:00	38.28	515.04	25.00	597.28	18.96
(02.01.22) 17:00	37.75	423.39	25.01	624.93	18.99
(02.01.22) 18:00	37.84	457.63	25.03	627.24	19.01
(02.01.22) 19:00	37.91	452.90	25.05	627.91	19.04
(02.01.22) 20:00	36.56	601.88	25.07	616.81	19.06
(02.01.22) 21:00	37.04	618.90	25.09	593.28	19.09
(02.01.22) 22:00	36.47	533.81	25.11	652.81	19.11
(02.01.22) 23:00	36.94	479.03	25.13	620.82	19.14
(02.02.22) 00:00	38.19	479.57	25.14	650.69	19.16
(02.02.22) 01:00	37.59	489.32	25.16	650.42	19.19
(02.02.22) 02:00	36.65	486.74	25.18	646.42	19.21
(02.02.22) 03:00	33.97	545.18	25.20	648.36	19.24
(02.02.22) 04:00	32.11	527.72	25.22	645.10	19.26
(02.02.22) 05:00	29.66	503.75	25.24	647.03	19.29
(02.02.22) 06:00	27.12	481.24	25.26	647.55	19.31
(02.02.22) 07:00	26.81	474.13	25.28	643.04	19.34
(02.02.22) 08:00	25.25	469.36	25.30	272.20	19.36
(02.02.22) 09:00	24.99	486.52	25.32	241.43	19.38
(02.02.22) 10:00	26.60	526.04	25.34	228.73	19.40
(02.02.22) 11:00	28.13	516.49	25.36	224.72	19.41
(02.02.22) 12:00	29.88	469.00	25.38	559.37	19.43
(02.02.22) 13:00	33.33	476.50	25.40	561.13	19.44
(02.02.22) 14:00	34.88	503.56	25.42	352.33	19.46
(02.02.22) 15:00	35.67	516.66	25.44	357.15	19.47
(02.02.22) 16:00	36.38	459.16	25.46	648.14	19.49
(02.02.22) 17:00	36.77	834.01	25.50	662.79	19.51
(02.02.22) 18:00	36.68	857.24	25.53	659.83	19.54
(02.02.22) 19:00	36.01	861.48	25.57	654.07	19.57
(02.02.22) 20:00	34.82	891.49	25.61	652.45	19.59
(02.02.22) 21:00	34.99	896.96	25.64	642.68	19.62
(02.02.22) 22:00	35.71	984.23	25.68	643.85	19.64
(02.02.22) 23:00	33.92	973.08	25.71	641.52	19.67
(02.03.22) 00:00	34.06	803.31	25.75	646.48	19.70
(02.03.22) 01:00	32.28	960.61	25.79	644.13	19.72
(02.03.22) 02:00	32.08	965.48	25.83	651.03	19.75
(02.03.22) 03:00	29.99	984.08	25.86	648.58	19.77
(02.03.22) 04:00	28.32	994.85	25.90	646.22	19.80
(02.03.22) 05:00	26.92	1,000.12	25.94	646.47	19.82
(02.03.22) 06:00	23.91	996.91	25.98	646.02	19.85
(02.03.22) 07:00	24.09	992.73	26.02	644.02	19.87
(02.03.22) 08:00	23.45	1,010.48	26.06	644.42	19.90
(02.03.22) 09:00	25.20	1,006.98	26.09	501.56	19.92
(02.03.22) 10:00	25.85	827.86	26.13	566.02	19.94

(02.03.22) 11:00	28.14	827.70	26.16	566.99	19.97
(02.03.22) 12:00	30.53	828.01	26.20	572.93	19.99
(02.03.22) 13:00	33.39	819.46	26.23	577.63	20.01
(02.03.22) 14:00	36.27	853.88	26.27	578.37	20.03
(02.03.22) 15:00	37.02	851.02	26.30	587.99	20.05
(02.03.22) 16:00	37.34	975.17	26.34	630.17	20.08
(02.03.22) 17:00	37.83	1,000.96	26.37	650.08	20.10
(02.03.22) 18:00	37.41	1,026.43	26.41	642.56	20.13
(02.03.22) 19:00	37.60	1,025.67	26.44	666.69	20.15
(02.03.22) 20:00	35.67	1,029.52	26.48	664.96	20.18
(02.03.22) 21:00	35.42	991.81	26.51	637.15	20.20
(02.03.22) 22:00	35.96	538.09	26.55	649.87	20.23
(02.03.22) 23:00	35.84	427.30	26.58	648.45	20.26
(02.04.22) 00:00	34.97	438.77	26.61	641.01	20.28
(02.04.22) 01:00	34.20	520.12	26.63	640.10	20.31
(02.04.22) 02:00	32.62	522.31	26.65	634.97	20.33
(02.04.22) 03:00	31.62	80.63	26.67	637.72	20.36
(02.04.22) 04:00	29.75	436.97	26.69	638.79	20.38
(02.04.22) 05:00	27.92	433.98	26.70	621.27	20.41
(02.04.22) 06:00	27.22	433.22	26.72	630.77	20.43
(02.04.22) 07:00	26.14	429.00	26.74	632.42	20.46
(02.04.22) 08:00	25.98	428.79	26.75	632.43	20.48
(02.04.22) 09:00					
(02.04.22) 10:00					
(02.04.22) 11:00	31.79	522.38	26.80	563.77	20.55
(02.04.22) 12:00	34.63	454.47	26.82	568.82	20.57
(02.04.22) 13:00	36.82	451.66	26.84	575.23	20.60
(02.04.22) 14:00	39.07	76.80	26.86	582.85	20.62
(02.04.22) 15:00	40.10	524.84	26.87	660.77	20.64
(02.04.22) 16:00	45.40	458.34	26.89	657.16	20.67
(02.04.22) 17:00	43.49	444.71	26.91	654.43	20.70
(02.04.22) 18:00	42.54	443.74	26.93	647.77	20.72
(02.04.22) 19:00	40.49	470.35	26.94	643.99	20.75
(02.04.22) 20:00	39.75	440.88	26.96	640.02	20.77
(02.04.22) 21:00	38.15	496.72	26.98	644.79	20.80
(02.04.22) 22:00	37.87	821.10	27.00	641.49	20.82
(02.04.22) 23:00	36.75	842.72	27.04	642.31	20.85
(02.05.22) 00:00	35.55	902.87	27.07	640.55	20.87
(02.05.22) 01:00	34.63	899.49	27.11	639.44	20.90
(02.05.22) 02:00	33.16	905.83	27.14	631.18	20.93
(02.05.22) 03:00	31.85	904.13	27.18	639.84	20.95
(02.05.22) 04:00	30.84	905.21	27.22	632.05	20.98
(02.05.22) 05:00	29.51	906.54	27.25	636.99	21.00
(02.05.22) 06:00	29.32	905.38	27.28	635.11	21.03
(02.05.22) 07:00	28.08	428.64	27.30	634.07	21.04
(02.05.22) 08:00	27.36	462.71	27.32	639.60	21.06
(02.05.22) 09:00	28.86	495.75	27.34	521.36	21.08

**

(02.05.22) 10:00	30.37	472.55	27.36	542.27	21.10
(02.05.22) 11:00	30.76	463.34	27.38	539.84	21.12
(02.05.22) 12:00	33.28	455.78	27.40	67.73	21.14
(02.05.22) 13:00	36.67	466.36	27.42	85.79	21.16
(02.05.22) 14:00	40.10	463.29	27.44	489.95	21.18
(02.05.22) 15:00	43.91	512.41	27.47	586.43	21.20
(02.05.22) 16:00	46.79	87.45	27.50	629.31	21.23
(02.05.22) 17:00	47.94	1,060.52	27.53	660.81	21.25
(02.05.22) 18:00	47.71	1,094.86	27.55	660.53	21.28
(02.05.22) 19:00	46.39	472.70	27.58	660.24	21.30
(02.05.22) 20:00	45.77	463.58	27.61	651.87	21.32
(02.05.22) 21:00	43.23	902.39	27.63	651.74	21.35
(02.05.22) 22:00	41.98	466.05	27.66	642.54	21.37
(02.05.22) 23:00	40.90	464.42	27.68	647.32	21.40
(02.06.22) 00:00	39.22	505.48	27.70	653.35	21.43
(02.06.22) 01:00	37.84	510.17	27.71	645.27	21.45
(02.06.22) 02:00	36.47	466.85	27.73	645.30	21.48
(02.06.22) 03:00	34.20	462.04	27.75	646.78	21.50
(02.06.22) 04:00	32.69	488.14	27.77	634.73	21.53
(02.06.22) 05:00	30.88	505.21	27.79	644.28	21.56
(02.06.22) 06:00	29.61	506.77	27.81	642.42	21.58
(02.06.22) 07:00	28.38	468.05	27.83	645.15	21.61
(02.06.22) 08:00	28.50	460.93	27.85	645.15	21.63
(02.06.22) 09:00	29.66	468.13	27.87	638.07	21.66
(02.06.22) 10:00	32.39	459.76	27.89	640.98	21.68
(02.06.22) 11:00	33.18	484.89	27.90	643.15	21.71
(02.06.22) 12:00	34.72	592.84	27.92	641.70	21.74
(02.06.22) 13:00	36.62	532.14	27.94	644.10	21.76
(02.06.22) 14:00	40.03	487.37	27.97	648.21	21.79
(02.06.22) 15:00	43.19	510.23	28.00	646.21	21.81
(02.06.22) 16:00	45.70	939.88	28.04	649.31	21.84
(02.06.22) 17:00	46.74	957.43	28.07	644.60	21.87
(02.06.22) 18:00	47.18	950.94	28.10	648.84	21.89
(02.06.22) 19:00	45.65	950.95	28.14	650.33	21.92
(02.06.22) 20:00	44.94	971.96	28.17	652.32	21.94
(02.06.22) 21:00	44.45	951.50	28.20	645.88	21.97
(02.06.22) 22:00	43.33	959.23	28.23	639.65	21.99
(02.06.22) 23:00	42.24	978.17	28.26	645.34	22.02
(02.07.22) 00:00	40.95	970.76	28.28	643.88	22.05
(02.07.22) 01:00	39.82	498.97	28.31	641.73	22.07
(02.07.22) 02:00	37.54	463.03	28.34	643.14	22.10
(02.07.22) 03:00	35.09	495.70	28.36	648.29	22.12
(02.07.22) 04:00	32.72	506.29	28.39	642.89	22.15
(02.07.22) 05:00	30.60	517.10	28.42	638.81	22.17
(02.07.22) 06:00	29.36	470.79	28.44	644.91	22.20
(02.07.22) 07:00	28.54	493.81	28.45	645.04	22.22
(02.07.22) 08:00	29.81	151.65	28.47	641.17	22.24

(02.07.22) 09:00	30.92	171.16	28.49	242.98	22.26
(02.07.22) 10:00	33.28	536.53	28.51	501.39	22.28
(02.07.22) 11:00	36.84	517.39	28.52	562.71	22.30
(02.07.22) 12:00	38.24	533.99	28.54	566.29	22.32
(02.07.22) 13:00	39.76	554.73	28.56	571.24	22.34
(02.07.22) 14:00	40.64	516.31	28.58	572.75	22.37
(02.07.22) 15:00	41.16	153.83	28.59	577.70	22.39
(02.07.22) 16:00	40.98	594.53	28.61	628.17	22.41
(02.07.22) 17:00	41.24	478.48	28.62	643.70	22.44
(02.07.22) 18:00	41.21	580.01	28.64	636.06	22.46
(02.07.22) 19:00	40.85	171.78	28.66	642.15	22.49
(02.07.22) 20:00	40.69	11.23	28.67	632.58	22.51
(02.07.22) 21:00	41.27	77.58	28.69	615.95	22.54
(02.07.22) 22:00	40.99	524.44	28.71	619.75	22.56
(02.07.22) 23:00	40.91	588.91	28.72	607.80	22.59
(02.08.22) 00:00	40.01	493.12	28.74	608.59	22.61
(02.08.22) 01:00	39.43	164.19	28.76	608.51	22.63
(02.08.22) 02:00	37.47	586.82	28.77	606.70	22.66
(02.08.22) 03:00	35.00	504.07	28.79	603.15	22.68
(02.08.22) 04:00	33.61	553.04	28.81	608.41	22.71
(02.08.22) 05:00	31.26	489.49	28.83	606.41	22.73
(02.08.22) 06:00	29.65	69.92	28.84	603.03	22.75
(02.08.22) 07:00	28.80	582.79	28.86	601.70	22.77
(02.08.22) 08:00	30.09	494.21	28.88	271.32	22.80
(02.08.22) 09:00	31.05	704.63	28.89	408.72	22.82
(02.08.22) 10:00	34.01	162.63	28.91	556.48	22.84
(02.08.22) 11:00	35.73	128.58	28.93	567.48	22.86
(02.08.22) 12:00	36.84	136.84	28.94	560.78	22.88
(02.08.22) 13:00	38.36	529.47	28.96	567.10	22.90
(02.08.22) 14:00	40.20	642.87	28.98	570.21	22.93
(02.08.22) 15:00	41.01	524.61	28.99	645.22	22.95
(02.08.22) 16:00	40.41	149.71	29.01	623.30	22.97
(02.08.22) 17:00	40.19	585.96	29.03	639.23	23.00
(02.08.22) 18:00	39.47	556.38	29.05	635.32	23.02
(02.08.22) 19:00	38.71	130.47	29.07	628.24	23.05
(02.08.22) 20:00	39.50	85.04	29.08	627.45	23.07
(02.08.22) 21:00	39.73	149.38	29.10	623.08	23.10
(02.08.22) 22:00	40.25	630.34	29.12	616.02	23.12
(02.08.22) 23:00	39.73	558.55	29.14	614.72	23.15
(02.09.22) 00:00	41.34	759.53	29.17	623.12	23.17
(02.09.22) 01:00	39.18	609.43	29.19	617.62	23.20
(02.09.22) 02:00	38.50	792.12	29.21	625.07	23.22
(02.09.22) 03:00	36.26	689.44	29.23	628.70	23.25
(02.09.22) 04:00	34.46	331.55	29.25	628.06	23.27
(02.09.22) 05:00	31.56	695.00	29.27	626.23	23.29
(02.09.22) 06:00	30.18	615.98	29.29	622.61	23.31
(02.09.22) 07:00	29.21	643.30	29.31	620.95	23.33

(02.09.22) 08:00	28.89	617.94	29.33	265.72	23.35
(02.09.22) 09:00	30.19	627.15	29.35	241.55	23.37
(02.09.22) 10:00	32.32	247.67	29.37	545.93	23.39
(02.09.22) 11:00	34.40	151.72	29.39	558.19	23.41
(02.09.22) 12:00	36.38	585.70	29.40	564.37	23.43
(02.09.22) 13:00	37.62	588.61	29.42	416.34	23.45
(02.09.22) 14:00	38.44	578.99	29.45	239.08	23.48
(02.09.22) 15:00	38.63	162.84	29.47	639.67	23.50
(02.09.22) 16:00	38.72	632.20	29.49	654.16	23.52
(02.09.22) 17:00	37.64	503.29	29.52	658.19	23.55
(02.09.22) 18:00	37.79	881.95	29.54	656.26	23.57
(02.09.22) 19:00	38.21	860.81	29.57	648.06	23.59
(02.09.22) 20:00	38.14	647.71	29.59	636.45	23.61
(02.09.22) 21:00	38.04	660.02	29.61	640.38	23.64
(02.09.22) 22:00	38.90	569.48	29.63	644.89	23.66
(02.09.22) 23:00	38.24	162.55	29.65	641.47	23.69
(02.10.22) 00:00	37.69	171.30	29.67	645.53	23.71
(02.10.22) 01:00	37.63	146.82	29.69	641.79	23.74
(02.10.22) 02:00	35.95	451.65	29.71	645.78	23.77
(02.10.22) 03:00	34.59	623.66	29.73	639.67	23.79
(02.10.22) 04:00	32.36	674.75	29.75	640.50	23.82
(02.10.22) 05:00	30.27	575.85	29.77	638.41	23.84
(02.10.22) 06:00	28.64	626.57	29.79	638.73	23.86
(02.10.22) 07:00	28.22	603.85	29.81	637.34	23.88
(02.10.22) 08:00	28.34	111.03	29.84	257.18	23.90
(02.10.22) 09:00	29.61	302.05	29.86	236.46	23.92
(02.10.22) 10:00	29.86	225.28	29.88	555.35	23.94
(02.10.22) 11:00	29.35	485.34	29.90	565.07	23.96
(02.10.22) 12:00	30.55	974.40	29.92	568.70	23.98
(02.10.22) 13:00	33.84	942.88	29.95	566.12	24.00
(02.10.22) 14:00	35.77	976.59	29.97	573.06	24.02
(02.10.22) 15:00	35.02	961.59	30.00	642.05	24.05
(02.10.22) 16:00	34.93	604.70	30.03	645.44	24.07
(02.10.22) 17:00	34.42	569.08	30.06	648.78	24.09
(02.10.22) 18:00	34.36	569.33	30.08	262.51	24.11
(02.10.22) 19:00	34.16	625.50	30.11	567.62	24.14
(02.10.22) 20:00	34.50	160.84	30.14	567.27	24.16
(02.10.22) 21:00	34.53	562.83	30.17	554.46	24.18
(02.10.22) 22:00	41.45	535.79	30.19	565.13	24.20
(02.10.22) 23:00	46.93	574.18	30.21	569.40	24.23
(02.11.22) 00:00	39.85	657.08	30.23	569.24	24.25
(02.11.22) 01:00	36.53	247.25	30.26	567.43	24.27
(02.11.22) 02:00	34.17	514.26	30.28	572.03	24.29
(02.11.22) 03:00	32.04	590.26	30.30	573.38	24.32
(02.11.22) 04:00	29.64	591.02	30.32	565.64	24.34
(02.11.22) 05:00	27.64	508.55	30.35	574.21	24.36
(02.11.22) 06:00	36.66	754.58	30.37	572.68	24.39

(02.11.22) 07:00	35.11	590.55	30.39	568.55	24.41
(02.11.22) 08:00	27.78	600.04	30.41	644.43	24.43
(02.11.22) 09:00	26.24	729.14	30.44	586.31	24.46
(02.11.22) 10:00	27.53	637.29	30.46	618.65	24.48
(02.11.22) 11:00	29.87	605.81	30.48	620.88	24.50
(02.11.22) 12:00	32.22	650.51	30.50	615.03	24.53
(02.11.22) 13:00	36.98	650.98	30.53	623.10	24.55
(02.11.22) 14:00	35.56	604.02	30.56	616.13	24.57
(02.11.22) 15:00	35.22	676.34	30.59	626.63	24.60
(02.11.22) 16:00	45.71	656.88	30.62	620.98	24.62
(02.11.22) 17:00	48.95	1,004.12	30.65	618.60	24.65
(02.11.22) 18:00	51.74	947.57	30.68	623.80	24.67
(02.11.22) 19:00	41.11	934.20	30.71	624.74	24.70
(02.11.22) 20:00	36.76	932.46	30.73	551.24	24.72
(02.11.22) 21:00	35.95	945.03	30.76	555.84	24.74
(02.11.22) 22:00	35.96	651.85	30.78	549.83	24.76
(02.11.22) 23:00	35.55	143.32	30.81	555.31	24.79
(02.12.22) 00:00	35.15	611.15	30.83	551.33	24.81
(02.12.22) 01:00	34.55	599.73	30.85	551.88	24.83
(02.12.22) 02:00	32.72	615.45	30.88	555.34	24.85
(02.12.22) 03:00	31.81	482.64	30.90	552.41	24.88
(02.12.22) 04:00	29.72	565.54	30.93	549.20	24.90
(02.12.22) 05:00	28.49	559.10	30.95	547.26	24.92
(02.12.22) 06:00	26.96	591.32	30.97	544.92	24.94
(02.12.22) 07:00	24.92	586.51	30.99	552.70	24.95
(02.12.22) 08:00	24.19	639.75	31.01	547.15	24.97
(02.12.22) 09:00	25.98	507.54	31.03	547.79	24.99
(02.12.22) 10:00	26.49	609.05	31.05	242.38	25.01
(02.12.22) 11:00	27.66	582.70	31.07	204.58	25.03
(02.12.22) 12:00	31.17	217.18	31.09	555.07	25.05
(02.12.22) 13:00	32.92	610.77	31.12	555.76	25.07
(02.12.22) 14:00	35.89	580.14	31.16	561.51	25.09
(02.12.22) 15:00	37.78	282.10	31.19	280.50	25.12
(02.12.22) 16:00	37.43	613.67	31.22	630.16	25.14
(02.12.22) 17:00	38.10	1,097.60	31.25	633.67	25.17
(02.12.22) 18:00	38.27	1,105.58	31.29	650.65	25.19
(02.12.22) 19:00	38.80	1,108.24	31.32	622.69	25.21
(02.12.22) 20:00	38.40	1,107.00	31.35	623.19	25.24
(02.12.22) 21:00	38.21	1,106.84	31.37	621.62	25.26
(02.12.22) 22:00	37.83	579.06	31.40	623.72	25.29
(02.12.22) 23:00	37.34	489.77	31.42	623.80	25.31
(02.13.22) 00:00	36.35	556.23	31.45	624.53	25.34
(02.13.22) 01:00	35.44	180.11	31.47	620.82	25.36
(02.13.22) 02:00	33.58	603.71	31.50	623.24	25.39
(02.13.22) 03:00	31.93	527.98	31.52	623.20	25.41
(02.13.22) 04:00	30.27	553.30	31.55	620.27	25.44
(02.13.22) 05:00	28.90	568.15	31.57	622.23	25.46

(02.13.22) 06:00	27.33	576.34	31.60	613.04	25.48
(02.13.22) 07:00	26.46	569.41	31.63	621.84	25.50
(02.13.22) 08:00	25.45	581.47	31.65	619.66	25.52
(02.13.22) 09:00	25.09	984.18	31.68	252.95	25.55
(02.13.22) 10:00	26.26	941.28	31.71	554.66	25.57
(02.13.22) 11:00	26.62	931.83	31.73	560.37	25.59
(02.13.22) 12:00	28.88	931.93	31.76	567.53	25.61
(02.13.22) 13:00	31.66	988.97	31.80	561.72	25.63
(02.13.22) 14:00	34.94	947.53	31.83	576.07	25.66
(02.13.22) 15:00	37.02	951.41	31.87	276.63	25.68
(02.13.22) 16:00	38.93	865.95	31.90	617.41	25.70
(02.13.22) 17:00	39.61	878.88	31.94	620.28	25.73
(02.13.22) 18:00	41.99	861.99	31.97	616.64	25.75
(02.13.22) 19:00	43.95	637.59	32.01	629.57	25.77
(02.13.22) 20:00	40.76	938.78	32.04	623.99	25.80
(02.13.22) 21:00	39.03	927.38	32.07	618.41	25.82
(02.13.22) 22:00	38.15	941.90	32.10	622.41	25.85
(02.13.22) 23:00	37.62	976.10	32.13	626.46	25.87
(02.14.22) 00:00	35.66	935.20	32.16	623.21	25.90
(02.14.22) 01:00	35.39	584.54	32.19	614.83	25.92
(02.14.22) 02:00	34.81	586.87	32.22	618.06	25.95
(02.14.22) 03:00	32.66	562.39	32.25	645.35	25.97
(02.14.22) 04:00	30.30	611.83	32.28	618.79	26.00
(02.14.22) 05:00	28.01	85.43	32.31	615.94	26.02
(02.14.22) 06:00	26.97	569.03	32.34	621.29	26.04
(02.14.22) 07:00	26.65	542.37	32.37	615.59	26.06
(02.14.22) 08:00	27.23	563.16	32.39	258.09	26.08
(02.14.22) 09:00	28.69	939.57	32.42	552.43	26.10
(02.14.22) 10:00	29.49	1,076.51	32.45	557.34	26.13
(02.14.22) 11:00	32.24	1,078.43	32.48	560.57	26.15
(02.14.22) 12:00	33.51	1,081.01	32.51	557.15	26.17
(02.14.22) 13:00	35.32	1,102.20	32.55	560.12	26.19
(02.14.22) 14:00	36.53	923.06	32.59	559.30	26.22
(02.14.22) 15:00	36.64	1,073.50	32.64	515.87	26.24
(02.14.22) 16:00	36.17	1,071.65	32.68	650.30	26.26
(02.14.22) 17:00	35.69	1,073.18	32.72	655.66	26.29
(02.14.22) 18:00	35.39	1,074.52	32.77	655.80	26.31
(02.14.22) 19:00	35.75	1,078.37	32.81	651.21	26.34
(02.14.22) 20:00	35.25	1,073.70	32.85	600.85	26.36
(02.14.22) 21:00	35.53	1,077.62	32.88	588.65	26.38
(02.14.22) 22:00	36.03	1,080.18	32.92	581.76	26.41
(02.14.22) 23:00	36.31	1,078.22	32.95	587.09	26.43
(02.15.22) 00:00	35.73	574.78	32.98	588.02	26.45
(02.15.22) 01:00	35.60	577.09	33.02	587.47	26.48
(02.15.22) 02:00	33.36	562.05	33.05	586.38	26.50
(02.15.22) 03:00	31.80	549.97	33.08	586.38	26.52
(02.15.22) 04:00	29.19	191.52	33.11	588.50	26.55

(02.15.22) 05:00	27.36	603.17	33.14	582.98	26.57
(02.15.22) 06:00	25.33	558.41	33.17	587.43	26.59
(02.15.22) 07:00	24.67	548.83	33.20	585.51	26.61
(02.15.22) 08:00	25.37	555.05	33.23	255.63	26.63
(02.15.22) 09:00	27.37	1,093.13	33.26	343.98	26.65
(02.15.22) 10:00	30.61	1,094.17	33.29	547.52	26.67
(02.15.22) 11:00	31.42	1,094.89	33.32	556.85	26.69
(02.15.22) 12:00	32.88	1,095.01	33.36	557.50	26.71
(02.15.22) 13:00	35.30	905.11	33.39	561.26	26.73
(02.15.22) 14:00	37.17	906.23	33.42	564.30	26.76
(02.15.22) 15:00	183.33	917.46	33.46	248.36	26.78
(02.15.22) 16:00	35.99	913.21	33.49	577.01	26.80
(02.15.22) 17:00	35.54	920.18	33.52	605.17	26.82
(02.15.22) 18:00	35.43	537.24	33.56	608.91	26.85
(02.15.22) 19:00	34.37	576.30	33.59	593.95	26.87
(02.15.22) 20:00	35.89	578.96	33.62	594.96	26.89
(02.15.22) 21:00	36.19	993.16	33.66	570.51	26.92
(02.15.22) 22:00	36.56	987.85	33.69	623.49	26.94
(02.15.22) 23:00	36.58	989.14	33.73	619.68	26.97
(02.16.22) 00:00	36.37	991.91	33.76	622.73	26.99
(02.16.22) 01:00	35.52	820.68	33.80	621.22	27.01
(02.16.22) 02:00	34.32	800.43	33.83	620.95	27.04
(02.16.22) 03:00	32.68	813.66	33.87	617.46	27.06
(02.16.22) 04:00	30.57	809.76	33.90	615.76	27.09
(02.16.22) 05:00	28.47	813.52	33.92	621.02	27.11
(02.16.22) 06:00	27.01	619.40	33.95	622.44	27.13
(02.16.22) 07:00	26.57	628.72	33.98	617.44	27.16
(02.16.22) 08:00	25.91	620.95	34.00	261.35	27.18
(02.16.22) 09:00	26.90	620.32	34.03	555.58	27.20
(02.16.22) 10:00	28.41	620.65	34.06	553.61	27.22
(02.16.22) 11:00	31.54	609.22	34.09	562.45	27.25
(02.16.22) 12:00	33.39	603.47	34.11	562.44	27.27
(02.16.22) 13:00	36.39	608.11	34.13	564.94	27.29
(02.16.22) 14:00	34.35	577.72	34.16	559.24	27.31
(02.16.22) 15:00	35.41	582.64	34.18	573.27	27.34
(02.16.22) 16:00	37.30	553.26	34.20	567.15	27.36
(02.16.22) 17:00	35.73	570.48	34.22	569.11	27.38
(02.16.22) 18:00	35.09	566.01	34.25	570.35	27.40
(02.16.22) 19:00	34.27	567.15	34.27	599.14	27.43
(02.16.22) 20:00	33.44	1,081.40	34.30	553.66	27.45
(02.16.22) 21:00	32.96	1,087.56	34.35	578.94	27.47
(02.16.22) 22:00	33.24	1,087.13	34.39	587.00	27.49
(02.16.22) 23:00	33.17	1,088.58	34.43	581.46	27.52
(02.17.22) 00:00	33.50	1,091.69	34.47	580.28	27.54
(02.17.22) 01:00	33.12	1,089.82	34.52	564.55	27.56
(02.17.22) 02:00	31.82	1,095.10	34.56	596.43	27.59
(02.17.22) 03:00	29.33	1,089.03	34.60	596.46	27.61

(02.17.22) 04:00	26.97	1,087.21	34.64	591.66	27.63
(02.17.22) 05:00	27.41	1,086.39	34.67	595.21	27.66
(02.17.22) 06:00	25.19	1,090.66	34.71	595.01	27.68
(02.17.22) 07:00	23.79	1,090.83	34.75	592.19	27.70
(02.17.22) 08:00	23.81	1,086.06	34.78	597.53	27.72
(02.17.22) 09:00	23.49	554.32	34.82	546.33	27.74
(02.17.22) 10:00	24.39	564.25	34.85	551.65	27.77
(02.17.22) 11:00	25.27	509.49	34.89	557.91	27.79
(02.17.22) 12:00	25.43	556.37	34.92	558.14	27.81
(02.17.22) 13:00	31.03	558.70	34.95	560.05	27.83
(02.17.22) 14:00	32.02	616.31	34.98	565.88	27.86
(02.17.22) 15:00	34.06	615.51	35.01	564.38	27.88
(02.17.22) 16:00	36.17	892.15	35.04	625.55	27.90
(02.17.22) 17:00	37.22	911.93	35.07	595.57	27.93
(02.17.22) 18:00	35.87	924.87	35.10	617.90	27.95
(02.17.22) 19:00	34.14	1,123.48	35.13	619.98	27.97
(02.17.22) 20:00	33.63	1,112.50	35.17	610.69	28.00
(02.17.22) 21:00	34.09	1,117.39	35.21	608.09	28.02
(02.17.22) 22:00	34.43	1,123.36	35.25	610.17	28.05
(02.17.22) 23:00	34.42	1,114.87	35.29	621.71	28.07
(02.18.22) 00:00	34.17	1,116.65	35.33	628.16	28.10
(02.18.22) 01:00	33.29	1,114.32	35.37	617.65	28.12
(02.18.22) 02:00	32.66	599.01	35.42	627.84	28.15
(02.18.22) 03:00	29.92	606.12	35.46	620.83	28.17
(02.18.22) 04:00	28.33	291.87	35.48	622.05	28.19
(02.18.22) 05:00	26.46	537.39	35.50	622.25	28.21
(02.18.22) 06:00	26.11	540.62	35.53	624.62	28.24
(02.18.22) 07:00	24.97	543.75	35.55	621.44	28.26
(02.18.22) 08:00	25.13	546.28	35.57	620.89	28.28
(02.18.22) 09:00	26.61	543.24	35.59	216.60	28.30
(02.18.22) 10:00	30.73	539.84	35.61	544.71	28.32
(02.18.22) 11:00	32.15	539.03	35.63	550.71	28.34
(02.18.22) 12:00	35.63	539.59	35.66	554.06	28.37
(02.18.22) 13:00	46.28	534.87	35.69	554.56	28.39
(02.18.22) 14:00	67.22	545.14	35.73	555.43	28.41
(02.18.22) 15:00	99.47	546.73	35.76	305.73	28.43
(02.18.22) 16:00	106.69	1,085.04	35.79	596.30	28.46
(02.18.22) 17:00	125.16	1,082.18	35.82	592.81	28.48
(02.18.22) 18:00	74.46	1,078.50	35.85	609.03	28.50
(02.18.22) 19:00	68.03	1,081.71	35.88	594.86	28.53
(02.18.22) 20:00	61.21	1,048.45	35.92	598.44	28.55
(02.18.22) 21:00	55.63	1,058.56	35.96	573.73	28.57
(02.18.22) 22:00	51.71	1,067.06	36.00	590.53	28.60
(02.18.22) 23:00	48.97	1,063.21	36.04	585.35	28.62
(02.19.22) 00:00	46.44	1,064.47	36.09	579.56	28.64
(02.19.22) 01:00	44.50	1,064.38	36.13	576.46	28.67
(02.19.22) 02:00	40.10	858.73	36.17	581.24	28.69

(02.19.22) 03:00	37.60	864.88	36.21	584.52	28.71
(02.19.22) 04:00	35.10	875.19	36.24	585.64	28.74
(02.19.22) 05:00	32.54	934.16	36.28	585.02	28.76
(02.19.22) 06:00	31.52	538.83	36.31	573.33	28.78
(02.19.22) 07:00	29.94	540.38	36.34	581.15	28.80
(02.19.22) 08:00	28.71	544.21	36.38	580.53	28.82
(02.19.22) 09:00	28.77	1,043.29	36.41	322.66	28.84
(02.19.22) 10:00	30.66	1,125.33	36.44	541.75	28.87
(02.19.22) 11:00	31.11	1,127.20	36.47	549.83	28.89
(02.19.22) 12:00	34.61	1,123.63	36.51	553.05	28.91
(02.19.22) 13:00	39.60	1,045.48	36.54	555.86	28.93
(02.19.22) 14:00	45.82	684.85	36.57	557.43	28.96
(02.19.22) 15:00	51.83	897.96	36.61	562.34	28.98
(02.19.22) 16:00	55.96	897.65	36.64	619.81	29.00
(02.19.22) 17:00	55.71	545.59	36.67	620.82	29.03
(02.19.22) 18:00	54.22	554.39	36.70	629.06	29.05
(02.19.22) 19:00	51.17	549.26	36.74	629.80	29.07
(02.19.22) 20:00	48.94	808.28	36.77	632.01	29.10
(02.19.22) 21:00	47.20	998.43	36.79	615.89	29.12
(02.19.22) 22:00	46.01	1,010.19	36.82	624.32	29.15
(02.19.22) 23:00	44.92	1,003.37	36.85	622.93	29.17
(02.20.22) 00:00	44.49	551.12	36.88	622.02	29.20
(02.20.22) 01:00	44.37	533.26	36.91	620.38	29.22
(02.20.22) 02:00	40.86	530.41	36.94	628.92	29.25
(02.20.22) 03:00	38.60	536.65	36.97	622.65	29.27
(02.20.22) 04:00	36.60	537.66	36.99	613.62	29.29
(02.20.22) 05:00	35.56	543.14	37.02	619.88	29.31
(02.20.22) 06:00	33.94	535.32	37.04	614.29	29.33
(02.20.22) 07:00	32.62	530.67	37.06	612.87	29.35
(02.20.22) 08:00	32.25	544.31	37.08	621.13	29.37
(02.20.22) 09:00	32.91	513.83	37.10	247.68	29.39
(02.20.22) 10:00	33.51	543.47	37.12	225.01	29.41
(02.20.22) 11:00	41.73	514.56	37.14	212.74	29.43
(02.20.22) 12:00	50.75	545.06	37.17	538.76	29.45
(02.20.22) 13:00	60.27	545.24	37.20	554.00	29.48
(02.20.22) 14:00	77.38	549.76	37.23	555.64	29.50
(02.20.22) 15:00	71.64	608.82	37.26	634.96	29.52
(02.20.22) 16:00	94.30	610.84	37.29	599.56	29.54
(02.20.22) 17:00	111.37	1,070.89	37.32	621.96	29.56
(02.20.22) 18:00	118.27	1,054.22	37.35	623.93	29.58
(02.20.22) 19:00	104.33	1,055.30	37.38	613.31	29.61
(02.20.22) 20:00	79.94	1,019.08	37.41	615.36	29.63
(02.20.22) 21:00	69.08	1,030.68	37.44	646.02	29.66
(02.20.22) 22:00	63.49	593.30	37.47	635.78	29.68
(02.20.22) 23:00	60.32	593.65	37.50	635.41	29.71
(02.21.22) 00:00	57.83	566.82	37.53	640.23	29.73
(02.21.22) 01:00	54.76	551.94	37.56	638.75	29.76

(02.21.22) 02:00	51.26	548.49	37.58	640.09	29.78
(02.21.22) 03:00	48.81	534.38	37.61	631.48	29.81
(02.21.22) 04:00	46.72	531.87	37.63	638.12	29.83
(02.21.22) 05:00	44.41	542.50	37.66	634.87	29.85
(02.21.22) 06:00	42.43	588.95	37.68	637.06	29.87
(02.21.22) 07:00	41.72	594.38	37.70	641.34	29.90
(02.21.22) 08:00	41.23	550.51	37.72	272.23	29.92
(02.21.22) 09:00	42.31	551.86	37.74	242.83	29.94
(02.21.22) 10:00	43.49	553.20	37.76	549.58	29.96
(02.21.22) 11:00	45.79	549.22	37.78	556.62	29.98
(02.21.22) 12:00	48.45	552.24	37.80	560.00	30.01
(02.21.22) 13:00	49.73	548.82	37.83	564.00	30.03
(02.21.22) 14:00	52.07	537.46	37.85	571.13	30.06
(02.21.22) 15:00	52.23	538.66	37.87	284.47	30.08
(02.21.22) 16:00	53.07	479.70	37.89	658.65	30.10
(02.21.22) 17:00	52.89	483.13	37.91	659.31	30.13
(02.21.22) 18:00	52.55	476.82	37.93	654.96	30.15
(02.21.22) 19:00	52.41	475.10	37.95	648.71	30.17
(02.21.22) 20:00	51.59	482.51	37.97	642.26	30.20
(02.21.22) 21:00	50.76	480.78	37.99	637.27	30.23
(02.21.22) 22:00	49.90	540.74	38.01	638.47	30.25
(02.21.22) 23:00	48.63	534.86	38.03	640.82	30.28
(02.22.22) 00:00	48.22	426.34	38.05	643.97	30.30
(02.22.22) 01:00	46.08	419.69	38.06	644.36	30.33
(02.22.22) 02:00	44.75	428.42	38.08	643.94	30.35
(02.22.22) 03:00	42.04	424.77	38.10	644.60	30.38
(02.22.22) 04:00	39.97	423.22	38.13	641.67	30.40
(02.22.22) 05:00	37.78	415.80	38.15	636.67	30.42
(02.22.22) 06:00	36.49	423.58	38.17	642.56	30.45
(02.22.22) 07:00	34.52	425.60	38.20	643.50	30.47
(02.22.22) 08:00	36.31	510.88	38.22	255.46	30.49
(02.22.22) 09:00	35.74	920.04	38.24	502.36	30.51
(02.22.22) 10:00	38.11	934.65	38.26	554.87	30.53
(02.22.22) 11:00	39.00	942.89	38.29	559.09	30.56
(02.22.22) 12:00	42.05	941.98	38.32	564.24	30.58
(02.22.22) 13:00	43.71	941.16	38.35	570.79	30.60
(02.22.22) 14:00	43.01	511.39	38.38	186.93	30.62
(02.22.22) 15:00	39.68	511.40	38.41	616.49	30.64
(02.22.22) 16:00	42.67	501.09	38.44	614.77	30.66
(02.22.22) 17:00	42.53	967.41	38.47	624.60	30.68
(02.22.22) 18:00	41.96	934.21	38.50	625.20	30.70
(02.22.22) 19:00	40.36	932.46	38.53	623.52	30.72
(02.22.22) 20:00	40.17	953.85	38.55	612.52	30.75
(02.22.22) 21:00	41.19	895.54	38.58	614.29	30.77
(02.22.22) 22:00	41.34	446.78	38.60	612.67	30.80
(02.22.22) 23:00	41.82	440.19	38.63	622.04	30.82
(02.23.22) 00:00	42.18	439.37	38.65	612.24	30.85

(02.23.22) 01:00	40.74	441.24	38.68	615.96	30.87
(02.23.22) 02:00	38.74	441.23	38.70	611.02	30.90
(02.23.22) 03:00	36.34	441.03	38.72	616.18	30.92
(02.23.22) 04:00	34.38	438.51	38.75	613.96	30.94
(02.23.22) 05:00	33.17	438.61	38.77	615.99	30.96
(02.23.22) 06:00	31.38	442.86	38.79	616.24	30.99
(02.23.22) 07:00	30.38	443.16	38.81	613.63	31.01
(02.23.22) 08:00	32.65	443.57	38.83	287.71	31.03
(02.23.22) 09:00	33.81	803.44	38.85	545.48	31.05
(02.23.22) 10:00	33.26	806.25	38.87	549.05	31.08
(02.23.22) 11:00	35.25	805.03	38.90	556.24	31.10
(02.23.22) 12:00	36.85	812.19	38.92	556.03	31.12
(02.23.22) 13:00	41.37	813.11	38.95	562.13	31.14
(02.23.22) 14:00	40.69	490.55	38.97	273.09	31.16
(02.23.22) 15:00	40.45	490.66	39.00	239.47	31.18
(02.23.22) 16:00	40.53	483.79	39.02	636.71	31.21
(02.23.22) 17:00	41.01	634.59	39.05	649.91	31.23
(02.23.22) 18:00	40.30	561.56	39.07	648.40	31.25
(02.23.22) 19:00	40.45	555.72	39.09	645.28	31.27
(02.23.22) 20:00	40.15	637.73	39.12	643.57	31.30
(02.23.22) 21:00	40.25	560.35	39.14	635.58	31.32
(02.23.22) 22:00	40.74	567.39	39.16	636.21	31.35
(02.23.22) 23:00	41.02	561.97	39.19	631.16	31.38
(02.24.22) 00:00	40.48	545.85	39.21	638.53	31.40
(02.24.22) 01:00	40.33	516.47	39.23	635.62	31.43
(02.24.22) 02:00	37.50	508.42	39.25	635.37	31.45
(02.24.22) 03:00	35.59	584.36	39.28	638.52	31.47
(02.24.22) 04:00	33.47	490.74	39.30	630.72	31.49
(02.24.22) 05:00	32.47	522.29	39.33	634.70	31.51
(02.24.22) 06:00	30.55	551.07	39.35	634.98	31.53
(02.24.22) 07:00	30.12	541.06	39.37	634.74	31.55
(02.24.22) 08:00	30.95	752.93	39.40	247.62	31.57
(02.24.22) 09:00	31.27	515.20	39.42	200.47	31.59
(02.24.22) 10:00	33.49	871.78	39.44	112.47	31.62
(02.24.22) 11:00	34.67	867.51	39.47	522.59	31.64
(02.24.22) 12:00	37.63	876.00	39.49	527.61	31.66
(02.24.22) 13:00	38.66	644.22	39.52	529.81	31.68
(02.24.22) 14:00	39.05	536.23	39.55	535.44	31.70
(02.24.22) 15:00	39.18	600.12	39.57	126.90	31.72
(02.24.22) 16:00	39.17	589.40	39.60	608.35	31.74
(02.24.22) 17:00	38.80	589.82	39.63	589.79	31.76
(02.24.22) 18:00	38.94	581.89	39.65	587.89	31.78
(02.24.22) 19:00	39.08	581.71	39.68	577.67	31.80
(02.24.22) 20:00	39.19	598.44	39.70	575.39	31.83
(02.24.22) 21:00	38.94	521.73	39.72	600.30	31.85
(02.24.22) 22:00	39.02	581.43	39.75	605.15	31.87
(02.24.22) 23:00	38.48	537.84	39.77	600.68	31.90

(02.25.22) 00:00	38.64	547.87	39.79	596.15	31.92
(02.25.22) 01:00	37.75	633.21	39.82	599.60	31.95
(02.25.22) 02:00	36.93	639.71	39.84	603.37	31.97
(02.25.22) 03:00	35.17	649.90	39.87	601.40	31.99
(02.25.22) 04:00	33.04	600.30	39.90	594.61	32.01
(02.25.22) 05:00	31.23	606.13	39.93	595.21	32.03
(02.25.22) 06:00	30.07	692.64	39.97	592.85	32.05
(02.25.22) 07:00	29.44	692.03	40.00	590.90	32.07
(02.25.22) 08:00	29.49	1,018.88	40.03	240.98	32.09
(02.25.22) 09:00	30.36	1,187.12	40.06	222.83	32.11
(02.25.22) 10:00	31.75	1,189.12	40.09	541.77	32.13
(02.25.22) 11:00	33.50	1,190.89	40.13	539.45	32.15
(02.25.22) 12:00	35.14	1,198.32	40.16	550.06	32.18
(02.25.22) 13:00	37.74	1,054.04	40.20	555.20	32.20
(02.25.22) 14:00	40.51	598.38	40.23	554.70	32.22
(02.25.22) 15:00	42.08	643.09	40.26	641.21	32.24
(02.25.22) 16:00	41.53	632.78	40.30	641.34	32.27
(02.25.22) 17:00	40.43	641.77	40.33	621.65	32.29
(02.25.22) 18:00	40.25	628.62	40.37	615.96	32.31
(02.25.22) 19:00	40.70	605.43	40.39	627.06	32.34
(02.25.22) 20:00	40.46	546.36	40.41	626.26	32.36
(02.25.22) 21:00	40.43	582.81	40.44	619.31	32.39
(02.25.22) 22:00	40.81	587.88	40.46	613.64	32.41
(02.25.22) 23:00	40.39	641.49	40.48	615.55	32.44
(02.26.22) 00:00	40.13	599.83	40.51	616.99	32.46
(02.26.22) 01:00	38.90	571.96	40.53	616.48	32.48
(02.26.22) 02:00	37.74	582.24	40.55	618.20	32.51
(02.26.22) 03:00	35.75	572.07	40.58	614.41	32.53
(02.26.22) 04:00	34.47	582.40	40.61	612.52	32.55
(02.26.22) 05:00	33.40	622.03	40.64	611.36	32.57
(02.26.22) 06:00	32.47	605.82	40.66	619.16	32.59
(02.26.22) 07:00	31.42	581.49	40.69	614.04	32.61
(02.26.22) 08:00	32.21	533.62	40.72	255.33	32.63
(02.26.22) 09:00	33.23	1,022.83	40.74	230.71	32.65
(02.26.22) 10:00	34.39	1,022.09	40.77	197.11	32.67
(02.26.22) 11:00	35.30	1,036.69	40.81	167.59	32.68
(02.26.22) 12:00	38.32	1,034.65	40.85	147.09	32.70
(02.26.22) 13:00	40.11	1,033.57	40.90	130.14	32.71
(02.26.22) 14:00	42.76	1,020.31	40.94	107.14	32.72
(02.26.22) 15:00	43.15	1,021.38	40.98	606.84	32.73
(02.26.22) 16:00	42.51	1,021.75	41.02	591.93	32.75
(02.26.22) 17:00	42.23	1,013.82	41.06	612.60	32.76
(02.26.22) 18:00	41.55	1,100.97	41.10	621.42	32.78
(02.26.22) 19:00	41.89	1,115.67	41.15	611.69	32.80
(02.26.22) 20:00	41.42	1,197.03	41.20	638.82	32.83
(02.26.22) 21:00	41.08	1,200.65	41.24	631.74	32.85
(02.26.22) 22:00	40.73	1,196.45	41.29	631.15	32.88

(02.26.22) 23:00	40.59	1,193.48	41.34	630.29	32.90
(02.27.22) 00:00	38.72	1,192.27	41.38	630.58	32.93
(02.27.22) 01:00	37.23	1,199.75	41.43	626.15	32.95
(02.27.22) 02:00	36.43	1,203.05	41.48	631.69	32.98
(02.27.22) 03:00	35.22	1,195.01	41.52	633.48	33.00
(02.27.22) 04:00	33.50	1,197.43	41.57	635.88	33.03
(02.27.22) 05:00	31.58	1,195.23	41.61	626.34	33.05
(02.27.22) 06:00	30.59	1,053.35	41.66	629.83	33.07
(02.27.22) 07:00	29.49	1,052.91	41.71	630.69	33.10
(02.27.22) 08:00	30.45	1,051.71	41.75	632.07	33.12
(02.27.22) 09:00	31.04	1,201.29	41.80	244.53	33.15
(02.27.22) 10:00	31.79	1,190.95	41.84	231.77	33.17
(02.27.22) 11:00	32.83	1,191.31	41.89	208.75	33.19
(02.27.22) 12:00	34.26	1,189.88	41.93	532.69	33.21
(02.27.22) 13:00	37.69	1,182.00	41.98	539.12	33.22
(02.27.22) 14:00	41.25	1,024.46	42.02	548.67	33.24
(02.27.22) 15:00	41.76	778.26	42.07	611.50	33.26
(02.27.22) 16:00	41.89	1,137.73	42.11	604.95	33.28
(02.27.22) 17:00	42.75	1,149.05	42.15	633.07	33.30
(02.27.22) 18:00	42.38	1,017.89	42.20	628.30	33.32
(02.27.22) 19:00	41.40	1,085.42	42.23	626.55	33.35
(02.27.22) 20:00	41.68	1,088.53	42.27	641.91	33.37
(02.27.22) 21:00	41.45	1,013.89	42.31	638.81	33.40
(02.27.22) 22:00	41.58	1,014.29	42.35	633.14	33.42
(02.27.22) 23:00	41.45	1,013.53	42.39	633.74	33.45
(02.28.22) 00:00	40.75	612.16	42.42	630.61	33.47
(02.28.22) 01:00	39.90	630.81	42.46	635.06	33.50
(02.28.22) 02:00	39.06	586.38	42.49	632.33	33.52
(02.28.22) 03:00	35.88	569.32	42.52	627.29	33.54
(02.28.22) 04:00	34.43	565.26	42.54	627.72	33.57
(02.28.22) 05:00	32.32	590.49	42.56	632.63	33.59
(02.28.22) 06:00	30.45	581.33	42.59	629.45	33.61
(02.28.22) 07:00	30.11	592.97	42.61	624.95	33.63
(02.28.22) 08:00	31.24	567.27	42.63	248.07	33.65
(02.28.22) 09:00	32.65	531.24	42.66	516.15	33.68
(02.28.22) 10:00	33.15	599.23	42.68	549.45	33.70
(02.28.22) 11:00	35.30	557.05	42.70	552.88	33.72
(02.28.22) 12:00	37.91	596.90	42.73	551.71	33.74
(02.28.22) 13:00	38.94	538.62	42.75	564.90	33.76
(02.28.22) 14:00	40.26	573.24	42.78	561.93	33.79
(02.28.22) 15:00	39.32	576.58	42.80	257.53	33.81
(02.28.22) 16:00	38.94	632.51	42.82	587.48	33.83
(02.28.22) 17:00	39.18	635.11	42.85	610.46	33.85
(02.28.22) 18:00	38.89	635.92	42.87	620.10	33.87
(02.28.22) 19:00	38.79	636.52	42.90	617.56	33.90
(02.28.22) 20:00	39.48	647.51	42.92	621.69	33.92
(02.28.22) 21:00	39.49	678.30	42.95	588.61	33.95

(02.28.22) 22:00	39.86	675.73	42.98	615.58	33.97
(02.28.22) 23:00	40.12	670.99	43.00	614.74	33.99
(03.01.22) 00:00	40.08	555.64	43.03	608.30	34.02
(03.01.22) 01:00	38.92	674.88	43.05	610.24	34.04
(03.01.22) 02:00	37.31	654.19	43.08	614.12	34.07
(03.01.22) 03:00	35.76	662.99	43.10	609.26	34.09
(03.01.22) 04:00	34.11	659.57	43.13	609.38	34.11
(03.01.22) 05:00	31.70	555.99	43.15	610.46	34.13
(03.01.22) 06:00	30.51	665.66	43.18	612.20	34.16
(03.01.22) 07:00	30.04	660.05	43.20	611.76	34.18
(03.01.22) 08:00	32.14	322.50	43.23	258.86	34.20
(03.01.22) 09:00	32.29	610.63	43.25	525.12	34.22
(03.01.22) 10:00	33.27	554.78	43.28	543.98	34.24
(03.01.22) 11:00	35.65	866.48	43.32	547.18	34.27
(03.01.22) 12:00	36.58	874.70	43.35	551.71	34.29
(03.01.22) 13:00	37.72	877.42	43.38	555.38	34.31
(03.01.22) 14:00	37.87	886.86	43.42	556.78	34.33
(03.01.22) 15:00	38.49	887.72	43.45	555.27	34.36
(03.01.22) 16:00	37.78	888.21	43.49	626.07	34.38
(03.01.22) 17:00	37.85	632.63	43.52	656.86	34.40
(03.01.22) 18:00	37.94	976.28	43.56	614.78	34.43
(03.01.22) 19:00	38.29	982.38	43.60	603.72	34.45
(03.01.22) 20:00	38.93	995.41	43.64	601.15	34.47
(03.01.22) 21:00	38.96	995.75	43.68	580.69	34.50
(03.01.22) 22:00	39.06	990.03	43.72	588.64	34.52
(03.01.22) 23:00	39.44	998.77	43.76	586.13	34.54
(03.02.22) 00:00	39.31	1,000.73	43.80	608.99	34.57
(03.02.22) 01:00	38.32	993.79	43.83	610.69	34.59
(03.02.22) 02:00	36.70	987.91	43.87	604.17	34.62
(03.02.22) 03:00	34.68	991.45	43.91	609.14	34.63
(03.02.22) 04:00	33.27	985.19	43.95	611.20	34.65
(03.02.22) 05:00	30.61	987.55	43.99	611.55	34.67
(03.02.22) 06:00	29.62	985.01	44.03	607.33	34.69
(03.02.22) 07:00	29.22	988.94	44.07	611.78	34.71
(03.02.22) 08:00	30.91	1,046.47	44.11	205.90	34.73
(03.02.22) 09:00	31.57	884.65	44.15	77.72	34.75
(03.02.22) 10:00	32.55	899.12	44.18	501.34	34.77
(03.02.22) 11:00	32.85	171.81	44.21	515.09	34.79
(03.02.22) 12:00	33.48	549.50	44.23	518.64	34.81
(03.02.22) 13:00	35.35	997.08	44.26	524.88	34.83
(03.02.22) 14:00	37.92	597.65	44.29	531.49	34.85
(03.02.22) 15:00	36.64	452.18	44.31	322.75	34.88
(03.02.22) 16:00	37.85	587.95	44.34	571.91	34.90
(03.02.22) 17:00	38.82	1,055.45	44.37	576.35	34.92
(03.02.22) 18:00	36.15	1,086.35	44.40	584.86	34.94
(03.02.22) 19:00	36.25	1,171.75	44.43	574.20	34.96
(03.02.22) 20:00	37.38	1,189.12	44.47	563.06	34.99

(03.02.22) 21:00	37.48	1,179.13	44.50	569.96	35.01
(03.02.22) 22:00	38.84	631.16	44.54	587.02	35.03
(03.02.22) 23:00	39.20	499.53	44.57	579.92	35.06
(03.03.22) 00:00	39.68	494.19	44.61	580.05	35.08
(03.03.22) 01:00	38.37	502.59	44.64	581.84	35.10
(03.03.22) 02:00	35.98	604.74	44.67	575.01	35.12
(03.03.22) 03:00	33.98	620.86	44.69	578.60	35.14
(03.03.22) 04:00	32.06	171.45	44.71	575.92	35.16
(03.03.22) 05:00	30.02	600.16	44.73	581.03	35.18
(03.03.22) 06:00	28.44	603.19	44.75	578.66	35.21
(03.03.22) 07:00	27.46	605.73	44.77	581.02	35.23
(03.03.22) 08:00	27.53	665.20	44.80	192.80	35.25
(03.03.22) 09:00		84.68	44.82	66.04	35.27
(03.03.22) 10:00	30.74	566.09	44.84	56.08	35.28
(03.03.22) 11:00	34.05	517.43	44.86	495.68	35.30
(03.03.22) 12:00	36.28	622.80	44.88	503.77	35.32
(03.03.22) 13:00	37.09	623.02	44.90	509.08	35.33
(03.03.22) 14:00	37.69	261.21	44.92	510.38	35.35
(03.03.22) 15:00	36.71	236.37	44.94	41.45	35.37
(03.03.22) 16:00	36.71	610.82	44.96	629.70	35.38
(03.03.22) 17:00	36.60	541.14	44.98	623.65	35.40
(03.03.22) 18:00	35.82	1,044.39	45.01	624.48	35.43
(03.03.22) 19:00	36.59	1,193.95	45.06	614.92	35.45
(03.03.22) 20:00	36.59	1,190.96	45.11	625.62	35.48
(03.03.22) 21:00	36.97	1,203.30	45.15	609.73	35.50
(03.03.22) 22:00	36.77	1,055.13	45.20	618.67	35.52
(03.03.22) 23:00	37.41	1,179.61	45.24	613.56	35.55
(03.04.22) 00:00	37.36	1,200.82	45.29	617.08	35.57
(03.04.22) 01:00	36.74	1,046.31	45.33	619.12	35.60
(03.04.22) 02:00	35.11	1,175.90	45.37	620.57	35.62
(03.04.22) 03:00	33.16	1,169.91	45.40	622.21	35.64
(03.04.22) 04:00	31.19	1,048.98	45.43	619.32	35.66
(03.04.22) 05:00	29.82	341.55	45.47	618.67	35.69
(03.04.22) 06:00	27.81	330.09	45.50	618.95	35.71
(03.04.22) 07:00	27.97	264.43	45.53	624.40	35.73
(03.04.22) 08:00	28.86	542.24	45.56	177.21	35.75
(03.04.22) 09:00	30.01	797.28	45.59	422.34	35.77
(03.04.22) 10:00	31.66	985.79	45.62	530.90	35.80
(03.04.22) 11:00	33.48	1,110.67	45.65	530.27	35.82
(03.04.22) 12:00	34.54	1,108.18	45.69	534.99	35.84
(03.04.22) 13:00	37.14	1,136.44	45.72	540.73	35.86
(03.04.22) 14:00	38.50	335.45	45.75	544.06	35.88
(03.04.22) 15:00	38.69	555.14	45.78	383.88	35.90
(03.04.22) 16:00	37.72	176.77	45.81	621.83	35.92
(03.04.22) 17:00	37.87	315.87	45.84	629.49	35.95
(03.04.22) 18:00	37.32	1,095.77	45.88	633.84	35.97
(03.04.22) 19:00	37.12	1,131.66	45.92	627.49	36.00

(03.04.22) 20:00	37.27	1,102.70	45.96	628.28	36.02
(03.04.22) 21:00	37.12	1,102.03	46.00	619.91	36.05
(03.04.22) 22:00	37.25	1,132.77	46.04	616.14	36.07
(03.04.22) 23:00	37.03	1,132.46	46.07	617.27	36.10
(03.05.22) 00:00	36.85	609.91	46.11	615.11	36.12
(03.05.22) 01:00	36.20	611.25	46.15	616.06	36.15
(03.05.22) 02:00	34.90	5.64	46.17	614.76	36.17
(03.05.22) 03:00	33.55	604.41	46.19	615.85	36.19
(03.05.22) 04:00	31.98	643.40	46.21	617.69	36.22
(03.05.22) 05:00	30.54	602.53	46.23	614.19	36.24
(03.05.22) 06:00	29.87	0.02	46.25	617.29	36.27
(03.05.22) 07:00	28.55	178.06	46.27	620.56	36.29
(03.05.22) 08:00	28.21	567.77	46.29	619.14	36.32
(03.05.22) 09:00	28.58	1,057.94	46.30	617.27	36.34
(03.05.22) 10:00	29.21	993.43	46.34	620.14	36.37
(03.05.22) 11:00	31.81	1,107.78	46.39	615.96	36.39
(03.05.22) 12:00	34.26	1,106.58	46.43	618.81	36.42
(03.05.22) 13:00	36.26	1,127.45	46.47	622.88	36.44
(03.05.22) 14:00	38.63	1,095.58	46.52	622.40	36.47
(03.05.22) 15:00	39.42	1,087.69	46.56	638.13	36.49
(03.05.22) 16:00	39.79	1,089.50	46.60	632.63	36.52
(03.05.22) 17:00	39.14	1,096.51	46.65	624.32	36.54
(03.05.22) 18:00	39.68	1,139.36	46.68	625.94	36.57
(03.05.22) 19:00	39.50	985.02	46.71	621.32	36.59
(03.05.22) 20:00	38.23	1,048.10	46.74	641.71	36.62
(03.05.22) 21:00	37.25	570.86	46.77	640.69	36.64
(03.05.22) 22:00	36.11	583.51	46.80	641.17	36.67
(03.05.22) 23:00	36.23	570.85	46.83	642.35	36.69
(03.06.22) 00:00	35.11	229.27	46.85	644.07	36.72
(03.06.22) 01:00	34.05	551.72	46.88	617.50	36.74
(03.06.22) 02:00	33.16	593.49	46.90	627.97	36.77
(03.06.22) 03:00	31.81	633.72	46.92	620.62	36.79
(03.06.22) 04:00	30.13	96.17	46.94	615.42	36.82
(03.06.22) 05:00	28.58	257.85	46.96	619.10	36.84
(03.06.22) 06:00	27.00	175.90	46.98	619.97	36.87
(03.06.22) 07:00	26.02	290.02	46.99	618.98	36.89
(03.06.22) 08:00	25.83	626.96	47.01	621.38	36.91
(03.06.22) 09:00	25.68	954.41	47.03	246.69	36.93
(03.06.22) 10:00	26.78	741.76	47.07	237.03	36.95
(03.06.22) 11:00	28.13	1,000.27	47.11	311.83	36.97
(03.06.22) 12:00	30.30	761.73	47.16	549.80	36.99
(03.06.22) 13:00	32.71	1,185.66	47.20	552.99	37.01
(03.06.22) 14:00	35.44	1,167.20	47.24	560.44	37.02
(03.06.22) 15:00	37.22	1,190.20	47.28	612.21	37.04
(03.06.22) 16:00	38.67	1,179.43	47.32	617.31	37.06
(03.06.22) 17:00	38.52	1,165.39	47.36	621.91	37.08
(03.06.22) 18:00	40.79	1,036.03	47.40	616.80	37.11

(03.06.22) 19:00	187.07	1,186.67	47.45	611.05	37.13
(03.06.22) 20:00	198.86	982.44	47.49	612.39	37.16
(03.06.22) 21:00	119.46	951.26	47.53	617.85	37.18
(03.06.22) 22:00	199.84	751.80	47.57	625.30	37.21
(03.06.22) 23:00	199.64	762.20	47.61	625.47	37.23
(03.07.22) 00:00	199.45	1,006.37	47.65	630.42	37.26
(03.07.22) 01:00	199.25	1,030.66	47.69	623.95	37.28
(03.07.22) 02:00	77.11	757.58	47.73	614.32	37.31
(03.07.22) 03:00	76.17	975.34	47.76	604.53	37.33
(03.07.22) 04:00	54.80	751.65	47.80	608.44	37.35
(03.07.22) 05:00	50.52	989.27	47.84	605.92	37.38
(03.07.22) 06:00	47.32	976.52	47.88	606.75	37.40
(03.07.22) 07:00	47.32	753.03	47.91	603.30	37.43
(03.07.22) 08:00	43.99	983.87	47.95	607.02	37.45
(03.07.22) 09:00	43.14	982.12	47.98	259.22	37.47
(03.07.22) 10:00	43.89	634.60	48.01	550.19	37.49
(03.07.22) 11:00	46.73	572.39	48.03	550.15	37.51
(03.07.22) 12:00	48.53	124.35	48.05	552.35	37.53
(03.07.22) 13:00	49.87	557.37	48.07	557.24	37.55
(03.07.22) 14:00	52.34	577.81	48.10	562.24	37.57
(03.07.22) 15:00	53.03	652.98	48.12	274.97	37.59
(03.07.22) 16:00	53.91	603.74	48.14	594.16	37.61
(03.07.22) 17:00	57.99	604.67	48.17	601.38	37.64
(03.07.22) 18:00	59.62	595.82	48.20	606.60	37.66
(03.07.22) 19:00	57.83	597.79	48.24	598.50	37.68
(03.07.22) 20:00	55.21	861.43	48.27	604.53	37.71
(03.07.22) 21:00	52.67	878.77	48.31	604.74	37.73
(03.07.22) 22:00	49.71	1,073.36	48.34	588.63	37.76
(03.07.22) 23:00	48.71	1,061.82	48.37	598.25	37.78
(03.08.22) 00:00	46.85	1,060.23	48.41	591.55	37.80
(03.08.22) 01:00	45.37	1,063.68	48.43	590.10	37.83
(03.08.22) 02:00	42.36	401.12	48.45	595.54	37.85
(03.08.22) 03:00	40.51	421.55	48.47	594.03	37.88
(03.08.22) 04:00	38.15	418.50	48.49	596.58	37.90
(03.08.22) 05:00	36.51	433.03	48.51	591.72	37.92
(03.08.22) 06:00	34.48	421.20	48.53	592.70	37.95
(03.08.22) 07:00	34.18	421.34	48.55	594.78	37.97
(03.08.22) 08:00	35.73	425.01	48.57	259.96	37.99
(03.08.22) 09:00	38.22	15.11	48.59	562.41	38.01
(03.08.22) 10:00	39.48	516.38	48.60	561.63	38.04
(03.08.22) 11:00	40.76	450.67	48.62	560.88	38.06
(03.08.22) 12:00	42.92	518.48	48.64	569.33	38.08
(03.08.22) 13:00	43.25	0.01	48.66	569.23	38.10
(03.08.22) 14:00	45.51	580.08	48.68	571.57	38.12
(03.08.22) 15:00	46.49	562.43	48.69	570.27	38.14
(03.08.22) 16:00	47.45	617.98	48.71	587.89	38.16
(03.08.22) 17:00	45.67	275.77	48.74	591.07	38.19

(03.08.22) 18:00	44.75	588.05	48.78	592.36	38.21
(03.08.22) 19:00	44.32	864.59	48.81	596.07	38.24
(03.08.22) 20:00	44.31	1,074.53	48.85	588.45	38.26
(03.08.22) 21:00	44.52	899.02	48.89	589.95	38.28
(03.08.22) 22:00	44.85	1,058.49	48.92	587.39	38.31
(03.08.22) 23:00	44.65	1,048.25	48.96	587.10	38.33
(03.09.22) 00:00	44.22	1,054.33	49.00	587.01	38.35
(03.09.22) 01:00	43.10	1,048.85	49.03	587.88	38.38
(03.09.22) 02:00	41.35	1,042.52	49.07	592.97	38.40
(03.09.22) 03:00	38.80	1,039.69	49.10	588.67	38.42
(03.09.22) 04:00	36.44	1,050.64	49.14	591.98	38.45
(03.09.22) 05:00	34.15	1,052.38	49.17	590.38	38.47
(03.09.22) 06:00	33.25	603.70	49.21	586.93	38.49
(03.09.22) 07:00	33.37	557.27	49.24	586.16	38.52
(03.09.22) 08:00	33.61	574.25	49.28	257.78	38.54
(03.09.22) 09:00	33.84	589.76	49.30	548.15	38.55
(03.09.22) 10:00	36.55	548.21	49.32	547.24	38.57
(03.09.22) 11:00	37.01	587.19	49.34	553.75	38.59
(03.09.22) 12:00	38.36	546.07	49.37	559.85	38.61
(03.09.22) 13:00	40.21	576.17	49.39	562.60	38.63
(03.09.22) 14:00	41.31	584.21	49.41	563.59	38.65
(03.09.22) 15:00	39.89	578.71	49.43	567.76	38.67
(03.09.22) 16:00	39.41	584.91	49.46	224.23	38.69
(03.09.22) 17:00	39.90	575.69	49.48	518.44	38.71
(03.09.22) 18:00	40.39	875.95	49.52	524.78	38.73
(03.09.22) 19:00	40.08	882.15	49.55	530.13	38.76
(03.09.22) 20:00	40.28	887.60	49.59	526.47	38.78
(03.09.22) 21:00	39.94	885.55	49.62	532.52	38.80
(03.09.22) 22:00	40.27	958.17	49.66	527.98	38.82
(03.09.22) 23:00	40.12	944.11	49.69	517.77	38.84
(03.10.22) 00:00	39.79	967.62	49.73	531.34	38.86
(03.10.22) 01:00	38.38	948.07	49.76	524.73	38.88
(03.10.22) 02:00	37.13	936.02	49.79	536.41	38.90
(03.10.22) 03:00	35.43	927.97	49.82	525.47	38.92
(03.10.22) 04:00	32.91	918.58	49.85	535.74	38.94
(03.10.22) 05:00	31.55	570.42	49.88	525.49	38.96
(03.10.22) 06:00	30.38	557.47	49.91	525.92	38.98
(03.10.22) 07:00	30.34	525.78	49.94	514.42	39.00
(03.10.22) 08:00	29.85	573.59	49.97	222.68	39.02
(03.10.22) 09:00	30.15	528.32	50.00	530.79	39.04
(03.10.22) 10:00	33.48	563.08	50.02	545.49	39.06
(03.10.22) 11:00	38.59	555.70	50.04	545.95	39.08
(03.10.22) 12:00	46.19	526.65	50.06	547.66	39.10
(03.10.22) 13:00	54.26	569.87	50.09	560.95	39.12
(03.10.22) 14:00	58.17	545.46	50.11	559.60	39.14
(03.10.22) 15:00	58.97	554.49	50.13	257.81	39.16
(03.10.22) 16:00	55.35	556.96	50.15	408.09	39.18

(03.10.22) 17:00	51.69	546.16	50.17	432.29	39.20
(03.10.22) 18:00	48.66	565.50	50.20	425.31	39.22
(03.10.22) 19:00	45.97	554.53	50.23	444.18	39.23
(03.10.22) 20:00	44.89	567.44	50.26	462.67	39.25
(03.10.22) 21:00	43.43	496.22	50.28	473.25	39.27
(03.10.22) 22:00	43.07	787.96	50.31	495.00	39.29
(03.10.22) 23:00	42.53	883.92	50.34	473.49	39.31
(03.11.22) 00:00	41.26	913.72	50.36	462.03	39.33
(03.11.22) 01:00	40.62	911.49	50.39	481.85	39.34
(03.11.22) 02:00	38.95	638.44	50.41	489.45	39.36
(03.11.22) 03:00	37.28	576.78	50.44	490.52	39.38
(03.11.22) 04:00	35.65	545.73	50.46	494.96	39.40
(03.11.22) 05:00	34.29	240.80	50.48	497.23	39.42
(03.11.22) 06:00	33.36	620.67	50.51	474.72	39.44
(03.11.22) 07:00	32.78	569.17	50.53	484.12	39.46
(03.11.22) 08:00	32.17	572.11	50.55	568.00	39.48
(03.11.22) 09:00	33.75	618.87	50.58	569.27	39.51
(03.11.22) 10:00	35.36	529.27	50.60	563.97	39.53
(03.11.22) 11:00	40.82	561.55	50.62	573.13	39.55
(03.11.22) 12:00	47.61	558.89	50.65	572.55	39.57
(03.11.22) 13:00	52.16	560.23	50.67	575.35	39.60
(03.11.22) 14:00	54.43	623.88	50.69	577.47	39.62
(03.11.22) 15:00	52.33	627.98	50.72	601.71	39.64
(03.11.22) 16:00	51.12	825.53	50.74	577.05	39.67
(03.11.22) 17:00	50.86	838.18	50.77	591.32	39.69
(03.11.22) 18:00	50.18	852.59	50.80	587.98	39.71
(03.11.22) 19:00	49.11	855.76	50.83	579.01	39.73
(03.11.22) 20:00	48.55	876.55	50.86	566.97	39.76
(03.11.22) 21:00	47.13	907.18	50.90	555.65	39.78
(03.11.22) 22:00	45.37	828.75	50.93	543.64	39.80
(03.11.22) 23:00	44.20	846.64	50.96	554.58	39.83
(03.12.22) 00:00	42.98	552.60	50.99	559.08	39.85
(03.12.22) 01:00	42.39	489.17	51.02	557.50	39.87
(03.12.22) 02:00	41.10	501.09	51.04	562.24	39.89
(03.12.22) 03:00	39.14	498.58	51.06	554.41	39.92
(03.12.22) 04:00	37.02	494.73	51.08	563.29	39.94
(03.12.22) 05:00	35.79	468.10	51.10	564.02	39.96
(03.12.22) 06:00	34.90	466.60	51.12	559.98	39.98
(03.12.22) 07:00	33.80	539.79	51.14	560.68	40.01
(03.12.22) 08:00	33.56	490.45	51.16	567.57	40.03
(03.12.22) 09:00	33.68	478.13	51.18	559.66	40.05
(03.12.22) 10:00	33.58	528.77	51.20	553.80	40.07
(03.12.22) 11:00	36.55	494.29	51.22	559.84	40.09
(03.12.22) 12:00	40.82	489.22	51.24	547.87	40.12
(03.12.22) 13:00	42.76	548.86	51.26	553.30	40.14
(03.12.22) 14:00	46.07	500.22	51.28	550.52	40.16
(03.12.22) 15:00	46.62	487.62	51.30	552.91	40.18

(03.12.22) 16:00	48.61	568.64	51.32	548.41	40.21
(03.12.22) 17:00	47.93	578.72	51.34	547.54	40.23
(03.12.22) 18:00	47.15	605.19	51.36	550.30	40.25
(03.12.22) 19:00	45.76	572.64	51.39	555.04	40.27
(03.12.22) 20:00	45.15	613.86	51.41	553.27	40.29
(03.12.22) 21:00	45.12	607.31	51.43	552.52	40.32
(03.12.22) 22:00	44.19	597.50	51.45	554.04	40.34
(03.12.22) 23:00	45.41	595.62	51.48	553.83	40.36
(03.13.22) 00:00	43.41	562.78	51.50	557.20	40.38
(03.13.22) 01:00	41.88	532.57	51.52	560.88	40.40
(03.13.22) 03:00	40.86	553.82	51.54	561.03	40.42
(03.13.22) 04:00	39.49	534.05	51.56	557.85	40.45
(03.13.22) 05:00	37.39	550.15	51.58	559.42	40.47
(03.13.22) 06:00	36.15	493.68	51.60	558.45	40.49
(03.13.22) 07:00	34.53	549.88	51.63	551.62	40.51
(03.13.22) 08:00	34.91	497.30	51.65	553.37	40.53
(03.13.22) 09:00	34.71	538.53	51.67	240.83	40.55
(03.13.22) 10:00	35.04				
(03.13.22) 11:00	36.05				
(03.13.22) 12:00	37.84				
(03.13.22) 13:00	40.01				
(03.13.22) 14:00	42.83				
(03.13.22) 15:00	45.53				
(03.13.22) 16:00	47.00				
(03.13.22) 17:00	47.01				
(03.13.22) 18:00	46.59				
(03.13.22) 19:00	45.93				
(03.13.22) 20:00	45.53				
(03.13.22) 21:00	45.65				
(03.13.22) 22:00	45.99				
(03.13.22) 23:00	45.10				
(03.14.22) 00:00	45.12				
(03.14.22) 01:00	43.53				
(03.14.22) 02:00	42.24				
(03.14.22) 03:00	39.05				
(03.14.22) 04:00	38.15				
(03.14.22) 05:00	35.56				
(03.14.22) 06:00	34.14				
(03.14.22) 07:00	34.16				
(03.14.22) 08:00	33.62				
(03.14.22) 09:00	35.22				
(03.14.22) 10:00	36.11				
(03.14.22) 11:00	38.38				
(03.14.22) 12:00	39.76				
(03.14.22) 13:00	40.87				
(03.14.22) 14:00	41.48				
(03.14.22) 15:00	42.58				

(03.14.22)	16:00	42.82
(03.14.22)	17:00	43.05
(03.14.22)	18:00	42.88
(03.14.22)	19:00	42.84
(03.14.22)	20:00	42.98
(03.14.22)	21:00	43.14
(03.14.22)	22:00	42.97
(03.14.22)	23:00	43.41
(03.15.22)	00:00	42.84
(03.15.22)	01:00	41.95
(03.15.22)	02:00	40.48
(03.15.22)	03:00	38.39
(03.15.22)	04:00	36.77
(03.15.22)	05:00	34.79
(03.15.22)	06:00	33.12
(03.15.22)	07:00	31.89
(03.15.22)	08:00	32.53
(03.15.22)	09:00	33.07
(03.15.22)	10:00	34.94
(03.15.22)	11:00	36.50
(03.15.22)	12:00	37.67
(03.15.22)	13:00	40.08
(03.15.22)	14:00	39.87
(03.15.22)	15:00	40.23
(03.15.22)	16:00	39.22
(03.15.22)	17:00	38.97
(03.15.22)	18:00	39.43
(03.15.22)	19:00	40.17
(03.15.22)	20:00	39.82
(03.15.22)	21:00	40.44
(03.15.22)	22:00	41.15
(03.15.22)	23:00	41.09
(03.16.22)	00:00	41.32
(03.16.22)	01:00	40.74
(03.16.22)	02:00	39.76
(03.16.22)	03:00	37.33
(03.16.22)	04:00	35.32
(03.16.22)	05:00	33.25
(03.16.22)	06:00	32.07
(03.16.22)	07:00	31.48
(03.16.22)	08:00	32.04
(03.16.22)	09:00	33.43
(03.16.22)	10:00	33.82
(03.16.22)	11:00	
(03.16.22)	12:00	
(03.16.22)	13:00	
(03.16.22)	14:00	

**

(03.16.22) 15:00					
(03.16.22) 16:00					
(03.16.22) 17:00					
(03.16.22) 18:00					
(03.16.22) 19:00					
(03.16.22) 20:00					
(03.16.22) 21:00					
(03.16.22) 22:00					
(03.16.22) 23:00					
(03.17.22) 00:00					
(03.17.22) 01:00					
(03.17.22) 02:00					
(03.17.22) 03:00					
(03.17.22) 04:00					
(03.17.22) 05:00					
(03.17.22) 06:00					
(03.17.22) 07:00					
(03.17.22) 08:00					
(03.17.22) 09:00		797.19	54.39	488.64	42.54
(03.17.22) 10:00		812.41	54.42	489.77	42.56
(03.17.22) 11:00		840.88	54.46	492.30	42.58
(03.17.22) 12:00		834.45	54.49	499.68	42.60
(03.17.22) 13:00					
(03.17.22) 14:00					
(03.17.22) 15:00	39.89	459.14	54.57	578.37	42.66
(03.17.22) 16:00	38.22	520.60	54.59	567.65	42.68
(03.17.22) 17:00	36.37	922.33	54.61	580.44	42.70
(03.17.22) 18:00	36.92	436.29	54.63	575.85	42.73
(03.17.22) 19:00	38.42	415.89	54.65	579.33	42.75
(03.17.22) 20:00	38.69	425.70	54.67	567.88	42.77
(03.17.22) 21:00		435.59	54.69	550.87	42.79
(03.17.22) 22:00	39.11	529.91	54.71	563.88	42.82
(03.17.22) 23:00	39.42	472.45	54.73	563.15	42.84
(03.18.22) 00:00	39.13	476.34	54.75	567.83	42.86
(03.18.22) 01:00	38.71	488.22	54.77	563.72	42.88
(03.18.22) 02:00	84.92	490.42	54.79	558.83	42.91
(03.18.22) 03:00	58.10	549.41	54.81	566.33	42.93
(03.18.22) 04:00	63.26	495.47	54.83	573.83	42.95
(03.18.22) 05:00	51.18	540.22	54.84	577.06	42.98
(03.18.22) 06:00	48.99	551.71	54.86	571.70	43.00
(03.18.22) 07:00	42.80	202.62	54.88	577.42	43.02
(03.18.22) 08:00	64.76	485.22	54.90	242.34	43.04
(03.18.22) 09:00	72.24	471.16	54.92	560.99	43.06
(03.18.22) 10:00	86.69	575.35	54.94	533.29	43.08
(03.18.22) 11:00	172.32	534.04	54.96	557.65	43.10
(03.18.22) 12:00	83.07	528.77	54.98	539.57	43.12
(03.18.22) 13:00	78.45	98.01	55.00	534.04	43.14

(03.18.22) 14:00	72.24	738.66	55.02	542.57	43.17
(03.18.22) 15:00	64.84	744.26	55.05	349.59	43.19
(03.18.22) 16:00	56.75	528.07	55.07	551.98	43.21
(03.18.22) 17:00	54.10	516.82	55.09	562.07	43.23
(03.18.22) 18:00	52.76	464.35	55.11	568.47	43.25
(03.18.22) 19:00	51.17	573.78	55.13	563.88	43.27
(03.18.22) 20:00	52.74	579.04	55.15	562.61	43.29
(03.18.22) 21:00	53.00	539.82	55.17	533.02	43.32
(03.18.22) 22:00	56.23	518.87	55.19	546.11	43.34
(03.18.22) 23:00	55.69	205.46	55.22	564.51	43.36
(03.19.22) 00:00	51.54	496.86	55.25	562.44	43.38
(03.19.22) 01:00	49.12	726.00	55.28	561.32	43.40
(03.19.22) 02:00	46.59	812.12	55.31	563.03	43.43
(03.19.22) 03:00	44.58	825.35	55.33	564.61	43.45
(03.19.22) 04:00	42.45	836.99	55.36	564.20	43.47
(03.19.22) 05:00	39.22	846.61	55.39	566.14	43.49
(03.19.22) 06:00	37.24	648.38	55.42	562.99	43.52
(03.19.22) 07:00	36.36	629.81	55.44	566.89	43.54
(03.19.22) 08:00	35.95	795.16	55.47	565.03	43.56
(03.19.22) 09:00	37.22	813.65	55.50	566.52	43.58
(03.19.22) 10:00	35.40	813.27	55.52	565.09	43.61
(03.19.22) 11:00	38.64	479.40	55.55	566.26	43.63
(03.19.22) 12:00		521.36	55.58	567.39	43.65
(03.19.22) 13:00	41.58	509.26	55.60	563.17	43.68
(03.19.22) 14:00	44.28	508.34	55.63	566.65	43.70
(03.19.22) 15:00	43.65	516.71	55.65	565.08	43.72
(03.19.22) 16:00	44.67	927.69	55.68	571.33	43.74
(03.19.22) 17:00	44.41	945.49	55.70	570.53	43.77
(03.19.22) 18:00	42.86	478.24	55.73	568.57	43.79
(03.19.22) 19:00	44.30	510.79	55.75	571.89	43.81
(03.19.22) 20:00	42.78	500.08	55.77	566.22	43.83
(03.19.22) 21:00	42.11	508.18	55.80	567.02	43.86
(03.19.22) 22:00	43.81	508.34	55.82	565.55	43.88
(03.19.22) 23:00	41.50	502.40	55.85	555.22	43.90
(03.20.22) 00:00	42.13	574.14	55.88	555.17	43.92
(03.20.22) 01:00	42.25	817.77	55.91	560.53	43.95
(03.20.22) 02:00	39.62	794.45	55.94	566.92	43.97
(03.20.22) 03:00	39.17	791.11	55.96	565.02	43.99
(03.20.22) 04:00	37.10	789.39	55.99	560.89	44.01
(03.20.22) 05:00	34.27	787.51	56.02	567.09	44.04
(03.20.22) 06:00	33.77	804.69	56.05	565.21	44.06
(03.20.22) 07:00	33.27	814.28	56.08	557.58	44.08
(03.20.22) 08:00	31.93	817.52	56.12	277.45	44.10
(03.20.22) 09:00	32.84	824.18	56.15	534.16	44.12
(03.20.22) 10:00	35.35	905.77	56.19	538.79	44.14
(03.20.22) 11:00	34.07	904.19	56.22	546.32	44.17
(03.20.22) 12:00	34.61	904.14	56.26	548.12	44.19

(03.20.22) 13:00	37.99	905.81	56.29	550.65	44.21
(03.20.22) 14:00	39.52	909.13	56.33	552.17	44.23
(03.20.22) 15:00	39.05	918.39	56.36	242.02	44.25
(03.20.22) 16:00	41.96	893.15	56.40	553.80	44.27
(03.20.22) 17:00	42.00	883.48	56.43	586.13	44.30
(03.20.22) 18:00	40.36	896.42	56.47	578.42	44.32
(03.20.22) 19:00	41.76	897.66	56.51	582.53	44.34
(03.20.22) 20:00	42.48	906.47	56.54	584.55	44.36
(03.20.22) 21:00	41.19	834.06	56.58	563.07	44.38
(03.20.22) 22:00	41.54	869.54	56.61	570.30	44.41
(03.20.22) 23:00	43.54	872.70	56.64	569.53	44.43
(03.21.22) 00:00	41.57	720.72	56.68	558.12	44.45
(03.21.22) 01:00	41.33	749.80	56.71	565.06	44.47
(03.21.22) 02:00	41.03	790.27	56.74	565.15	44.50
(03.21.22) 03:00	37.35	788.25	56.77	565.05	44.52
(03.21.22) 04:00	35.27	776.87	56.80	569.31	44.54
(03.21.22) 05:00	34.66	774.97	56.83	566.37	44.56
(03.21.22) 06:00	33.54	770.50	56.86	570.99	44.59
(03.21.22) 07:00	31.91	819.11	56.89	563.66	44.60
(03.21.22) 08:00	32.02	501.76	56.91	185.05	44.62
(03.21.22) 09:00	34.11				
(03.21.22) 10:00	33.37				
(03.21.22) 11:00		919.88	56.97	520.97	44.68
(03.21.22) 12:00	39.55	0.19	56.99	522.51	44.70
(03.21.22) 13:00	42.42	0.09	57.00	533.24	44.72
(03.21.22) 14:00	43.74	25.38	57.01	537.04	44.74
(03.21.22) 15:00	42.99	568.10	57.03	192.97	44.76
(03.21.22) 16:00	47.55	552.21	57.04	553.47	44.78
(03.21.22) 17:00	57.78	533.89	57.06	553.42	44.80
(03.21.22) 18:00	72.10	193.62	57.07	566.82	44.82
(03.21.22) 19:00	91.27	516.58	57.09	574.48	44.84
(03.21.22) 20:00	96.41	128.83	57.11	504.30	44.87
(03.21.22) 21:00	85.70	521.56	57.13	537.41	44.89
(03.21.22) 22:00	88.06	574.75	57.15	529.60	44.91
(03.21.22) 23:00	198.23	488.09	57.17	525.21	44.93
(03.22.22) 00:00	53.32	500.29	57.19	592.19	44.96
(03.22.22) 01:00	92.64	830.42	57.21	585.05	44.98
(03.22.22) 02:00	91.65	801.35	57.23	601.96	45.00
(03.22.22) 03:00	90.58	523.62	57.26	574.80	45.02
(03.22.22) 04:00	71.69	821.57	57.28	572.35	45.04
(03.22.22) 05:00	72.94	558.85	57.31	569.69	45.07
(03.22.22) 06:00	89.85	692.38	57.34	594.82	45.09
(03.22.22) 07:00	89.81	748.61	57.37	571.19	45.11
(03.22.22) 08:00	89.95	363.50	57.39	241.85	45.13
(03.22.22) 09:00	88.24	601.62	57.42	519.70	45.15
(03.22.22) 10:00	87.95	566.63	57.45	527.68	45.17
(03.22.22) 11:00	86.98	854.10	57.48	526.77	45.19

**

(03.22.22) 12:00	86.66	679.84	57.50	529.37	45.21
(03.22.22) 13:00	80.56	895.26	57.53	536.75	45.23
(03.22.22) 14:00	79.99	887.43	57.56	533.56	45.25
(03.22.22) 15:00	79.45	604.28	57.59	218.92	45.27
(03.22.22) 16:00	78.83	634.42	57.62	197.99	45.29
(03.22.22) 17:00	80.14	634.70	57.65	590.14	45.31
(03.22.22) 18:00	91.41	698.79	57.68	603.09	45.34
(03.22.22) 19:00	77.59	913.21	57.70	612.93	45.36
(03.22.22) 20:00	92.60	386.51	57.73	608.63	45.39
(03.22.22) 21:00	99.08	122.72	57.75	622.77	45.41
(03.22.22) 22:00	100.91	862.35	57.78	621.74	45.44
(03.22.22) 23:00	109.24	728.66	57.80	624.51	45.46
(03.23.22) 00:00	131.17	456.34	57.83	597.27	45.48
(03.23.22) 01:00	69.34	563.04	57.85	602.87	45.51
(03.23.22) 02:00	92.35	568.54	57.88	655.07	45.53
(03.23.22) 03:00	85.56	854.53	57.91	658.39	45.56
(03.23.22) 04:00	85.39	902.24	57.93	659.17	45.58
(03.23.22) 05:00	84.61	933.90	57.96	651.87	45.61
(03.23.22) 06:00	83.46	749.67	57.99	655.65	45.63
(03.23.22) 07:00	88.64	730.19	58.01	655.19	45.65
(03.23.22) 08:00	87.35	754.52	58.04	420.62	45.68
(03.23.22) 09:00	70.50	448.88	58.07	590.70	45.70
(03.23.22) 10:00	70.75	556.73	58.09	597.52	45.73
(03.23.22) 11:00	70.63	640.82	58.12	586.28	45.75
(03.23.22) 12:00	82.50	609.29	58.14	593.46	45.77
(03.23.22) 13:00	79.57	630.32	58.17	590.62	45.80
(03.23.22) 14:00	80.08	732.37	58.20	406.99	45.82
(03.23.22) 15:00	57.91	753.53	58.22	667.23	45.84
(03.23.22) 16:00	64.81	703.75	58.25	660.96	45.86
(03.23.22) 17:00	92.47	820.28	58.28	657.87	45.89
(03.23.22) 18:00	89.31	983.30	58.30	634.10	45.91
(03.23.22) 19:00	89.31	470.21	58.33	633.86	45.94
(03.23.22) 20:00	90.51	530.84	58.36	656.86	45.96
(03.23.22) 21:00	99.37	1,060.37	58.39	635.91	45.99
(03.23.22) 22:00	108.91	920.35	58.42	638.08	46.02
(03.23.22) 23:00	109.06	958.92	58.45	637.19	46.04
(03.24.22) 00:00	91.79	574.68	58.48	636.29	46.07
(03.24.22) 01:00	97.62	937.48	58.51	638.58	46.09
(03.24.22) 02:00	101.55	806.70	58.54	654.28	46.11
(03.24.22) 03:00	102.61	781.41	58.56	638.10	46.13
(03.24.22) 04:00	103.37	787.82	58.59	631.86	46.15
(03.24.22) 05:00	104.41	731.63	58.62	637.38	46.17
(03.24.22) 06:00	104.79	474.56	58.65	627.99	46.19
(03.24.22) 07:00	105.43	729.93	58.68	181.58	46.21
(03.24.22) 08:00	106.76	789.07	58.70	162.74	46.23
(03.24.22) 09:00	107.06	821.99	58.73	188.85	46.25
(03.24.22) 10:00	108.33	411.97	58.75	505.14	46.27

(03.24.22) 11:00	107.04	768.71	58.77	521.58	46.29
(03.24.22) 12:00	120.33	211.85	58.79	524.33	46.31
(03.24.22) 13:00	110.53	268.73	58.81	529.48	46.33
(03.24.22) 14:00	99.54	778.45	58.83	539.31	46.35
(03.24.22) 15:00	103.07	737.82	58.84	602.28	46.37
(03.24.22) 16:00	167.33	483.09	58.86	445.37	46.39
(03.24.22) 17:00	152.35	104.31	58.88	550.18	46.41
(03.24.22) 18:00	154.27	465.43	58.91	555.81	46.44
(03.24.22) 19:00	153.37	805.30	58.93	552.11	46.46
(03.24.22) 20:00	152.29	739.60	58.96	528.10	46.48
(03.24.22) 21:00	153.60	527.73	58.98	531.87	46.50
(03.24.22) 22:00	157.89	505.04	59.01	538.47	46.52
(03.24.22) 23:00	155.45	697.99	59.03	532.31	46.54
(03.25.22) 00:00	156.12	879.14	59.06	525.71	46.56
(03.25.22) 01:00	112.54	690.57	59.08	524.66	46.59
(03.25.22) 02:00	189.17	490.86	59.11	529.90	46.61
(03.25.22) 03:00	94.06	893.06	59.13	536.39	46.63
(03.25.22) 04:00	103.74	875.68	59.16	535.11	46.64
(03.25.22) 05:00	106.06	852.46	59.19	516.76	46.66
(03.25.22) 06:00	106.38	658.20	59.21	534.85	46.68
(03.25.22) 07:00	103.80	484.20	59.24	537.25	46.70
(03.25.22) 08:00	89.66	445.35	59.27	253.60	46.72
(03.25.22) 09:00	89.00	541.39	59.29	240.65	46.74
(03.25.22) 10:00	98.89	121.39	59.31	536.64	46.76
(03.25.22) 11:00	113.17	134.62	59.32	564.14	46.79
(03.25.22) 12:00	91.74	129.13	59.33	543.25	46.81
(03.25.22) 13:00	94.35	111.41	59.34	554.54	46.83
(03.25.22) 14:00	79.70	43.70	59.35	280.58	46.85
(03.25.22) 15:00	87.12	274.45	59.37	647.33	46.88
(03.25.22) 16:00	89.95	372.43	59.38	630.68	46.90
(03.25.22) 17:00	90.48	173.02	59.39	629.35	46.92
(03.25.22) 18:00	93.91	189.89	59.41	664.24	46.95
(03.25.22) 19:00	93.36	568.35	59.43	640.38	46.97
(03.25.22) 20:00	96.93	371.82	59.44	639.22	47.00
(03.25.22) 21:00	102.06	466.78	59.46	633.94	47.02
(03.25.22) 22:00	104.07	633.53	59.48	634.56	47.05
(03.25.22) 23:00	104.88	784.62	59.50	636.69	47.07
(03.26.22) 00:00	104.61	304.28	59.51	636.56	47.10
(03.26.22) 01:00	104.47	775.01	59.53	632.81	47.13
(03.26.22) 02:00	103.21	824.47	59.55	635.07	47.15
(03.26.22) 03:00	100.05	264.82	59.57	637.33	47.18
(03.26.22) 04:00	94.07	496.38	59.59	637.24	47.20
(03.26.22) 05:00	118.00	314.63	59.61	632.87	47.23
(03.26.22) 06:00	85.70	688.14	59.63	635.96	47.25
(03.26.22) 07:00	80.26	715.50	59.64	638.30	47.28
(03.26.22) 08:00	69.66	355.21	59.66	634.33	47.30
(03.26.22) 09:00	72.33	899.03	59.69	639.83	47.33

(03.26.22) 10:00	71.21	494.35	59.71	637.95	47.35
(03.26.22) 11:00	71.83	836.85	59.74	638.75	47.38
(03.26.22) 12:00	72.54	824.27	59.77	637.46	47.41
(03.26.22) 13:00	75.32	374.15	59.79	638.66	47.43
(03.26.22) 14:00	75.83	614.87	59.82	644.50	47.46
(03.26.22) 15:00	76.06	874.86	59.85	644.81	47.48
(03.26.22) 16:00	75.65	902.23	59.87	634.98	47.51
(03.26.22) 17:00	74.83	837.99	59.90	639.71	47.53
(03.26.22) 18:00	74.30	625.08	59.92	638.98	47.56
(03.26.22) 19:00	73.60	617.65	59.94	643.05	47.58
(03.26.22) 20:00	73.93	930.07	59.96	638.94	47.61
(03.26.22) 21:00	72.97	738.40	59.99	634.49	47.64
(03.26.22) 22:00	73.13	0.00	60.01	636.23	47.66
(03.26.22) 23:00	71.69	0.00	60.03	635.96	47.69
(03.27.22) 00:00	70.43	579.99	60.05	636.95	47.71
(03.27.22) 01:00	69.29	90.32	60.07	637.66	47.74
(03.27.22) 02:00	67.14	17.98	60.09	640.92	47.76
(03.27.22) 03:00	65.64	14.37	60.10	637.49	47.79
(03.27.22) 04:00	63.10	286.03	60.12	635.91	47.81
(03.27.22) 05:00	60.98	156.70	60.14	637.24	47.84
(03.27.22) 06:00	58.96	800.92	60.15	636.00	47.87
(03.27.22) 07:00	57.83	658.92	60.17	633.79	47.89
(03.27.22) 08:00	57.47	428.27	60.18	643.48	47.92
(03.27.22) 09:00	57.93	570.99	60.20	641.33	47.94
(03.27.22) 10:00	58.64	627.22	60.22	632.42	47.97
(03.27.22) 11:00	60.37	571.00	60.24	633.44	47.99
(03.27.22) 12:00	62.18	389.95	60.25	635.84	48.02
(03.27.22) 13:00	63.59	122.94	60.27	631.93	48.04
(03.27.22) 14:00	65.89	446.51	60.29	635.59	48.07
(03.27.22) 15:00	65.68	211.66	60.31	640.32	48.09
(03.27.22) 16:00	66.91	0.00	60.32	635.71	48.12
(03.27.22) 17:00	66.95	0.00	60.33	630.62	48.15
(03.27.22) 18:00	65.73	419.06	60.34	640.81	48.17
(03.27.22) 19:00	66.05	1.69	60.35	637.59	48.20
(03.27.22) 20:00	65.29	4.51	60.36	634.53	48.22
(03.27.22) 21:00	66.27	513.93	60.37	638.20	48.25
(03.27.22) 22:00	66.02	104.50	60.38	636.60	48.27
(03.27.22) 23:00	65.21	14.54	60.39	637.11	48.30
(03.28.22) 00:00	65.09	146.12	60.39	638.30	48.32
(03.28.22) 01:00	63.63	212.81	60.41	634.21	48.35
(03.28.22) 02:00	61.33	125.98	60.42	631.59	48.37
(03.28.22) 03:00	58.96	250.32	60.43	633.70	48.40
(03.28.22) 04:00	56.53	510.73	60.44	635.26	48.42
(03.28.22) 05:00	54.09	151.98	60.45	645.33	48.45
(03.28.22) 06:00	52.87	535.33	60.46	642.24	48.47
(03.28.22) 07:00	52.81	22.34	60.47	641.51	48.50
(03.28.22) 08:00	53.97	511.92	60.48	216.76	48.52

(03.28.22) 09:00	54.64	0.06	60.49	263.45	48.54
(03.28.22) 10:00	56.85	0.04	60.50	248.11	48.55
(03.28.22) 11:00	58.55	0.02	60.50	229.60	48.56
(03.28.22) 12:00	60.17	478.38	60.51	198.40	48.57
(03.28.22) 13:00	60.06	357.92	60.52	499.03	48.59
(03.28.22) 14:00	61.09	562.41	60.53	569.00	48.60
(03.28.22) 15:00	60.66	587.44	60.53	546.87	48.61
(03.28.22) 16:00	60.30	476.10	60.54	89.41	48.62
(03.28.22) 17:00	59.64	155.93	60.56	551.18	48.64
(03.28.22) 18:00	59.36	373.33	60.58	575.10	48.67
(03.28.22) 19:00	59.14	631.56	60.59	586.19	48.69
(03.28.22) 20:00	58.79	245.13	60.61	571.16	48.71
(03.28.22) 21:00	59.61	497.25	60.63	566.63	48.73
(03.28.22) 22:00	59.61	256.84	60.64	560.19	48.75
(03.28.22) 23:00	58.95	770.20	60.66	555.01	48.77
(03.29.22) 00:00	59.71	510.40	60.68	550.06	48.80
(03.29.22) 01:00	60.04	487.22	60.71	550.80	48.82
(03.29.22) 02:00	58.33	503.57	60.73	545.79	48.84
(03.29.22) 03:00	56.01	484.96	60.76	534.39	48.86
(03.29.22) 04:00	53.32	550.47	60.79	535.74	48.88
(03.29.22) 05:00	51.54	524.74	60.81	544.28	48.90
(03.29.22) 06:00	50.50	583.92	60.84	540.83	48.92
(03.29.22) 07:00	50.17	852.52	60.87	536.75	48.95
(03.29.22) 08:00	51.62	616.98	60.89	543.38	48.97
(03.29.22) 09:00	51.83	632.54	60.91	553.15	48.99
(03.29.22) 10:00	54.06	793.60	60.93	550.11	49.01
(03.29.22) 11:00	56.55	168.57	60.95	558.28	49.03
(03.29.22) 12:00	58.90	402.07	60.97	569.65	49.06
(03.29.22) 13:00	59.13	520.35	60.99	565.29	49.08
(03.29.22) 14:00	58.60	218.35	61.01	572.60	49.10
(03.29.22) 15:00	57.26	488.87	61.03	575.42	49.12
(03.29.22) 16:00	56.72	488.42	61.05	567.23	49.15
(03.29.22) 17:00	56.93	496.72	61.07	556.46	49.17
(03.29.22) 18:00	56.40	521.05	61.10	572.96	49.19
(03.29.22) 19:00	56.42	533.87	61.13	549.07	49.21
(03.29.22) 20:00	56.86	493.98	61.15	551.05	49.23
(03.29.22) 21:00	57.38	521.25	61.18	532.22	49.26
(03.29.22) 22:00	57.97	835.90	61.21	526.07	49.28
(03.29.22) 23:00	180.03	577.04	61.23	539.39	49.30
(03.30.22) 00:00	88.18	858.85	61.26	577.28	49.32
(03.30.22) 01:00	98.20	905.35	61.29	575.58	49.34
(03.30.22) 02:00	101.86	879.52	61.32	584.90	49.37
(03.30.22) 03:00	92.40	619.20	61.35	625.52	49.39
(03.30.22) 04:00	89.48	871.94	61.38	581.05	49.41
(03.30.22) 05:00	91.12	636.23	61.41	622.03	49.44
(03.30.22) 06:00	88.88	645.24	61.44	620.84	49.46
(03.30.22) 07:00	88.60	638.62	61.47	579.09	49.48

(03.30.22) 08:00	75.26	529.61	61.49	214.82	49.50
(03.30.22) 09:00	76.70	0.56	61.49	84.91	49.51
(03.30.22) 10:00	167.12	6.89	61.50	91.57	49.52
(03.30.22) 11:00	75.60	13.22	61.50	90.25	49.53
(03.30.22) 12:00	75.81	19.56	61.51	67.79	49.53
(03.30.22) 13:00	75.85	238.62	61.51	70.93	49.54
(03.30.22) 14:00	96.99	112.14	61.52	57.16	49.55
(03.30.22) 15:00	97.24	498.78	61.53	559.81	49.56
(03.30.22) 16:00	95.51	816.05	61.54	552.01	49.57
(03.30.22) 17:00	94.56	871.10	61.56	554.86	49.59
(03.30.22) 18:00	92.72	850.95	61.58	558.63	49.61
(03.30.22) 19:00	90.48	763.03	61.60	567.03	49.63
(03.30.22) 20:00	94.14	243.01	61.62	567.48	49.66
(03.30.22) 21:00	92.28	216.80	61.65	555.01	49.68
(03.30.22) 22:00	93.98	820.61	61.67	564.17	49.70
(03.30.22) 23:00	91.94	210.40	61.69	559.76	49.72
(03.31.22) 00:00	90.72	670.49	61.71	435.36	49.74
(03.31.22) 01:00	132.67	363.84	61.73	214.45	49.75
(03.31.22) 02:00	127.83	805.21	61.76	89.74	49.76
(03.31.22) 03:00	127.13	777.63	61.78	52.17	49.76
(03.31.22) 04:00	118.14	527.09	61.80	44.01	49.77
(03.31.22) 05:00	117.06	386.48	61.83	67.70	49.78
(03.31.22) 06:00	111.48	466.37	61.85	66.80	49.78
(03.31.22) 07:00	108.91	469.23	61.87	467.67	49.79
(03.31.22) 08:00	136.73	803.12	61.90	315.88	49.80
(03.31.22) 09:00	132.94	823.75	61.92	520.62	49.82
(03.31.22) 10:00	130.25	674.33	61.94	531.38	49.84
(03.31.22) 11:00	132.03	499.31	61.96	539.10	49.86
(03.31.22) 12:00	142.74	845.75	61.99	552.46	49.88
(03.31.22) 13:00	148.10	531.76	62.01	542.82	49.91
(03.31.22) 14:00	147.09	365.15	62.03	566.79	49.93
(03.31.22) 15:00	141.64	306.63	62.05	627.77	49.95
(03.31.22) 16:00	139.02	311.15	62.07	628.77	49.97
(03.31.22) 17:00	137.70	321.02	62.09	618.55	49.99
(03.31.22) 18:00	136.94	429.06	62.10	606.62	50.02
(03.31.22) 19:00	127.66	337.04	62.11	614.40	50.04
(03.31.22) 20:00	126.21	329.67	62.13	609.99	50.07
(03.31.22) 21:00	122.41	336.95	62.14	608.78	50.09
(03.31.22) 22:00	123.04	278.48	62.16	609.24	50.12
(03.31.22) 23:00	121.52	618.22	62.17	604.53	50.14
(04.01.22) 00:00	119.56	2.89	62.18	612.48	50.17
(04.01.22) 01:00	159.66	8.86	62.18	601.23	50.19
(04.01.22) 02:00	91.31	14.84	62.18	606.26	50.21
(04.01.22) 03:00	93.81	20.81	62.18	607.39	50.24
(04.01.22) 04:00	91.93	26.82	62.19	609.83	50.26
(04.01.22) 05:00	89.79	111.85	62.19	610.20	50.29
(04.01.22) 06:00	126.15	48.97	62.19	606.63	50.31

(04.01.22) 07:00	84.99	37.61	62.19	616.02	50.34
(04.01.22) 08:00	83.92	0.02	62.20	568.39	50.36
(04.01.22) 09:00	86.19	184.79	62.21	123.93	50.37
(04.01.22) 10:00	89.08	129.17	62.21	48.87	50.39
(04.01.22) 11:00	93.42	234.75	62.22	556.71	50.40
(04.01.22) 12:00	95.94	259.90	62.23	534.80	50.42
(04.01.22) 13:00	96.41	65.19	62.23	548.78	50.44
(04.01.22) 14:00	94.66	131.09	62.24	558.16	50.45
(04.01.22) 15:00	92.53	204.75	62.25	37.35	50.47
(04.01.22) 16:00	90.36	557.50	62.26	663.42	50.49
(04.01.22) 17:00	88.95	503.04	62.28	662.45	50.52
(04.01.22) 18:00	86.97	238.98	62.29	649.28	50.54
(04.01.22) 19:00	85.55	376.96	62.31	639.54	50.57
(04.01.22) 20:00	85.97	517.42	62.32	630.84	50.59
(04.01.22) 21:00	85.27	291.75	62.34	627.87	50.62
(04.01.22) 22:00	84.42	495.93	62.35	636.87	50.65
(04.01.22) 23:00	83.51	228.90	62.37	637.67	50.67
(04.02.22) 00:00	82.02	644.71	62.39	637.92	50.70
(04.02.22) 01:00	80.76	335.04	62.42	632.81	50.72
(04.02.22) 02:00	78.21	679.02	62.44	636.94	50.75
(04.02.22) 03:00	76.99	693.52	62.47	632.30	50.77
(04.02.22) 04:00	74.30	712.17	62.49	637.34	50.80
(04.02.22) 05:00	72.08	717.32	62.51	634.19	50.82
(04.02.22) 06:00	70.86	681.69	62.54	640.74	50.85
(04.02.22) 07:00	68.95	706.59	62.57	631.58	50.87
(04.02.22) 08:00	69.03	714.91	62.59	636.49	50.90
(04.02.22) 09:00	69.10	718.85	62.62	634.39	50.93
(04.02.22) 10:00	70.22	723.52	62.65	636.12	50.95
(04.02.22) 11:00	71.93	728.60	62.68	638.62	50.98
(04.02.22) 12:00	73.73	744.48	62.71	638.52	51.00
(04.02.22) 13:00	75.36	745.32	62.74	636.68	51.03
(04.02.22) 14:00	75.83	757.16	62.77	642.12	51.05
(04.02.22) 15:00	76.25	763.41	62.80	642.87	51.08
(04.02.22) 16:00	75.86	672.64	62.82	648.21	51.11
(04.02.22) 17:00	74.33	701.06	62.85	642.19	51.13
(04.02.22) 18:00	74.34	724.83	62.87	642.37	51.16
(04.02.22) 19:00	75.00	490.49	62.89	642.54	51.18
(04.02.22) 20:00	74.28	491.46	62.92	644.00	51.21
(04.02.22) 21:00	72.78	491.04	62.94	647.10	51.23
(04.02.22) 22:00	71.75	487.85	62.97	646.48	51.26
(04.02.22) 23:00	72.07	496.64	62.99	644.84	51.29
(04.03.22) 00:00	70.80	762.85	63.02	646.11	51.31
(04.03.22) 01:00	69.56	727.98	63.05	650.59	51.34
(04.03.22) 02:00	68.15	806.31	63.08	643.36	51.36
(04.03.22) 03:00	66.24	830.95	63.11	649.47	51.39
(04.03.22) 04:00	64.25	837.23	63.14	649.78	51.42
(04.03.22) 05:00	62.59	833.49	63.17	639.50	51.44

(04.03.22) 06:00	60.92	836.43	63.20	648.23	51.47
(04.03.22) 07:00	60.00	838.06	63.23	646.11	51.49
(04.03.22) 08:00	60.11	837.78	63.27	481.28	51.51
(04.03.22) 09:00	61.25	836.57	63.30	174.40	51.53
(04.03.22) 10:00	62.24	866.73	63.33	535.50	51.55
(04.03.22) 11:00	62.42	795.55	63.36	542.87	51.57
(04.03.22) 12:00	64.52	824.72	63.40	553.05	51.59
(04.03.22) 13:00	66.74	846.14	63.43	564.82	51.61
(04.03.22) 14:00	66.78	757.93	63.46	571.74	51.63
(04.03.22) 15:00	68.80	778.15	63.49	674.09	51.65
(04.03.22) 16:00	68.63	775.26	63.52	673.35	51.67
(04.03.22) 17:00	68.93	825.27	63.55	676.42	51.70
(04.03.22) 18:00	68.89	842.62	63.59	651.51	51.73
(04.03.22) 19:00	68.74	848.09	63.62	649.06	51.75
(04.03.22) 20:00	67.72	847.40	63.65	644.73	51.78
(04.03.22) 21:00	71.04	841.91	63.68	641.95	51.81
(04.03.22) 22:00	73.90	479.64	63.71	639.79	51.83
(04.03.22) 23:00	71.22	454.31	63.73	645.70	51.86
(04.04.22) 00:00	72.44	456.85	63.75	640.09	51.88
(04.04.22) 01:00	69.75	498.39	63.77	644.95	51.91
(04.04.22) 02:00	65.59	530.25	63.79	645.30	51.94
(04.04.22) 03:00	62.35	596.69	63.81	648.18	51.96
(04.04.22) 04:00	59.61	244.86	63.83	640.98	51.99
(04.04.22) 05:00	58.45	566.97	63.85	651.46	52.01
(04.04.22) 06:00	56.32	269.00	63.87	645.94	52.04
(04.04.22) 07:00	55.47	258.06	63.89	647.44	52.06
(04.04.22) 08:00	55.94	555.91	63.91	190.91	52.08
(04.04.22) 09:00	56.04	581.73	63.93	115.38	52.10
(04.04.22) 10:00	60.91	585.75	63.95	530.51	52.12
(04.04.22) 11:00	62.23	557.27	63.97	538.18	52.13
(04.04.22) 12:00	63.79	250.83	63.99	542.94	52.15
(04.04.22) 13:00	64.89	557.35	64.01	552.76	52.17
(04.04.22) 14:00	65.76	571.46	64.04	559.95	52.19
(04.04.22) 15:00	64.25	571.45	64.06	649.18	52.21
(04.04.22) 16:00	63.33	541.97	64.09	630.34	52.23
(04.04.22) 17:00	62.66	765.12	64.12	663.72	52.26
(04.04.22) 18:00	62.17	762.28	64.15	661.63	52.28
(04.04.22) 19:00	62.62	787.57	64.17	654.47	52.31
(04.04.22) 20:00	62.32	790.44	64.20	648.31	52.33
(04.04.22) 21:00	63.05	778.63	64.23	625.33	52.36
(04.04.22) 22:00	63.63	558.10	64.26	641.18	52.39
(04.04.22) 23:00	63.44	564.28	64.28	641.75	52.41
(04.05.22) 00:00	64.63	563.68	64.30	637.94	52.44
(04.05.22) 01:00	63.23	554.56	64.32	637.51	52.46
(04.05.22) 02:00	61.16	557.81	64.35	640.36	52.49
(04.05.22) 03:00	58.25	553.63	64.37	640.44	52.51
(04.05.22) 04:00	57.12	544.27	64.39	642.74	52.54

(04.05.22) 05:00	54.84	527.29	64.41	638.12	52.56
(04.05.22) 06:00	53.38	552.31	64.43	643.15	52.59
(04.05.22) 07:00	54.09	545.05	64.46	642.92	52.61
(04.05.22) 08:00	54.88	537.81	64.48	554.79	52.64
(04.05.22) 09:00	95.32	549.13	64.50	555.02	52.66
(04.05.22) 10:00	57.16	540.18	64.53	560.96	52.68
(04.05.22) 11:00	57.42	541.06	64.55	563.02	52.70
(04.05.22) 12:00	59.85	539.86	64.57	571.01	52.73
(04.05.22) 13:00	60.15	575.64	64.60	574.29	52.75
(04.05.22) 14:00	60.49	870.47	64.62	570.72	52.77
(04.05.22) 15:00		886.24	64.64	665.53	52.80
(04.05.22) 16:00		884.20	64.67	675.05	52.82
(04.05.22) 17:00		563.83	64.69	673.67	52.85
(04.05.22) 18:00		518.22	64.71	673.59	52.88
(04.05.22) 19:00		548.79	64.73	664.78	52.90
(04.05.22) 20:00		196.74	64.75	629.63	52.93
(04.05.22) 21:00		222.81	64.78	676.06	52.95
(04.05.22) 22:00		243.78	64.80	652.95	52.98
(04.05.22) 23:00		533.20	64.82	647.11	53.01
(04.06.22) 00:00		587.19	64.84	658.88	53.03
(04.06.22) 01:00		537.77	64.87	646.91	53.06
(04.06.22) 02:00		355.51	64.89	681.75	53.08
(04.06.22) 03:00		473.76	64.91	646.29	53.11
(04.06.22) 04:00		800.32	64.93	651.63	53.14
(04.06.22) 05:00		820.43	64.96	648.41	53.16
(04.06.22) 06:00		774.75	64.98	646.73	53.19
(04.06.22) 07:00		488.63	65.01	644.61	53.21
(04.06.22) 08:00		461.22	65.04	633.33	53.23
(04.06.22) 09:00		803.40	65.06	333.73	53.25
(04.06.22) 10:00		483.28	65.09	418.75	53.27
(04.06.22) 11:00					
(04.06.22) 12:00					
(04.06.22) 13:00	69.52	826.91	65.17	558.82	53.34
(04.06.22) 14:00	67.50	497.29	65.19	201.85	53.36
(04.06.22) 15:00	66.42	362.88	65.21	152.82	53.38
(04.06.22) 16:00	65.70	446.67	65.24	646.83	53.41
(04.06.22) 17:00	65.55	805.75	65.26	647.22	53.43
(04.06.22) 18:00	65.33	764.62	65.28	640.94	53.45
(04.06.22) 19:00	64.44	271.21	65.30	646.05	53.47
(04.06.22) 20:00	63.86	289.75	65.32	638.90	53.49
(04.06.22) 21:00	63.49	244.19	65.33	641.85	53.52
(04.06.22) 22:00	63.86	269.21	65.34	640.81	53.54
(04.06.22) 23:00	65.01	105.63	65.35	641.63	53.57
(04.07.22) 00:00	62.81	104.51	65.36	648.04	53.59
(04.07.22) 01:00	62.90	136.75	65.37	648.42	53.62
(04.07.22) 02:00	60.72	406.76	65.38	652.73	53.65
(04.07.22) 03:00	59.07	236.32	65.39	648.82	53.67

(04.07.22) 04:00	55.31	295.60	65.40	646.00	53.70
(04.07.22) 05:00	53.24	4.14	65.40	645.59	53.72
(04.07.22) 06:00	51.62	20.52	65.41	651.85	53.74
(04.07.22) 07:00	51.10	0.01	65.42	648.30	53.76
(04.07.22) 08:00	53.26	0.02	65.43	221.61	53.79
(04.07.22) 09:00	53.88	237.61	65.43	545.25	53.81
(04.07.22) 10:00	54.80	488.99	65.44	549.42	53.83
(04.07.22) 11:00	56.67	301.52	65.45	553.40	53.85
(04.07.22) 12:00	59.13	344.50	65.45	558.50	53.87
(04.07.22) 13:00	59.90	288.82	65.48	567.52	53.89
(04.07.22) 14:00	59.72	351.37	65.50	246.55	53.92
(04.07.22) 15:00	58.40	407.25	65.53	91.81	53.94
(04.07.22) 16:00	60.10	507.70	65.55	622.70	53.96
(04.07.22) 17:00	58.60	901.99	65.58	635.41	53.98
(04.07.22) 18:00	58.27	988.65	65.61	639.11	54.00
(04.07.22) 19:00	58.52	1,018.95	65.63	668.99	54.03
(04.07.22) 20:00	57.23	1,087.78	65.66	646.91	54.05
(04.07.22) 21:00	59.82	1,030.42	65.69	609.97	54.07
(04.07.22) 22:00	60.46	745.07	65.72	643.19	54.10
(04.07.22) 23:00	62.58	743.10	65.75	648.33	54.13
(04.08.22) 00:00	61.13	738.28	65.78	647.03	54.15
(04.08.22) 01:00	59.41	733.30	65.81	646.85	54.18
(04.08.22) 02:00	57.83	734.75	65.85	645.20	54.20
(04.08.22) 03:00	55.54	738.09	65.88	648.38	54.23
(04.08.22) 04:00	52.35	726.02	65.91	647.69	54.25
(04.08.22) 05:00	48.65	192.22	65.92	647.65	54.28
(04.08.22) 06:00	49.12	127.07	65.92	645.60	54.30
(04.08.22) 07:00	48.04	139.90	65.93	649.66	54.32
(04.08.22) 08:00	48.15	131.98	65.94	224.75	54.34
(04.08.22) 09:00	49.10	504.86	65.95	548.64	54.37
(04.08.22) 10:00	51.41	0.04	65.95	548.23	54.39
(04.08.22) 11:00	54.00	169.19	65.96	553.82	54.41
(04.08.22) 12:00	55.58	193.58	65.97	561.70	54.43
(04.08.22) 13:00	56.72	141.99	65.98	560.68	54.46
(04.08.22) 14:00	57.12	196.88	66.00	569.65	54.48
(04.08.22) 15:00	56.32	202.75	66.02	530.02	54.51
(04.08.22) 16:00	57.02	203.13	66.03	664.32	54.53
(04.08.22) 17:00	55.78	485.90	66.05	672.55	54.56
(04.08.22) 18:00	54.81	824.86	66.06	669.29	54.58
(04.08.22) 19:00	54.94	835.98	66.08	657.78	54.60
(04.08.22) 20:00	55.25	849.19	66.09	659.87	54.63
(04.08.22) 21:00	54.82	845.86	66.12	655.05	54.66
(04.08.22) 22:00	56.32	893.78	66.15	646.18	54.68
(04.08.22) 23:00	56.14	884.72	66.18	650.76	54.71
(04.09.22) 00:00	55.20	899.22	66.20	651.49	54.73
(04.09.22) 01:00	53.67	173.20	66.23	649.58	54.76
(04.09.22) 02:00	52.40	592.04	66.26	649.54	54.79

(04.09.22) 03:00	51.23	522.91	66.28	653.94	54.81
(04.09.22) 04:00	48.25	543.78	66.31	648.44	54.84
(04.09.22) 05:00	46.61	715.87	66.34	657.36	54.86
(04.09.22) 06:00	45.13	790.46	66.36	652.34	54.89
(04.09.22) 07:00	43.88	868.56	66.39	649.41	54.92
(04.09.22) 08:00	45.18	868.84	66.42	655.34	54.94
(04.09.22) 09:00	46.78	505.92	66.44	648.96	54.97
(04.09.22) 10:00	48.55	486.74	66.47	659.44	55.00
(04.09.22) 11:00	49.85	487.67	66.49	652.37	55.02
(04.09.22) 12:00	51.05	491.70	66.52	657.05	55.05
(04.09.22) 13:00	53.52	483.43	66.54	653.52	55.07
(04.09.22) 14:00	54.26	489.07	66.56	655.76	55.10
(04.09.22) 15:00	54.59	489.98	66.58	653.57	55.13
(04.09.22) 16:00	56.03	491.13	66.60	660.04	55.15
(04.09.22) 17:00	55.92	490.09	66.62	654.62	55.18
(04.09.22) 18:00	55.33	487.79	66.64	659.19	55.21
(04.09.22) 19:00	55.66	484.04	66.65	653.26	55.23
(04.09.22) 20:00	55.31	485.62	66.67	650.57	55.26
(04.09.22) 21:00	55.75	485.03	66.69	649.04	55.28
(04.09.22) 22:00	56.30	487.05	66.71	660.14	55.31
(04.09.22) 23:00	54.49	479.53	66.73	653.89	55.34
(04.10.22) 00:00	53.20	479.06	66.75	654.17	55.36
(04.10.22) 01:00	53.69	475.10	66.77	660.44	55.39
(04.10.22) 02:00	52.32	473.70	66.79	654.99	55.41
(04.10.22) 03:00	50.23	478.43	66.81	651.07	55.44
(04.10.22) 04:00	48.71	473.27	66.83	654.11	55.46
(04.10.22) 05:00	46.47	568.99	66.85	654.88	55.48
(04.10.22) 06:00	45.03	561.20	66.87	654.34	55.50
(04.10.22) 07:00	44.30	559.12	66.89	655.44	55.52
(04.10.22) 08:00	44.39	551.49	66.92	600.42	55.54
(04.10.22) 09:00	44.98	555.33	66.94	189.68	55.56
(04.10.22) 10:00	46.36	555.09	66.96	126.66	55.57
(04.10.22) 11:00	48.11	556.09	66.98	98.86	55.59
(04.10.22) 12:00	49.47	548.89	67.00	532.33	55.61
(04.10.22) 13:00	53.00	550.24	67.03	524.20	55.63
(04.10.22) 14:00	52.66	540.96	67.05	229.57	55.66
(04.10.22) 15:00	53.44	544.33	67.07	642.64	55.68
(04.10.22) 16:00	54.55	545.82	67.09	647.23	55.70
(04.10.22) 17:00	53.39	543.47	67.11	655.86	55.73
(04.10.22) 18:00	53.54	541.49	67.14	654.76	55.75
(04.10.22) 19:00	52.43	546.07	67.16	654.49	55.77
(04.10.22) 20:00	52.71	543.70	67.18	653.29	55.80
(04.10.22) 21:00	53.31	552.42	67.20	644.74	55.82
(04.10.22) 22:00	54.60	544.71	67.22	644.22	55.85
(04.10.22) 23:00	54.56	541.87	67.24	638.17	55.88
(04.11.22) 00:00	53.98	550.48	67.27	642.83	55.90
(04.11.22) 01:00	52.73	551.81	67.29	643.79	55.93

(04.11.22) 02:00	50.54	545.90	67.31	643.90	55.95
(04.11.22) 03:00	48.83	543.86	67.33	641.04	55.98
(04.11.22) 04:00	45.88	544.18	67.35	642.38	56.00
(04.11.22) 05:00	43.72	510.24	67.38	640.64	56.02
(04.11.22) 06:00	42.17	574.00	67.40	640.71	56.04
(04.11.22) 07:00	42.33	561.25	67.42	639.72	56.06
(04.11.22) 08:00	43.07	557.44	67.44	198.68	56.08
(04.11.22) 09:00	44.74	561.10	67.46	113.09	56.10
(04.11.22) 10:00	45.67	546.77	67.48	530.00	56.12
(04.11.22) 11:00	47.11	544.94	67.51	527.36	56.14
(04.11.22) 12:00	49.38	540.32	67.53	532.12	56.16
(04.11.22) 13:00	51.53	172.06	67.55	544.68	56.18
(04.11.22) 14:00	51.45	496.59	67.57	548.40	56.21
(04.11.22) 15:00	51.89	495.93	67.59	550.92	56.23
(04.11.22) 16:00	50.19	189.83	67.61	603.32	56.25
(04.11.22) 17:00	48.15	549.71	67.63	620.62	56.28
(04.11.22) 18:00	49.39	500.88	67.65	624.17	56.30
(04.11.22) 19:00	49.22	827.41	67.68	617.84	56.32
(04.11.22) 20:00	49.47	844.92	67.70	621.22	56.35
(04.11.22) 21:00	50.11	881.39	67.72	584.73	56.37
(04.11.22) 22:00	51.41	446.38	67.74	610.99	56.39
(04.11.22) 23:00	51.31	530.39	67.76	604.33	56.42
(04.12.22) 00:00	51.41	480.75	67.79	598.53	56.44
(04.12.22) 01:00	50.88	500.96	67.81	606.22	56.47
(04.12.22) 02:00	48.73	560.24	67.83	608.89	56.49
(04.12.22) 03:00	47.32	490.65	67.85	603.64	56.52
(04.12.22) 04:00	45.67	513.66	67.87	603.88	56.53
(04.12.22) 05:00	43.47	161.54	67.89	603.36	56.55
(04.12.22) 06:00	41.78	554.66	67.91	605.40	56.56
(04.12.22) 07:00	41.37	502.95	67.93	600.46	56.58
(04.12.22) 08:00	42.08	514.95	67.95	166.96	56.59
(04.12.22) 09:00	42.88	506.29	67.97	65.85	56.61
(04.12.22) 10:00	45.17	512.68	67.99	0.16	56.63
(04.12.22) 11:00	46.29	505.74	68.01	478.92	56.64
(04.12.22) 12:00	48.73	509.19	68.03	507.05	56.66
(04.12.22) 13:00	51.85	504.83	68.05	514.35	56.68
(04.12.22) 14:00	51.33	510.68	68.07	520.35	56.71
(04.12.22) 15:00	50.24	501.84	68.09	247.98	56.73
(04.12.22) 16:00	50.44	505.14	68.11	626.27	56.75
(04.12.22) 17:00	48.29	502.47	68.13	639.21	56.77
(04.12.22) 18:00	50.59	505.06	68.15	645.39	56.80
(04.12.22) 19:00	48.05	503.92	68.17	646.76	56.82
(04.12.22) 20:00	48.82	497.86	68.19	634.41	56.84
(04.12.22) 21:00	50.45	493.43	68.21	626.72	56.87
(04.12.22) 22:00	50.62	498.64	68.23	629.02	56.90
(04.12.22) 23:00	50.71	489.11	68.25	632.40	56.92
(04.13.22) 00:00	51.48	485.94	68.27	633.13	56.95

(04.13.22) 01:00	49.71	488.65	68.29	634.83	56.97
(04.13.22) 02:00	109.69	494.95	68.31	631.16	57.00
(04.13.22) 03:00	62.22	494.57	68.33	633.87	57.02
(04.13.22) 04:00	199.18	495.93	68.35	635.14	57.04
(04.13.22) 05:00	199.98	488.85	68.37	628.50	57.07
(04.13.22) 06:00	191.37	487.18	68.40	637.84	57.09
(04.13.22) 07:00	74.91	561.78	68.42	631.71	57.11
(04.13.22) 08:00	137.52	565.92	68.44	206.70	57.13
(04.13.22) 09:00	54.72	542.10	68.47	518.33	57.15
(04.13.22) 10:00	51.16	766.54	68.49	538.51	57.18
(04.13.22) 11:00	56.43	782.52	68.51	539.77	57.20
(04.13.22) 12:00	53.15	786.93	68.54	537.36	57.22
(04.13.22) 13:00	58.93	790.26	68.57	545.82	57.24
(04.13.22) 14:00	53.15	794.61	68.60	550.29	57.26
(04.13.22) 15:00	52.82	795.18	68.64	140.00	57.28
(04.13.22) 16:00	52.34	804.03	68.67	588.60	57.31
(04.13.22) 17:00	51.89	805.80	68.70	626.04	57.33
(04.13.22) 18:00	51.54	805.63	68.73	618.53	57.35
(04.13.22) 19:00	50.77	652.55	68.76	607.82	57.37
(04.13.22) 20:00	49.75	454.75	68.78	606.28	57.39
(04.13.22) 21:00	50.51	465.95	68.80	582.63	57.42
(04.13.22) 22:00	50.38	485.70	68.82	596.33	57.44
(04.13.22) 23:00	51.01	478.96	68.84	615.27	57.47
(04.14.22) 00:00	50.86	485.66	68.86	592.35	57.49
(04.14.22) 01:00	49.25	489.55	68.88	588.42	57.51
(04.14.22) 02:00	47.94	485.23	68.90	604.82	57.54
(04.14.22) 03:00	45.68	477.23	68.92	599.91	57.56
(04.14.22) 04:00	44.71	476.76	68.94	606.97	57.58
(04.14.22) 05:00	43.11	486.00	68.95	604.54	57.61
(04.14.22) 06:00	40.59	482.96	68.97	603.65	57.63
(04.14.22) 07:00	40.22	487.44	68.98	607.40	57.65
(04.14.22) 08:00	41.76	485.52	69.00	200.05	57.67
(04.14.22) 09:00	43.42	153.50	69.02	548.22	57.70
(04.14.22) 10:00	43.88	113.74	69.03	603.09	57.72
(04.14.22) 11:00	46.59	492.85	69.05	560.78	57.74
(04.14.22) 12:00	48.03	754.57	69.08	561.32	57.76
(04.14.22) 13:00	48.15	768.35	69.11	564.00	57.79
(04.14.22) 14:00	48.18	788.34	69.15	580.63	57.81
(04.14.22) 15:00	47.46	807.11	69.18	239.54	57.84
(04.14.22) 16:00	46.98	820.50	69.21	652.53	57.86
(04.14.22) 17:00	47.40	829.58	69.24	656.73	57.88
(04.14.22) 18:00	47.44	844.05	69.27	661.30	57.91
(04.14.22) 19:00	47.45	814.05	69.30	658.22	57.93
(04.14.22) 20:00	47.28	534.62	69.32	655.41	57.96
(04.14.22) 21:00	47.94	530.23	69.34	651.66	57.98
(04.14.22) 22:00	48.92	466.73	69.36	649.77	58.01
(04.14.22) 23:00	49.24	479.04	69.38	650.98	58.04

(04.15.22) 00:00	48.24	469.15	69.40	655.05	58.06
(04.15.22) 01:00	47.66	533.89	69.42	665.00	58.09
(04.15.22) 02:00	45.85	781.20	69.44	653.75	58.12
(04.15.22) 03:00	43.39	723.77	69.46	654.69	58.14
(04.15.22) 04:00	41.84	741.17	69.48	652.57	58.16
(04.15.22) 05:00	39.72	461.76	69.50	650.11	58.19
(04.15.22) 06:00	38.46	460.01	69.52	651.70	58.21
(04.15.22) 07:00	38.06	471.14	69.54	649.61	58.24
(04.15.22) 08:00	39.19	538.68	69.56	564.17	58.26
(04.15.22) 09:00	38.94	179.39	69.58	561.17	58.28
(04.15.22) 10:00	40.90	494.03	69.60	561.94	58.31
(04.15.22) 11:00	42.39	494.30	69.62	611.57	58.33
(04.15.22) 12:00	44.94	490.25	69.64	570.25	58.35
(04.15.22) 13:00	46.77	545.92	69.66	572.24	58.38
(04.15.22) 14:00	46.89	144.40	69.67	569.85	58.40
(04.15.22) 15:00	47.27	481.98	69.69	655.94	58.43
(04.15.22) 16:00	47.07	479.23	69.71	652.93	58.45
(04.15.22) 17:00	47.19	543.53	69.73	665.52	58.47
(04.15.22) 18:00	46.65	543.02	69.74	667.03	58.50
(04.15.22) 19:00	46.19	495.80	69.76	666.01	58.52
(04.15.22) 20:00	46.51	489.24	69.78	665.44	58.55
(04.15.22) 21:00	46.76	485.27	69.80	654.92	58.57
(04.15.22) 22:00	47.02	551.41	69.82	653.10	58.60
(04.15.22) 23:00	46.74	183.42	69.84	650.60	58.63
(04.16.22) 00:00	45.57	480.65	69.86	650.12	58.65
(04.16.22) 01:00	43.72	489.56	69.87	652.35	58.68
(04.16.22) 02:00	43.18	164.76	69.89	646.93	58.70
(04.16.22) 03:00	41.40	551.12	69.91	650.07	58.73
(04.16.22) 04:00	39.67	509.59	69.93	652.78	58.76
(04.16.22) 05:00	38.09	489.18	69.95	651.42	58.78
(04.16.22) 06:00	36.59	485.09	69.97	652.17	58.81
(04.16.22) 07:00	35.14	551.59	69.98	653.64	58.83
(04.16.22) 08:00	35.67	493.62	70.00	651.89	58.86
(04.16.22) 09:00	35.76	504.58	70.02	651.02	58.89
(04.16.22) 10:00	35.93	556.33	70.04	651.80	58.91
(04.16.22) 11:00	37.95	199.47	70.06	654.19	58.94
(04.16.22) 12:00	40.47	510.03	70.08	648.51	58.96
(04.16.22) 13:00	43.09	549.98	70.10	655.62	58.99
(04.16.22) 14:00	45.02	200.23	70.11	652.39	59.02
(04.16.22) 15:00	46.06	507.62	70.13	654.79	59.04
(04.16.22) 16:00	46.38	500.75	70.15	645.05	59.07
(04.16.22) 17:00	46.00	159.07	70.17	648.58	59.09
(04.16.22) 18:00	45.88	546.03	70.19	649.05	59.12
(04.16.22) 19:00	45.70	500.15	70.20	646.47	59.15
(04.16.22) 20:00	45.79	464.72	70.22	650.36	59.17
(04.16.22) 21:00	45.31	147.91	70.24	649.14	59.20
(04.16.22) 22:00	45.95	156.83	70.26	643.80	59.22

(04.16.22) 23:00	45.98	483.01	70.27	650.14	59.25
(04.17.22) 00:00	45.17	477.31	70.29	640.13	59.28
(04.17.22) 01:00	44.57	537.46	70.31	646.17	59.30
(04.17.22) 02:00	43.43	131.37	70.33	650.84	59.33
(04.17.22) 03:00	41.19	487.91	70.34	645.05	59.35
(04.17.22) 04:00	38.41	480.27	70.36	648.90	59.38
(04.17.22) 05:00	38.18	539.82	70.38	637.72	59.40
(04.17.22) 06:00	42.59	493.84	70.40	641.40	59.42
(04.17.22) 07:00	37.58	164.59	70.42	640.38	59.45
(04.17.22) 08:00	38.12	159.53	70.43	642.63	59.47
(04.17.22) 09:00	36.95	479.13	70.45	561.89	59.50
(04.17.22) 10:00	36.55	539.74	70.47	567.89	59.52
(04.17.22) 11:00	37.99	141.36	70.49	573.15	59.54
(04.17.22) 12:00	41.23	478.62	70.51	571.56	59.56
(04.17.22) 13:00	67.53	143.45	70.52	569.26	59.59
(04.17.22) 14:00	96.77	466.96	70.54	589.21	59.61
(04.17.22) 15:00	133.13	482.26	70.56	263.60	59.63
(04.17.22) 16:00	144.86	471.00	70.58	610.83	59.66
(04.17.22) 17:00	94.92	286.56	70.59	633.50	59.68
(04.17.22) 18:00	52.88	680.27	70.61	643.24	59.70
(04.17.22) 19:00	66.30	685.51	70.63	643.37	59.73
(04.17.22) 20:00	72.33	736.70	70.66	649.90	59.75
(04.17.22) 21:00	65.91	706.38	70.68	614.17	59.78
(04.17.22) 22:00	69.30	714.88	70.70	633.37	59.80
(04.17.22) 23:00	55.92	663.49	70.73	623.99	59.83
(04.18.22) 00:00	54.03	528.00	70.75	630.83	59.85
(04.18.22) 01:00	53.13	62.96	70.77	624.10	59.88
(04.18.22) 02:00	49.98	462.64	70.79	626.03	59.90
(04.18.22) 03:00	46.43	583.84	70.82	625.26	59.93
(04.18.22) 04:00	44.00	610.15	70.84	629.99	59.95
(04.18.22) 05:00	41.61	665.21	70.86	620.85	59.97
(04.18.22) 06:00	40.10	594.55	70.88	623.43	59.99
(04.18.22) 07:00	40.19	635.67	70.90	625.46	60.02
(04.18.22) 08:00	40.94	292.60	70.93	631.45	60.04
(04.18.22) 09:00	40.05	469.14	70.95	246.64	60.06
(04.18.22) 10:00	41.89	469.44	70.97	564.16	60.08
(04.18.22) 11:00	43.80	544.29	70.99	559.99	60.11
(04.18.22) 12:00	44.02	490.71	71.00	565.65	60.13
(04.18.22) 13:00	46.07	474.17	71.02	575.21	60.15
(04.18.22) 14:00	47.49	535.77	71.04	576.25	60.18
(04.18.22) 15:00	47.99	488.92	71.05	649.86	60.20
(04.18.22) 16:00	48.65	479.88	71.07	652.60	60.23
(04.18.22) 17:00	47.92	535.17	71.08	656.00	60.25
(04.18.22) 18:00	46.67	491.07	71.10	649.03	60.27
(04.18.22) 19:00	46.52	480.59	71.12	648.26	60.30
(04.18.22) 20:00	45.03	482.34	71.14	657.25	60.33
(04.18.22) 21:00	47.04	543.01	71.15	652.79	60.35

(04.18.22) 22:00	48.76	447.66	71.17	653.60	60.38
(04.18.22) 23:00	48.09	485.57	71.19	656.79	60.40
(04.19.22) 00:00	47.54	540.89	71.21	649.23	60.43
(04.19.22) 01:00	46.33	543.44	71.22	652.03	60.46
(04.19.22) 02:00	44.87	495.14	71.24	651.49	60.48
(04.19.22) 03:00	42.09	476.66	71.26	651.38	60.50
(04.19.22) 04:00	39.74	144.91	71.28	647.85	60.53
(04.19.22) 05:00	37.70	536.69	71.29	647.45	60.55
(04.19.22) 06:00	36.84	477.73	71.31	644.38	60.57
(04.19.22) 07:00	36.86	481.29	71.33	646.21	60.59
(04.19.22) 08:00	37.68	536.26	71.35	273.40	60.61
(04.19.22) 09:00	38.61	104.65	71.36	236.83	60.63
(04.19.22) 10:00	41.54	482.19	71.38	227.49	60.66
(04.19.22) 11:00	42.13	479.12	71.40	302.64	60.68
(04.19.22) 12:00	43.68	534.71	71.41	559.16	60.70
(04.19.22) 13:00	44.72	122.68	71.43	555.23	60.72
(04.19.22) 14:00	46.26	481.23	71.45	569.51	60.74
(04.19.22) 15:00	45.86	477.31	71.46	649.45	60.76
(04.19.22) 16:00	46.91	533.00	71.48	645.58	60.78
(04.19.22) 17:00	46.74	486.60	71.49	664.82	60.81
(04.19.22) 18:00	46.73	74.61	71.51	669.92	60.83
(04.19.22) 19:00	46.72	136.84	71.53	661.44	60.85
(04.19.22) 20:00	46.77	457.54	71.55	654.78	60.88
(04.19.22) 21:00	47.69	619.37	71.57	649.63	60.91
(04.19.22) 22:00	47.89	488.46	71.59	640.39	60.93
(04.19.22) 23:00	47.34	662.70	71.61	652.10	60.96
(04.20.22) 00:00	47.71	719.36	71.63	653.17	60.98
(04.20.22) 01:00	46.72	505.89	71.64	650.44	61.01
(04.20.22) 02:00	44.75	861.01	71.67	642.43	61.04
(04.20.22) 03:00	42.56	447.75	71.70	645.12	61.06
(04.20.22) 04:00	40.20	630.03	71.73	643.94	61.08
(04.20.22) 05:00	38.08	921.55	71.77	644.98	61.10
(04.20.22) 06:00	36.92	733.04	71.80	650.42	61.13
(04.20.22) 07:00	36.61	991.92	71.83	650.30	61.15
(04.20.22) 08:00	36.91	967.77	71.87	244.65	61.17
(04.20.22) 09:00	37.68	969.30	71.90	561.48	61.20
(04.20.22) 10:00	40.32	761.08	71.93	559.98	61.22
(04.20.22) 11:00	43.16	668.75	71.95	565.80	61.24
(04.20.22) 12:00	45.65	624.67	71.97	575.83	61.26
(04.20.22) 13:00	46.63	222.17	71.99	581.11	61.29
(04.20.22) 14:00	47.42	459.44	72.01	584.32	61.31
(04.20.22) 15:00	46.85	534.68	72.03	291.56	61.34
(04.20.22) 16:00	46.61	38.68	72.05	664.26	61.36
(04.20.22) 17:00	46.60	455.09	72.07	663.19	61.39
(04.20.22) 18:00	46.03	759.91	72.08	658.18	61.41
(04.20.22) 19:00	45.83	495.58	72.10	656.06	61.44
(04.20.22) 20:00	46.27	750.43	72.12	651.55	61.46

(04.20.22) 21:00	46.79	758.70	72.14	654.36	61.49
(04.20.22) 22:00	46.77	490.45	72.17	646.39	61.51
(04.20.22) 23:00	46.81	302.77	72.19	647.06	61.54
(04.21.22) 00:00	46.50	767.88	72.22	650.12	61.56
(04.21.22) 01:00	46.18	708.71	72.24	648.41	61.59
(04.21.22) 02:00	43.49	445.93	72.27	650.77	61.62
(04.21.22) 03:00	41.98	491.52	72.29	650.55	61.64
(04.21.22) 04:00	39.38	788.79	72.31	652.08	61.67
(04.21.22) 05:00	36.68	498.54	72.33	645.62	61.69
(04.21.22) 06:00	35.09	113.84	72.34	648.84	61.71
(04.21.22) 07:00	34.94	463.65	72.36	644.65	61.74
(04.21.22) 08:00	36.36	556.57	72.37	648.74	61.76
(04.21.22) 09:00	37.25	459.66	72.38	248.33	61.78
(04.21.22) 10:00	40.07	167.91	72.40	565.58	61.80
(04.21.22) 11:00	41.40	529.52	72.41	565.85	61.83
(04.21.22) 12:00	41.96	460.10	72.43	567.97	61.85
(04.21.22) 13:00	43.17	112.88	72.45	575.47	61.87
(04.21.22) 14:00	42.65	536.01	72.46	576.78	61.90
(04.21.22) 15:00	42.67	481.08	72.48	304.16	61.92
(04.21.22) 16:00	43.90	111.36	72.50	644.23	61.95
(04.21.22) 17:00	42.26	413.91	72.52	652.48	61.97
(04.21.22) 18:00	41.90	771.38	72.54	644.70	61.99
(04.21.22) 19:00	42.54	414.59	72.56	640.61	62.02
(04.21.22) 20:00	43.18	518.97	72.58	636.29	62.04
(04.21.22) 21:00	44.16	779.03	72.60	624.10	62.07
(04.21.22) 22:00	44.23	91.23	72.62	634.42	62.09
(04.21.22) 23:00	45.06	133.43	72.63	623.61	62.12
(04.22.22) 00:00	45.58	470.03	72.65	627.44	62.14
(04.22.22) 01:00	44.98	534.17	72.67	628.03	62.17
(04.22.22) 02:00	43.89	477.91	72.69	626.26	62.19
(04.22.22) 03:00	41.09	139.45	72.70	617.85	62.22
(04.22.22) 04:00	39.16	533.48	72.72	621.24	62.24
(04.22.22) 05:00	36.70	471.63	72.73	616.04	62.27
(04.22.22) 06:00	35.34	146.17	72.75	616.47	62.29
(04.22.22) 07:00	34.45	541.72	72.76	622.64	62.31
(04.22.22) 08:00	34.89	478.05	72.78	273.66	62.34
(04.22.22) 09:00	36.15	541.77	72.79	562.91	62.36
(04.22.22) 10:00	37.44	154.66	72.81	566.22	62.38
(04.22.22) 11:00	39.95	480.14	72.82	565.92	62.41
(04.22.22) 12:00	42.27	538.39	72.84	568.58	62.43
(04.22.22) 13:00	42.36	166.15	72.85	573.13	62.45
(04.22.22) 14:00	43.04	476.84	72.87	579.70	62.48
(04.22.22) 15:00	42.78	531.67	72.88	643.92	62.50
(04.22.22) 16:00	42.97	467.72	72.90	641.99	62.53
(04.22.22) 17:00	43.07	162.57	72.91	664.01	62.55
(04.22.22) 18:00	42.03	523.46	72.93	666.50	62.58
(04.22.22) 19:00	41.57	479.59	72.95	661.10	62.60

(04.22.22) 20:00	42.67	171.96	72.96	657.95	62.63
(04.22.22) 21:00	43.41	525.67	72.98	650.68	62.65
(04.22.22) 22:00	44.06	476.77	72.99	648.22	62.68
(04.22.22) 23:00	43.26	470.13	73.01	647.00	62.70
(04.23.22) 00:00	43.07	527.47	73.02	642.88	62.73
(04.23.22) 01:00	42.47	475.22	73.04	645.32	62.76
(04.23.22) 02:00	41.61	474.53	73.06	643.84	62.78
(04.23.22) 03:00	40.29	152.83	73.07	644.65	62.81
(04.23.22) 04:00	38.96	178.21	73.09	646.38	62.83
(04.23.22) 05:00	36.99	470.37	73.10	637.47	62.86
(04.23.22) 06:00	35.87	166.16	73.12	647.78	62.88
(04.23.22) 07:00	35.29	165.72	73.13	646.56	62.91
(04.23.22) 08:00	34.89	163.52	73.15	643.01	62.94
(04.23.22) 09:00	34.55	173.50	73.16	643.17	62.96
(04.23.22) 10:00	35.92	472.27	73.17	666.00	62.99
(04.23.22) 11:00	38.10	526.22	73.19	641.92	63.01
(04.23.22) 12:00	40.84	474.57	73.20	642.43	63.04
(04.23.22) 13:00	43.02	156.67	73.22	649.61	63.07
(04.23.22) 14:00	44.58	528.89	73.23	644.95	63.09
(04.23.22) 15:00	45.98	482.68	73.25	650.32	63.12
(04.23.22) 16:00	46.02	152.92	73.26	644.11	63.14
(04.23.22) 17:00	45.00	517.04	73.28	644.08	63.17
(04.23.22) 18:00	44.05	471.68	73.30	641.24	63.19
(04.23.22) 19:00	44.20	145.30	73.31	644.42	63.22
(04.23.22) 20:00	44.90	154.18	73.33	647.17	63.25
(04.23.22) 21:00	43.70	655.92	73.35	648.76	63.27
(04.23.22) 22:00	44.20	666.27	73.38	645.68	63.30
(04.23.22) 23:00	199.59	668.70	73.40	647.60	63.32
(04.24.22) 00:00	138.08	918.86	73.42	648.00	63.35
(04.24.22) 01:00	83.72	737.57	73.45	650.87	63.38
(04.24.22) 02:00	90.05	531.89	73.47	657.18	63.40
(04.24.22) 03:00	94.53	467.22	73.50	660.43	63.43
(04.24.22) 04:00	87.58	532.47	73.52	662.36	63.45
(04.24.22) 05:00	100.96	469.64	73.53	659.36	63.47
(04.24.22) 06:00	151.10	148.55	73.55	653.68	63.49
(04.24.22) 07:00	164.21	533.61	73.56	653.05	63.51
(04.24.22) 08:00	146.13	473.90	73.58	649.52	63.53
(04.24.22) 09:00	119.18	138.61	73.59	258.90	63.56
(04.24.22) 10:00	88.43	534.64	73.61	246.61	63.58
(04.24.22) 11:00	62.17	477.88	73.62	496.34	63.60
(04.24.22) 12:00	58.12	146.45	73.64	567.86	63.62
(04.24.22) 13:00	58.07	161.30	73.65	567.06	63.64
(04.24.22) 14:00	59.48	473.52	73.67	573.55	63.67
(04.24.22) 15:00	57.48	529.92	73.68	252.38	63.69
(04.24.22) 16:00	57.34	151.09	73.70	648.18	63.71
(04.24.22) 17:00	56.30	469.47	73.71	659.24	63.74
(04.24.22) 18:00	54.73	530.36	73.73	656.83	63.76

(04.24.22) 19:00	54.57	138.47	73.74	657.07	63.78
(04.24.22) 20:00	54.42	467.39	73.75	648.45	63.81
(04.24.22) 21:00	54.40	524.70	73.77	648.60	63.83
(04.24.22) 22:00	54.97	472.21	73.78	648.45	63.86
(04.24.22) 23:00	54.95	161.73	73.80	647.95	63.89
(04.25.22) 00:00	53.91	180.09	73.81	644.39	63.91
(04.25.22) 01:00	52.08	470.28	73.83	652.11	63.94
(04.25.22) 02:00	49.83	145.69	73.84	645.76	63.96
(04.25.22) 03:00	47.37	162.48	73.86	647.24	63.99
(04.25.22) 04:00	44.47	461.95	73.87	647.79	64.01
(04.25.22) 05:00	42.85	109.81	73.89	647.95	64.03
(04.25.22) 06:00	41.00	140.57	73.90	644.24	64.06
(04.25.22) 07:00	41.53	468.15	73.92	645.39	64.08
(04.25.22) 08:00	41.43	536.67	73.93	240.15	64.10
(04.25.22) 09:00	41.98	457.92	73.95	547.01	64.12
(04.25.22) 10:00	44.07	135.98	73.96	563.79	64.14
(04.25.22) 11:00	47.13	528.36	73.98	574.88	64.16
(04.25.22) 12:00	78.12	463.03	73.99	568.81	64.19
(04.25.22) 13:00	48.46	132.36	74.01	568.54	64.21
(04.25.22) 14:00	48.58	118.55	74.02	577.07	64.23
(04.25.22) 15:00	47.64	451.12	74.04	624.12	64.26
(04.25.22) 16:00	47.22	534.04	74.05	633.50	64.28
(04.25.22) 17:00	45.99	462.13	74.07	640.49	64.30
(04.25.22) 18:00	46.26	464.30	74.09	656.68	64.33
(04.25.22) 19:00	46.51	458.88	74.10	648.87	64.35
(04.25.22) 20:00	46.79	455.19	74.12	645.51	64.38
(04.25.22) 21:00	47.89	456.20	74.14	638.12	64.40
(04.25.22) 22:00	48.65	455.57	74.16	644.67	64.43
(04.25.22) 23:00	49.02	453.84	74.17	650.74	64.45
(04.26.22) 00:00	48.15	453.73	74.19	646.65	64.48
(04.26.22) 01:00	46.55	457.93	74.21	648.03	64.51
(04.26.22) 02:00	44.41	452.85	74.23	645.07	64.53
(04.26.22) 03:00	41.94	450.12	74.25	648.69	64.56
(04.26.22) 04:00	39.64	448.34	74.26	644.25	64.58
(04.26.22) 05:00	36.87	450.91	74.28	639.52	64.60
(04.26.22) 06:00	35.80	446.54	74.30	636.50	64.63
(04.26.22) 07:00	36.36	448.87	74.32	641.50	64.65
(04.26.22) 08:00	38.39	449.75	74.34	243.98	64.67
(04.26.22) 09:00	39.41	446.56	74.35	566.08	64.69
(04.26.22) 10:00	41.93	448.56	74.37	565.33	64.72
(04.26.22) 11:00	43.31	449.79	74.39	567.37	64.74
(04.26.22) 12:00	44.48	448.62	74.41	567.20	64.76
(04.26.22) 13:00	44.97	448.07	74.43	566.38	64.78
(04.26.22) 14:00	44.36	452.61	74.45	570.83	64.81
(04.26.22) 15:00	44.12	446.05	74.47	639.95	64.83
(04.26.22) 16:00	45.35	446.58	74.49	637.50	64.86
(04.26.22) 17:00	44.42	540.49	74.52	651.70	64.88

(04.26.22) 18:00	44.53	704.82	74.54	656.41	64.91
(04.26.22) 19:00	44.61	746.05	74.57	660.04	64.93
(04.26.22) 20:00	45.20	768.53	74.59	662.46	64.96
(04.26.22) 21:00	45.58	792.47	74.61	645.02	64.98
(04.26.22) 22:00	45.85	534.61	74.64	644.81	65.01
(04.26.22) 23:00	47.17	535.99	74.65	646.44	65.03
(04.27.22) 00:00	47.48	465.39	74.67	641.96	65.06
(04.27.22) 01:00	46.45	464.58	74.69	643.76	65.08
(04.27.22) 02:00	45.36	465.81	74.71	643.74	65.11
(04.27.22) 03:00	42.38	465.45	74.73	646.19	65.13
(04.27.22) 04:00	40.57	445.42	74.75	645.33	65.16
(04.27.22) 05:00	38.70	449.34	74.77	643.02	65.19
(04.27.22) 06:00	37.33	452.62	74.78	645.72	65.21
(04.27.22) 07:00	37.04	446.35	74.80	644.68	65.23
(04.27.22) 08:00	38.58	451.48	74.82	254.55	65.25
(04.27.22) 09:00	39.00	451.32	74.84	246.40	65.27
(04.27.22) 10:00	40.32	449.45	74.86	557.70	65.29
(04.27.22) 11:00	42.53	447.45	74.87	560.80	65.31
(04.27.22) 12:00	44.40	450.07	74.89	564.55	65.33
(04.27.22) 13:00	44.43	453.30	74.91	558.24	65.35
(04.27.22) 14:00	43.98	456.62	74.93	562.17	65.37
(04.27.22) 15:00	43.82	457.62	74.95	257.11	65.39
(04.27.22) 16:00	43.20	452.22	74.97	617.44	65.42
(04.27.22) 17:00	42.74	452.00	74.98	634.31	65.44
(04.27.22) 18:00	42.24	448.91	75.00	640.52	65.46
(04.27.22) 19:00	43.23	453.65	75.02	631.75	65.49
(04.27.22) 20:00	43.66	452.73	75.04	636.29	65.51
(04.27.22) 21:00	44.45	457.60	75.06	626.10	65.54
(04.27.22) 22:00	46.04	454.22	75.07	627.66	65.56
(04.27.22) 23:00	47.23	454.31	75.09	656.67	65.59
(04.28.22) 00:00	46.84	544.75	75.11	641.76	65.61
(04.28.22) 01:00	45.90	546.09	75.13	639.78	65.64
(04.28.22) 02:00	44.46	541.30	75.15	646.17	65.66
(04.28.22) 03:00	41.47	531.65	75.17	632.53	65.69
(04.28.22) 04:00	38.79	63.71	75.19	640.77	65.71
(04.28.22) 05:00	36.72	466.51	75.21	641.83	65.74
(04.28.22) 06:00	35.60	459.61	75.23	644.52	65.76
(04.28.22) 07:00	35.01	466.33	75.25	642.26	65.78
(04.28.22) 08:00	35.50	461.50	75.27	248.96	65.81
(04.28.22) 09:00	36.82	448.68	75.29	550.09	65.83
(04.28.22) 10:00	38.22	441.97	75.30	553.74	65.85
(04.28.22) 11:00	41.53	442.45	75.32	554.47	65.87
(04.28.22) 12:00	45.62	439.31	75.34	557.06	65.90
(04.28.22) 13:00	46.12	478.61	75.36	559.14	65.92
(04.28.22) 14:00	47.48	559.22	75.38	558.61	65.94
(04.28.22) 15:00	44.38	560.35	75.40	632.42	65.97
(04.28.22) 16:00	42.99	720.87	75.42	638.56	65.99

(04.28.22) 17:00	41.86	785.28	75.44	648.58	66.02
(04.28.22) 18:00	42.45	118.39	75.46	651.10	66.04
(04.28.22) 19:00	43.05	530.07	75.48	675.19	66.07
(04.28.22) 20:00	44.23	572.53	75.50	640.43	66.09
(04.28.22) 21:00	44.80	172.57	75.52	638.15	66.12
(04.28.22) 22:00	44.93	509.80	75.54	644.26	66.14
(04.28.22) 23:00	45.85	537.17	75.56	642.70	66.17
(04.29.22) 00:00	45.85	509.84	75.58	642.42	66.19
(04.29.22) 01:00	45.45	605.70	75.60	637.40	66.22
(04.29.22) 02:00	43.48	353.12	75.62	642.28	66.24
(04.29.22) 03:00	41.49	506.38	75.64	640.71	66.27
(04.29.22) 04:00	39.24	501.39	75.66	640.75	66.30
(04.29.22) 05:00	37.03	500.14	75.68	642.97	66.32
(04.29.22) 06:00	35.35	504.30	75.70	633.63	66.34
(04.29.22) 07:00	34.96	509.28	75.71	636.98	66.37
(04.29.22) 08:00	35.39	505.74	75.73	532.21	66.39
(04.29.22) 09:00	36.77	557.87	75.74	563.95	66.41
(04.29.22) 10:00	38.15	511.17	75.76	563.54	66.44
(04.29.22) 11:00	66.30	176.54	75.78	560.06	66.46
(04.29.22) 12:00	79.19	166.19	75.79	570.30	66.48
(04.29.22) 13:00	112.96	515.80	75.81	564.07	66.50
(04.29.22) 14:00	92.40	159.08	75.82	566.38	66.53
(04.29.22) 15:00	94.70	157.76	75.84	262.49	66.55
(04.29.22) 16:00	84.87	515.90	75.85	631.87	66.58
(04.29.22) 17:00	75.59	579.76	75.87	650.69	66.60
(04.29.22) 18:00	68.87	523.47	75.88	654.61	66.63
(04.29.22) 19:00	65.52	167.39	75.90	652.91	66.65
(04.29.22) 20:00	62.81	566.81	75.91	650.30	66.68
(04.29.22) 21:00	61.44	529.33	75.93	641.29	66.70
(04.29.22) 22:00	60.22	170.34	75.95	658.90	66.73
(04.29.22) 23:00	175.08	581.73	75.96	651.95	66.75
(04.30.22) 00:00	90.99	530.33	75.98	641.28	66.78
(04.30.22) 01:00	105.04				
(04.30.22) 02:00	106.54	170.20	76.01	675.23	66.82
(04.30.22) 03:00	84.33	525.52	76.02	666.67	66.84
(04.30.22) 04:00	83.20				
(04.30.22) 05:00	84.27	87.89	76.04	654.37	66.88
(04.30.22) 06:00	93.38	525.94	76.06	650.80	66.90
(04.30.22) 07:00	92.74	575.64	76.07	647.10	66.93
(04.30.22) 08:00	90.81	158.19	76.09	645.19	66.96
(04.30.22) 09:00	90.68	509.47	76.11	648.29	66.98
(04.30.22) 10:00	88.64	572.61	76.12	652.85	67.01
(04.30.22) 11:00	110.65	509.40	76.14	653.29	67.03
(04.30.22) 12:00	137.82	166.57	76.16	646.33	67.06
(04.30.22) 13:00	134.03	570.66	76.17	646.33	67.09
(04.30.22) 14:00	1.19	502.98	76.19	649.15	67.11
(04.30.22) 15:00	4.50	158.10	76.21	649.47	67.14

(04.30.22) 16:00	7.81	573.85	76.23	653.65	67.16
(04.30.22) 17:00	11.12	563.99	76.25	647.90	67.19
(04.30.22) 18:00	14.43	643.53	76.26	646.41	67.21
(04.30.22) 19:00	17.74	531.98	76.28	649.33	67.24
(04.30.22) 20:00	21.05	755.89	76.30	643.97	67.27
(04.30.22) 21:00	24.36	599.55	76.32	644.37	67.29
(04.30.22) 22:00	27.67	200.04	76.35	645.04	67.32
(04.30.22) 23:00	30.98	721.48	76.37	652.26	67.34
(05.01.22) 00:00	34.30	215.84	76.39	647.25	67.37
(05.01.22) 01:00	37.61				
(05.01.22) 02:00	40.92	754.81	76.42	650.26	67.40
(05.01.22) 03:00	44.23	685.33	76.44	648.37	67.42
(05.01.22) 04:00	47.54	642.74	76.46	647.55	67.44
(05.01.22) 05:00	50.85	390.54	76.49	637.01	67.47
(05.01.22) 06:00	54.16	346.16	76.51	650.24	67.49
(05.01.22) 07:00	57.47	694.75	76.53	645.03	67.52
(05.01.22) 08:00	60.78	319.53	76.56	254.29	67.54
(05.01.22) 09:00	64.09	862.61	76.58	554.78	67.56
(05.01.22) 10:00	67.40	507.30	76.60	563.38	67.59
(05.01.22) 11:00	70.71	719.45	76.63	566.94	67.61
(05.01.22) 12:00	74.02	770.41	76.65	573.07	67.64
(05.01.22) 13:00	77.33	658.98	76.67	580.78	67.66
(05.01.22) 14:00	80.65	477.47	76.69	582.15	67.68
(05.01.22) 15:00	83.96	465.33	76.72	656.27	67.71
(05.01.22) 16:00	87.27	760.15	76.74	661.49	67.73
(05.01.22) 17:00	90.58	580.26	76.76	666.75	67.75
(05.01.22) 18:00	93.89	191.44	76.78	668.74	67.78
(05.01.22) 19:00	97.20	533.53	76.80	660.27	67.81
(05.01.22) 20:00	100.51	585.82	76.81	631.34	67.83
(05.01.22) 21:00	103.82	124.05	76.83	649.78	67.86
(05.01.22) 22:00	107.13	194.63	76.85	647.32	67.88
(05.01.22) 23:00	110.44	348.57	76.86	648.65	67.91
(05.02.22) 00:00	113.75	529.14	76.88	646.22	67.94
(05.02.22) 01:00	117.06	159.69	76.89	647.24	67.96
(05.02.22) 02:00	120.37	176.29	76.91	648.62	67.99
(05.02.22) 03:00	123.68	521.79	76.93	649.18	68.01
(05.02.22) 04:00	127.00	167.84	76.94	648.12	68.03
(05.02.22) 05:00	130.31	154.55	76.96	647.75	68.06
(05.02.22) 06:00	133.62	150.59	76.97	645.21	68.08
(05.02.22) 07:00	136.93	570.19	76.99	643.50	68.10
(05.02.22) 08:00	140.24	511.88	77.00	257.55	68.13
(05.02.22) 09:00	143.55	487.11	77.02	596.13	68.15
(05.02.22) 10:00	146.86	573.93	77.04	562.26	68.17
(05.02.22) 11:00	150.17	149.22	77.05	556.65	68.20
(05.02.22) 12:00	67.31	494.07	77.07	553.94	68.22
(05.02.22) 13:00	66.38	571.20	77.08	556.14	68.24
(05.02.22) 14:00	66.33	505.12	77.10	556.40	68.27

(05.02.22) 15:00	69.49	499.15	77.11	653.33	68.29
(05.02.22) 16:00	74.22	573.37	77.13	655.29	68.31
(05.02.22) 17:00	79.32	514.67	77.15	663.01	68.34
(05.02.22) 18:00	78.80	154.93	77.16	661.39	68.36
(05.02.22) 19:00	119.68	159.03	77.18	648.84	68.39
(05.02.22) 20:00	137.28	507.53	77.19	652.24	68.41
(05.02.22) 21:00	93.12	566.44	77.21	641.50	68.44
(05.02.22) 22:00	101.49	157.58	77.23	649.63	68.46
(05.02.22) 23:00	118.53	508.91	77.24	644.35	68.49
(05.03.22) 00:00	84.88	99.97	77.26	640.90	68.52
(05.03.22) 01:00	80.87	421.55	77.27	641.34	68.54
(05.03.22) 02:00	79.67	321.64	77.29	638.34	68.57
(05.03.22) 03:00	80.41	689.72	77.31	635.67	68.59
(05.03.22) 04:00	75.15	290.26	77.33	610.18	68.61
(05.03.22) 05:00	73.49	430.30	77.35	640.84	68.63
(05.03.22) 06:00	101.71	468.36	77.37	639.72	68.66
(05.03.22) 07:00	109.48	500.38	77.40	639.30	68.68
(05.03.22) 08:00	97.68	576.86	77.42	226.45	68.70
(05.03.22) 09:00	94.51	635.53	77.44	422.38	68.72
(05.03.22) 10:00	94.50	677.52	77.46	521.23	68.75
(05.03.22) 11:00	96.71	304.36	77.48	521.42	68.77
(05.03.22) 12:00	91.85	601.66	77.50	528.71	68.79
(05.03.22) 13:00	86.95	731.43	77.53	526.54	68.81
(05.03.22) 14:00	102.94	207.98	77.55	527.52	68.83
(05.03.22) 15:00	78.03	228.72	77.58	634.64	68.86
(05.03.22) 16:00	86.59	669.21	77.60	616.40	68.88
(05.03.22) 17:00	85.27	731.62	77.62	645.42	68.90
(05.03.22) 18:00	83.11	693.17	77.64	637.85	68.92
(05.03.22) 19:00	82.68	437.83	77.66	642.42	68.95
(05.03.22) 20:00	82.35	764.17	77.68	639.83	68.98
(05.03.22) 21:00	81.16	500.92	77.70	636.28	69.00
(05.03.22) 22:00	81.30	166.95	77.72	642.50	69.03
(05.03.22) 23:00	81.24	203.39	77.74	640.50	69.05
(05.04.22) 00:00	80.86	526.27	77.76	639.11	69.08
(05.04.22) 01:00	87.21	587.03	77.78	644.92	69.10
(05.04.22) 02:00	76.39	529.80	77.79	651.42	69.13
(05.04.22) 03:00	66.40	579.88	77.81	643.26	69.15
(05.04.22) 04:00	64.05	536.33	77.83	644.53	69.17
(05.04.22) 05:00	66.09	242.07	77.85	646.83	69.19
(05.04.22) 06:00	64.34	223.37	77.87	646.99	69.22
(05.04.22) 07:00	64.86	532.29	77.88	644.31	69.24
(05.04.22) 08:00	65.27	186.70	77.90	229.01	69.26
(05.04.22) 09:00	66.53	222.05	77.92	150.86	69.28
(05.04.22) 10:00	69.17	526.36	77.94	523.51	69.31
(05.04.22) 11:00	71.26	582.45	77.96	525.25	69.33
(05.04.22) 12:00	71.53	206.91	77.97	525.62	69.35
(05.04.22) 13:00	71.69	518.89	77.99	527.23	69.37

(05.04.22) 14:00	72.26	218.31	78.01	528.82	69.39
(05.04.22) 15:00	71.87	509.55	78.03	627.67	69.41
(05.04.22) 16:00	73.15	219.35	78.05	665.77	69.44
(05.04.22) 17:00	73.54	751.93	78.06	649.73	69.46
(05.04.22) 18:00	75.14	724.60	78.09	648.59	69.48
(05.04.22) 19:00	77.33	405.73	78.11	646.25	69.51
(05.04.22) 20:00	199.96	526.34	78.13	656.21	69.53
(05.04.22) 21:00	146.26	459.58	78.15	667.65	69.56
(05.04.22) 22:00	105.54	188.14	78.17	670.53	69.59
(05.04.22) 23:00	103.19	578.70	78.19	641.57	69.61
(05.05.22) 00:00	103.08	513.20	78.21	638.13	69.64
(05.05.22) 01:00	102.38	184.58	78.23	636.05	69.66
(05.05.22) 02:00	101.46	217.28	78.25	640.57	69.69
(05.05.22) 03:00	95.32	532.41	78.26	638.47	69.71
(05.05.22) 04:00	93.14	576.38	78.28	635.62	69.73
(05.05.22) 05:00	90.42	522.59	78.30	636.02	69.76
(05.05.22) 06:00	89.71	575.55	78.32	667.25	69.78
(05.05.22) 07:00	88.57	524.46	78.33	633.95	69.80
(05.05.22) 08:00	87.08	206.46	78.35	236.89	69.83
(05.05.22) 09:00	88.63	515.15	78.37	543.55	69.85
(05.05.22) 10:00	86.98	213.16	78.39	554.68	69.87
(05.05.22) 11:00	86.54	569.48	78.40	557.75	69.89
(05.05.22) 12:00	86.54	534.85	78.42	555.62	69.92
(05.05.22) 13:00	85.26	586.28	78.44	557.17	69.94
(05.05.22) 14:00	84.52	533.81	78.46	557.95	69.96
(05.05.22) 15:00	85.00	526.51	78.48	657.45	69.99
(05.05.22) 16:00	84.42	581.98	78.49	657.28	70.01
(05.05.22) 17:00	82.97	494.81	78.51	653.17	70.03
(05.05.22) 18:00	84.03	628.85	78.53	653.15	70.06
(05.05.22) 19:00	105.15	669.37	78.55	650.83	70.09
(05.05.22) 20:00	117.92	596.33	78.57	650.75	70.11
(05.05.22) 21:00	119.56	591.74	78.59	648.20	70.14
(05.05.22) 22:00	123.28	655.68	78.62	653.43	70.16
(05.05.22) 23:00	126.23	581.82	78.64	678.70	70.19
(05.06.22) 00:00	133.60	546.13	78.66	648.22	70.22
(05.06.22) 01:00	151.41	121.63	78.68	645.09	70.24
(05.06.22) 02:00	133.74	120.27	78.69	646.62	70.27
(05.06.22) 03:00	97.14	534.79	78.71	649.48	70.29
(05.06.22) 04:00	130.64	550.33	78.73	652.75	70.32
(05.06.22) 05:00	156.06	480.57	78.74	648.65	70.34
(05.06.22) 06:00	125.64	459.69	78.76	678.28	70.37
(05.06.22) 07:00	117.03	87.03	78.77	648.29	70.39
(05.06.22) 08:00	103.40	179.89	78.79	644.02	70.42
(05.06.22) 09:00	111.04	512.25	78.81	554.93	70.44
(05.06.22) 10:00	109.33	568.91	78.82	556.09	70.47
(05.06.22) 11:00	100.37	197.35	78.84	558.68	70.49
(05.06.22) 12:00	98.02	503.79	78.86	566.39	70.51

(05.06.22) 13:00	96.77	204.14	78.88	577.60	70.53
(05.06.22) 14:00	94.86	581.73	78.90	581.98	70.56
(05.06.22) 15:00	105.45	516.79	78.92	663.41	70.58
(05.06.22) 16:00	100.12	586.49	78.93	664.60	70.60
(05.06.22) 17:00	122.81	574.51	78.95	660.68	70.63
(05.06.22) 18:00	106.80	209.27	78.97	653.67	70.65
(05.06.22) 19:00	105.27	526.64	78.99	652.56	70.68
(05.06.22) 20:00	104.22	506.28	79.01	643.51	70.70
(05.06.22) 21:00	103.09	503.71	79.03	645.22	70.73
(05.06.22) 22:00	115.50	502.77	79.05	641.36	70.76
(05.06.22) 23:00	114.38	500.73	79.07	640.88	70.78
(05.07.22) 00:00	112.54	448.65	79.09	645.03	70.81
(05.07.22) 01:00	110.55	448.41	79.12	647.27	70.83
(05.07.22) 02:00	110.56	738.72	79.15	641.82	70.86
(05.07.22) 03:00	108.66	853.28	79.18	643.16	70.89
(05.07.22) 04:00	104.69	880.72	79.21	648.94	70.91
(05.07.22) 05:00	106.34	885.24	79.24	642.66	70.94
(05.07.22) 06:00	100.58	876.45	79.28	648.33	70.96
(05.07.22) 07:00	92.72	898.08	79.31	648.89	70.99
(05.07.22) 08:00	90.91	895.34	79.34	646.31	71.01
(05.07.22) 09:00	91.62	476.79	79.37	639.91	71.04
(05.07.22) 10:00	93.71	489.96	79.39	643.78	71.07
(05.07.22) 11:00	89.17	497.88	79.41	673.96	71.09
(05.07.22) 12:00	92.19	499.74	79.43	646.42	71.12
(05.07.22) 13:00	95.51	513.05	79.45	644.24	71.14
(05.07.22) 14:00	97.55	506.74	79.47	643.28	71.17
(05.07.22) 15:00	98.68	516.52	79.49	646.19	71.20
(05.07.22) 16:00	98.77	513.89	79.51	646.09	71.22
(05.07.22) 17:00	99.94	517.01	79.53	649.29	71.25
(05.07.22) 18:00	93.90	515.11	79.55	645.93	71.27
(05.07.22) 19:00	91.34	583.98	79.57	669.76	71.30
(05.07.22) 20:00	89.13	578.22	79.60	645.15	71.33
(05.07.22) 21:00	88.56	576.42	79.62	653.59	71.35
(05.07.22) 22:00	88.74	578.17	79.64	644.52	71.38
(05.07.22) 23:00	87.79	578.02	79.66	646.57	71.40
(05.08.22) 00:00	85.71	539.74	79.68	651.55	71.43
(05.08.22) 01:00	84.66	530.33	79.71	651.81	71.45
(05.08.22) 02:00	83.17	530.22	79.73	649.97	71.48
(05.08.22) 03:00	80.42	522.62	79.75	647.48	71.51
(05.08.22) 04:00	78.11	512.92	79.77	649.09	71.53
(05.08.22) 05:00	75.11	511.26	79.79	673.30	71.56
(05.08.22) 06:00	73.37	508.09	79.81	648.24	71.58
(05.08.22) 07:00	72.67	505.40	79.83	649.15	71.61
(05.08.22) 08:00	71.91	511.18	79.85	650.59	71.64
(05.08.22) 09:00	72.23	502.83	79.87	254.24	71.66
(05.08.22) 10:00	73.89	505.11	79.89	558.68	71.68
(05.08.22) 11:00	74.90	523.62	79.91	559.33	71.70

(05.08.22) 12:00	76.47	509.48	79.93	562.46	71.72
(05.08.22) 13:00	77.88	511.15	79.95	568.64	71.74
(05.08.22) 14:00	77.53	508.37	79.97	223.94	71.76
(05.08.22) 15:00	80.13	516.35	79.99	602.66	71.79
(05.08.22) 16:00	77.91	507.61	80.01	611.49	71.81
(05.08.22) 17:00	77.07	510.03	80.04	613.80	71.83
(05.08.22) 18:00	75.47	505.17	80.06	619.14	71.86
(05.08.22) 19:00	76.00	516.08	80.08	624.68	71.88
(05.08.22) 20:00	76.25	518.38	80.11	620.89	71.91
(05.08.22) 21:00	75.09	662.82	80.13	640.27	71.93
(05.08.22) 22:00	75.67	705.35	80.16	652.60	71.96
(05.08.22) 23:00	75.73	734.37	80.18	648.40	71.98
(05.09.22) 00:00	75.12	557.58	80.20	651.26	72.01
(05.09.22) 01:00	73.90	558.42	80.23	648.40	72.03
(05.09.22) 02:00	72.40	559.27	80.25	653.18	72.06
(05.09.22) 03:00	69.63	548.95	80.27	648.80	72.09
(05.09.22) 04:00	66.91	548.82	80.29	649.13	72.11
(05.09.22) 05:00	64.48	496.54	80.31	651.77	72.14
(05.09.22) 06:00	63.15	499.83	80.33	655.88	72.16
(05.09.22) 07:00	62.99	498.90	80.35	648.33	72.19
(05.09.22) 08:00	61.75	512.68	80.37	263.70	72.21
(05.09.22) 09:00	63.98	506.16	80.39	558.61	72.23
(05.09.22) 10:00	64.10	566.07	80.41	565.73	72.25
(05.09.22) 11:00	66.09	495.93	80.43	565.67	72.27
(05.09.22) 12:00	68.28	517.15	80.45	565.85	72.30
(05.09.22) 13:00	68.48	503.27	80.47	572.85	72.32
(05.09.22) 14:00	67.65	502.10	80.49	582.27	72.34
(05.09.22) 15:00	68.54	503.84	80.51	230.21	72.36
(05.09.22) 16:00	66.22	508.10	80.53	661.38	72.38
(05.09.22) 17:00	64.94	498.97	80.55	671.61	72.40
(05.09.22) 18:00	65.96	501.06	80.57	669.63	72.43
(05.09.22) 19:00	65.57	499.43	80.59	666.00	72.46
(05.09.22) 20:00	65.06	498.21	80.61	657.70	72.48
(05.09.22) 21:00	65.98	502.27	80.63	651.89	72.51
(05.09.22) 22:00	66.76	501.96	80.65	651.77	72.54
(05.09.22) 23:00	66.31	507.87	80.67	651.65	72.56
(05.10.22) 00:00	67.94	499.65	80.69	656.36	72.59
(05.10.22) 01:00	66.15	499.44	80.71	679.63	72.61
(05.10.22) 02:00	63.83	501.98	80.73	650.55	72.64
(05.10.22) 03:00	61.05	501.29	80.75	653.50	72.67
(05.10.22) 04:00	59.36	480.58	80.77	645.90	72.69
(05.10.22) 05:00	56.27	481.55	80.79	653.52	72.72
(05.10.22) 06:00	53.85	484.81	80.81	642.42	72.74
(05.10.22) 07:00	54.48	489.24	80.83	641.27	72.77
(05.10.22) 08:00	55.38	488.67	80.85	223.70	72.79
(05.10.22) 09:00	55.07	485.56	80.87	539.70	72.81
(05.10.22) 10:00	58.11	484.15	80.89	550.45	72.83

(05.10.22) 11:00	60.35	485.76	80.91	553.59	72.85
(05.10.22) 12:00	60.35	502.29	80.93	558.52	72.87
(05.10.22) 13:00	59.81	504.81	80.95	566.67	72.89
(05.10.22) 14:00	61.47	498.66	80.97	573.89	72.91
(05.10.22) 15:00	59.91	500.41	80.99	585.76	72.93
(05.10.22) 16:00	59.07	562.15	81.01	658.81	72.96
(05.10.22) 17:00	58.13	551.35	81.04	656.81	72.98
(05.10.22) 18:00	57.82	731.22	81.06	651.03	73.01
(05.10.22) 19:00	59.61	737.47	81.09	649.25	73.03
(05.10.22) 20:00	59.89	768.06	81.12	648.37	73.06
(05.10.22) 21:00	62.04	680.93	81.15	645.23	73.09
(05.10.22) 22:00	61.24	716.37	81.17	645.36	73.11
(05.10.22) 23:00	62.83	729.29	81.20	647.99	73.14
(05.11.22) 00:00	63.00	741.78	81.23	652.59	73.16
(05.11.22) 01:00	62.38	764.25	81.26	650.04	73.19
(05.11.22) 02:00	61.10	784.47	81.29	649.88	73.22
(05.11.22) 03:00	57.99	790.36	81.32	646.22	73.24
(05.11.22) 04:00	54.87	803.46	81.35	650.34	73.27
(05.11.22) 05:00	52.33	813.30	81.38	644.71	73.29
(05.11.22) 06:00	50.73	715.13	81.41	644.15	73.32
(05.11.22) 07:00	50.76	752.53	81.44	645.86	73.35
(05.11.22) 08:00	51.49	780.09	81.47	229.92	73.37
(05.11.22) 09:00	52.12	740.61	81.49	142.87	73.39
(05.11.22) 10:00	52.88	455.45	81.51	532.88	73.40
(05.11.22) 11:00	53.84	460.14	81.53	535.58	73.42
(05.11.22) 12:00	56.41	453.97	81.55	538.42	73.44
(05.11.22) 13:00	56.77	458.82	81.57	551.40	73.46
(05.11.22) 14:00	56.72	459.54	81.59	556.30	73.47
(05.11.22) 15:00	54.64	51.80	81.61	154.39	73.49
(05.11.22) 16:00	54.86	0.21	81.62	642.18	73.51
(05.11.22) 17:00	54.89	445.88	81.64	654.39	73.54
(05.11.22) 18:00	54.33	395.79	81.65	658.96	73.56
(05.11.22) 19:00	53.80	0.35	81.67	648.79	73.59
(05.11.22) 20:00	55.65	409.69	81.68	650.94	73.62
(05.11.22) 21:00	57.37	806.42	81.70	638.24	73.64
(05.11.22) 22:00	57.51	790.98	81.71	637.72	73.67
(05.11.22) 23:00	59.81	275.88	81.72	640.33	73.69
(05.12.22) 00:00	58.79	460.18	81.75	642.36	73.72
(05.12.22) 01:00	58.00	825.42	81.77	644.12	73.75
(05.12.22) 02:00	56.84	838.79	81.79	642.89	73.77
(05.12.22) 03:00	54.67	514.01	81.82	636.39	73.80
(05.12.22) 04:00	52.09	432.31	81.84	641.29	73.82
(05.12.22) 05:00	49.43	467.27	81.86	637.62	73.85
(05.12.22) 06:00	48.29	447.18	81.89	646.76	73.87
(05.12.22) 07:00	48.18	0.19	81.90	641.77	73.90
(05.12.22) 08:00	48.26	434.07	81.91	253.82	73.92
(05.12.22) 09:00	49.25	456.30	81.92	552.01	73.94

(05.12.22) 10:00	50.00	436.32	81.93	542.45	73.96
(05.12.22) 11:00	51.81	0.33	81.95	547.33	73.98
(05.12.22) 12:00	52.11	437.65	81.96	549.41	74.01
(05.12.22) 13:00	54.50	494.26	81.97	546.53	74.03
(05.12.22) 14:00	52.90	463.21	81.98	507.10	74.05
(05.12.22) 15:00	51.71	0.25	81.99	640.99	74.07
(05.12.22) 16:00	51.72	0.22	82.01	654.20	74.09
(05.12.22) 17:00	51.20	459.21	82.02	657.40	74.12
(05.12.22) 18:00	52.68	451.58	82.03	663.53	74.14
(05.12.22) 19:00	51.06	429.01	82.04	659.59	74.17
(05.12.22) 20:00	51.77	0.28	82.06	629.34	74.20
(05.12.22) 21:00	53.95	451.20	82.07	641.52	74.22
(05.12.22) 22:00	54.86	442.51	82.08	650.88	74.25
(05.12.22) 23:00	55.54	454.11	82.09	643.36	74.28
(05.13.22) 00:00	55.53	0.21	82.10	646.42	74.30
(05.13.22) 01:00	54.43	430.88	82.12	638.12	74.33
(05.13.22) 02:00	53.65	454.01	82.13	647.38	74.35
(05.13.22) 03:00	51.20	434.13	82.14	642.60	74.38
(05.13.22) 04:00	49.04	445.73	82.15	638.89	74.40
(05.13.22) 05:00	46.99	47.08	82.17	642.59	74.43
(05.13.22) 06:00	45.35	449.38	82.18	643.95	74.46
(05.13.22) 07:00	63.65	461.45	82.20	653.12	74.48
(05.13.22) 08:00	193.30	457.09	82.21	240.49	74.50
(05.13.22) 09:00	108.40	61.69	82.22	560.88	74.52
(05.13.22) 10:00	89.71	434.44	82.23	600.97	74.54
(05.13.22) 11:00	144.60	442.05	82.25	557.88	74.56
(05.13.22) 12:00	92.11	442.60	82.27	565.63	74.58
(05.13.22) 13:00	105.97	440.22	82.28	572.29	74.60
(05.13.22) 14:00	131.73	60.19	82.30	324.01	74.62
(05.13.22) 15:00	82.83	452.87	82.31	409.87	74.64
(05.13.22) 16:00	73.59	451.48	82.33	528.21	74.66
(05.13.22) 17:00	68.77	476.14	82.35	555.87	74.68
(05.13.22) 18:00	66.02	454.85	82.36	568.87	74.70
(05.13.22) 19:00	67.27	450.10	82.38	578.44	74.72
(05.13.22) 20:00	63.74	445.89	82.39	583.41	74.75
(05.13.22) 21:00	63.57	444.42	82.41	572.65	74.77
(05.13.22) 22:00	62.62	441.70	82.43	596.42	74.79
(05.13.22) 23:00	61.74	440.13	82.44	599.73	74.82
(05.14.22) 00:00	61.98	446.43	82.46	604.91	74.84
(05.14.22) 01:00	58.51	450.89	82.48	603.18	74.86
(05.14.22) 02:00	56.83	444.31	82.50	604.25	74.89
(05.14.22) 03:00	54.66	451.29	82.52	607.27	74.91
(05.14.22) 04:00	52.90	446.32	82.53	607.44	74.93
(05.14.22) 05:00	51.14	441.80	82.55	603.90	74.96
(05.14.22) 06:00	49.37	440.25	82.57	605.72	74.98
(05.14.22) 07:00	48.72	434.82	82.59	602.93	75.01
(05.14.22) 08:00	49.67	442.05	82.60	606.94	75.03

(05.14.22) 09:00	50.81	436.83	82.62	603.98	75.06
(05.14.22) 10:00	50.55	437.24	82.64	606.42	75.08
(05.14.22) 11:00	49.45	435.84	82.66	610.75	75.10
(05.14.22) 12:00	51.48	431.40	82.67	601.15	75.13
(05.14.22) 13:00	53.70	433.65	82.69	605.65	75.15
(05.14.22) 14:00	54.57	438.37	82.71	604.86	75.18
(05.14.22) 15:00	54.36	434.01	82.73	608.13	75.20
(05.14.22) 16:00	54.04	425.64	82.74	601.55	75.23
(05.14.22) 17:00	52.19	412.63	82.76	612.09	75.25
(05.14.22) 18:00	53.61	432.92	82.78	604.71	75.27
(05.14.22) 19:00	53.35	420.64	82.79	611.69	75.30
(05.14.22) 20:00	52.68	417.13	82.81	616.01	75.32
(05.14.22) 21:00	54.07	422.13	82.83	613.50	75.35
(05.14.22) 22:00	53.07	434.95	82.85	612.04	75.37
(05.14.22) 23:00	52.91	379.79	82.87	611.33	75.40
(05.15.22) 00:00	53.39	375.91	82.90	606.26	75.42
(05.15.22) 01:00	52.49	398.45	82.92	605.83	75.45
(05.15.22) 02:00	51.82	840.76	82.94	607.31	75.47
(05.15.22) 03:00	49.20	839.53	82.96	613.32	75.49
(05.15.22) 04:00	47.25	446.49	82.98	607.19	75.52
(05.15.22) 05:00	45.93	844.74	83.01	608.39	75.54
(05.15.22) 06:00	43.84	830.76	83.05	614.04	75.56
(05.15.22) 07:00	42.95	844.37	83.08	610.73	75.58
(05.15.22) 08:00	42.52	859.19	83.11	254.81	75.60
(05.15.22) 09:00	78.22	862.07	83.15	186.97	75.62
(05.15.22) 10:00	102.30	861.47	83.18	495.73	75.64
(05.15.22) 11:00	155.18	863.32	83.22	493.72	75.66
(05.15.22) 12:00	58.32	849.86	83.25	496.84	75.68
(05.15.22) 13:00	81.84	851.32	83.28	505.62	75.69
(05.15.22) 14:00	104.71	843.69	83.32	511.55	75.71
(05.15.22) 15:00	98.48	847.80	83.35	139.54	75.72
(05.15.22) 16:00	89.21	872.47	83.38	628.36	75.74
(05.15.22) 17:00	85.56	824.61	83.42	525.74	75.75
(05.15.22) 18:00	132.33	839.86	83.45	329.05	75.77
(05.15.22) 19:00	123.04	860.57	83.49	204.25	75.78
(05.15.22) 20:00	95.86	849.37	83.52	225.64	75.80
(05.15.22) 21:00	94.54	862.78	83.55	255.95	75.82
(05.15.22) 22:00	79.75	863.58	83.59	260.72	75.83
(05.15.22) 23:00	78.55	860.46	83.62	319.48	75.85
(05.16.22) 00:00	76.52	845.59	83.66	390.32	75.86
(05.16.22) 01:00	73.99	854.88	83.69	442.41	75.88
(05.16.22) 02:00	69.27	850.05	83.72	462.51	75.89
(05.16.22) 03:00	66.32	848.34	83.76	569.63	75.91
(05.16.22) 04:00	62.20	862.86	83.79	624.78	75.93
(05.16.22) 05:00	59.26	411.51	83.82	636.80	75.95
(05.16.22) 06:00	58.00	414.80	83.84	637.92	75.97
(05.16.22) 07:00	58.86	421.48	83.86	639.90	75.99

(05.16.22) 08:00	75.17	415.91	83.88	222.76	76.01
(05.16.22) 09:00	60.48	427.44	83.91	552.34	76.04
(05.16.22) 10:00	61.79	861.78	83.93	555.68	76.06
(05.16.22) 11:00	62.52	877.18	83.95	558.90	76.08
(05.16.22) 12:00	62.14	884.32	83.97	562.33	76.10
(05.16.22) 13:00	62.91	951.33	84.01	564.64	76.13
(05.16.22) 14:00	61.99	949.95	84.05	565.41	76.15
(05.16.22) 15:00	60.15	945.63	84.09	567.46	76.18
(05.16.22) 16:00	58.56	954.08	84.12	667.44	76.20
(05.16.22) 17:00	58.77	957.26	84.16	667.18	76.23
(05.16.22) 18:00	56.88	955.37	84.20	657.82	76.25
(05.16.22) 19:00	57.51	959.36	84.24	658.95	76.27
(05.16.22) 20:00	58.61	962.49	84.28	657.53	76.30
(05.16.22) 21:00	59.69	941.25	84.31	653.29	76.33
(05.16.22) 22:00	60.59	943.35	84.35	653.99	76.35
(05.16.22) 23:00	61.61	949.19	84.39	662.60	76.38
(05.17.22) 00:00	61.04	958.04	84.43	652.04	76.40
(05.17.22) 01:00	60.96	956.73	84.47	659.04	76.43
(05.17.22) 02:00	58.11	957.59	84.50	659.76	76.46
(05.17.22) 03:00	55.14	959.97	84.54	651.47	76.48
(05.17.22) 04:00	52.37	967.09	84.58	653.43	76.51
(05.17.22) 05:00	50.07	967.57	84.61	656.14	76.53
(05.17.22) 06:00	48.95	973.53	84.65	653.52	76.56
(05.17.22) 07:00	49.58	830.19	84.68	652.16	76.58
(05.17.22) 08:00	50.64	834.79	84.72	232.81	76.60
(05.17.22) 09:00	52.15	830.81	84.75	549.42	76.63
(05.17.22) 10:00	52.68	795.87	84.79	550.43	76.65
(05.17.22) 11:00	54.34	799.60	84.82	557.31	76.67
(05.17.22) 12:00	54.75	783.92	84.85	558.80	76.69
(05.17.22) 13:00	55.46	801.51	84.88	558.30	76.72
(05.17.22) 14:00	54.17	448.76	84.91	558.01	76.74
(05.17.22) 15:00	53.82	792.16	84.94	646.42	76.77
(05.17.22) 16:00	52.74	786.22	84.97	650.91	76.79
(05.17.22) 17:00	51.53	768.37	85.00	650.24	76.81
(05.17.22) 18:00	52.42	776.91	85.03	650.13	76.84
(05.17.22) 19:00	53.08	779.66	85.06	645.24	76.86
(05.17.22) 20:00	53.47	783.50	85.09	647.78	76.88
(05.17.22) 21:00	54.63	787.85	85.13	643.13	76.91
(05.17.22) 22:00	55.64	796.94	85.16	644.73	76.94
(05.17.22) 23:00	54.86	794.39	85.19	648.17	76.96
(05.18.22) 00:00	55.80	796.04	85.22	643.53	76.99
(05.18.22) 01:00	54.90	786.43	85.25	650.49	77.01
(05.18.22) 02:00	74.86	799.32	85.28	648.00	77.04
(05.18.22) 03:00	97.26	810.03	85.31	648.45	77.07
(05.18.22) 04:00	109.82	536.36	85.34	645.02	77.09
(05.18.22) 05:00	103.62	432.95	85.37	644.73	77.11
(05.18.22) 06:00	106.84	434.61	85.39	642.31	77.13

(05.18.22) 07:00	91.06	436.26	85.41	649.51	77.15
(05.18.22) 08:00	91.18	433.21	85.43	199.67	77.17
(05.18.22) 09:00	90.43	437.34	85.45	462.25	77.19
(05.18.22) 10:00	109.20	792.66	85.48	530.17	77.21
(05.18.22) 11:00	110.64	870.27	85.50	537.44	77.23
(05.18.22) 12:00	111.05	925.19	85.52	541.92	77.25
(05.18.22) 13:00	124.85	886.17	85.56	542.44	77.28
(05.18.22) 14:00	79.16	896.27	85.60	541.70	77.30
(05.18.22) 15:00	70.65	887.79	85.63	646.06	77.32
(05.18.22) 16:00	68.54	955.00	85.67	652.97	77.35
(05.18.22) 17:00	68.32	943.65	85.71	647.24	77.37
(05.18.22) 18:00	68.18	956.43	85.74	650.98	77.39
(05.18.22) 19:00	69.19	962.09	85.78	639.22	77.42
(05.18.22) 20:00	69.36	960.81	85.82	643.76	77.44
(05.18.22) 21:00	69.80	925.46	85.85	646.06	77.47
(05.18.22) 22:00	70.16	934.60	85.89	649.15	77.49
(05.18.22) 23:00	70.20	940.69	85.93	643.68	77.52
(05.19.22) 00:00	70.21	852.57	85.96	647.11	77.54
(05.19.22) 01:00	78.24	870.24	86.00	647.10	77.57
(05.19.22) 02:00	69.64	877.28	86.03	646.41	77.60
(05.19.22) 03:00	63.77	878.17	86.07	645.50	77.62
(05.19.22) 04:00	59.51	886.59	86.11	646.53	77.65
(05.19.22) 05:00	56.54	882.97	86.14	648.04	77.67
(05.19.22) 06:00	54.18	883.84	86.18	642.87	77.69
(05.19.22) 07:00	54.94	880.96	86.21	641.96	77.71
(05.19.22) 08:00	55.60	884.97	86.25	254.24	77.73
(05.19.22) 09:00	57.34	885.42	86.28	527.50	77.76
(05.19.22) 10:00	57.88	876.54	86.32	541.13	77.78
(05.19.22) 11:00	60.16	851.71	86.35	545.51	77.80
(05.19.22) 12:00	62.42	852.35	86.39	552.51	77.82
(05.19.22) 13:00	60.33	854.61	86.42	548.17	77.85
(05.19.22) 14:00	59.30	484.60	86.45	550.12	77.87
(05.19.22) 15:00	57.97	862.35	86.49	633.15	77.89
(05.19.22) 16:00	63.81	855.89	86.52	644.61	77.92
(05.19.22) 17:00	63.55	860.30	86.55	649.17	77.94
(05.19.22) 18:00	59.04	858.27	86.59	644.92	77.97
(05.19.22) 19:00	56.97	863.77	86.62	633.38	77.99
(05.19.22) 20:00	58.34	857.88	86.65	639.75	78.01
(05.19.22) 21:00	58.53	831.09	86.69	640.55	78.04
(05.19.22) 22:00	58.75	847.85	86.72	639.13	78.07
(05.19.22) 23:00	59.55	848.51	86.76	636.44	78.09
(05.20.22) 00:00	59.18	841.59	86.79	633.43	78.12
(05.20.22) 01:00	59.34	850.35	86.83	641.35	78.14
(05.20.22) 02:00	56.36	954.46	86.86	645.35	78.17
(05.20.22) 03:00	53.16	952.96	86.90	639.97	78.19
(05.20.22) 04:00	51.65	961.40	86.93	638.69	78.22
(05.20.22) 05:00	49.68	964.30	86.96	644.13	78.24

(05.20.22) 06:00	48.66	963.00	86.99	634.64	78.26
(05.20.22) 07:00	48.97	966.38	87.03	649.03	78.29
(05.20.22) 08:00	48.23	969.77	87.06	628.84	78.31
(05.20.22) 09:00	49.66	485.56	87.09	303.91	78.33
(05.20.22) 10:00	52.37	489.46	87.12	528.63	78.36
(05.20.22) 11:00	52.96	550.95	87.15	534.15	78.38
(05.20.22) 12:00	54.18	562.82	87.18	532.65	78.40
(05.20.22) 13:00	55.41	557.98	87.20	540.67	78.43
(05.20.22) 14:00	55.04	552.22	87.22	539.42	78.45
(05.20.22) 15:00	52.83	541.59	87.24	145.37	78.47
(05.20.22) 16:00	54.25	538.13	87.26	629.61	78.49
(05.20.22) 17:00	52.96	528.19	87.28	646.53	78.52
(05.20.22) 18:00	53.06	480.96	87.30	652.43	78.54
(05.20.22) 19:00	52.51	475.34	87.32	652.13	78.56
(05.20.22) 20:00	53.30	456.52	87.34	645.22	78.59
(05.20.22) 21:00	53.28	441.08	87.37	636.39	78.61
(05.20.22) 22:00	52.88	461.15	87.39	639.83	78.64
(05.20.22) 23:00	52.44	442.70	87.42	634.94	78.66
(05.21.22) 00:00	52.19	430.88	87.44	636.55	78.69
(05.21.22) 01:00	51.48	828.77	87.47	637.48	78.72
(05.21.22) 02:00	50.14	852.63	87.49	639.87	78.74
(05.21.22) 03:00	48.17	854.09	87.51	641.24	78.77
(05.21.22) 04:00	45.85	857.46	87.54	638.67	78.79
(05.21.22) 05:00	44.17	865.46	87.57	638.86	78.82
(05.21.22) 06:00	42.37	862.47	87.60	636.37	78.84
(05.21.22) 07:00	41.53	865.06	87.63	633.30	78.87
(05.21.22) 08:00	41.81	858.54	87.66	636.54	78.89
(05.21.22) 09:00	42.05	451.76	87.68	636.15	78.92
(05.21.22) 10:00	43.32	449.87	87.71	636.19	78.95
(05.21.22) 11:00	45.22	448.36	87.74	636.66	78.97
(05.21.22) 12:00	46.92	457.31	87.76	641.91	79.00
(05.21.22) 13:00	48.62	444.56	87.78	638.87	79.02
(05.21.22) 14:00	50.76	448.75	87.80	646.66	79.05
(05.21.22) 15:00	51.35	442.23	87.82	638.70	79.07
(05.21.22) 16:00	51.50	437.99	87.84	649.14	79.10
(05.21.22) 17:00	51.45	441.80	87.86	644.92	79.12
(05.21.22) 18:00	50.63	544.29	87.87	645.02	79.15
(05.21.22) 19:00	50.58	543.23	87.89	645.14	79.18
(05.21.22) 20:00	50.10	533.59	87.92	644.60	79.20
(05.21.22) 21:00	49.87	531.02	87.94	647.19	79.23
(05.21.22) 22:00	49.39	520.06	87.96	639.39	79.25
(05.21.22) 23:00	48.92	516.07	87.99	640.75	79.28
(05.22.22) 00:00	47.93	452.89	88.01	642.78	79.30
(05.22.22) 01:00	46.75	818.75	88.04	645.99	79.33
(05.22.22) 02:00	45.85	838.10	88.06	645.02	79.36
(05.22.22) 03:00	43.67	841.91	88.08	635.22	79.38
(05.22.22) 04:00	42.63	844.30	88.11	643.08	79.40

(05.22.22) 05:00	41.16	433.85	88.13	641.36	79.43
(05.22.22) 06:00	39.15	434.66	88.16	643.28	79.45
(05.22.22) 07:00	39.32	430.98	88.19	645.55	79.47
(05.22.22) 08:00	38.97	441.39	88.21	647.54	79.49
(05.22.22) 09:00	39.25	834.04	88.24	641.48	79.51
(05.22.22) 10:00	40.18	940.23	88.26	247.76	79.54
(05.22.22) 11:00	41.57	949.91	88.29	234.95	79.56
(05.22.22) 12:00	43.09	954.17	88.32	225.93	79.58
(05.22.22) 13:00	45.74	844.61	88.34	218.16	79.59
(05.22.22) 14:00	47.62	438.61	88.37	204.78	79.61
(05.22.22) 15:00	48.00	434.28	88.40	500.81	79.63
(05.22.22) 16:00	48.23	436.68	88.43	634.82	79.64
(05.22.22) 17:00	47.95	805.30	88.46	649.82	79.66
(05.22.22) 18:00	47.99	816.20	88.48	646.54	79.68
(05.22.22) 19:00	48.19	818.21	88.51	640.73	79.70
(05.22.22) 20:00	48.07	815.05	88.54	647.53	79.72
(05.22.22) 21:00	48.51	811.88	88.56	641.19	79.75
(05.22.22) 22:00	48.89	433.05	88.58	661.26	79.77
(05.22.22) 23:00	49.90	430.90	88.61	640.70	79.80
(05.23.22) 00:00	49.36	556.09	88.63	641.71	79.82
(05.23.22) 01:00	48.74	556.08	88.66	640.67	79.85
(05.23.22) 02:00	47.23	545.55	88.68	642.23	79.88
(05.23.22) 03:00	43.65	542.39	88.71	636.64	79.90
(05.23.22) 04:00	41.33	553.34	88.72	637.09	79.92
(05.23.22) 05:00	39.04	473.73	88.74	642.51	79.94
(05.23.22) 06:00	37.09	468.97	88.76	641.11	79.96
(05.23.22) 07:00	37.95	449.52	88.78	638.02	79.98
(05.23.22) 08:00	39.63	459.03	88.80	237.07	80.00
(05.23.22) 09:00	40.18	448.65	88.82	224.41	80.02
(05.23.22) 10:00	43.11	439.33	88.83	539.07	80.04
(05.23.22) 11:00	45.95	441.10	88.85	538.50	80.06
(05.23.22) 12:00	46.59	444.74	88.87	544.70	80.09
(05.23.22) 13:00	46.33	441.97	88.89	546.62	80.11
(05.23.22) 14:00	45.33	440.70	88.91	548.39	80.13
(05.23.22) 15:00	44.82	439.65	88.92	624.63	80.16
(05.23.22) 16:00	45.50	427.92	88.94	638.29	80.18
(05.23.22) 17:00	46.18	431.64	88.96	644.90	80.21
(05.23.22) 18:00	45.62	445.95	88.98	645.36	80.23
(05.23.22) 19:00	45.44	431.42	88.99	642.66	80.25
(05.23.22) 20:00	45.62	431.59	89.01	620.17	80.28
(05.23.22) 21:00	46.53	431.34	89.04	636.05	80.30
(05.23.22) 22:00	47.26	434.06	89.06	628.41	80.33
(05.23.22) 23:00	46.62	428.56	89.08	644.14	80.36
(05.24.22) 00:00	47.06	431.06	89.10	640.18	80.38
(05.24.22) 01:00	46.19	824.18	89.12	643.72	80.41
(05.24.22) 02:00	44.13	851.58	89.14	642.84	80.43
(05.24.22) 03:00	42.50	840.21	89.17	644.47	80.46

(05.24.22) 04:00	39.94	844.51	89.20	645.23	80.48
(05.24.22) 05:00	37.65	922.55	89.24	638.45	80.50
(05.24.22) 06:00	36.64	919.54	89.27	644.05	80.52
(05.24.22) 07:00	36.08	919.66	89.31	637.88	80.54
(05.24.22) 08:00	63.84	922.08	89.35	246.63	80.57
(05.24.22) 09:00	78.62	920.72	89.38	539.21	80.59
(05.24.22) 10:00	77.76	912.02	89.42	542.01	80.61
(05.24.22) 11:00	69.34	918.05	89.45	543.34	80.63
(05.24.22) 12:00	70.03	908.66	89.49	542.09	80.65
(05.24.22) 13:00	83.11	912.40	89.53	543.86	80.68
(05.24.22) 14:00	78.60	914.50	89.56	554.65	80.70
(05.24.22) 15:00	84.83	904.64	89.60	89.79	80.72
(05.24.22) 16:00	61.36	909.81	89.64	618.92	80.74
(05.24.22) 17:00	125.90	914.16	89.67	635.01	80.76
(05.24.22) 18:00	80.98	913.07	89.71	640.38	80.78
(05.24.22) 19:00	80.75	904.94	89.74	635.26	80.81
(05.24.22) 20:00	80.90	908.36	89.77	630.73	80.83
(05.24.22) 21:00	83.46	910.44	89.79	631.10	80.86
(05.24.22) 22:00	102.25	556.33	89.82	624.02	80.88
(05.24.22) 23:00	108.94	556.59	89.85	627.27	80.91
(05.25.22) 00:00	107.46	557.13	89.88	622.18	80.93
(05.25.22) 01:00	79.37	550.82	89.90	620.52	80.96
(05.25.22) 02:00	78.76	554.82	89.93	621.34	80.98
(05.25.22) 03:00	77.95	936.73	89.96	613.11	81.00
(05.25.22) 04:00	117.43	943.69	90.00	624.91	81.02
(05.25.22) 05:00	107.10	943.99	90.04	618.14	81.04
(05.25.22) 06:00	91.43	919.45	90.07	622.47	81.06
(05.25.22) 07:00	90.60	914.67	90.11	618.31	81.08
(05.25.22) 08:00	90.22	907.54	90.15	194.03	81.10
(05.25.22) 09:00	88.89	918.07	90.18	75.67	81.11
(05.25.22) 10:00	108.59	920.01	90.22	448.98	81.13
(05.25.22) 11:00	74.49	854.57	90.26	497.58	81.15
(05.25.22) 12:00	76.43	840.38	90.29	505.17	81.17
(05.25.22) 13:00	79.31	849.79	90.32	507.98	81.19
(05.25.22) 14:00	82.84	838.90	90.36	511.21	81.21
(05.25.22) 15:00	83.27	844.67	90.39	84.32	81.24
(05.25.22) 16:00	83.55	839.49	90.42	595.70	81.26
(05.25.22) 17:00	84.00	832.69	90.46	644.91	81.28
(05.25.22) 18:00	83.44	827.92	90.49	626.95	81.30
(05.25.22) 19:00	81.11	841.32	90.52	623.55	81.32
(05.25.22) 20:00	88.18	835.60	90.56	618.42	81.34
(05.25.22) 21:00	88.06	837.83	90.59	623.34	81.37
(05.25.22) 22:00	86.06	832.03	90.62	616.20	81.39
(05.25.22) 23:00	89.42	836.76	90.66	615.47	81.42
(05.26.22) 00:00	107.08	831.55	90.69	616.42	81.44
(05.26.22) 01:00	158.07	835.58	90.72	622.78	81.47
(05.26.22) 02:00	162.61	837.25	90.76	619.78	81.49

(05.26.22) 03:00	155.51	842.33	90.79	621.50	81.52
(05.26.22) 04:00	145.35	841.57	90.83	622.79	81.54
(05.26.22) 05:00	135.97	841.53	90.86	626.06	81.56
(05.26.22) 06:00	119.52	887.14	90.90	622.05	81.59
(05.26.22) 07:00	199.60	895.14	90.93	622.91	81.61
(05.26.22) 08:00	199.59	880.62	90.97	225.68	81.63
(05.26.22) 09:00	199.58	907.75	91.00	544.87	81.65
(05.26.22) 10:00	199.57	903.23	91.04	537.44	81.68
(05.26.22) 11:00	199.37	906.68	91.07	540.53	81.70
(05.26.22) 12:00	186.99	918.34	91.11	543.18	81.72
(05.26.22) 13:00	174.86	924.53	91.15	554.36	81.75
(05.26.22) 14:00	170.77	924.32	91.18	553.49	81.77
(05.26.22) 15:00	185.32	912.46	91.22	645.64	81.79
(05.26.22) 16:00	199.59	720.54	91.25	653.96	81.82
(05.26.22) 17:00	121.97	913.97	91.29	650.40	81.84
(05.26.22) 18:00	100.90	926.89	91.33	652.06	81.86
(05.26.22) 19:00	95.94	920.81	91.36	647.99	81.89
(05.26.22) 20:00	101.08	908.57	91.40	656.23	81.91
(05.26.22) 21:00	108.41	916.49	91.44	645.37	81.94
(05.26.22) 22:00	105.35	910.94	91.47	640.01	81.97
(05.26.22) 23:00	103.87	913.87	91.51	647.33	81.99
(05.27.22) 00:00	95.07	910.48	91.55	643.75	82.02
(05.27.22) 01:00	107.25	913.16	91.58	650.05	82.04
(05.27.22) 02:00	103.11	894.69	91.62	647.78	82.07
(05.27.22) 03:00	101.77	906.03	91.65	644.39	82.09
(05.27.22) 04:00	98.08	920.69	91.69	652.58	82.12
(05.27.22) 05:00	95.34	913.40	91.72	649.56	82.14
(05.27.22) 06:00	122.84	916.82	91.76	651.13	82.17
(05.27.22) 07:00	93.94	913.17	91.79	642.65	82.19
(05.27.22) 08:00	89.64	921.03	91.83	276.04	82.21
(05.27.22) 09:00	93.39	718.17	91.86	544.62	82.24
(05.27.22) 10:00	91.77	739.24	91.90	550.97	82.26
(05.27.22) 11:00	94.23	396.88	91.92	556.00	82.28
(05.27.22) 12:00	96.72	399.56	91.94	556.14	82.31
(05.27.22) 13:00	93.57	0.26	91.96	559.94	82.33
(05.27.22) 14:00	199.92	486.50	91.99	562.17	82.35
(05.27.22) 15:00	197.34	842.17	92.01	648.94	82.38
(05.27.22) 16:00	89.12	855.06	92.03	658.02	82.40
(05.27.22) 17:00	85.39	855.36	92.05	659.16	82.42
(05.27.22) 18:00	83.87	841.39	92.08	653.92	82.44
(05.27.22) 19:00	82.81	859.59	92.11	652.42	82.47
(05.27.22) 20:00	82.42	854.20	92.15	649.67	82.50
(05.27.22) 21:00	82.03	853.67	92.18	647.17	82.52
(05.27.22) 22:00	82.08	846.41	92.22	643.41	82.55
(05.27.22) 23:00	81.14	847.51	92.25	649.88	82.57
(05.28.22) 00:00	79.82	845.76	92.28	652.78	82.60
(05.28.22) 01:00	79.65	844.00	92.32	648.66	82.63

(05.28.22) 02:00	77.38	846.33	92.35	647.89	82.65
(05.28.22) 03:00	75.05	852.05	92.38	653.37	82.68
(05.28.22) 04:00	73.17	847.68	92.42	655.79	82.70
(05.28.22) 05:00	71.33	846.60	92.45	648.05	82.73
(05.28.22) 06:00	69.19	855.03	92.48	651.95	82.75
(05.28.22) 07:00	69.07	853.78	92.52	645.26	82.78
(05.28.22) 08:00	67.84	841.65	92.55	651.52	82.81
(05.28.22) 09:00	66.67	541.12	92.58	645.63	82.83
(05.28.22) 10:00	67.82	966.74	92.62	640.23	82.86
(05.28.22) 11:00	70.01	972.84	92.65	648.30	82.88
(05.28.22) 12:00	71.58	979.20	92.68	651.63	82.91
(05.28.22) 13:00	73.01	287.27	92.72	643.98	82.94
(05.28.22) 14:00	72.24	800.47	92.75	652.08	82.96
(05.28.22) 15:00	73.04	817.09	92.79	649.25	82.99
(05.28.22) 16:00	71.39	811.61	92.82	651.10	83.01
(05.28.22) 17:00	71.28	812.76	92.86	652.82	83.04
(05.28.22) 18:00	70.20	813.10	92.89	650.74	83.07
(05.28.22) 19:00	68.98	827.70	92.92	646.08	83.09
(05.28.22) 20:00	69.83	822.59	92.96	650.66	83.12
(05.28.22) 21:00	68.19	821.08	92.99	650.97	83.14
(05.28.22) 22:00	68.14	828.06	93.02	651.90	83.17
(05.28.22) 23:00	68.15	822.42	93.06	648.57	83.20
(05.29.22) 00:00	67.74	821.31	93.09	645.33	83.22
(05.29.22) 01:00	67.17	823.45	93.12	652.33	83.25
(05.29.22) 02:00	65.26	825.20	93.16	651.24	83.27
(05.29.22) 03:00	63.86	817.72	93.19	650.68	83.30
(05.29.22) 04:00	61.24	824.04	93.22	643.28	83.33
(05.29.22) 05:00	60.61	824.71	93.25	649.08	83.35
(05.29.22) 06:00	58.16	822.84	93.29	678.41	83.38
(05.29.22) 07:00	56.91	826.13	93.32	648.55	83.40
(05.29.22) 08:00	57.38	822.93	93.35	647.81	83.43
(05.29.22) 09:00	55.88	822.44	93.39	652.40	83.45
(05.29.22) 10:00	57.53	827.95	93.42	250.75	83.48
(05.29.22) 11:00	57.93	824.21	93.45	554.46	83.50
(05.29.22) 12:00	57.53	826.57	93.48	544.08	83.52
(05.29.22) 13:00	61.79	875.93	93.52	554.42	83.54
(05.29.22) 14:00	66.63	778.62	93.55	553.35	83.56
(05.29.22) 15:00	64.26	790.56	93.58	271.62	83.58
(05.29.22) 16:00	64.92	797.92	93.62	654.45	83.61
(05.29.22) 17:00	62.98	810.65	93.65	655.39	83.63
(05.29.22) 18:00	61.45	820.91	93.68	656.31	83.65
(05.29.22) 19:00	60.59	821.53	93.71	656.12	83.68
(05.29.22) 20:00	60.56	829.08	93.75	653.92	83.70
(05.29.22) 21:00	61.00	828.64	93.78	646.79	83.73
(05.29.22) 22:00	60.67	839.61	93.81	643.70	83.76
(05.29.22) 23:00	58.38	841.98	93.83	650.81	83.78
(05.30.22) 00:00	59.43	549.94	93.86	647.36	83.81

(05.30.22) 01:00	58.03	531.58	93.89	642.84	83.83
(05.30.22) 02:00	57.40	548.24	93.91	647.79	83.86
(05.30.22) 03:00	55.85	538.56	93.94	647.24	83.88
(05.30.22) 04:00	53.51	541.07	93.96	649.79	83.91
(05.30.22) 05:00	52.41	540.15	93.99	641.64	83.94
(05.30.22) 06:00	51.41	744.72	94.02	645.07	83.96
(05.30.22) 07:00	50.27	753.01	94.05	647.95	83.98
(05.30.22) 08:00	50.21	759.78	94.08	353.14	84.01
(05.30.22) 09:00	50.74	763.88	94.11	547.18	84.03
(05.30.22) 10:00	51.04	769.18	94.14	554.48	84.05
(05.30.22) 11:00	50.79	780.05	94.17	546.08	84.07
(05.30.22) 12:00	55.14	755.08	94.20	556.34	84.10
(05.30.22) 13:00	54.20	459.59	94.23	555.01	84.12
(05.30.22) 14:00	57.03	259.05	94.26	558.90	84.14
(05.30.22) 15:00	56.75	805.85	94.28	305.35	84.17
(05.30.22) 16:00	58.20	803.25	94.31	645.47	84.19
(05.30.22) 17:00	57.38	805.40	94.33	653.02	84.22
(05.30.22) 18:00	56.65	556.09	94.36	652.59	84.24
(05.30.22) 19:00	56.57	543.60	94.38	650.16	84.27
(05.30.22) 20:00	57.26	534.72	94.41	644.89	84.29
(05.30.22) 21:00	56.20	543.81	94.43	642.83	84.32
(05.30.22) 22:00	57.30	812.81	94.46	637.28	84.34
(05.30.22) 23:00	57.65	782.61	94.48	639.89	84.37
(05.31.22) 00:00	57.05	542.81	94.50	638.07	84.39
(05.31.22) 01:00	55.47	540.76	94.53	637.67	84.42
(05.31.22) 02:00	53.30	540.06	94.55	638.26	84.44
(05.31.22) 03:00	51.45	540.52	94.57	637.92	84.47
(05.31.22) 04:00	49.72	541.09	94.60	638.05	84.49
(05.31.22) 05:00	84.40	539.85	94.62	658.95	84.52
(05.31.22) 06:00	83.96	533.67	94.64	633.05	84.54
(05.31.22) 07:00	85.36	524.23	94.66	628.25	84.56
(05.31.22) 08:00	86.58	522.61	94.68	248.04	84.58
(05.31.22) 09:00	87.79	523.32	94.70	225.28	84.60
(05.31.22) 10:00	84.36	519.70	94.72	541.19	84.62
(05.31.22) 11:00	84.44	474.95	94.74	543.00	84.64
(05.31.22) 12:00	92.97	459.86	94.76	546.14	84.66
(05.31.22) 13:00	98.21	444.67	94.78	544.23	84.69
(05.31.22) 14:00	94.88	527.03	94.79	266.34	84.71
(05.31.22) 15:00	95.39	490.15	94.80	631.28	84.73
(05.31.22) 16:00	94.52	0.27	94.81	638.32	84.76
(05.31.22) 17:00	94.02	0.29	94.82	641.11	84.78
(05.31.22) 18:00	93.76	0.25	94.83	638.26	84.81
(05.31.22) 19:00	95.79	419.46	94.84	625.60	84.83
(05.31.22) 20:00	95.33	467.16	94.85	626.93	84.86
(05.31.22) 21:00	94.93	559.99	94.86	623.20	84.88
(05.31.22) 22:00	96.37	489.27	94.87	632.75	84.91
(05.31.22) 23:00	100.53	0.23	94.87	624.40	84.93

(06.01.22) 00:00	199.68	0.20	94.88	625.57	84.96
(06.01.22) 01:00	96.13	0.24	94.89	629.03	84.98
(06.01.22) 02:00	96.63	0.20	94.89	622.84	85.01
(06.01.22) 03:00	98.48	497.83	94.90	623.53	85.03
(06.01.22) 04:00	95.91	474.05	94.91	631.09	85.06
(06.01.22) 05:00	118.34	0.17	94.91	630.45	85.08
(06.01.22) 06:00	199.49	0.17	94.91	626.42	85.10
(06.01.22) 07:00	79.45	0.20	94.92	622.83	85.12
(06.01.22) 08:00	130.51	0.17	94.92	258.86	85.15
(06.01.22) 09:00	97.99	0.19	94.93	546.59	85.17
(06.01.22) 10:00	90.52	0.19	94.93	556.12	85.19
(06.01.22) 11:00	89.74	309.81	94.94	562.67	85.21
(06.01.22) 12:00	89.46	288.08	94.95	564.05	85.23
(06.01.22) 13:00	88.44	776.89	94.97	566.40	85.26
(06.01.22) 14:00	87.58	389.53	94.99	569.31	85.28
(06.01.22) 15:00	87.04	0.23	95.00	572.83	85.31
(06.01.22) 16:00	87.43	0.24	95.02	662.11	85.33
(06.01.22) 17:00	87.17	823.07	95.04	667.28	85.36
(06.01.22) 18:00	88.89	829.37	95.06	660.90	85.38
(06.01.22) 19:00	89.22	751.67	95.07	663.96	85.41
(06.01.22) 20:00	95.50	874.51	95.11	655.87	85.43
(06.01.22) 21:00	94.77	895.24	95.14	651.08	85.46
(06.01.22) 22:00	95.67	886.84	95.18	658.68	85.48
(06.01.22) 23:00	96.15	875.76	95.21	655.17	85.51
(06.02.22) 00:00	96.64	870.19	95.24	656.45	85.53
(06.02.22) 01:00	96.33	864.23	95.28	653.81	85.56
(06.02.22) 02:00	97.51	856.68	95.31	660.55	85.59
(06.02.22) 03:00	93.56	861.69	95.35	653.17	85.61
(06.02.22) 04:00	94.85	868.59	95.38	661.17	85.64
(06.02.22) 05:00	95.46	861.95	95.42	658.59	85.66
(06.02.22) 06:00	102.51	866.22	95.45	658.35	85.69
(06.02.22) 07:00	100.28	866.31	95.49	656.27	85.71
(06.02.22) 08:00	100.62	872.40	95.52	655.70	85.74
(06.02.22) 09:00	101.09	871.10	95.56	552.73	85.76
(06.02.22) 10:00	99.05	918.89	95.59	558.71	85.79
(06.02.22) 11:00	98.36	947.56	95.63	564.03	85.81
(06.02.22) 12:00	97.09	942.31	95.67	566.48	85.84
(06.02.22) 13:00	95.50	947.79	95.71	562.20	85.86
(06.02.22) 14:00	94.82	953.99	95.74	570.63	85.88
(06.02.22) 15:00	95.29	957.54	95.78	201.43	85.91
(06.02.22) 16:00	127.89	949.44	95.82	660.19	85.93
(06.02.22) 17:00	126.85	940.37	95.86	666.84	85.95
(06.02.22) 18:00	93.33	941.87	95.89	666.67	85.98
(06.02.22) 19:00	93.94	921.35	95.93	659.00	86.00
(06.02.22) 20:00	92.31	924.06	95.96	661.44	86.02
(06.02.22) 21:00	92.62	934.25	96.00	656.09	86.05
(06.02.22) 22:00	97.59	776.54	96.03	650.71	86.08

(06.02.22) 23:00	101.39	785.45	96.06	656.49	86.10
(06.03.22) 00:00	105.73	779.36	96.10	655.95	86.13
(06.03.22) 01:00	104.93	770.79	96.13	656.41	86.15
(06.03.22) 02:00	102.92	787.62	96.16	651.31	86.18
(06.03.22) 03:00	102.35	797.29	96.19	655.87	86.21
(06.03.22) 04:00	101.59	801.67	96.22	658.15	86.23
(06.03.22) 05:00	100.01	796.52	96.25	659.01	86.26
(06.03.22) 06:00	115.11	811.62	96.27	660.36	86.28
(06.03.22) 07:00	114.08	813.78	96.30	658.35	86.30
(06.03.22) 08:00	112.82	813.75	96.33	248.15	86.32
(06.03.22) 09:00	109.01	383.44	96.35	552.84	86.34
(06.03.22) 10:00	109.75	389.45	96.38	557.83	86.37
(06.03.22) 11:00	108.63	383.34	96.40	560.35	86.39
(06.03.22) 12:00	108.31	371.75	96.42	561.50	86.41
(06.03.22) 13:00	110.47	373.33	96.44	564.83	86.43
(06.03.22) 14:00	110.68	385.82	96.45	572.18	86.46
(06.03.22) 15:00	109.84	382.94	96.47	666.85	86.48
(06.03.22) 16:00	110.35	384.77	96.49	665.66	86.51
(06.03.22) 17:00	110.56	553.14	96.50	669.39	86.54
(06.03.22) 18:00	111.60	542.68	96.52	662.79	86.56
(06.03.22) 19:00	106.65	534.17	96.54	657.50	86.59
(06.03.22) 20:00	116.04	531.67	96.57	652.82	86.61
(06.03.22) 21:00	108.88	517.92	96.59	661.91	86.64
(06.03.22) 22:00	130.21	781.40	96.62	654.46	86.66
(06.03.22) 23:00	103.07	819.25	96.64	654.42	86.69
(06.04.22) 00:00	99.71	839.96	96.67	655.70	86.71
(06.04.22) 01:00	103.09	514.31	96.70	658.35	86.74
(06.04.22) 02:00	94.21	506.47	96.72	652.88	86.77
(06.04.22) 03:00	90.10	510.51	96.74	654.17	86.79
(06.04.22) 04:00	87.60	512.18	96.77	654.64	86.82
(06.04.22) 05:00	84.37	508.04	96.79	655.89	86.85
(06.04.22) 06:00	83.01	509.61	96.81	655.55	86.87
(06.04.22) 07:00	82.36	508.88	96.83	653.51	86.90
(06.04.22) 08:00	82.23	509.13	96.85	654.37	86.92
(06.04.22) 09:00	83.22	504.84	96.87	651.08	86.95
(06.04.22) 10:00	82.54	504.88	96.89	650.46	86.98
(06.04.22) 11:00	83.13	502.68	96.91	655.30	87.00
(06.04.22) 12:00	83.69	505.08	96.93	656.23	87.03
(06.04.22) 13:00	84.40	504.11	96.95	655.69	87.05
(06.04.22) 14:00	86.87	503.32	96.97	650.15	87.08
(06.04.22) 15:00	88.65	502.80	97.00	655.62	87.11
(06.04.22) 16:00	87.55	501.80	97.02	655.81	87.13
(06.04.22) 17:00	87.21	666.12	97.04	651.05	87.16
(06.04.22) 18:00	87.47	688.44	97.06	649.48	87.19
(06.04.22) 19:00	86.06	706.73	97.08	649.45	87.21
(06.04.22) 20:00	85.40	461.72	97.10	647.99	87.24
(06.04.22) 21:00	84.49	451.90	97.12	651.55	87.26

(06.04.22) 22:00	84.10	449.60	97.14	655.60	87.29
(06.04.22) 23:00	87.26	458.28	97.16	651.26	87.32
(06.05.22) 00:00	92.20	471.00	97.18	646.30	87.34
(06.05.22) 01:00	100.84	463.88	97.20	648.79	87.37
(06.05.22) 02:00	108.98	502.16	97.22	653.34	87.39
(06.05.22) 03:00	114.35	489.16	97.24	649.89	87.42
(06.05.22) 04:00	75.43	475.70	97.26	648.44	87.45
(06.05.22) 05:00	72.42	474.83	97.28	654.33	87.47
(06.05.22) 06:00	70.92	471.28	97.30	652.99	87.49
(06.05.22) 07:00	69.79	488.24	97.32	650.19	87.51
(06.05.22) 08:00	70.55	487.40	97.34	651.24	87.54
(06.05.22) 09:00	69.35	481.46	97.36	247.76	87.56
(06.05.22) 10:00	69.96	441.10	97.38	547.70	87.58
(06.05.22) 11:00	70.97	443.69	97.40	546.63	87.60
(06.05.22) 12:00	73.50	441.15	97.41	555.41	87.62
(06.05.22) 13:00	74.41	441.20	97.43	554.96	87.65
(06.05.22) 14:00	75.67	440.68	97.45	564.60	87.67
(06.05.22) 15:00	76.70	439.53	97.47	662.88	87.70
(06.05.22) 16:00	76.29	436.17	97.49	656.90	87.72
(06.05.22) 17:00	74.51	553.93	97.51	652.59	87.75
(06.05.22) 18:00	75.43	546.92	97.52	655.30	87.77
(06.05.22) 19:00	74.16	547.57	97.54	652.64	87.80
(06.05.22) 20:00	75.05	544.63	97.56	652.40	87.82
(06.05.22) 21:00	75.33	535.46	97.58	646.94	87.85
(06.05.22) 22:00	75.44	0.23	97.60	646.32	87.87
(06.05.22) 23:00	74.59	430.62	97.62	647.25	87.90
(06.06.22) 00:00	74.57	422.19	97.64	647.85	87.93
(06.06.22) 01:00	73.10	429.87	97.66	650.75	87.95
(06.06.22) 02:00	71.21	431.47	97.68	651.32	87.98
(06.06.22) 03:00	70.08	430.32	97.69	650.87	88.00
(06.06.22) 04:00	67.29	428.30	97.71	652.00	88.03
(06.06.22) 05:00	64.50	431.08	97.73	645.22	88.05
(06.06.22) 06:00	63.66	430.44	97.75	644.38	88.08
(06.06.22) 07:00	63.52	429.99	97.76	650.03	88.10
(06.06.22) 08:00	63.16	431.40	97.78	632.56	88.13
(06.06.22) 09:00	65.67	432.19	97.80	630.88	88.15
(06.06.22) 10:00	64.68	431.08	97.81	637.18	88.18
(06.06.22) 11:00	64.56	432.66	97.83	628.09	88.20
(06.06.22) 12:00	67.28	433.57	97.85	628.96	88.23
(06.06.22) 13:00	69.32	435.20	97.87	630.85	88.25
(06.06.22) 14:00	68.76	429.33	97.89	550.25	88.28
(06.06.22) 15:00	68.47	457.95	97.92	621.34	88.30
(06.06.22) 16:00	66.43	459.25	97.94	637.79	88.32
(06.06.22) 17:00	66.76	723.84	97.96	646.70	88.35
(06.06.22) 18:00	66.97	850.60	97.98	651.89	88.37
(06.06.22) 19:00	68.31	885.15	98.01	652.16	88.40
(06.06.22) 20:00	70.11	893.16	98.04	645.54	88.42

(06.06.22) 21:00	70.44	824.67	98.07	643.70	88.45
(06.06.22) 22:00	70.28	848.03	98.11	647.29	88.47
(06.06.22) 23:00	72.56	885.67	98.14	635.39	88.50
(06.07.22) 00:00	76.64	771.39	98.17	638.76	88.52
(06.07.22) 01:00	86.35	777.80	98.21	646.40	88.55
(06.07.22) 02:00	84.34	802.98	98.24	642.49	88.58
(06.07.22) 03:00	82.43	814.67	98.27	647.31	88.60
(06.07.22) 04:00	73.05	808.61	98.30	644.42	88.63
(06.07.22) 05:00	67.48	516.49	98.32	646.85	88.65
(06.07.22) 06:00	63.90	511.23	98.35	647.41	88.68
(06.07.22) 07:00	194.48	509.84	98.37	638.74	88.70
(06.07.22) 08:00	106.63	511.75	98.40	640.90	88.73
(06.07.22) 09:00	123.53	512.36	98.42	633.19	88.76
(06.07.22) 10:00	189.63	876.50	98.45	631.58	88.78
(06.07.22) 11:00	183.41	882.92	98.48	633.93	88.81
(06.07.22) 12:00	110.36	886.12	98.52	256.58	88.83
(06.07.22) 13:00	78.00	886.12	98.56	166.84	88.85
(06.07.22) 14:00	72.71	892.22	98.59	512.72	88.87
(06.07.22) 15:00	72.74	895.67	98.63	528.06	88.89
(06.07.22) 16:00	72.18	895.69	98.66	624.13	88.91
(06.07.22) 17:00	70.97	938.40	98.70	631.00	88.93
(06.07.22) 18:00	69.65	939.72	98.74	625.14	88.95
(06.07.22) 19:00	70.13	960.29	98.77	630.74	88.97
(06.07.22) 20:00	69.03	951.05	98.81	629.85	88.99
(06.07.22) 21:00	69.56	953.46	98.85	630.26	89.01
(06.07.22) 22:00	70.34	962.78	98.89	625.34	89.04
(06.07.22) 23:00	69.73	948.50	98.92	621.06	89.06
(06.08.22) 00:00	70.01	948.16	98.96	625.96	89.09
(06.08.22) 01:00	68.40	950.31	99.00	629.85	89.11
(06.08.22) 02:00	197.87	814.28	99.04	629.93	89.14
(06.08.22) 03:00	149.78	844.17	99.06	627.54	89.16
(06.08.22) 04:00	134.56	848.84	99.09	623.85	89.19
(06.08.22) 05:00	171.19	861.32	99.12	629.82	89.21
(06.08.22) 06:00	143.71	855.48	99.14	631.45	89.23
(06.08.22) 07:00	117.31	858.78	99.17	626.87	89.26
(06.08.22) 08:00	90.61	641.67	99.20	610.59	89.28
(06.08.22) 09:00	89.64	116.86	99.22	209.75	89.30
(06.08.22) 10:00	83.06	124.62	99.25	524.20	89.32
(06.08.22) 11:00	82.03	90.09	99.27	536.48	89.34
(06.08.22) 12:00	86.41	170.07	99.29	556.34	89.37
(06.08.22) 13:00	65.17	135.41	99.31	567.46	89.39
(06.08.22) 14:00	78.19	541.30	99.33	579.21	89.42
(06.08.22) 15:00	76.42	819.13	99.35	593.76	89.44
(06.08.22) 16:00	75.40	839.20	99.37	660.15	89.46
(06.08.22) 17:00	73.79	843.84	99.39	656.59	89.49
(06.08.22) 18:00	73.08	856.17	99.41	660.16	89.51
(06.08.22) 19:00	78.39	1,014.43	99.45	650.50	89.54

(06.08.22) 20:00	71.53	1,016.22	99.49	638.65	89.56
(06.08.22) 21:00	69.70	989.38	99.52	646.95	89.59
(06.08.22) 22:00	68.97	856.67	99.56	645.11	89.61
(06.08.22) 23:00	68.41	854.58	99.60	649.52	89.64
(06.09.22) 00:00	67.54	853.84	99.63	646.20	89.66
(06.09.22) 01:00	66.47	848.51	99.67	642.44	89.69
(06.09.22) 02:00	64.64	852.56	99.71	642.42	89.72
(06.09.22) 03:00	62.11	852.51	99.74	647.04	89.74
(06.09.22) 04:00	60.16	853.07	99.77	647.61	89.77
(06.09.22) 05:00	57.73	855.09	99.80	639.92	89.79
(06.09.22) 06:00	56.26	848.40	99.84	644.21	89.82
(06.09.22) 07:00	56.74	851.59	99.87	645.70	89.84
(06.09.22) 08:00	57.26	851.36	99.90	636.07	89.86
(06.09.22) 09:00	56.73	684.25	99.94	549.11	89.89
(06.09.22) 10:00	57.22	703.78	99.97	555.22	89.91
(06.09.22) 11:00	59.49	707.56	99.99	552.56	89.94
(06.09.22) 12:00	58.86	718.29	100.01	556.34	89.96
(06.09.22) 13:00	59.54	728.29	100.04	562.76	89.98
(06.09.22) 14:00	59.88	737.06	100.06	564.26	90.01
(06.09.22) 15:00	59.93	411.54	100.08	91.18	90.03
(06.09.22) 16:00	60.98	409.29	100.10	627.61	90.05
(06.09.22) 17:00	60.50	413.71	100.13	622.25	90.07
(06.09.22) 18:00	60.20	412.58	100.15	627.02	90.10
(06.09.22) 19:00	60.40	559.25	100.17	621.62	90.12
(06.09.22) 20:00	60.31	550.68	100.19	625.29	90.14
(06.09.22) 21:00	61.26	503.97	100.21	617.78	90.17
(06.09.22) 22:00	60.95	501.09	100.23	638.09	90.19
(06.09.22) 23:00	61.68	505.70	100.25	647.63	90.22
(06.10.22) 00:00	60.99	503.47	100.27	644.51	90.24
(06.10.22) 01:00	60.74	498.97	100.29	641.60	90.27
(06.10.22) 02:00	58.80	503.68	100.32	640.58	90.29
(06.10.22) 03:00	57.18	891.22	100.35	638.87	90.32
(06.10.22) 04:00	61.98	896.15	100.38	638.70	90.35
(06.10.22) 05:00	61.31	895.68	100.41	633.03	90.37
(06.10.22) 06:00	62.72	898.02	100.44	637.05	90.39
(06.10.22) 07:00	61.50	902.99	100.47	640.36	90.42
(06.10.22) 08:00	56.75	532.46	100.50	624.93	90.44
(06.10.22) 09:00	55.43	524.41	100.53	632.82	90.47
(06.10.22) 10:00	55.40	124.06	100.55	244.42	90.49
(06.10.22) 11:00	55.92	193.32	100.56	546.76	90.52
(06.10.22) 12:00	57.21	140.74	100.57	550.98	90.54
(06.10.22) 13:00	56.93	127.07	100.58	552.20	90.56
(06.10.22) 14:00	57.64	560.85	100.60	561.39	90.58
(06.10.22) 15:00	58.65	461.90	100.61	153.50	90.60
(06.10.22) 16:00	57.07	454.99	100.62	632.68	90.62
(06.10.22) 17:00	58.48	448.03	100.63	645.80	90.64
(06.10.22) 18:00	58.01	444.82	100.64	146.11	90.66

(06.10.22) 19:00	57.55	452.41	100.66	652.04	90.68
(06.10.22) 20:00	59.67	452.08	100.68	654.61	90.70
(06.10.22) 21:00	58.52	450.81	100.70	648.25	90.73
(06.10.22) 22:00	59.35	449.39	100.71	638.97	90.75
(06.10.22) 23:00	62.11	444.40	100.73	635.76	90.78
(06.11.22) 00:00	76.01	446.62	100.75	638.07	90.81
(06.11.22) 01:00	72.82	443.25	100.77	642.01	90.83
(06.11.22) 02:00	64.83	445.23	100.79	640.36	90.86
(06.11.22) 03:00	60.45	443.81	100.80	642.00	90.88
(06.11.22) 04:00	56.39	444.95	100.82	639.02	90.91
(06.11.22) 05:00	54.02	443.39	100.84	640.44	90.93
(06.11.22) 06:00	52.34	439.90	100.86	635.70	90.96
(06.11.22) 07:00	51.58	445.80	100.87	638.09	90.98
(06.11.22) 08:00	50.71	437.84	100.89	641.52	91.01
(06.11.22) 09:00	50.18	439.44	100.91	637.46	91.03
(06.11.22) 10:00	51.41	724.53	100.93	626.10	91.06
(06.11.22) 11:00	52.08	760.55	100.96	617.89	91.09
(06.11.22) 12:00	52.87	837.87	100.99	620.31	91.11
(06.11.22) 13:00	55.05	847.88	101.01	512.07	91.14
(06.11.22) 14:00	56.75	853.26	101.04	546.97	91.16
(06.11.22) 15:00	58.40	541.38	101.07	642.16	91.19
(06.11.22) 16:00	56.38	531.84	101.09	660.44	91.21
(06.11.22) 17:00	55.85	459.53	101.12	668.77	91.23
(06.11.22) 18:00	55.32	462.46	101.14	659.45	91.26
(06.11.22) 19:00	57.79	456.30	101.16	660.19	91.28
(06.11.22) 20:00	57.26	446.69	101.18	665.15	91.31
(06.11.22) 21:00	57.45	446.76	101.19	659.88	91.34
(06.11.22) 22:00	57.38	446.69	101.21	656.90	91.36
(06.11.22) 23:00	56.62	445.90	101.23	660.41	91.39
(06.12.22) 00:00	55.11	444.96	101.25	654.73	91.42
(06.12.22) 01:00	55.88	449.97	101.26	651.77	91.44
(06.12.22) 02:00	54.54	449.80	101.28	648.86	91.47
(06.12.22) 03:00	51.55	450.90	101.30	649.29	91.49
(06.12.22) 04:00	51.98	450.76	101.32	651.78	91.52
(06.12.22) 05:00	49.55	448.42	101.34	649.37	91.55
(06.12.22) 06:00	48.48	447.14	101.35	650.51	91.57
(06.12.22) 07:00	48.94	449.87	101.37	646.55	91.60
(06.12.22) 08:00	47.52	439.07	101.39	642.40	91.62
(06.12.22) 09:00	47.77	442.31	101.41	636.75	91.65
(06.12.22) 10:00	48.93	439.32	101.43	632.37	91.67
(06.12.22) 11:00	49.28	442.27	101.44	629.80	91.70
(06.12.22) 12:00	49.27	444.34	101.46	627.40	91.72
(06.12.22) 13:00	51.25	442.82	101.48	546.47	91.75
(06.12.22) 14:00	53.51	443.08	101.50	552.04	91.77
(06.12.22) 15:00	56.80	439.86	101.52	209.36	91.79
(06.12.22) 16:00	56.52	443.45	101.53	618.59	91.82
(06.12.22) 17:00	56.39	552.40	101.55	639.12	91.84

(06.12.22) 18:00	56.29	545.14	101.57	645.04	91.86
(06.12.22) 19:00	56.00	543.71	101.59	643.27	91.88
(06.12.22) 20:00	55.48	534.88	101.61	647.66	91.91
(06.12.22) 21:00	55.69	529.03	101.63	635.85	91.94
(06.12.22) 22:00	56.09	525.40	101.65	629.46	91.96
(06.12.22) 23:00	55.63	457.69	101.67	629.93	91.99
(06.13.22) 00:00	55.24	453.21	101.69	635.64	92.01
(06.13.22) 01:00	52.76	450.69	101.71	632.54	92.04
(06.13.22) 02:00	52.05	448.59	101.73	633.53	92.06
(06.13.22) 03:00	49.94	443.92	101.75	633.48	92.09
(06.13.22) 04:00	48.13	439.27	101.76	636.06	92.11
(06.13.22) 05:00	46.32	437.46	101.78	642.06	92.13
(06.13.22) 06:00	44.71	441.79	101.80	636.66	92.15
(06.13.22) 07:00	44.48	440.68	101.82	633.10	92.17
(06.13.22) 08:00	44.41	441.33	101.84	228.31	92.20
(06.13.22) 09:00	44.95	453.73	101.85	541.40	92.22
(06.13.22) 10:00	46.04	494.56	101.87	539.19	92.24
(06.13.22) 11:00	47.91	494.07	101.89	541.48	92.26
(06.13.22) 12:00	49.49	501.45	101.91	550.22	92.29
(06.13.22) 13:00	50.71	441.99	101.93	553.35	92.31
(06.13.22) 14:00	49.77	445.36	101.95	556.08	92.33
(06.13.22) 15:00	50.08	442.61	101.96	256.10	92.36
(06.13.22) 16:00	48.72	442.61	101.98	642.20	92.38
(06.13.22) 17:00	48.85	440.78	102.00	654.68	92.40
(06.13.22) 18:00	48.69	438.18	102.02	663.34	92.43
(06.13.22) 19:00	49.30	438.04	102.04	659.57	92.45
(06.13.22) 20:00	50.18	440.28	102.06	657.33	92.48
(06.13.22) 21:00	50.88	440.07	102.08	641.20	92.50
(06.13.22) 22:00	50.93	434.10	102.10	639.30	92.53
(06.13.22) 23:00	51.53	554.40	102.11	639.47	92.55
(06.14.22) 00:00	51.86	557.73	102.13	644.62	92.58
(06.14.22) 01:00	51.38	555.99	102.15	639.67	92.61
(06.14.22) 02:00	49.79	554.80	102.17	642.65	92.63
(06.14.22) 03:00	47.79	554.60	102.20	641.30	92.66
(06.14.22) 04:00	46.16	554.42	102.22	644.50	92.68
(06.14.22) 05:00	43.78	548.00	102.24	641.72	92.70
(06.14.22) 06:00	43.01	548.00	102.26	642.25	92.73
(06.14.22) 07:00	42.32	547.61	102.28	639.94	92.75
(06.14.22) 08:00	42.19	547.78	102.31	278.75	92.78
(06.14.22) 09:00	42.80	546.45	102.33	561.64	92.80
(06.14.22) 10:00	45.22	548.96	102.35	530.60	92.82
(06.14.22) 11:00	45.00	545.08	102.37	524.43	92.85
(06.14.22) 12:00	46.39	546.15	102.39	516.11	92.87
(06.14.22) 13:00	46.46	545.29	102.42	405.58	92.88
(06.14.22) 14:00	47.11	543.09	102.44	220.47	92.90
(06.14.22) 15:00	48.16	540.51	102.46	611.46	92.92
(06.14.22) 16:00	49.06	540.50	102.48	612.61	92.94

(06.14.22) 17:00	49.03	538.38	102.50	630.85	92.96
(06.14.22) 18:00	49.17	542.08	102.52	629.06	92.98
(06.14.22) 19:00	48.80	540.08	102.54	632.94	93.00
(06.14.22) 20:00	48.70	541.19	102.56	632.88	93.03
(06.14.22) 21:00	51.13	540.44	102.58	614.17	93.05
(06.14.22) 22:00	49.88	541.18	102.61	612.83	93.08
(06.14.22) 23:00	49.52	444.83	102.63	619.44	93.10
(06.15.22) 00:00	49.60	452.58	102.65	615.06	93.13
(06.15.22) 01:00	49.01	448.50	102.67	617.50	93.15
(06.15.22) 02:00	47.53	448.29	102.68	614.66	93.18
(06.15.22) 03:00	45.69	445.16	102.70	616.55	93.20
(06.15.22) 04:00	43.98	446.52	102.72	617.91	93.22
(06.15.22) 05:00	42.38	449.36	102.74	616.17	93.25
(06.15.22) 06:00	40.20	447.99	102.75	582.21	93.27
(06.15.22) 07:00	39.93	445.37	102.77	578.39	93.29
(06.15.22) 08:00	39.80	496.94	102.79	554.29	93.32
(06.15.22) 09:00	40.07	87.91	102.80	554.50	93.34
(06.15.22) 10:00	41.50	155.87	102.82	556.59	93.36
(06.15.22) 11:00	43.61	182.08	102.83	556.13	93.39
(06.15.22) 12:00	46.03	159.68	102.84	562.60	93.41
(06.15.22) 13:00	50.47	146.50	102.85	555.70	93.43
(06.15.22) 14:00	49.28	546.11	102.87	551.18	93.45
(06.15.22) 15:00	46.82	548.36	102.88	549.17	93.48
(06.15.22) 16:00	46.73	551.45	102.89	585.61	93.50
(06.15.22) 17:00	48.07	552.23	102.91	561.05	93.52
(06.15.22) 18:00	48.52	548.19	102.93	572.00	93.54
(06.15.22) 19:00	47.17	546.56	102.95	576.51	93.57
(06.15.22) 20:00	46.93	543.76	102.97	572.67	93.59
(06.15.22) 21:00	46.69	539.77	102.99	574.73	93.61
(06.15.22) 22:00	47.79	540.61	103.02	602.27	93.64
(06.15.22) 23:00	47.61	535.67	103.04	630.58	93.66
(06.16.22) 00:00	47.84	536.51	103.06	626.65	93.69
(06.16.22) 01:00	47.45	534.83	103.08	628.15	93.71
(06.16.22) 02:00	46.07	537.70	103.10	629.08	93.74
(06.16.22) 03:00	44.24	538.10	103.12	628.29	93.76
(06.16.22) 04:00	42.09	537.94	103.15	626.55	93.78
(06.16.22) 05:00	41.67	536.98	103.17	628.77	93.80
(06.16.22) 06:00	41.28	537.10	103.19	630.10	93.82
(06.16.22) 07:00	41.11	532.22	103.21	626.95	93.84
(06.16.22) 08:00	40.58	531.39	103.23	262.73	93.86
(06.16.22) 09:00	41.88	531.05	103.25	236.26	93.88
(06.16.22) 10:00	42.46	458.74	103.27	227.17	93.90
(06.16.22) 11:00	42.87	460.02	103.29	552.24	93.92
(06.16.22) 12:00	43.78	460.20	103.31	558.02	93.94
(06.16.22) 13:00	43.32	460.07	103.33	562.49	93.96
(06.16.22) 14:00	44.19	458.35	103.34	568.23	93.99
(06.16.22) 15:00	43.24	436.31	103.36	264.45	94.01

(06.16.22) 16:00	41.66	443.91	103.38	608.11	94.03
(06.16.22) 17:00	43.50	443.70	103.40	624.77	94.06
(06.16.22) 18:00	43.28	444.55	103.43	648.49	94.08
(06.16.22) 19:00	44.12	785.78	103.45	644.14	94.10
(06.16.22) 20:00	43.87	817.50	103.48	640.89	94.13
(06.16.22) 21:00	45.42	818.91	103.50	631.10	94.15
(06.16.22) 22:00	46.30	449.61	103.52	631.80	94.18
(06.16.22) 23:00	46.20	443.66	103.55	626.16	94.20
(06.17.22) 00:00	45.96	438.53	103.57	626.21	94.23
(06.17.22) 01:00	45.63	440.52	103.59	632.85	94.25
(06.17.22) 02:00	45.21	438.85	103.61	631.12	94.28
(06.17.22) 03:00	42.63	436.07	103.63	625.37	94.30
(06.17.22) 04:00	40.38	434.66	103.65	630.23	94.32
(06.17.22) 05:00	39.06	850.00	103.67	626.38	94.35
(06.17.22) 06:00	37.13	857.21	103.69	626.95	94.37
(06.17.22) 07:00	36.72	861.08	103.71	620.68	94.39
(06.17.22) 08:00	35.42	470.08	103.73	243.47	94.41
(06.17.22) 09:00	36.84	170.94	103.75	563.65	94.43
(06.17.22) 10:00	37.92	156.82	103.78	567.14	94.45
(06.17.22) 11:00	38.51	172.88	103.79	569.74	94.47
(06.17.22) 12:00	39.52	176.42	103.80	572.85	94.50
(06.17.22) 13:00	41.61	161.90	103.81	572.13	94.52
(06.17.22) 14:00	41.55	0.32	103.83	581.52	94.54
(06.17.22) 15:00	41.14	459.20	103.84	644.18	94.56
(06.17.22) 16:00	41.05	460.79	103.85	645.21	94.59
(06.17.22) 17:00	41.26	461.35	103.86	647.84	94.61
(06.17.22) 18:00	42.01	455.26	103.87	650.13	94.63
(06.17.22) 19:00	42.97	456.71	103.89	659.01	94.65
(06.17.22) 20:00	42.77	455.01	103.91	652.87	94.68
(06.17.22) 21:00	43.70	453.69	103.94	625.58	94.70
(06.17.22) 22:00	44.53	450.96	103.96	645.55	94.73
(06.17.22) 23:00	45.99	453.54	103.98	633.28	94.75
(06.18.22) 00:00	46.22	937.55	104.01	647.66	94.77
(06.18.22) 01:00	45.31	922.10	104.03	639.09	94.80
(06.18.22) 02:00	44.34	925.09	104.05	632.83	94.82
(06.18.22) 03:00	43.31	935.24	104.08	635.72	94.85
(06.18.22) 04:00	43.25	937.97	104.10	635.79	94.87
(06.18.22) 05:00	43.10	439.57	104.12	636.68	94.90
(06.18.22) 06:00	41.36	437.72	104.14	634.90	94.92
(06.18.22) 07:00	40.55	438.58	104.16	637.94	94.94
(06.18.22) 08:00	39.83	429.45	104.18	632.24	94.97
(06.18.22) 09:00	39.00	429.88	104.20	639.51	94.99
(06.18.22) 10:00	39.22	431.12	104.22	636.09	95.02
(06.18.22) 11:00	40.41	0.38	104.24	631.51	95.04
(06.18.22) 12:00	40.50	0.34	104.25	630.71	95.07
(06.18.22) 13:00	41.80	445.49	104.26	634.23	95.09
(06.18.22) 14:00	43.28	441.69	104.28	633.73	95.11

(06.18.22) 15:00	44.06	439.40	104.29	632.58	95.14
(06.18.22) 16:00	44.70	440.04	104.30	639.86	95.16
(06.18.22) 17:00	43.47	438.57	104.32	639.33	95.19
(06.18.22) 18:00	43.55	440.25	104.33	638.01	95.21
(06.18.22) 19:00	42.60	441.06	104.34	636.14	95.24
(06.18.22) 20:00	42.65	440.73	104.36	635.77	95.26
(06.18.22) 21:00	42.93	440.59	104.38	634.31	95.28
(06.18.22) 22:00	43.16	445.11	104.39	632.14	95.31
(06.18.22) 23:00	42.92	443.99	104.41	637.17	95.33
(06.19.22) 00:00	42.37	436.89	104.43	641.18	95.36
(06.19.22) 01:00	42.05	432.30	104.45	633.38	95.38
(06.19.22) 02:00	41.71	435.75	104.46	637.46	95.41
(06.19.22) 03:00	40.05	434.22	104.48	639.87	95.43
(06.19.22) 04:00	38.77	436.69	104.50	633.34	95.45
(06.19.22) 05:00	36.93	435.10	104.52	635.68	95.47
(06.19.22) 06:00	35.41	433.88	104.54	634.64	95.50
(06.19.22) 07:00	34.01	431.61	104.56	633.14	95.52
(06.19.22) 08:00	32.64	432.92	104.58	631.76	95.54
(06.19.22) 09:00	31.99	861.25	104.60	248.89	95.56
(06.19.22) 10:00	32.86	871.66	104.62	564.53	95.59
(06.19.22) 11:00	33.32	879.86	104.64	567.36	95.61
(06.19.22) 12:00	34.37	873.60	104.66	573.99	95.63
(06.19.22) 13:00	35.21	0.64	104.68	576.20	95.65
(06.19.22) 14:00	39.95	0.39	104.70	575.12	95.68
(06.19.22) 15:00	39.55	458.78	104.72	572.64	95.70
(06.19.22) 16:00	40.57	453.01	104.74	643.20	95.72
(06.19.22) 17:00	41.08	449.96	104.76	653.74	95.75
(06.19.22) 18:00	41.13	450.82	104.78	648.55	95.77
(06.19.22) 19:00	40.00	453.23	104.80	645.04	95.79
(06.19.22) 20:00	41.43	430.50	104.82	646.83	95.82
(06.19.22) 21:00	41.85	465.46	104.83	641.20	95.84
(06.19.22) 22:00	42.30	412.90	104.85	639.37	95.87
(06.19.22) 23:00	41.79	415.10	104.87	636.56	95.89
(06.20.22) 00:00	42.02	425.07	104.88	637.09	95.91
(06.20.22) 01:00	41.62	422.33	104.90	636.07	95.94
(06.20.22) 02:00	40.19	425.37	104.92	634.27	95.96
(06.20.22) 03:00	38.55	429.71	104.93	632.05	95.99
(06.20.22) 04:00	36.64	442.02	104.95	631.48	96.01
(06.20.22) 05:00	35.16	443.97	104.97	635.29	96.03
(06.20.22) 06:00	33.78	449.19	104.98	636.46	96.05
(06.20.22) 07:00	33.74	444.18	105.00	636.25	96.07
(06.20.22) 08:00	32.92	0.34	105.01	241.64	96.09
(06.20.22) 09:00	33.04	159.11	105.01	552.03	96.11
(06.20.22) 10:00	32.73	42.80	105.02	555.64	96.13
(06.20.22) 11:00	35.49	57.19	105.04	561.86	96.15
(06.20.22) 12:00	38.05	76.02	105.05	568.59	96.17
(06.20.22) 13:00	38.56	57.86	105.06	566.16	96.20

(06.20.22) 14:00	38.92	544.35	105.07	290.38	96.22
(06.20.22) 15:00	39.48	540.04	105.08	639.68	96.24
(06.20.22) 16:00	40.08	539.41	105.09	648.79	96.26
(06.20.22) 17:00	39.92	540.57	105.10	644.91	96.28
(06.20.22) 18:00	40.63	537.26	105.12	645.68	96.31
(06.20.22) 19:00	40.34	524.82	105.14	640.25	96.33
(06.20.22) 20:00	41.83	522.06	105.16	640.03	96.36
(06.20.22) 21:00	42.47	519.53	105.18	635.49	96.39
(06.20.22) 22:00	42.68	0.34	105.20	632.82	96.41
(06.20.22) 23:00	43.36	459.29	105.22	637.84	96.44
(06.21.22) 00:00	43.38	458.55	105.24	632.31	96.46
(06.21.22) 01:00	42.31	441.75	105.26	630.33	96.49
(06.21.22) 02:00	41.18	440.64	105.28	638.27	96.51
(06.21.22) 03:00	39.66	441.84	105.29	632.14	96.53
(06.21.22) 04:00	37.21	441.32	105.31	629.11	96.56
(06.21.22) 05:00	35.36	445.58	105.33	629.37	96.58
(06.21.22) 06:00	33.55	443.50	105.35	631.85	96.61
(06.21.22) 07:00	33.96	448.38	105.37	629.90	96.63
(06.21.22) 08:00	34.04	447.38	105.39	453.24	96.65
(06.21.22) 09:00	33.12	921.09	105.41	451.36	96.67
(06.21.22) 10:00	35.43	930.45	105.45	451.58	96.69
(06.21.22) 11:00	35.52	936.27	105.48	451.60	96.71
(06.21.22) 12:00	39.16	937.63	105.52	454.88	96.73
(06.21.22) 13:00	37.92	784.33	105.55	456.96	96.74
(06.21.22) 14:00	39.38	841.93	105.59	452.71	96.76
(06.21.22) 15:00	38.73	844.83	105.62	267.66	96.78
(06.21.22) 16:00	39.71	847.88	105.66	246.51	96.79
(06.21.22) 17:00	40.67	838.96	105.69	640.34	96.82
(06.21.22) 18:00	38.27	444.97	105.73	642.72	96.84
(06.21.22) 19:00	39.51	877.11	105.76	652.14	96.87
(06.21.22) 20:00	39.24	891.84	105.79	643.12	96.89
(06.21.22) 21:00	39.80	889.40	105.83	636.40	96.92
(06.21.22) 22:00	42.16	899.71	105.86	627.61	96.94
(06.21.22) 23:00	52.56	942.73	105.89	630.88	96.97
(06.22.22) 00:00	105.04	939.25	105.93	631.92	96.99
(06.22.22) 01:00	87.83	544.00	105.96	633.72	97.02
(06.22.22) 02:00	72.80	534.05	105.98	632.22	97.04
(06.22.22) 03:00	78.01	538.64	106.00	634.97	97.06
(06.22.22) 04:00	75.89	534.84	106.02	636.18	97.09
(06.22.22) 05:00	68.21	455.94	106.04	634.54	97.11
(06.22.22) 06:00	65.58	454.71	106.06	635.18	97.13
(06.22.22) 07:00	45.52	451.92	106.08	623.20	97.16
(06.22.22) 08:00	44.16	450.46	106.09	246.20	97.18
(06.22.22) 09:00	43.35	165.49	106.11	440.87	97.20
(06.22.22) 10:00	45.23	59.59	106.12	441.80	97.22
(06.22.22) 11:00	45.60	187.00	106.13	440.64	97.24
(06.22.22) 12:00	45.81	141.59	106.14	452.12	97.26

(06.22.22) 13:00	46.84	191.88	106.15	450.75	97.27
(06.22.22) 14:00	52.11	543.91	106.17	455.40	97.29
(06.22.22) 15:00	78.43	536.29	106.18	287.10	97.31
(06.22.22) 16:00	45.96	538.96	106.19	632.41	97.33
(06.22.22) 17:00	44.94	542.36	106.20	645.31	97.35
(06.22.22) 18:00	45.12	543.43	106.23	643.02	97.38
(06.22.22) 19:00	44.49	838.45	106.25	650.25	97.40
(06.22.22) 20:00	45.21	887.96	106.28	649.50	97.43
(06.22.22) 21:00	45.10	885.09	106.31	619.44	97.45
(06.22.22) 22:00	44.70	532.75	106.33	629.50	97.48
(06.22.22) 23:00	45.18	532.10	106.36	630.09	97.50
(06.23.22) 00:00	44.92	532.49	106.38	635.94	97.53
(06.23.22) 01:00	44.47	517.12	106.41	637.86	97.55
(06.23.22) 02:00	42.86	926.20	106.45	635.60	97.58
(06.23.22) 03:00	40.99	927.70	106.48	632.45	97.60
(06.23.22) 04:00	38.67	929.47	106.52	634.30	97.63
(06.23.22) 05:00	37.15	930.94	106.56	633.01	97.65
(06.23.22) 06:00	35.64	931.72	106.59	635.04	97.67
(06.23.22) 07:00	35.76	934.47	106.63	630.95	97.70
(06.23.22) 08:00	35.94	935.84	106.66	247.86	97.72
(06.23.22) 09:00	36.13	934.34	106.70	436.32	97.74
(06.23.22) 10:00	37.20	936.09	106.73	438.56	97.76
(06.23.22) 11:00	38.12	931.29	106.77	443.72	97.78
(06.23.22) 12:00	39.70	859.43	106.80	451.23	97.80
(06.23.22) 13:00	40.11	863.70	106.84	450.17	97.82
(06.23.22) 14:00	43.27	860.40	106.87	456.94	97.83
(06.23.22) 15:00	44.37	863.55	106.91	322.12	97.85
(06.23.22) 16:00	47.01	859.69	106.94	639.44	97.87
(06.23.22) 17:00	47.61	855.63	106.98	648.57	97.89
(06.23.22) 18:00	51.87	989.02	107.01	649.05	97.92
(06.23.22) 19:00	50.67	988.33	107.05	647.23	97.95
(06.23.22) 20:00	47.36	989.92	107.09	648.57	97.97
(06.23.22) 21:00	45.76	855.82	107.12	646.70	98.00
(06.23.22) 22:00	45.54	860.38	107.16	644.77	98.02
(06.23.22) 23:00	45.34	863.91	107.19	638.76	98.05
(06.24.22) 00:00	44.75	425.63	107.23	637.45	98.07
(06.24.22) 01:00	43.79	430.33	107.25	642.40	98.10
(06.24.22) 02:00	42.07	429.77	107.26	642.79	98.12
(06.24.22) 03:00	40.69	428.84	107.28	638.60	98.15
(06.24.22) 04:00	38.42	423.72	107.30	640.46	98.17
(06.24.22) 05:00	36.72	427.34	107.31	636.45	98.20
(06.24.22) 06:00	35.48	426.16	107.33	637.56	98.22
(06.24.22) 07:00	34.73	429.13	107.35	638.83	98.24
(06.24.22) 08:00	61.65	182.85	107.36	257.53	98.27
(06.24.22) 09:00	74.54	170.53	107.37	561.59	98.29
(06.24.22) 10:00	109.40	177.86	107.38	563.92	98.31
(06.24.22) 11:00	84.98	193.11	107.39	566.22	98.34

(06.24.22) 12:00	100.11	176.29	107.41	554.26	98.36
(06.24.22) 13:00	96.38	143.90	107.42	548.17	98.38
(06.24.22) 14:00	91.35	538.42	107.43	321.98	98.40
(06.24.22) 15:00	82.73	532.08	107.44	559.90	98.42
(06.24.22) 16:00	75.05	531.82	107.45	611.88	98.45
(06.24.22) 17:00	65.67	932.48	107.48	621.54	98.47
(06.24.22) 18:00	65.06	934.26	107.52	636.67	98.50
(06.24.22) 19:00	58.67	937.94	107.55	633.66	98.52
(06.24.22) 20:00	55.65	942.78	107.59	612.19	98.55
(06.24.22) 21:00	54.02	938.53	107.62	638.02	98.57
(06.24.22) 22:00	51.01	938.34	107.66	638.40	98.60
(06.24.22) 23:00	50.17	943.22	107.69	644.57	98.62
(06.25.22) 00:00	49.07	533.54	107.73	638.76	98.65
(06.25.22) 01:00	47.56	527.30	107.75	642.81	98.67
(06.25.22) 02:00	46.31	521.41	107.77	640.32	98.70
(06.25.22) 03:00	43.75	522.54	107.79	642.71	98.72
(06.25.22) 04:00	41.82	523.94	107.81	643.87	98.75
(06.25.22) 05:00	38.99	519.95	107.83	644.61	98.78
(06.25.22) 06:00	38.01	517.48	107.85	644.01	98.80
(06.25.22) 07:00	45.90	516.00	107.87	639.72	98.83
(06.25.22) 08:00	43.36	514.69	107.90	644.98	98.85
(06.25.22) 09:00	39.65	516.04	107.91	638.05	98.88
(06.25.22) 10:00	38.68	517.50	107.93	642.96	98.90
(06.25.22) 11:00	40.80	450.34	107.95	640.52	98.93
(06.25.22) 12:00	40.46	424.39	107.97	639.12	98.96
(06.25.22) 13:00	41.92	430.25	107.99	642.28	98.98
(06.25.22) 14:00	42.88	436.63	108.01	644.26	99.01
(06.25.22) 15:00	43.94	418.87	108.03	640.88	99.03
(06.25.22) 16:00	44.24	803.69	108.05	639.28	99.06
(06.25.22) 17:00	47.07	808.33	108.07	638.33	99.08
(06.25.22) 18:00	44.84	805.28	108.10	638.50	99.11
(06.25.22) 19:00	45.95	809.14	108.12	642.68	99.14
(06.25.22) 20:00	45.03	811.32	108.15	642.36	99.16
(06.25.22) 21:00	45.10	422.94	108.18	644.75	99.19
(06.25.22) 22:00	44.87	423.31	108.20	641.33	99.21
(06.25.22) 23:00	45.29	420.82	108.23	639.01	99.24
(06.26.22) 00:00	44.32	426.17	108.25	643.92	99.26
(06.26.22) 01:00	43.00	426.41	108.28	642.35	99.29
(06.26.22) 02:00	42.16	825.53	108.30	639.22	99.32
(06.26.22) 03:00	39.89	831.40	108.32	641.01	99.34
(06.26.22) 04:00	37.80	832.80	108.35	635.61	99.37
(06.26.22) 05:00	36.02	428.61	108.37	634.01	99.39
(06.26.22) 06:00	35.28	427.68	108.39	635.66	99.42
(06.26.22) 07:00	35.41	416.51	108.41	643.33	99.44
(06.26.22) 08:00	35.18	423.37	108.44	558.41	99.47
(06.26.22) 09:00	34.47	429.09	108.46	554.96	99.49
(06.26.22) 10:00	35.51	419.93	108.48	558.39	99.51

(06.26.22) 11:00	36.60	545.20	108.50	557.27	99.54
(06.26.22) 12:00	38.83	547.38	108.52	562.41	99.56
(06.26.22) 13:00	40.28	544.11	108.54	558.59	99.58
(06.26.22) 14:00	40.93	541.33	108.56	559.68	99.60
(06.26.22) 15:00	42.14	540.08	108.58	641.35	99.62
(06.26.22) 16:00	42.50	542.32	108.60	651.08	99.65
(06.26.22) 17:00	44.32	543.39	108.63	642.70	99.67
(06.26.22) 18:00	43.70	537.68	108.65	652.66	99.70
(06.26.22) 19:00	42.88	536.78	108.68	649.01	99.72
(06.26.22) 20:00	42.82	532.40	108.70	645.53	99.75
(06.26.22) 21:00	42.68	532.89	108.73	643.61	99.78
(06.26.22) 22:00	43.27	890.54	108.75	647.58	99.80
(06.26.22) 23:00	42.66	889.67	108.78	643.79	99.83
(06.27.22) 00:00	41.67	533.81	108.80	645.59	99.85
(06.27.22) 01:00	41.25	531.86	108.82	642.81	99.88
(06.27.22) 02:00	39.81	532.70	108.84	639.67	99.90
(06.27.22) 03:00	38.23	530.68	108.86	642.88	99.93
(06.27.22) 04:00	36.07	532.34	108.89	637.57	99.96
(06.27.22) 05:00	34.24	533.75	108.91	641.29	99.98
(06.27.22) 06:00	32.97	532.73	108.93	637.96	100.01
(06.27.22) 07:00	33.00	532.91	108.95	646.40	100.03
(06.27.22) 08:00	33.20	156.36	108.97	553.62	100.06
(06.27.22) 09:00	33.93	156.02	108.98	556.74	100.08
(06.27.22) 10:00	34.47	142.49	108.99	554.62	100.10
(06.27.22) 11:00	36.50	144.06	109.00	559.82	100.12
(06.27.22) 12:00	37.33	133.80	109.01	551.94	100.14
(06.27.22) 13:00	38.74	139.16	109.02	557.11	100.17
(06.27.22) 14:00	38.78	556.98	109.03	560.36	100.19
(06.27.22) 15:00	39.83	547.06	109.04	640.57	100.21
(06.27.22) 16:00	38.90	545.42	109.06	653.25	100.23
(06.27.22) 17:00	39.67	886.06	109.08	650.05	100.26
(06.27.22) 18:00	39.52	893.23	109.11	650.20	100.28
(06.27.22) 19:00	39.86	896.01	109.14	649.18	100.31
(06.27.22) 20:00	39.88	898.62	109.17	650.88	100.34
(06.27.22) 21:00	40.67	546.00	109.20	643.97	100.36
(06.27.22) 22:00	40.94	549.96	109.22	640.07	100.39
(06.27.22) 23:00	41.27	542.85	109.25	640.97	100.41
(06.28.22) 00:00	41.54	543.97	109.28	651.34	100.44
(06.28.22) 01:00	40.42	544.70	109.30	649.15	100.47
(06.28.22) 02:00	39.37	538.09	109.32	653.10	100.49
(06.28.22) 03:00	37.35	544.42	109.34	634.44	100.52
(06.28.22) 04:00	35.45	540.36	109.36	642.16	100.54
(06.28.22) 05:00	33.10	542.32	109.39	642.67	100.57
(06.28.22) 06:00	31.59	542.20	109.41	643.55	100.59
(06.28.22) 07:00	31.97	543.31	109.43	639.32	100.62
(06.28.22) 08:00	32.58	541.01	109.45	551.05	100.64
(06.28.22) 09:00	31.92	540.89	109.47	555.40	100.66

(06.28.22) 10:00	32.87	542.67	109.49	553.68	100.68
(06.28.22) 11:00	33.73	538.83	109.51	556.37	100.71
(06.28.22) 12:00	36.36	456.57	109.53	558.26	100.73
(06.28.22) 13:00	36.76	467.67	109.55	558.28	100.75
(06.28.22) 14:00	38.36	459.60	109.57	562.64	100.77
(06.28.22) 15:00	38.40	457.48	109.59	645.65	100.79
(06.28.22) 16:00	37.57	443.34	109.61	643.02	100.82
(06.28.22) 17:00	37.71	445.35	109.63	650.00	100.84
(06.28.22) 18:00	37.96	434.04	109.65	653.85	100.87
(06.28.22) 19:00	38.57	430.45	109.66	656.13	100.90
(06.28.22) 20:00	40.82	434.35	109.68	657.41	100.92
(06.28.22) 21:00	40.36	435.53	109.70	644.83	100.95
(06.28.22) 22:00	42.45	436.79	109.72	644.67	100.97
(06.28.22) 23:00	42.43	439.88	109.73	641.98	101.00
(06.29.22) 00:00	41.59	437.45	109.75	642.90	101.03
(06.29.22) 01:00	40.88	427.37	109.77	642.08	101.05
(06.29.22) 02:00	39.63	430.58	109.79	640.62	101.08
(06.29.22) 03:00	37.83	436.91	109.80	642.24	101.10
(06.29.22) 04:00	35.58	432.34	109.82	645.54	101.13
(06.29.22) 05:00	33.50	434.01	109.84	647.39	101.15
(06.29.22) 06:00	32.21	433.47	109.85	637.72	101.18
(06.29.22) 07:00	32.65	425.30	109.87	638.18	101.20
(06.29.22) 08:00	33.27	437.99	109.88	550.52	101.23
(06.29.22) 09:00	33.38	130.11	109.89	551.60	101.25
(06.29.22) 10:00	33.84	178.84	109.90	550.09	101.27
(06.29.22) 11:00	34.94	121.37	109.90	553.98	101.29
(06.29.22) 12:00	35.72	118.85	109.91	555.09	101.31
(06.29.22) 13:00	37.60	120.13	109.91	559.29	101.34
(06.29.22) 14:00	34.41	0.34	109.92	556.31	101.36
(06.29.22) 15:00	39.15	0.33	109.93	651.67	101.38
(06.29.22) 16:00	38.25	0.32	109.95	653.55	101.41
(06.29.22) 17:00	36.88	0.31	109.96	655.95	101.43
(06.29.22) 18:00	39.11	0.31	109.97	659.94	101.46
(06.29.22) 19:00	40.01	694.70	109.98	656.57	101.48
(06.29.22) 20:00	38.85	706.88	109.99	655.69	101.51
(06.29.22) 21:00	39.62	700.69	110.01	647.33	101.54
(06.29.22) 22:00	40.48	699.65	110.03	641.16	101.56
(06.29.22) 23:00	39.93	701.55	110.06	650.18	101.59
(06.30.22) 00:00	40.32	851.20	110.09	646.53	101.61
(06.30.22) 01:00	39.26	852.31	110.12	642.79	101.64
(06.30.22) 02:00	37.99	854.16	110.16	642.30	101.66
(06.30.22) 03:00	36.25	854.47	110.19	641.56	101.69
(06.30.22) 04:00	34.41	853.79	110.22	643.83	101.72
(06.30.22) 05:00	33.17	0.25	110.25	636.70	101.74
(06.30.22) 06:00	32.27	0.28	110.28	641.05	101.77
(06.30.22) 07:00	31.83	0.31	110.30	636.70	101.79
(06.30.22) 08:00	30.95	549.98	110.33	548.54	101.82

(06.30.22) 09:00	30.30	1,011.67	110.35	555.76	101.84
(06.30.22) 10:00	31.45	1,016.55	110.38	551.06	101.86
(06.30.22) 11:00	32.56	1,020.62	110.41	553.12	101.88
(06.30.22) 12:00	33.69	992.04	110.43	557.26	101.90
(06.30.22) 13:00	35.19	994.06	110.46	555.99	101.92
(06.30.22) 14:00	37.21	997.88	110.49	557.63	101.95
(06.30.22) 15:00	34.63	995.83	110.52	644.08	101.97
(06.30.22) 16:00	35.62	997.99	110.55	655.73	101.99
(06.30.22) 17:00	35.51	1,001.80	110.58	657.61	102.02
(06.30.22) 18:00	35.82	446.08	110.62	657.99	102.05
(06.30.22) 19:00	36.64	432.95	110.65	653.81	102.07
(06.30.22) 20:00	36.24	435.20	110.68	654.64	102.10
(06.30.22) 21:00	37.93	438.87	110.70	645.85	102.12
(06.30.22) 22:00	38.47	435.38	110.72	644.61	102.15
(06.30.22) 23:00	38.87	440.31	110.74	647.38	102.18
(07.01.22) 00:00	39.62	441.11	110.76	644.21	102.20
(07.01.22) 01:00	38.56	440.18	110.77	646.09	102.23
(07.01.22) 02:00	37.13	437.07	110.79	647.12	102.25
(07.01.22) 03:00	36.33	439.40	110.81	636.35	102.28
(07.01.22) 04:00	34.40	436.79	110.83	640.40	102.30
(07.01.22) 05:00	31.80	438.91	110.84	636.84	102.33
(07.01.22) 06:00	31.26	395.94	110.85	637.72	102.36
(07.01.22) 07:00	31.21	412.42	110.86	634.76	102.38
(07.01.22) 08:00	30.79	129.69	110.87	549.05	102.40
(07.01.22) 09:00	31.25	136.65	110.88	550.29	102.42
(07.01.22) 10:00	32.48	147.44	110.89	548.47	102.45
(07.01.22) 11:00	33.33	142.40	110.90	551.56	102.47
(07.01.22) 12:00	34.26	136.69	110.91	553.46	102.49
(07.01.22) 13:00	36.21	159.23	110.93	558.64	102.51
(07.01.22) 14:00	38.65	540.08	110.95	295.92	102.53
(07.01.22) 15:00	39.51	527.76	110.98	645.55	102.55
(07.01.22) 16:00	38.30	525.28	111.01	656.17	102.58
(07.01.22) 17:00	39.46	997.58	111.03	651.19	102.60
(07.01.22) 18:00	39.26	985.86	111.06	650.38	102.63
(07.01.22) 19:00	39.02	984.52	111.09	650.54	102.66
(07.01.22) 20:00	38.73	986.95	111.11	643.96	102.68
(07.01.22) 21:00	38.92	539.55	111.14	642.44	102.71
(07.01.22) 22:00	38.68	531.93	111.16	640.57	102.73
(07.01.22) 23:00	38.46	535.79	111.18	646.09	102.76
(07.02.22) 00:00	38.25	531.53	111.20	640.68	102.79
(07.02.22) 01:00	37.96	452.77	111.22	644.21	102.81
(07.02.22) 02:00	36.62	455.72	111.24	645.19	102.84
(07.02.22) 03:00	35.58	446.77	111.26	642.27	102.86
(07.02.22) 04:00	35.68	445.80	111.28	648.05	102.89
(07.02.22) 05:00	39.07	449.69	111.29	637.90	102.91
(07.02.22) 06:00	37.66	444.32	111.31	641.27	102.94
(07.02.22) 07:00	196.65	445.29	111.33	641.92	102.96

(07.02.22) 08:00	81.55	457.65	111.35	642.42	102.99
(07.02.22) 09:00	85.88	456.75	111.37	649.82	103.01
(07.02.22) 10:00	86.56	454.03	111.38	648.48	103.04
(07.02.22) 11:00	87.30	452.89	111.40	561.63	103.06
(07.02.22) 12:00	116.24	455.02	111.42	558.80	103.08
(07.02.22) 13:00	129.98	451.51	111.45	560.31	103.11
(07.02.22) 14:00	91.57	445.95	111.48	561.52	103.13
(07.02.22) 15:00	67.35	442.88	111.51	633.69	103.15
(07.02.22) 16:00	68.11	822.25	111.53	628.90	103.18
(07.02.22) 17:00	86.43	963.33	111.56	644.35	103.21
(07.02.22) 18:00	71.04	981.90	111.59	639.95	103.23
(07.02.22) 19:00	64.14	976.70	111.62	591.78	103.26
(07.02.22) 20:00	58.83	982.42	111.65	634.52	103.28
(07.02.22) 21:00	57.23	922.91	111.69	648.16	103.31
(07.02.22) 22:00	53.59	950.12	111.73	644.18	103.33
(07.02.22) 23:00	51.64	961.00	111.77	645.20	103.36
(07.03.22) 00:00	51.45	962.11	111.81	642.82	103.38
(07.03.22) 01:00	50.76	1,004.91	111.85	643.47	103.41
(07.03.22) 02:00	48.81	1,004.24	111.88	645.64	103.43
(07.03.22) 03:00	46.67	1,009.96	111.92	637.79	103.46
(07.03.22) 04:00	44.64	1,006.58	111.96	642.72	103.49
(07.03.22) 05:00	42.75	537.70	111.98	675.50	103.51
(07.03.22) 06:00	40.96	524.87	112.00	645.99	103.54
(07.03.22) 07:00	39.92	523.95	112.02	653.66	103.56
(07.03.22) 08:00	39.35	522.45	112.04	642.15	103.58
(07.03.22) 09:00	38.94	525.44	112.06	261.10	103.61
(07.03.22) 10:00	39.46	442.14	112.08	551.87	103.63
(07.03.22) 11:00	40.75	434.72	112.10	561.44	103.65
(07.03.22) 12:00	41.71	434.24	112.12	564.53	103.67
(07.03.22) 13:00	43.96	883.91	112.15	563.15	103.69
(07.03.22) 14:00	44.11	966.43	112.18	565.73	103.72
(07.03.22) 15:00	44.51	970.69	112.21	265.34	103.74
(07.03.22) 16:00	44.68	982.27	112.24	645.44	103.76
(07.03.22) 17:00	45.61	441.66	112.27	654.25	103.79
(07.03.22) 18:00	44.44	437.36	112.30	658.52	103.81
(07.03.22) 19:00	45.34	438.51	112.33	656.92	103.84
(07.03.22) 20:00	44.33	436.58	112.35	652.41	103.86
(07.03.22) 21:00	45.07	435.96	112.38	650.82	103.89
(07.03.22) 22:00	44.52	438.22	112.41	654.06	103.91
(07.03.22) 23:00	43.67	437.76	112.44	650.89	103.94
(07.04.22) 00:00	43.35	875.41	112.47	643.25	103.97
(07.04.22) 01:00	42.48	996.58	112.50	655.43	103.99
(07.04.22) 02:00	41.82	995.63	112.53	654.20	104.02
(07.04.22) 03:00	40.48	999.63	112.56	645.45	104.04
(07.04.22) 04:00	38.71	1,006.92	112.58	650.77	104.07
(07.04.22) 05:00	37.33	438.16	112.60	647.25	104.10
(07.04.22) 06:00	38.42	435.93	112.61	644.10	104.12

(07.04.22) 07:00	34.23	433.63	112.62	644.01	104.15
(07.04.22) 08:00	32.97	124.26	112.64	561.02	104.17
(07.04.22) 09:00	33.38	131.17	112.65	561.74	104.19
(07.04.22) 10:00	33.83	122.52	112.66	567.21	104.21
(07.04.22) 11:00	34.33	174.26	112.68	559.67	104.23
(07.04.22) 12:00	36.17	142.62	112.69	561.86	104.25
(07.04.22) 13:00	37.73	130.09	112.72	567.12	104.28
(07.04.22) 14:00	39.23	544.91	112.74	259.19	104.30
(07.04.22) 15:00	40.81	542.00	112.76	631.32	104.32
(07.04.22) 16:00	41.16	539.27	112.79	657.15	104.35
(07.04.22) 17:00	42.26	933.73	112.81	651.05	104.37
(07.04.22) 18:00	42.35	938.39	112.84	654.92	104.40
(07.04.22) 19:00	42.39	932.04	112.86	647.66	104.43
(07.04.22) 20:00	42.81	936.58	112.88	646.69	104.45
(07.04.22) 21:00	43.00	534.48	112.90	647.06	104.48
(07.04.22) 22:00	42.41	530.13	112.92	645.41	104.50
(07.04.22) 23:00	41.64	492.24	112.95	644.65	104.53
(07.05.22) 00:00	40.73	450.85	112.97	654.04	104.56
(07.05.22) 01:00	38.96	446.91	112.99	648.29	104.58
(07.05.22) 02:00	39.22	447.07	113.01	647.35	104.61
(07.05.22) 03:00	38.06	446.21	113.03	646.72	104.63
(07.05.22) 04:00	36.60	444.48	113.05	649.89	104.66
(07.05.22) 05:00	34.80	444.46	113.07	650.49	104.69
(07.05.22) 06:00	34.00	443.57	113.08	649.05	104.71
(07.05.22) 07:00	33.88	446.43	113.10	650.72	104.73
(07.05.22) 08:00	33.41	448.15	113.12	558.19	104.76
(07.05.22) 09:00	33.37	443.63	113.14	556.81	104.78
(07.05.22) 10:00	32.96	441.94	113.16	560.32	104.80
(07.05.22) 11:00	34.40	443.65	113.17	556.92	104.83
(07.05.22) 12:00	36.61	442.13	113.19	564.56	104.85
(07.05.22) 13:00	36.94	441.38	113.21	566.13	104.87
(07.05.22) 14:00	38.41	439.85	113.23	561.77	104.90
(07.05.22) 15:00	37.68	436.99	113.24	655.41	104.92
(07.05.22) 16:00	39.10	436.83	113.26	660.50	104.95
(07.05.22) 17:00	38.03	438.64	113.28	657.02	104.97
(07.05.22) 18:00	37.09	434.45	113.30	662.83	105.00
(07.05.22) 19:00	37.68	441.19	113.31	652.57	105.02
(07.05.22) 20:00	38.47	438.99	113.33	656.12	105.05
(07.05.22) 21:00	39.08	429.05	113.35	652.02	105.08
(07.05.22) 22:00	39.47	442.41	113.37	651.00	105.10
(07.05.22) 23:00	40.29	430.10	113.39	657.31	105.13
(07.06.22) 00:00	40.89	551.72	113.41	653.70	105.15
(07.06.22) 01:00	41.32	553.44	113.43	647.35	105.18
(07.06.22) 02:00	39.16	551.91	113.45	652.73	105.21
(07.06.22) 03:00	36.93	550.50	113.47	650.65	105.23
(07.06.22) 04:00	35.61	550.40	113.49	651.18	105.26
(07.06.22) 05:00	33.98	550.43	113.50	650.72	105.28

(07.06.22) 06:00	32.09	550.08	113.52	649.48	105.31
(07.06.22) 07:00	31.44	550.70	113.53	648.51	105.33
(07.06.22) 08:00	30.91	100.40	113.55	560.08	105.36
(07.06.22) 09:00	32.96	136.49	113.56	556.59	105.38
(07.06.22) 10:00	33.41	163.71	113.58	563.04	105.40
(07.06.22) 11:00	33.62	135.82	113.59	551.65	105.42
(07.06.22) 12:00	35.45	147.98	113.61	555.40	105.45
(07.06.22) 13:00	36.71	145.35	113.62	550.36	105.47
(07.06.22) 14:00	39.23	551.75	113.64	555.86	105.49
(07.06.22) 15:00	41.44	547.21	113.65	651.58	105.52
(07.06.22) 16:00	42.36	544.55	113.67	657.99	105.54
(07.06.22) 17:00	40.86	545.86	113.69	665.83	105.57
(07.06.22) 18:00	41.59				
(07.06.22) 19:00	40.81				
(07.06.22) 20:00	40.61				
(07.06.22) 21:00	41.01				
(07.06.22) 22:00	41.42				
(07.06.22) 23:00	43.49				
(07.07.22) 00:00	45.72				
(07.07.22) 01:00	45.20				
(07.07.22) 02:00	44.29				
(07.07.22) 03:00	41.71				
(07.07.22) 04:00	38.72				
(07.07.22) 05:00	32.42				
(07.07.22) 06:00	31.02				
(07.07.22) 07:00	40.37				
(07.07.22) 08:00	55.65				
(07.07.22) 09:00	113.67				
(07.07.22) 10:00	198.91				
(07.07.22) 11:00	105.81	466.01	113.71	545.13	105.60
(07.07.22) 12:00	76.50	465.10	113.73	553.10	105.62
(07.07.22) 13:00	58.02	465.89	113.75	550.16	105.64
(07.07.22) 14:00	51.96	465.15	113.77	549.44	105.67
(07.07.22) 15:00	47.27	465.62	113.79	262.51	105.69
(07.07.22) 16:00	45.59	463.99	113.82	645.24	105.71
(07.07.22) 17:00	45.99	510.50	113.84	658.69	105.74
(07.07.22) 18:00	45.61	888.24	113.86	661.03	105.76
(07.07.22) 19:00	46.34	899.97	113.88	655.57	105.78
(07.07.22) 20:00	47.35	901.52	113.91	657.81	105.81
(07.07.22) 21:00	47.43	905.66	113.94	650.53	105.84
(07.07.22) 22:00	46.75	850.25	113.97	651.83	105.86
(07.07.22) 23:00	45.16	852.90	114.00	650.04	105.89
(07.08.22) 00:00	44.63	547.41	114.03	652.77	105.91
(07.08.22) 01:00	44.69	540.54	114.06	650.72	105.94
(07.08.22) 02:00	41.12	541.29	114.09	647.34	105.97
(07.08.22) 03:00	39.52	540.05	114.11	646.98	105.99
(07.08.22) 04:00	37.10	538.12	114.13	651.22	106.01

**

(07.08.22) 05:00	34.93	541.27	114.15	647.72	106.04
(07.08.22) 06:00	33.41	540.87	114.16	651.53	106.06
(07.08.22) 07:00	32.48	537.89	114.18	648.81	106.08
(07.08.22) 08:00	32.89	533.98	114.20	254.96	106.11
(07.08.22) 09:00	32.47	139.49	114.21	540.67	106.13
(07.08.22) 10:00	33.61	115.42	114.23	543.56	106.15
(07.08.22) 11:00	34.80	158.80	114.25	540.78	106.18
(07.08.22) 12:00	35.66	122.95	114.26	547.15	106.20
(07.08.22) 13:00	39.38	83.69	114.27	545.66	106.22
(07.08.22) 14:00	40.84	550.39	114.29	544.24	106.25
(07.08.22) 15:00	41.21	544.19	114.30	647.43	106.27
(07.08.22) 16:00	40.49	545.89	114.32	659.06	106.30
(07.08.22) 17:00	40.88	547.65	114.33	662.59	106.32
(07.08.22) 18:00	39.50	542.23	114.34	666.53	106.34
(07.08.22) 19:00	40.60	546.28	114.36	662.26	106.37
(07.08.22) 20:00	40.60	545.86	114.38	649.65	106.39
(07.08.22) 21:00	40.02	542.91	114.40	646.15	106.42
(07.08.22) 22:00	40.38	544.45	114.42	649.25	106.45
(07.08.22) 23:00	40.20	533.76	114.44	647.97	106.47
(07.09.22) 00:00	39.24	465.51	114.46	646.09	106.50
(07.09.22) 01:00	39.00	466.57	114.49	653.10	106.53
(07.09.22) 02:00	38.42	468.30	114.51	650.61	106.55
(07.09.22) 03:00	36.60	461.77	114.52	648.81	106.58
(07.09.22) 04:00	34.91	451.95	114.54	649.27	106.60
(07.09.22) 05:00	33.41	443.97	114.56	652.05	106.63
(07.09.22) 06:00	31.39	468.62	114.58	653.37	106.65
(07.09.22) 07:00	30.06	442.52	114.60	642.43	106.68
(07.09.22) 08:00	29.62	464.81	114.62	649.60	106.70
(07.09.22) 09:00	29.98	462.82	114.63	553.72	106.73
(07.09.22) 10:00	30.88	462.72	114.65	549.65	106.75
(07.09.22) 11:00	32.41	462.76	114.67	553.07	106.78
(07.09.22) 12:00	34.31	461.18	114.70	548.25	106.80
(07.09.22) 13:00	36.30	460.59	114.72	549.62	106.83
(07.09.22) 14:00	38.61	461.61	114.74	654.81	106.85
(07.09.22) 15:00	39.18	452.90	114.76	660.94	106.87
(07.09.22) 16:00	38.69	443.21	114.78	655.19	106.90
(07.09.22) 17:00	39.98	807.29	114.81	659.20	106.92
(07.09.22) 18:00	40.45	813.63	114.83	658.88	106.95
(07.09.22) 19:00	39.07	814.28	114.85	660.43	106.97
(07.09.22) 20:00	39.66	827.11	114.88	654.71	107.00
(07.09.22) 21:00	39.93	453.83	114.91	650.01	107.02
(07.09.22) 22:00	39.17	449.38	114.93	645.44	107.05
(07.09.22) 23:00	38.92	445.62	114.96	646.17	107.08
(07.10.22) 00:00	38.84	546.55	114.98	645.41	107.10
(07.10.22) 01:00	38.06	897.34	115.01	646.21	107.13
(07.10.22) 02:00	37.40	903.52	115.04	645.88	107.15
(07.10.22) 03:00	35.77	905.52	115.07	645.18	107.18

(07.10.22) 04:00	33.88	890.47	115.11	645.45	107.20
(07.10.22) 05:00	31.83	899.07	115.15	640.64	107.23
(07.10.22) 06:00	30.98	900.04	115.18	645.39	107.25
(07.10.22) 07:00	30.36	898.84	115.22	643.07	107.28
(07.10.22) 08:00	29.51	900.78	115.25	647.25	107.30
(07.10.22) 09:00	28.14	892.13	115.29	550.91	107.33
(07.10.22) 10:00	28.26	901.49	115.32	548.45	107.35
(07.10.22) 11:00	29.24	900.56	115.35	552.52	107.38
(07.10.22) 12:00	30.80	905.67	115.38	545.93	107.40
(07.10.22) 13:00	32.35	546.56	115.40	555.19	107.43
(07.10.22) 14:00	34.12	541.20	115.43	633.01	107.45
(07.10.22) 15:00	35.17	535.05	115.46	655.32	107.47
(07.10.22) 16:00	35.45	535.03	115.48	650.03	107.50
(07.10.22) 17:00	35.88	541.03	115.51	649.83	107.52
(07.10.22) 18:00	36.14	543.10	115.54	653.70	107.55
(07.10.22) 19:00	37.01	544.29	115.56	654.98	107.57
(07.10.22) 20:00	37.20	544.39	115.58	646.95	107.60
(07.10.22) 21:00	37.30	543.74	115.60	650.46	107.63
(07.10.22) 22:00	38.50	538.12	115.62	650.94	107.65
(07.10.22) 23:00	38.64	541.80	115.64	653.10	107.68
(07.11.22) 00:00	38.30	434.76	115.66	650.83	107.70
(07.11.22) 01:00	38.27	433.99	115.68	649.47	107.73
(07.11.22) 02:00	36.55	458.97	115.70	654.37	107.75
(07.11.22) 03:00	34.33	455.01	115.72	651.88	107.78
(07.11.22) 04:00	33.38	452.41	115.74	646.47	107.80
(07.11.22) 05:00	31.56	451.74	115.75	652.55	107.82
(07.11.22) 06:00	30.09	450.06	115.77	647.26	107.84
(07.11.22) 07:00	28.63	449.35	115.79	647.44	107.86
(07.11.22) 08:00	28.28	0.39	115.80	256.98	107.89
(07.11.22) 09:00	28.71	0.39	115.81	240.65	107.91
(07.11.22) 10:00	30.34	0.38	115.82	541.85	107.93
(07.11.22) 11:00	32.33	69.95	115.82	544.69	107.95
(07.11.22) 12:00	33.21	114.21	115.83	541.98	107.98
(07.11.22) 13:00	34.56	101.39	115.84	548.24	108.00
(07.11.22) 14:00	37.76	457.03	115.84	548.98	108.02
(07.11.22) 15:00	37.73	447.92	115.85	649.52	108.04
(07.11.22) 16:00	37.01	450.84	115.86	647.55	108.07
(07.11.22) 17:00	37.62	445.12	115.87	649.39	108.09
(07.11.22) 18:00	38.81	447.20	115.89	655.49	108.11
(07.11.22) 19:00	38.28	433.11	115.91	652.72	108.14
(07.11.22) 20:00	39.01	437.72	115.93	647.49	108.17
(07.11.22) 21:00	38.92	435.93	115.94	641.89	108.19
(07.11.22) 22:00	39.08	433.89	115.96	644.59	108.22
(07.11.22) 23:00	39.46	433.78	115.98	642.38	108.24
(07.12.22) 00:00	38.76	0.33	116.00	643.29	108.27
(07.12.22) 01:00	38.09	475.33	116.01	645.69	108.29
(07.12.22) 02:00	36.65	438.02	116.03	637.38	108.32

(07.12.22) 03:00	34.65	432.84	116.04	637.18	108.34
(07.12.22) 04:00	32.27	431.06	116.06	642.29	108.37
(07.12.22) 05:00	30.00	433.72	116.07	639.94	108.39
(07.12.22) 06:00	28.99	428.79	116.09	636.69	108.42
(07.12.22) 07:00	28.70	426.40	116.11	642.08	108.44
(07.12.22) 08:00	28.72	429.50	116.13	544.32	108.47
(07.12.22) 09:00	28.78	805.81	116.15	542.39	108.49
(07.12.22) 10:00	30.14	811.95	116.18	548.47	108.51
(07.12.22) 11:00	31.29	807.29	116.20	547.89	108.54
(07.12.22) 12:00	32.50	812.05	116.23	545.94	108.56
(07.12.22) 13:00	34.67	432.34	116.25	547.79	108.58
(07.12.22) 14:00	35.47	429.23	116.28	550.98	108.61
(07.12.22) 15:00	35.26	426.35	116.31	627.07	108.63
(07.12.22) 16:00	35.25	427.42	116.33	640.21	108.65
(07.12.22) 17:00	34.55	428.62	116.34	632.78	108.68
(07.12.22) 18:00	34.64	426.80	116.36	637.49	108.70
(07.12.22) 19:00	35.51	429.58	116.38	639.48	108.73
(07.12.22) 20:00	35.69	428.95	116.39	636.49	108.75
(07.12.22) 21:00	36.11	426.81	116.41	640.42	108.78
(07.12.22) 22:00	36.71	426.68	116.43	634.15	108.80
(07.12.22) 23:00	37.26	426.86	116.44	641.97	108.83
(07.13.22) 00:00	37.47	427.73	116.47	635.07	108.85
(07.13.22) 01:00	36.89	542.04	116.49	632.87	108.88
(07.13.22) 02:00	35.73	538.88	116.51	632.87	108.90
(07.13.22) 03:00	34.28	538.57	116.53	631.82	108.93
(07.13.22) 04:00	32.39	537.26	116.55	632.07	108.95
(07.13.22) 05:00	30.09	536.75	116.57	632.74	108.98
(07.13.22) 06:00	28.90	532.55	116.59	633.45	109.01
(07.13.22) 07:00	29.13	532.13	116.61	635.85	109.03
(07.13.22) 08:00	28.94	0.37	116.62	623.36	109.06
(07.13.22) 09:00	28.57	126.92	116.63	627.50	109.08
(07.13.22) 10:00	29.57	120.54	116.64	630.23	109.11
(07.13.22) 11:00	31.93	132.61	116.64	629.42	109.13
(07.13.22) 12:00	33.75	142.13	116.65	631.70	109.15
(07.13.22) 13:00	32.11	0.35	116.66	558.32	109.18
(07.13.22) 14:00	33.85	535.08	116.67	548.74	109.20
(07.13.22) 15:00	34.31	519.04	116.67	622.81	109.23
(07.13.22) 16:00	33.75	525.21	116.70	622.62	109.25
(07.13.22) 17:00	35.38	524.79	116.72	616.39	109.27
(07.13.22) 18:00	35.49	533.28	116.75	624.89	109.30
(07.13.22) 19:00	36.11	890.35	116.77	624.11	109.32
(07.13.22) 20:00	34.75	894.77	116.79	614.37	109.35
(07.13.22) 21:00	35.70	546.40	116.82	637.72	109.37
(07.13.22) 22:00	36.91	545.03	116.84	638.06	109.40
(07.13.22) 23:00	37.22	544.24	116.87	624.09	109.42
(07.14.22) 00:00	36.88	540.81	116.89	631.10	109.45
(07.14.22) 01:00	36.59	506.44	116.91	637.55	109.47

(07.14.22) 02:00	35.78	536.84	116.93	646.89	109.50
(07.14.22) 03:00	34.22	537.81	116.95	631.17	109.52
(07.14.22) 04:00	31.58	535.12	116.97	648.99	109.55
(07.14.22) 05:00	29.58	531.08	117.00	640.30	109.58
(07.14.22) 06:00	28.75	539.00	117.02	633.99	109.60
(07.14.22) 07:00	28.45	537.85	117.04	645.40	109.63
(07.14.22) 08:00	27.57	524.63	117.06	619.64	109.65
(07.14.22) 09:00	26.79	535.31	117.08	618.81	109.68
(07.14.22) 10:00	27.83	534.40	117.10	618.02	109.70
(07.14.22) 11:00	30.17	529.41	117.12	621.88	109.72
(07.14.22) 12:00	30.92	534.01	117.14	614.73	109.75
(07.14.22) 13:00	31.44	533.77	117.16	545.06	109.77
(07.14.22) 14:00	32.87	452.51	117.18	543.88	109.79
(07.14.22) 15:00	33.70	452.67	117.21	338.76	109.82
(07.14.22) 16:00	32.82	454.22	117.24	642.34	109.84
(07.14.22) 17:00	31.89	922.60	117.27	653.86	109.87
(07.14.22) 18:00	32.70	935.45	117.31	655.24	109.89
(07.14.22) 19:00	33.11	944.20	117.34	660.41	109.92
(07.14.22) 20:00	34.51	952.08	117.37	653.72	109.94
(07.14.22) 21:00	34.74	955.24	117.40	643.20	109.97
(07.14.22) 22:00	35.60	956.01	117.44	647.87	109.99
(07.14.22) 23:00	35.70	955.38	117.47	647.01	110.02
(07.15.22) 00:00	36.03	959.79	117.49	640.46	110.05
(07.15.22) 01:00	35.20	821.44	117.51	643.38	110.07
(07.15.22) 02:00	34.44	427.56	117.54	640.73	110.10
(07.15.22) 03:00	32.54	426.55	117.56	646.03	110.12
(07.15.22) 04:00	30.88	433.05	117.58	642.31	110.15
(07.15.22) 05:00	29.78	425.66	117.61	646.08	110.17
(07.15.22) 06:00	27.28	425.94	117.63	640.53	110.20
(07.15.22) 07:00	25.77	435.71	117.65	644.73	110.22
(07.15.22) 08:00	26.30	0.39	117.65	549.12	110.25
(07.15.22) 09:00	26.33	95.13	117.66	548.45	110.27
(07.15.22) 10:00	29.45	143.35	117.67	546.89	110.29
(07.15.22) 11:00	30.31	106.39	117.68	551.50	110.32
(07.15.22) 12:00	31.93	102.94	117.68	553.44	110.34
(07.15.22) 13:00	33.05	113.60	117.69	547.88	110.36
(07.15.22) 14:00	33.98	527.51	117.70	554.46	110.39
(07.15.22) 15:00	35.79	529.95	117.71	293.91	110.41
(07.15.22) 16:00	34.01	530.16	117.74	651.24	110.43
(07.15.22) 17:00	34.23	573.96	117.77	659.14	110.45
(07.15.22) 18:00	34.47	894.47	117.79	659.91	110.48
(07.15.22) 19:00	34.36	893.85	117.82	660.86	110.51
(07.15.22) 20:00	36.83	889.65	117.85	661.57	110.53
(07.15.22) 21:00	36.13	523.42	117.87	652.98	110.56
(07.15.22) 22:00	36.92	522.29	117.90	643.28	110.59
(07.15.22) 23:00	37.64	521.92	117.93	648.97	110.61
(07.16.22) 00:00	37.26	521.46	117.95	648.03	110.64

(07.16.22) 01:00	36.46	521.29	117.97	647.87	110.66
(07.16.22) 02:00	36.03	523.11	117.99	642.57	110.69
(07.16.22) 03:00	34.92	520.06	118.01	649.52	110.72
(07.16.22) 04:00	33.20	518.75	118.03	645.73	110.74
(07.16.22) 05:00	31.94	516.48	118.05	641.84	110.77
(07.16.22) 06:00	30.11	519.89	118.07	641.94	110.79
(07.16.22) 07:00	29.54	519.49	118.09	645.11	110.82
(07.16.22) 08:00	29.23	518.48	118.11	639.84	110.84
(07.16.22) 09:00	27.78	519.96	118.13	645.98	110.87
(07.16.22) 10:00	29.19	520.21	118.15	643.34	110.90
(07.16.22) 11:00	29.91	519.43	118.17	644.88	110.92
(07.16.22) 12:00	32.68	515.64	118.19	643.06	110.95
(07.16.22) 13:00	34.40	517.33	118.21	641.53	110.97
(07.16.22) 14:00	37.34	460.85	118.24	643.92	111.00
(07.16.22) 15:00	38.06	444.96	118.25	647.32	111.02
(07.16.22) 16:00	39.21	438.54	118.27	649.22	111.05
(07.16.22) 17:00	37.77	447.74	118.29	647.15	111.08
(07.16.22) 18:00	39.65	446.47	118.31	640.33	111.10
(07.16.22) 19:00	40.01	438.23	118.33	645.30	111.13
(07.16.22) 20:00	37.84	452.04	118.34	652.42	111.15
(07.16.22) 21:00	37.60	445.22	118.36	641.80	111.18
(07.16.22) 22:00	39.21	445.82	118.38	646.92	111.21
(07.16.22) 23:00	37.11	424.17	118.40	648.65	111.23
(07.17.22) 00:00	36.41	424.42	118.41	648.97	111.26
(07.17.22) 01:00	36.24	408.41	118.43	639.02	111.28
(07.17.22) 02:00	35.38	458.11	118.45	646.91	111.31
(07.17.22) 03:00	33.62	446.80	118.47	646.44	111.33
(07.17.22) 04:00	70.89	442.67	118.48	648.50	111.36
(07.17.22) 05:00	49.04	437.31	118.50	654.46	111.39
(07.17.22) 06:00	59.65	430.41	118.52	648.25	111.41
(07.17.22) 07:00	57.24	435.22	118.54	644.96	111.44
(07.17.22) 08:00	45.47	434.31	118.55	649.91	111.46
(07.17.22) 09:00	38.41	432.52	118.57	643.42	111.49
(07.17.22) 10:00	34.83	436.55	118.59	547.02	111.51
(07.17.22) 11:00	35.22	435.23	118.61	549.09	111.53
(07.17.22) 12:00	34.84	434.89	118.62	551.94	111.56
(07.17.22) 13:00	37.62	432.89	118.64	551.79	111.58
(07.17.22) 14:00	40.77	538.31	118.66	555.58	111.60
(07.17.22) 15:00	41.95	536.00	118.68	635.78	111.63
(07.17.22) 16:00	41.08	532.70	118.71	660.39	111.65
(07.17.22) 17:00	41.57	491.15	118.74	654.68	111.67
(07.17.22) 18:00	41.31	535.21	118.77	652.17	111.70
(07.17.22) 19:00	40.94	870.57	118.80	649.67	111.72
(07.17.22) 20:00	41.69	870.86	118.82	646.79	111.75
(07.17.22) 21:00	40.47	873.90	118.85	649.82	111.78
(07.17.22) 22:00	41.07	871.57	118.88	648.26	111.80
(07.17.22) 23:00	39.89	871.00	118.91	650.03	111.83

(07.18.22) 00:00	39.99	551.54	118.94	644.46	111.85
(07.18.22) 01:00	39.39	860.62	118.97	647.94	111.88
(07.18.22) 02:00	37.80	864.61	119.01	641.48	111.90
(07.18.22) 03:00	35.74	865.90	119.04	644.21	111.93
(07.18.22) 04:00	34.19	867.29	119.07	640.73	111.95
(07.18.22) 05:00	32.47	540.94	119.10	643.11	111.98
(07.18.22) 06:00	31.47	532.90	119.14	647.60	112.00
(07.18.22) 07:00	30.31	532.79	119.15	639.55	112.03
(07.18.22) 08:00	30.26	0.43	119.15	265.67	112.05
(07.18.22) 09:00	30.68	98.98	119.16	241.85	112.07
(07.18.22) 10:00	31.47	120.08	119.17	544.76	112.09
(07.18.22) 11:00	33.76	105.93	119.17	548.51	112.12
(07.18.22) 12:00	33.70	123.78	119.18	556.36	112.14
(07.18.22) 13:00	36.02	0.39	119.19	552.15	112.16
(07.18.22) 14:00	36.71	542.02	119.19	551.64	112.18
(07.18.22) 15:00	37.00	535.60	119.21	657.09	112.20
(07.18.22) 16:00	36.66	531.61	119.23	657.34	112.22
(07.18.22) 17:00	36.58	535.01	119.26	655.47	112.25
(07.18.22) 18:00	36.75	535.04	119.28	646.79	112.27
(07.18.22) 19:00	36.54	535.27	119.30	646.17	112.30
(07.18.22) 20:00	35.78	533.78	119.32	647.14	112.33
(07.18.22) 21:00	36.37	529.96	119.34	645.02	112.35
(07.18.22) 22:00	37.46	532.61	119.36	652.82	112.38
(07.18.22) 23:00	36.96	533.35	119.38	643.81	112.40
(07.19.22) 00:00	37.17	533.24	119.41	650.74	112.43
(07.19.22) 01:00	36.67	531.16	119.43	639.78	112.46
(07.19.22) 02:00	35.91	528.73	119.45	645.94	112.48
(07.19.22) 03:00	34.00	532.90	119.47	646.02	112.51
(07.19.22) 04:00	33.13	535.72	119.49	645.73	112.53
(07.19.22) 05:00	30.17	528.61	119.51	647.07	112.56
(07.19.22) 06:00	27.59	529.79	119.53	643.89	112.58
(07.19.22) 07:00	27.53	527.25	119.56	644.36	112.61
(07.19.22) 08:00	27.63	529.39	119.58	549.58	112.63
(07.19.22) 09:00	27.75	525.81	119.61	557.46	112.66
(07.19.22) 10:00	29.09	527.99	119.64	555.81	112.68
(07.19.22) 11:00	29.91	524.78	119.66	551.94	112.70
(07.19.22) 12:00	30.99	903.60	119.69	559.95	112.73
(07.19.22) 13:00	32.11	906.06	119.71	554.93	112.75
(07.19.22) 14:00	32.47	869.93	119.74	559.65	112.77
(07.19.22) 15:00	31.92	880.58	119.77	646.94	112.79
(07.19.22) 16:00	31.97	880.56	119.81	655.09	112.82
(07.19.22) 17:00	32.43	865.80	119.84	654.17	112.84
(07.19.22) 18:00	33.27	861.35	119.88	655.91	112.87
(07.19.22) 19:00	33.49	848.69	119.91	651.78	112.89
(07.19.22) 20:00	34.25	845.86	119.95	651.64	112.92
(07.19.22) 21:00	35.12	833.91	119.98	645.48	112.95
(07.19.22) 22:00	36.26	836.49	120.01	645.63	112.97

(07.19.22) 23:00	37.50	837.11	120.05	644.06	113.00
(07.20.22) 00:00	37.04	835.81	120.08	644.20	113.02
(07.20.22) 01:00	36.42	826.39	120.11	643.44	113.05
(07.20.22) 02:00	34.97	826.86	120.15	645.76	113.08
(07.20.22) 03:00	33.38	826.66	120.18	642.11	113.10
(07.20.22) 04:00	32.33	827.35	120.21	641.96	113.13
(07.20.22) 05:00	30.03	826.24	120.25	648.97	113.15
(07.20.22) 06:00	27.77	819.59	120.27	639.63	113.18
(07.20.22) 07:00	27.87	811.77	120.28	642.40	113.20
(07.20.22) 08:00	28.13	109.52	120.29	556.49	113.23
(07.20.22) 09:00	28.99	0.41	120.30	552.55	113.25
(07.20.22) 10:00	29.80	76.22	120.31	551.40	113.27
(07.20.22) 11:00	31.56	51.29	120.32	553.61	113.29
(07.20.22) 12:00	33.03	70.99	120.33	553.81	113.32
(07.20.22) 13:00	33.53	58.50	120.34	556.06	113.34
(07.20.22) 14:00	35.48	544.11	120.36	558.34	113.36
(07.20.22) 15:00	35.22	536.29	120.39	636.02	113.38
(07.20.22) 16:00	34.38	539.04	120.42	642.59	113.40
(07.20.22) 17:00	34.16	906.12	120.45	653.80	113.43
(07.20.22) 18:00	34.30	910.38	120.48	652.14	113.46
(07.20.22) 19:00	35.19	915.52	120.51	654.78	113.48
(07.20.22) 20:00	34.68	912.94	120.54	650.32	113.51
(07.20.22) 21:00	35.31	915.02	120.58	640.51	113.53
(07.20.22) 22:00	35.15	537.61	120.60	645.41	113.56
(07.20.22) 23:00	35.98	536.33	120.63	645.72	113.59
(07.21.22) 00:00	35.96	540.51	120.65	639.97	113.61
(07.21.22) 01:00	36.15	538.69	120.67	643.90	113.64
(07.21.22) 02:00	34.86	537.69	120.69	645.34	113.66
(07.21.22) 03:00	33.51	536.03	120.71	645.16	113.69
(07.21.22) 04:00	31.10	537.14	120.73	644.89	113.71
(07.21.22) 05:00	28.70	537.62	120.75	641.49	113.74
(07.21.22) 06:00	27.33	534.35	120.78	642.64	113.76
(07.21.22) 07:00	27.35	534.72	120.80	642.15	113.79
(07.21.22) 08:00	27.67	527.25	120.82	552.11	113.81
(07.21.22) 09:00	27.32	521.46	120.84	550.49	113.84
(07.21.22) 10:00	28.30	517.94	120.86	551.73	113.86
(07.21.22) 11:00	30.35	520.59	120.88	550.04	113.88
(07.21.22) 12:00	29.51	519.54	120.90	544.70	113.90
(07.21.22) 13:00	32.20	518.99	120.92	549.94	113.92
(07.21.22) 14:00	35.86	451.38	120.94	553.06	113.94
(07.21.22) 15:00	33.00	443.73	120.96	267.30	113.96
(07.21.22) 16:00	32.25	430.06	120.98	650.29	113.98
(07.21.22) 17:00	33.69	432.14	120.99	648.43	114.01
(07.21.22) 18:00	33.36	438.81	121.01	652.66	114.04
(07.21.22) 19:00	33.58	434.25	121.03	649.51	114.06
(07.21.22) 20:00	34.56	424.36	121.05	647.15	114.09
(07.21.22) 21:00	34.53	432.56	121.06	652.48	114.11

(07.21.22) 22:00	34.99	435.65	121.08	650.30	114.14
(07.21.22) 23:00	35.64	434.95	121.10	644.21	114.17
(07.22.22) 00:00	35.67	427.89	121.12	651.50	114.19
(07.22.22) 01:00	35.29	428.88	121.13	647.15	114.22
(07.22.22) 02:00	34.30	427.88	121.15	651.98	114.24
(07.22.22) 03:00	33.06	429.72	121.17	646.69	114.27
(07.22.22) 04:00	32.25	431.07	121.18	644.32	114.30
(07.22.22) 05:00	29.91	426.68	121.20	645.35	114.32
(07.22.22) 06:00	29.27	428.58	121.21	641.62	114.35
(07.22.22) 07:00	28.95	419.98	121.22	647.96	114.37
(07.22.22) 08:00	29.25	440.52	121.23	635.50	114.40
(07.22.22) 09:00	27.42	45.25	121.24	648.74	114.42
(07.22.22) 10:00	27.30	31.47	121.25	561.22	114.44
(07.22.22) 11:00	28.65	57.09	121.25	567.25	114.47
(07.22.22) 12:00	31.54	47.83	121.26	561.46	114.49
(07.22.22) 13:00	32.01	79.14	121.27	552.48	114.51
(07.22.22) 14:00	33.22	548.63	121.29	561.20	114.54
(07.22.22) 15:00	33.70	538.86	121.31	298.85	114.56
(07.22.22) 16:00	34.31	532.97	121.33	652.25	114.58
(07.22.22) 17:00	34.26	529.24	121.35	652.81	114.61
(07.22.22) 18:00	34.94	527.15	121.37	655.15	114.64
(07.22.22) 19:00	34.33	527.52	121.39	655.57	114.66
(07.22.22) 20:00	35.26	526.06	121.41	655.38	114.69
(07.22.22) 21:00	35.74	527.76	121.43	650.27	114.72
(07.22.22) 22:00	37.07	525.08	121.45	648.30	114.74
(07.22.22) 23:00	37.24	527.10	121.47	650.92	114.77
(07.23.22) 00:00	36.82	526.63	121.49	652.11	114.79
(07.23.22) 01:00	36.69	525.31	121.51	644.75	114.82
(07.23.22) 02:00	34.92	523.90	121.53	643.62	114.85
(07.23.22) 03:00	33.20	527.23	121.55	650.01	114.87
(07.23.22) 04:00	31.19	522.23	121.57	648.46	114.90
(07.23.22) 05:00	29.95	521.85	121.59	646.52	114.92
(07.23.22) 06:00	29.67	521.02	121.61	649.24	114.95
(07.23.22) 07:00	28.07	523.31	121.63	646.37	114.97
(07.23.22) 08:00	26.78	521.06	121.66	646.96	115.00
(07.23.22) 09:00	26.15	522.19	121.68	645.51	115.03
(07.23.22) 10:00	27.11	517.30	121.70	648.47	115.05
(07.23.22) 11:00	28.94	520.40	121.72	644.58	115.08
(07.23.22) 12:00	31.44	522.30	121.74	642.73	115.10
(07.23.22) 13:00	32.80	520.79	121.76	640.53	115.13
(07.23.22) 14:00	35.32	453.16	121.79	647.08	115.15
(07.23.22) 15:00	35.26	455.43	121.81	643.14	115.18
(07.23.22) 16:00	36.29	456.29	121.84	640.77	115.21
(07.23.22) 17:00	35.53	844.24	121.87	645.49	115.23
(07.23.22) 18:00	34.48	868.80	121.89	641.22	115.26
(07.23.22) 19:00	34.57	865.98	121.92	641.49	115.28
(07.23.22) 20:00	36.05	859.15	121.95	644.91	115.31

(07.23.22) 21:00	36.10	889.04	121.97	646.20	115.33
(07.23.22) 22:00	35.84	891.15	122.01	641.96	115.36
(07.23.22) 23:00	36.01	900.67	122.04	639.32	115.39
(07.24.22) 00:00	35.48	607.47	122.08	633.05	115.41
(07.24.22) 01:00	33.92	905.79	122.11	638.77	115.44
(07.24.22) 02:00	33.21	909.65	122.15	636.22	115.46
(07.24.22) 03:00	32.82	913.15	122.18	645.39	115.49
(07.24.22) 04:00	31.16	908.98	122.21	642.20	115.51
(07.24.22) 05:00	40.84	435.73	122.25	636.57	115.54
(07.24.22) 06:00	40.98	427.22	122.26	639.03	115.57
(07.24.22) 07:00	39.59	430.05	122.28	636.64	115.59
(07.24.22) 08:00	39.92	432.70	122.30	638.28	115.61
(07.24.22) 09:00	30.02	436.03	122.31	550.33	115.63
(07.24.22) 10:00	26.61	427.59	122.33	554.38	115.66
(07.24.22) 11:00	29.07	427.74	122.35	558.73	115.68
(07.24.22) 12:00	31.22	424.93	122.37	558.72	115.70
(07.24.22) 13:00	33.22	422.71	122.38	555.41	115.72
(07.24.22) 14:00	35.91	539.86	122.40	559.55	115.74
(07.24.22) 15:00	36.39	541.09	122.42	639.68	115.77
(07.24.22) 16:00	36.84	541.16	122.45	643.58	115.79
(07.24.22) 17:00	37.81	535.73	122.47	645.90	115.82
(07.24.22) 18:00	39.77	522.33	122.49	644.21	115.84
(07.24.22) 19:00	41.36	527.20	122.51	642.70	115.87
(07.24.22) 20:00	43.82	527.93	122.53	643.16	115.89
(07.24.22) 21:00	43.75	530.58	122.55	648.17	115.92
(07.24.22) 22:00	45.31	520.66	122.57	644.80	115.95
(07.24.22) 23:00	41.73	525.41	122.59	643.48	115.97
(07.25.22) 00:00	38.58	522.31	122.61	645.94	116.00
(07.25.22) 01:00	36.87	524.14	122.63	642.05	116.02
(07.25.22) 02:00	35.39	525.46	122.65	642.55	116.05
(07.25.22) 03:00	33.60	530.00	122.68	635.88	116.07
(07.25.22) 04:00	57.53	526.01	122.70	647.26	116.10
(07.25.22) 05:00	77.92	528.06	122.72	635.95	116.13
(07.25.22) 06:00	92.05	530.91	122.74	647.72	116.15
(07.25.22) 07:00	107.62	528.12	122.76	636.91	116.18
(07.25.22) 08:00	69.09	524.69	122.78	193.45	116.19
(07.25.22) 09:00	102.13	518.66	122.80	98.42	116.21
(07.25.22) 10:00	90.53	520.82	122.82	515.51	116.23
(07.25.22) 11:00	117.40	512.77	122.84	520.38	116.25
(07.25.22) 12:00	123.21	512.17	122.86	520.27	116.26
(07.25.22) 13:00	75.40	514.06	122.88	520.25	116.28
(07.25.22) 14:00	74.03	455.46	122.90	526.77	116.30
(07.25.22) 15:00	72.15	439.44	122.92	632.60	116.32
(07.25.22) 16:00	70.31	427.50	122.94	650.51	116.34
(07.25.22) 17:00	67.09	438.10	122.96	654.04	116.37
(07.25.22) 18:00	81.43	440.08	122.97	647.26	116.39
(07.25.22) 19:00	83.54	432.78	122.99	662.77	116.42

(07.25.22) 20:00	55.86	426.66	123.01	664.57	116.45
(07.25.22) 21:00	54.30	432.17	123.03	642.97	116.47
(07.25.22) 22:00	52.91	421.86	123.04	635.60	116.50
(07.25.22) 23:00	51.41	435.48	123.06	641.36	116.52
(07.26.22) 00:00	50.22	434.06	123.08	637.18	116.55
(07.26.22) 01:00	51.76	428.06	123.10	634.27	116.58
(07.26.22) 02:00	95.43	432.46	123.11	637.33	116.60
(07.26.22) 03:00	67.61	426.18	123.13	636.18	116.63
(07.26.22) 04:00	63.45	425.96	123.15	640.12	116.65
(07.26.22) 05:00	47.38	425.58	123.16	636.68	116.68
(07.26.22) 06:00	41.16	424.32	123.18	640.35	116.70
(07.26.22) 07:00	38.74	415.45	123.20	641.67	116.73
(07.26.22) 08:00	38.63	420.84	123.22	536.85	116.75
(07.26.22) 09:00	38.87	424.74	123.23	547.71	116.77
(07.26.22) 10:00	40.51	415.46	123.25	546.22	116.79
(07.26.22) 11:00	42.07	418.39	123.27	544.66	116.82
(07.26.22) 12:00	44.35	417.17	123.28	551.82	116.84
(07.26.22) 13:00	44.54	417.85	123.30	552.34	116.86
(07.26.22) 14:00	44.18	535.68	123.32	559.34	116.89
(07.26.22) 15:00	43.33	529.48	123.34	554.72	116.91
(07.26.22) 16:00	43.68	525.33	123.36	660.74	116.94
(07.26.22) 17:00	43.10	528.70	123.38	665.48	116.96
(07.26.22) 18:00	41.91	517.37	123.40	658.27	116.98
(07.26.22) 19:00	41.74	522.07	123.42	655.75	117.01
(07.26.22) 20:00	41.74	524.10	123.44	652.30	117.03
(07.26.22) 21:00	41.69	525.00	123.46	661.09	117.06
(07.26.22) 22:00	42.06	518.89	123.48	651.27	117.08
(07.26.22) 23:00	42.56	526.00	123.50	641.99	117.11
(07.27.22) 00:00	45.59	527.51	123.53	648.99	117.14
(07.27.22) 01:00	76.07	524.82	123.55	640.67	117.16
(07.27.22) 02:00	140.98	527.95	123.57	647.75	117.19
(07.27.22) 03:00	195.70	522.11	123.59	646.72	117.21
(07.27.22) 04:00	199.53	525.82	123.61	639.52	117.24
(07.27.22) 05:00	91.36	521.35	123.63	635.94	117.27
(07.27.22) 06:00	88.88	521.78	123.65	641.04	117.29
(07.27.22) 07:00	96.41	522.12	123.67	639.90	117.32
(07.27.22) 08:00	108.59	524.40	123.69	606.29	117.34
(07.27.22) 09:00	125.31	522.72	123.71	624.68	117.37
(07.27.22) 10:00	92.45	523.52	123.73	624.71	117.39
(07.27.22) 11:00	89.00	524.83	123.76	618.12	117.42
(07.27.22) 12:00	96.64	521.14	123.77	549.30	117.44
(07.27.22) 13:00	123.80	523.91	123.79	541.31	117.46
(07.27.22) 14:00	96.59	376.14	123.81	549.47	117.49
(07.27.22) 15:00	87.03	454.36	123.83	637.03	117.51
(07.27.22) 16:00	92.45	443.29	123.85	637.66	117.54
(07.27.22) 17:00	70.08	435.76	123.87	644.87	117.56
(07.27.22) 18:00	66.99	436.23	123.89	652.91	117.58

(07.27.22) 19:00	65.48	418.66	123.91	651.88	117.61
(07.27.22) 20:00	63.17	418.94	123.92	653.23	117.63
(07.27.22) 21:00	60.71	418.27	123.94	646.99	117.66
(07.27.22) 22:00	56.87	428.09	123.96	643.12	117.68
(07.27.22) 23:00	56.96	459.31	123.97	646.62	117.71
(07.28.22) 00:00	57.05	437.88	123.99	644.64	117.74
(07.28.22) 01:00	54.53	433.28	124.01	648.04	117.76
(07.28.22) 02:00	51.58	430.10	124.03	642.19	117.79
(07.28.22) 03:00	49.31	417.37	124.04	644.52	117.81
(07.28.22) 04:00	46.40	424.35	124.06	645.55	117.84
(07.28.22) 05:00	44.32	421.14	124.08	642.66	117.86
(07.28.22) 06:00	42.49	412.47	124.09	643.79	117.89
(07.28.22) 07:00	41.82	416.43	124.11	645.07	117.92
(07.28.22) 08:00	41.28	430.17	124.13	649.30	117.94
(07.28.22) 09:00	42.05	427.23	124.15	654.22	117.97
(07.28.22) 10:00	44.33	425.28	124.16	652.74	117.99
(07.28.22) 11:00	57.34	420.49	124.18	648.92	118.02
(07.28.22) 12:00	72.01	418.06	124.20	651.73	118.04
(07.28.22) 13:00	83.14	420.48	124.22	568.44	118.07
(07.28.22) 14:00	75.92	416.44	124.24	559.84	118.09
(07.28.22) 15:00	65.76	543.76	124.25	557.25	118.12
(07.28.22) 16:00	59.80	536.17	124.27	646.66	118.14
(07.28.22) 17:00	56.40	533.42	124.29	651.14	118.17
(07.28.22) 18:00	54.26	532.16	124.31	645.52	118.19
(07.28.22) 19:00	52.46	452.17	124.33	651.52	118.22
(07.28.22) 20:00	51.72	434.67	124.35	649.09	118.24
(07.28.22) 21:00	50.46	445.63	124.36	649.40	118.27
(07.28.22) 22:00	49.69	441.06	124.38	647.79	118.30
(07.28.22) 23:00	49.86	432.12	124.40	644.90	118.32
(07.29.22) 00:00	49.16	462.13	124.42	650.64	118.35
(07.29.22) 01:00	47.99	463.14	124.44	642.80	118.37
(07.29.22) 02:00	45.61	436.94	124.45	642.31	118.40
(07.29.22) 03:00	43.86	438.12	124.47	639.93	118.42
(07.29.22) 04:00	41.66	425.75	124.49	634.68	118.45
(07.29.22) 05:00	39.15	422.78	124.51	642.53	118.47
(07.29.22) 06:00	37.19	438.13	124.52	645.05	118.50
(07.29.22) 07:00	37.40	427.09	124.54	640.08	118.52
(07.29.22) 08:00	37.43	428.60	124.56	543.88	118.54
(07.29.22) 09:00	38.07	435.39	124.58	546.50	118.57
(07.29.22) 10:00	39.18	465.55	124.59	552.64	118.59
(07.29.22) 11:00	41.68	466.41	124.61	556.68	118.62
(07.29.22) 12:00	43.08	465.20	124.63	555.63	118.64
(07.29.22) 13:00	43.49	457.45	124.65	555.69	118.67
(07.29.22) 14:00	44.12	452.61	124.66	554.30	118.69
(07.29.22) 15:00	44.26	436.64	124.68	623.44	118.71
(07.29.22) 16:00	43.44	442.08	124.70	666.99	118.74
(07.29.22) 17:00	40.88	439.08	124.72	661.61	118.76

(07.29.22) 18:00	41.79	439.87	124.74	658.73	118.79
(07.29.22) 19:00	42.83	543.69	124.75	657.14	118.81
(07.29.22) 20:00	42.89	536.93	124.77	657.73	118.84
(07.29.22) 21:00	43.07	539.81	124.79	646.42	118.86
(07.29.22) 22:00	43.12	442.96	124.81	639.90	118.89
(07.29.22) 23:00	43.35	414.61	124.83	643.93	118.91
(07.30.22) 00:00	43.21	425.70	124.84	642.43	118.94
(07.30.22) 01:00	41.57	408.77	124.86	648.10	118.97
(07.30.22) 02:00	39.62	412.61	124.88	649.78	118.99
(07.30.22) 03:00	38.43	414.38	124.90	644.14	119.02
(07.30.22) 04:00	36.21	413.47	124.91	644.80	119.04
(07.30.22) 05:00	34.76	438.90	124.93	644.22	119.07
(07.30.22) 06:00	33.50	429.84	124.95	643.87	119.09
(07.30.22) 07:00	35.29	423.01	124.97	644.92	119.12
(07.30.22) 08:00	34.73	433.14	124.98	639.14	119.15
(07.30.22) 09:00	34.06	425.36	125.00	643.61	119.17
(07.30.22) 10:00	34.47	449.73	125.02	646.52	119.20
(07.30.22) 11:00	34.97	446.61	125.03	636.21	119.22
(07.30.22) 12:00	36.78	450.71	125.05	646.79	119.25
(07.30.22) 13:00	39.21	436.88	125.07	638.09	119.28
(07.30.22) 14:00	40.71	437.19	125.09	641.20	119.30
(07.30.22) 15:00	41.15	428.24	125.10	652.31	119.33
(07.30.22) 16:00	42.22	429.18	125.12	646.74	119.35
(07.30.22) 17:00	43.15	418.67	125.14	650.64	119.38
(07.30.22) 18:00	43.22	419.31	125.16	651.98	119.40
(07.30.22) 19:00	43.59	422.23	125.17	645.94	119.43
(07.30.22) 20:00	42.69	423.97	125.19	641.39	119.46
(07.30.22) 21:00	42.70	418.62	125.21	637.45	119.48
(07.30.22) 22:00	43.05	520.06	125.23	635.99	119.51
(07.30.22) 23:00	42.65	541.48	125.25	637.63	119.53
(07.31.22) 00:00	41.26	538.21	125.26	641.00	119.56
(07.31.22) 01:00	40.37	537.10	125.28	636.92	119.58
(07.31.22) 02:00	39.13	433.77	125.30	640.76	119.61
(07.31.22) 03:00	37.74	422.48	125.32	633.47	119.64
(07.31.22) 04:00	36.27	436.15	125.33	630.56	119.66
(07.31.22) 05:00	34.40	424.36	125.35	636.10	119.69
(07.31.22) 06:00	32.67	419.62	125.37	631.15	119.71
(07.31.22) 07:00	32.15	413.84	125.38	639.29	119.74
(07.31.22) 08:00	31.75	417.25	125.40	635.83	119.76
(07.31.22) 09:00	31.52	429.90	125.42	631.82	119.79
(07.31.22) 10:00	32.11	430.06	125.43	634.85	119.81
(07.31.22) 11:00	33.44	424.35	125.45	635.72	119.84
(07.31.22) 12:00	35.49	404.84	125.47	556.97	119.86
(07.31.22) 13:00	37.05	415.62	125.49	557.02	119.89
(07.31.22) 14:00	38.42	415.56	125.50	643.77	119.91
(07.31.22) 15:00	39.89	440.77	125.52	650.93	119.93
(07.31.22) 16:00	40.17	440.00	125.54	646.28	119.96

(07.31.22) 17:00	41.07	438.73	125.55	644.43	119.98
(07.31.22) 18:00	41.50	385.82	125.57	651.30	120.01
(07.31.22) 19:00	40.97	432.58	125.60	641.07	120.03
(07.31.22) 20:00	41.59	877.37	125.62	642.10	120.06
(07.31.22) 21:00	42.52	889.37	125.65	635.49	120.08
(07.31.22) 22:00	42.44	890.52	125.68	638.48	120.11
(07.31.22) 23:00	42.09	889.96	125.70	640.14	120.14
(08.01.22) 00:00	41.91	891.33	125.73	640.69	120.16
(08.01.22) 01:00	40.88	411.07	125.76	633.95	120.19
(08.01.22) 02:00	39.79	543.15	125.79	638.29	120.21
(08.01.22) 03:00	37.48	540.33	125.80	643.27	120.24
(08.01.22) 04:00	35.64	536.55	125.82	637.72	120.26
(08.01.22) 05:00	33.59	0.38	125.84	637.44	120.29
(08.01.22) 06:00	31.90	417.76	125.86	637.63	120.31
(08.01.22) 07:00	30.64	421.79	125.88	638.12	120.33
(08.01.22) 08:00	30.36	0.40	125.89	541.93	120.36
(08.01.22) 09:00	30.69	0.44	125.90	551.89	120.38
(08.01.22) 10:00	31.97	0.41	125.90	549.12	120.41
(08.01.22) 11:00	32.81	0.38	125.90	554.78	120.43
(08.01.22) 12:00	36.23	0.35	125.91	549.78	120.45
(08.01.22) 13:00	36.89	0.31	125.91	557.64	120.48
(08.01.22) 14:00	37.34	0.28	125.91	554.23	120.50
(08.01.22) 15:00	38.61	540.73	125.92	431.99	120.53
(08.01.22) 16:00	38.18	540.83	125.93	661.49	120.55
(08.01.22) 17:00	39.15	542.18	125.95	656.36	120.57
(08.01.22) 18:00	39.18	537.17	125.97	658.52	120.60
(08.01.22) 19:00	38.76	528.23	125.99	651.79	120.62
(08.01.22) 20:00	38.25	525.50	126.01	649.78	120.65
(08.01.22) 21:00	38.64	526.19	126.03	638.48	120.67
(08.01.22) 22:00	39.28	523.83	126.06	636.05	120.70
(08.01.22) 23:00	39.97	524.63	126.08	640.01	120.73
(08.02.22) 00:00	39.76	936.10	126.10	635.52	120.75
(08.02.22) 01:00	39.17	942.81	126.14	639.06	120.78
(08.02.22) 02:00	37.77	940.30	126.17	637.56	120.80
(08.02.22) 03:00	37.99	943.98	126.20	643.55	120.83
(08.02.22) 04:00	36.86	946.24	126.23	636.08	120.85
(08.02.22) 05:00	34.65	946.37	126.26	637.77	120.88
(08.02.22) 06:00	32.22	523.16	126.30	640.50	120.90
(08.02.22) 07:00	36.65	520.93	126.33	641.92	120.92
(08.02.22) 08:00	34.35	517.50	126.35	543.17	120.95
(08.02.22) 09:00	32.57	514.06	126.37	548.59	120.97
(08.02.22) 10:00	33.16	517.95	126.39	544.38	121.00
(08.02.22) 11:00	34.17	520.13	126.42	551.48	121.02
(08.02.22) 12:00	33.66	525.04	126.44	547.20	121.04
(08.02.22) 13:00	35.68	524.63	126.46	553.10	121.07
(08.02.22) 14:00	37.06	526.30	126.48	554.93	121.09
(08.02.22) 15:00	36.44	441.64	126.50	650.29	121.12

(08.02.22) 16:00	36.14	428.57	126.52	660.33	121.14
(08.02.22) 17:00	36.00	426.15	126.53	652.36	121.16
(08.02.22) 18:00	36.27	424.49	126.55	651.35	121.19
(08.02.22) 19:00	37.60	419.54	126.57	651.98	121.21
(08.02.22) 20:00	37.18	424.39	126.58	637.75	121.24
(08.02.22) 21:00	37.50	421.34	126.60	637.59	121.26
(08.02.22) 22:00	38.85	420.88	126.62	640.48	121.29
(08.02.22) 23:00	40.22	415.59	126.63	638.34	121.31
(08.03.22) 00:00	39.75	414.21	126.66	641.29	121.34
(08.03.22) 01:00	38.13	416.48	126.68	641.69	121.37
(08.03.22) 02:00	36.72	416.87	126.71	637.59	121.39
(08.03.22) 03:00	34.72	833.76	126.74	638.05	121.42
(08.03.22) 04:00	33.53	839.62	126.77	638.64	121.44
(08.03.22) 05:00	32.31	847.63	126.79	639.14	121.46
(08.03.22) 06:00	32.54	851.51	126.82	640.31	121.49
(08.03.22) 07:00	32.87	849.36	126.85	639.05	121.51
(08.03.22) 08:00	33.12	120.38	126.86	543.53	121.54
(08.03.22) 09:00	32.49	57.55	126.87	547.44	121.56
(08.03.22) 10:00	33.54	64.98	126.88	547.33	121.58
(08.03.22) 11:00	35.75	215.42	126.89	548.17	121.61
(08.03.22) 12:00	39.45	94.22	126.90	551.22	121.63
(08.03.22) 13:00	41.68	48.87	126.91	554.57	121.66
(08.03.22) 14:00	42.83	544.29	126.92	551.68	121.68
(08.03.22) 15:00	43.49	534.97	126.93	646.67	121.70
(08.03.22) 16:00	43.96	522.34	126.95	659.04	121.73
(08.03.22) 17:00	44.88	523.02	126.97	652.28	121.75
(08.03.22) 18:00	56.35	523.33	126.99	654.11	121.77
(08.03.22) 19:00	58.34	522.09	127.01	651.54	121.80
(08.03.22) 20:00	59.20	522.15	127.03	645.33	121.83
(08.03.22) 21:00	60.55	521.63	127.05	638.31	121.85
(08.03.22) 22:00	47.21	523.61	127.07	641.79	121.88
(08.03.22) 23:00	46.75	519.94	127.09	632.28	121.90
(08.04.22) 00:00	46.11	515.59	127.11	637.91	121.93
(08.04.22) 01:00	48.58	517.99	127.13	638.55	121.95
(08.04.22) 02:00	45.05	520.29	127.16	642.60	121.98
(08.04.22) 03:00	41.39	518.14	127.18	633.08	122.00
(08.04.22) 04:00	38.06	518.91	127.20	641.00	122.03
(08.04.22) 05:00	35.77	519.77	127.22	640.26	122.05
(08.04.22) 06:00	34.22	520.35	127.24	633.65	122.08
(08.04.22) 07:00	33.06	519.99	127.26	635.13	122.10
(08.04.22) 08:00	33.27	521.22	127.28	542.53	122.12
(08.04.22) 09:00	34.25	519.09	127.30	544.29	122.15
(08.04.22) 10:00	35.66	516.12	127.32	539.44	122.17
(08.04.22) 11:00	37.17	519.22	127.34	543.29	122.20
(08.04.22) 12:00	39.15	519.60	127.36	544.37	122.22
(08.04.22) 13:00	37.62	519.98	127.38	542.00	122.24
(08.04.22) 14:00	40.30	429.62	127.40	549.00	122.27

(08.04.22) 15:00	41.65	416.25	127.42	648.95	122.29
(08.04.22) 16:00	40.68	412.93	127.44	655.74	122.31
(08.04.22) 17:00	40.43	419.15	127.45	651.77	122.34
(08.04.22) 18:00	40.92	420.49	127.47	652.76	122.36
(08.04.22) 19:00	39.01	420.89	127.49	647.44	122.39
(08.04.22) 20:00	40.08	413.57	127.50	650.98	122.41
(08.04.22) 21:00	40.71	409.32	127.52	633.33	122.44
(08.04.22) 22:00	40.49	411.54	127.54	637.33	122.46
(08.04.22) 23:00	40.76	413.85	127.55	639.60	122.49
(08.05.22) 00:00	40.49	417.06	127.57	632.24	122.51
(08.05.22) 01:00	39.15	377.67	127.59	639.69	122.54
(08.05.22) 02:00	38.22	418.66	127.60	635.24	122.57
(08.05.22) 03:00	36.67	402.18	127.62	639.20	122.59
(08.05.22) 04:00	34.55	419.37	127.64	633.02	122.61
(08.05.22) 05:00	32.25	411.12	127.65	641.53	122.64
(08.05.22) 06:00	30.55	413.23	127.67	636.85	122.66
(08.05.22) 07:00	30.36	541.85	127.69	640.93	122.69
(08.05.22) 08:00	31.14	139.01	127.70	540.82	122.71
(08.05.22) 09:00	31.04	104.89	127.70	544.46	122.73
(08.05.22) 10:00	31.33	87.13	127.71	543.40	122.76
(08.05.22) 11:00	32.38	42.09	127.72	544.71	122.78
(08.05.22) 12:00	34.88	32.00	127.73	545.88	122.81
(08.05.22) 13:00	35.84	116.55	127.73	542.75	122.83
(08.05.22) 14:00	36.63	525.34	127.74	540.18	122.85
(08.05.22) 15:00	37.76	537.18	127.75	655.68	122.88
(08.05.22) 16:00	37.10	538.51	127.77	666.76	122.90
(08.05.22) 17:00	36.65	538.69	127.79	660.25	122.92
(08.05.22) 18:00	37.85	538.30	127.81	660.60	122.95
(08.05.22) 19:00	37.03	537.40	127.84	655.95	122.97
(08.05.22) 20:00	39.77	528.74	127.86	657.58	123.00
(08.05.22) 21:00	38.98	527.28	127.88	655.55	123.03
(08.05.22) 22:00	39.31	536.77	127.90	649.64	123.05
(08.05.22) 23:00	41.18	535.03	127.92	649.96	123.08
(08.06.22) 00:00	41.71	529.33	127.94	651.48	123.11
(08.06.22) 01:00	39.03	528.36	127.96	646.77	123.13
(08.06.22) 02:00	37.03	527.78	127.99	650.54	123.16
(08.06.22) 03:00	34.50	525.23	128.01	650.19	123.18
(08.06.22) 04:00	32.53	525.45	128.03	649.40	123.21
(08.06.22) 05:00	31.29	522.91	128.05	647.60	123.24
(08.06.22) 06:00	30.27	522.74	128.07	646.99	123.26
(08.06.22) 07:00	29.94	432.21	128.09	643.13	123.29
(08.06.22) 08:00	29.66	431.18	128.11	645.89	123.31
(08.06.22) 09:00	28.85	420.73	128.12	648.53	123.34
(08.06.22) 10:00	29.17	415.67	128.14	534.10	123.36
(08.06.22) 11:00	30.37	411.81	128.16	541.61	123.39
(08.06.22) 12:00	32.48	403.16	128.17	545.36	123.41
(08.06.22) 13:00	34.93	407.17	128.19	542.34	123.43

(08.06.22) 14:00	35.35	410.78	128.21	537.37	123.46
(08.06.22) 15:00	36.29	409.65	128.22	647.59	123.48
(08.06.22) 16:00	36.24	407.05	128.24	649.33	123.50
(08.06.22) 17:00	37.16	408.36	128.26	644.75	123.53
(08.06.22) 18:00	36.60	409.34	128.27	649.34	123.55
(08.06.22) 19:00	36.98	402.68	128.29	645.30	123.58
(08.06.22) 20:00	36.30	413.12	128.31	640.63	123.60
(08.06.22) 21:00	37.32	413.42	128.32	637.78	123.63
(08.06.22) 22:00	38.30	406.34	128.34	639.71	123.65
(08.06.22) 23:00	37.65	416.00	128.36	637.40	123.68
(08.07.22) 00:00	37.22	420.48	128.37	636.62	123.70
(08.07.22) 01:00	36.54	413.62	128.39	645.71	123.73
(08.07.22) 02:00	36.37	415.62	128.41	635.27	123.76
(08.07.22) 03:00	34.65	432.36	128.42	636.53	123.78
(08.07.22) 04:00	34.02	425.35	128.44	640.65	123.81
(08.07.22) 05:00	32.49	413.28	128.46	632.92	123.83
(08.07.22) 06:00	31.47	406.80	128.47	634.54	123.86
(08.07.22) 07:00	30.28	543.82	128.49	640.70	123.88
(08.07.22) 08:00	29.69	542.77	128.51	645.50	123.91
(08.07.22) 09:00	29.15	542.07	128.54	639.06	123.93
(08.07.22) 10:00	30.34	541.33	128.56	638.18	123.96
(08.07.22) 11:00	31.97	539.94	128.58	543.07	123.98
(08.07.22) 12:00	33.98	538.63	128.60	275.08	124.00
(08.07.22) 13:00	34.56	539.90	128.62	564.68	124.02
(08.07.22) 14:00	37.39	536.62	128.64	575.39	124.04
(08.07.22) 15:00	38.94	537.97	128.67	582.51	124.07
(08.07.22) 16:00	38.64	538.02	128.69	581.99	124.09
(08.07.22) 17:00	38.25	538.11	128.71	573.14	124.11
(08.07.22) 18:00	38.45	536.43	128.73	578.16	124.13
(08.07.22) 19:00	37.28	537.91	128.75	575.79	124.16
(08.07.22) 20:00	37.29	536.66	128.77	580.95	124.18
(08.07.22) 21:00	38.56	539.37	128.80	579.51	124.20
(08.07.22) 22:00	38.86	539.22	128.82	578.25	124.23
(08.07.22) 23:00	38.53	535.01	128.84	578.60	124.25
(08.08.22) 00:00	37.87	536.05	128.86	578.07	124.27
(08.08.22) 01:00	37.55	536.11	128.88	581.32	124.30
(08.08.22) 02:00	34.31	532.48	128.89	579.20	124.32
(08.08.22) 03:00	35.54	431.37	128.91	584.04	124.34
(08.08.22) 04:00	31.03	428.52	128.93	579.05	124.36
(08.08.22) 05:00	30.77	423.61	128.95	577.88	124.39
(08.08.22) 06:00	30.88	423.24	128.97	575.44	124.41
(08.08.22) 07:00	27.12	425.48	128.98	574.25	124.43
(08.08.22) 08:00	28.11	426.62	128.99	532.77	124.46
(08.08.22) 09:00	29.02	430.21	129.00	535.51	124.48
(08.08.22) 10:00	27.12	0.34	129.01	535.50	124.50
(08.08.22) 11:00	27.22	36.79	129.01	540.04	124.52
(08.08.22) 12:00	29.54	38.60	129.02	539.44	124.55

(08.08.22) 13:00	34.87	41.20	129.03	538.78	124.57
(08.08.22) 14:00	44.15	0.36	129.04	547.06	124.59
(08.08.22) 15:00	39.56	439.17	129.06	643.53	124.62
(08.08.22) 16:00	35.46	436.08	129.08	644.93	124.64
(08.08.22) 17:00	36.45	435.56	129.09	644.48	124.66
(08.08.22) 18:00	41.01	437.82	129.11	643.92	124.69
(08.08.22) 19:00	39.23	446.79	129.13	644.06	124.71
(08.08.22) 20:00	34.66	746.06	129.15	643.49	124.74
(08.08.22) 21:00	37.96	782.77	129.16	628.94	124.76
(08.08.22) 22:00	35.96	825.14	129.18	632.23	124.79
(08.08.22) 23:00	33.25	844.37	129.21	635.80	124.81
(08.09.22) 00:00	32.24	444.28	129.23	626.48	124.84
(08.09.22) 01:00	32.18	410.66	129.25	636.99	124.86
(08.09.22) 02:00	46.36	411.73	129.28	636.27	124.89
(08.09.22) 03:00	42.25	538.12	129.30	634.65	124.91
(08.09.22) 04:00	35.84	538.82	129.32	633.57	124.94
(08.09.22) 05:00	30.56	435.61	129.35	632.08	124.96
(08.09.22) 06:00	27.58	435.54	129.36	630.12	124.99
(08.09.22) 07:00	27.82	433.25	129.38	627.42	125.01
(08.09.22) 08:00	29.86	538.89	129.40	532.92	125.04
(08.09.22) 09:00	29.55	436.68	129.41	537.35	125.06
(08.09.22) 10:00	30.49	438.57	129.43	543.01	125.08
(08.09.22) 11:00	31.98	438.06	129.45	546.98	125.11
(08.09.22) 12:00	34.02	438.13	129.46	539.22	125.13
(08.09.22) 13:00	34.78	438.39	129.48	542.97	125.15
(08.09.22) 14:00	35.84	440.02	129.50	543.29	125.18
(08.09.22) 15:00	35.35	438.75	129.51	649.04	125.20
(08.09.22) 16:00	35.71	436.82	129.53	649.79	125.22
(08.09.22) 17:00	36.06	435.08	129.55	651.20	125.25
(08.09.22) 18:00	34.43	435.09	129.57	643.09	125.27
(08.09.22) 19:00	35.28	431.90	129.58	648.96	125.30
(08.09.22) 20:00	35.16	430.42	129.60	646.04	125.32
(08.09.22) 21:00	35.70	426.01	129.62	636.49	125.35
(08.09.22) 22:00	36.44	423.13	129.64	634.71	125.37
(08.09.22) 23:00	37.12	415.53	129.65	633.51	125.40
(08.10.22) 00:00	36.52	416.16	129.67	631.88	125.42
(08.10.22) 01:00	36.06	419.58	129.69	636.38	125.45
(08.10.22) 02:00	34.72	413.06	129.70	632.14	125.47
(08.10.22) 03:00	33.19	407.53	129.72	630.55	125.50
(08.10.22) 04:00	30.81	408.07	129.74	630.40	125.53
(08.10.22) 05:00	29.43	409.72	129.75	628.77	125.55
(08.10.22) 06:00	27.97	408.04	129.77	625.89	125.58
(08.10.22) 07:00	27.59	406.14	129.77	629.39	125.60
(08.10.22) 08:00	28.58	138.81	129.78	632.87	125.62
(08.10.22) 09:00	29.32	50.37	129.79	630.38	125.65
(08.10.22) 10:00	31.22	0.41	129.79	535.78	125.67
(08.10.22) 11:00	32.48	123.02	129.80	531.97	125.69

(08.10.22) 12:00	33.36	57.72	129.81	537.52	125.71
(08.10.22) 13:00	34.97	87.88	129.81	540.85	125.74
(08.10.22) 14:00	35.17	0.38	129.83	540.24	125.76
(08.10.22) 15:00	34.47	540.50	129.86	626.25	125.79
(08.10.22) 16:00	34.54	532.03	129.88	655.20	125.81
(08.10.22) 17:00	34.48	840.49	129.91	647.70	125.84
(08.10.22) 18:00	34.47	856.97	129.94	648.03	125.86
(08.10.22) 19:00	34.60	909.09	129.96	645.80	125.89
(08.10.22) 20:00	34.32	913.80	129.99	642.11	125.91
(08.10.22) 21:00	36.17	914.18	130.02	637.85	125.94
(08.10.22) 22:00	36.59	913.96	130.05	635.15	125.96
(08.10.22) 23:00	36.47	921.17	130.07	631.13	125.99
(08.11.22) 00:00	36.34	925.78	130.10	634.59	126.01
(08.11.22) 01:00	36.02	925.10	130.13	632.11	126.04
(08.11.22) 02:00	34.55	439.82	130.16	636.22	126.06
(08.11.22) 03:00	32.97	435.93	130.19	630.97	126.09
(08.11.22) 04:00	31.01	429.92	130.22	633.37	126.11
(08.11.22) 05:00	29.61	419.08	130.25	629.19	126.14
(08.11.22) 06:00	27.71	422.17	130.26	631.19	126.16
(08.11.22) 07:00	26.78	419.00	130.28	629.86	126.19
(08.11.22) 08:00	26.69	418.96	130.30	536.04	126.21
(08.11.22) 09:00	27.63	419.62	130.31	537.44	126.23
(08.11.22) 10:00	28.22	420.63	130.33	536.05	126.25
(08.11.22) 11:00	30.87	418.39	130.35	545.40	126.28
(08.11.22) 12:00	32.96	414.58	130.36	536.01	126.30
(08.11.22) 13:00	34.67	414.72	130.38	544.75	126.32
(08.11.22) 14:00	33.76	415.87	130.40	539.74	126.34
(08.11.22) 15:00	34.86	415.67	130.42	370.85	126.37
(08.11.22) 16:00	34.93	419.54	130.44	650.67	126.39
(08.11.22) 17:00	35.12	418.95	130.45	647.12	126.42
(08.11.22) 18:00	33.91	540.43	130.47	647.52	126.44
(08.11.22) 19:00	34.49	540.49	130.49	643.36	126.47
(08.11.22) 20:00	35.20	540.69	130.51	642.62	126.49
(08.11.22) 21:00	35.70	0.36	130.53	639.61	126.52
(08.11.22) 22:00	35.95	433.10	130.54	640.67	126.54
(08.11.22) 23:00	36.31	436.44	130.56	645.54	126.57
(08.12.22) 00:00	35.91	434.30	130.58	641.60	126.59
(08.12.22) 01:00	43.64	436.78	130.60	639.12	126.62
(08.12.22) 02:00	42.27	435.70	130.61	640.45	126.64
(08.12.22) 03:00	40.02	434.08	130.63	641.33	126.67
(08.12.22) 04:00	38.96	435.12	130.65	636.41	126.70
(08.12.22) 05:00	37.44	431.50	130.67	639.91	126.72
(08.12.22) 06:00	35.48	430.66	130.68	637.50	126.74
(08.12.22) 07:00	34.60	425.61	130.68	641.55	126.77
(08.12.22) 08:00	35.79	75.31	130.69	641.62	126.79
(08.12.22) 09:00	36.40	153.43	130.70	259.82	126.81
(08.12.22) 10:00	36.66	67.29	130.71	545.35	126.84

(08.12.22) 11:00	29.44	103.37	130.71	545.15	126.86
(08.12.22) 12:00	30.55	80.21	130.72	552.10	126.88
(08.12.22) 13:00	32.16	76.39	130.73	552.56	126.90
(08.12.22) 14:00	33.95	439.70	130.75	553.69	126.93
(08.12.22) 15:00	33.09	433.71	130.76	648.66	126.95
(08.12.22) 16:00	32.70	431.17	130.78	649.84	126.98
(08.12.22) 17:00	33.06	433.75	130.79	649.47	127.00
(08.12.22) 18:00	33.38	431.01	130.81	647.86	127.03
(08.12.22) 19:00	33.67	432.84	130.83	644.35	127.05
(08.12.22) 20:00	34.61	432.43	130.84	648.65	127.08
(08.12.22) 21:00	34.91	435.15	130.86	637.18	127.10
(08.12.22) 22:00	35.58	537.87	130.88	641.38	127.13
(08.12.22) 23:00	35.87	537.17	130.89	640.32	127.16
(08.13.22) 00:00	35.13	433.90	130.91	642.76	127.18
(08.13.22) 01:00	35.10	432.44	130.93	643.63	127.21
(08.13.22) 02:00	33.92	431.20	130.95	638.13	127.23
(08.13.22) 03:00	33.46	433.01	130.97	639.90	127.26
(08.13.22) 04:00	32.15	434.21	130.98	639.66	127.28
(08.13.22) 05:00	30.32	430.63	131.00	639.12	127.31
(08.13.22) 06:00	28.49	431.79	131.02	638.45	127.33
(08.13.22) 07:00	27.13	429.84	131.03	638.36	127.36
(08.13.22) 08:00	27.07	536.68	131.05	638.41	127.38
(08.13.22) 09:00	26.57	431.88	131.07	636.62	127.40
(08.13.22) 10:00	26.23	433.26	131.08	539.09	127.43
(08.13.22) 11:00	27.21	431.59	131.10	540.69	127.45
(08.13.22) 12:00	29.41	430.36	131.11	537.84	127.47
(08.13.22) 13:00	31.39	537.93	131.13	537.49	127.50
(08.13.22) 14:00	33.38	0.30	131.15	540.48	127.52
(08.13.22) 15:00	33.74	434.54	131.16	633.65	127.55
(08.13.22) 16:00	34.88	434.07	131.18	644.13	127.57
(08.13.22) 17:00	36.87	431.58	131.20	641.45	127.60
(08.13.22) 18:00	35.50	426.89	131.22	644.07	127.62
(08.13.22) 19:00	36.18	430.50	131.23	640.16	127.64
(08.13.22) 20:00	35.69	429.65	131.25	641.28	127.67
(08.13.22) 21:00	35.62	425.73	131.27	641.18	127.69
(08.13.22) 22:00	35.62	416.48	131.28	638.64	127.72
(08.13.22) 23:00	36.42	417.42	131.30	637.41	127.74
(08.14.22) 00:00	35.65	419.94	131.32	641.72	127.77
(08.14.22) 01:00	35.67	420.06	131.33	633.63	127.80
(08.14.22) 02:00	34.21	413.10	131.35	639.98	127.82
(08.14.22) 03:00	32.46	416.08	131.37	636.81	127.85
(08.14.22) 04:00	30.41	413.85	131.38	634.58	127.87
(08.14.22) 05:00	29.01	423.21	131.40	636.01	127.90
(08.14.22) 06:00	27.82	419.94	131.42	631.35	127.92
(08.14.22) 07:00	27.55	423.22	131.44	634.33	127.95
(08.14.22) 08:00	28.45	419.33	131.45	636.57	127.97
(08.14.22) 09:00	28.67	418.24	131.47	633.19	128.00

(08.14.22) 10:00	30.04	415.70	131.49	632.50	128.02
(08.14.22) 11:00	30.46	414.40	131.50	638.03	128.05
(08.14.22) 12:00	31.30	418.93	131.52	635.62	128.08
(08.14.22) 13:00	33.49	418.75	131.54	631.13	128.10
(08.14.22) 14:00	35.11	311.42	131.56	628.40	128.13
(08.14.22) 15:00	35.66	533.92	131.57	626.27	128.15
(08.14.22) 16:00	36.06	532.52	131.59	638.70	128.18
(08.14.22) 17:00	36.72	533.63	131.61	638.92	128.20
(08.14.22) 18:00	36.91	431.10	131.63	635.36	128.23
(08.14.22) 19:00	36.53	430.32	131.65	641.51	128.25
(08.14.22) 20:00	36.27	428.38	131.67	638.42	128.28
(08.14.22) 21:00	36.67	432.86	131.68	643.18	128.31
(08.14.22) 22:00	37.53	432.48	131.70	638.93	128.33
(08.14.22) 23:00	38.29	435.29	131.72	634.22	128.36
(08.15.22) 00:00	37.55	682.54	131.74	638.26	128.38
(08.15.22) 01:00	36.41	419.12	131.76	641.62	128.41
(08.15.22) 02:00	35.09	412.46	131.78	636.79	128.43
(08.15.22) 03:00	33.15	432.89	131.80	632.34	128.46
(08.15.22) 04:00	30.85	433.31	131.82	630.54	128.49
(08.15.22) 05:00	28.84	433.26	131.83	631.49	128.51
(08.15.22) 06:00	27.67	433.37	131.84	625.85	128.53
(08.15.22) 07:00	26.63	432.62	131.85	635.13	128.56
(08.15.22) 08:00	26.72	86.95	131.86	533.50	128.58
(08.15.22) 09:00	26.88	98.96	131.87	532.51	128.60
(08.15.22) 10:00	28.50	104.72	131.88	540.11	128.63
(08.15.22) 11:00	30.68	88.81	131.89	541.47	128.65
(08.15.22) 12:00	33.26	87.74	131.90	539.59	128.67
(08.15.22) 13:00	34.68	104.64	131.91	532.89	128.70
(08.15.22) 14:00	35.03	0.45	131.93	542.47	128.72
(08.15.22) 15:00	35.28	425.08	131.94	640.81	128.74
(08.15.22) 16:00	36.30	420.85	131.96	634.97	128.77
(08.15.22) 17:00	35.26	411.67	131.97	635.14	128.79
(08.15.22) 18:00	34.15	532.68	131.99	632.51	128.82
(08.15.22) 19:00	35.35	531.58	132.00	634.41	128.84
(08.15.22) 20:00	35.50	531.61	132.02	630.81	128.86
(08.15.22) 21:00	36.27	531.10	132.04	629.99	128.89
(08.15.22) 22:00	36.42	531.29	132.06	628.27	128.91
(08.15.22) 23:00	37.07	529.33	132.08	630.22	128.94
(08.16.22) 00:00	36.35	529.27	132.10	630.30	128.97
(08.16.22) 01:00	35.30	528.86	132.12	632.09	128.99
(08.16.22) 02:00	34.30	527.15	132.14	623.76	129.02
(08.16.22) 03:00	32.60	527.10	132.17	627.50	129.04
(08.16.22) 04:00	28.88	526.74	132.19	629.19	129.07
(08.16.22) 05:00	198.90	524.42	132.21	628.02	129.09
(08.16.22) 06:00	80.69	521.77	132.23	626.35	129.12
(08.16.22) 07:00	98.15	523.64	132.25	631.95	129.14
(08.16.22) 08:00	90.83	522.81	132.27	537.21	129.16

(08.16.22) 09:00	86.03	522.20	132.29	536.89	129.19
(08.16.22) 10:00	90.44	522.15	132.31	537.25	129.21
(08.16.22) 11:00	125.96	516.31	132.33	542.49	129.23
(08.16.22) 12:00	72.85	512.42	132.35	542.49	129.25
(08.16.22) 13:00	86.71	507.69	132.37	543.05	129.27
(08.16.22) 14:00	100.10	506.56	132.40	529.88	129.30
(08.16.22) 15:00	91.19	504.21	132.42	541.99	129.32
(08.16.22) 16:00	76.80	504.18	132.43	645.49	129.34
(08.16.22) 17:00	71.83	504.78	132.45	648.11	129.37
(08.16.22) 18:00	64.28	419.61	132.47	643.25	129.40
(08.16.22) 19:00	62.23	411.48	132.49	643.26	129.42
(08.16.22) 20:00	59.70	411.18	132.50	647.34	129.45
(08.16.22) 21:00	57.69	409.65	132.52	620.90	129.47
(08.16.22) 22:00	55.99	403.02	132.54	623.49	129.50
(08.16.22) 23:00	51.24	407.53	132.56	625.47	129.52
(08.17.22) 00:00	49.67	409.15	132.57	628.91	129.55
(08.17.22) 01:00	47.53	407.51	132.59	629.63	129.57
(08.17.22) 02:00	45.33	405.29	132.61	624.69	129.60
(08.17.22) 03:00	42.83	405.31	132.62	628.36	129.63
(08.17.22) 04:00	40.23	403.52	132.64	632.10	129.65
(08.17.22) 05:00	38.14	403.94	132.66	630.00	129.68
(08.17.22) 06:00	35.98	405.49	132.67	630.00	129.70
(08.17.22) 07:00	35.63	404.61	132.69	626.22	129.73
(08.17.22) 08:00	35.85	65.57	132.69	598.89	129.75
(08.17.22) 09:00	36.70	55.00	132.70	190.15	129.77
(08.17.22) 10:00	38.29	45.66	132.70	513.02	129.79
(08.17.22) 11:00	39.80	51.02	132.71	515.28	129.81
(08.17.22) 12:00	41.13	83.33	132.71	507.44	129.83
(08.17.22) 13:00	42.50	48.92	132.71	519.08	129.84
(08.17.22) 14:00	41.90	254.46	132.72	521.42	129.86
(08.17.22) 15:00	42.09	417.30	132.73	415.94	129.88
(08.17.22) 16:00	41.46	402.62	132.75	633.02	129.91
(08.17.22) 17:00	40.79	403.04	132.76	637.19	129.94
(08.17.22) 18:00	40.85	533.42	132.78	637.19	129.96
(08.17.22) 19:00	40.99	533.45	132.80	638.09	129.99
(08.17.22) 20:00	40.82	532.10	132.82	656.48	130.01
(08.17.22) 21:00	41.46	530.34	132.84	654.44	130.04
(08.17.22) 22:00	41.49	527.78	132.86	642.33	130.06
(08.17.22) 23:00	41.68	522.35	132.89	636.00	130.09
(08.18.22) 00:00	41.49	521.02	132.92	630.15	130.11
(08.18.22) 01:00	40.66	901.65	132.95	631.73	130.14
(08.18.22) 02:00	38.77	909.08	132.99	625.37	130.16
(08.18.22) 03:00	36.89	923.62	133.02	623.30	130.19
(08.18.22) 04:00	34.53	924.43	133.05	624.18	130.21
(08.18.22) 05:00	32.22	929.81	133.09	629.04	130.24
(08.18.22) 06:00	30.53	932.62	133.12	621.30	130.27
(08.18.22) 07:00	30.00	929.87	133.15	626.84	130.29

(08.18.22) 08:00	30.81	930.76	133.19	232.42	130.31
(08.18.22) 09:00	31.98	917.48	133.22	532.04	130.33
(08.18.22) 10:00	33.13	917.66	133.25	533.70	130.35
(08.18.22) 11:00	34.32	916.64	133.28	540.13	130.37
(08.18.22) 12:00	36.12	527.40	133.31	544.00	130.39
(08.18.22) 13:00	37.04	521.33	133.34	543.28	130.41
(08.18.22) 14:00	38.31	519.95	133.38	540.69	130.43
(08.18.22) 15:00	38.51	522.52	133.40	572.84	130.46
(08.18.22) 16:00	37.72	523.50	133.42	635.25	130.48
(08.18.22) 17:00	38.24	517.84	133.44	635.11	130.51
(08.18.22) 18:00	37.66	426.28	133.46	633.42	130.53
(08.18.22) 19:00	37.35	423.10	133.48	638.50	130.56
(08.18.22) 20:00	37.87	419.07	133.49	646.05	130.58
(08.18.22) 21:00	38.77	412.79	133.51	632.51	130.61
(08.18.22) 22:00	39.23	408.84	133.53	633.35	130.63
(08.18.22) 23:00	39.25	410.85	133.55	628.42	130.66
(08.19.22) 00:00	39.42	409.74	133.57	633.11	130.68
(08.19.22) 01:00	38.66	411.01	133.58	631.34	130.71
(08.19.22) 02:00	37.26	411.07	133.60	628.10	130.73
(08.19.22) 03:00	35.44	411.19	133.62	629.33	130.76
(08.19.22) 04:00	33.40	411.54	133.63	628.09	130.78
(08.19.22) 05:00	31.90	406.23	133.65	631.20	130.81
(08.19.22) 06:00	29.89	410.98	133.66	627.52	130.84
(08.19.22) 07:00	29.27	412.67	133.68	632.88	130.86
(08.19.22) 08:00	30.23	64.37	133.68	251.52	130.88
(08.19.22) 09:00	29.65	0.37	133.69	533.12	130.90
(08.19.22) 10:00	124.91	0.32	133.69	543.95	130.92
(08.19.22) 11:00	40.35	63.99	133.70	537.64	130.94
(08.19.22) 12:00	48.03	81.55	133.70	546.34	130.96
(08.19.22) 13:00	53.09	83.10	133.71	552.05	130.98
(08.19.22) 14:00	61.45	442.74	133.71	550.51	131.00
(08.19.22) 15:00	60.36	436.92	133.73	454.81	131.03
(08.19.22) 16:00	52.14	422.34	133.75	648.53	131.05
(08.19.22) 17:00	43.27	420.69	133.77	650.66	131.08
(08.19.22) 18:00	41.68	535.02	133.78	647.56	131.10
(08.19.22) 19:00	41.19	528.79	133.80	644.23	131.13
(08.19.22) 20:00	40.63	531.18	133.82	664.39	131.16
(08.19.22) 21:00	40.47	521.38	133.84	619.20	131.18
(08.19.22) 22:00	40.23	514.09	133.86	628.35	131.21
(08.19.22) 23:00	63.82	509.50	133.88	623.39	131.23
(08.20.22) 00:00	74.11				
(08.20.22) 01:00	65.41				
(08.20.22) 02:00	82.46				
(08.20.22) 03:00	65.95				
(08.20.22) 04:00	50.65				
(08.20.22) 05:00	40.72				
(08.20.22) 06:00					

	(08.20.22) 07:00					
	(08.20.22) 08:00	36.98				
	(08.20.22) 09:00	37.27				
***	(08.20.22) 10:00	37.47				
	(08.20.22) 11:00	37.98	438.99	133.91	640.95	131.26
	(08.20.22) 12:00	39.87	425.24	133.92	526.92	131.28
	(08.20.22) 13:00	41.88	432.68	133.94	526.43	131.31
	(08.20.22) 14:00	42.89	408.56	133.96	526.05	131.33
	(08.20.22) 15:00	40.07	404.18	133.97	631.79	131.36
	(08.20.22) 16:00	39.97	405.78	133.99	663.56	131.38
	(08.20.22) 17:00	40.18	403.53	134.01	639.03	131.40
	(08.20.22) 18:00	40.59	401.49	134.02	638.62	131.43
	(08.20.22) 19:00	40.36	394.13	134.04	639.98	131.45
	(08.20.22) 20:00	40.01	395.05	134.06	634.86	131.48
	(08.20.22) 21:00	39.53	388.45	134.07	626.82	131.50
	(08.20.22) 22:00	39.19	393.88	134.09	624.65	131.53
	(08.20.22) 23:00	39.01	393.29	134.11	627.05	131.55
	(08.21.22) 00:00	37.87	389.44	134.13	628.15	131.58
	(08.21.22) 01:00	37.42	531.40	134.14	631.38	131.60
	(08.21.22) 02:00	36.08	526.63	134.16	630.12	131.63
	(08.21.22) 03:00	34.18	531.48	134.18	628.22	131.65
	(08.21.22) 04:00	32.47	524.86	134.20	626.41	131.68
	(08.21.22) 05:00	31.80	514.36	134.22	627.63	131.70
	(08.21.22) 06:00	29.66	523.06	134.23	629.92	131.73
	(08.21.22) 07:00	28.78	518.69	134.25	627.27	131.75
	(08.21.22) 08:00	28.58	418.19	134.27	627.92	131.77
	(08.21.22) 09:00	28.68	426.31	134.29	533.95	131.80
	(08.21.22) 10:00	29.41	419.90	134.31	533.24	131.82
	(08.21.22) 11:00	30.27	433.39	134.33	536.50	131.84
	(08.21.22) 12:00	33.15	430.56	134.34	537.62	131.87
	(08.21.22) 13:00	36.10	425.16	134.36	537.66	131.89
	(08.21.22) 14:00	39.03	417.10	134.38	635.61	131.92
	(08.21.22) 15:00	38.28	412.48	134.40	631.77	131.94
	(08.21.22) 16:00	38.34	411.20	134.41	634.72	131.96
	(08.21.22) 17:00	40.58	415.29	134.43	629.30	131.99
	(08.21.22) 18:00	40.19	404.12	134.45	629.52	132.01
	(08.21.22) 19:00	39.36	414.11	134.47	631.62	132.03
	(08.21.22) 20:00	38.83	408.02	134.49	623.97	132.06
	(08.21.22) 21:00	39.48	435.47	134.51	620.27	132.08
	(08.21.22) 22:00	40.00	434.95	134.53	619.40	132.11
	(08.21.22) 23:00	40.07	435.86	134.55	621.68	132.13
	(08.22.22) 00:00	39.87	434.03	134.57	621.20	132.16
	(08.22.22) 01:00	38.73	807.61	134.59	622.39	132.18
	(08.22.22) 02:00	36.57	809.05	134.61	620.69	132.21
	(08.22.22) 03:00	34.42	812.90	134.63	620.53	132.23
	(08.22.22) 04:00	32.45	813.09	134.65	620.10	132.26
	(08.22.22) 05:00	30.88	809.13	134.67	617.97	132.28

(08.22.22) 06:00	29.59	416.94	134.69	616.99	132.30
(08.22.22) 07:00	29.35	411.96	134.70	618.61	132.33
(08.22.22) 08:00	28.92	0.38	134.72	543.49	132.35
(08.22.22) 09:00	30.22	69.30	134.74	545.40	132.37
(08.22.22) 10:00	31.75	106.38	134.76	550.63	132.40
(08.22.22) 11:00	32.94	90.40	134.77	543.28	132.42
(08.22.22) 12:00	34.24	86.22	134.78	546.29	132.45
(08.22.22) 13:00	35.65	0.44	134.80	550.93	132.47
(08.22.22) 14:00	36.98	0.43	134.81	555.49	132.49
(08.22.22) 15:00	36.28	532.00	134.82	645.07	132.52
(08.22.22) 16:00	36.40	530.74	134.83	644.06	132.54
(08.22.22) 17:00	36.91	535.98	134.84	639.62	132.56
(08.22.22) 18:00	36.10	536.21	134.86	638.06	132.59
(08.22.22) 19:00	37.10	916.00	134.88	639.19	132.61
(08.22.22) 20:00	36.31	916.56	134.91	657.04	132.64
(08.22.22) 21:00	37.17	919.15	134.94	638.57	132.66
(08.22.22) 22:00	37.46	541.38	134.96	639.78	132.69
(08.22.22) 23:00	38.21	537.46	134.99	636.01	132.72
(08.23.22) 00:00	38.01	527.11	135.02	636.99	132.74
(08.23.22) 01:00	37.34	431.29	135.04	630.40	132.77
(08.23.22) 02:00	35.49	430.01	135.07	636.76	132.79
(08.23.22) 03:00	32.75	430.06	135.09	629.15	132.82
(08.23.22) 04:00	30.67	428.69	135.10	632.31	132.84
(08.23.22) 05:00	28.23	429.77	135.12	629.15	132.87
(08.23.22) 06:00	27.69	401.27	135.14	628.79	132.89
(08.23.22) 07:00	27.49	435.01	135.16	631.14	132.92
(08.23.22) 08:00	27.90	431.58	135.17	626.63	132.94
(08.23.22) 09:00	28.72	428.23	135.19	547.95	132.97
(08.23.22) 10:00	30.51	431.28	135.21	556.07	132.99
(08.23.22) 11:00	31.99	433.84	135.22	548.39	133.01
(08.23.22) 12:00	34.03	433.00	135.24	554.03	133.04
(08.23.22) 13:00	34.87	0.43	135.26	553.05	133.06
(08.23.22) 14:00	35.37	0.41	135.27	553.55	133.09
(08.23.22) 15:00	34.40	426.95	135.29	648.80	133.11
(08.23.22) 16:00	34.78	417.68	135.30	646.75	133.13
(08.23.22) 17:00	35.05	413.34	135.32	645.78	133.16
(08.23.22) 18:00	34.81	414.51	135.34	643.02	133.18
(08.23.22) 19:00	36.19	415.22	135.35	641.00	133.21
(08.23.22) 20:00	35.73	416.32	135.37	645.91	133.23
(08.23.22) 21:00	36.60	416.55	135.39	636.77	133.26
(08.23.22) 22:00	37.20	417.55	135.40	629.24	133.28
(08.23.22) 23:00	37.86	417.59	135.42	632.92	133.31
(08.24.22) 00:00	37.35	416.77	135.44	630.53	133.34
(08.24.22) 01:00	36.82	414.46	135.45	627.93	133.36
(08.24.22) 02:00	35.31	417.09	135.47	629.30	133.39
(08.24.22) 03:00	32.40	419.48	135.48	633.09	133.41
(08.24.22) 04:00	30.64	417.32	135.50	628.23	133.44

(08.24.22) 05:00	29.00	416.83	135.51	630.35	133.46
(08.24.22) 06:00	27.13	415.44	135.52	631.67	133.48
(08.24.22) 07:00	27.37	418.38	135.54	631.44	133.51
(08.24.22) 08:00	28.75	76.72	135.55	542.98	133.53
(08.24.22) 09:00	28.90	0.43	135.56	553.40	133.56
(08.24.22) 10:00	30.37	75.61	135.57	551.24	133.58
(08.24.22) 11:00	31.80	70.05	135.59	550.69	133.61
(08.24.22) 12:00	32.41	39.26	135.60	555.63	133.63
(08.24.22) 13:00	33.39	52.31	135.61	555.12	133.65
(08.24.22) 14:00	34.26	436.36	135.62	556.36	133.68
(08.24.22) 15:00	34.17	542.50	135.63	645.47	133.70
(08.24.22) 16:00	34.94	533.95	135.64	649.86	133.73
(08.24.22) 17:00	34.15	522.95	135.66	645.31	133.75
(08.24.22) 18:00	33.74	0.33	135.67	646.74	133.77
(08.24.22) 19:00	33.56	420.91	135.68	643.41	133.80
(08.24.22) 20:00	34.55	417.11	135.70	637.32	133.82
(08.24.22) 21:00	35.60	416.35	135.72	632.36	133.85
(08.24.22) 22:00	36.67	416.73	135.73	629.17	133.88
(08.24.22) 23:00	37.05	418.63	135.75	630.20	133.90
(08.25.22) 00:00	37.19	419.37	135.76	633.77	133.93
(08.25.22) 01:00	36.80	416.89	135.78	629.32	133.95
(08.25.22) 02:00	35.50	413.97	135.80	630.57	133.98
(08.25.22) 03:00	33.16	415.43	135.81	629.54	134.00
(08.25.22) 04:00	31.40	411.30	135.83	624.49	134.03
(08.25.22) 05:00	28.85	413.63	135.85	626.79	134.05
(08.25.22) 06:00	27.05	416.85	135.86	621.99	134.07
(08.25.22) 07:00	26.43	419.19	135.88	627.29	134.10
(08.25.22) 08:00	27.54	415.56	135.90	547.86	134.12
(08.25.22) 09:00	27.48	421.37	135.91	545.38	134.15
(08.25.22) 10:00	29.43	419.55	135.93	548.02	134.17
(08.25.22) 11:00	32.59	420.36	135.95	552.96	134.20
(08.25.22) 12:00	33.91	419.55	135.97	553.64	134.22
(08.25.22) 13:00	33.85	417.39	135.98	555.24	134.24
(08.25.22) 14:00	33.92	417.61	136.00	555.40	134.27
(08.25.22) 15:00	33.89	418.61	136.02	643.27	134.29
(08.25.22) 16:00	33.81	418.91	136.03	648.66	134.31
(08.25.22) 17:00	34.65	419.32	136.05	642.00	134.34
(08.25.22) 18:00	34.29	419.47	136.07	646.65	134.36
(08.25.22) 19:00	35.57	540.63	136.09	643.96	134.39
(08.25.22) 20:00	35.96	535.27	136.11	632.16	134.41
(08.25.22) 21:00	39.25	531.27	136.13	622.21	134.44
(08.25.22) 22:00	39.54	535.60	136.15	632.06	134.46
(08.25.22) 23:00	38.59	534.30	136.17	627.33	134.49
(08.26.22) 00:00	39.34	531.84	136.19	626.63	134.52
(08.26.22) 01:00	38.29	441.12	136.21	630.21	134.54
(08.26.22) 02:00	36.54	428.37	136.22	627.34	134.57
(08.26.22) 03:00	34.25	426.92	136.24	628.71	134.59

(08.26.22) 04:00	31.00	423.48	136.25	628.32	134.61
(08.26.22) 05:00	28.77	420.27	136.27	621.96	134.64
(08.26.22) 06:00	27.32	423.76	136.28	628.92	134.66
(08.26.22) 07:00	26.70	422.65	136.30	625.57	134.69
(08.26.22) 08:00	27.37	61.19	136.31	531.32	134.71
(08.26.22) 09:00	27.68	79.13	136.33	526.65	134.73
(08.26.22) 10:00	28.65	0.44	136.33	534.13	134.76
(08.26.22) 11:00	30.75	67.45	136.34	530.17	134.78
(08.26.22) 12:00	32.79	76.38	136.35	531.40	134.80
(08.26.22) 13:00	34.50	41.98	136.36	537.18	134.83
(08.26.22) 14:00	35.13	438.58	136.37	538.42	134.85
(08.26.22) 15:00	35.67	410.18	136.37	640.51	134.87
(08.26.22) 16:00	35.45	411.42	136.38	647.60	134.90
(08.26.22) 17:00	35.86	401.45	136.39	646.58	134.92
(08.26.22) 18:00	35.05	408.84	136.41	644.06	134.94
(08.26.22) 19:00	35.89	406.98	136.42	641.10	134.97
(08.26.22) 20:00	36.05	409.47	136.44	645.13	135.00
(08.26.22) 21:00	36.53	408.94	136.46	631.37	135.02
(08.26.22) 22:00	36.71	404.59	136.47	633.23	135.05
(08.26.22) 23:00	36.67	409.53	136.49	634.42	135.07
(08.27.22) 00:00	37.30	402.20	136.51	631.62	135.10
(08.27.22) 01:00	36.44	536.08	136.53	627.68	135.12
(08.27.22) 02:00	34.14	535.43	136.54	630.38	135.15
(08.27.22) 03:00	32.69	523.75	136.56	625.20	135.17
(08.27.22) 04:00	30.85	521.81	136.58	625.29	135.20
(08.27.22) 05:00	29.02	515.35	136.60	629.72	135.23
(08.27.22) 06:00	26.45	506.52	136.62	624.82	135.25
(08.27.22) 07:00	26.25	411.92	136.64	626.05	135.28
(08.27.22) 08:00	26.81	408.90	136.66	625.77	135.30
(08.27.22) 09:00	26.88	426.26	136.68	628.41	135.33
(08.27.22) 10:00	26.60	425.03	136.69	624.51	135.35
(08.27.22) 11:00	28.59	421.95	136.71	534.78	135.37
(08.27.22) 12:00	30.68	423.76	136.73	528.62	135.39
(08.27.22) 13:00	32.78	420.48	136.74	532.75	135.41
(08.27.22) 14:00	34.81	429.65	136.76	238.78	135.44
(08.27.22) 15:00	35.26	414.90	136.78	577.23	135.46
(08.27.22) 16:00	36.99	408.80	136.79	577.45	135.48
(08.27.22) 17:00	37.31	415.29	136.81	578.99	135.50
(08.27.22) 18:00	36.34	406.29	136.83	576.59	135.53
(08.27.22) 19:00	37.06	409.96	136.84	578.88	135.55
(08.27.22) 20:00	36.97	412.93	136.86	570.09	135.57
(08.27.22) 21:00	37.56	435.05	136.88	562.79	135.59
(08.27.22) 22:00	37.13	431.39	136.90	570.52	135.62
(08.27.22) 23:00	36.90	412.45	136.91	573.25	135.64
(08.28.22) 00:00	36.54	410.42	136.93	568.18	135.66
(08.28.22) 01:00	35.23	410.57	136.95	569.87	135.69
(08.28.22) 02:00	34.90	410.62	136.96	573.21	135.71

(08.28.22) 03:00	32.92	393.82	136.98	578.18	135.73
(08.28.22) 04:00	60.93	405.57	137.00	572.56	135.76
(08.28.22) 05:00	77.36	411.25	137.02	572.21	135.78
(08.28.22) 06:00	78.86	407.44	137.04	576.06	135.80
(08.28.22) 07:00	94.64	536.97	137.05	578.02	135.83
(08.28.22) 08:00	93.74	536.07	137.07	578.77	135.85
(08.28.22) 09:00	92.45	533.49	137.09	578.98	135.87
(08.28.22) 10:00	91.91	528.93	137.11	576.06	135.89
(08.28.22) 11:00	112.91	423.91	137.12	584.05	135.92
(08.28.22) 12:00	91.26	433.89	137.14	576.03	135.94
(08.28.22) 13:00	71.19	434.21	137.16	575.30	135.96
(08.28.22) 14:00	60.78	435.44	137.18	569.05	135.99
(08.28.22) 15:00	57.30	436.72	137.19	571.32	136.01
(08.28.22) 16:00	57.51	428.29	137.21	568.50	136.03
(08.28.22) 17:00	54.01	416.36	137.23	568.13	136.06
(08.28.22) 18:00	53.38	413.02	137.25	565.91	136.08
(08.28.22) 19:00	52.39	435.51	137.26	570.41	136.10
(08.28.22) 20:00	49.30	422.43	137.28	578.12	136.13
(08.28.22) 21:00	47.88	414.26	137.30	572.97	136.15
(08.28.22) 22:00	48.07	410.06	137.31	575.10	136.17
(08.28.22) 23:00	47.54	408.87	137.33	570.22	136.19
(08.29.22) 00:00	46.49	391.89	137.34	564.01	136.22
(08.29.22) 01:00	44.74	392.89	137.36	570.99	136.24
(08.29.22) 02:00	42.02	397.52	137.38	569.52	136.26
(08.29.22) 03:00	39.12	390.55	137.39	570.58	136.29
(08.29.22) 04:00	36.61	382.61	137.41	562.64	136.31
(08.29.22) 05:00	34.14	402.55	137.42	567.74	136.33
(08.29.22) 06:00	33.52	404.07	137.44	565.07	136.35
(08.29.22) 07:00	33.28	402.85	137.45	567.07	136.37
(08.29.22) 08:00	33.64	92.23	137.47	565.57	136.40
(08.29.22) 09:00	33.79	85.68	137.48	543.02	136.42
(08.29.22) 10:00	35.33	107.56	137.48	541.76	136.44
(08.29.22) 11:00	36.47	29.72	137.49	542.56	136.46
(08.29.22) 12:00	37.58	9.10	137.50	544.96	136.49
(08.29.22) 13:00	38.02	0.38	137.51	541.98	136.51
(08.29.22) 14:00	37.66	0.34	137.52	547.09	136.53
(08.29.22) 15:00	37.98	536.40	137.52	630.14	136.56
(08.29.22) 16:00	37.96	532.45	137.53	629.74	136.58
(08.29.22) 17:00	39.10	531.41	137.55	638.33	136.60
(08.29.22) 18:00	39.61	890.93	137.58	651.60	136.63
(08.29.22) 19:00	39.56	904.26	137.61	647.73	136.65
(08.29.22) 20:00	39.66	905.34	137.64	645.26	136.68
(08.29.22) 21:00	40.86	912.67	137.67	644.13	136.70
(08.29.22) 22:00	41.90	539.70	137.70	640.41	136.73
(08.29.22) 23:00	42.60	535.18	137.73	629.07	136.76
(08.30.22) 00:00	41.82	541.48	137.76	635.93	136.78
(08.30.22) 01:00	40.65	781.12	137.79	636.44	136.81

(08.30.22) 02:00	39.24	803.55	137.82	638.68	136.83
(08.30.22) 03:00	36.93	813.21	137.85	635.80	136.86
(08.30.22) 04:00	34.48	820.18	137.87	639.10	136.88
(08.30.22) 05:00	31.63	837.63	137.90	637.55	136.91
(08.30.22) 06:00	30.35	541.65	137.93	631.12	136.93
(08.30.22) 07:00	30.32	542.26	137.96	635.24	136.96
(08.30.22) 08:00	31.70	536.37	137.99	633.89	136.98
(08.30.22) 09:00	32.08	539.76	138.01	552.03	137.01
(08.30.22) 10:00	34.14	541.76	138.03	557.48	137.03
(08.30.22) 11:00	36.12	431.85	138.04	555.64	137.06
(08.30.22) 12:00	36.77	406.34	138.06	557.84	137.08
(08.30.22) 13:00	37.70	406.75	138.08	557.87	137.10
(08.30.22) 14:00	38.29	408.06	138.10	559.06	137.13
(08.30.22) 15:00	37.35	406.25	138.12	641.42	137.15
(08.30.22) 16:00	37.19	405.27	138.13	643.91	137.17
(08.30.22) 17:00	38.87	405.33	138.15	646.39	137.20
(08.30.22) 18:00	39.27	394.56	138.17	639.88	137.22
(08.30.22) 19:00	39.36	397.14	138.18	636.61	137.25
(08.30.22) 20:00	38.70	406.51	138.20	628.42	137.27
(08.30.22) 21:00	38.95	403.32	138.22	629.50	137.30
(08.30.22) 22:00	38.74	399.81	138.23	628.23	137.32
(08.30.22) 23:00	39.17	405.62	138.25	631.54	137.35
(08.31.22) 00:00	39.50	409.19	138.26	626.22	137.38
(08.31.22) 01:00	38.33	404.75	138.28	629.42	137.40
(08.31.22) 02:00	36.08	403.80	138.30	624.03	137.43
(08.31.22) 03:00	34.06	400.33	138.31	624.85	137.45
(08.31.22) 04:00	32.55	406.25	138.33	634.47	137.48
(08.31.22) 05:00	31.20	399.84	138.35	632.52	137.50
(08.31.22) 06:00	28.37	388.92	138.36	638.55	137.53
(08.31.22) 07:00	27.61	400.83	138.38	638.02	137.55
(08.31.22) 08:00	28.43	0.36	138.39	557.87	137.58
(08.31.22) 09:00	30.38	0.37	138.40	560.21	137.60
(08.31.22) 10:00	32.17	0.37	138.40	560.62	137.62
(08.31.22) 11:00	33.54	0.38	138.41	559.44	137.65
(08.31.22) 12:00	34.64	50.89	138.41	561.92	137.67
(08.31.22) 13:00	36.07	0.37	138.42	597.98	137.70
(08.31.22) 14:00	36.19	541.12	138.42	647.07	137.72
(08.31.22) 15:00	34.74	538.57	138.43	643.38	137.74
(08.31.22) 16:00	34.39	540.75	138.44	641.64	137.77
(08.31.22) 17:00	35.59	544.97	138.47	642.88	137.79
(08.31.22) 18:00	35.46	491.91	138.49	645.01	137.82
(08.31.22) 19:00	35.90	533.49	138.52	637.80	137.84
(08.31.22) 20:00	36.30	534.89	138.55	634.19	137.87
(08.31.22) 21:00	36.36	891.45	138.58	633.31	137.89
(08.31.22) 22:00	37.75	909.78	138.60	638.53	137.92
(08.31.22) 23:00	37.83	921.93	138.63	631.62	137.94
(09.01.22) 00:00	37.63	929.94	138.66	635.34	137.97

(09.01.22) 01:00	37.17	932.28	138.69	637.40	138.00
(09.01.22) 02:00	35.56	939.03	138.71	635.78	138.02
(09.01.22) 03:00	33.75	530.22	138.74	638.90	138.05
(09.01.22) 04:00	31.28	537.26	138.77	628.31	138.07
(09.01.22) 05:00	29.01	540.04	138.80	635.08	138.10
(09.01.22) 06:00	28.19	539.85	138.82	632.44	138.12
(09.01.22) 07:00	27.71	538.47	138.85	632.77	138.14
(09.01.22) 08:00	28.39	525.58	138.87	527.11	138.17
(09.01.22) 09:00	28.74	519.93	138.89	436.39	138.19
(09.01.22) 10:00	30.41	514.80	138.91	555.84	138.21
(09.01.22) 11:00	31.96	421.25	138.93	551.99	138.24
(09.01.22) 12:00	33.65	410.63	138.94	557.59	138.26
(09.01.22) 13:00	33.97	404.36	138.96	561.34	138.28
(09.01.22) 14:00	33.75	407.66	138.98	567.69	138.30
(09.01.22) 15:00	34.10	409.29	139.00	287.52	138.32
(09.01.22) 16:00	34.31	435.08	139.02	650.02	138.35
(09.01.22) 17:00	33.50	422.40	139.03	650.34	138.37
(09.01.22) 18:00	34.92	408.21	139.05	645.61	138.40
(09.01.22) 19:00	35.08	425.82	139.07	648.84	138.42
(09.01.22) 20:00	35.12	416.44	139.08	651.59	138.45
(09.01.22) 21:00	36.05	406.22	139.10	645.92	138.48
(09.01.22) 22:00	37.16	406.63	139.12	642.99	138.50
(09.01.22) 23:00	37.61	404.72	139.13	640.36	138.53
(09.02.22) 00:00	37.52	393.29	139.15	640.18	138.55
(09.02.22) 01:00	36.79	398.67	139.17	644.23	138.58
(09.02.22) 02:00	35.18	402.91	139.19	639.27	138.61
(09.02.22) 03:00	33.09	404.52	139.22	641.71	138.63
(09.02.22) 04:00	30.75	407.04	139.24	637.47	138.66
(09.02.22) 05:00	28.91	402.63	139.26	642.14	138.68
(09.02.22) 06:00	28.20	800.82	139.28	642.01	138.71
(09.02.22) 07:00	27.30	824.97	139.30	638.40	138.73
(09.02.22) 08:00	27.99	0.36	139.31	650.50	138.76
(09.02.22) 09:00	28.09	0.42	139.32	643.41	138.78
(09.02.22) 10:00	29.41	79.70	139.33	562.73	138.81
(09.02.22) 11:00	31.02	0.42	139.33	562.61	138.83
(09.02.22) 12:00	32.60	0.45	139.34	567.55	138.86
(09.02.22) 13:00	34.06	0.65	139.35	577.68	138.88
(09.02.22) 14:00	35.16	541.96	139.35	568.91	138.90
(09.02.22) 15:00	33.89	536.09	139.36	654.71	138.93
(09.02.22) 16:00	34.60	536.97	139.38	653.68	138.95
(09.02.22) 17:00	35.95	542.65	139.40	657.32	138.98
(09.02.22) 18:00	35.42	540.26	139.42	649.65	139.00
(09.02.22) 19:00	35.80	539.01	139.44	652.91	139.03
(09.02.22) 20:00	36.34	537.56	139.46	643.62	139.06
(09.02.22) 21:00	37.10	536.64	139.48	643.26	139.08
(09.02.22) 22:00	36.94	531.39	139.51	646.89	139.11
(09.02.22) 23:00	36.24	533.36	139.53	644.26	139.13

(09.03.22) 00:00	35.29	528.55	139.55	641.23	139.16
(09.03.22) 01:00	34.38	528.62	139.57	637.91	139.19
(09.03.22) 02:00	33.26	520.27	139.59	637.45	139.21
(09.03.22) 03:00	31.28	523.02	139.61	639.70	139.24
(09.03.22) 04:00	30.21	524.20	139.63	639.87	139.26
(09.03.22) 05:00	28.89	524.00	139.66	643.20	139.29
(09.03.22) 06:00	26.85	522.35	139.68	642.66	139.32
(09.03.22) 07:00	25.88	521.28	139.70	643.09	139.34
(09.03.22) 08:00	26.25	518.67	139.72	645.34	139.37
(09.03.22) 09:00	26.25	523.57	139.74	638.51	139.39
(09.03.22) 10:00	26.51	519.11	139.75	644.81	139.42
(09.03.22) 11:00	27.75	432.51	139.77	640.20	139.44
(09.03.22) 12:00	30.06	430.51	139.79	633.57	139.47
(09.03.22) 13:00	31.82	430.32	139.81	628.47	139.50
(09.03.22) 14:00	33.24	430.24	139.83	635.34	139.52
(09.03.22) 15:00	36.01	414.78	139.85	620.72	139.55
(09.03.22) 16:00	36.59	408.37	139.87	620.69	139.57
(09.03.22) 17:00	37.91	411.53	139.89	618.95	139.60
(09.03.22) 18:00	37.28	410.93	139.91	622.18	139.62
(09.03.22) 19:00	37.36	411.21	139.92	623.05	139.65
(09.03.22) 20:00	36.71	406.34	139.94	620.95	139.67
(09.03.22) 21:00	36.04	831.15	139.96	622.43	139.70
(09.03.22) 22:00	36.17	410.66	139.98	627.62	139.72
(09.03.22) 23:00	35.75	407.49	140.00	626.73	139.75
(09.04.22) 00:00	34.62	396.43	140.02	631.03	139.77
(09.04.22) 01:00	34.00	392.57	140.03	627.40	139.80
(09.04.22) 02:00	33.02	398.91	140.05	627.97	139.82
(09.04.22) 03:00	31.56	406.12	140.06	625.27	139.85
(09.04.22) 04:00	29.41	407.33	140.08	627.82	139.87
(09.04.22) 05:00	27.41	402.70	140.10	630.28	139.90
(09.04.22) 06:00	26.58	399.88	140.11	625.70	139.92
(09.04.22) 07:00	25.03	397.37	140.13	620.47	139.95
(09.04.22) 08:00	23.91	399.88	140.15	622.77	139.97
(09.04.22) 09:00	24.74	392.92	140.17	624.53	140.00
(09.04.22) 10:00	26.09	405.60	140.19	557.08	140.02
(09.04.22) 11:00	27.72	541.12	140.21	560.34	140.04
(09.04.22) 12:00	30.73	536.15	140.22	565.53	140.07
(09.04.22) 13:00	33.40	540.91	140.24	567.07	140.09
(09.04.22) 14:00	34.62	540.24	140.26	567.46	140.12
(09.04.22) 15:00	35.79	535.51	140.28	676.02	140.14
(09.04.22) 16:00	36.32	528.49	140.31	662.47	140.16
(09.04.22) 17:00	37.46	530.35	140.34	649.69	140.19
(09.04.22) 18:00	36.85	878.48	140.37	648.49	140.21
(09.04.22) 19:00	36.52	885.85	140.40	642.41	140.24
(09.04.22) 20:00	36.67	898.44	140.43	643.45	140.27
(09.04.22) 21:00	36.58	903.43	140.46	637.65	140.29
(09.04.22) 22:00	36.23	540.93	140.48	638.30	140.32

(09.04.22) 23:00	35.98	534.78	140.51	637.52	140.34
(09.05.22) 00:00	35.52	528.54	140.53	640.11	140.37
(09.05.22) 01:00	34.50	534.12	140.55	638.97	140.40
(09.05.22) 02:00	32.66	535.35	140.58	635.03	140.42
(09.05.22) 03:00	31.29	533.79	140.60	640.64	140.45
(09.05.22) 04:00	30.13	534.22	140.62	636.77	140.47
(09.05.22) 05:00	27.55	531.59	140.64	635.54	140.50
(09.05.22) 06:00	25.94	530.86	140.66	632.87	140.52
(09.05.22) 07:00	25.62	533.37	140.68	636.43	140.55
(09.05.22) 08:00	24.74	540.21	140.70	262.08	140.57
(09.05.22) 09:00	23.52	538.42	140.72	555.63	140.60
(09.05.22) 10:00	24.87	537.74	140.74	556.64	140.62
(09.05.22) 11:00	26.87	434.95	140.76	564.30	140.64
(09.05.22) 12:00	29.79	436.88	140.78	566.05	140.66
(09.05.22) 13:00	33.48	438.10	140.80	569.98	140.68
(09.05.22) 14:00	36.07	428.22	140.82	572.94	140.71
(09.05.22) 15:00	37.59	438.32	140.84	657.32	140.73
(09.05.22) 16:00	38.40	438.65	140.85	654.89	140.76
(09.05.22) 17:00	38.46	428.45	140.87	650.29	140.78
(09.05.22) 18:00	38.27	417.09	140.89	644.19	140.81
(09.05.22) 19:00	38.10	407.92	140.91	638.81	140.83
(09.05.22) 20:00	37.75	397.31	140.92	641.53	140.86
(09.05.22) 21:00	38.04	406.54	140.94	640.62	140.88
(09.05.22) 22:00	38.02	405.86	140.96	642.82	140.91
(09.05.22) 23:00	37.96	405.22	140.97	638.55	140.93
(09.06.22) 00:00	37.62	402.30	140.99	640.74	140.96
(09.06.22) 01:00	36.74	400.82	141.00	639.10	140.98
(09.06.22) 02:00	35.15	404.35	141.02	637.78	141.01
(09.06.22) 03:00	33.71	402.19	141.04	637.78	141.04
(09.06.22) 04:00	29.66	400.42	141.05	635.48	141.06
(09.06.22) 05:00	27.33	404.54	141.07	640.02	141.09
(09.06.22) 06:00	26.56	393.68	141.09	642.63	141.11
(09.06.22) 07:00	25.24	390.23	141.10	644.59	141.14
(09.06.22) 08:00	25.90	404.76	141.12	638.25	141.16
(09.06.22) 09:00	27.23	402.59	141.14	638.40	141.18
(09.06.22) 10:00	29.31	404.52	141.16	561.91	141.21
(09.06.22) 11:00	31.02	542.21	141.18	562.56	141.23
(09.06.22) 12:00	32.41	543.08	141.19	569.04	141.26
(09.06.22) 13:00	34.05	543.21	141.21	564.30	141.28
(09.06.22) 14:00	33.95	542.76	141.23	575.06	141.31
(09.06.22) 15:00	34.27	540.92	141.25	657.25	141.33
(09.06.22) 16:00	33.90	536.84	141.28	659.63	141.36
(09.06.22) 17:00	34.22	530.69	141.30	659.31	141.38
(09.06.22) 18:00	34.32	526.23	141.32	652.89	141.41
(09.06.22) 19:00	36.11	530.56	141.34	653.54	141.43
(09.06.22) 20:00	36.43	531.48	141.36	649.85	141.46
(09.06.22) 21:00	36.76	528.50	141.38	639.53	141.48

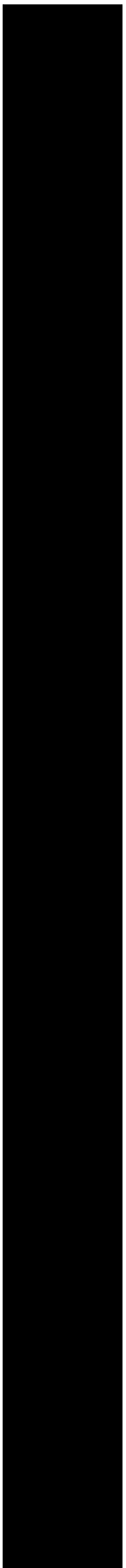
(09.06.22) 22:00	36.36	526.67	141.41	644.28	141.51
(09.06.22) 23:00	36.87	530.69	141.43	646.90	141.54
(09.07.22) 00:00	37.10	525.12	141.45	641.79	141.56
(09.07.22) 01:00	36.34	527.13	141.47	634.32	141.59
(09.07.22) 02:00	34.91	525.59	141.49	644.11	141.61
(09.07.22) 03:00	31.29	524.05	141.51	644.02	141.64
(09.07.22) 04:00	28.91	526.68	141.53	640.89	141.66
(09.07.22) 05:00	27.23	527.99	141.55	642.56	141.69
(09.07.22) 06:00	25.57	528.29	141.56	639.92	141.71
(09.07.22) 07:00	25.14	529.92	141.57	636.81	141.73
(09.07.22) 08:00	26.07	0.34	141.58	244.05	141.75
(09.07.22) 09:00	27.02	68.82	141.59	221.10	141.77
(09.07.22) 10:00	28.53	73.69	141.60	547.04	141.79
(09.07.22) 11:00	30.09	106.55	141.61	554.14	141.81
(09.07.22) 12:00	31.85	76.16	141.62	561.13	141.83
(09.07.22) 13:00	34.11	0.43	141.63	557.37	141.85
(09.07.22) 14:00	34.44	435.61	141.65	567.70	141.88
(09.07.22) 15:00	33.10	428.39	141.67	654.82	141.90
(09.07.22) 16:00	34.04	401.73	141.69	664.22	141.93
(09.07.22) 17:00	33.39	404.46	141.71	656.44	141.95
(09.07.22) 18:00	33.79	770.92	141.73	653.65	141.98
(09.07.22) 19:00	34.17	804.20	141.75	646.13	142.00
(09.07.22) 20:00	33.92	806.67	141.77	648.30	142.03
(09.07.22) 21:00	34.45	814.64	141.80	640.60	142.05
(09.07.22) 22:00	35.69	408.56	141.82	636.84	142.08
(09.07.22) 23:00	36.53	402.42	141.85	640.83	142.11
(09.08.22) 00:00	36.10	415.73	141.88	637.23	142.13
(09.08.22) 01:00	35.33	844.83	141.91	644.25	142.16
(09.08.22) 02:00	33.60	872.45	141.93	640.71	142.18
(09.08.22) 03:00	31.43	864.11	141.96	637.71	142.21
(09.08.22) 04:00	29.46	871.75	141.99	639.94	142.23
(09.08.22) 05:00	27.54	402.13	142.01	636.67	142.26
(09.08.22) 06:00	25.25	400.46	142.03	639.18	142.28
(09.08.22) 07:00	24.97	405.29	142.04	636.61	142.30
(09.08.22) 08:00	26.69	398.60	142.06	250.27	142.31
(09.08.22) 09:00	27.94	404.11	142.08	552.72	142.33
(09.08.22) 10:00	29.35	407.16	142.09	556.29	142.35
(09.08.22) 11:00	31.34	0.46	142.11	242.05	142.37
(09.08.22) 12:00	31.45	0.43	142.12	214.49	142.39
(09.08.22) 13:00	32.50	0.41	142.14	537.41	142.41
(09.08.22) 14:00	32.54	545.85	142.15	381.99	142.43
(09.08.22) 15:00	32.28	540.90	142.17	644.13	142.46
(09.08.22) 16:00	31.50	538.54	142.19	648.87	142.48
(09.08.22) 17:00	31.55	545.99	142.20	648.02	142.51
(09.08.22) 18:00	31.18	545.48	142.22	644.46	142.53
(09.08.22) 19:00	32.19	544.23	142.23	635.86	142.56
(09.08.22) 20:00	33.08	542.69	142.26	631.66	142.58

(09.08.22) 21:00	34.62	542.31	142.28	638.64	142.60
(09.08.22) 22:00	35.22	540.75	142.30	633.84	142.63
(09.08.22) 23:00	36.01	538.07	142.32	637.68	142.66
(09.09.22) 00:00	36.09	536.65	142.34	636.67	142.68
(09.09.22) 01:00	35.64	536.37	142.37	636.77	142.71
(09.09.22) 02:00	34.35	539.68	142.39	633.40	142.73
(09.09.22) 03:00	32.10	538.70	142.41	633.69	142.76
(09.09.22) 04:00	29.89	535.27	142.42	631.43	142.78
(09.09.22) 05:00	27.88	540.41	142.43	632.67	142.81
(09.09.22) 06:00	25.61	532.97	142.45	633.05	142.83
(09.09.22) 07:00	25.20	539.72	142.46	637.46	142.86
(09.09.22) 08:00	26.65	0.31	142.47	550.55	142.88
(09.09.22) 09:00	27.30	0.35	142.49	561.60	142.90
(09.09.22) 10:00	28.13	0.39	142.50	559.51	142.93
(09.09.22) 11:00	29.67	132.42	142.51	562.73	142.95
(09.09.22) 12:00	31.51	67.50	142.52	568.46	142.97
(09.09.22) 13:00	32.12	0.45	142.53	571.40	143.00
(09.09.22) 14:00	32.01	0.35	142.54	571.86	143.02
(09.09.22) 15:00	31.79	444.17	142.55	662.33	143.05
(09.09.22) 16:00	31.33	437.80	142.56	664.49	143.07
(09.09.22) 17:00	31.70	423.63	142.57	653.87	143.10
(09.09.22) 18:00	31.84	420.27	142.58	649.32	143.13
(09.09.22) 19:00	32.96	424.66	142.60	647.99	143.15
(09.09.22) 20:00	33.34	419.10	142.61	641.83	143.18
(09.09.22) 21:00	34.37	422.17	142.63	635.82	143.20
(09.09.22) 22:00	34.83	414.81	142.65	638.01	143.23
(09.09.22) 23:00	35.20	413.48	142.67	635.56	143.25
(09.10.22) 00:00	34.84	415.19	142.68	638.59	143.28
(09.10.22) 01:00	33.79	427.24	142.70	640.68	143.31
(09.10.22) 02:00	33.77	411.56	142.72	637.78	143.33
(09.10.22) 03:00	32.07	424.76	142.73	640.53	143.36
(09.10.22) 04:00	29.88	424.36	142.75	642.60	143.38
(09.10.22) 05:00	30.08	416.60	142.77	639.49	143.41
(09.10.22) 06:00	28.70	419.54	142.78	636.35	143.43
(09.10.22) 07:00	26.61	413.57	142.80	635.51	143.46
(09.10.22) 08:00	26.53	414.15	142.82	638.06	143.48
(09.10.22) 09:00	26.73	409.99	142.83	634.09	143.51
(09.10.22) 10:00	27.61	410.04	142.85	634.13	143.53
(09.10.22) 11:00	29.74	539.93	142.87	541.58	143.56
(09.10.22) 12:00	31.32	543.56	142.89	549.56	143.58
(09.10.22) 13:00	32.04	542.68	142.91	552.10	143.61
(09.10.22) 14:00	32.83	542.65	142.93	658.99	143.63
(09.10.22) 15:00	34.37	542.30	142.96	650.19	143.66
(09.10.22) 16:00	43.27	542.41	142.98	654.79	143.68
(09.10.22) 17:00	50.74	541.21	143.00	652.06	143.71
(09.10.22) 18:00	54.40	537.84	143.02	643.32	143.73
(09.10.22) 19:00	70.42	535.24	143.04	644.37	143.76

(09.10.22) 20:00	65.47	531.30	143.06	637.09	143.79
(09.10.22) 21:00	56.96	531.98	143.09	652.63	143.81
(09.10.22) 22:00	54.93	534.87	143.11	648.88	143.84
(09.10.22) 23:00	86.91	533.73	143.13	643.02	143.86
(09.11.22) 00:00	100.27	532.50	143.15	635.35	143.89
(09.11.22) 01:00	119.99	534.07	143.17	649.46	143.91
(09.11.22) 02:00	119.80	532.57	143.20	638.00	143.94
(09.11.22) 03:00	109.43	830.09	143.22	638.52	143.97
(09.11.22) 04:00	71.84	848.81	143.24	637.51	143.99
(09.11.22) 05:00	51.33	536.96	143.27	643.91	144.02
(09.11.22) 06:00	42.86	534.00	143.29	643.43	144.04
(09.11.22) 07:00	37.47	532.24	143.32	634.71	144.07
(09.11.22) 08:00	36.13	536.06	143.35	635.86	144.10
(09.11.22) 09:00	34.62	533.12	143.37	639.55	144.12
(09.11.22) 10:00	34.87	531.97	143.40	634.87	144.15
(09.11.22) 11:00	36.12	411.49	143.42	635.95	144.17
(09.11.22) 12:00	37.67	438.72	143.43	641.49	144.20
(09.11.22) 13:00	38.63	432.09	143.45	636.13	144.22
(09.11.22) 14:00	40.55	430.37	143.47	641.21	144.25
(09.11.22) 15:00	40.55	425.65	143.49	644.67	144.28
(09.11.22) 16:00	40.84	422.96	143.50	641.41	144.30
(09.11.22) 17:00	40.33	424.42	143.52	641.65	144.33
(09.11.22) 18:00	39.70	400.98	143.54	641.21	144.35
(09.11.22) 19:00	39.19	443.98	143.56	642.89	144.38
(09.11.22) 20:00	38.10	442.26	143.57	638.24	144.40
(09.11.22) 21:00	38.01	422.29	143.59	639.04	144.43
(09.11.22) 22:00	38.09	407.61	143.61	641.32	144.46
(09.11.22) 23:00	38.47	412.35	143.62	640.42	144.48
(09.12.22) 00:00	38.18	417.50	143.64	639.79	144.51
(09.12.22) 01:00	36.77	423.65	143.66	638.57	144.53
(09.12.22) 02:00	34.81	405.92	143.67	640.33	144.56
(09.12.22) 03:00	32.82	414.90	143.69	640.56	144.59
(09.12.22) 04:00	29.84	411.88	143.70	643.66	144.61
(09.12.22) 05:00	27.90	406.87	143.71	640.63	144.64
(09.12.22) 06:00	26.38	408.85	143.72	641.34	144.66
(09.12.22) 07:00	26.67	412.75	143.73	644.05	144.68
(09.12.22) 08:00	27.85	0.24	143.75	564.66	144.71
(09.12.22) 09:00	30.37	67.79	143.76	565.71	144.73
(09.12.22) 10:00	30.81	54.04	143.77	566.79	144.75
(09.12.22) 11:00	32.86	57.79	143.78	576.27	144.78
(09.12.22) 12:00	34.04	39.39	143.80	581.19	144.80
(09.12.22) 13:00	35.47	0.38	143.81	581.28	144.83
(09.12.22) 14:00	35.65	0.38	143.82	584.21	144.85
(09.12.22) 15:00	35.28	542.36	143.83	667.58	144.88
(09.12.22) 16:00	34.83	529.29	143.85	665.08	144.90
(09.12.22) 17:00	34.41	544.59	143.86	649.83	144.93
(09.12.22) 18:00	35.29	902.84	143.87	649.85	144.96

(09.12.22) 19:00	34.52	919.32	143.91	649.48	144.98
(09.12.22) 20:00	35.13	928.07	143.94	649.33	145.01
(09.12.22) 21:00	35.79	935.60	143.97	640.57	145.03
(09.12.22) 22:00	35.98	923.92	144.00	636.99	145.06
(09.12.22) 23:00	35.62	932.66	144.03	642.48	145.08
(09.13.22) 00:00	35.97	938.83	144.07	639.41	145.11
(09.13.22) 01:00	35.38	517.34	144.10	643.89	145.14
(09.13.22) 02:00	34.31	440.04	144.13	644.40	145.16
(09.13.22) 03:00	31.30	439.90	144.15	646.05	145.19
(09.13.22) 04:00	28.83	437.53	144.17	635.54	145.21
(09.13.22) 05:00	27.13	414.93	144.18	633.76	145.24
(09.13.22) 06:00	26.28	414.75	144.20	641.70	145.26
(09.13.22) 07:00	24.62	420.02	144.22	640.36	145.29
(09.13.22) 08:00	26.85	419.81	144.23	554.57	145.31
(09.13.22) 09:00	29.92	418.90	144.25	563.92	145.33
(09.13.22) 10:00	32.94	423.84	144.27	566.98	145.36
(09.13.22) 11:00	34.53	412.20	144.29	572.26	145.38
(09.13.22) 12:00	35.70	418.20	144.30	579.07	145.41
(09.13.22) 13:00	36.00	414.56	144.32	577.85	145.43
(09.13.22) 14:00	34.71	422.44	144.34	579.95	145.46
(09.13.22) 15:00	33.63	424.97	144.35	663.11	145.48
(09.13.22) 16:00	33.52	413.86	144.37	661.20	145.51
(09.13.22) 17:00	32.75	418.16	144.39	658.19	145.53
(09.13.22) 18:00	32.75	421.88	144.40	654.17	145.56
(09.13.22) 19:00	33.38	806.32	144.43	644.78	145.58
(09.13.22) 20:00	33.75	822.52	144.46	647.41	145.61
(09.13.22) 21:00	35.37	831.42	144.49	643.81	145.63
(09.13.22) 22:00	36.07	835.71	144.51	642.73	145.66
(09.13.22) 23:00	36.66	842.22	144.54	643.00	145.69
(09.14.22) 00:00	36.84	443.06	144.57	646.52	145.71
(09.14.22) 01:00	35.99	440.83	144.60	640.98	145.74
(09.14.22) 02:00	34.23	549.64	144.62	641.90	145.76
(09.14.22) 03:00	32.04	546.59	144.64	641.41	145.79
(09.14.22) 04:00	30.39	535.30	144.65	640.98	145.82
(09.14.22) 05:00	27.07	536.34	144.67	634.76	145.84
(09.14.22) 06:00	25.81	430.05	144.68	638.47	145.86
(09.14.22) 07:00	25.59	419.51	144.70	637.68	145.89
(09.14.22) 08:00	26.87	59.16	144.72	640.07	145.91
(09.14.22) 09:00	27.76	60.23	144.73	557.08	145.94
(09.14.22) 10:00	29.61	41.14	144.74	561.24	145.96
(09.14.22) 11:00	31.80	73.67	144.75	561.83	145.98
(09.14.22) 12:00	31.57	103.17	144.77	574.66	146.01
(09.14.22) 13:00	32.77	89.29	144.78	573.66	146.03
(09.14.22) 14:00	32.68	448.62	144.79	578.12	146.06
(09.14.22) 15:00	32.93	441.96	144.80	666.08	146.08
(09.14.22) 16:00	31.83	424.54	144.81	653.89	146.11
(09.14.22) 17:00	32.63	392.64	144.82	644.29	146.13

(09.14.22) 18:00	32.78	413.32	144.83	637.29	146.16
(09.14.22) 19:00	33.06	409.67	144.85	631.86	146.18
(09.14.22) 20:00	33.78	417.23	144.86	622.95	146.21
(09.14.22) 21:00	34.59	410.68	144.88	624.34	146.23
(09.14.22) 22:00	35.23	412.49	144.90	628.75	146.26
(09.14.22) 23:00	35.84	416.81	144.91	620.86	146.28
(09.15.22) 00:00	35.81	411.86	144.93	629.43	146.31



Time Hour Res. (mm.dd.yy) HH:mm	Blue River Parshall Flow (MGD)	Combined Blue River Secondary /Birmingham am Sludge	Combined Blue River Secondary /Birmingham am Sludge	Westside Sludge Flow (GPM)	Westside Sludge Flow (Tot.)
(08.01.22) 00:00	41.91	891.33	125.73	640.69	120.16
(08.01.22) 01:00	40.88	411.07	125.76	633.95	120.19
(08.01.22) 02:00	39.79	543.15	125.79	638.29	120.21
(08.01.22) 03:00	37.48	540.33	125.80	643.27	120.24
(08.01.22) 04:00	35.64	536.55	125.82	637.72	120.26
(08.01.22) 05:00	33.59	0.38	125.84	637.44	120.29
(08.01.22) 06:00	31.90	417.76	125.86	637.63	120.31
(08.01.22) 07:00	30.64	421.79	125.88	638.12	120.33
(08.01.22) 08:00	30.36	0.40	125.89	541.93	120.36
(08.01.22) 09:00	30.69	0.44	125.90	551.89	120.38
(08.01.22) 10:00	31.97	0.41	125.90	549.12	120.41
(08.01.22) 11:00	32.81	0.38	125.90	554.78	120.43
(08.01.22) 12:00	36.23	0.35	125.91	549.78	120.45
(08.01.22) 13:00	36.89	0.31	125.91	557.64	120.48
(08.01.22) 14:00	37.34	0.28	125.91	554.23	120.50
(08.01.22) 15:00	38.61	540.73	125.92	431.99	120.53
(08.01.22) 16:00	38.18	540.83	125.93	661.49	120.55
(08.01.22) 17:00	39.15	542.18	125.95	656.36	120.57
(08.01.22) 18:00	39.18	537.17	125.97	658.52	120.60
(08.01.22) 19:00	38.76	528.23	125.99	651.79	120.62
(08.01.22) 20:00	38.25	525.50	126.01	649.78	120.65
(08.01.22) 21:00	38.64	526.19	126.03	638.48	120.67
(08.01.22) 22:00	39.28	523.83	126.06	636.05	120.70
(08.01.22) 23:00	39.97	524.63	126.08	640.01	120.73
(08.02.22) 00:00	39.76	936.10	126.10	635.52	120.75
(08.02.22) 01:00	39.17	942.81	126.14	639.06	120.78
(08.02.22) 02:00	37.77	940.30	126.17	637.56	120.80
(08.02.22) 03:00	37.99	943.98	126.20	643.55	120.83
(08.02.22) 04:00	36.86	946.24	126.23	636.08	120.85
(08.02.22) 05:00	34.65	946.37	126.26	637.77	120.88
(08.02.22) 06:00	32.22	523.16	126.30	640.50	120.90
(08.02.22) 07:00	36.65	520.93	126.33	641.92	120.92
(08.02.22) 08:00	34.35	517.50	126.35	543.17	120.95
(08.02.22) 09:00	32.57	514.06	126.37	548.59	120.97
(08.02.22) 10:00	33.16	517.95	126.39	544.38	121.00
(08.02.22) 11:00	34.17	520.13	126.42	551.48	121.02
(08.02.22) 12:00	33.66	525.04	126.44	547.20	121.04
(08.02.22) 13:00	35.68	524.63	126.46	553.10	121.07
(08.02.22) 14:00	37.06	526.30	126.48	554.93	121.09

(08.02.22) 15:00	36.44	441.64	126.50	650.29	121.12
(08.02.22) 16:00	36.14	428.57	126.52	660.33	121.14
(08.02.22) 17:00	36.00	426.15	126.53	652.36	121.16
(08.02.22) 18:00	36.27	424.49	126.55	651.35	121.19
(08.02.22) 19:00	37.60	419.54	126.57	651.98	121.21
(08.02.22) 20:00	37.18	424.39	126.58	637.75	121.24
(08.02.22) 21:00	37.50	421.34	126.60	637.59	121.26
(08.02.22) 22:00	38.85	420.88	126.62	640.48	121.29
(08.02.22) 23:00	40.22	415.59	126.63	638.34	121.31
(08.03.22) 00:00	39.75	414.21	126.66	641.29	121.34
(08.03.22) 01:00	38.13	416.48	126.68	641.69	121.37
(08.03.22) 02:00	36.72	416.87	126.71	637.59	121.39
(08.03.22) 03:00	34.72	833.76	126.74	638.05	121.42
(08.03.22) 04:00	33.53	839.62	126.77	638.64	121.44
(08.03.22) 05:00	32.31	847.63	126.79	639.14	121.46
(08.03.22) 06:00	32.54	851.51	126.82	640.31	121.49
(08.03.22) 07:00	32.87	849.36	126.85	639.05	121.51
(08.03.22) 08:00	33.12	120.38	126.86	543.53	121.54
(08.03.22) 09:00	32.49	57.55	126.87	547.44	121.56
(08.03.22) 10:00	33.54	64.98	126.88	547.33	121.58
(08.03.22) 11:00	35.75	215.42	126.89	548.17	121.61
(08.03.22) 12:00	39.45	94.22	126.90	551.22	121.63
(08.03.22) 13:00	41.68	48.87	126.91	554.57	121.66
(08.03.22) 14:00	42.83	544.29	126.92	551.68	121.68
(08.03.22) 15:00	43.49	534.97	126.93	646.67	121.70
(08.03.22) 16:00	43.96	522.34	126.95	659.04	121.73
(08.03.22) 17:00	44.88	523.02	126.97	652.28	121.75
(08.03.22) 18:00	56.35	523.33	126.99	654.11	121.77
(08.03.22) 19:00	58.34	522.09	127.01	651.54	121.80
(08.03.22) 20:00	59.20	522.15	127.03	645.33	121.83
(08.03.22) 21:00	60.55	521.63	127.05	638.31	121.85
(08.03.22) 22:00	47.21	523.61	127.07	641.79	121.88
(08.03.22) 23:00	46.75	519.94	127.09	632.28	121.90
(08.04.22) 00:00	46.11	515.59	127.11	637.91	121.93
(08.04.22) 01:00	48.58	517.99	127.13	638.55	121.95
(08.04.22) 02:00	45.05	520.29	127.16	642.60	121.98
(08.04.22) 03:00	41.39	518.14	127.18	633.08	122.00
(08.04.22) 04:00	38.06	518.91	127.20	641.00	122.03
(08.04.22) 05:00	35.77	519.77	127.22	640.26	122.05
(08.04.22) 06:00	34.22	520.35	127.24	633.65	122.08
(08.04.22) 07:00	33.06	519.99	127.26	635.13	122.10
(08.04.22) 08:00	33.27	521.22	127.28	542.53	122.12
(08.04.22) 09:00	34.25	519.09	127.30	544.29	122.15
(08.04.22) 10:00	35.66	516.12	127.32	539.44	122.17
(08.04.22) 11:00	37.17	519.22	127.34	543.29	122.20
(08.04.22) 12:00	39.15	519.60	127.36	544.37	122.22
(08.04.22) 13:00	37.62	519.98	127.38	542.00	122.24

(08.04.22) 14:00	40.30	429.62	127.40	549.00	122.27
(08.04.22) 15:00	41.65	416.25	127.42	648.95	122.29
(08.04.22) 16:00	40.68	412.93	127.44	655.74	122.31
(08.04.22) 17:00	40.43	419.15	127.45	651.77	122.34
(08.04.22) 18:00	40.92	420.49	127.47	652.76	122.36
(08.04.22) 19:00	39.01	420.89	127.49	647.44	122.39
(08.04.22) 20:00	40.08	413.57	127.50	650.98	122.41
(08.04.22) 21:00	40.71	409.32	127.52	633.33	122.44
(08.04.22) 22:00	40.49	411.54	127.54	637.33	122.46
(08.04.22) 23:00	40.76	413.85	127.55	639.60	122.49
(08.05.22) 00:00	40.49	417.06	127.57	632.24	122.51
(08.05.22) 01:00	39.15	377.67	127.59	639.69	122.54
(08.05.22) 02:00	38.22	418.66	127.60	635.24	122.57
(08.05.22) 03:00	36.67	402.18	127.62	639.20	122.59
(08.05.22) 04:00	34.55	419.37	127.64	633.02	122.61
(08.05.22) 05:00	32.25	411.12	127.65	641.53	122.64
(08.05.22) 06:00	30.55	413.23	127.67	636.85	122.66
(08.05.22) 07:00	30.36	541.85	127.69	640.93	122.69
(08.05.22) 08:00	31.14	139.01	127.70	540.82	122.71
(08.05.22) 09:00	31.04	104.89	127.70	544.46	122.73
(08.05.22) 10:00	31.33	87.13	127.71	543.40	122.76
(08.05.22) 11:00	32.38	42.09	127.72	544.71	122.78
(08.05.22) 12:00	34.88	32.00	127.73	545.88	122.81
(08.05.22) 13:00	35.84	116.55	127.73	542.75	122.83
(08.05.22) 14:00	36.63	525.34	127.74	540.18	122.85
(08.05.22) 15:00	37.76	537.18	127.75	655.68	122.88
(08.05.22) 16:00	37.10	538.51	127.77	666.76	122.90
(08.05.22) 17:00	36.65	538.69	127.79	660.25	122.92
(08.05.22) 18:00	37.85	538.30	127.81	660.60	122.95
(08.05.22) 19:00	37.03	537.40	127.84	655.95	122.97
(08.05.22) 20:00	39.77	528.74	127.86	657.58	123.00
(08.05.22) 21:00	38.98	527.28	127.88	655.55	123.03
(08.05.22) 22:00	39.31	536.77	127.90	649.64	123.05
(08.05.22) 23:00	41.18	535.03	127.92	649.96	123.08
(08.06.22) 00:00	41.71	529.33	127.94	651.48	123.11
(08.06.22) 01:00	39.03	528.36	127.96	646.77	123.13
(08.06.22) 02:00	37.03	527.78	127.99	650.54	123.16
(08.06.22) 03:00	34.50	525.23	128.01	650.19	123.18
(08.06.22) 04:00	32.53	525.45	128.03	649.40	123.21
(08.06.22) 05:00	31.29	522.91	128.05	647.60	123.24
(08.06.22) 06:00	30.27	522.74	128.07	646.99	123.26
(08.06.22) 07:00	29.94	432.21	128.09	643.13	123.29
(08.06.22) 08:00	29.66	431.18	128.11	645.89	123.31
(08.06.22) 09:00	28.85	420.73	128.12	648.53	123.34
(08.06.22) 10:00	29.17	415.67	128.14	534.10	123.36
(08.06.22) 11:00	30.37	411.81	128.16	541.61	123.39
(08.06.22) 12:00	32.48	403.16	128.17	545.36	123.41

(08.06.22) 13:00	34.93	407.17	128.19	542.34	123.43
(08.06.22) 14:00	35.35	410.78	128.21	537.37	123.46
(08.06.22) 15:00	36.29	409.65	128.22	647.59	123.48
(08.06.22) 16:00	36.24	407.05	128.24	649.33	123.50
(08.06.22) 17:00	37.16	408.36	128.26	644.75	123.53
(08.06.22) 18:00	36.60	409.34	128.27	649.34	123.55
(08.06.22) 19:00	36.98	402.68	128.29	645.30	123.58
(08.06.22) 20:00	36.30	413.12	128.31	640.63	123.60
(08.06.22) 21:00	37.32	413.42	128.32	637.78	123.63
(08.06.22) 22:00	38.30	406.34	128.34	639.71	123.65
(08.06.22) 23:00	37.65	416.00	128.36	637.40	123.68
(08.07.22) 00:00	37.22	420.48	128.37	636.62	123.70
(08.07.22) 01:00	36.54	413.62	128.39	645.71	123.73
(08.07.22) 02:00	36.37	415.62	128.41	635.27	123.76
(08.07.22) 03:00	34.65	432.36	128.42	636.53	123.78
(08.07.22) 04:00	34.02	425.35	128.44	640.65	123.81
(08.07.22) 05:00	32.49	413.28	128.46	632.92	123.83
(08.07.22) 06:00	31.47	406.80	128.47	634.54	123.86
(08.07.22) 07:00	30.28	543.82	128.49	640.70	123.88
(08.07.22) 08:00	29.69	542.77	128.51	645.50	123.91
(08.07.22) 09:00	29.15	542.07	128.54	639.06	123.93
(08.07.22) 10:00	30.34	541.33	128.56	638.18	123.96
(08.07.22) 11:00	31.97	539.94	128.58	543.07	123.98
(08.07.22) 12:00	33.98	538.63	128.60	275.08	124.00
(08.07.22) 13:00	34.56	539.90	128.62	564.68	124.02
(08.07.22) 14:00	37.39	536.62	128.64	575.39	124.04
(08.07.22) 15:00	38.94	537.97	128.67	582.51	124.07
(08.07.22) 16:00	38.64	538.02	128.69	581.99	124.09
(08.07.22) 17:00	38.25	538.11	128.71	573.14	124.11
(08.07.22) 18:00	38.45	536.43	128.73	578.16	124.13
(08.07.22) 19:00	37.28	537.91	128.75	575.79	124.16
(08.07.22) 20:00	37.29	536.66	128.77	580.95	124.18
(08.07.22) 21:00	38.56	539.37	128.80	579.51	124.20
(08.07.22) 22:00	38.86	539.22	128.82	578.25	124.23
(08.07.22) 23:00	38.53	535.01	128.84	578.60	124.25
(08.08.22) 00:00	37.87	536.05	128.86	578.07	124.27
(08.08.22) 01:00	37.55	536.11	128.88	581.32	124.30
(08.08.22) 02:00	34.31	532.48	128.89	579.20	124.32
(08.08.22) 03:00	35.54	431.37	128.91	584.04	124.34
(08.08.22) 04:00	31.03	428.52	128.93	579.05	124.36
(08.08.22) 05:00	30.77	423.61	128.95	577.88	124.39
(08.08.22) 06:00	30.88	423.24	128.97	575.44	124.41
(08.08.22) 07:00	27.12	425.48	128.98	574.25	124.43
(08.08.22) 08:00	28.11	426.62	128.99	532.77	124.46
(08.08.22) 09:00	29.02	430.21	129.00	535.51	124.48
(08.08.22) 10:00	27.12	0.34	129.01	535.50	124.50
(08.08.22) 11:00	27.22	36.79	129.01	540.04	124.52

(08.08.22) 12:00	29.54	38.60	129.02	539.44	124.55
(08.08.22) 13:00	34.87	41.20	129.03	538.78	124.57
(08.08.22) 14:00	44.15	0.36	129.04	547.06	124.59
(08.08.22) 15:00	39.56	439.17	129.06	643.53	124.62
(08.08.22) 16:00	35.46	436.08	129.08	644.93	124.64
(08.08.22) 17:00	36.45	435.56	129.09	644.48	124.66
(08.08.22) 18:00	41.01	437.82	129.11	643.92	124.69
(08.08.22) 19:00	39.23	446.79	129.13	644.06	124.71
(08.08.22) 20:00	34.66	746.06	129.15	643.49	124.74
(08.08.22) 21:00	37.96	782.77	129.16	628.94	124.76
(08.08.22) 22:00	35.96	825.14	129.18	632.23	124.79
(08.08.22) 23:00	33.25	844.37	129.21	635.80	124.81
(08.09.22) 00:00	32.24	444.28	129.23	626.48	124.84
(08.09.22) 01:00	32.18	410.66	129.25	636.99	124.86
(08.09.22) 02:00	46.36	411.73	129.28	636.27	124.89
(08.09.22) 03:00	42.25	538.12	129.30	634.65	124.91
(08.09.22) 04:00	35.84	538.82	129.32	633.57	124.94
(08.09.22) 05:00	30.56	435.61	129.35	632.08	124.96
(08.09.22) 06:00	27.58	435.54	129.36	630.12	124.99
(08.09.22) 07:00	27.82	433.25	129.38	627.42	125.01
(08.09.22) 08:00	29.86	538.89	129.40	532.92	125.04
(08.09.22) 09:00	29.55	436.68	129.41	537.35	125.06
(08.09.22) 10:00	30.49	438.57	129.43	543.01	125.08
(08.09.22) 11:00	31.98	438.06	129.45	546.98	125.11
(08.09.22) 12:00	34.02	438.13	129.46	539.22	125.13
(08.09.22) 13:00	34.78	438.39	129.48	542.97	125.15
(08.09.22) 14:00	35.84	440.02	129.50	543.29	125.18
(08.09.22) 15:00	35.35	438.75	129.51	649.04	125.20
(08.09.22) 16:00	35.71	436.82	129.53	649.79	125.22
(08.09.22) 17:00	36.06	435.08	129.55	651.20	125.25
(08.09.22) 18:00	34.43	435.09	129.57	643.09	125.27
(08.09.22) 19:00	35.28	431.90	129.58	648.96	125.30
(08.09.22) 20:00	35.16	430.42	129.60	646.04	125.32
(08.09.22) 21:00	35.70	426.01	129.62	636.49	125.35
(08.09.22) 22:00	36.44	423.13	129.64	634.71	125.37
(08.09.22) 23:00	37.12	415.53	129.65	633.51	125.40
(08.10.22) 00:00	36.52	416.16	129.67	631.88	125.42
(08.10.22) 01:00	36.06	419.58	129.69	636.38	125.45
(08.10.22) 02:00	34.72	413.06	129.70	632.14	125.47
(08.10.22) 03:00	33.19	407.53	129.72	630.55	125.50
(08.10.22) 04:00	30.81	408.07	129.74	630.40	125.53
(08.10.22) 05:00	29.43	409.72	129.75	628.77	125.55
(08.10.22) 06:00	27.97	408.04	129.77	625.89	125.58
(08.10.22) 07:00	27.59	406.14	129.77	629.39	125.60
(08.10.22) 08:00	28.58	138.81	129.78	632.87	125.62
(08.10.22) 09:00	29.32	50.37	129.79	630.38	125.65
(08.10.22) 10:00	31.22	0.41	129.79	535.78	125.67

(08.10.22) 11:00	32.48	123.02	129.80	531.97	125.69
(08.10.22) 12:00	33.36	57.72	129.81	537.52	125.71
(08.10.22) 13:00	34.97	87.88	129.81	540.85	125.74
(08.10.22) 14:00	35.17	0.38	129.83	540.24	125.76
(08.10.22) 15:00	34.47	540.50	129.86	626.25	125.79
(08.10.22) 16:00	34.54	532.03	129.88	655.20	125.81
(08.10.22) 17:00	34.48	840.49	129.91	647.70	125.84
(08.10.22) 18:00	34.47	856.97	129.94	648.03	125.86
(08.10.22) 19:00	34.60	909.09	129.96	645.80	125.89
(08.10.22) 20:00	34.32	913.80	129.99	642.11	125.91
(08.10.22) 21:00	36.17	914.18	130.02	637.85	125.94
(08.10.22) 22:00	36.59	913.96	130.05	635.15	125.96
(08.10.22) 23:00	36.47	921.17	130.07	631.13	125.99
(08.11.22) 00:00	36.34	925.78	130.10	634.59	126.01
(08.11.22) 01:00	36.02	925.10	130.13	632.11	126.04
(08.11.22) 02:00	34.55	439.82	130.16	636.22	126.06
(08.11.22) 03:00	32.97	435.93	130.19	630.97	126.09
(08.11.22) 04:00	31.01	429.92	130.22	633.37	126.11
(08.11.22) 05:00	29.61	419.08	130.25	629.19	126.14
(08.11.22) 06:00	27.71	422.17	130.26	631.19	126.16
(08.11.22) 07:00	26.78	419.00	130.28	629.86	126.19
(08.11.22) 08:00	26.69	418.96	130.30	536.04	126.21
(08.11.22) 09:00	27.63	419.62	130.31	537.44	126.23
(08.11.22) 10:00	28.22	420.63	130.33	536.05	126.25
(08.11.22) 11:00	30.87	418.39	130.35	545.40	126.28
(08.11.22) 12:00	32.96	414.58	130.36	536.01	126.30
(08.11.22) 13:00	34.67	414.72	130.38	544.75	126.32
(08.11.22) 14:00	33.76	415.87	130.40	539.74	126.34
(08.11.22) 15:00	34.86	415.67	130.42	370.85	126.37
(08.11.22) 16:00	34.93	419.54	130.44	650.67	126.39
(08.11.22) 17:00	35.12	418.95	130.45	647.12	126.42
(08.11.22) 18:00	33.91	540.43	130.47	647.52	126.44
(08.11.22) 19:00	34.49	540.49	130.49	643.36	126.47
(08.11.22) 20:00	35.20	540.69	130.51	642.62	126.49
(08.11.22) 21:00	35.70	0.36	130.53	639.61	126.52
(08.11.22) 22:00	35.95	433.10	130.54	640.67	126.54
(08.11.22) 23:00	36.31	436.44	130.56	645.54	126.57
(08.12.22) 00:00	35.91	434.30	130.58	641.60	126.59
(08.12.22) 01:00	43.64	436.78	130.60	639.12	126.62
(08.12.22) 02:00	42.27	435.70	130.61	640.45	126.64
(08.12.22) 03:00	40.02	434.08	130.63	641.33	126.67
(08.12.22) 04:00	38.96	435.12	130.65	636.41	126.70
(08.12.22) 05:00	37.44	431.50	130.67	639.91	126.72
(08.12.22) 06:00	35.48	430.66	130.68	637.50	126.74
(08.12.22) 07:00	34.60	425.61	130.68	641.55	126.77
(08.12.22) 08:00	35.79	75.31	130.69	641.62	126.79
(08.12.22) 09:00	36.40	153.43	130.70	259.82	126.81

(08.12.22) 10:00	36.66	67.29	130.71	545.35	126.84
(08.12.22) 11:00	29.44	103.37	130.71	545.15	126.86
(08.12.22) 12:00	30.55	80.21	130.72	552.10	126.88
(08.12.22) 13:00	32.16	76.39	130.73	552.56	126.90
(08.12.22) 14:00	33.95	439.70	130.75	553.69	126.93
(08.12.22) 15:00	33.09	433.71	130.76	648.66	126.95
(08.12.22) 16:00	32.70	431.17	130.78	649.84	126.98
(08.12.22) 17:00	33.06	433.75	130.79	649.47	127.00
(08.12.22) 18:00	33.38	431.01	130.81	647.86	127.03
(08.12.22) 19:00	33.67	432.84	130.83	644.35	127.05
(08.12.22) 20:00	34.61	432.43	130.84	648.65	127.08
(08.12.22) 21:00	34.91	435.15	130.86	637.18	127.10
(08.12.22) 22:00	35.58	537.87	130.88	641.38	127.13
(08.12.22) 23:00	35.87	537.17	130.89	640.32	127.16
(08.13.22) 00:00	35.13	433.90	130.91	642.76	127.18
(08.13.22) 01:00	35.10	432.44	130.93	643.63	127.21
(08.13.22) 02:00	33.92	431.20	130.95	638.13	127.23
(08.13.22) 03:00	33.46	433.01	130.97	639.90	127.26
(08.13.22) 04:00	32.15	434.21	130.98	639.66	127.28
(08.13.22) 05:00	30.32	430.63	131.00	639.12	127.31
(08.13.22) 06:00	28.49	431.79	131.02	638.45	127.33
(08.13.22) 07:00	27.13	429.84	131.03	638.36	127.36
(08.13.22) 08:00	27.07	536.68	131.05	638.41	127.38
(08.13.22) 09:00	26.57	431.88	131.07	636.62	127.40
(08.13.22) 10:00	26.23	433.26	131.08	539.09	127.43
(08.13.22) 11:00	27.21	431.59	131.10	540.69	127.45
(08.13.22) 12:00	29.41	430.36	131.11	537.84	127.47
(08.13.22) 13:00	31.39	537.93	131.13	537.49	127.50
(08.13.22) 14:00	33.38	0.30	131.15	540.48	127.52
(08.13.22) 15:00	33.74	434.54	131.16	633.65	127.55
(08.13.22) 16:00	34.88	434.07	131.18	644.13	127.57
(08.13.22) 17:00	36.87	431.58	131.20	641.45	127.60
(08.13.22) 18:00	35.50	426.89	131.22	644.07	127.62
(08.13.22) 19:00	36.18	430.50	131.23	640.16	127.64
(08.13.22) 20:00	35.69	429.65	131.25	641.28	127.67
(08.13.22) 21:00	35.62	425.73	131.27	641.18	127.69
(08.13.22) 22:00	35.62	416.48	131.28	638.64	127.72
(08.13.22) 23:00	36.42	417.42	131.30	637.41	127.74
(08.14.22) 00:00	35.65	419.94	131.32	641.72	127.77
(08.14.22) 01:00	35.67	420.06	131.33	633.63	127.80
(08.14.22) 02:00	34.21	413.10	131.35	639.98	127.82
(08.14.22) 03:00	32.46	416.08	131.37	636.81	127.85
(08.14.22) 04:00	30.41	413.85	131.38	634.58	127.87
(08.14.22) 05:00	29.01	423.21	131.40	636.01	127.90
(08.14.22) 06:00	27.82	419.94	131.42	631.35	127.92
(08.14.22) 07:00	27.55	423.22	131.44	634.33	127.95
(08.14.22) 08:00	28.45	419.33	131.45	636.57	127.97

(08.14.22) 09:00	28.67	418.24	131.47	633.19	128.00
(08.14.22) 10:00	30.04	415.70	131.49	632.50	128.02
(08.14.22) 11:00	30.46	414.40	131.50	638.03	128.05
(08.14.22) 12:00	31.30	418.93	131.52	635.62	128.08
(08.14.22) 13:00	33.49	418.75	131.54	631.13	128.10
(08.14.22) 14:00	35.11	311.42	131.56	628.40	128.13
(08.14.22) 15:00	35.66	533.92	131.57	626.27	128.15
(08.14.22) 16:00	36.06	532.52	131.59	638.70	128.18
(08.14.22) 17:00	36.72	533.63	131.61	638.92	128.20
(08.14.22) 18:00	36.91	431.10	131.63	635.36	128.23
(08.14.22) 19:00	36.53	430.32	131.65	641.51	128.25
(08.14.22) 20:00	36.27	428.38	131.67	638.42	128.28
(08.14.22) 21:00	36.67	432.86	131.68	643.18	128.31
(08.14.22) 22:00	37.53	432.48	131.70	638.93	128.33
(08.14.22) 23:00	38.29	435.29	131.72	634.22	128.36
(08.15.22) 00:00	37.55	682.54	131.74	638.26	128.38
(08.15.22) 01:00	36.41	419.12	131.76	641.62	128.41
(08.15.22) 02:00	35.09	412.46	131.78	636.79	128.43
(08.15.22) 03:00	33.15	432.89	131.80	632.34	128.46
(08.15.22) 04:00	30.85	433.31	131.82	630.54	128.49
(08.15.22) 05:00	28.84	433.26	131.83	631.49	128.51
(08.15.22) 06:00	27.67	433.37	131.84	625.85	128.53
(08.15.22) 07:00	26.63	432.62	131.85	635.13	128.56
(08.15.22) 08:00	26.72	86.95	131.86	533.50	128.58
(08.15.22) 09:00	26.88	98.96	131.87	532.51	128.60
(08.15.22) 10:00	28.50	104.72	131.88	540.11	128.63
(08.15.22) 11:00	30.68	88.81	131.89	541.47	128.65
(08.15.22) 12:00	33.26	87.74	131.90	539.59	128.67
(08.15.22) 13:00	34.68	104.64	131.91	532.89	128.70
(08.15.22) 14:00	35.03	0.45	131.93	542.47	128.72
(08.15.22) 15:00	35.28	425.08	131.94	640.81	128.74
(08.15.22) 16:00	36.30	420.85	131.96	634.97	128.77
(08.15.22) 17:00	35.26	411.67	131.97	635.14	128.79
(08.15.22) 18:00	34.15	532.68	131.99	632.51	128.82
(08.15.22) 19:00	35.35	531.58	132.00	634.41	128.84
(08.15.22) 20:00	35.50	531.61	132.02	630.81	128.86
(08.15.22) 21:00	36.27	531.10	132.04	629.99	128.89
(08.15.22) 22:00	36.42	531.29	132.06	628.27	128.91
(08.15.22) 23:00	37.07	529.33	132.08	630.22	128.94
(08.16.22) 00:00	36.35	529.27	132.10	630.30	128.97
(08.16.22) 01:00	35.30	528.86	132.12	632.09	128.99
(08.16.22) 02:00	34.30	527.15	132.14	623.76	129.02
(08.16.22) 03:00	32.60	527.10	132.17	627.50	129.04
(08.16.22) 04:00	28.88	526.74	132.19	629.19	129.07
(08.16.22) 05:00	198.90	524.42	132.21	628.02	129.09
(08.16.22) 06:00	80.69	521.77	132.23	626.35	129.12
(08.16.22) 07:00	98.15	523.64	132.25	631.95	129.14

(08.16.22) 08:00	90.83	522.81	132.27	537.21	129.16
(08.16.22) 09:00	86.03	522.20	132.29	536.89	129.19
(08.16.22) 10:00	90.44	522.15	132.31	537.25	129.21
(08.16.22) 11:00	125.96	516.31	132.33	542.49	129.23
(08.16.22) 12:00	72.85	512.42	132.35	542.49	129.25
(08.16.22) 13:00	86.71	507.69	132.37	543.05	129.27
(08.16.22) 14:00	100.10	506.56	132.40	529.88	129.30
(08.16.22) 15:00	91.19	504.21	132.42	541.99	129.32
(08.16.22) 16:00	76.80	504.18	132.43	645.49	129.34
(08.16.22) 17:00	71.83	504.78	132.45	648.11	129.37
(08.16.22) 18:00	64.28	419.61	132.47	643.25	129.40
(08.16.22) 19:00	62.23	411.48	132.49	643.26	129.42
(08.16.22) 20:00	59.70	411.18	132.50	647.34	129.45
(08.16.22) 21:00	57.69	409.65	132.52	620.90	129.47
(08.16.22) 22:00	55.99	403.02	132.54	623.49	129.50
(08.16.22) 23:00	51.24	407.53	132.56	625.47	129.52
(08.17.22) 00:00	49.67	409.15	132.57	628.91	129.55
(08.17.22) 01:00	47.53	407.51	132.59	629.63	129.57
(08.17.22) 02:00	45.33	405.29	132.61	624.69	129.60
(08.17.22) 03:00	42.83	405.31	132.62	628.36	129.63
(08.17.22) 04:00	40.23	403.52	132.64	632.10	129.65
(08.17.22) 05:00	38.14	403.94	132.66	630.00	129.68
(08.17.22) 06:00	35.98	405.49	132.67	630.00	129.70
(08.17.22) 07:00	35.63	404.61	132.69	626.22	129.73
(08.17.22) 08:00	35.85	65.57	132.69	598.89	129.75
(08.17.22) 09:00	36.70	55.00	132.70	190.15	129.77
(08.17.22) 10:00	38.29	45.66	132.70	513.02	129.79
(08.17.22) 11:00	39.80	51.02	132.71	515.28	129.81
(08.17.22) 12:00	41.13	83.33	132.71	507.44	129.83
(08.17.22) 13:00	42.50	48.92	132.71	519.08	129.84
(08.17.22) 14:00	41.90	254.46	132.72	521.42	129.86
(08.17.22) 15:00	42.09	417.30	132.73	415.94	129.88
(08.17.22) 16:00	41.46	402.62	132.75	633.02	129.91
(08.17.22) 17:00	40.79	403.04	132.76	637.19	129.94
(08.17.22) 18:00	40.85	533.42	132.78	637.19	129.96
(08.17.22) 19:00	40.99	533.45	132.80	638.09	129.99
(08.17.22) 20:00	40.82	532.10	132.82	656.48	130.01
(08.17.22) 21:00	41.46	530.34	132.84	654.44	130.04
(08.17.22) 22:00	41.49	527.78	132.86	642.33	130.06
(08.17.22) 23:00	41.68	522.35	132.89	636.00	130.09
(08.18.22) 00:00	41.49	521.02	132.92	630.15	130.11
(08.18.22) 01:00	40.66	901.65	132.95	631.73	130.14
(08.18.22) 02:00	38.77	909.08	132.99	625.37	130.16
(08.18.22) 03:00	36.89	923.62	133.02	623.30	130.19
(08.18.22) 04:00	34.53	924.43	133.05	624.18	130.21
(08.18.22) 05:00	32.22	929.81	133.09	629.04	130.24
(08.18.22) 06:00	30.53	932.62	133.12	621.30	130.27

(08.18.22) 07:00	30.00	929.87	133.15	626.84	130.29
(08.18.22) 08:00	30.81	930.76	133.19	232.42	130.31
(08.18.22) 09:00	31.98	917.48	133.22	532.04	130.33
(08.18.22) 10:00	33.13	917.66	133.25	533.70	130.35
(08.18.22) 11:00	34.32	916.64	133.28	540.13	130.37
(08.18.22) 12:00	36.12	527.40	133.31	544.00	130.39
(08.18.22) 13:00	37.04	521.33	133.34	543.28	130.41
(08.18.22) 14:00	38.31	519.95	133.38	540.69	130.43
(08.18.22) 15:00	38.51	522.52	133.40	572.84	130.46
(08.18.22) 16:00	37.72	523.50	133.42	635.25	130.48
(08.18.22) 17:00	38.24	517.84	133.44	635.11	130.51
(08.18.22) 18:00	37.66	426.28	133.46	633.42	130.53
(08.18.22) 19:00	37.35	423.10	133.48	638.50	130.56
(08.18.22) 20:00	37.87	419.07	133.49	646.05	130.58
(08.18.22) 21:00	38.77	412.79	133.51	632.51	130.61
(08.18.22) 22:00	39.23	408.84	133.53	633.35	130.63
(08.18.22) 23:00	39.25	410.85	133.55	628.42	130.66
(08.19.22) 00:00	39.42	409.74	133.57	633.11	130.68
(08.19.22) 01:00	38.66	411.01	133.58	631.34	130.71
(08.19.22) 02:00	37.26	411.07	133.60	628.10	130.73
(08.19.22) 03:00	35.44	411.19	133.62	629.33	130.76
(08.19.22) 04:00	33.40	411.54	133.63	628.09	130.78
(08.19.22) 05:00	31.90	406.23	133.65	631.20	130.81
(08.19.22) 06:00	29.89	410.98	133.66	627.52	130.84
(08.19.22) 07:00	29.27	412.67	133.68	632.88	130.86
(08.19.22) 08:00	30.23	64.37	133.68	251.52	130.88
(08.19.22) 09:00	29.65	0.37	133.69	533.12	130.90
(08.19.22) 10:00	124.91	0.32	133.69	543.95	130.92
(08.19.22) 11:00	40.35	63.99	133.70	537.64	130.94
(08.19.22) 12:00	48.03	81.55	133.70	546.34	130.96
(08.19.22) 13:00	53.09	83.10	133.71	552.05	130.98
(08.19.22) 14:00	61.45	442.74	133.71	550.51	131.00
(08.19.22) 15:00	60.36	436.92	133.73	454.81	131.03
(08.19.22) 16:00	52.14	422.34	133.75	648.53	131.05
(08.19.22) 17:00	43.27	420.69	133.77	650.66	131.08
(08.19.22) 18:00	41.68	535.02	133.78	647.56	131.10
(08.19.22) 19:00	41.19	528.79	133.80	644.23	131.13
(08.19.22) 20:00	40.63	531.18	133.82	664.39	131.16
(08.19.22) 21:00	40.47	521.38	133.84	619.20	131.18
(08.19.22) 22:00	40.23	514.09	133.86	628.35	131.21
(08.19.22) 23:00	63.82	509.50	133.88	623.39	131.23
(08.20.22) 00:00	74.11	0.00	0.00	0.00	0.00
(08.20.22) 01:00	65.41	0.00	0.00	0.00	0.00
(08.20.22) 02:00	82.46	0.00	0.00	0.00	0.00
(08.20.22) 03:00	65.95	0.00	0.00	0.00	0.00
(08.20.22) 04:00	50.65	0.00	0.00	0.00	0.00
(08.20.22) 05:00	40.72	0.00	0.00	0.00	0.00

(08.20.22) 06:00	0.00	0.00	0.00	0.00	0.00
(08.20.22) 07:00	0.00	0.00	0.00	0.00	0.00
(08.20.22) 08:00	36.98	0.00	0.00	0.00	0.00
(08.20.22) 09:00	37.27	0.00	0.00	0.00	0.00
(08.20.22) 10:00	37.47	0.00	0.00	0.00	0.00
(08.20.22) 11:00	37.98	438.99	133.91	640.95	131.26
(08.20.22) 12:00	39.87	425.24	133.92	526.92	131.28
(08.20.22) 13:00	41.88	432.68	133.94	526.43	131.31
(08.20.22) 14:00	42.89	408.56	133.96	526.05	131.33
(08.20.22) 15:00	40.07	404.18	133.97	631.79	131.36
(08.20.22) 16:00	39.97	405.78	133.99	663.56	131.38
(08.20.22) 17:00	40.18	403.53	134.01	639.03	131.40
(08.20.22) 18:00	40.59	401.49	134.02	638.62	131.43
(08.20.22) 19:00	40.36	394.13	134.04	639.98	131.45
(08.20.22) 20:00	40.01	395.05	134.06	634.86	131.48
(08.20.22) 21:00	39.53	388.45	134.07	626.82	131.50
(08.20.22) 22:00	39.19	393.88	134.09	624.65	131.53
(08.20.22) 23:00	39.01	393.29	134.11	627.05	131.55
(08.21.22) 00:00	37.87	389.44	134.13	628.15	131.58
(08.21.22) 01:00	37.42	531.40	134.14	631.38	131.60
(08.21.22) 02:00	36.08	526.63	134.16	630.12	131.63
(08.21.22) 03:00	34.18	531.48	134.18	628.22	131.65
(08.21.22) 04:00	32.47	524.86	134.20	626.41	131.68
(08.21.22) 05:00	31.80	514.36	134.22	627.63	131.70
(08.21.22) 06:00	29.66	523.06	134.23	629.92	131.73
(08.21.22) 07:00	28.78	518.69	134.25	627.27	131.75
(08.21.22) 08:00	28.58	418.19	134.27	627.92	131.77
(08.21.22) 09:00	28.68	426.31	134.29	533.95	131.80
(08.21.22) 10:00	29.41	419.90	134.31	533.24	131.82
(08.21.22) 11:00	30.27	433.39	134.33	536.50	131.84
(08.21.22) 12:00	33.15	430.56	134.34	537.62	131.87
(08.21.22) 13:00	36.10	425.16	134.36	537.66	131.89
(08.21.22) 14:00	39.03	417.10	134.38	635.61	131.92
(08.21.22) 15:00	38.28	412.48	134.40	631.77	131.94
(08.21.22) 16:00	38.34	411.20	134.41	634.72	131.96
(08.21.22) 17:00	40.58	415.29	134.43	629.30	131.99
(08.21.22) 18:00	40.19	404.12	134.45	629.52	132.01
(08.21.22) 19:00	39.36	414.11	134.47	631.62	132.03
(08.21.22) 20:00	38.83	408.02	134.49	623.97	132.06
(08.21.22) 21:00	39.48	435.47	134.51	620.27	132.08
(08.21.22) 22:00	40.00	434.95	134.53	619.40	132.11
(08.21.22) 23:00	40.07	435.86	134.55	621.68	132.13
(08.22.22) 00:00	39.87	434.03	134.57	621.20	132.16
(08.22.22) 01:00	38.73	807.61	134.59	622.39	132.18
(08.22.22) 02:00	36.57	809.05	134.61	620.69	132.21
(08.22.22) 03:00	34.42	812.90	134.63	620.53	132.23
(08.22.22) 04:00	32.45	813.09	134.65	620.10	132.26

(08.22.22) 05:00	30.88	809.13	134.67	617.97	132.28
(08.22.22) 06:00	29.59	416.94	134.69	616.99	132.30
(08.22.22) 07:00	29.35	411.96	134.70	618.61	132.33
(08.22.22) 08:00	28.92	0.38	134.72	543.49	132.35
(08.22.22) 09:00	30.22	69.30	134.74	545.40	132.37
(08.22.22) 10:00	31.75	106.38	134.76	550.63	132.40
(08.22.22) 11:00	32.94	90.40	134.77	543.28	132.42
(08.22.22) 12:00	34.24	86.22	134.78	546.29	132.45
(08.22.22) 13:00	35.65	0.44	134.80	550.93	132.47
(08.22.22) 14:00	36.98	0.43	134.81	555.49	132.49
(08.22.22) 15:00	36.28	532.00	134.82	645.07	132.52
(08.22.22) 16:00	36.40	530.74	134.83	644.06	132.54
(08.22.22) 17:00	36.91	535.98	134.84	639.62	132.56
(08.22.22) 18:00	36.10	536.21	134.86	638.06	132.59
(08.22.22) 19:00	37.10	916.00	134.88	639.19	132.61
(08.22.22) 20:00	36.31	916.56	134.91	657.04	132.64
(08.22.22) 21:00	37.17	919.15	134.94	638.57	132.66
(08.22.22) 22:00	37.46	541.38	134.96	639.78	132.69
(08.22.22) 23:00	38.21	537.46	134.99	636.01	132.72
(08.23.22) 00:00	38.01	527.11	135.02	636.99	132.74
(08.23.22) 01:00	37.34	431.29	135.04	630.40	132.77
(08.23.22) 02:00	35.49	430.01	135.07	636.76	132.79
(08.23.22) 03:00	32.75	430.06	135.09	629.15	132.82
(08.23.22) 04:00	30.67	428.69	135.10	632.31	132.84
(08.23.22) 05:00	28.23	429.77	135.12	629.15	132.87
(08.23.22) 06:00	27.69	401.27	135.14	628.79	132.89
(08.23.22) 07:00	27.49	435.01	135.16	631.14	132.92
(08.23.22) 08:00	27.90	431.58	135.17	626.63	132.94
(08.23.22) 09:00	28.72	428.23	135.19	547.95	132.97
(08.23.22) 10:00	30.51	431.28	135.21	556.07	132.99
(08.23.22) 11:00	31.99	433.84	135.22	548.39	133.01
(08.23.22) 12:00	34.03	433.00	135.24	554.03	133.04
(08.23.22) 13:00	34.87	0.43	135.26	553.05	133.06
(08.23.22) 14:00	35.37	0.41	135.27	553.55	133.09
(08.23.22) 15:00	34.40	426.95	135.29	648.80	133.11
(08.23.22) 16:00	34.78	417.68	135.30	646.75	133.13
(08.23.22) 17:00	35.05	413.34	135.32	645.78	133.16
(08.23.22) 18:00	34.81	414.51	135.34	643.02	133.18
(08.23.22) 19:00	36.19	415.22	135.35	641.00	133.21
(08.23.22) 20:00	35.73	416.32	135.37	645.91	133.23
(08.23.22) 21:00	36.60	416.55	135.39	636.77	133.26
(08.23.22) 22:00	37.20	417.55	135.40	629.24	133.28
(08.23.22) 23:00	37.86	417.59	135.42	632.92	133.31
(08.24.22) 00:00	37.35	416.77	135.44	630.53	133.34
(08.24.22) 01:00	36.82	414.46	135.45	627.93	133.36
(08.24.22) 02:00	35.31	417.09	135.47	629.30	133.39
(08.24.22) 03:00	32.40	419.48	135.48	633.09	133.41

(08.24.22) 04:00	30.64	417.32	135.50	628.23	133.44
(08.24.22) 05:00	29.00	416.83	135.51	630.35	133.46
(08.24.22) 06:00	27.13	415.44	135.52	631.67	133.48
(08.24.22) 07:00	27.37	418.38	135.54	631.44	133.51
(08.24.22) 08:00	28.75	76.72	135.55	542.98	133.53
(08.24.22) 09:00	28.90	0.43	135.56	553.40	133.56
(08.24.22) 10:00	30.37	75.61	135.57	551.24	133.58
(08.24.22) 11:00	31.80	70.05	135.59	550.69	133.61
(08.24.22) 12:00	32.41	39.26	135.60	555.63	133.63
(08.24.22) 13:00	33.39	52.31	135.61	555.12	133.65
(08.24.22) 14:00	34.26	436.36	135.62	556.36	133.68
(08.24.22) 15:00	34.17	542.50	135.63	645.47	133.70
(08.24.22) 16:00	34.94	533.95	135.64	649.86	133.73
(08.24.22) 17:00	34.15	522.95	135.66	645.31	133.75
(08.24.22) 18:00	33.74	0.33	135.67	646.74	133.77
(08.24.22) 19:00	33.56	420.91	135.68	643.41	133.80
(08.24.22) 20:00	34.55	417.11	135.70	637.32	133.82
(08.24.22) 21:00	35.60	416.35	135.72	632.36	133.85
(08.24.22) 22:00	36.67	416.73	135.73	629.17	133.88
(08.24.22) 23:00	37.05	418.63	135.75	630.20	133.90
(08.25.22) 00:00	37.19	419.37	135.76	633.77	133.93
(08.25.22) 01:00	36.80	416.89	135.78	629.32	133.95
(08.25.22) 02:00	35.50	413.97	135.80	630.57	133.98
(08.25.22) 03:00	33.16	415.43	135.81	629.54	134.00
(08.25.22) 04:00	31.40	411.30	135.83	624.49	134.03
(08.25.22) 05:00	28.85	413.63	135.85	626.79	134.05
(08.25.22) 06:00	27.05	416.85	135.86	621.99	134.07
(08.25.22) 07:00	26.43	419.19	135.88	627.29	134.10
(08.25.22) 08:00	27.54	415.56	135.90	547.86	134.12
(08.25.22) 09:00	27.48	421.37	135.91	545.38	134.15
(08.25.22) 10:00	29.43	419.55	135.93	548.02	134.17
(08.25.22) 11:00	32.59	420.36	135.95	552.96	134.20
(08.25.22) 12:00	33.91	419.55	135.97	553.64	134.22
(08.25.22) 13:00	33.85	417.39	135.98	555.24	134.24
(08.25.22) 14:00	33.92	417.61	136.00	555.40	134.27
(08.25.22) 15:00	33.89	418.61	136.02	643.27	134.29
(08.25.22) 16:00	33.81	418.91	136.03	648.66	134.31
(08.25.22) 17:00	34.65	419.32	136.05	642.00	134.34
(08.25.22) 18:00	34.29	419.47	136.07	646.65	134.36
(08.25.22) 19:00	35.57	540.63	136.09	643.96	134.39
(08.25.22) 20:00	35.96	535.27	136.11	632.16	134.41
(08.25.22) 21:00	39.25	531.27	136.13	622.21	134.44
(08.25.22) 22:00	39.54	535.60	136.15	632.06	134.46
(08.25.22) 23:00	38.59	534.30	136.17	627.33	134.49
(08.26.22) 00:00	39.34	531.84	136.19	626.63	134.52
(08.26.22) 01:00	38.29	441.12	136.21	630.21	134.54
(08.26.22) 02:00	36.54	428.37	136.22	627.34	134.57

(08.26.22) 03:00	34.25	426.92	136.24	628.71	134.59
(08.26.22) 04:00	31.00	423.48	136.25	628.32	134.61
(08.26.22) 05:00	28.77	420.27	136.27	621.96	134.64
(08.26.22) 06:00	27.32	423.76	136.28	628.92	134.66
(08.26.22) 07:00	26.70	422.65	136.30	625.57	134.69
(08.26.22) 08:00	27.37	61.19	136.31	531.32	134.71
(08.26.22) 09:00	27.68	79.13	136.33	526.65	134.73
(08.26.22) 10:00	28.65	0.44	136.33	534.13	134.76
(08.26.22) 11:00	30.75	67.45	136.34	530.17	134.78
(08.26.22) 12:00	32.79	76.38	136.35	531.40	134.80
(08.26.22) 13:00	34.50	41.98	136.36	537.18	134.83
(08.26.22) 14:00	35.13	438.58	136.37	538.42	134.85
(08.26.22) 15:00	35.67	410.18	136.37	640.51	134.87
(08.26.22) 16:00	35.45	411.42	136.38	647.60	134.90
(08.26.22) 17:00	35.86	401.45	136.39	646.58	134.92
(08.26.22) 18:00	35.05	408.84	136.41	644.06	134.94
(08.26.22) 19:00	35.89	406.98	136.42	641.10	134.97
(08.26.22) 20:00	36.05	409.47	136.44	645.13	135.00
(08.26.22) 21:00	36.53	408.94	136.46	631.37	135.02
(08.26.22) 22:00	36.71	404.59	136.47	633.23	135.05
(08.26.22) 23:00	36.67	409.53	136.49	634.42	135.07
(08.27.22) 00:00	37.30	402.20	136.51	631.62	135.10
(08.27.22) 01:00	36.44	536.08	136.53	627.68	135.12
(08.27.22) 02:00	34.14	535.43	136.54	630.38	135.15
(08.27.22) 03:00	32.69	523.75	136.56	625.20	135.17
(08.27.22) 04:00	30.85	521.81	136.58	625.29	135.20
(08.27.22) 05:00	29.02	515.35	136.60	629.72	135.23
(08.27.22) 06:00	26.45	506.52	136.62	624.82	135.25
(08.27.22) 07:00	26.25	411.92	136.64	626.05	135.28
(08.27.22) 08:00	26.81	408.90	136.66	625.77	135.30
(08.27.22) 09:00	26.88	426.26	136.68	628.41	135.33
(08.27.22) 10:00	26.60	425.03	136.69	624.51	135.35
(08.27.22) 11:00	28.59	421.95	136.71	534.78	135.37
(08.27.22) 12:00	30.68	423.76	136.73	528.62	135.39
(08.27.22) 13:00	32.78	420.48	136.74	532.75	135.41
(08.27.22) 14:00	34.81	429.65	136.76	238.78	135.44
(08.27.22) 15:00	35.26	414.90	136.78	577.23	135.46
(08.27.22) 16:00	36.99	408.80	136.79	577.45	135.48
(08.27.22) 17:00	37.31	415.29	136.81	578.99	135.50
(08.27.22) 18:00	36.34	406.29	136.83	576.59	135.53
(08.27.22) 19:00	37.06	409.96	136.84	578.88	135.55
(08.27.22) 20:00	36.97	412.93	136.86	570.09	135.57
(08.27.22) 21:00	37.56	435.05	136.88	562.79	135.59
(08.27.22) 22:00	37.13	431.39	136.90	570.52	135.62
(08.27.22) 23:00	36.90	412.45	136.91	573.25	135.64
(08.28.22) 00:00	36.54	410.42	136.93	568.18	135.66
(08.28.22) 01:00	35.23	410.57	136.95	569.87	135.69

(08.28.22) 02:00	34.90	410.62	136.96	573.21	135.71
(08.28.22) 03:00	32.92	393.82	136.98	578.18	135.73
(08.28.22) 04:00	60.93	405.57	137.00	572.56	135.76
(08.28.22) 05:00	77.36	411.25	137.02	572.21	135.78
(08.28.22) 06:00	78.86	407.44	137.04	576.06	135.80
(08.28.22) 07:00	94.64	536.97	137.05	578.02	135.83
(08.28.22) 08:00	93.74	536.07	137.07	578.77	135.85
(08.28.22) 09:00	92.45	533.49	137.09	578.98	135.87
(08.28.22) 10:00	91.91	528.93	137.11	576.06	135.89
(08.28.22) 11:00	112.91	423.91	137.12	584.05	135.92
(08.28.22) 12:00	91.26	433.89	137.14	576.03	135.94
(08.28.22) 13:00	71.19	434.21	137.16	575.30	135.96
(08.28.22) 14:00	60.78	435.44	137.18	569.05	135.99
(08.28.22) 15:00	57.30	436.72	137.19	571.32	136.01
(08.28.22) 16:00	57.51	428.29	137.21	568.50	136.03
(08.28.22) 17:00	54.01	416.36	137.23	568.13	136.06
(08.28.22) 18:00	53.38	413.02	137.25	565.91	136.08
(08.28.22) 19:00	52.39	435.51	137.26	570.41	136.10
(08.28.22) 20:00	49.30	422.43	137.28	578.12	136.13
(08.28.22) 21:00	47.88	414.26	137.30	572.97	136.15
(08.28.22) 22:00	48.07	410.06	137.31	575.10	136.17
(08.28.22) 23:00	47.54	408.87	137.33	570.22	136.19
(08.29.22) 00:00	46.49	391.89	137.34	564.01	136.22
(08.29.22) 01:00	44.74	392.89	137.36	570.99	136.24
(08.29.22) 02:00	42.02	397.52	137.38	569.52	136.26
(08.29.22) 03:00	39.12	390.55	137.39	570.58	136.29
(08.29.22) 04:00	36.61	382.61	137.41	562.64	136.31
(08.29.22) 05:00	34.14	402.55	137.42	567.74	136.33
(08.29.22) 06:00	33.52	404.07	137.44	565.07	136.35
(08.29.22) 07:00	33.28	402.85	137.45	567.07	136.37
(08.29.22) 08:00	33.64	92.23	137.47	565.57	136.40
(08.29.22) 09:00	33.79	85.68	137.48	543.02	136.42
(08.29.22) 10:00	35.33	107.56	137.48	541.76	136.44
(08.29.22) 11:00	36.47	29.72	137.49	542.56	136.46
(08.29.22) 12:00	37.58	9.10	137.50	544.96	136.49
(08.29.22) 13:00	38.02	0.38	137.51	541.98	136.51
(08.29.22) 14:00	37.66	0.34	137.52	547.09	136.53
(08.29.22) 15:00	37.98	536.40	137.52	630.14	136.56
(08.29.22) 16:00	37.96	532.45	137.53	629.74	136.58
(08.29.22) 17:00	39.10	531.41	137.55	638.33	136.60
(08.29.22) 18:00	39.61	890.93	137.58	651.60	136.63
(08.29.22) 19:00	39.56	904.26	137.61	647.73	136.65
(08.29.22) 20:00	39.66	905.34	137.64	645.26	136.68
(08.29.22) 21:00	40.86	912.67	137.67	644.13	136.70
(08.29.22) 22:00	41.90	539.70	137.70	640.41	136.73
(08.29.22) 23:00	42.60	535.18	137.73	629.07	136.76
(08.30.22) 00:00	41.82	541.48	137.76	635.93	136.78

(08.30.22) 01:00	40.65	781.12	137.79	636.44	136.81
(08.30.22) 02:00	39.24	803.55	137.82	638.68	136.83
(08.30.22) 03:00	36.93	813.21	137.85	635.80	136.86
(08.30.22) 04:00	34.48	820.18	137.87	639.10	136.88
(08.30.22) 05:00	31.63	837.63	137.90	637.55	136.91
(08.30.22) 06:00	30.35	541.65	137.93	631.12	136.93
(08.30.22) 07:00	30.32	542.26	137.96	635.24	136.96
(08.30.22) 08:00	31.70	536.37	137.99	633.89	136.98
(08.30.22) 09:00	32.08	539.76	138.01	552.03	137.01
(08.30.22) 10:00	34.14	541.76	138.03	557.48	137.03
(08.30.22) 11:00	36.12	431.85	138.04	555.64	137.06
(08.30.22) 12:00	36.77	406.34	138.06	557.84	137.08
(08.30.22) 13:00	37.70	406.75	138.08	557.87	137.10
(08.30.22) 14:00	38.29	408.06	138.10	559.06	137.13
(08.30.22) 15:00	37.35	406.25	138.12	641.42	137.15
(08.30.22) 16:00	37.19	405.27	138.13	643.91	137.17
(08.30.22) 17:00	38.87	405.33	138.15	646.39	137.20
(08.30.22) 18:00	39.27	394.56	138.17	639.88	137.22
(08.30.22) 19:00	39.36	397.14	138.18	636.61	137.25
(08.30.22) 20:00	38.70	406.51	138.20	628.42	137.27
(08.30.22) 21:00	38.95	403.32	138.22	629.50	137.30
(08.30.22) 22:00	38.74	399.81	138.23	628.23	137.32
(08.30.22) 23:00	39.17	405.62	138.25	631.54	137.35
(08.31.22) 00:00	39.50	409.19	138.26	626.22	137.38
(08.31.22) 01:00	38.33	404.75	138.28	629.42	137.40
(08.31.22) 02:00	36.08	403.80	138.30	624.03	137.43
(08.31.22) 03:00	34.06	400.33	138.31	624.85	137.45
(08.31.22) 04:00	32.55	406.25	138.33	634.47	137.48
(08.31.22) 05:00	31.20	399.84	138.35	632.52	137.50
(08.31.22) 06:00	28.37	388.92	138.36	638.55	137.53
(08.31.22) 07:00	27.61	400.83	138.38	638.02	137.55
(08.31.22) 08:00	28.43	0.36	138.39	557.87	137.58
(08.31.22) 09:00	30.38	0.37	138.40	560.21	137.60
(08.31.22) 10:00	32.17	0.37	138.40	560.62	137.62
(08.31.22) 11:00	33.54	0.38	138.41	559.44	137.65
(08.31.22) 12:00	34.64	50.89	138.41	561.92	137.67
(08.31.22) 13:00	36.07	0.37	138.42	597.98	137.70
(08.31.22) 14:00	36.19	541.12	138.42	647.07	137.72
(08.31.22) 15:00	34.74	538.57	138.43	643.38	137.74
(08.31.22) 16:00	34.39	540.75	138.44	641.64	137.77
(08.31.22) 17:00	35.59	544.97	138.47	642.88	137.79
(08.31.22) 18:00	35.46	491.91	138.49	645.01	137.82
(08.31.22) 19:00	35.90	533.49	138.52	637.80	137.84
(08.31.22) 20:00	36.30	534.89	138.55	634.19	137.87
(08.31.22) 21:00	36.36	891.45	138.58	633.31	137.89
(08.31.22) 22:00	37.75	909.78	138.60	638.53	137.92
(08.31.22) 23:00	37.83	921.93	138.63	631.62	137.94

(09.01.22) 00:00	37.63	929.94	138.66	635.34	137.97
(09.01.22) 01:00	37.17	932.28	138.69	637.40	138.00
(09.01.22) 02:00	35.56	939.03	138.71	635.78	138.02
(09.01.22) 03:00	33.75	530.22	138.74	638.90	138.05
(09.01.22) 04:00	31.28	537.26	138.77	628.31	138.07
(09.01.22) 05:00	29.01	540.04	138.80	635.08	138.10
(09.01.22) 06:00	28.19	539.85	138.82	632.44	138.12
(09.01.22) 07:00	27.71	538.47	138.85	632.77	138.14
(09.01.22) 08:00	28.39	525.58	138.87	527.11	138.17
(09.01.22) 09:00	28.74	519.93	138.89	436.39	138.19
(09.01.22) 10:00	30.41	514.80	138.91	555.84	138.21
(09.01.22) 11:00	31.96	421.25	138.93	551.99	138.24
(09.01.22) 12:00	33.65	410.63	138.94	557.59	138.26
(09.01.22) 13:00	33.97	404.36	138.96	561.34	138.28
(09.01.22) 14:00	33.75	407.66	138.98	567.69	138.30
(09.01.22) 15:00	34.10	409.29	139.00	287.52	138.32
(09.01.22) 16:00	34.31	435.08	139.02	650.02	138.35
(09.01.22) 17:00	33.50	422.40	139.03	650.34	138.37
(09.01.22) 18:00	34.92	408.21	139.05	645.61	138.40
(09.01.22) 19:00	35.08	425.82	139.07	648.84	138.42
(09.01.22) 20:00	35.12	416.44	139.08	651.59	138.45
(09.01.22) 21:00	36.05	406.22	139.10	645.92	138.48
(09.01.22) 22:00	37.16	406.63	139.12	642.99	138.50
(09.01.22) 23:00	37.61	404.72	139.13	640.36	138.53
(09.02.22) 00:00	37.52	393.29	139.15	640.18	138.55
(09.02.22) 01:00	36.79	398.67	139.17	644.23	138.58
(09.02.22) 02:00	35.18	402.91	139.19	639.27	138.61
(09.02.22) 03:00	33.09	404.52	139.22	641.71	138.63
(09.02.22) 04:00	30.75	407.04	139.24	637.47	138.66
(09.02.22) 05:00	28.91	402.63	139.26	642.14	138.68
(09.02.22) 06:00	28.20	800.82	139.28	642.01	138.71
(09.02.22) 07:00	27.30	824.97	139.30	638.40	138.73
(09.02.22) 08:00	27.99	0.36	139.31	650.50	138.76
(09.02.22) 09:00	28.09	0.42	139.32	643.41	138.78
(09.02.22) 10:00	29.41	79.70	139.33	562.73	138.81
(09.02.22) 11:00	31.02	0.42	139.33	562.61	138.83
(09.02.22) 12:00	32.60	0.45	139.34	567.55	138.86
(09.02.22) 13:00	34.06	0.65	139.35	577.68	138.88
(09.02.22) 14:00	35.16	541.96	139.35	568.91	138.90
(09.02.22) 15:00	33.89	536.09	139.36	654.71	138.93
(09.02.22) 16:00	34.60	536.97	139.38	653.68	138.95
(09.02.22) 17:00	35.95	542.65	139.40	657.32	138.98
(09.02.22) 18:00	35.42	540.26	139.42	649.65	139.00
(09.02.22) 19:00	35.80	539.01	139.44	652.91	139.03
(09.02.22) 20:00	36.34	537.56	139.46	643.62	139.06
(09.02.22) 21:00	37.10	536.64	139.48	643.26	139.08
(09.02.22) 22:00	36.94	531.39	139.51	646.89	139.11

(09.02.22) 23:00	36.24	533.36	139.53	644.26	139.13
(09.03.22) 00:00	35.29	528.55	139.55	641.23	139.16
(09.03.22) 01:00	34.38	528.62	139.57	637.91	139.19
(09.03.22) 02:00	33.26	520.27	139.59	637.45	139.21
(09.03.22) 03:00	31.28	523.02	139.61	639.70	139.24
(09.03.22) 04:00	30.21	524.20	139.63	639.87	139.26
(09.03.22) 05:00	28.89	524.00	139.66	643.20	139.29
(09.03.22) 06:00	26.85	522.35	139.68	642.66	139.32
(09.03.22) 07:00	25.88	521.28	139.70	643.09	139.34
(09.03.22) 08:00	26.25	518.67	139.72	645.34	139.37
(09.03.22) 09:00	26.25	523.57	139.74	638.51	139.39
(09.03.22) 10:00	26.51	519.11	139.75	644.81	139.42
(09.03.22) 11:00	27.75	432.51	139.77	640.20	139.44
(09.03.22) 12:00	30.06	430.51	139.79	633.57	139.47
(09.03.22) 13:00	31.82	430.32	139.81	628.47	139.50
(09.03.22) 14:00	33.24	430.24	139.83	635.34	139.52
(09.03.22) 15:00	36.01	414.78	139.85	620.72	139.55
(09.03.22) 16:00	36.59	408.37	139.87	620.69	139.57
(09.03.22) 17:00	37.91	411.53	139.89	618.95	139.60
(09.03.22) 18:00	37.28	410.93	139.91	622.18	139.62
(09.03.22) 19:00	37.36	411.21	139.92	623.05	139.65
(09.03.22) 20:00	36.71	406.34	139.94	620.95	139.67
(09.03.22) 21:00	36.04	831.15	139.96	622.43	139.70
(09.03.22) 22:00	36.17	410.66	139.98	627.62	139.72
(09.03.22) 23:00	35.75	407.49	140.00	626.73	139.75
(09.04.22) 00:00	34.62	396.43	140.02	631.03	139.77
(09.04.22) 01:00	34.00	392.57	140.03	627.40	139.80
(09.04.22) 02:00	33.02	398.91	140.05	627.97	139.82
(09.04.22) 03:00	31.56	406.12	140.06	625.27	139.85
(09.04.22) 04:00	29.41	407.33	140.08	627.82	139.87
(09.04.22) 05:00	27.41	402.70	140.10	630.28	139.90
(09.04.22) 06:00	26.58	399.88	140.11	625.70	139.92
(09.04.22) 07:00	25.03	397.37	140.13	620.47	139.95
(09.04.22) 08:00	23.91	399.88	140.15	622.77	139.97
(09.04.22) 09:00	24.74	392.92	140.17	624.53	140.00
(09.04.22) 10:00	26.09	405.60	140.19	557.08	140.02
(09.04.22) 11:00	27.72	541.12	140.21	560.34	140.04
(09.04.22) 12:00	30.73	536.15	140.22	565.53	140.07
(09.04.22) 13:00	33.40	540.91	140.24	567.07	140.09
(09.04.22) 14:00	34.62	540.24	140.26	567.46	140.12
(09.04.22) 15:00	35.79	535.51	140.28	676.02	140.14
(09.04.22) 16:00	36.32	528.49	140.31	662.47	140.16
(09.04.22) 17:00	37.46	530.35	140.34	649.69	140.19
(09.04.22) 18:00	36.85	878.48	140.37	648.49	140.21
(09.04.22) 19:00	36.52	885.85	140.40	642.41	140.24
(09.04.22) 20:00	36.67	898.44	140.43	643.45	140.27
(09.04.22) 21:00	36.58	903.43	140.46	637.65	140.29

(09.04.22) 22:00	36.23	540.93	140.48	638.30	140.32
(09.04.22) 23:00	35.98	534.78	140.51	637.52	140.34
(09.05.22) 00:00	35.52	528.54	140.53	640.11	140.37
(09.05.22) 01:00	34.50	534.12	140.55	638.97	140.40
(09.05.22) 02:00	32.66	535.35	140.58	635.03	140.42
(09.05.22) 03:00	31.29	533.79	140.60	640.64	140.45
(09.05.22) 04:00	30.13	534.22	140.62	636.77	140.47
(09.05.22) 05:00	27.55	531.59	140.64	635.54	140.50
(09.05.22) 06:00	25.94	530.86	140.66	632.87	140.52
(09.05.22) 07:00	25.62	533.37	140.68	636.43	140.55
(09.05.22) 08:00	24.74	540.21	140.70	262.08	140.57
(09.05.22) 09:00	23.52	538.42	140.72	555.63	140.60
(09.05.22) 10:00	24.87	537.74	140.74	556.64	140.62
(09.05.22) 11:00	26.87	434.95	140.76	564.30	140.64
(09.05.22) 12:00	29.79	436.88	140.78	566.05	140.66
(09.05.22) 13:00	33.48	438.10	140.80	569.98	140.68
(09.05.22) 14:00	36.07	428.22	140.82	572.94	140.71
(09.05.22) 15:00	37.59	438.32	140.84	657.32	140.73
(09.05.22) 16:00	38.40	438.65	140.85	654.89	140.76
(09.05.22) 17:00	38.46	428.45	140.87	650.29	140.78
(09.05.22) 18:00	38.27	417.09	140.89	644.19	140.81
(09.05.22) 19:00	38.10	407.92	140.91	638.81	140.83
(09.05.22) 20:00	37.75	397.31	140.92	641.53	140.86
(09.05.22) 21:00	38.04	406.54	140.94	640.62	140.88
(09.05.22) 22:00	38.02	405.86	140.96	642.82	140.91
(09.05.22) 23:00	37.96	405.22	140.97	638.55	140.93
(09.06.22) 00:00	37.62	402.30	140.99	640.74	140.96
(09.06.22) 01:00	36.74	400.82	141.00	639.10	140.98
(09.06.22) 02:00	35.15	404.35	141.02	637.78	141.01
(09.06.22) 03:00	33.71	402.19	141.04	637.78	141.04
(09.06.22) 04:00	29.66	400.42	141.05	635.48	141.06
(09.06.22) 05:00	27.33	404.54	141.07	640.02	141.09
(09.06.22) 06:00	26.56	393.68	141.09	642.63	141.11
(09.06.22) 07:00	25.24	390.23	141.10	644.59	141.14
(09.06.22) 08:00	25.90	404.76	141.12	638.25	141.16
(09.06.22) 09:00	27.23	402.59	141.14	638.40	141.18
(09.06.22) 10:00	29.31	404.52	141.16	561.91	141.21
(09.06.22) 11:00	31.02	542.21	141.18	562.56	141.23
(09.06.22) 12:00	32.41	543.08	141.19	569.04	141.26
(09.06.22) 13:00	34.05	543.21	141.21	564.30	141.28
(09.06.22) 14:00	33.95	542.76	141.23	575.06	141.31
(09.06.22) 15:00	34.27	540.92	141.25	657.25	141.33
(09.06.22) 16:00	33.90	536.84	141.28	659.63	141.36
(09.06.22) 17:00	34.22	530.69	141.30	659.31	141.38
(09.06.22) 18:00	34.32	526.23	141.32	652.89	141.41
(09.06.22) 19:00	36.11	530.56	141.34	653.54	141.43
(09.06.22) 20:00	36.43	531.48	141.36	649.85	141.46

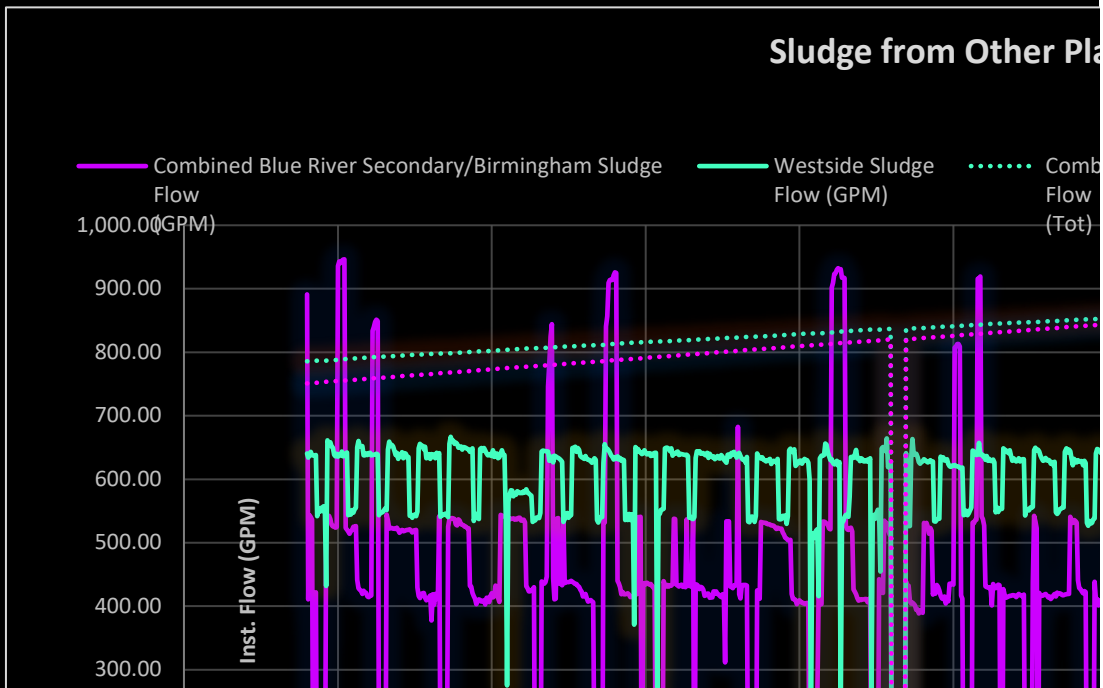
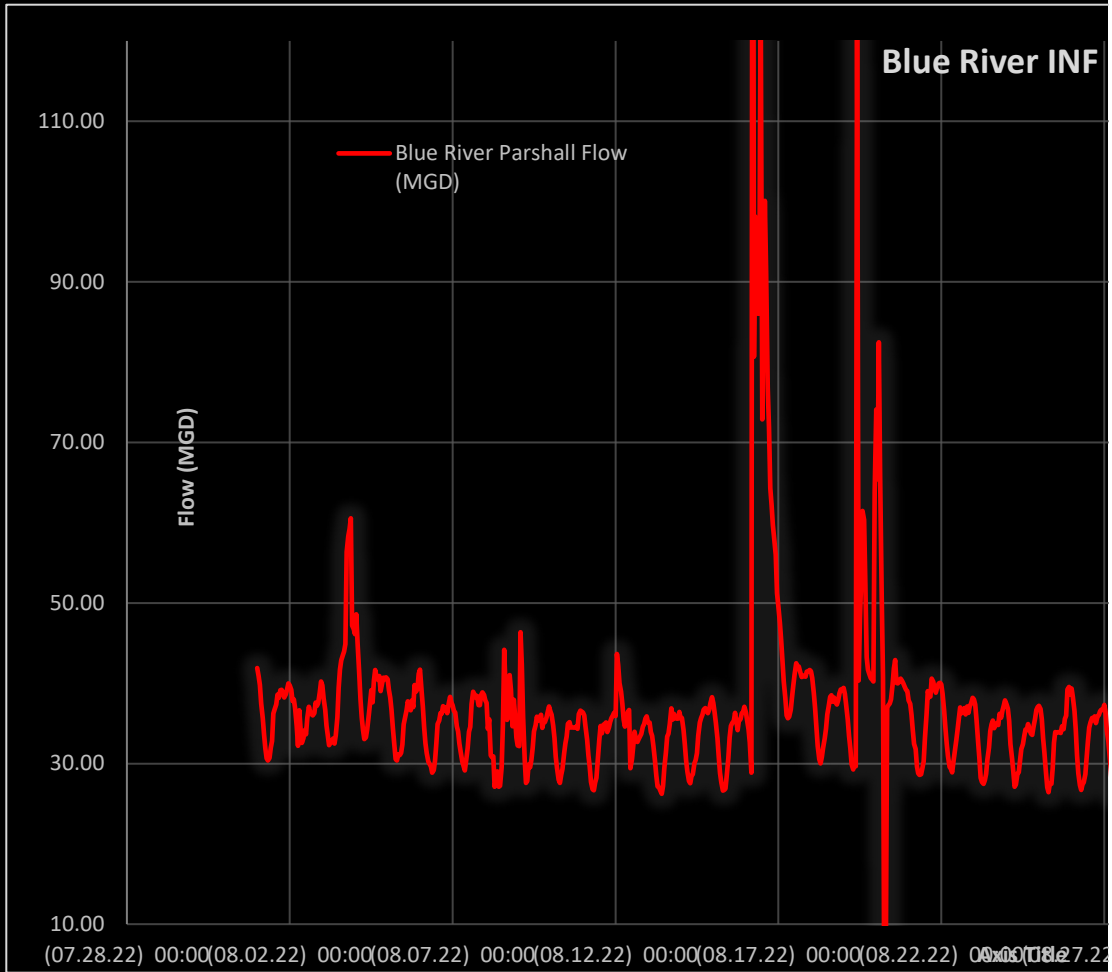
(09.06.22) 21:00	36.76	528.50	141.38	639.53	141.48
(09.06.22) 22:00	36.36	526.67	141.41	644.28	141.51
(09.06.22) 23:00	36.87	530.69	141.43	646.90	141.54
(09.07.22) 00:00	37.10	525.12	141.45	641.79	141.56
(09.07.22) 01:00	36.34	527.13	141.47	634.32	141.59
(09.07.22) 02:00	34.91	525.59	141.49	644.11	141.61
(09.07.22) 03:00	31.29	524.05	141.51	644.02	141.64
(09.07.22) 04:00	28.91	526.68	141.53	640.89	141.66
(09.07.22) 05:00	27.23	527.99	141.55	642.56	141.69
(09.07.22) 06:00	25.57	528.29	141.56	639.92	141.71
(09.07.22) 07:00	25.14	529.92	141.57	636.81	141.73
(09.07.22) 08:00	26.07	0.34	141.58	244.05	141.75
(09.07.22) 09:00	27.02	68.82	141.59	221.10	141.77
(09.07.22) 10:00	28.53	73.69	141.60	547.04	141.79
(09.07.22) 11:00	30.09	106.55	141.61	554.14	141.81
(09.07.22) 12:00	31.85	76.16	141.62	561.13	141.83
(09.07.22) 13:00	34.11	0.43	141.63	557.37	141.85
(09.07.22) 14:00	34.44	435.61	141.65	567.70	141.88
(09.07.22) 15:00	33.10	428.39	141.67	654.82	141.90
(09.07.22) 16:00	34.04	401.73	141.69	664.22	141.93
(09.07.22) 17:00	33.39	404.46	141.71	656.44	141.95
(09.07.22) 18:00	33.79	770.92	141.73	653.65	141.98
(09.07.22) 19:00	34.17	804.20	141.75	646.13	142.00
(09.07.22) 20:00	33.92	806.67	141.77	648.30	142.03
(09.07.22) 21:00	34.45	814.64	141.80	640.60	142.05
(09.07.22) 22:00	35.69	408.56	141.82	636.84	142.08
(09.07.22) 23:00	36.53	402.42	141.85	640.83	142.11
(09.08.22) 00:00	36.10	415.73	141.88	637.23	142.13
(09.08.22) 01:00	35.33	844.83	141.91	644.25	142.16
(09.08.22) 02:00	33.60	872.45	141.93	640.71	142.18
(09.08.22) 03:00	31.43	864.11	141.96	637.71	142.21
(09.08.22) 04:00	29.46	871.75	141.99	639.94	142.23
(09.08.22) 05:00	27.54	402.13	142.01	636.67	142.26
(09.08.22) 06:00	25.25	400.46	142.03	639.18	142.28
(09.08.22) 07:00	24.97	405.29	142.04	636.61	142.30
(09.08.22) 08:00	26.69	398.60	142.06	250.27	142.31
(09.08.22) 09:00	27.94	404.11	142.08	552.72	142.33
(09.08.22) 10:00	29.35	407.16	142.09	556.29	142.35
(09.08.22) 11:00	31.34	0.46	142.11	242.05	142.37
(09.08.22) 12:00	31.45	0.43	142.12	214.49	142.39
(09.08.22) 13:00	32.50	0.41	142.14	537.41	142.41
(09.08.22) 14:00	32.54	545.85	142.15	381.99	142.43
(09.08.22) 15:00	32.28	540.90	142.17	644.13	142.46
(09.08.22) 16:00	31.50	538.54	142.19	648.87	142.48
(09.08.22) 17:00	31.55	545.99	142.20	648.02	142.51
(09.08.22) 18:00	31.18	545.48	142.22	644.46	142.53
(09.08.22) 19:00	32.19	544.23	142.23	635.86	142.56

(09.08.22) 20:00	33.08	542.69	142.26	631.66	142.58
(09.08.22) 21:00	34.62	542.31	142.28	638.64	142.60
(09.08.22) 22:00	35.22	540.75	142.30	633.84	142.63
(09.08.22) 23:00	36.01	538.07	142.32	637.68	142.66
(09.09.22) 00:00	36.09	536.65	142.34	636.67	142.68
(09.09.22) 01:00	35.64	536.37	142.37	636.77	142.71
(09.09.22) 02:00	34.35	539.68	142.39	633.40	142.73
(09.09.22) 03:00	32.10	538.70	142.41	633.69	142.76
(09.09.22) 04:00	29.89	535.27	142.42	631.43	142.78
(09.09.22) 05:00	27.88	540.41	142.43	632.67	142.81
(09.09.22) 06:00	25.61	532.97	142.45	633.05	142.83
(09.09.22) 07:00	25.20	539.72	142.46	637.46	142.86
(09.09.22) 08:00	26.65	0.31	142.47	550.55	142.88
(09.09.22) 09:00	27.30	0.35	142.49	561.60	142.90
(09.09.22) 10:00	28.13	0.39	142.50	559.51	142.93
(09.09.22) 11:00	29.67	132.42	142.51	562.73	142.95
(09.09.22) 12:00	31.51	67.50	142.52	568.46	142.97
(09.09.22) 13:00	32.12	0.45	142.53	571.40	143.00
(09.09.22) 14:00	32.01	0.35	142.54	571.86	143.02
(09.09.22) 15:00	31.79	444.17	142.55	662.33	143.05
(09.09.22) 16:00	31.33	437.80	142.56	664.49	143.07
(09.09.22) 17:00	31.70	423.63	142.57	653.87	143.10
(09.09.22) 18:00	31.84	420.27	142.58	649.32	143.13
(09.09.22) 19:00	32.96	424.66	142.60	647.99	143.15
(09.09.22) 20:00	33.34	419.10	142.61	641.83	143.18
(09.09.22) 21:00	34.37	422.17	142.63	635.82	143.20
(09.09.22) 22:00	34.83	414.81	142.65	638.01	143.23
(09.09.22) 23:00	35.20	413.48	142.67	635.56	143.25
(09.10.22) 00:00	34.84	415.19	142.68	638.59	143.28
(09.10.22) 01:00	33.79	427.24	142.70	640.68	143.31
(09.10.22) 02:00	33.77	411.56	142.72	637.78	143.33
(09.10.22) 03:00	32.07	424.76	142.73	640.53	143.36
(09.10.22) 04:00	29.88	424.36	142.75	642.60	143.38
(09.10.22) 05:00	30.08	416.60	142.77	639.49	143.41
(09.10.22) 06:00	28.70	419.54	142.78	636.35	143.43
(09.10.22) 07:00	26.61	413.57	142.80	635.51	143.46
(09.10.22) 08:00	26.53	414.15	142.82	638.06	143.48
(09.10.22) 09:00	26.73	409.99	142.83	634.09	143.51
(09.10.22) 10:00	27.61	410.04	142.85	634.13	143.53
(09.10.22) 11:00	29.74	539.93	142.87	541.58	143.56
(09.10.22) 12:00	31.32	543.56	142.89	549.56	143.58
(09.10.22) 13:00	32.04	542.68	142.91	552.10	143.61
(09.10.22) 14:00	32.83	542.65	142.93	658.99	143.63
(09.10.22) 15:00	34.37	542.30	142.96	650.19	143.66
(09.10.22) 16:00	43.27	542.41	142.98	654.79	143.68
(09.10.22) 17:00	50.74	541.21	143.00	652.06	143.71
(09.10.22) 18:00	54.40	537.84	143.02	643.32	143.73

(09.10.22) 19:00	70.42	535.24	143.04	644.37	143.76
(09.10.22) 20:00	65.47	531.30	143.06	637.09	143.79
(09.10.22) 21:00	56.96	531.98	143.09	652.63	143.81
(09.10.22) 22:00	54.93	534.87	143.11	648.88	143.84
(09.10.22) 23:00	86.91	533.73	143.13	643.02	143.86
(09.11.22) 00:00	100.27	532.50	143.15	635.35	143.89
(09.11.22) 01:00	119.99	534.07	143.17	649.46	143.91
(09.11.22) 02:00	119.80	532.57	143.20	638.00	143.94
(09.11.22) 03:00	109.43	830.09	143.22	638.52	143.97
(09.11.22) 04:00	71.84	848.81	143.24	637.51	143.99
(09.11.22) 05:00	51.33	536.96	143.27	643.91	144.02
(09.11.22) 06:00	42.86	534.00	143.29	643.43	144.04
(09.11.22) 07:00	37.47	532.24	143.32	634.71	144.07
(09.11.22) 08:00	36.13	536.06	143.35	635.86	144.10
(09.11.22) 09:00	34.62	533.12	143.37	639.55	144.12
(09.11.22) 10:00	34.87	531.97	143.40	634.87	144.15
(09.11.22) 11:00	36.12	411.49	143.42	635.95	144.17
(09.11.22) 12:00	37.67	438.72	143.43	641.49	144.20
(09.11.22) 13:00	38.63	432.09	143.45	636.13	144.22
(09.11.22) 14:00	40.55	430.37	143.47	641.21	144.25
(09.11.22) 15:00	40.55	425.65	143.49	644.67	144.28
(09.11.22) 16:00	40.84	422.96	143.50	641.41	144.30
(09.11.22) 17:00	40.33	424.42	143.52	641.65	144.33
(09.11.22) 18:00	39.70	400.98	143.54	641.21	144.35
(09.11.22) 19:00	39.19	443.98	143.56	642.89	144.38
(09.11.22) 20:00	38.10	442.26	143.57	638.24	144.40
(09.11.22) 21:00	38.01	422.29	143.59	639.04	144.43
(09.11.22) 22:00	38.09	407.61	143.61	641.32	144.46
(09.11.22) 23:00	38.47	412.35	143.62	640.42	144.48
(09.12.22) 00:00	38.18	417.50	143.64	639.79	144.51
(09.12.22) 01:00	36.77	423.65	143.66	638.57	144.53
(09.12.22) 02:00	34.81	405.92	143.67	640.33	144.56
(09.12.22) 03:00	32.82	414.90	143.69	640.56	144.59
(09.12.22) 04:00	29.84	411.88	143.70	643.66	144.61
(09.12.22) 05:00	27.90	406.87	143.71	640.63	144.64
(09.12.22) 06:00	26.38	408.85	143.72	641.34	144.66
(09.12.22) 07:00	26.67	412.75	143.73	644.05	144.68
(09.12.22) 08:00	27.85	0.24	143.75	564.66	144.71
(09.12.22) 09:00	30.37	67.79	143.76	565.71	144.73
(09.12.22) 10:00	30.81	54.04	143.77	566.79	144.75
(09.12.22) 11:00	32.86	57.79	143.78	576.27	144.78
(09.12.22) 12:00	34.04	39.39	143.80	581.19	144.80
(09.12.22) 13:00	35.47	0.38	143.81	581.28	144.83
(09.12.22) 14:00	35.65	0.38	143.82	584.21	144.85
(09.12.22) 15:00	35.28	542.36	143.83	667.58	144.88
(09.12.22) 16:00	34.83	529.29	143.85	665.08	144.90
(09.12.22) 17:00	34.41	544.59	143.86	649.83	144.93

(09.12.22) 18:00	35.29	902.84	143.87	649.85	144.96
(09.12.22) 19:00	34.52	919.32	143.91	649.48	144.98
(09.12.22) 20:00	35.13	928.07	143.94	649.33	145.01
(09.12.22) 21:00	35.79	935.60	143.97	640.57	145.03
(09.12.22) 22:00	35.98	923.92	144.00	636.99	145.06
(09.12.22) 23:00	35.62	932.66	144.03	642.48	145.08
(09.13.22) 00:00	35.97	938.83	144.07	639.41	145.11
(09.13.22) 01:00	35.38	517.34	144.10	643.89	145.14
(09.13.22) 02:00	34.31	440.04	144.13	644.40	145.16
(09.13.22) 03:00	31.30	439.90	144.15	646.05	145.19
(09.13.22) 04:00	28.83	437.53	144.17	635.54	145.21
(09.13.22) 05:00	27.13	414.93	144.18	633.76	145.24
(09.13.22) 06:00	26.28	414.75	144.20	641.70	145.26
(09.13.22) 07:00	24.62	420.02	144.22	640.36	145.29
(09.13.22) 08:00	26.85	419.81	144.23	554.57	145.31
(09.13.22) 09:00	29.92	418.90	144.25	563.92	145.33
(09.13.22) 10:00	32.94	423.84	144.27	566.98	145.36
(09.13.22) 11:00	34.53	412.20	144.29	572.26	145.38
(09.13.22) 12:00	35.70	418.20	144.30	579.07	145.41
(09.13.22) 13:00	36.00	414.56	144.32	577.85	145.43
(09.13.22) 14:00	34.71	422.44	144.34	579.95	145.46
(09.13.22) 15:00	33.63	424.97	144.35	663.11	145.48
(09.13.22) 16:00	33.52	413.86	144.37	661.20	145.51
(09.13.22) 17:00	32.75	418.16	144.39	658.19	145.53
(09.13.22) 18:00	32.75	421.88	144.40	654.17	145.56
(09.13.22) 19:00	33.38	806.32	144.43	644.78	145.58
(09.13.22) 20:00	33.75	822.52	144.46	647.41	145.61
(09.13.22) 21:00	35.37	831.42	144.49	643.81	145.63
(09.13.22) 22:00	36.07	835.71	144.51	642.73	145.66
(09.13.22) 23:00	36.66	842.22	144.54	643.00	145.69
(09.14.22) 00:00	36.84	443.06	144.57	646.52	145.71
(09.14.22) 01:00	35.99	440.83	144.60	640.98	145.74
(09.14.22) 02:00	34.23	549.64	144.62	641.90	145.76
(09.14.22) 03:00	32.04	546.59	144.64	641.41	145.79
(09.14.22) 04:00	30.39	535.30	144.65	640.98	145.82
(09.14.22) 05:00	27.07	536.34	144.67	634.76	145.84
(09.14.22) 06:00	25.81	430.05	144.68	638.47	145.86
(09.14.22) 07:00	25.59	419.51	144.70	637.68	145.89
(09.14.22) 08:00	26.87	59.16	144.72	640.07	145.91
(09.14.22) 09:00	27.76	60.23	144.73	557.08	145.94
(09.14.22) 10:00	29.61	41.14	144.74	561.24	145.96
(09.14.22) 11:00	31.80	73.67	144.75	561.83	145.98
(09.14.22) 12:00	31.57	103.17	144.77	574.66	146.01
(09.14.22) 13:00	32.77	89.29	144.78	573.66	146.03
(09.14.22) 14:00	32.68	448.62	144.79	578.12	146.06
(09.14.22) 15:00	32.93	441.96	144.80	666.08	146.08
(09.14.22) 16:00	31.83	424.54	144.81	653.89	146.11

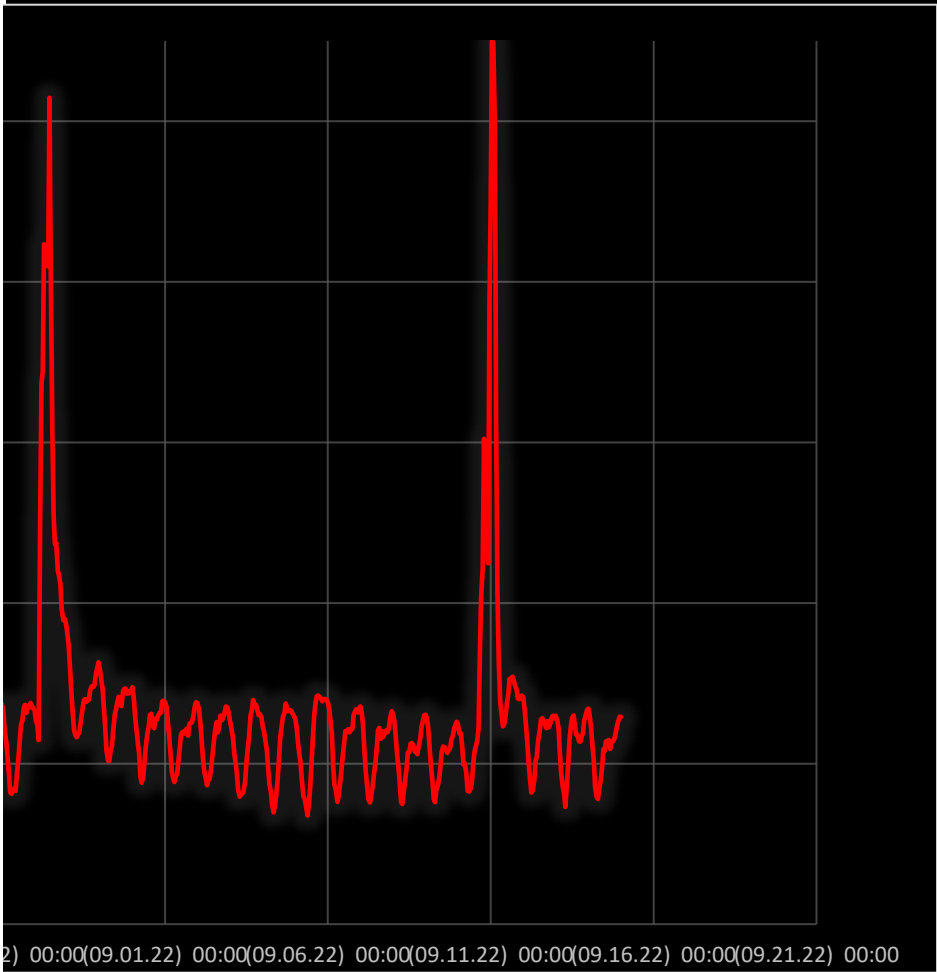
(09.14.22) 17:00	32.63	392.64	144.82	644.29	146.13
(09.14.22) 18:00	32.78	413.32	144.83	637.29	146.16
(09.14.22) 19:00	33.06	409.67	144.85	631.86	146.18
(09.14.22) 20:00	33.78	417.23	144.86	622.95	146.21
(09.14.22) 21:00	34.59	410.68	144.88	624.34	146.23
(09.14.22) 22:00	35.23	412.49	144.90	628.75	146.26
(09.14.22) 23:00	35.84	416.81	144.91	620.86	146.28
(09.15.22) 00:00	35.81	411.86	144.93	629.43	146.31



200.00
100.00
0.00

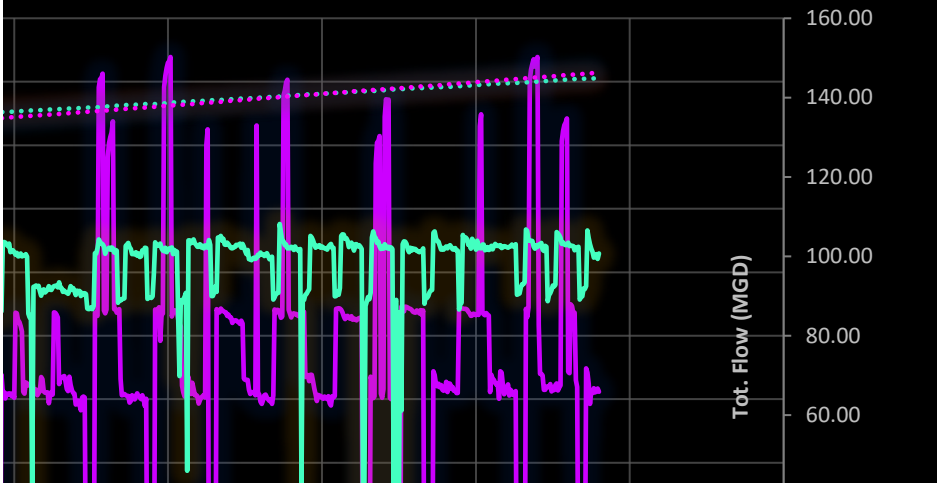
(07.28.22) 00:00 (08.02.22) 00:00 (08.07.22) 00:00 (08.12.22) 00:00 (08.17.22) 00:00 (08.22.22) 00:00 (08.27.22)

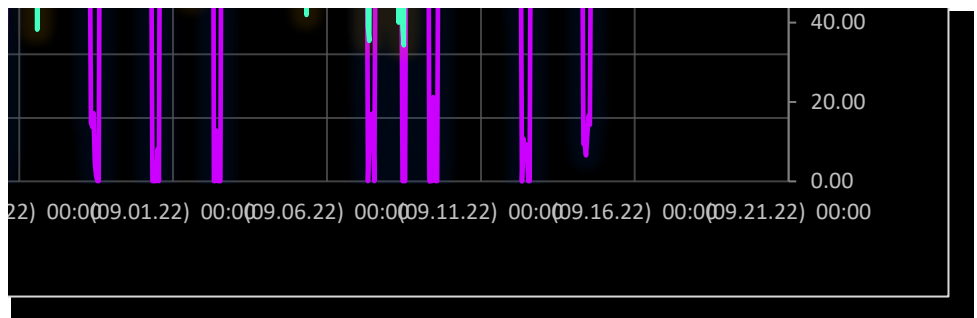
Axis Title

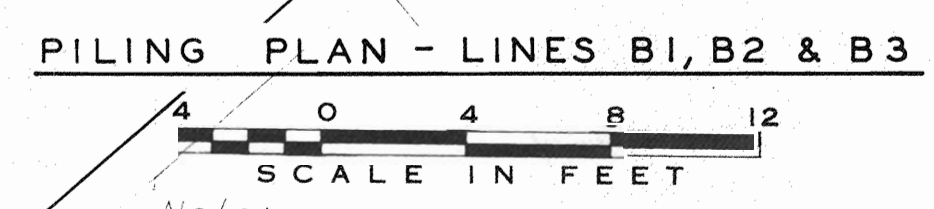
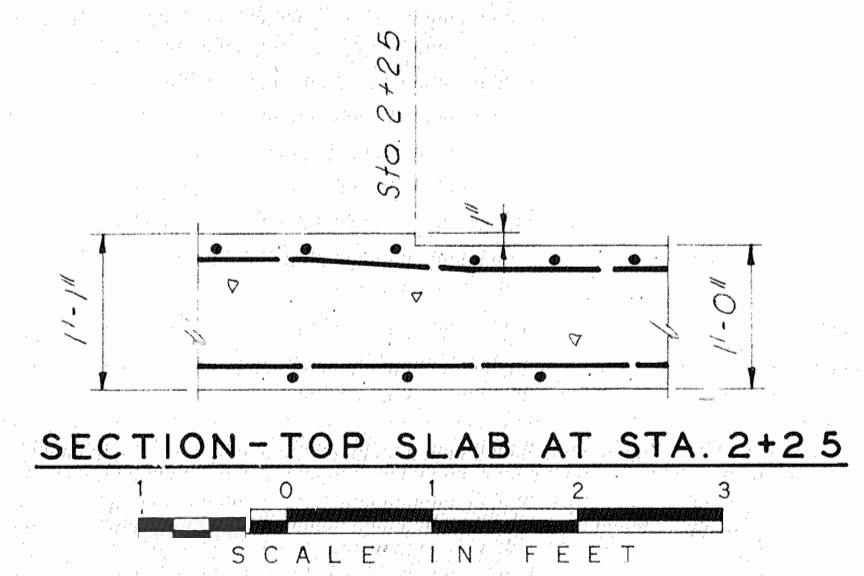
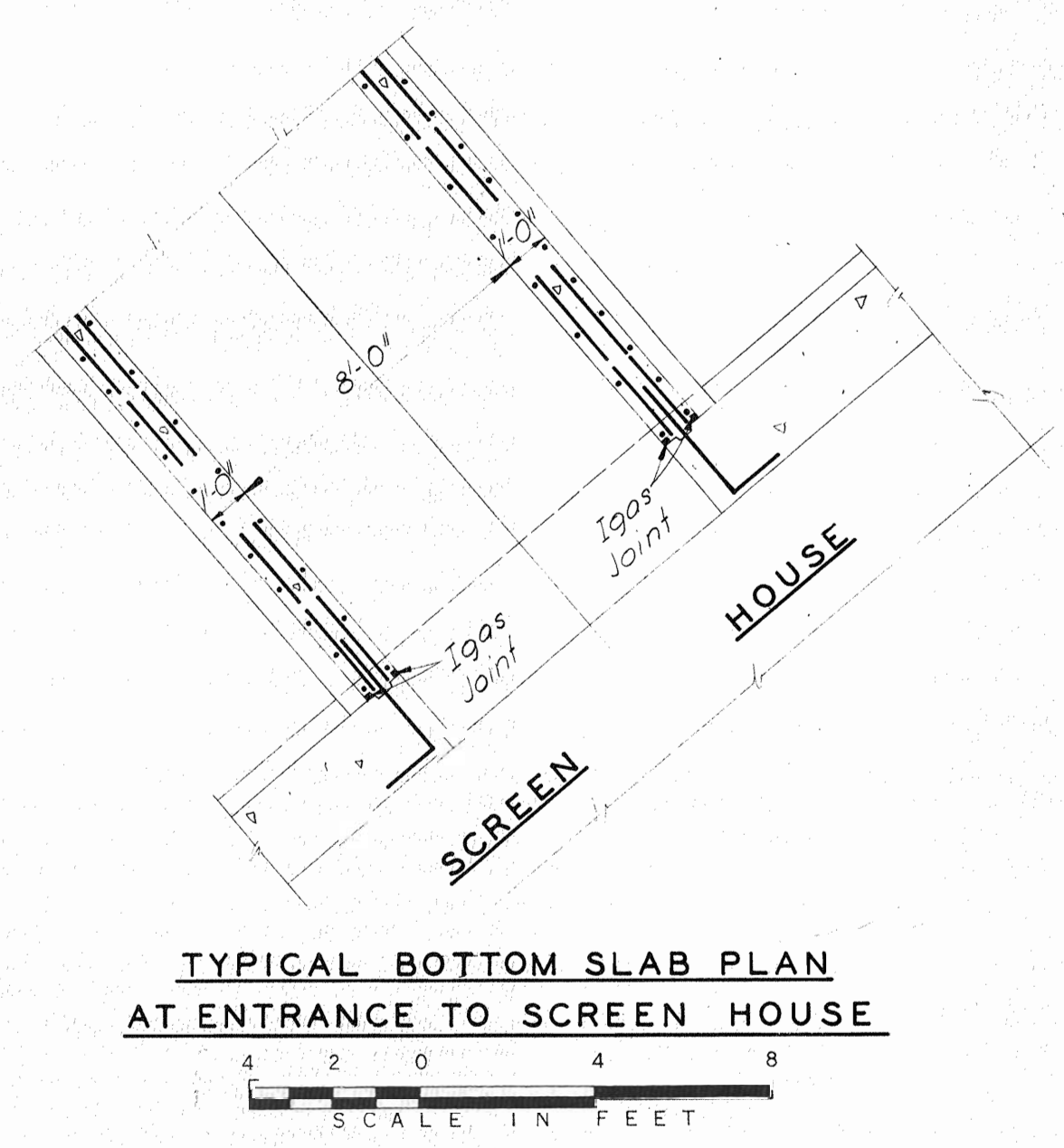
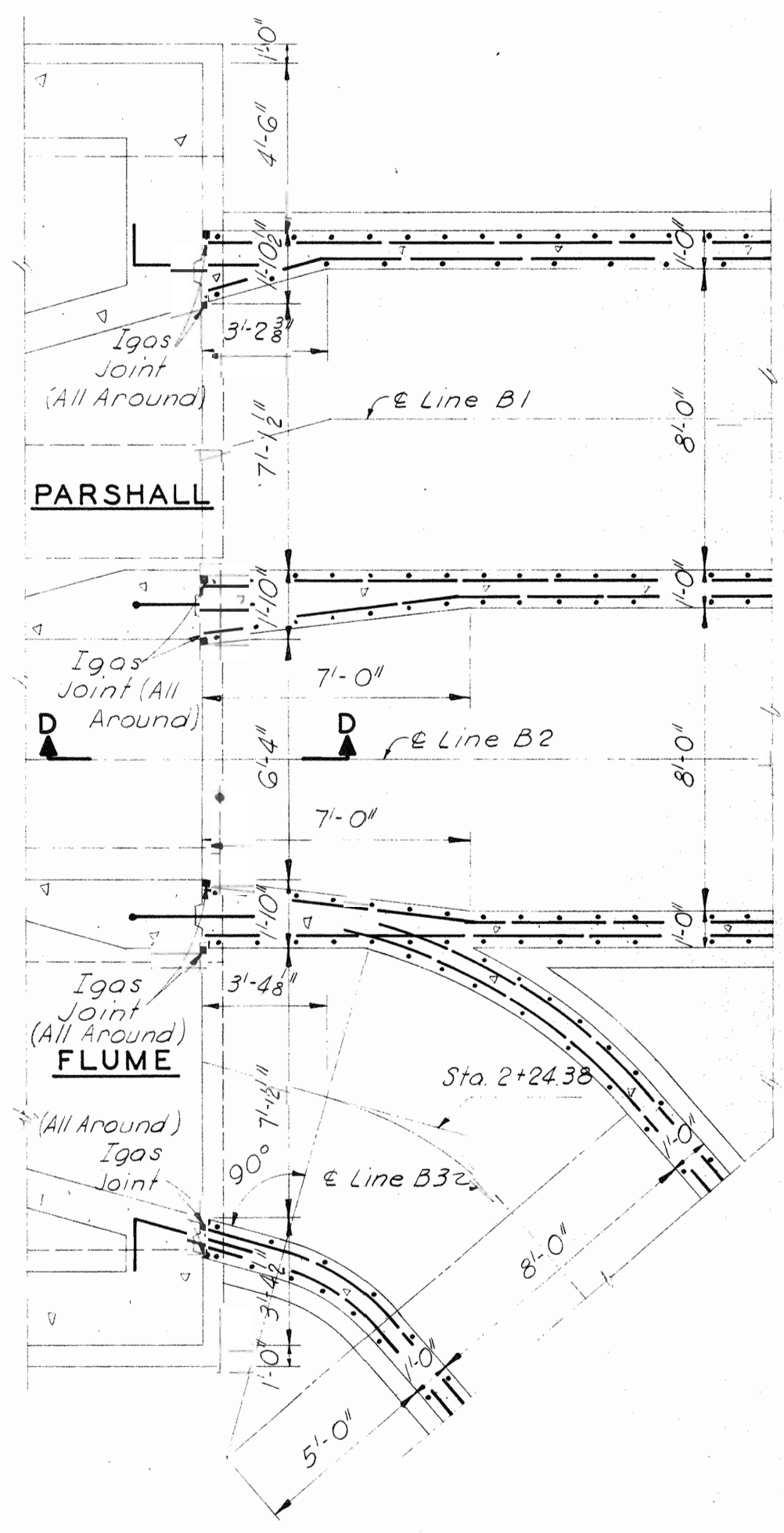
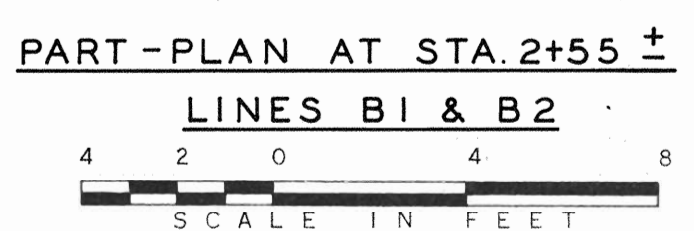
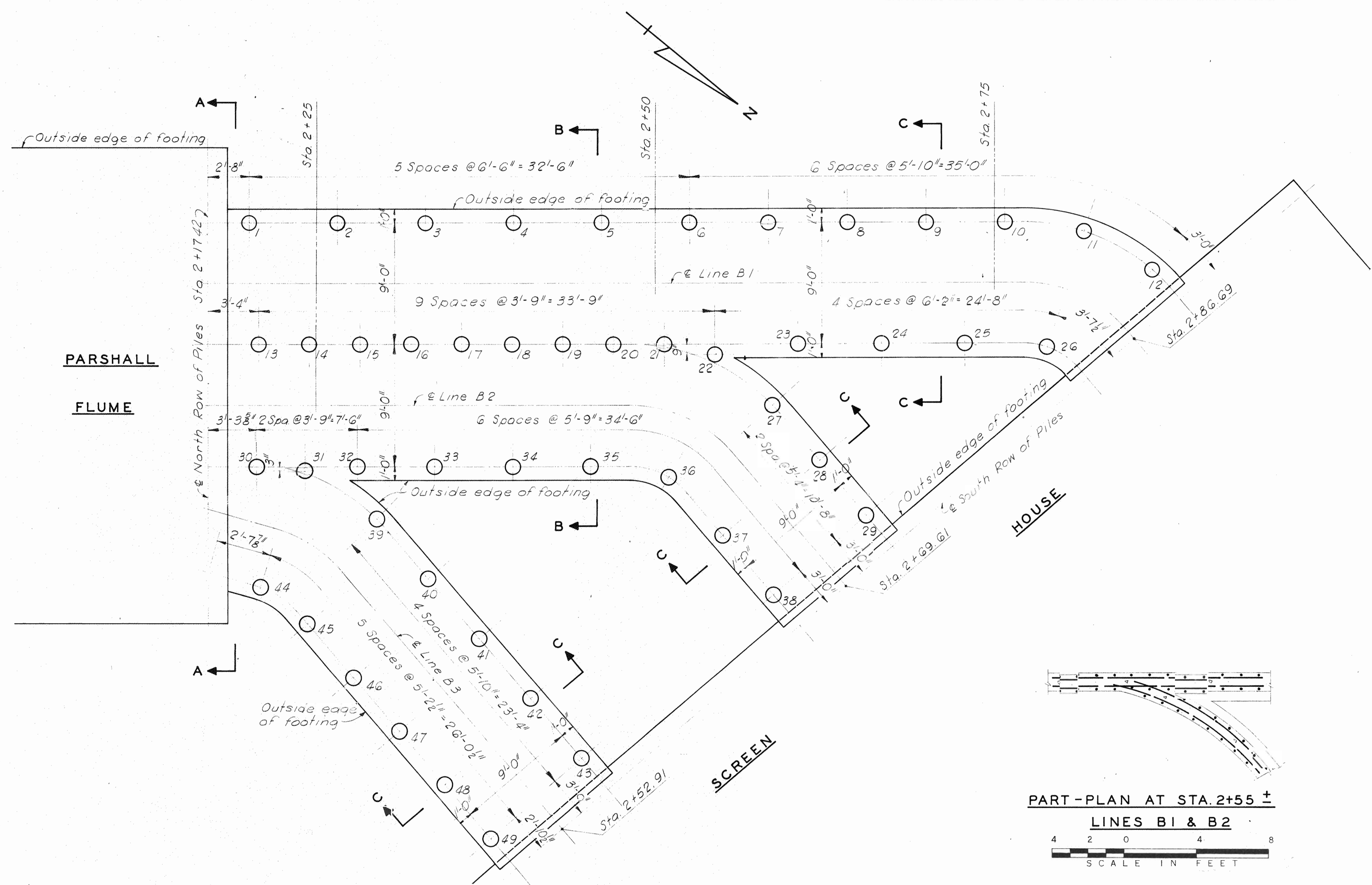


ants (to BR)

Combined Blue River Secondary/Birmingham Sludge Westside Sludge Flow (Tot.)

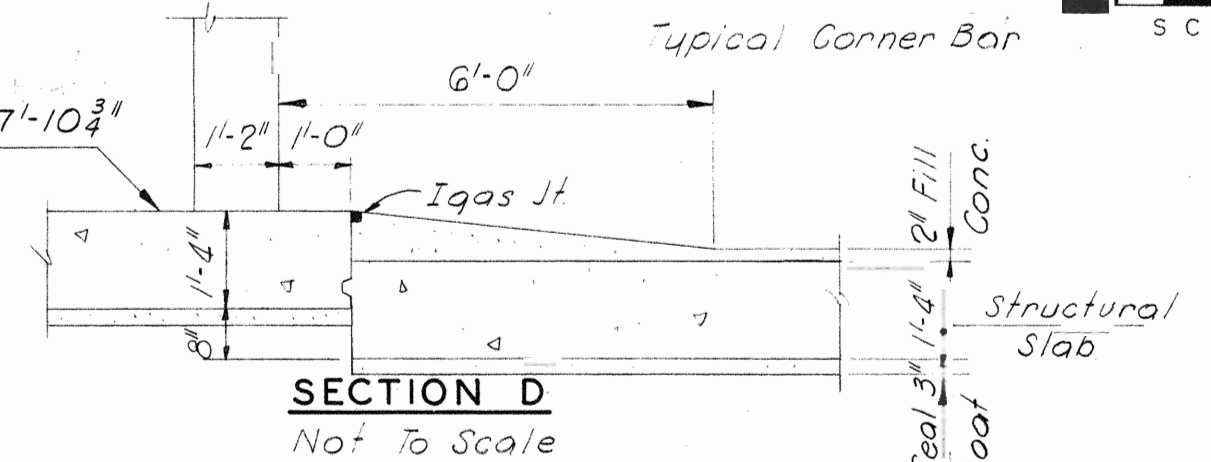
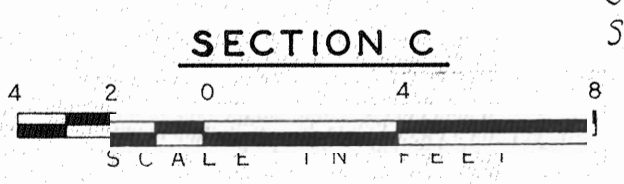
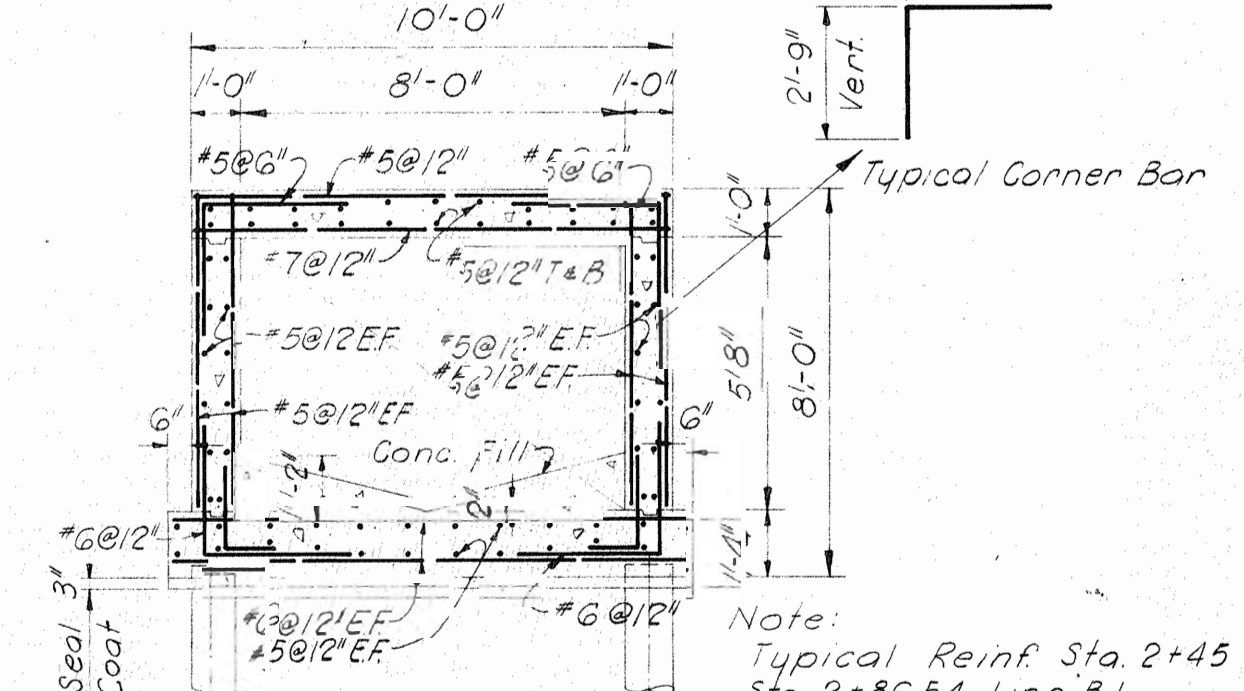
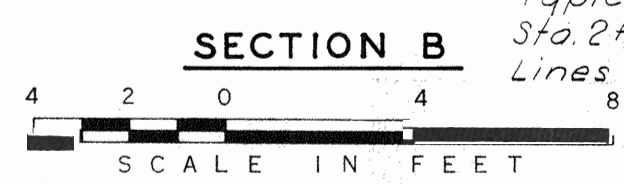
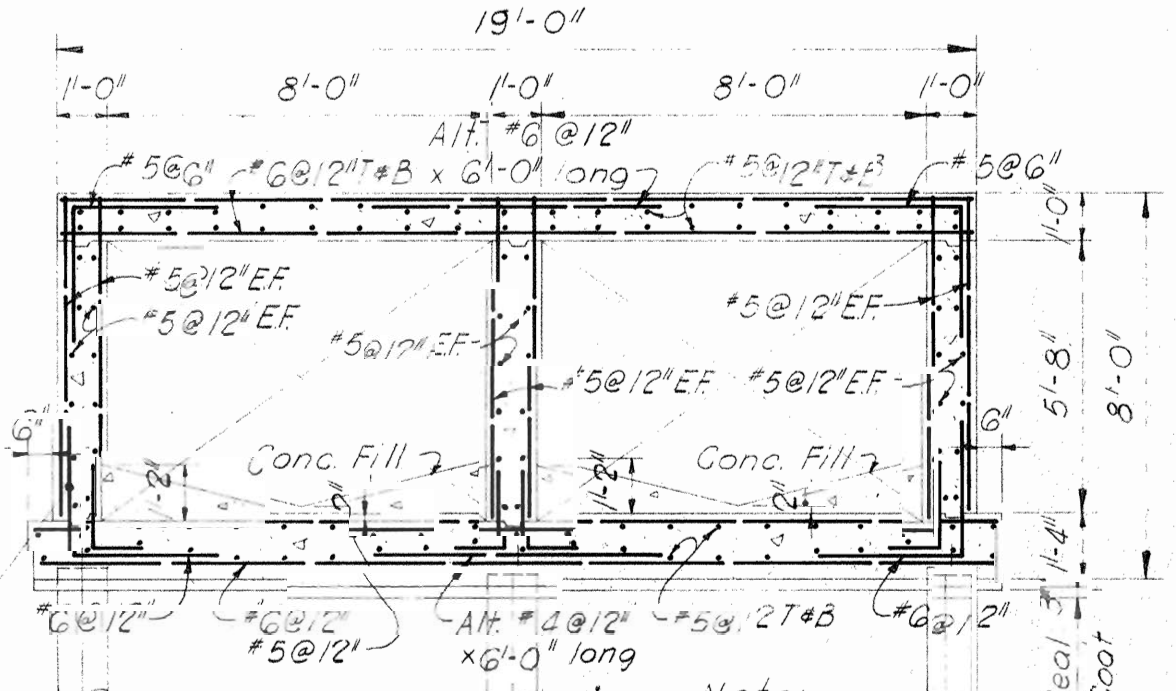
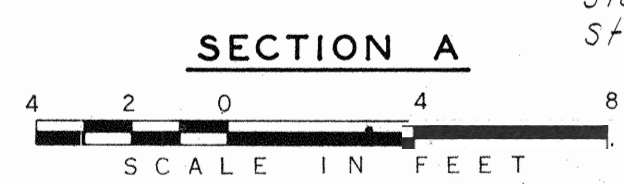
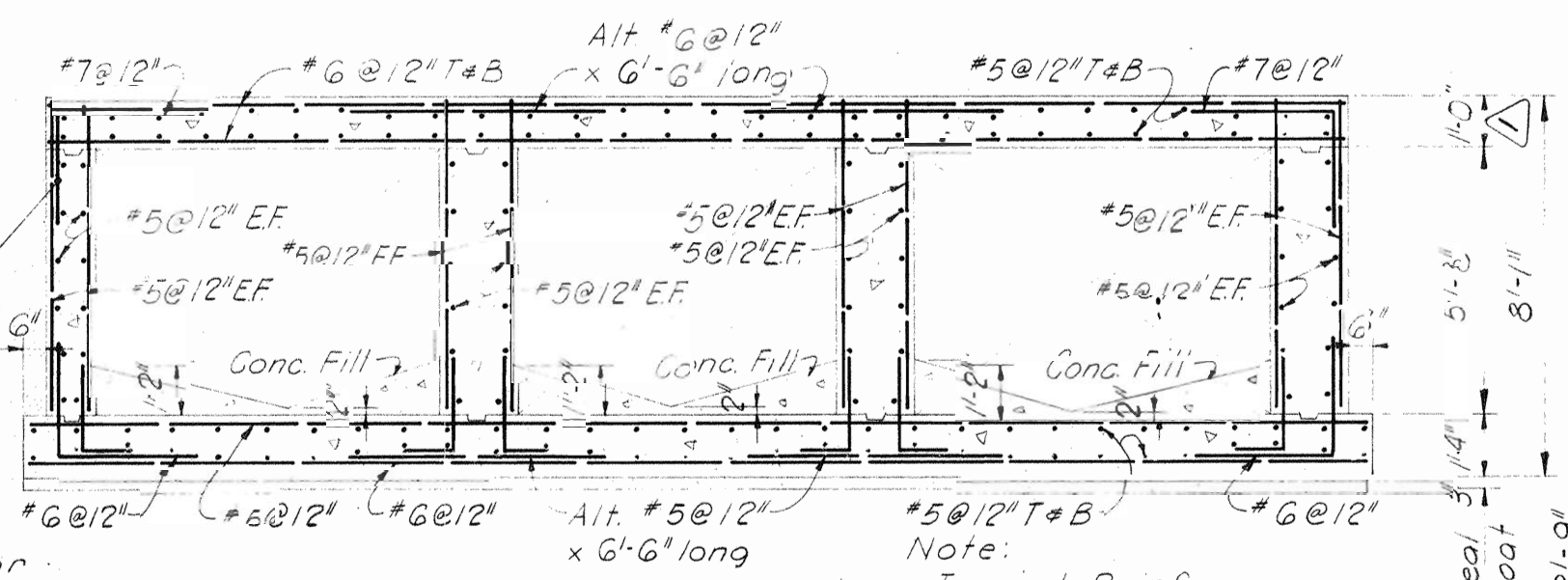






Note: Piles 1 thru 49 Cut-Off El. 726.13

General Notes:
 1. Transverse construction joints through the conduit lines shall be spaced not farther than 35' apart. All construction joints (Transverse & Longitudinal) except those in the interior walls shall be constructed with a continuous waterstop & key. Longitudinal steel shall be continuous thru transverse joints.
 2. Transverse Bar spacing for top & bottom slab given for & of structure.



KANSAS CITY, MISSOURI
POLLUTION CONTROL DEPARTMENT

BIG BLUE RIVER SEWAGE PUMPING STATION

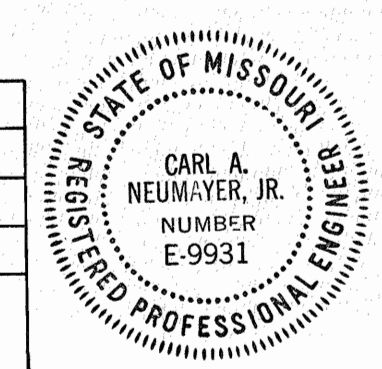
PILING PLAN & STRUCTURAL DETAILS - LINES B1, B2 & B3

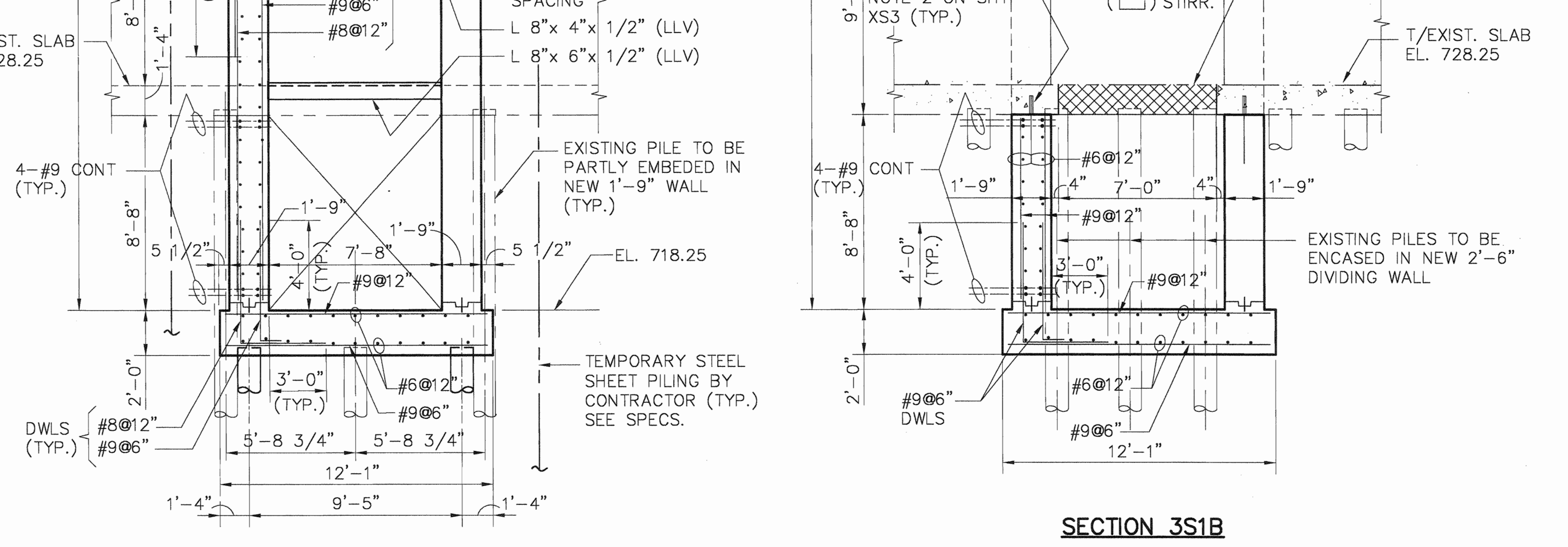
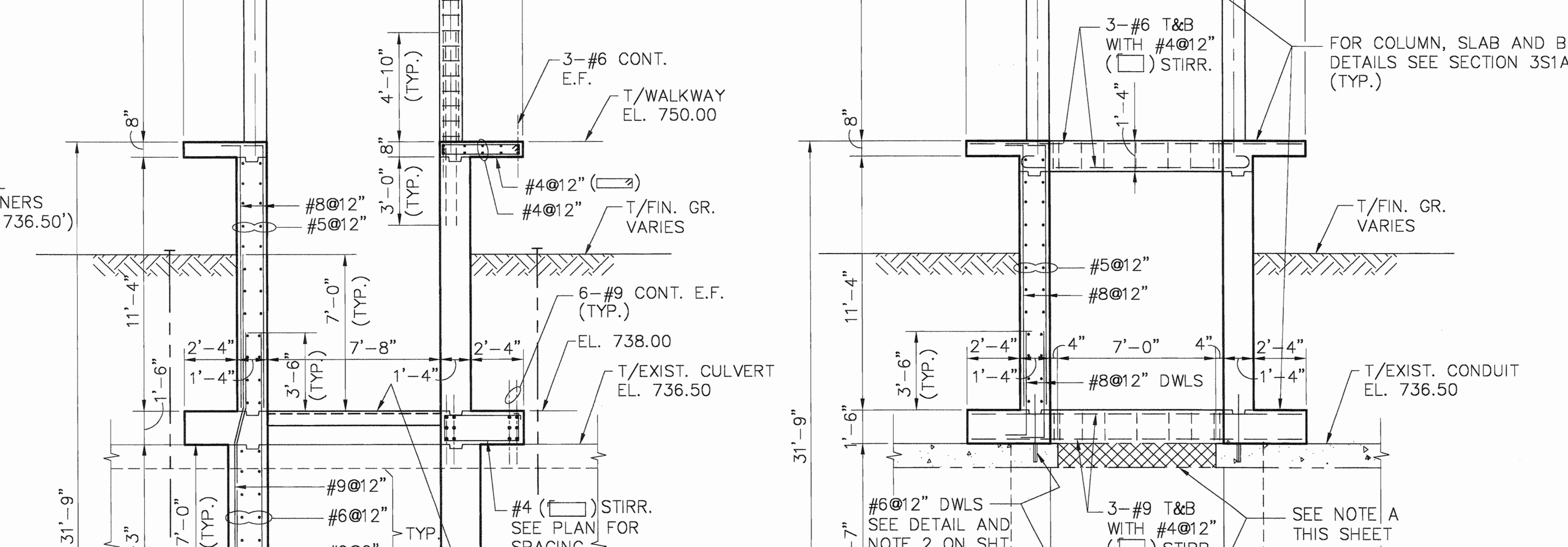
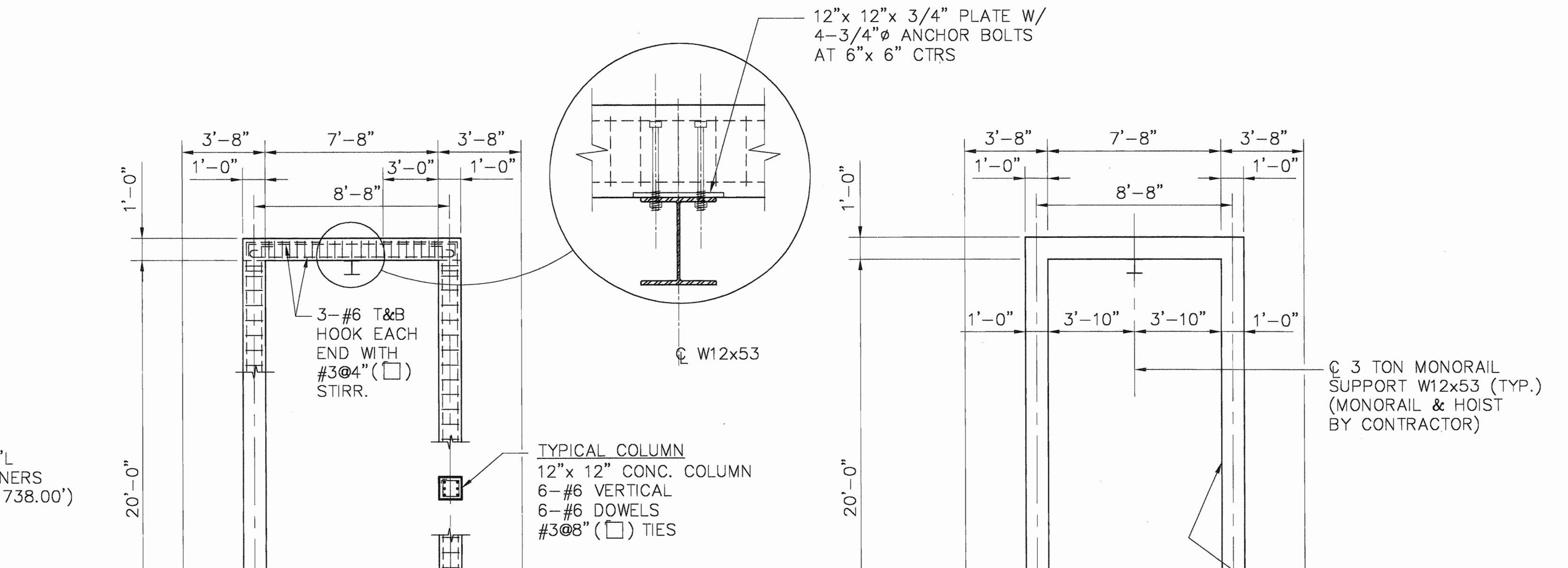
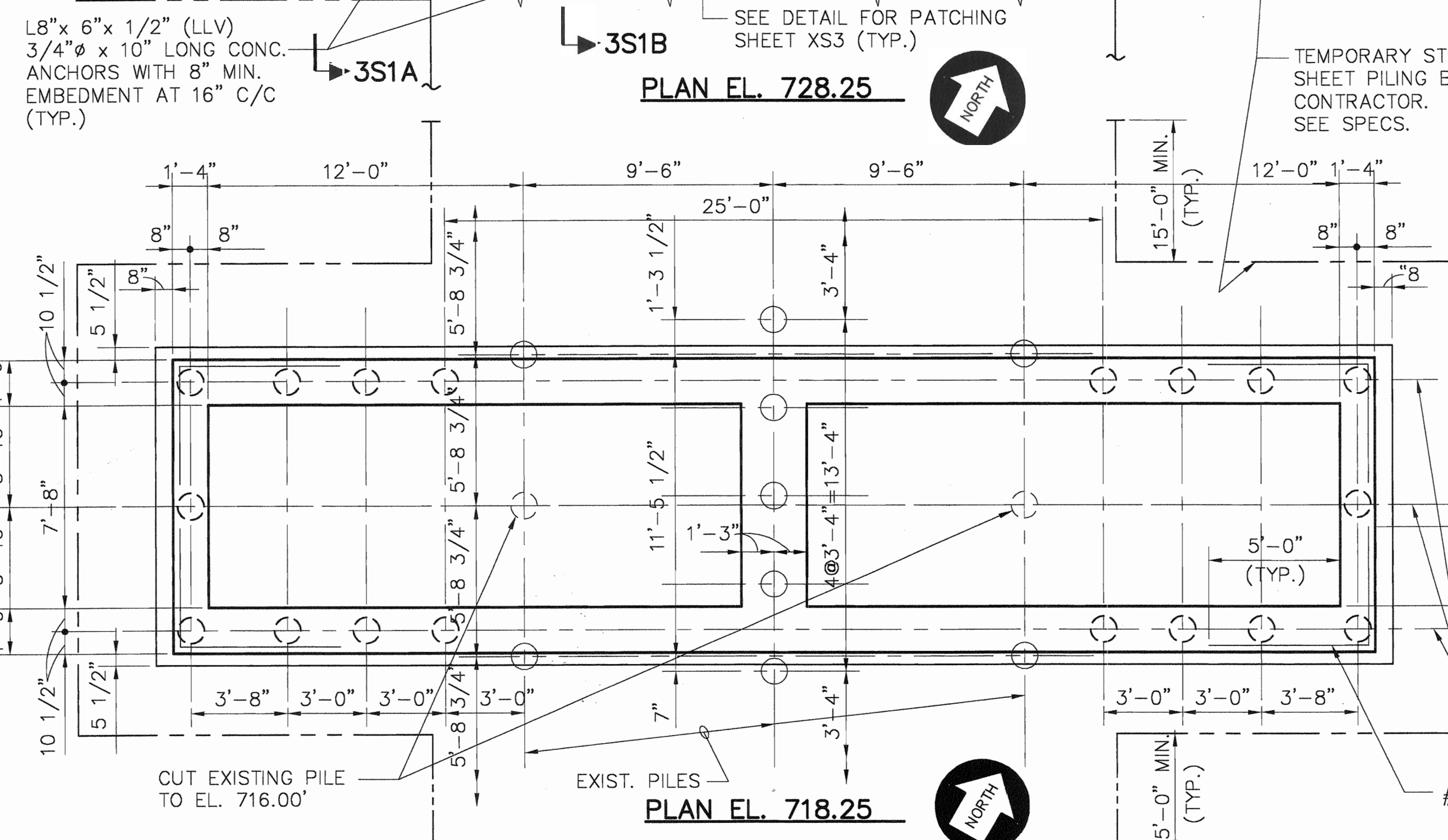
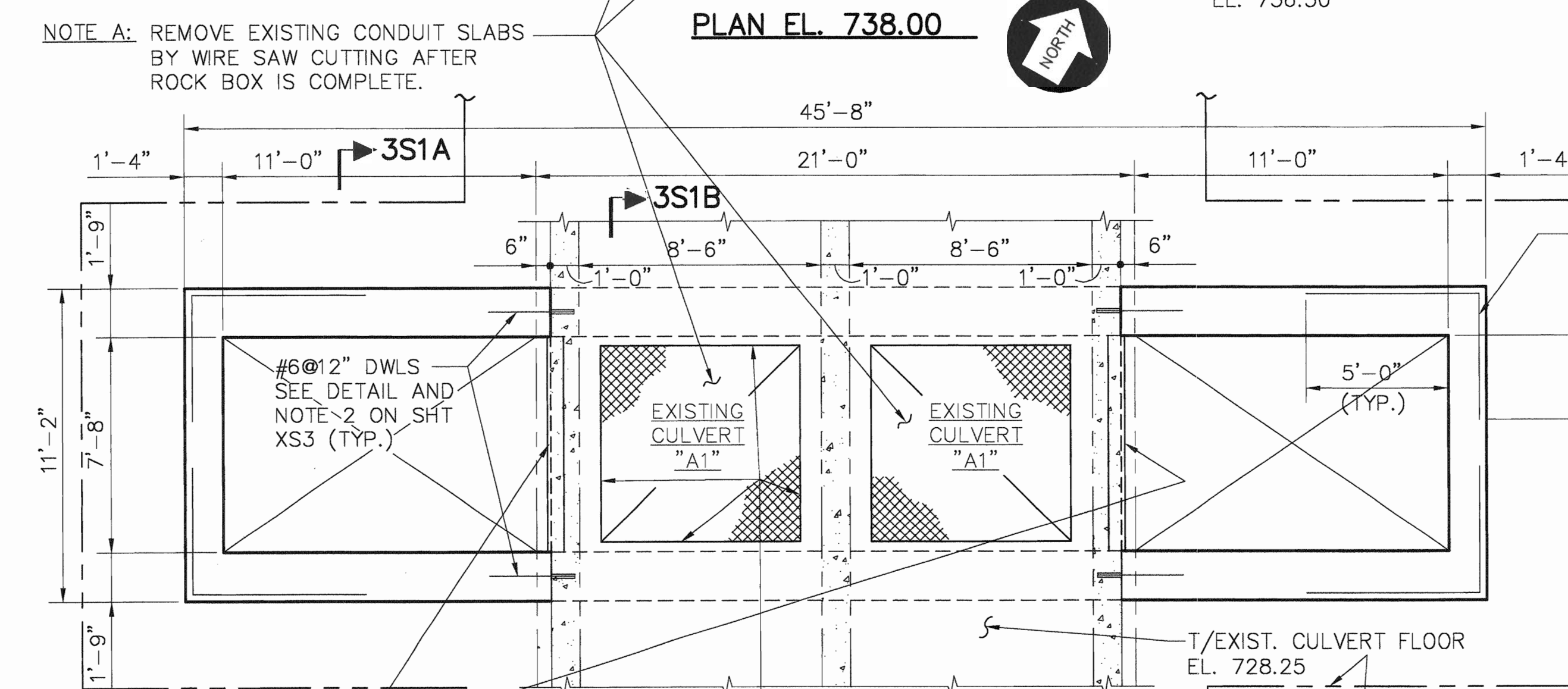
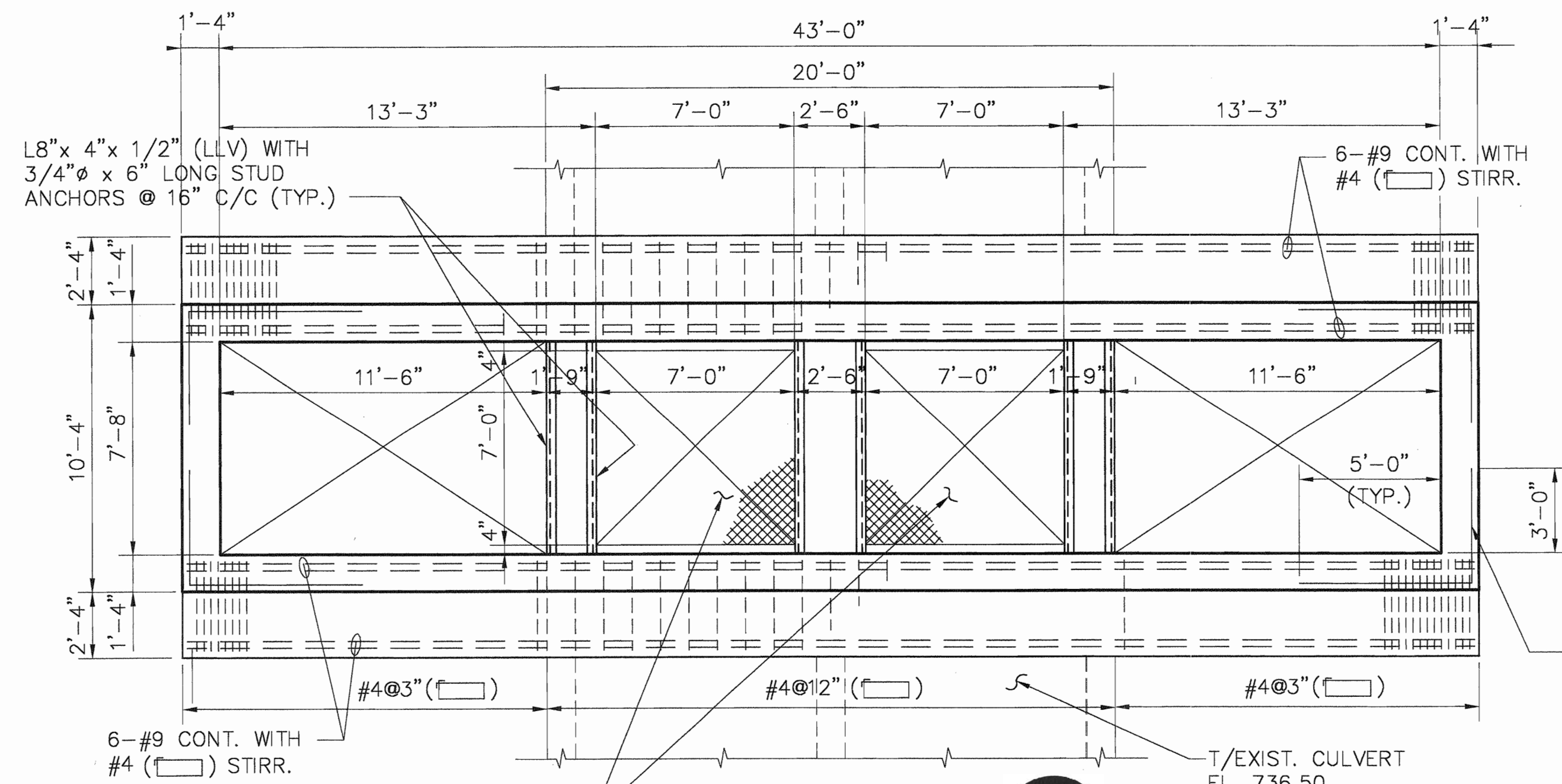
DESIGNED DETAILED TRACED CHECKED	P.C.D. CONTRACT 5 SHEET S 40-1
BLACK & VEATCH AND BURNS & MCDONNELL CONSULTING ENGINEERS, KANSAS CITY, MO.	APPROVED DATE

NO.	DATE	BY	REVISION
1	4-10-63	R.G.B.	Chyd. Sec. A - Add. No. 2

CONFORMING TO
CONSTRUCTION RECORDS

G-21-66, VOS.





C:\TECH\NTP\45709\45709.DWG (CAD) STRUCT\SHIT\20518.DWG Plotted on 1/24/2001 @ 1:57 P.M. by LSABADD

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	NMP
DRAWN	LRL/LTS
CHECKED	NMP
DATE	1/20/02

SCALE
4 3 2 1 0 4 8
FEET

KANSAS CITY, MISSOURI
SYSTEM-WIDE GRIT REMOVAL PROJECT
BLUE RIVER WWTP IMPROVEMENTS
PHASE I - GRIT IMPROVEMENTS

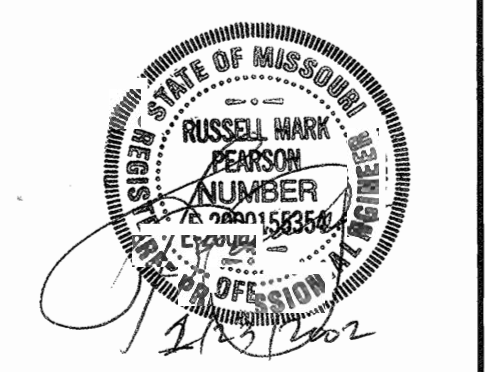
CTE ENGINEERS
 CONSER TOWNSEND ENVIRONMENTAL ENGINEERS, INC.

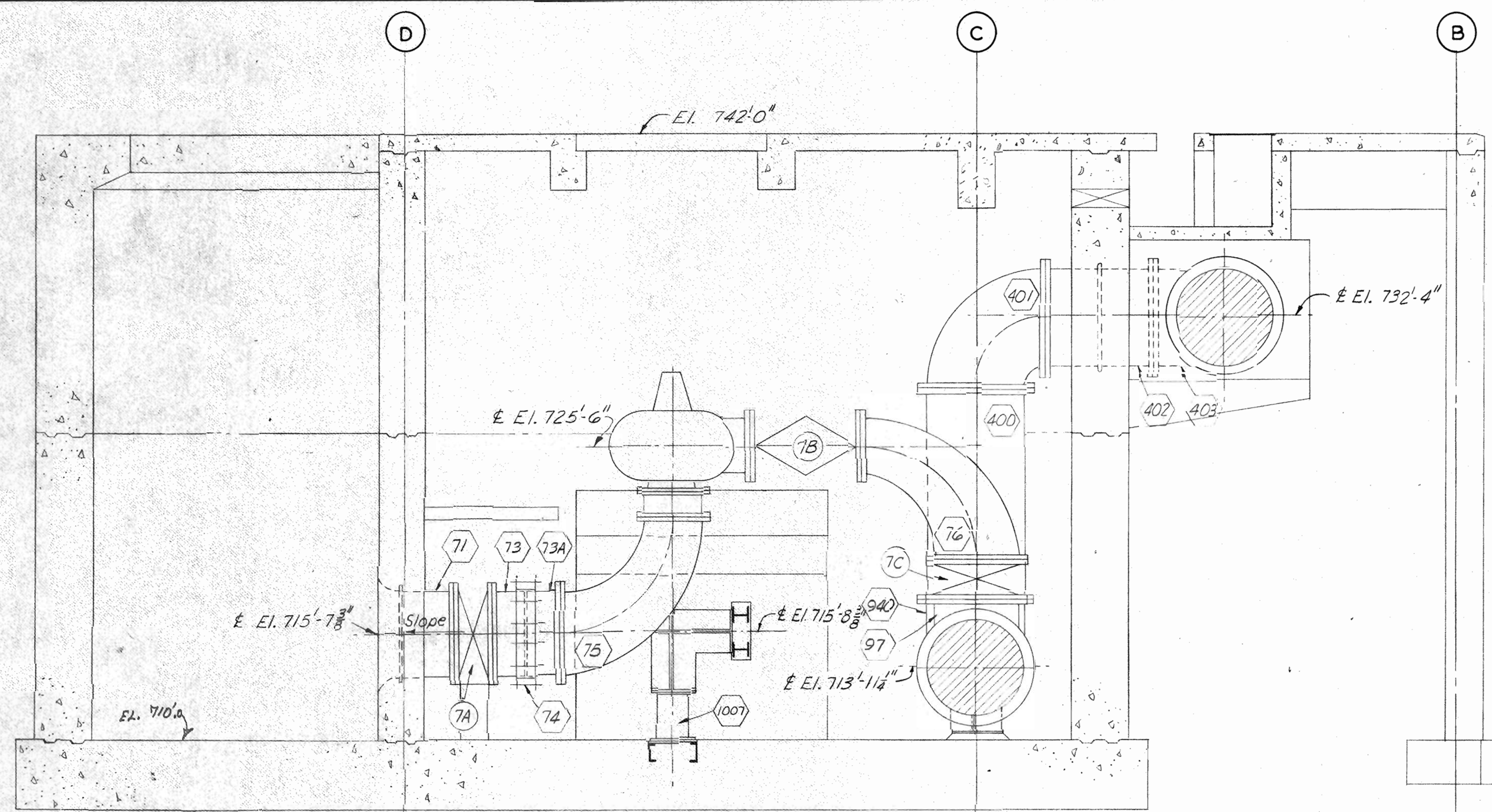
ROCK BOX
 PLANS AND SECTIONS

PN-0099656, SEC.36 TWP.50 RNG.33 SEWER ATLAS S-24

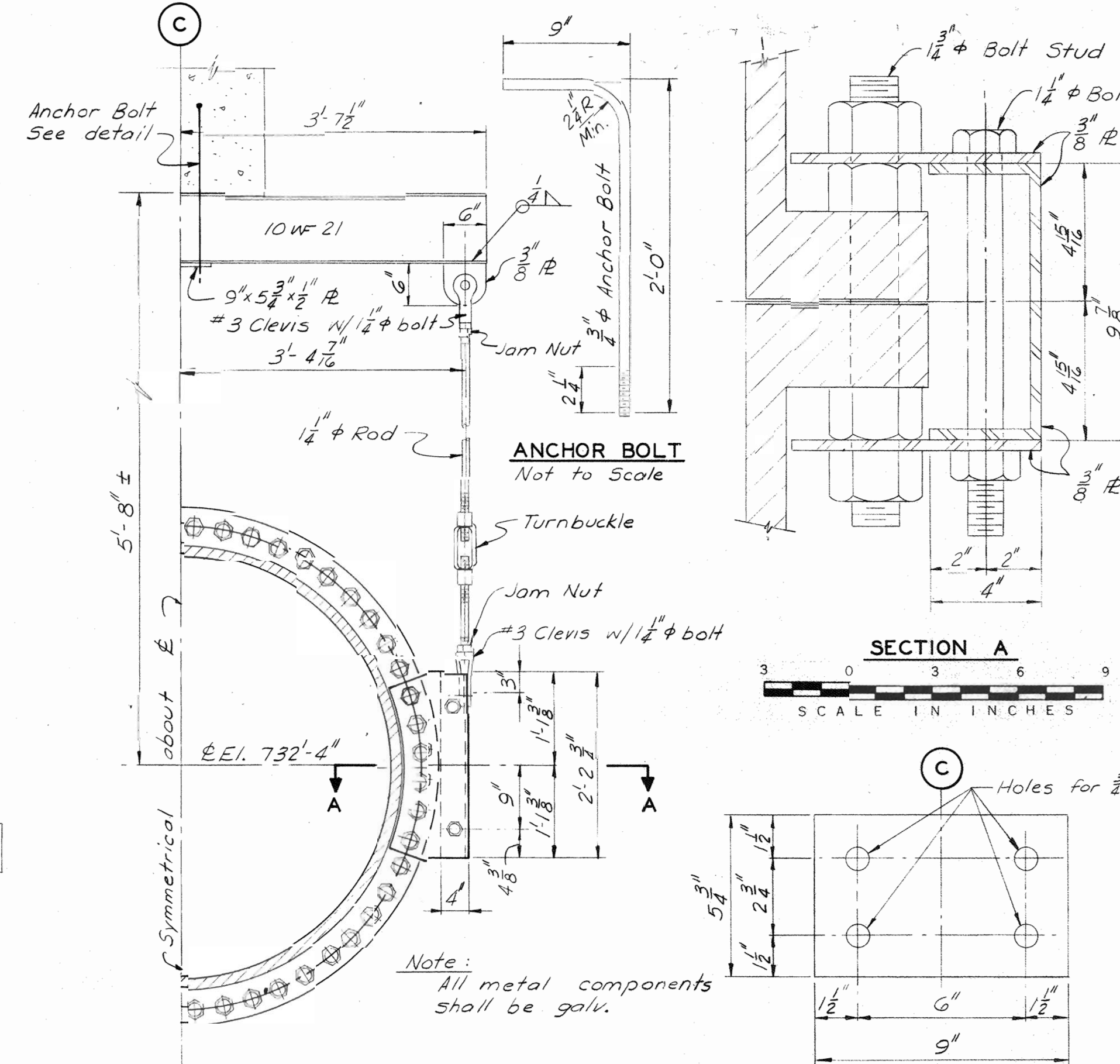
SHEET 3S1 OF 3 SHEETS

DRAWING NO. 1062.136
 CTE PROJECT NO. 45709

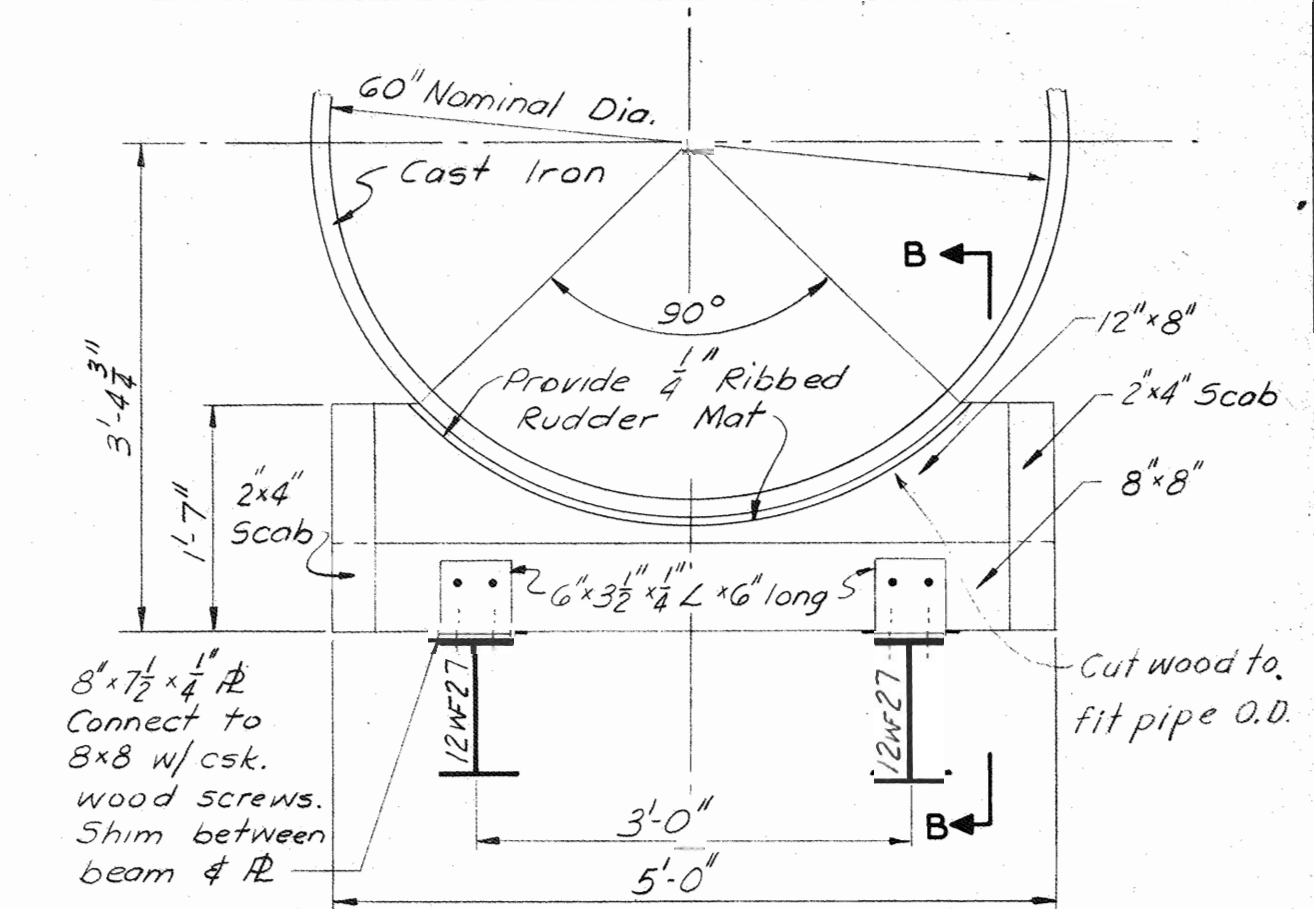




SECTION 3-A-6
Not to Scale

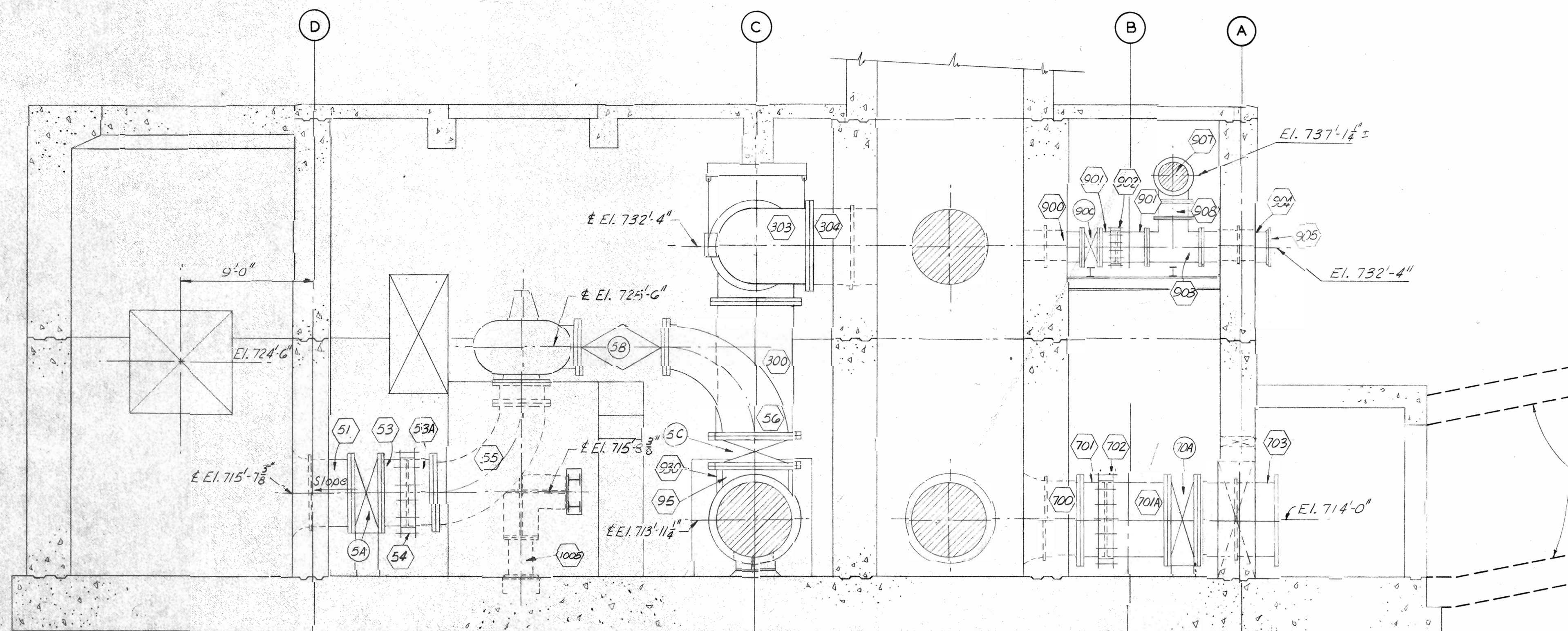


PIPE SUPPORT - TYPE A

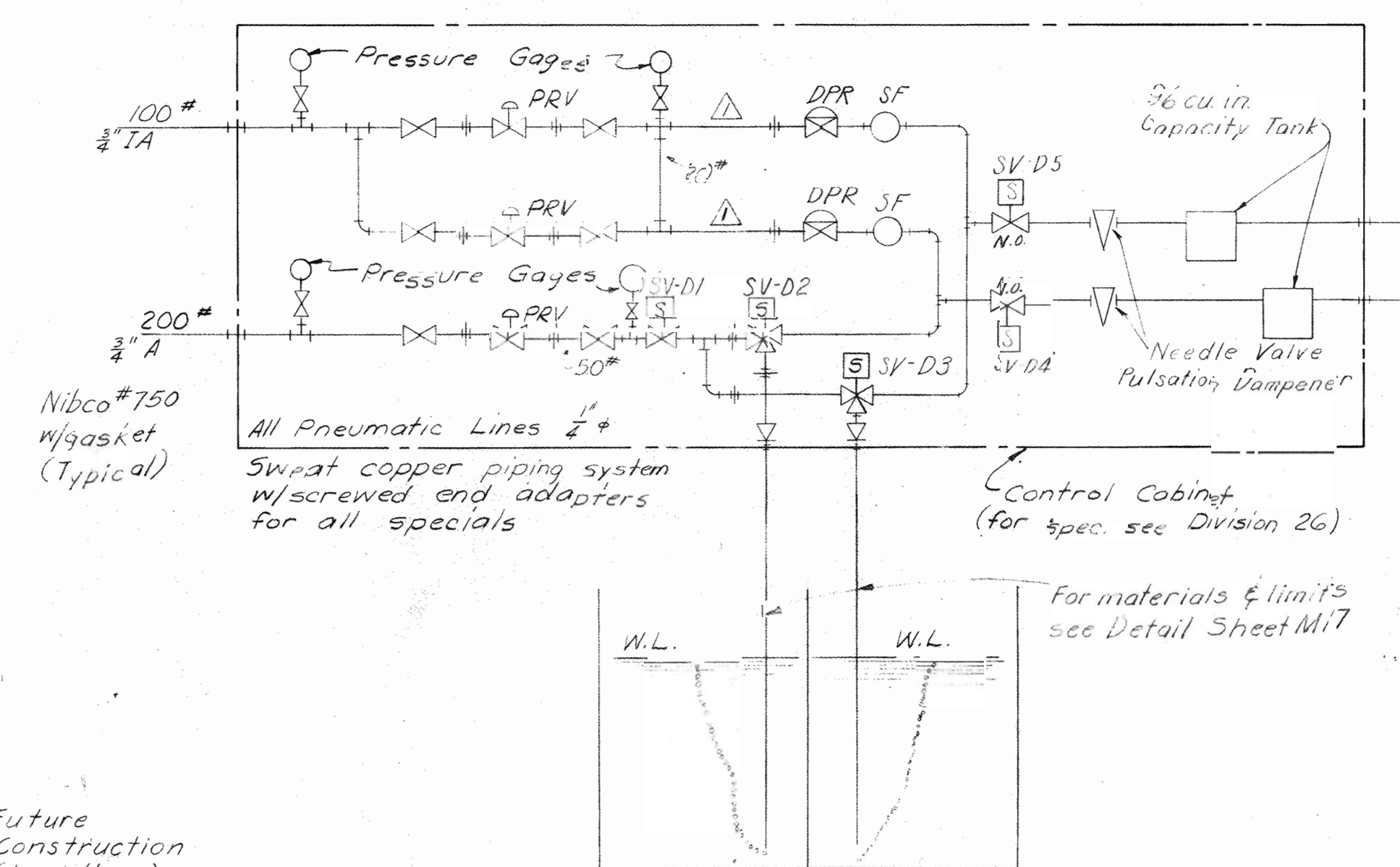


SECTION B

PIPE SUPPORT - TYPE B
For location of 12WF27 beams & supports see sheet 5-16 & M4
SCALE IN FEET



SECTION 3-B-6
Not to Scale



DISTRIBUTION CHAMBER AIR CONTROL PIPING DIAGRAM
Not to Scale

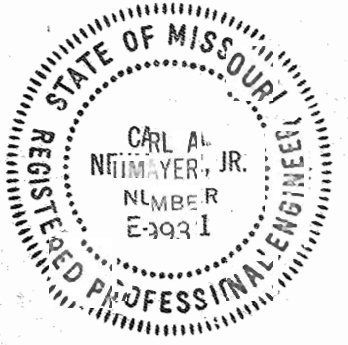
Note:
1. For General Notes See Sheet M3

NO.	DATE	BY	REVISION
1	9-1-66	RLH	Relocated Solenoid Valves SV-D4 & SV-D5 and added Needle Valve Pulsation Damper & Capacity Tanks to Distribution Chamber Air Control Piping Diagram.

CONFORMING TO CONSTRUCTION RECORDS

12367, RLH

DESIGNED	RGB
DETAILED	RLH
TRACED	
CHECKED	



KANSAS CITY, MISSOURI POLLUTION CONTROL DEPARTMENT

BIG BLUE RIVER SEWAGE PUMPING STATION

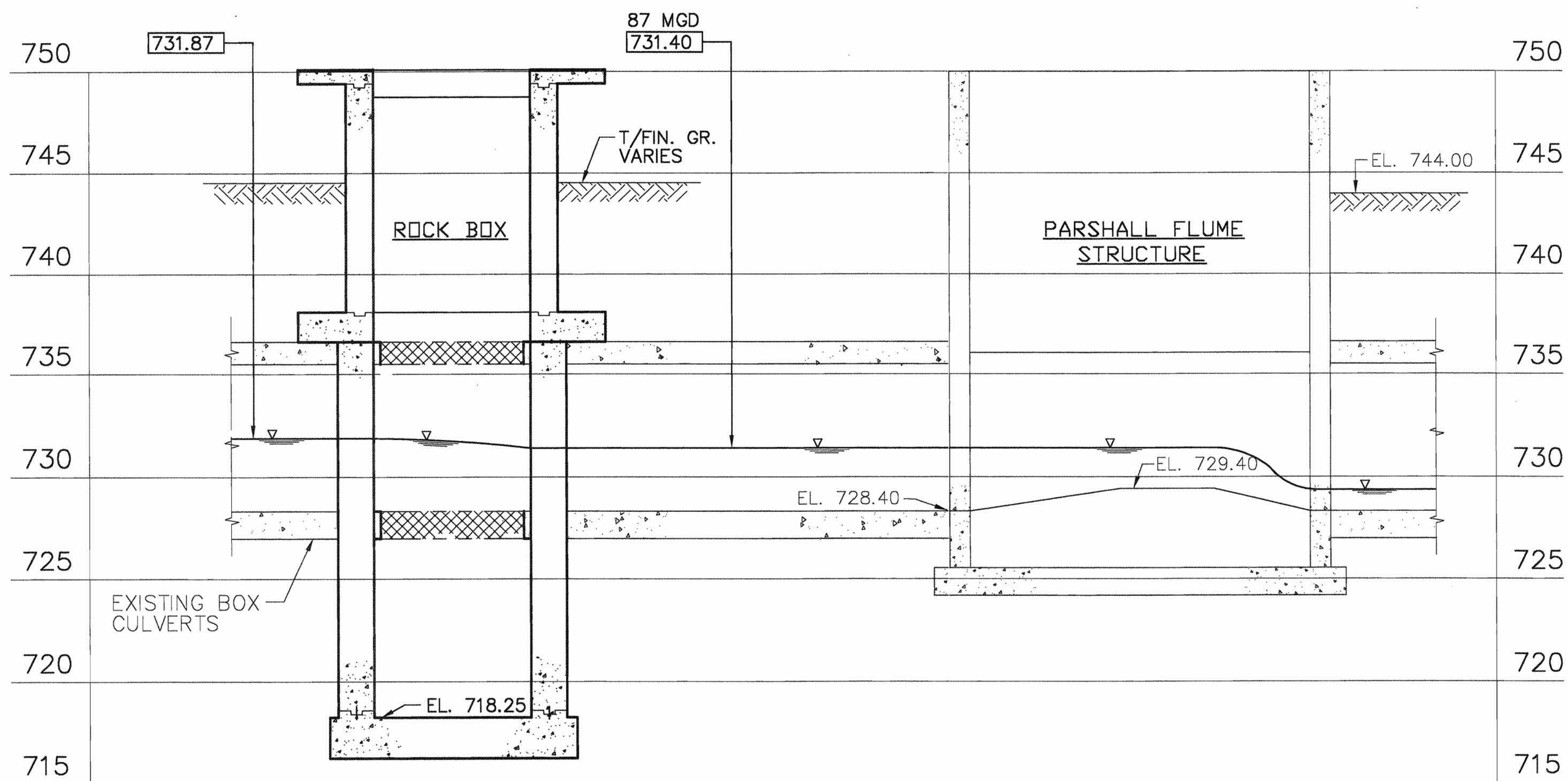
PUMPING STATION SECTIONS AND HANGER SUPPORT DETAILS
PIPING SYSTEMS 6-INCH & LARGER

BLACK & VEATCH AND BURNS & McDONNELL
CONSULTING ENGINEERS, KANSAS CITY, MO.

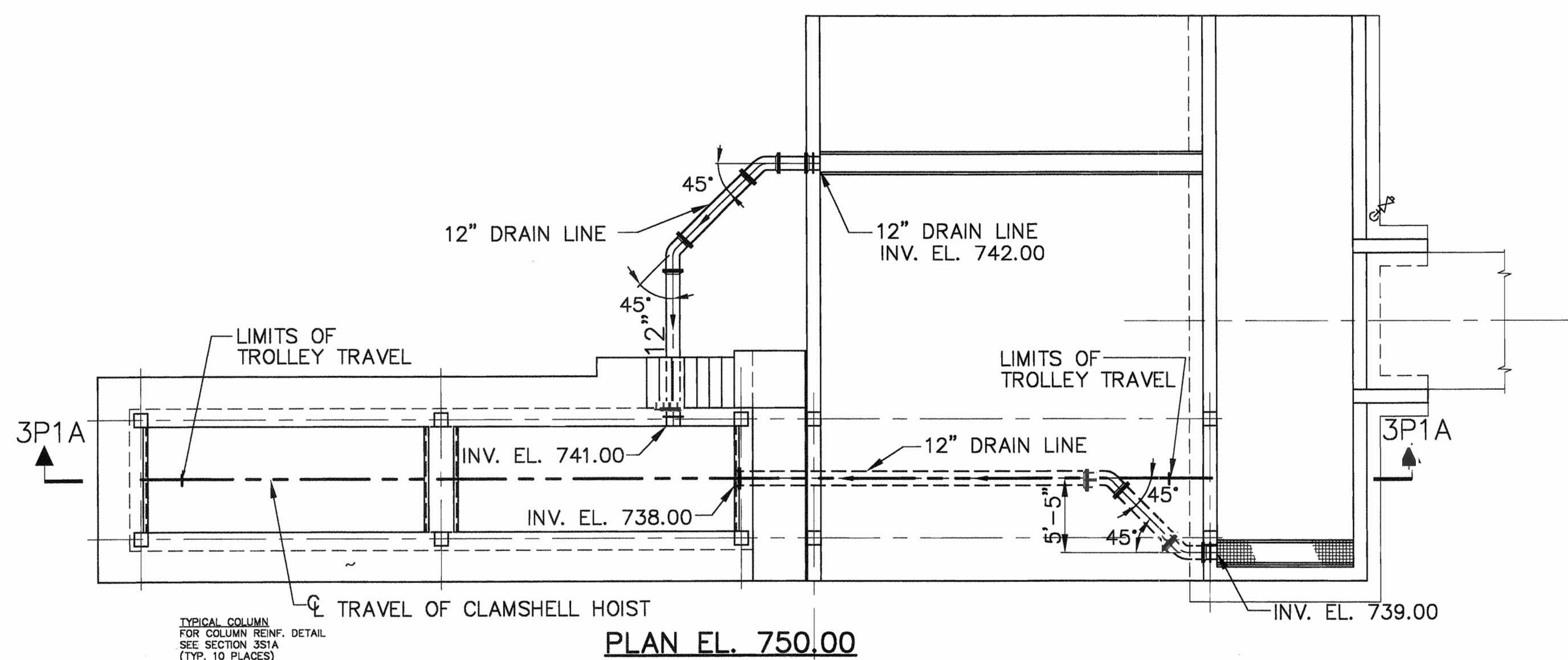
CONTRACT NUMBER 5

DESIGNED: RGB
DETAILED: RLH
CHECKED: [Signature]
DATE: 10/1/66

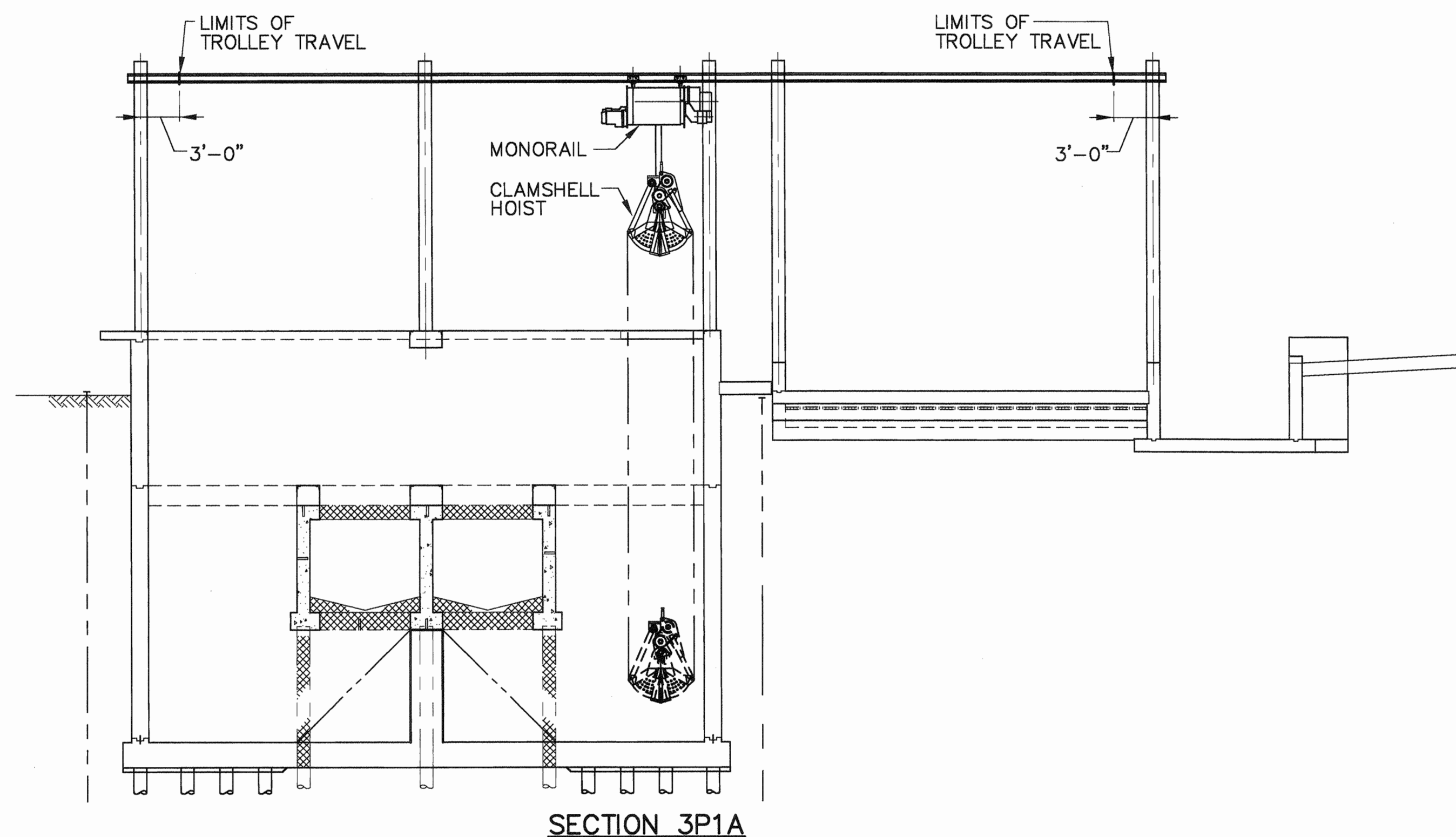
SHEET M6-2



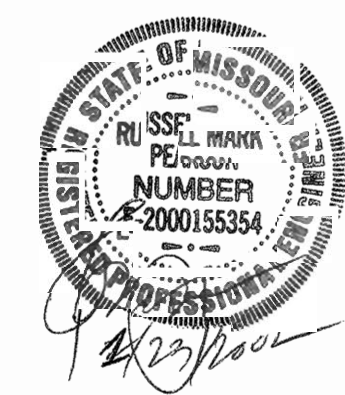
HYDRAULIC PROFILE
 VERT. 1" = 10'-0"
 HORIZ. NONE



PLAN EL. 750.00



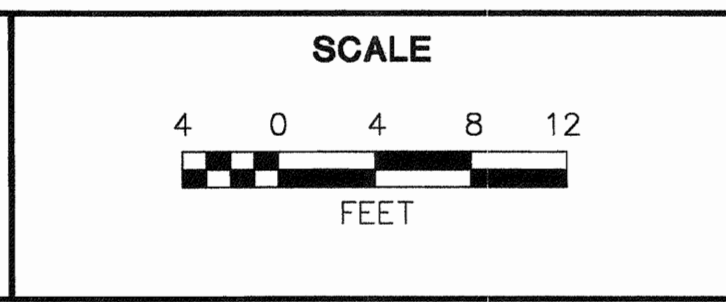
SECTION 3P1A



M:\45709 (CAD)\PROCESS\BRT\709PBR1.DWG - Plotted on 5/1/2002 @ 2:35 P.M. by XIAOXI

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	RMP
DRAWN	XJ
CHECKED	REM/RJK
DATE	1/2002



KANSAS CITY, MISSOURI
 SYSTEM-WIDE GRIT REMOVAL PROJECT
 BLUE RIVER WWTP IMPROVEMENTS
 PHASE I - GRIT IMPROVEMENTS

CTE ENGINEERS
 CONSER TOWNSEND ENVIRONMENTAL ENGINEERS, INC.

ROCK BOX
 PLAN AND SECTION - HYDRAULIC PROFILE
 PN-0099656, SEC.36 TWP.50 RNG.33 SEWER ATLAS S-24

SHEET	3P1	70	92
OF	1	SHEETS	
DRAWING NO. 1062.136		CTE PROJECT NO. 45709	

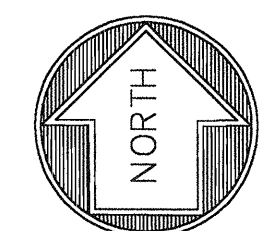
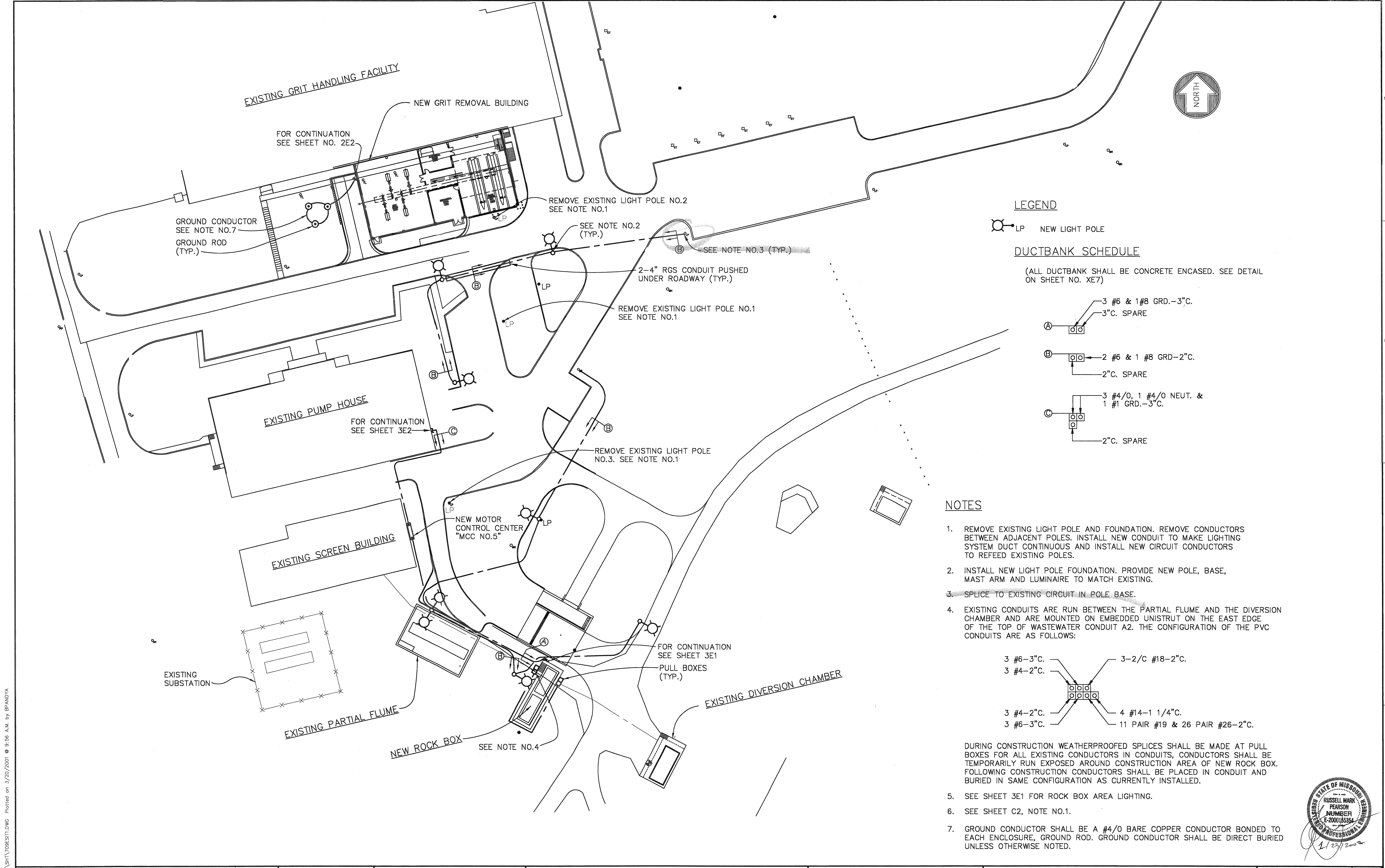
MCC #5

A1	B1	C1	D1	E1	F1	G1
A2	B2	C2	D2	E2	F2	G2
A3 - A6	B3	C3	D3	E3	F3	G3
	B4	C4	D4	E4	F4	G4
	B5	C5	D5 - D6	E5	F5	G5
	B6	C6		E6	F6	G6

CIRCUIT	ITEM	AMPS
A1	Circuit Monitor (Out Of Service) IQ PD 4000	
A2	Rock Box	60
A3-A6	Main	400
B1	Lighting Contactor with HOA	15
B2	Effluent Gates	70
B3	Diversion Chamber	70
B4	Sluice Gate #1	20
B5	Sluice Gate #3	20
B6	Space	
C1	Panel C Transformer	Unknown
C2	Afterbay Gate #1	20
C3	Sluice Gate #2	20
C4	Space	
C5	Space	
C6	Space	
D1	Sluice Gate #4	20
D2	Afterbay Gate #2	20
D3	Bar Screen #1	15
D4	Space	
D5-D6	Space	
E1	Bar Screen #1	15
E2	Bar Screen #1	15
E3	Bar Screen #1	15
E4	Space	

CIRCUIT	ITEM	AMPS
E5	Space	
E6	Space	
F1	After Bay Gate #3	20
F2	After Bay Gate #4	20
F3	Panel LB	Unknown
F4	Jib Crane	20
F5	Compactor (Compactor has been removed)	30
F6	Conveyor (Conveyor has been removed)	20
G1	Forebay Bio-Filter Blower	15
G2	Afterbay Bio-Filter Blower	15
G3	Overhead Door	20
G4	Trolley Hoist	20

CIRCUIT	ITEM	AMPS
G5	Auto Sampler Transformer	30
G6	Space	

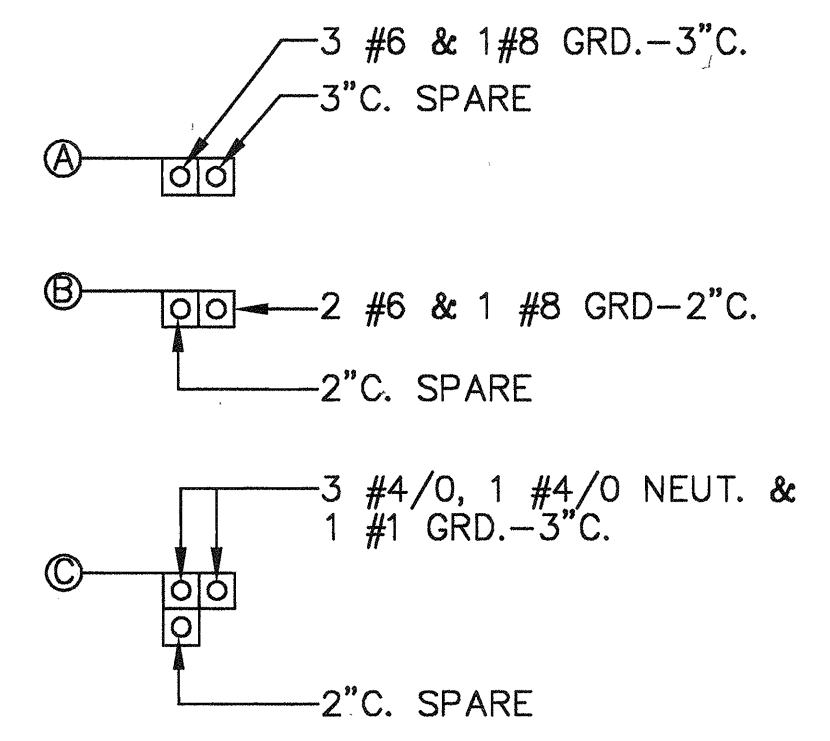


LEGEND



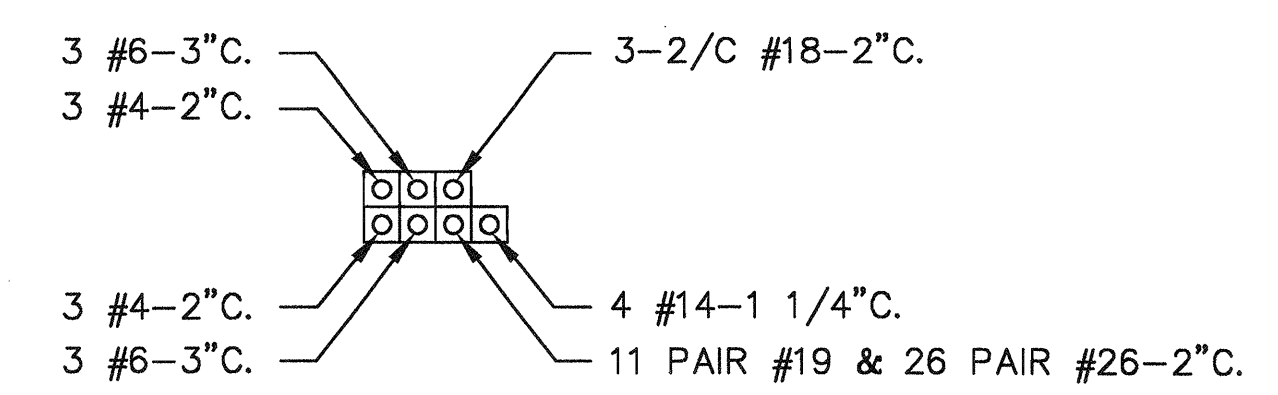
DUCTBANK SCHEDULE

(ALL DUCTBANK SHALL BE CONCRETE ENCASED. SEE DETAIL ON SHEET NO. XE7)



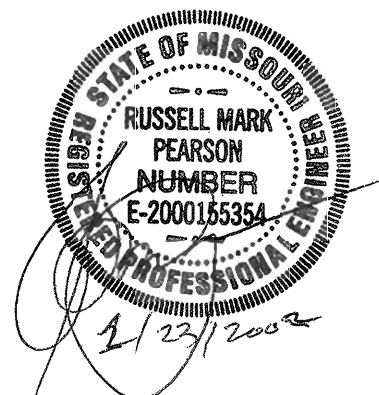
NOTES

1. REMOVE EXISTING LIGHT POLE AND FOUNDATION. REMOVE CONDUCTORS BETWEEN ADJACENT POLES. INSTALL NEW CONDUIT TO MAKE LIGHTING SYSTEM DUCT CONTINUOUS AND INSTALL NEW CIRCUIT CONDUCTORS TO REFEED EXISTING POLES.
2. INSTALL NEW LIGHT POLE FOUNDATION. PROVIDE NEW POLE, BASE, MAST ARM AND LUMINAIRE TO MATCH EXISTING.
3. SPLICE TO EXISTING CIRCUIT IN POLE BASE.
4. EXISTING CONDUITS ARE RUN BETWEEN THE PARTIAL FLUME AND THE DIVERSION CHAMBER AND ARE MOUNTED ON EMBEDDED UNISTRUT ON THE EAST EDGE OF THE TOP OF WASTEWATER CONDUIT A2. THE CONFIGURATION OF THE PVC CONDUITS ARE AS FOLLOWS:



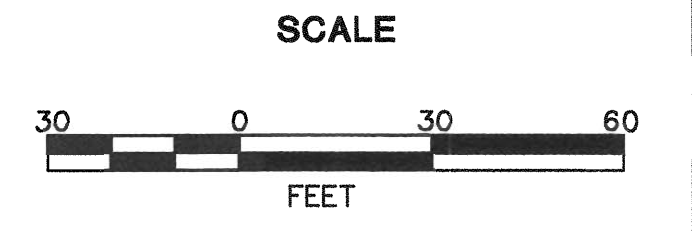
DURING CONSTRUCTION WEATHERPROOFED SPLICES SHALL BE MADE AT PULL BOXES FOR ALL EXISTING CONDUCTORS IN CONDUITS, CONDUCTORS SHALL BE TEMPORARILY RUN EXPOSED AROUND CONSTRUCTION AREA OF NEW ROCK BOX. FOLLOWING CONSTRUCTION CONDUCTORS SHALL BE PLACED IN CONDUIT AND BURIED IN SAME CONFIGURATION AS CURRENTLY INSTALLED.

5. SEE SHEET 3E1 FOR ROCK BOX AREA LIGHTING.
6. SEE SHEET C2, NOTE NO.1.
7. GROUND CONDUCTOR SHALL BE A #4/0 BARE COPPER CONDUCTOR BONDED TO EACH ENCLOSURE, GROUND ROD. GROUND CONDUCTOR SHALL BE DIRECT BURIED UNLESS OTHERWISE NOTED.

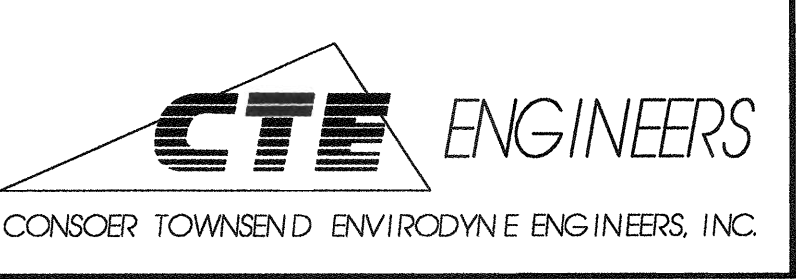


NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	PEC
DRAWN	BHP
CHECKED	EAD
DATE	1/2002



KANSAS CITY, MISSOURI
SYSTEM-WIDE GRIT REMOVAL PROJECT
BLUE RIVER WWTP IMPROVEMENTS
PHASE I - GRIT IMPROVEMENTS



BLUE RIVER PRIMARY PLANT
 ELECTRICAL SITE PLAN
 ROCK BOX AREA
 PN-0099656, SEC.36 TWP.50 RNG.33 SEWER ATLAS S-24

SHEET	E1	16	92
OF	2	SHEETS	
DRAWING NO. 1062.136 CTE PROJECT NO. 45709			

M:\P45709\CAD\ELECTRICAL\SHIT\08EST1.DWG Plotted on 3/26/2001 @ 9:56 A.M. by BPHANDYA



ADDENDUM NUMBER 4

Project Number 81000984

Project Title Blue River Screen House Improvements

ISSUE DATE: October 4, 2022

Shortlisted Respondents are hereby notified that the Proposal and Contract Documents for the above project, for which Proposals are to be received on November 9, 2022, are amended as follows:

Information to Proposers The following is provided to Proposers for information only:

1. Shortlisted Respondents may request up to two (2) site visits. A site visit shall be constituted as any trip including the Blue River Screen House starting at a period no earlier than Request For Qualifications (RFQ) advertisement by City.
2. 1062.05 - Contract No. 5
3. City of Kansas City, Missouri – Big Blue River – Wastewater Treatment Plant Asbestos Assessment Report

Q9.	Do the slide gates located in the forebay open/close?
A9.	Four (4) slide gates in the forebay do not open/close. The actuators are non-functional and the status of the gate/stem and frame are unknown.
Q10.	Are there any items in the Blue River Screen House with Asbestos?
A10.	Refer to the attached Big Blue River WTP Asbestos Assessment Report.

Bidding Requirements

1. Delete and replace the following section(s):
 - a. Delete Document **Request For Proposals**, Paragraph. **3 Submittal Date**, Subparagraph **1**, Page **2** and replace with the following Document **Request For Proposals**, Paragraph **3 Submittal Date** Subparagraph **1**, Page **2**:

~~Sealed Proposals are due by [REDACTED] local time...~~

Sealed Proposals are due by November 9, 2022 at 2:00 PM local time...
 - b. Delete Document **Request For Proposals**, Section **1: Project Overview**, Subparagraph **1.2 Project Scope**, Page **4** and replace with the following Document **Request For Proposals**, Section **1: Project Overview**, Subparagraph **1.2 Project Scope**, Page **4**.

Rank Order

- 1) ~~Multi-Rake Screens and Conveyors~~
- 2) ~~Channel Separation System~~
- 3) ~~Grit Equalization Across channels~~
- 4) ~~Actuated Slide Gates~~
- 5) ~~Rerouting of Birmingham/Westside Sludge Line~~
- 6) ~~Power Upgrades~~
- 7) ~~Heating, Ventilation, and Air Conditioning (HVAC)~~

Rank Order

- 1) Multi-Rake Screens and Conveyors
- 2) Channel Separation System
- 3) Grit Equalization Across channels
- 4) Actuated Slide Gates
- 5) Power Upgrades
- 6) Heating, Ventilation, and Air Conditioning (HVAC)

- c. Delete Document **Request For Proposals, Sec. 3.2 Procurement Schedule, Bullet Site Visit, Page 10** and replace with the following Document **Request For Proposals, Sec. 3.2 Procurement Schedule, Bullet Site Visit, Page 10**:

- ~~Site Visit~~ ~~Sept. 7, 2022~~ ~~Sept. 28, 2022~~
- Site Visits (2) Through October 21, 2022

- d. Delete Document **Request For Proposals, Subparagraph 3.4.2 Confidential Meeting #2 (Mandatory), Page 12** and replace with the following Document **Request For Proposals, Subparagraph. 3.4.2, Page 12**:

~~Confidential Meeting #2 will occur no earlier than twenty one (21) days before the Proposal Submission date with the purpose of discussing technical ideas provided as well as the Draft Contract for Design-Build Services. This meeting may also include representatives from the City's Legal Department and the duration is expected to be four (4) to eight (8) hours depending on Respondent's agenda. Respondent shall send agenda to City Contacts one week prior to meeting. Attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions. Attendance may also include the Respondent's legal representative or counsel for discussions related to the Draft Contract for Design-Build Services. This meeting will be scheduled by City at least two (2) weeks in advance.~~

~~Any proposed variances from the Indicative Design Criteria or Preferred Indicative Criteria must be discussed during this meeting. If the City does not approve a Respondent's proposal for a variation from Indicative Criteria, it will inform the Respondent by e-mail within two (2) weeks after Confidential Meeting #1.~~

Confidential Meeting #2 will occur no earlier than twenty-one (21) days before the Proposal Submission date with the purpose of discussing technical ideas

provided as well as the Draft Contract for Design-Build Services. The duration is expected to be *two* (2) hours depending on Respondent's agenda. Respondent shall send agenda to City Contacts one week prior to meeting. Attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions. This meeting will be scheduled by City at least two (2) weeks in advance.

This meeting may also include representatives from the City's Legal Department at the respondent's request and availability of legal staff. Respondent is encouraged to submit contract changes prior to the confidential meeting. The request must be submitted to City at least two (2) weeks in advance. Attendance may also include the Respondent's legal representative or counsel for discussions related to the Draft Contract for Design-Build Services.

Any proposed variances from the Indicative Design Criteria or Preferred Indicative Criteria shall be an Alternative Technical Concept (ATC). At Confidential Meeting #2, City and Respondent may review ATCs. If the City does not approve a Respondent's proposal for a variation from Indicative Criteria, it will inform the Respondent by e-mail.

- e. Delete Document **Request For Proposals, Sec. 3: Procurement Process, Subsection 3.6 Validity of Proposal, Requirements, Subparagraph 1, Page 13:**

The offer represented by each Proposal will remain in full force and effect after the Proposal Submittal Due Date and cannot be withdrawn for a period of ninety (90) ~~180~~ days unless:

- f. Delete Document **Request For Proposals, Sec. 4: Proposal Submission Requirements, Subsection 4.3.2 Transmittal Letter, Number 6, Page 19:**

An affirmation that the representations made in the Proposal will remain in force and effect for ninety (90) ~~one hundred and eighty (180)~~ days from the Proposal Submission Due Date.

- g. Delete Document **Request For Proposals, Sec. 4: Proposal Submission Requirements, Subsection 4.3.4 Part 2 – Technical Approach, Subparagraph Project Understanding, Bulleted Item 5, Page 24:**

- ~~• Describe how the Respondent shall describe its ability and approach to providing Extended Commissioning Phase services for an initial one-year period with optional one-year extension. Respondent shall provide a description of its staffing plan and organization chart; and its approach to assisting the City in the necessary operations and maintenance activities. The Respondent is expected to conform to City standard operating procedures in completing its operations and maintenance duties.~~

- h. Delete Document **Request For Proposals, Sec. 4: Proposal Submission Requirements**, Subsection **4.3.5 Part 3 – Construction Schedule, Planning, and Sequencing**, Subparagraph **1**, Page **27** and replace with the following Document **Request For Proposals, Sec. 4: Proposal Submission Requirements**, Subsection **4.3.5 Part 3 – Construction Schedule, Planning, and Sequencing**, Subparagraph **1**, Page **27**

Provide a summary version of the Respondent’s proposed project schedule. Summarized schedule will include the Respondents proposed dates for achieving the Design, Construction, and Startup and Commissioning ~~Extended Commissioning~~ milestones – these proposed dates will be included within the Agreement executed by the City and successful Respondent.

- i. Delete Document **Request For Proposals, Sec. 5: Final Proposal Evaluation and Selection**, Subsection **5.5 Cost Proposal Evaluation**, Subparagraph **1**, Page **32** and replace with the following Document **Request For Proposals, Sec. 5: Final Proposal Evaluation and Selection**, Subsection **5.5 Cost Proposal Evaluation**, Subparagraph **1**, Page **32**

The cost Proposal with the lowest bid price will be awarded 100 points. *The City’s Budget is \$5,000,000.00. The City’s limit for department selection for a design-build project is \$6,000,000.00*

- j. Delete Document **Form G-1. Design-Build Bid Form – Price Submittal**, Subparagraph **12**, Page **2** and replace with the following Delete Document **Form G-1. Design-Build Bid Form – Price Submittal**, Subparagraph **12**, Page **2**

12. By submitting its bid, Bidder is agreeing to the following: (1) Bidder has made by bid opening a good faith effort to meet the MBE/WBE/DBE goals established for the project; or Bidder will continue to make during the 48 hours after bid opening a good faith effort to meet the MBE/WBE/DBE goals established for the project; and (2) Bidder will timely submit its 00450 HRD 08 Contractor Utilization Plan/Request for Waiver and 00450.01 Letter of Intent to Subcontract for each MBE/WBE listed on the 00450 HRD 08 Construction Contractor Utilization Plan/Request for Waiver;; and (3) Bidder will submit documentation of its good faith efforts to meet the MBE/WBE/DBE goals when requested by the City. Failure to meet these requirements in good faith will result in Bidder forfeiting its bid bond.

PROJECT GOALS: ~~___11___%~~ MBE ~~___11___%~~ WBE _____% DBE

PROJECT GOALS: ___14___% MBE ___14___% WBE _____% DBE

BIDDER PARTICIPATION: _____% MBE _____% WBE _____% DBE

- k. Delete Document **HRD 08 Contractor Utilization Plan & Request for Waiver**, Subparagraph **2**, Page **1** and replace with the following Document **HRD 08 Contractor Utilization Plan & Request for Waiver**, Subparagraph **2**, Page **1**

The project goals are 11% MBE and 8% WBE. Bidder/Proposer assures that it will utilize a minimum of the following percentages of MBE/WBE participation in the above project.

The project goals are 14% MBE and 14% WBE. Bidder/Proposer assures that it will utilize a minimum of the following percentages of MBE/WBE participation in the above project.

- l. Delete Document **01110 – Summary of Work**, Subparagraph **1.02.B.4** Page **1**

~~Furnishing and installation of re-routing Westside line from the afterbay of the Blue River Screen House to upstream of the forebay of the Blue River Screen House. Line re-route shall be designed with a hydraulic analysis and built to accommodate unidirectional flow flowing into the Screen House.~~

- m. Delete Document **Form F-1 Project Design Criteria**, Parameter Group **Process Design Parameters**, Parameter **Number of Active Channels during Peak Flow** Page **1** and replace with the following Document **Form F-1 Project Design Criteria**, Parameter Group **Process Design Parameters**, Parameter **Number of Active Channels during Peak Flow** Page **1**

~~4~~

3 + 1 Backup

- n. Add Document **Form F-1 Project Design Criteria**, Parameter Group **Equipment**, Parameter **Electric Actuators for Process Valves and Gates** Page **2**

Electric Actuators for Process Valves and Gates	IP	Section 16221.E – Electric Actuators for Process Valves and Gates – Mfr. Auma	-
---	----	---	---

- o. Add Document **Form F-1 Project Design Criteria**, Parameter Group **Equipment**, Parameter **Multi-Rake Screens** Page **2**

Multi-Rake Screens	IP	Section 11334 – Multi-Rake Screens – Mfr.: Duperon	-
--------------------	----	--	---

Specifications

- 1. Add the following sections.
 - a. Document **Section 01757 – Commissioning**
 - b. Document **Section DB 00435 – Alternate Technical Concepts**

NOTE: Shortlisted Respondents must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

**REQUEST FOR PROPOSALS
FOR DESIGN-BUILD SERVICES CONTRACT
FOR PROJECT NO. 81000984 - CONTRACT NUMBER 1638
BLUE RIVER SCREEN HOUSE PROJECT
WATER SERVICES DEPARTMENT
CITY OF KANSAS CITY, MISSOURI**

1. **Purpose.** This is a Request for Proposals (“RFP”) issued by the City of Kansas City, Missouri (“City” or “Owner”) acting through its Water Services Department (WSD) for Design-Build services including design, construction, startup, and extended commissioning for the Blue River Screen House Facility Project (Project).

The City will use Fixed-Price Design-Build (FPDB) contracting method to deliver the Project, and is utilizing a two-step procurement process for selecting the entity that will provide best value as the Design-Builder for the Project. This RFP represents the second step of the procurement process and establishes the process for soliciting and evaluating Technical and Cost Proposals (Proposal) from those entities shortlisted as part of the Statement of Qualifications (SOQ) process. Only those Respondents identified in Paragraph 2 below are invited to submit a Proposal in response to the RFP. The City will review and evaluate Proposals in accordance with this RFP and select the Design-Builder.

The execution of a Contract will be subject to the terms and conditions of the RFP. This RFP is not a tender or an offer. Respondents must be thoroughly familiar with the scope of work and performance requirements discussed in this RFP. The City may reject any Proposal that fails to demonstrate such familiarity. In no event will the City be liable for any costs incurred by any Respondent or any other party in developing or submitting a Proposal, except as described in Section 3.10, below.

The Proposals must be submitted in accordance with the requirements set forth in this document.

2. **Definition of Request for Proposals.** This RFP is an invitation by the City to Design-Build Professionals soliciting Proposals from the following entities (“Shortlisted Respondents”, “Respondents”, or “Bidders”), listed in alphabetical order:

- Garney-CDM Smith
- Goodwin-Black & Veatch
- Radmacher-Olsson

Selected Respondents were shortlisted based on the qualifications of the Project Team that were submitted in their SOQs and are invited to submit their proposal for performing the services specified in this RFP.

Selection will be based upon the judgment of the City in obtaining a Design-Builder Professional that will be in the best interests of the City. Respondent’s submittal of a proposal in response to this RFP does not create any right in or expectation to a contract with the City.

3. **Submittal Date.** Sealed Proposals are due by **November 9, 2022 at 2:00PM^{AD4}** local time. Proposals shall be sent to Derrick Smith, Contract Administrator, Procurement Services, General Services Department, 414 East 12th Street, City Hall 1st Floor-RM 102W, Kansas City, MO 64106.. Respondents should submit six (6) paper documents (one original and five [5] copies) as well as one electronic version of the **Technical Proposal** on a USB flash drive (in searchable PDF format). **One (1)** paper document (one original) of the **Cost Proposal**, as well as one electronic version of the **Cost Proposal** on a USB flash drive (in searchable PDF format), must be submitted in a single, sealed envelope or package separate from the Respondent's Technical Proposal.

Both Technical and Cost Proposals must be submitted in separate, sealed envelope or box and shall not be opened until after the due date. Each Technical and Cost Proposal document package shall be plainly labeled with the words “TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984” and “COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984,” respectively, along with Proposer name and identification. The City reserves the right at any time to change or extend the due date and time for any reason.

Each Respondent assumes full responsibility for the timely delivery of its Proposals at the required location. Proposals received after the Submittal Date may be deemed non-responsive and be excluded from consideration. A delivery acknowledgement will be issued upon receipt of the Proposal package and will be provided to the Respondent via e-mail by the City’s Project Manager.

Only written responses will be considered. All materials submitted will become part of the response, and may be incorporated into any subsequent contract(s) between the City and the selected Respondent.

4. **RFP Package.** The RFP package for this project contains the following:

- Section 1: Project Overview
- Section 2: Fixed-Price Design-Build Services
- Section 3: Procurement Process
- Section 4: Proposal Submission Requirements
- Section 5: Final Proposal Evaluation and Selection
- Section 6: Conditions for Respondents

Attachments:

- Attachment A: Definition of Terms
- Attachment B: Scope of Design-Build Services
- Attachment C: Draft Contract for Design-Build Services
- Attachment D: Project Background Documents (under separate cover)
- Attachment E: Project Technical Requirements (under separate cover)
- Attachment F: Technical Proposal Forms
 - (1) Form F-1. Project Design Criteria Checklist
 - (2) Form F-X (number to be provided by Respondent). Equipment Cut Sheet

Attachment G: Cost Proposal Forms

- (1) DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
- (2) 00430 Bid Bond
- (3) Form 01290.02 Schedule of Values

Attachment H: Submission Forms including Civil Rights and Equal Opportunity Department (CREO) Documents (To be submitted within 48 hours of Public Bid Opening, in accordance with Section 5.5.1)

- (1) HRD Form 06: Design-Builder Contract Instructions
- (2) HRD Form 8A: Contractor Utilization Plan/Request for Waiver
- (3) HRD Form 10: Timetable for MBE/WBE Utilization
- (4) HRD Form 11: Request for Modification or Substitution
- (5) 00450.01 Letter of Intent to Subcontract
- (6) 00515.01 Employee Eligibility Verification Affidavit
- (7) 01290.14 Contractor Affidavit for Final Payment
- (8) 01290.15 Subcontractor Affidavit for Final Payment
- (9) HRD Employee Identification Report Form
- (10) HRD Affidavit of Training Program
- (11) Best Faith Efforts, if MBE/WBE goals are not met.
- (12) Proposal Development Stipend Agreement Form

5. **Questions.** Forward all questions by email to both the following Project Manager and Procurement Manager. Questions received after the Deadline for Receipt of Written Questions (Section 3.2 Procurement Schedule) may not be answered. Interpretations or clarifications considered necessary by the Project Manager in response to such questions will be issued by Addenda to all Respondents. Oral or other interpretations or clarifications shall be without legal effect, even if made during formal meetings.

Isaac Garlington, Project Manager
4800 East 63rd Street,
Kansas City, MO 64130
Phone: (816) 513-0436
E-mail: isaac.garlington@kcmo.org

Derrick Smith, Procurement Manager
Procurement Services, General Services Department
414 East 12th Street, City Hall 1st Floor-RM 102W
Kansas City, MO 64106
(816) 513-0807 Phone
(816) 513-2812 Fax
Email: derrick.smith@kcmo.org



For persons with disabilities needing reasonable accommodations please contact the City's ADA Specialist at 816-513-6589.

SECTION 1: PROJECT OVERVIEW

1.1 Project Background

The Blue River WWTP is a 120 million gallons per day (mgd) municipal wastewater treatment facility that discharges treated effluent into the Missouri River.

Certain project background documents are being made available to the Respondents, as referenced in Attachments D (Project Background Documents) and E (Project Technical Requirements), for the purpose of preparing Proposals. The City is providing these documents only for the purpose of obtaining Proposals for the Project and does not confer a license or grant permission for any other use. Documents referenced in Attachment D (Project Background Documents) and Attachment E (Project Technical Requirements) will only be made available in electronic format.

Due to criticality of adequate screening, and the desire to allocate risk to one entity, the City decided there is benefit in utilizing a Design-Build method for the Project and a Fixed-Price Design-Build (FPDB) method was selected. The FPDB method outlined in this RFP was chosen to allow WSD staff involvement in the design process for the Project while leveraging the schedule, collaboration, and other advantages that result from use of a design-build process.

Ongoing coordination services and meetings with WSD will be required.

Because the City has specific technical requirements, preferences, and standards regarding some elements of the facilities design, as well as the desire to control how and where risk will be assigned as part of this Project, preliminary project design parameters are provided in Attachment E (Project Technical Requirements) and further described in Section 1.2.1. Project Technical Requirements.

1.2 Project Scope

This RFP is to provide Design-Builder Services for design, construction, and commissioning the following scope of work as defined in the Project Technical Requirements (Attachment E), within the City's Budget and Scopes Rank Ordered as follows:

Rank Order

- 1) Multi-Rake Screens and Conveyors
- 2) Channel Separation System
- 3) Grit Equalization across Channels
- 4) Actuated Slide Gates
- 5) ~~Rerouting of Birmingham/Westside Sludge Line~~^{AD4}
- 5) Power Upgrades
- 6) Heating, Ventilation, and Air Conditioning (HVAC)

For full scope of services, refer to Section 01110 – Summary of Work

Under the FPDB method, the Design-Builder's scope of work for the Project will be performed in two (2) phases under a single Contract for Design-Build Services between the City and Design-Builder. These phases (described in Attachment B (Scope of Design-Build Services)) may run concurrently and are generally described as follows:

- **Design Phase** services performed under the Contract for Design-Build Services include completing the entirety of the Project's final design and pre-construction activities.
- **Construction Phase** services performed under the Contract for Design-Build Services include: performing construction; performing post-construction tasks, such as commissioning and initial performance testing; providing a "Smart BIM", as specified by the City; and performing warranty and other work required.

1.2.1 Project Technical Requirements

The Project Technical Requirements, as provided in Attachment E (Project Technical Requirements), are considered Contract Documents and define the basis of project design and definition as developed to-date for this RFP. Technical Proposals must incorporate all Project Technical Requirements. Attachment E (Project Technical Requirements) includes the native files for the Respondents to use in developing Proposals. Project Technical Requirements are included within:

- Basis of Design Report
- Preliminary Drawings
- Technical Specifications

The Project Technical Requirements describe the "Representative Project." Respondents may deviate from the Representative Project ("Respondent's Proposed Modified Project"), if justified and approved by the City. **All Technical Proposals and Cost Proposals must be based on either the Representative Project or the approved Proposed Modified Project.** The Project Technical Requirements (Attachment E) are available on a USB flash drive or eBuilder for Shortlisted Respondents.

The Project Technical Requirements identify both **Fixed Design Criteria, Indicative Design Criteria, and Preferred Indicative Design Criteria** for the Representative Project. Fixed Design Criteria must be adhered to and followed by the Respondent. However, the City would like to promote innovation and encourage best value; therefore, the City will consider technical alternatives that are better than or equal to the Indicative Design Criteria. Proposed variances from Indicative Design Criteria must be included within and submitted as part of the Technical Submittal (see Section 4). Recommended variances will be discussed between the City and the Respondent, and the City will determine if the variation is "approved" or "not approved." Respondent recommendations (both "approved" and "not approved" variances) for Indicative Design Criteria and Preferred Indicative Design Criteria will be considered proprietary and will

be kept confidential. The Respondent must also document the recommended technical alternatives to the Indicative Design Criteria in its Technical Proposal.

1.3 City's Objectives

The City's objectives for delivery of the Project are as follows:

- **Quality:** Provide treatment facilities and equipment that will be sustainable and will reliably produce required quantities of Class A biosolids in full compliance with federal and state regulations and contractual standards for the full range of the sludge conditions set forth in this RFP.
- **Cost:** Minimize capital cost with consideration of optimizing life-cycle cost.
- **Schedule:** Achieve the scheduled completion dates for design, construction and performance testing of the Project.
- **Risk:** Achieve an optimal balance of risk allocation between the City and the Design-Builder. In general, the party best suited to manage the risk owns the risk
- **Safety:** Implement an effective safety program incorporating best industry practices.
- **Operations and Maintenance (O&M):** Optimize operating and maintenance requirements so that the facility is capable of reliably and continuously operating in a cost-effective manner over the long-term. Develop and deliver, in conjunction with City and WSD management, a program that provides effective class room and hands on training for WSD staff to transition to full-time operation and maintenance of new facilities, electronic O&M manuals, and Standard Operating Procedures.
- **Accountability:** Provide for Design-Builder assumption of single point of accountability for performance of all services under the Contract for Design-Builder Services.
- **Smooth Transition:** Smooth transition of design deliverables (i.e. as-builts, building information models [BIM]), electronic O&M Manuals, etc. from the Design-Builder to the City for use in the City's O&M systems, such as maintenance management and asset management. Smooth transition of facility operations following commissioning activities between the Design-Builder and the City.
- **Collaboration:** Provide for coordinated design development with City input in a manner that preserves Design-Builder's sole responsibility for the achievement of Project performance objectives while meeting City objectives associated with cost, quality, aesthetics, and long-term operability.
- **Sustainability:** Per Section 1.6, all solutions identified to improve the quality of life of facility personnel, reduce labor usage, reduce material usage, and reduce waste created after construction is completed.

By selecting the FPDB delivery method for the Project, the City is committed to working in close collaboration with the Design-Builder.

1.4 Project Funding

The cost for design and construction of the Project is currently estimated at **\$5 million**. This budget does not include the City’s other Project costs, such as professional advisory services, site investigations, environmental studies, certain governmental approvals, taxes, and other related costs.

The Project may be financed through a combination of City municipal revenue bonds and cash.

1.5 Project Schedule

The Project schedule is anticipated as follows:

- Proceed Design-Builder Notice-to-February 2023
- 2024 Facility Commissioning August
- Substantial Completion September 2024
- 2024 Final Completion November

1.6 Sustainability

The City has adopted an overall policy supporting a greater use of “green solutions” or enhanced sustainability measures that consider environmental quality, social equity and economic vitality. In order to minimize waste, enhance efficiencies, and achieve multiple benefits and project synergies, all City projects must identify opportunities for sustainability improvements and implement those improvements when financially reasonable and operationally practical.

The Envision™ rating system is used by WSD to promote sustainability in a variety of infrastructure projects and to encourage sustainable approaches as an important part of project design. Envision™ will also be used to evaluate and grade the sustainability of Project components as they are developed.

City also desires for all City of Kansas City, MO services to be carbon neutral by the year, 2030.

SECTION 2: FIXED-PRICE DESIGN-BUILD SERVICES

2.1 General

The services to be undertaken by the Design-Builder include all Work defined in the Contract, including all Design Professional Services, Construction Services, and other obligations to be performed by Design/Builder under the Contract Documents, including without limitation project management, supervision, training, testing, permitting, commissioning, and all other services and deliverables required by Contractor to achieve Final Acceptance of the Project in accordance with the Contract Documents.

Design-Builder services are as noted in Section 1 and more fully described in Attachment B (Scope of Design-Builder Services).

2.2 Roles and Responsibilities

City: The City will cooperate with the Design-Builder and will fulfill its responsibilities in a timely manner to facilitate the Design-Builder's timely and efficient performance of services. The City's responsibilities include:

- Review submissions and provide comments to Design-Builder in a timely manner.
- Furnish existing studies and provide complete, accurate, and reliable data and information regarding the Project, including record drawings, preliminary studies, environmental impact assessments, Preliminary Design BIM models, Site plans, etc.
- Provide information and provide (or engage Design-Builder to perform) additional studies that may be necessary to complete the Project.
- Provide adequate funding.
- Provide access to the Project site and any necessary easements.
- Obtain the governmental approvals and permits the City is responsible for and assist Design-Builder in obtaining governmental approvals and permits Design-Builder is responsible for.
- Provide necessary data and inputs, characteristics and ranges (e.g., wastewater influent or biosolids) for Project start-up and performance testing.

Design-Builder: The Design-Builder will cooperate with the City and will provide in a timely manner the services, as described in Section 2.1, necessary to complete the general Project scope specified in Attachment B (Scope of Design-Build Services).

The roles and responsibilities of the City and the Design-Builder are more fully described Attachments B (Scope of Design-Build Services) and C (Draft Contract for Design-Build Services) in the RFP.

SECTION 3: PROCUREMENT PROCESS

3.1 Communications and City Contact

On behalf of the City, **Derrick Smith, Procurement Services Department** will act as the Procurement Manager and as the sole point of contact (City Contact) and administrator for the RFP process. All communications shall be submitted in writing by email, sent to the procurement manager, carbon copy the Project Manager, and shall specifically reference this RFP. All questions or comments should be directed to the Procurement Manager as identified under Paragraph 5 of this RFP. All communications and questions regarding the Project shall only be made through the City Contact with the exception of City-certified Disadvantaged Business Enterprises, Minority Business Enterprises, and Women Business Enterprises (D/M/WBE) and of Respondents contacting the Civil Rights and Equal Opportunity Department to assist in meeting MBE/WBE goals. D/M/WBEs may contact WSD, General Services, and CREO staff directly regarding the Project.

No oral communication from the City Contact or any other individual is binding. Oral or written contact with other City staff, WSD staff, the Owner's Advisor, or any public official specific to the Project during the RFP/Design-Builder Selection process is prohibited. A violation of this provision may result in disqualification of the Respondent from the RFP/Design-Builder Selection process.

3.2 Procurement Schedule

The procurement process includes several confidential meetings which are discussed in further detail in Section 3.4 Confidential Meetings. The approximate procurement schedule is as follows:

- Issuance of RFP September 2, 2022
- Confidential Meetings (2) Sept. 7, 2022 – Oct. 26, 2022
- [Site visits \(2\)^{AD4}](#)
[AD4](#) Through October 21, 2022
- Deadline for Receipt of Written Questions October 26, 2022
- Issuance of Final Addendum November 1, 2022
- Proposal (Technical and Cost) Submission November 9, 2022
- Interviews (Provisional) Week of Nov. 15, 2022
- Public Bid Opening Date November 29, 2022
- Notice of Intent to Contract December 28, 2022

3.3 Confidential Meetings

Following the issuance of the RFP, the Owner intends to conduct **two (2)** confidential individual meetings with each Respondent during various times of the RFP Period as listed in Section 3.2 Procurement Schedule and as described in the following Sections 3.4.1 through 3.4.3.

All information discussed in these meetings will remain confidential with the exception of clarifications to the RFP made by the City, which will be issued by addenda. The City anticipates that the confidential meetings will be held at **4800 East 63rd Street, Kansas City, MO, 64130** or Blue River located at **7300 Hawthorne Road, Kansas City, MO 64120**. The City will advise each Respondent of its proposed meeting time for Confidential Meeting #1 no later than one week prior to meeting and Confidential Meeting #2 no later than two weeks prior to meeting. The City may hold further confidential meetings at its sole discretion upon notice to the Respondents.

The meetings are intended to provide additional information about the Project, the RFP, Project Technical Requirements, Preliminary Design Contract Documents, technical questions/clarifications, scope of services, and the Draft Contract. The City's commitment to confidentiality is subject to applicable law. The City reserves the right to determine whether any element or feature of the preliminary technical concepts is objectionable or non-objectionable for any reason. The RFP will be amended as necessary to preclude the use of any elements or features determined to be objectionable by the City. The meetings will be conducted to allow:

- a) Respondents to present the concepts to the City and convey to the City the value and benefit of the Respondent's approach to meeting the City's Project requirements as defined in the RFP;
- b) The City to understand each Respondent's technical approach/concepts and to review the approach/concepts for compliance with the City's Project requirements as defined in this RFP;
- c) The City to evaluate any alternative technologies and variances, and to inform Respondents if any are found to be objectionable;
- d) Clarification of the City's Project Technical Requirements through addenda to the RFP; and
- e) Respondents to comment on the RFP, including the Draft Contract for Design-Build Services, and the City to clarify the Draft Contract for Design-Build Services after consideration of Respondent comments.

The City plans to conduct such informational meetings in a responsive manner, affording comparable opportunities for discussion to each Respondent.

Except as expressly provided otherwise in this RFP, the confidential meetings are subject to the following rules:

- a) The City will not discuss with any Respondent any information submitted as part of this procurement other than its own;
- b) Respondents shall not seek to obtain commitments from the City in the meetings or otherwise seek to obtain an unfair competitive advantage over any other Respondent;
- c) No aspect of these meetings is intended to provide any Respondent with access to information that is not similarly available to other Respondents. Accordingly, material information about the Project or procurement that the City reveals or discusses in response to questions raised in a confidential meeting will be revealed to the other Respondents unless the City, in its sole discretion, determines that disclosure (i) would (a) impair the confidentiality of information submitted as part of this procurement or (b) reveal a Respondent's confidential business strategies; (ii) is not necessary in order to address an error in the RFP Documents, (iii) is not necessary for purposes of fairness and transparency; and (iv) is not required by the Public Records Act;
- d) The content or discussions that occur during confidential meetings will not be considered in Proposal evaluations; and
- e) A non-disclosure agreement will be signed by each meeting attendee, including City staff and others attending on the City's behalf, prior to the start of each confidential meeting.

During confidential meetings, Respondents may ask questions, and the City may provide responses. Responses provided by the City during meetings may not be relied upon unless such questions are submitted in writing and the City provides written responses by an addendum to this RFP.

3.4.1 Confidential Meeting #1 (Mandatory)

Confidential Meeting #1 will occur as scheduled in Section 3.2, after the issuance of the RFP with the purpose of reviewing with the Respondent's the RFP, procurement process, and RFP documents. The Respondent may discuss technical ideas with the City during this meeting. The City Contacts will initiate scheduling the optional meeting with Respondents upon issuance of the RFP.

The duration for this meeting will be up to two (2) hours and attendance from the Respondent's team shall be limited to two (2) hours and attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions.

3.4.2 Confidential Meeting #2 (Mandatory)

Confidential Meeting #2 will occur no earlier than twenty-one (21) days before the Proposal Submission date with the purpose of discussing technical ideas provided as well as the Draft Contract for Design-Build Services. This meeting may also include representatives from the City's Legal Department and the duration is expected to be four (4) to eight (8) hours depending

on Respondent's agenda. Respondent shall send agenda to City Contacts one week prior to meeting. Attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions. Attendance may also include the Respondent's legal representative or counsel for discussions related to the Draft Contract for Design-Build Services. This meeting will be scheduled by City at least two (2) weeks in advance.

Any proposed variances from the Indicative Design Criteria or Preferred Indicative Criteria must be discussed during this meeting. If the City does not approve a Respondent's proposal for a variation from Indicative Criteria, it will inform the Respondent by e-mail within two (2) weeks after Confidential Meeting #1.

3.4 Interviews

The City may conduct an interview/oral presentation with each Respondent after proposals are submitted. The interviews may consist of an oral presentation by the Respondent, as well as a questions and answers portion administered by the City. An agenda for the interview/oral presentation will be sent to each Respondent prior to the interview.

The purpose of the interview is to enable each Respondent to: (a) demonstrate Proposal clarity of expression and thoroughness; (b) demonstrate a strong understanding of Project issues; (c) articulate its thoughts and ideas in a logical and factual manner; (d) demonstrate communication between team members and impressions of ability to work cohesively; (e) confirm Respondent's key personnel commitments; (f) provide direct, clear, thorough and insightful answers to questions; and (g) clarify the City's understanding of the proposal and what is covered by it.

3.5 Withdrawal from Proposing

A Respondent may withdraw from submitting a Proposal by providing a written request, duly executed by an authorized representative, and delivered to the City Contact at any time prior to the Proposal Submittal Due Date. Individuals making the withdrawal will be required to provide evidence of authorization to represent the Respondent. After the Proposal Submittal Due Date, Proposals shall not be withdrawn or modified except to the extent agreed to by the City. If a Respondent withdraws from submitting a Proposal, a Stipend from the City will not be paid to that Respondent.

3.6 Validity of Proposal

The offer represented by each Proposal will remain in full force and effect after the Proposal Submittal Due Date and cannot be withdrawn for a period of **ninety (90) ~~180~~^{AD4}** days unless:

- The City has cancelled the RFP;
- The City has awarded the Contract to another Respondent and Contract execution has occurred; or

- The City, in its sole discretion, allows a Respondent to withdraw its Proposal prior to such deadline.

The City and the Respondent may mutually agree, in writing, to extend the validity of a Proposal beyond the validity period. If a Respondent agrees to extend the validity of its Proposal beyond the validity period, the Proposal Security (see Section 3.7 Proposal Bid Security) shall also be extended and/or replaced with compliant Proposal Security.

3.7 Proposal Bid Security

The Cost Proposal shall include security for the Respondent's obligations under the Proposal in the amount of 5% of Base Bid which shall be in the form of a Bid Bond (on Form 00430 Bid Bond provided in Attachment G, Cost Proposal Forms), Cashier's Check, Letter of Credit, Certificate of Deposit or other instrument approved in advance by the City. Prior to submittal of the Cost Proposal the City Treasurer must approve both the financial institution and text of a Letter of Credit. A Cashier's Check or a Certificate of Deposit shall be payable to the City Treasurer. The proposal bid bond must be valid until at least the end of the Proposal validity period in Section 3.6.

By submitting its Proposal, each Respondent understands and agrees that the City shall be entitled to draw on the proposal bid security in its entirety and Respondent if:

- Respondent withdraws, repudiates or otherwise indicates in writing that it will not meet any commitments made in the Proposal, except as specifically permitted under this RFP;
- Respondent is selected for negotiations under Section 5 of this RFP and fails to negotiate with the City in good faith;
- Respondent refuses or is unable to execute and deliver the Contract, evidence of insurance, payment and performance bonds and any other documents required by the City as a condition to award.

By submitting a Proposal, Respondent is agreeing to correct any mistakes on a proposal security submission when requested by the City. When such a mistake occurs and a Respondent fails or refuses to correct the mistake or execute the Contract when requested by the City, any proposal security shall be forfeited to the City and the Respondent shall also be subject to debarment and damages.

3.8 Addenda

This RFP is subject to revision after the date of issuance via written addenda until the Issuance of Final Addendum date in Section 3.2 Procurement Schedule . The City may extend the Submittal Due Date (and any dates in the Procurement Schedule) via addendum at any time. A copy of all such written addenda will be posted at the Kansas City, Missouri Plan Room,

<http://www.kcmoplanroom.org>. All addenda will be posted at this location. Any document or plan may be viewed or downloaded from this location.

The following documents will be made available for download: (1) the RFP (including all Attachments) and (2) addenda to the RFP. It is each Respondent's responsibility to obtain all RFP addenda prior to submitting its Proposal.

If the Respondent has any doubt as to the true meaning of any part of this RFP, or if any discrepancies in or omissions from this RFP are discovered by Respondent, a written request for an interpretation or correction may be submitted to the City Contact (see Section 3.1) for response. The Respondent submitting the request will be responsible for delivery no later than the Deadline for Receipt of Written Questions. The City will not be responsible for any other explanation or interpretations of the documents.

It is the responsibility of all Respondents to ascertain whether any addenda have been issued before the Submittal Due Date by checking the Kansas City, Missouri Plan Room. If an Addendum is issued, Respondent must acknowledge receipt of Addendum on the DB 00410 Design-Build Bid Form submitted with the Cost Proposal (see Section 4.3.11 Cost Proposal).

3.9 Inclusion of Proposal in the Contract

Portions of the successful Respondent's Proposal will be used to complete various Contract provisions and Exhibits and will therefore become part of the Contract. All other information is for evaluation purposes only and will not become part of the Contract.

3.10 Reimbursement for Proposal Submitted

For those Respondents that submit a responsive Proposal and are not awarded the Contract, the City will reimburse each unsuccessful Respondent for Proposal preparation costs with a not-to-exceed value of \$45,000. The City will have no further obligation for cost reimbursement. All work performed by a Respondent pursuant to submitting a Proposal, shall be considered works for hire and shall become the property of the City without restriction or limitation on the City's use. Payment of reimbursement shall be made within sixty (60) days after receipt of invoice from Respondent for reimbursement. The Respondent's invoice should include documentation that supports the actual costs incurred for approval of goods and services, providing the Notice of Intent to Award for this project's FPDB Contract has been issued to the successful Respondent. **The Respondent shall complete the Proposal Development Stipend Agreement Form included in Attachment H (Submission Forms) as acknowledgement that the Respondent will accept the reimbursement and that the Respondent agrees with the terms and conditions associated with the reimbursement. If the Respondent chooses not to accept reimbursement, then Respondent shall provide a copy of the Proposal Development Stipend Agreement Form, unsigned, accompanied with a brief statement that the Respondent chooses not to accept Reimbursement.** The completed Proposal Development Stipend Agreement Form shall serve as the legal agreement between the City and Respondent as it specifically relates to the reimbursement.

The stipend shall be paid to the Respondent(s) following the council approval of the ordinance of the Construction contract with the selected Design Builder. Design-Builders are encouraged to become City vendor prior to proposal submission for the Project. Upon such payment, the City shall acquire from the Respondent perpetual, nonexclusive, royalty-free licenses to allow the City to use the design, or any part thereof, any ideas and/or information contained in the Proposal and to use such design, or any part thereof, any ideas and/or information in this Project or in connection with other projects. In order to receive a stipend, a Respondent must obtain a Vendor Number from the City. Respondents can obtain the necessary forms for obtaining a Vendor Number by calling (816) 513-1836.

3.11 Site Access Period

The City will provide Respondents scheduled access, during periods shown in Section 3.2, to Project site located at the Blue River WWTP by appointment. Each Respondent shall contact the City Contact to schedule a date and time to tour the Facilities. The City will provide up to two (2) hours of site access for each Respondent. City staff will accompany the Respondent in touring the Facilities, however, staff will not be allowed to answer procurement or Proposal-related questions. Site access will be granted approximately one (1) week after the Request for Proposal is provided.

Respondents visiting the Project site shall be responsible for their own safety including equipment and safety procedures. No information conveyed by the City to Respondent resulting from these site tours shall act to modify the RFP unless such modifications are made by Addendum.

SECTION 4: PROPOSAL SUBMISSION REQUIREMENTS

4.1 Submittal Due Date

Refer to Paragraph 3 above for submittal location and due date.

4.2 Submission Format

Except as expressly provided in this Section, the Technical Proposal must not exceed **twenty-five (25)** total narrative pages (most or all 8½ x 11 inch with 1-inch or greater margins), excluding the transmittal letter, index or table of contents, front and back covers, title pages/separation tabs, and appendices. A maximum of **five (5)** of the total pages may be 11 x 17-inch z-fold format. Eleven (11) point font or larger must be used in Parts 1 and 2 of the Technical Proposal. The Technical Proposal shall be typed or printed double-sided to the extent possible, with each double-sided page counting as two pages, on recycled and recyclable paper, and shall be continuously numbered. Each Technical Proposal Part and Appendix shall be labeled with title headers.

The Technical Proposal submission envelope or box shall include Respondent's name and address and shall be labeled "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

The Cost Proposal submission envelope or box shall include the completed Cost Proposal submission forms in Attachment G (Cost Proposal Forms) and any supporting documentation requested in this RFP. Cost Proposal must be accompanied by Proposal bid security in accordance with Section 3.8 Proposal Bid Security.

The Cost Proposal envelope shall include Respondent's name and address and shall be labeled "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

Drawings shall be half-size versions (11" x 17") of ANSI 22" x 34" sheets. The set shall include a cover sheet and index of all drawings included in the set. Drawings are excluded from the page limit of the Technical Proposal.

4.3 Submission Content

4.3.1 General Outline

The **Technical Proposal** must include the following in the order listed:

- Transmittal Letter
- Part 1 – Project Plans/Management Approach

- Project Team/SOQ Confirmation
- Design-Build Coordination and Management
- Quality Control and Management
- Safety Plan
- Permitting
- Self-Performance and Subcontracting
- Part 2 – Technical Proposal
 - Project Understanding
 - Technical Narratives
 - Including variances from Indicative Design Criteria
 - Technical Drawings (reference Appendix B)
 - Equipment Information (reference Appendix C)
- Part 3 – Construction Schedule, Planning and Sequencing (reference Appendix D)
- Part 4 – MBE/WBE Utilization
- Appendix A – Forms for Affirmation and Compliance (not included in page count)
 - Copies of Missouri Construction and Engineering Licenses for Lead Contractor, Design Manager, and Engineer of Record
 - Bonding Capacity
 - Declaration of Insurance
 - Form 00515.01 Employee Eligibility Verification Affidavit
- Appendix B – Design Drawings (not included in page count)
- Appendix C – Equipment Forms (not included in page count)
- Appendix D – Project Schedule (not included in page count)

The content requirements set forth in this RFP represent the minimum content requirements for the Technical Proposal. It is the Respondent's responsibility to present all relevant information and other materials in its Technical Proposal. The Technical Proposal, however, should not contain standard marketing or other general materials. It is the Respondent's responsibility to modify such materials so that only directly relevant information is included in the Technical Proposal.

Per Section 2-1585, City Code of Ordinances, the Technical Proposal may not contain any reference to the cost of the Project.

The **Cost Proposal** must include the following:

- Cost Proposal
 - DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
 - 00430 Bid Bond

4.3.2 *Transmittal Letter*

Each Respondent must provide a Transmittal Letter following the Proposal cover that formally conveys the Proposal to the City. The letter must be signed by an authorized representative of the Respondent who is empowered to sign such material and to commit the Respondent to the obligations contained in the Proposal. If Respondent is a corporation or an LLC, an authorized officer shall sign his/her name and indicate his/her title beneath the full corporate name. If Respondent is a joint venture, an authorized representative for each member of the joint venture shall sign the letter, and specifically state that, if the joint venture is selected as the Design-Builder entity, each member will be jointly and severally liable to the City for the obligations arising out of the contract between the joint venture and the City.

The Transmittal Letter may include any information deemed relevant to the Respondent, but must include the following:

1. An identification of the Respondent's Point of Contact, including name, address, phone number, and email address, and must specify who would be the Design-Builder's signatory to any contract documents executed with the City.
2. An Executive Summary of the Proposal, with no references whatsoever to the Cost Proposal.
3. A declaration of the Respondent's intent, if selected, to enter into a contract with the City for the Project in accordance with the terms of this RFP;
4. An affirmation that all professional and business registrations and licenses required for the Project have been obtained or will be obtained prior to award of the Contract for Design-Build Services. This includes, but is not limited to the registrations/licenses for the members of the Respondent's team that are professional engineers and will be the Engineer-of-Record for the Project;

5. A statement of the Respondent's intent to provide Performance and Payment Bonds and all insurance required under the Contract for Design-Build Services, respectively by the date of award of the Contract.
6. An affirmation that the representations made in the Proposal will remain in force and effect for ~~ninety (90) one hundred and eighty (180)~~^{AD4} days from the Proposal Submission Due Date.
7. An affirmation that the Respondent has completed and included in either Appendix A (Forms for Affirmation of Compliance), Appendix C (Equipment Forms), or in Part 5 – Cost Proposal all required submission forms provided in Attachment F (Technical Proposal Forms), Attachment G (Cost Proposal Forms), and Attachment H (Submission Forms including CREO Documents).

The Transmittal Letter shall be limited to three (3), 8 ½ x 11 inch pages.

4.3.3 Part 1 – Project Plans/Management Approach

The Respondent shall use Part 1 of the Technical Proposal to demonstrate their approach for managing the Project from Design Phase through Extended Commissioning Phase. It is not expected that the Respondent will include specific and developed plans, but should concisely demonstrate how the project will be executed with regards to project management, controls, quality, safety, permitting, and self-performing/subcontracting. The approaches should discuss who will manage the plan, how it will be assured/ensured, and provide a summary of the plan including discussion on how they comply with the City's practices.

Project Team/SOQ Confirmation. The purpose of this subsection of the Proposal is for the Respondent to confirm that the Project team submitted in its SOQ has not changed; or to provide information and an explanation regarding any changes to its Project Team differing from that submitted in its SOQ. Any changes to the Respondent's Project Team from the SOQ are subject to acceptance or rejection by the City, at its sole discretion. If the Respondent's Project Team has not changed from the SOQ, the Respondent shall include the following statement in this section of its Proposal:

“_____ (Name of Respondent's Team or Organization) confirms that all qualifications and experience information, including the members and composition of our Project Team, provided in our Statement of Qualifications previously submitted to the City for the Blue River Screen House Facility Project has not changed, and is valid, true, and accurate.”

No changes of the primary member organizations that comprise the Project Team (Lead Designer and Lead Contractor) are allowed, and no changes to the Key Personnel as represented in the Respondent's SOQ are allowed. If extenuating circumstances require a change to any of the primary member organizations or Key Personnel, the Respondent shall provide an explanation for the change and present qualifications and experience information for the new team member(s) for the City to evaluate. The City reserves the right to reject as non-responsive the Proposal of a Respondent that changes primary member organizations or Key Personnel from that indicated in the SOQ.

Respondent shall identify the Lead Operations Coordinator, an additional role in Key Personnel, in this section and provide the information required below in the following section for this additional Key Personnel and verify proposed Staffing in RFQ.

Change in Key Personnel. Respondent shall identify any Key Personnel, as defined in Section 01420 found in RFP Attachment A, that have changed from what was previously provided in the Respondent's SOQ. The City expects Key Personnel named in this Proposal to remain on the Project Team for the duration of the Project unless changes are beyond the Respondents control and approved by the City.

For any additions or changes that have occurred to the Respondent's Project Team, the Respondent shall provide the following information relative to the assignments and qualifications of the Respondent's team:

- For any new personnel, provide sufficient reasoning and detail for the City to understand how such personnel would enhance the Respondent's ability to deliver the Project and to provide value to the City.
- Proposal Appendix A (Forms for Affirmation of Compliance) should include resumes (see RFQ for resume format and requirements), copies of licenses or registrations, and project references for any additional or new personnel that the Respondent proposes as part of its Project Team that were not identified in the SOQ.

Design-Build Coordination and Management Plan. The Respondent shall demonstrate that: (a) its coordination and management approach during design and construction includes specific measures to control budget, documentation, and schedule; and (b) it will implement policies and procedures to facilitate communication and input from members of the Project Team and City. At a minimum, Respondent shall:

- Describe the roles and responsibilities of the Project Team members, and how the Project Team is going to function to benefit the Project. Include an organization chart of the Project Team to illustrate its functionality, team reporting structure, etc.
- Describe the Respondent's concepts for managing the design, construction, and commissioning phases of the Project and how the Respondent intends to control budget, documentation, and schedule.
- Describe how the Respondent intends to control and coordinate the flow of information between design and construction teams, and how the Respondent plans to interface with the City and permitting agencies.
- Describe the communications methods for facilitating City review during all phases of the Project, including but not be limited to meetings, progress reports, submission of BIM updates, and document management tools.

- Describe Respondent's design process, including procedures for equipment selection, constructability reviews by the Lead Contractor, obtaining City input and Lead Designer's involvement in oversight of construction. Describe where the design team will be geographically located and how operations team members will be involved in design and construction. Describe how Respondent will leverage Project Team's experience and expertise, including Lead Operations Coordinator, that is specifically applicable to this Project, including expertise related to Headworks Operations.
- Describe the Respondents approach to involving City staff in the operations and maintenance of the facilities during the Construction and Extended Commissioning Phases, the training of City staff, and other activities to efficiently transfer operations and maintenance responsibilities to the City following the completion of the Extended Commissioning Phase. Describe Respondent's approach for development of standard operating procedures (SOPs), maintenance verification systems, and how the Respondent will work with the City's existing computerized maintenance management system.

Quality Control and Management. Respondent shall demonstrate: (a) clear and comprehensive quality assurance and control procedures during both design and construction; and extended commissioning (b) the availability and proposed utilization of established quality management procedures previously implemented on other similar projects. At a minimum, Respondent shall:

- Describe the Respondent's quality control and management methods, policies, and procedures during design. This shall include a description of Respondent's approach for monitoring and managing the quality of its work from initiation to completion of the Project, including but not limited to checking of all calculations, discipline design checklists, interdisciplinary design checklists, and standardized comment forms that document all check comments and responses for each design submittal. Use of the Revit-based BIM is required for design purposes.
- Provide a summary of quality control procedures to be utilized during construction, which includes but is not limited to materials testing for concrete and soils at a minimum, and independent special inspections.

Safety Plan. Respondent shall demonstrate that its proposed safety measures, policies, and procedures will maintain a safe construction site and will consider public safety. At a minimum, Respondent shall:

- Submit a summary description of the corporate safety program that has been established by the Lead Contractor.
- Provide a description of safety programs or procedures that would be specifically applicable to and utilized for the Project. Include how Respondent proposes to address any unique safety issues for the Project.
- Provide experience, training, and qualifications of onsite safety supervisor.

Permitting. Respondent shall describe its specific approach to the permitting and regulatory requirements anticipated for the Project. In conjunction with the Project Technical Requirements and assignments of permit responsibilities, Respondent shall identify any additional anticipated permits, special considerations for obtaining permits and compliance, approach to coordinating with regulatory agencies and City, and proposed strategies to obtaining permits to minimize the influence on project schedule.

Self-Performance and Subcontracting. The selected Design-Builder shall perform with its own organization not less than fifty-percent (50%) of the total contract price. The dollar value included in this percentage performed by the Design-Builder shall include the value of labor, materials and equipment directly performed or procured by the Design-Builder and shall not include the value of work performed or provided by subcontractors.

Respondent shall provide a description of the general delivery approach of the Project, including use of subcontractors and proposed approach for self-performance. Identify proposed components Respondent would self-perform and the Respondent's approach to managing this work and subcontracted work.

4.3.4 Part 2 – Technical Approach

Part 2 of the Technical Proposal will be used by the City to understand and evaluate the Proposer's: (a) approach to meeting/exceeding the RFP Technical Requirements; (b) incorporation of innovative ideas and cost savings measures; and (c) incorporation of quality materials/equipment that will provide the City with cost effective operations and maintenance.

Project Understanding. Respondent shall discuss generally the tasks involved in the Project to demonstrate its knowledge of the overall Project and Project requirements and needs. Identify and describe how the Respondent would define and approach key Project challenges. Describe how the Respondent would be structured to best manage its activities and satisfy the needs of the Project, including the Lead Contractor's involvement/role during design, the Lead Designer's involvement/role during construction, and the Lead Operations Coordinator's involvement/role during design, construction, and extended commissioning phases. Include the following discussions regarding the Respondent's project understanding:

- Define 5 key issues and challenges in both the design and construction of the Project. Describe how to mitigate potential negative impacts (i.e., risk mitigation strategy) of each key issue and any unique approaches or strengths the Respondent may have relative to the issues and challenges. Describe Respondent's contingency plans for various performance issues that might be encountered on the Project.
- Discuss any innovative ideas and approaches to completing the design and construction of the Project. Demonstrate the Respondent's ingenuity through design concepts, construction materials, and construction methods to achieve the most efficient and long-lasting treatment facility.

- Discuss any prominent concerns with the Respondent's capacity to meet the Project's schedule and budget and how the Respondent will manage budget and schedule requirements. The Respondent may provide situations and examples where its approach to managing the schedule and budget has been successful, but may not include any specific cost information in the Technical Proposal.
- Describe how the Respondent will approach start-up and commissioning including the key tasks the Respondent would recommend for achieving compliance with the Project requirements. Identify concerns and challenges with commissioning and how Respondent's team will address the risks. Respondent shall present an approach to start-up and commissioning with the key tasks the Respondent would recommend. Identify future start-up and commissioning plans that will be developed and approved by the Owner and indicate when they will be developed and submitted.
- ~~Describe how the Respondent shall describe its ability and approach to providing Extended Commissioning Phase services for an initial one-year period with optional one-year extension. Respondent shall provide a description of its staffing plan and organization chart; and its approach to assisting the City in the necessary operations and maintenance activities. The Respondent is expected to conform to City standard operating procedures in completing its operations and maintenance duties.~~^{AD4}

Technical Approach Narratives. Proposer shall provide a Technical Approach Narrative that clearly describes its specific technical approach to the Project with respect to the Project Areas and major Project elements as listed below. The intent of the technical approach narratives is to identify areas of compliance with the Fixed Design Criteria, as defined in the Project Technical Requirements, identify the Respondent's approach for the Indicative Design Criteria, and to provide justification for the approved design criteria variances as proposed in the Interim Deliverable submittal.

The organization of the Technical Approach Narrative shall follow the organization and content of the Project Design Criteria:

- Performance Requirements
- Project Site and Existing Facilities
- Hydraulic Model Design Criteria
- Discipline Design Criteria:
 - A – Architectural
 - C – Civil
 - E - Electrical
 - F - Fire Protection
 - IC - Instrumentation and Controls
 - M - Mechanical
 - P – Plumbing
 - S - Structural

Within major Project elements describe the approach to each of the following technical aspects:

1. Design criteria used and comparison to Project Technical Requirements (Fixed and Indicative Design Criteria). Indicate approach for the Fixed Design Criteria and any deviations from the Indicative Design Criteria using Form F-1 Project Design Criteria.
2. Operational strategies for unit process and equipment.
3. Construction sequence narrative including identifying shut-downs and temporary facilities (electricity, water, conveyance or others).
4. List required standard operating procedures and operating manuals to be provided.

Drawings. Respondent shall include drawings in Appendix B (Design Drawings) to illustrate and document its proposed technical design approach for the Representative Project (or approved Proposed Modified Project) and to complement the technical narrative. Reference shall be made to drawings within the major element narratives.

~~It is anticipated that the Respondent will use the provided electronic BIM Model and Preliminary Drawings, as provided in Attachment E (Project Technical Requirements), as the basis for their design of the Representative Project (or approved Proposed Modified Project).~~^{AD3}

It is anticipated that the Respondent will use the existing drawings, as provided in Attachment D (Project Background Documents), the specifications in Attachment E (Project Technical Requirements), and the project design criteria in Attachment F (Technical Proposal Forms) as the basis for their Representative Project (or approved Proposed Modified Project).^{AD3}

~~Organization. Drawings shall be organized first by area and then by discipline matching the organization of the Preliminary Drawings as provided in Attachment E (Project Technical Requirements)~~^{AD3}

Organization. Drawings shall be organized first by area and then by discipline matching the organization of the disciplines listed herein (General, Civil, Building Demolition, Architecture, Structural, Mechanical (Process), Mechanical (Plumbing), HVAC, Electrical, Instrumentation and Controls)^{AD3}

Content. Naming convention shall be consistent with the drawing list provided as part of the Project Technical Requirements. At a minimum, the following drawings shall be prepared and submitted by the Shortlisted Respondent, with the drawings being 11” x 17” size, indicate north on layouts, and use 1/4” or 1/8” scale (facility and layout drawings):

General

- Cover sheet
- Index of Drawings
- Legend, abbreviations and general notes
- Hydraulic Profile (preliminary) - include hydraulic grade elevations (NAVD and NGVD) for maximum, minimum and design flows
- Process Flow Diagram (PFD) – indicate major equipment, tanks and channels, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs

Civil

- Existing conditions and demolition plan
- Site Plans showing concept location of major structures, roads, utilities and grading - At a minimum, show the layout of the project site including property limits, existing features, proposed features, proposed and existing utilities as applicable, site drainage features, and access roads. The project site and project feature locations should be tied to the project site datum.
- Outside yard piping plan with major process piping and or site channels (≥ 24 in)
- Contract limits and construction access and parking

Building Demolition

- Plan drawings illustrating the demolition requirements for existing assets.

Architecture

- Life safety plan and code analysis
- Floor plans
- Building elevations
- 3D views of buildings

Structural

- Foundation plans
- Floor plans
- Basic Building plans and sections
- Basic tanks/channels plans and sections

Mechanical (Process)

- Plans and sections of each facility identifying equipment and piping located and shown
 - Show proposed layout of spaces or separate buildings that includes pump space, other mechanical spaces, maintenance space, storage space as well as major dimensions for pump equipment, flow control gates, isolation gates, major piping, isolation valves, access corridors, maintenance areas, and other appurtenant facilities included in Respondent's proposed design concept
 - Show proposed locations for doors, overhead doors
- Plans and sections of each equipment asset and piping located and shown
- Layout of major interconnecting process piping between structures
- Show elevations and piping elevations (≥ 6 in)
- Show outline of control panels for large equipment (e.g., mechanical screens) that are installed within 15 feet of the building.

Mechanical (Plumbing)

- Show water piping, trench drains, and associated piping (≥ 6 in)

HVAC

- Floor plan with equipment and duct runs and control panels

- Heating Flow Diagram (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)
- Ventilation Flow Diagram process areas (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)

Electrical

- Overall building-wide single line diagram
- Basic layout of power supply and distribution routing
- Site Plan
- Basic floor plan of electrical rooms and elevations
- Show proposed power distribution wiring, and instrumentation and communication wiring
- Show proposed layout of spaces that includes electrical space, control space and communications space

Instrumentation and Controls:

- Process P&IDs (all treatment process - major equipment, valves, gates, piping and instrumentation only; names and tags per Project Technical Requirements)
- Plant-wide SCADA system architecture diagram
- Basic floor plans showing proposed control panels with names and equipment tags

Equipment Cut Sheets. Respondent shall complete equipment cut sheets provided in Attachment F (Technical Proposal Forms) for the following major equipment, and include the completed forms within Appendix C Equipment Forms in its Technical Proposal:

1. Slide Gates
2. Multi-Rake Screens
3. HVAC System
4. Major Building Appurtenances (Doors, Windows, Skylights)
5. Electrical Gear (including switchgear, variable frequency drives, and motor control centers)
6. Other Major Equipment and Ancillary Systems

4.3.5 Part 3 – Construction Schedule, Planning and Sequencing

Provide a summary version of the Respondent's proposed project schedule. Summarized schedule will include the Respondents proposed dates for achieving the Design, Construction, and **Startup and Commissioning** ~~Extended Commissioning~~^{AD4} milestones - these proposed dates will be included within the Agreement executed by the City and successful Respondent.

Respondents shall: (a) describe construction sequencing of major Project elements and how sequencing may affect the critical path; (b) discuss any concerns with the capacity to meet the Project's schedule and how the Respondent will manage the schedule. Respondent shall describe how they would approach site logistics and limitations during construction, such as construction staging areas, etc.

Respondent shall develop a detailed Project Schedule and provided within Appendix D (Construction Schedule) of its Proposal. The detailed Project Schedule shall be a preliminary resource-loaded CPM construction schedule without any reference to cost, prepared using Microsoft Project 2007 or later format. Include no more than three hundred (300) individual activities, for identifying tasks, durations, and key milestones during the design, construction, and commissioning phases. Show milestones for key decision points, milestones, shutdown periods, OCCP and permit review periods for WSD and AHJs, approvals, purchasing and testing dates associated with Schedule based upon the City's anticipated award date. Include time for permit or regulatory approval processes required prior and during construction. Include schedule for start-up and commissioning period and performance verification testing.

4.3.6 Part 4 – MBE/WBE Utilization

City desires that Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) have a maximum opportunity to participate in the performance of City contracts. The goals for this specific Project are 14% MBE participation and 14% WBE participation. The Respondent shall identify any MBE/WBE subconsultants or subcontractors that are part of the Respondent's Project Team.

The City's CREO Forms and CREO Instructions for Construction Projects are incorporated into this RFP and the Contract Documents. The MBE/WBE Directory is available on the City's website at www.kcmo.org. Please call the Civil Rights and Equal Opportunity Department at (816) 513-1836 for assistance.

Waiver of MBE/WBE Requirements. The City Council may waive any and all MBE/WBE requirements imposed by any Bidding Document or the MBE/WBE Ordinance and Contract with the lowest and best Bidder if the City Council determines a waiver is in the best interests of the City.

Workforce Program Requirements. City desires that minorities and women have a maximum opportunity to practice their trades on city construction projects. The minimum company-wide goals are a ten percent (10%) minority workforce and two percent (2%) women workforce. The City's HRD Forms and HRD Instructions for Construction Projects are incorporated into this RFP and the Contract Documents.

4.3.7 Appendix A - Forms for Affirmation of Compliance

Include in Appendix A of the Proposal the completed forms provided in RFP Attachment H (Submission Forms including HRD Documents).

In accordance with Section 4.3.3 of this RFP, for any new Key Personnel that the Respondent intends to use that are not identified in its SOQ and for the Lead Operations Coordinator, Respondent shall provide resumes for such individuals within Appendix A. Provide certifications and licenses for the Lead Operations Coordinator and any new Key Personnel (if applicable), and otherwise required by Section 4.3.3.

4.3.8 Appendix B – Design Drawings

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix B all design drawings necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.9 Appendix C – Equipment Forms

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix C all equipment forms necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.10 Appendix D – Project Schedule

In accordance with Section 4.3.5 of this RFP, Respondent shall provide in Appendix D a detailed-level schedule for the Project. The schedule shall identify critical path, proposed early work packages, and projected float.

4.3.11 Part 5 - Cost Proposal

A Proposal submitted in response to this RFP must contain a Cost Proposal that fully conforms with and satisfies the format and content requirements described herein, and sets forth the Respondent's proposed Fixed Price Design-Build to perform the Design-Build Contract services. In evaluating the Cost Proposal, the City will apply the price evaluation criteria set forth in Section 5 of this RFP. Accordingly, Respondents are required to complete and submit all forms provided in Attachment G (Cost Proposal Forms) and include in their Cost Proposal all other information necessary to permit the City to perform informed evaluation.

DB 00410 Design-Build Bid Form. This form must be completed in its entirety and submitted with the Cost Proposal. Respondent shall provide a price for Design Services and Construction Services, the sum of which comprises the "Base Bid." The Base Bid is the Cost of Work for the Representative Project (or approved Proposed Modified Project), including allowances as described below. Variations or deviations from the Representative Project that do not have City approval shall be excluded.

Additionally, Respondent shall provide as supplemental to the Cost Proposal the Vendor's Proposals for the below-listed equipment as listed in Form F.1, clearly indicating what is included in the scope.

- Forebay Slide Gates
- Multi-Rake Screens
- Shaftless Screw Conveyor

Scoring of the Cost Proposal will be based on the Base Bid.

THE COST PROPOSAL SHALL BE SUBMITTED, IN A SEPARATE SEALED ENVELOPE OR PACKAGE CLEARLY MARKED "COST PROPOSAL."

ALL PRICE AND COST INFORMATION SHALL BE INCLUDED ONLY IN THE COST PROPOSAL. NO PRICE INFORMATION SHALL BE INCLUDED IN THE OTHER PARTS OF THE PROPOSAL (INCLUDING THE TRANSMITTAL LETTER AND APPENDICES). IF ANY PRICE INFORMATION IS INCLUDED IN THE OTHER PARTS OF THE PROPOSAL, THE ENTIRE PROPOSAL MAY BE REJECTED.

SECTION 5: FINAL PROPOSAL EVALUATION AND SELECTION

5.1 Selection Committee

The City will appoint a committee (“Selection Committee”) consisting of no more than five (5) members, which will include staff designated by the WSD Director per Ordinance No. 190622, as deemed necessary, with the expertise appropriate for the evaluation of all technical aspects of the Project. Copies of Proposals will be distributed to the Selection Committee members who will rely on the contents for scoring purposes. The Selection Committee will review the Proposals, excluding the Cost Proposal.

5.2 General Evaluation Procedure

The submission of a Proposal by Respondents shall constitute acknowledgement of acceptance of all terms and conditions set forth in this RFP unless otherwise expressly stated herein. All Proposals must be submitted in writing and must include all required documents including forms, appendices, and other information requested in this RFP.

All Technical Proposals and documents, and meetings related thereto, shall be considered to be "closed records" and "closed meetings," respectively, as defined in Chapter 610, RSMo (the "Missouri Sunshine Law") and therefore protected from disclosure until the Public Bid Opening Date (Section 3.2).

In general, the procedure for evaluation of Proposals and selecting a Design-Builder will consist of the following:

- Selection Committee will open Technical Proposals.
- Selection Committee will review the Technical Proposals (with assistance provided by outside advisors if desired by City) to determine if Responsiveness Requirements and Mandatory (Pass/Fail) Requirements are met.
- City staff may conduct interviews for any or all submitted Proposals.
- Selection Committee will score Technical Proposals based on evaluation criteria described in Section 5.4.
- For those Proposals that meet the Responsiveness Requirements and Mandatory (Pass/Fail) Requirements, the Cost Proposal will be opened publicly as described in Section 5.5.1 Public Bid Opening.
- The ranking of Respondents and the Successful Shortlisted Respondent will be publicly posted of the City’s Plan Room Website which will begin the five (5) day appeal period.

- After the five (5) day appeal period has expired and no appeals have been recorded, contract negotiations will begin with the Successful Shortlisted Respondent.
- Award of the Contract for Design-Build Services will be made only after the successful negotiation of the Contract and the City Council's ordinance adopting the Contract for Design-Build Services takes effect.

During the Proposal evaluation process, written questions or requests for clarifications may be submitted to one or more Respondents regarding its Proposal or related matters. Failure to respond in a timely manner to any such questions or requests may be grounds for elimination of the Respondent from further consideration. Respondent is responsible for the accuracy of its Proposals. Discrepancies between words and figures will be resolved in favor of the words.

5.3 Responsiveness Requirements

Each Proposal will be reviewed to determine whether it is responsive to the RFP. Respondents must comply with all terms and conditions of this RFP, including, without limitation, the requirement to provide all documentation requested in this RFP. Failure to comply with the requirements of this RFP may result in a Proposal being rejected as non-responsive. Each Proposal shall be reviewed for responsiveness in accordance with the following conditions:

1. Timely submittal (refer to Section 4.1 of RFP for the Submittal Due Date).
2. Compliance with submittal requirements in accordance with Section 4 of RFP, including submittal of all information and documentation required in Section 4.

If a Respondent fails to satisfy these conditions, the Proposal may be deemed non-responsive by the City and not considered for further review.

At its sole discretion at any time, however, the City Manager or his delegate may waive any requirements imposed by this solicitation or by any City regulation when failure to grant the waiver will result in an increased cost to the City and the requirement waived would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City Council at any time may waive any requirements imposed in this solicitation by the City's Code of Ordinances when it finds failure to grant the waiver will result in an increased cost to the City and the waived requirement would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City reserves the right to waive any irregularities and/or formalities as deemed appropriate.

The City Council may waive any and all D/M/WBE requirements imposed by any SOQ or Proposal document or the MBE/WBE Ordinance and award the Contract to the most qualified Design-Builder if the City Council determines a waiver is in the best interests of the City.

5.4 Evaluation Criteria

The City will evaluate and rank the responsive Proposals by applying the weighted evaluation criteria set forth below to determine the Successful Respondent. The total number of points that

will be used in evaluating all of the factors for a Proposal is 200, allocated as illustrated in the following table:

Criterion	Maximum Score Possible (Points)
Part 1. Project Plans/Management Approach	30
Part 2. Technical Approach	60
Part 3. Construction Schedule, Planning and Sequencing	10
Part 4. MBE/WBE Utilization	Pass/Fail
Cost Proposal	100
Total Possible Score	200

The highest Technical Proposal will be awarded 100 points. Points will be added to each of the other Technical Proposals corresponding to the 100 points and the original points earned by that Proposal. For example:

Technical Proposal	Number of Points	Score
Highest	94	100 pts.
2nd Highest	87 (94-87=7)	93 pts. (100-7 points)
3rd Highest	84 (94-84=10)	90 pts. (100-10 points)

5.5 Cost Proposal Evaluation

The Cost Proposal with the lowest bid price will be awarded 100 points. [City's Budget is \\$5,000,000.00. The City's limit for department selection for a design-build project is \\$6,000,000.^{AD4}](#)

One (1) point will be deducted from each of the other Cost Proposals for each percentage that the Base Bid exceeds the lowest Base Bid using the following formula:

$$\left(1 - \frac{\text{Proposer's Bid} - \text{Lowest Bid}}{\text{Lowest Bid}}\right) \times 100$$

5.5.1 Public Bid Opening

Cost Proposals will be opened publicly on at 2:00 PM on the Public Bid Opening Date (Section 3.2). The City will publicly announce the scores earned by each Technical Proposal, and then will publicly open and read aloud the corresponding Cost Proposal. Cost Proposal scores will be calculated and added to previously determined Proposal scores. Proposals and corresponding Respondents will be ranked based upon the Proposal scores.

The 48-hour period for providing CREO documents (e.g., HRD Form 8, Contractor Utilization Plan/Request for Waiver) shall begin to run as of this date and time.

5.6 Final Selection

The lowest and best Bid is that Proposal with the highest combined points for the Technical Proposal and Cost Proposal, and that has been determined by the City to be responsive. Respondent agrees that all representations made in its SOQ, its Technical Proposal, and its Cost Proposal shall continue to be binding on Respondent if it is the successful Respondent on the Project, and that this RFP, the RFQ, Respondent's Technical Proposal, Respondent's Cost Proposal, and Respondent's SOQ shall be deemed incorporated into any Contract issued to Respondent for the Project.

After the evaluation process is complete, the City will notify Respondents of the rankings. The top-ranked Respondent will be selected to serve as the Design-Builder and to begin negotiations with the City for the Contract for Design-Build Services award. If negotiations with the top-ranked Respondent are not successful, the City will select the next-ranked Respondent for award and negotiate the final terms of the Contract.

SECTION 6: CONDITIONS FOR RESPONDENTS

6.1 City Policies and Ordinances

The City will administer the RFP process under competitive proposal policies. The following is a summary of some of the policies and ordinance packages to be followed and completed as part of the RFP process. The City encourages and expects Proposers to pursue subcontracting, mentoring, joint venturing, teaming and partnering opportunities with the types of firms described in this Section in the ordinary course of its teaming/business strategies for all aspects of the Project. Additional policies and ordinances otherwise not specifically listed below may also apply at time of the Proposal.

- Code of Ordinances, Sections 3-501 through 3-525, also known as the “Workforce Program.”

6.2 Prohibited Activities by Former City Employees and Officials

Section 2-2044 of the City’s Code prohibits former elected City officials and former executive or administrative employees of the City from trying to influence a decision of the City on behalf of an employer or client for one year after that former employee or official leaves the City’s employ. By submitting an RFP, the Design-Builder affirms that Design-Builder and its team members and employees are in compliance with the requirements of Section 2-2044. Failure to comply with the requirements of Section 2-1018 may cause the SOQ and Proposal to be rejected.

6.3 Change in RFP, Contract and Additional Work

The City reserves the right to add to, delete, modify or enlarge this RFP, including any specifications and/or statement of work, the proposed contract, the terms and conditions, and any subsequently executed contract. The City reserves the right to award additional contracts for related work or subsequent Project phases to the selected Design-Builder.

6.4 Late Proposals

Proposals and modifications of proposals received after the exact hour and date specified for receipt will not be considered unless: (1) they are sent via the U.S. Postal Service, common carrier or contract carrier, by a delivery method that guarantees the proposal will be delivered to the City prior to the submission deadline; or (2) if submitted by mail, common carrier or contract carrier it is determined by the City that the late receipt was due solely to an error by the US Postal Service, common carrier or contract carrier; or (3) the Proposal is timely delivered to the City but is at a different City location than that specified in this RFP; or (4) the City extends the time after the deadline for a force majeure event that could potentially affect any or all Respondents meeting the deadline.

6.5 Interviews, Discussions and Negotiations with Design-Builders

The Respondent's Proposals, including any proposed personnel and any other required proposal documents may be subject to negotiation by the City at any time. The City may interview none, one, some or all of the Respondents that submit Proposals. Proposals may be evaluated and award made with or without, discussions and/or negotiations with the Respondent. The City reserves the right to request additional information from any or all Respondents. Negotiations by the City will not be deemed a counter offer or a rejection of any original SOQ or Proposal.

6.6 Rejection of Proposals

If the City rejects all Proposals, the City may re-solicit Proposals only from those Respondents who submitted a Proposal pursuant to this RFP and/or use an expedited Bid submission schedule with or without re-advertising or issuing any other public notice when the City determines, in its sole discretion, that the delay due to the normal solicitation procedures would not be in the City's best interests.

6.7 Disclosure of Proprietary Information

A Respondent may restrict the disclosure of scientific and technological innovations in which it has a proprietary interest, or other information that is protected from public disclosure by law, which is contained in any portion of its Proposal by:

- a. Marking each page of each such document in at least 16-point font with the words "Proprietary Information"; and
- b. Printing each page of such document on a different color paper than the paper on which the remainder of the Proposal is printed; and
- c. Segregating each page of each such portion of its Technical Proposal in a sealed envelope/package, which shall prominently display, on the outside, the words "Proprietary Information" in at least 16-point font, along with the name and address of the Respondent; and
- d. After either the Public Bid Opening Date or the rejection of all Proposals, if a request is made under the Missouri Sunshine Law for access to portion(s) of a Respondent's Technical Proposal that has been marked "Proprietary Information," as provided above, the City will notify that Respondent of the request, and it shall be the burden of that Respondent to establish that such documents are exempt from disclosure under the law.

6.8 Contract Information Management System

The selected Design-Builder shall be required to use City's Internet web based Contract Information Management System/Project Management Communications Tool provided by City and protocols included in that software during the term of this Contract. The selected Design-Builder shall submit user applications to City's provided Contract Information Management

System for all personnel, subcontractors or suppliers as applicable. The City will use e-Builder (by Trimble) for document control and workflows.

6.9 Affirmative Action

It is the policy of the City that any person or entity entering into a contract with the City, will employ applicants and treat employees equally without regard to their race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age. The City's Affirmative Action ordinance requires that any person or entity who employs fifty (50) or more persons and is awarded a contract from the City totaling more than \$300,000.00 must:

- Execute and submit an affidavit, in a form prescribed by the City, warranting that the contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the contract.
- Submit, in print or electronic format, a copy of the contractor's current certificate of compliance to the City's CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years. If, and only if, contractor does not possess a current certification of compliance, contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years.
- Require any subcontractor awarded a subcontract exceeding \$300,000.00 to affirm that subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.
- Obtain from any subcontractor awarded a subcontract exceeding \$300,000.00 a copy of the subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, subcontractor does not possess a current certificate of compliance, contractor shall obtain a copy of the subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.
- If you have any questions regarding the City's Affirmative Action requirements, please contact CREO at (816) 513-1836 or visit the City's website at www.kcmo.org.

6.10 American with Disabilities Act (ADA) Standards

It is the policy of the City and required by law that any new or renovated facility meet the scoping and technical requirements of the 2010 ADA Standards for newly designed and constructed or altered local government facilities, public accommodations, and facilities. The selected Design-Builder shall design the project so it conforms to the 2010 ADA Standards, as applicable and as amended from time to time, and is readily accessible to and usable by

individuals with disabilities. The City will make available to the selected Design-Builder the City's ADA Compliance Manager, who can facilitate interaction with advocates in the disability community.

6.11 Design-Builder Conflict of Interest

A conflict of interest situation may disqualify an organization. If the Design-Builder believes there may be a conflict of interest, it must list the organizations and the names of entities or persons associated with the Design-Builder who may have a conflict of interest, or appearance of a conflict of interest, with the City.

Details of the potential conflict of interest must also be included. Names of entities associated with the Design-Builder who may have a conflict of interest with any activity of this Project should be included in the Proposal. Provide details and reasons. Design-Builders are subject to disqualification on the basis of conflict of interest as determined by the City.

6.12 Additional Information

The City reserves the right, in its sole discretion, to request additional information or documents from any or all Respondents, including supplements or corrections to the Proposals.

6.13 City's Buy American and Missouri Preference Policies

It is the policy of the City that any manufactured goods or commodities used or supplied in the performance of any City contract or any subcontract thereto shall be manufactured or produced in the United States whenever possible. When Bids offer quality, price, conformity with specifications, term of delivery and other conditions imposed in the specifications that are equal, the City shall select the Bid that uses manufactured goods or commodities that are manufactured or produced in the United States. The City shall give preference to all commodities manufactured, produced, or grown within the State of Missouri and to all firms, corporations, or individuals doing business as Missouri firms, corporations or individuals, when quality is equal or better and delivered price is the same or less. It is the bidder's responsibility to claim these preferences.

6.14 Tax Clearance

Respondent will be required to furnish to Owner sufficient proof from City's Commissioner of Revenue, verifying that Respondent is in compliance with the license and tax ordinances administered by City's Revenue Division as a precondition to Owner making its first payment under any Contract over \$50,000.00. Respondent will also be required to obtain proof of City tax compliance from all of its Subcontractors prior to the Subcontractors performing any Work.

6.15 Prevailing Wage Requirements

The successful Respondent shall pay the prevailing hourly rate of wages as determined by the Missouri Annual Wage Order and/or Federal Wage Determination set forth in the Project

Manual. In case of a conflict between Missouri and Federal wage rates, the higher rate shall apply.

6.16 Indemnification – City of Kansas City

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the City and any of its agencies, officials, officers, or employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable, including negligent acts or omissions of the City, its agencies, officials, officers, or employees. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

6.17 Indemnification – State of Missouri

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the Missouri Highways and Transportation Commission (MHTC) and the Missouri Department of Transportation (MoDOT) and their respective employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

SECTION 01110 – SUMMARY OF WORK

PART 1 GENERAL

1.01 LOCATION OF WORK

- A. The work of this Contract is located at Blue River WWTP at 7300 Hawthorne Road, Kansas City, MO 64120.

1.02 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required and construct the Blue River Screen House Project in its entirety as shown on the Drawings and as specified herein for a fully functioning system within the project budget.
- B. The Work includes, but is not necessarily limited to, the following:
 - 1. Demolition and removal of existing equipment as indicated and necessary for the construction of the project including the chain and rake bar screens, out-of-service piping and appurtenances.
 - 2. Design and Construction of channel separation system including the forebay, slide gates, channel modifications, and the afterbay. Channel separation system will be designed and constructed to prevent flows from one channel bypassing the flows of any other individual channel. Modifications to allow even distribution of screenings and grit to each channel.
 - 3. Furnishing and installation of multi-rake screens and associated fittings including modifications to existing facility needed to accommodate current flows, anticipated 2035 flows, installation and removal of multi-rake screens via roof access.
 - 4. ~~Furnishing and installation of re-routing Westside line from the afterbay of the Blue River Screen House to upstream of the forebay of the Blue River Screen House. Line re-route shall be designed with a hydraulic analysis and built to accommodate unidirectional flow flowing into the Screen House.~~^{AD4}
 - 5. Furnishing and installation of new conveyance system for the transport of screenings from the discharge of multi-rake screens to the building dumpster.
 - 6. Furnishing and installation of new building appurtenances as required for the installation of the multi-rake screens. Building appurtenances may include but not necessarily limited to doors, windows, wall penetrations, roof skylights, handrails, guardrails, safety gates, floor plates, and wall panels.
 - 7. Electrical modifications including demolition and replacement of existing electrical equipment, coordination with the electrical utility, and installation of power and control to all new equipment as shown on the Drawings. Instrumentation as required for H2S detection at Blue River Screen House and near Parshall flume.
 - 8. Furnish and install HVAC system upgrades for Blue River Screen House facility and/or may include removal of parshall flume roof for increased ventilation/air changes per hour entering Blue River Screen House.

1.03 WORK SEQUENCE

- A. Perform Work in sequence as indicated in the contract documents to ensure completion of the Work in the Contract Time. Completion dates of the various stages shall be in accordance with the approved construction schedule submitted by the Contractor or Design-Builder.

1.04 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit the use of the premises for his/her Work and for storage to allow for:
 - 1. Work by other agencies.
 - 2. Owner occupancy.
 - 3. Public use.
- B. Coordinate use of premises with Owner.
- C. Contractor shall assume full responsibility for security of all his/her and his/her subcontractors materials and equipment stored on the site.
- D. If directed by the Owner, move any stored items which interfere with operations of Owner or other contractors.
- E. Obtain and pay for use of additional storage or work areas if needed to perform the Work.

1.05 OWNER OCCUPANCY

- A. Owner will occupy premises during performance of the work for the conduct of his/her normal operations. Coordinate all construction operations with Owner to minimize conflict and to facilitate Owner usage.

1.06 CONSTRUCTION COORDINATION

- A. Activities by Others which may affect performance of the Work:
 - 1. CITY will use an existing IDIQ contract for dewatering of channels.
- B. Contractor shall coordinate with the Owner regarding scheduling and sequence of work.

END OF SECTION



Form F-1. Project Design Criteria
 Project Number 81000984/1638
 Project Title Blue River Screen House Project

Criterion	Fixed (F)/ Indicative (I)	Proposed Value	Unit	Manufacturer and Model in Base Bid	Identify deviation from and location of supporting justification in Technical Proposal
Site Design Data					
Building Code & References	F	ASCE 7-16, ASCE 360, ASCE 341			
Site Elevation, Above Mean Sea Level	F	744	ft		
Wind Design Criteria					
Basic Factored Wind Speed, Risk Category III	F	120	mph		
Exposure Category	F	C			
Importance Factor (Wind Loads), I	F	N/A			
Building Enclosure Classification	F	Enclosed			
Snow/Ice Design Data					
Ground Snow Load, Pg	F	20	psf		
Importance Factor (Snow Loads), I	F	1.1			
Exposure Factor (S _w)	F	1			
Thermal Factor	F	1			
Nominal Ice Thickness, t	F	1	in		
Concurrent Wind Speed, V _c	F	40	mph		
Importance Factor (ice-loads - see thickness), II	F	1.25			
Importance Factor (ice-loads - concurrent wind), Iw	F	1			
Seismic Design Data					
Design Short Period Spectral Response Acceleration, S _{DS}	F	0.100	R		
Component Importance Factor, I _c	F	As indicated in Section 01810			
Seismic Design Category	F	B			
Outdoor Climatic Design Data					
Winter	F	5.9	"F DB at ASHRAE 0.4%		
Summer (DB)	F	101.6	"F DB at ASHRAE 99.0%		
Summer (MCOBBI)	F	75.74	"F MCOWB at ASHRAE 99.0%		
Daily Summer Mean Range (MCOBBI)	F	51.8	"F		
Mean of Annual Extremes (Maximum)	F	101.4	"F DB		
Mean of Annual Extremes (Minimum)	F	0.68	"F DB		
Rainfall	F	3.6	in/yr (100-yr, 1 hour storm)		
Indoor Climatic Design Data - Process & Equipment Area					
Unless Otherwise Noted - Summer	F	10 above ambient	"F		
Unless Otherwise Noted - Winter	F	55	"F		
Corridors - Summer	F	10 above ambient	"F		
Corridors - Winter	F	55	"F		
Electrical Control and Mechanical (HVAC Equipment) rooms - Summer	F	85	"F		
Electrical Control and Mechanical (HVAC Equipment) rooms - Winter	F	55	"F		
Indoor Climatic Design Data - Non-Process Areas					
Electric Offices, Conference Rooms, Vestibules, Kitchens, Restrooms - Summer	F	75	"F		
Electric Offices, Conference Rooms, Vestibules, Kitchens, Restrooms - Winter	F	70	"F		
Control Rooms, Wet Analysis Rooms - Summer	F	75	"F		
Control Rooms, Wet Analysis Rooms - Winter	F	70	"F		
P.C. Instrument Shop, Instrument Storage, Electrical/Communication Room - Summer	F	75	"F		
P.C. Instrument Shop, Instrument Storage, Electrical/Communication Room - Winter	F	70	"F		
Mechanical (HVAC Equipment) Room - Summer	F	75	"F		
Mechanical (HVAC Equipment) Room - Winter	F	70	"F		
Conditioned Parts Storage Room - Summer	F	75	"F		
Conditioned Parts Storage Room - Winter	F	70	"F		
Maintenance Bays, Oil & Tool Storage Laundry, Janitors Closets - Summer	F	10 above ambient	"F		
Maintenance Bays, Oil & Tool Storage Laundry Janitors Closet - Winter	F	55	"F		
Existing Screen House Parameters					
Number of Building Channels	F	6			
Number of Channels in Normal Operation	I	6			
Number of Multi-rake Screens	F	3			
Channel Width	F	8'-0"	ft-in		
Channel Depth	F	7'-0"	ft-in		
Volume - Building Shell	F	150,200	ft ³		
Elevation - Bottom of Invert	F	726'-10"	ft-in		
Elevation - Top Of Basement Floor	F	734'-10"	ft-in		
Elevation - Top Of Operating Floor	F	742'-0"	ft-in		
Invert Floor Thickness	F	2'-0"	ft-in		
Basement Floor Thickness	F	1'-0"	ft-in		
Elevation - Roof	F	764'-0"	ft-in		
Process Design Parameters					
Average Flow	F	40-50	mgd		
Peak Wet-Weather Flow	F	162	mgd		
Number of Active Channels during Average Flow	I	1			
Number of Active Channels during Peak Flow	I	4-275 ¹ 3 = 1 Backup ²			
Minimum Velocity through Channel	I	1.3	ft/sec		
Maximum Velocity through Channel	I	4	ft/sec		
Minimum Surface Water Elevation (from Bottom of Channel Invert)	I	0'-6"	ft-in		
Maximum Surface Water Elevation (from Bottom of Channel Invert)	I	7'-0"	ft-in		
Screenings Disposal Height (from Top of Operating Floor)	I	4'-0"	ft-in		
Screen Angle of Installation	I	(Determination by Design-Builder)			
Screen Maximum Headloss @ Maximum Flow	I	3	ft		
Screen Spacing	I	3/8 - 1	in		
HVAC Design Parameters					
Minimum Air Changes Per Hour (Operating Floor)	F	12	ACh		
Number of Makeup Air Units (MAUs)	I	1			
Number of Power Ventilators (PVs)	I	TBD			
Maximum H2S Concentration (Operating Floor)	F	10	ppm		
Maximum H2S Concentration (Basement)	F	20	ppm		
Electrical Design Parameters					
Enclosure Type (Indoor)	F	NEMA 7			
Enclosure Type (Outdoor)	F	NEMA 7			
All other Electrical Requirements	F ¹	(Match Basis of Design Report / Blue River Wastewater Treatment Plant Biosolids Facility)			
Sitework					
Fences	I	Section 02821 - Fences and Gates			
Slide Gates	I	Section 02821 - Fences and Gates			
Swing Gates	I	Section 02821 - Fences and Gates			
Concrete Restoration & Cleaning	I	Section 03900 - Concrete Restoration & Cleaning			
Building					
Concrete	I	Section 03000 - Concrete			
Concrete - Cast-In-Place	I	Section 03300 - Cast-In-Place Concrete			
Concrete - Formwork	I	Section 03100 - Concrete Forms & Accessories			
Concrete - Reinforcement	I	Section 03200 - Concrete Reinforcements			
Concrete - Grouting	I	Section 03600 - Grout			
Concrete - Epoxies	I	Section 03630 - Epoxies			
Concrete - Sealant	I	Section 07920 - Joint Sealant			
Concrete - Exterior Coatings	I	Section 07100 - Waterproofing and Waterproofing			
Concrete - Interior Coatings	I	Section 09960 - Concrete Coating			
Steel - Structural	I	Section 05120 - Structural Steel Framing			
Steel - Coatings	I	Section 09970 - Steel Coatings			
Building Grounding	I	Section 16500 - Grounding and Bonding			
Curbs	I	Section 02770 - Curbs, Gutters, Sidewalks, and Driveways			
Gutters	I	Section 02770 - Curbs, Gutters, Sidewalks, and Driveways			
Sidewalks	I	Section 02770 - Curbs, Gutters, Sidewalks, and Driveways			
Driveways	I	Section 02770 - Curbs, Gutters, Sidewalks, and Driveways			
Walls - Premanufactured	I	Section 07420 - Metal Wall Panels			
Walls - Above Grade - Concrete Masonry Units	I	Section 04220 - Concrete Masonry Units			
Walls - Sealant	I	Section 07920 - Joint Sealants			
Roof Deck	I	Section 05312 - Steel Roof Decking			
Roof Board Insulation	I	Section 07222 - Polyisocyanurate Roof Insulation			
Roof Flashing	I	Section 07620 - Sheet Metal Flashing and Trim			
Roofing	I	Section 07550 - Modified Bituminous Roofing			
Roof - Skylights	I	Section 08632 - Aluminum Floor Plates			
Doors	I	Section 08220 - FRP Doors and Frames			
Windows	I	Section 08520 - Aluminum Windows			
Floor Plates	I	Section 05542 - Aluminum Floor Plates			

Criterion	Fixed (F)/ Indicative (I)	Proposed Value	Unit	Manufacturer and Model in Base Bid	Identify deviation from and location of supporting justification in Technical Proposal
Lighting System	I	Section 16500 - Lighting System	-		
Handrails	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Guardrails	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Safety Gates	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Ladders	I	Section 05515 - Aluminum Ladders and Accessories	-		
HVAC					
Makeup Air Units (MAUs)	I	Section 15721 - Makeup Air Units	-		
Exhaust Fans	I	Section 15761 - HVAC Power Ventilators	-		
Ducts, Duct Hanger and Supports, Duct Accessories	I	Section 15810 - Ducts, Duct Hanger and Supports, Duct Accessories	-		
Air Inlets & Outlets	I	Section 15850 - Air Inlets and Outlets	-		
Testing, Adjusting, and Balancing for HVAC	I	Section 15950 - Testing, Adjusting and Balancing for HVAC	-		
Equipment					
Identification Devices	I	Section 10400 - Identification Devices	-		
Slide Gates	I	Section 11285 - Slide Gates	-		
Electric Actuators for Process Valves and Gates ²⁰⁴	IP ²⁰⁴	Section 10221.E - Electric Actuators for Process Valves and Gates - <i>Mt. - Azuma²⁰⁴</i>	-		
Electric Actuators for Process Valves and Gates	I	Section 16221.E - Electric Actuators for Process Valves and Gates	-		
Multi-Rake Screens ²⁰⁵	IP ²⁰⁵	Section 11334 - Multi-Rake Screens - <i>Mfr. Dupont²⁰⁵</i>	-		
Multi-Rake Screens	I	Section 11334 - Multi-Rake Screens	-		
Belt Conveyor	I	Section 14553 - Cleated Belt Conveyor	-		
Shaftless Screw Conveyor	I	Section 14556 - Shaftless Screw Conveyor	-		
Motors	I	Section 16222 - Low Voltage Motors Up to 500 Horsepower	-		
Pipe & Fittings					
Process Pipe & Fittings	I	Section 15200.1500S - ANSI 150 Stainless Steel Pipe & Fittings	-		
Non-potable water Pipe & Fittings	I	Section 15200.75PVC - PVC Pipe & Fittings	-		
Service Water Pipe & Fittings	I	Section 15200.100PVC - PVC Pipe & Fittings	-		
Fuel Gas Pipe & Fittings	I	Section 15200.150CS - ANSI 150 Carbon Steel Pipe & Fittings	-		
Sanitary Drain Pipe & Fittings	I	Section 15200.1500I - Ductile Iron Pipe & Fittings	-		
Instrumentation & Controls					
I&C - Control Descriptions	I	Section 13500 - Instrumentation and Control Systems	-		
Instrumentation and Controls	I	Section 13500 - Instrumentation & Controls for Process Systems	-		
Programmable Logic Controls	I	Section 13310 - Programmable Logic Controllers	-		
Level Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Pressure Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Temperature Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Flow Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
I&C - Control Descriptions	I	Section 13500 - Instrumentation and Control Systems	-		
Major Procurement Items					
Forebay Slide Gates	I	Qty. 6 (Applicable Section(s): 11285, Blue River - Electrical (BODR)	-		
Concrete channel Isolation	I	Qty. 6 (Applicable Section(s): 03000, 03100, 03200, 03630)	-		
Multi-Rake Screens	F	Qty. 4 (Applicable Section(s): 11334, Blue River - Electrical (BODR)	-		
Shaftless Screw Conveyor	I	Qty. 1 (Applicable Section(s): 14556, Blue River - Electrical (BODR)	-		
Metal-Framed Skylight	I	Qty. 4 (Applicable Section(s): 08630)	-		
Makeup Air Unit	I	Qty. 1 (Applicable Section(s): 15721)	-		

Bidder: _____

CITY OF FOUNTAINS
HEART OF THE NATION



KANSAS CITY
MISSOURI

Form G-1. DESIGN-BUILD BID FORM – PRICE SUBMITTAL

Project Number 81000984/1638

Project Title Blue River Screen House Improvements

1. The undersigned Bidder, having examined the Bidding Documents, related documents and the Site of the Work, and being familiar with all the conditions affecting the proposed Work, including Laws and Regulations and the availability of materials and supplies, agrees, if this Bid is selected by CITY, to enter into a Contract with CITY in the form included in the Contract Documents to furnish all labor and materials, equipment and services necessary for the proper completion of the Work in accordance with the Contract Documents, including design services and general construction work at the price(s) stated below, which stated sums include fees and all other charges applicable to materials, appliances, labor and all things subject to and upon which other charges may be levied.
2. Bidder agrees the Contract Documents will comprise the entire agreement between CITY and Bidder. The Contract Documents are identified in the General Conditions and are incorporated into and made part hereof this Bid Form/Contract by reference.
3. The Bid Price(s) shall be shown in numeric figures only.

TOTAL BASE BID PRICE IN NUMERIC FIGURES \$ _____

4. The undersigned Bidder has given City's Project Manager written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by the Project Manager or by the Program Manager is acceptable to Bidder.
5. The undersigned Bidder agrees that this Price Submittal Bid shall remain subject to selection by CITY, and may not be withdrawn for ninety (90) days after the day Price Submittal Bids are opened.
6. The undersigned Bidder certifies that this Price Submittal Bid contains no modifications, deviations, riders or qualifications.
7. Form 01290.02 Schedule of Values contains prices included in the Base Bid, and are incorporated into this Bid. Form must be completed and returned with this Bid.
8. The undersigned Bidder acknowledges receipt of the following addenda listed by number and date appearing on each addendum:

Addendum Number	Dated	Addendum Number	Dated
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)
(_____)	(_____)	(_____)	(_____)

Bidder: _____

(_____) (_____) (_____) (_____)
(_____) (_____) (_____) (_____)

[Specifier: This paragraph is applicable only if the Bidder is submitting a bid for a construction contract that is estimated by the City, prior to solicitation, as requiring more than 800 construction labor hours and costing in excess of \$324,000.01. If this is not applicable, delete this paragraph. Be certain to delete this not before your final document is printed].

- 9. By submitting its bid, Bidder is agreeing to meet or exceed the minimum employment goals of 10% minority and 2% women during the term of its contract with the City, or request a waiver of the goals. If a waiver is requested, Bidder must establish good faith efforts towards meeting the goals as set forth in the HRD Instructions for Construction Contracts and the City’s Workforce Ordinance. Should Bidder fail to meet or exceed the minimum employment goals or otherwise establish that Bidder is entitled to a waiver under circumstances in which Bidder has previously failed to meet or exceed the goals on one or more occasions with the twenty-four month period immediately preceding the completion of the Work under this Bid Form/Contract, Bidder may be suspended from participating, either as a contractor or subcontractor, on any future contract with the City for a period ranging from thirty days to six months as further specified in the Contract Documents.
- 10. By submitting its bid, Bidder warrants that if its bid should exceed \$300,000.00 and Bidder employs fifty (50) or more people, Bidder has an affirmative action program in place and will maintain the affirmative action program in place for the duration of its contract with the City. Bidder further warrants that it will comply with the affirmative action requirements contained in the General Conditions as incorporated by reference into this Bid Form/Contract.

[Specifier: If no MBE/WBE/DBE goals are set for this project, delete Sections 11-17 that contains the Affidavit of Intended Utilization information and delete the notary seal below].

- 11. Section 13 through Section 15 constitutes the Affidavit of Intended Utilization required to be submitted by Bidders.
- 12. By submitting its bid, Bidder is agreeing to the following: (1) Bidder has made by bid opening a good faith effort to meet the MBE/WBE/DBE goals established for the project; or Bidder will continue to make during the 48 hours after bid opening a good faith effort to meet the MBE/WBE/DBE goals established for the project; and (2) Bidder will timely submit its **00450 HRD 08 Contractor Utilization Plan/Request for Waiver** and **00450.01 Letter of Intent to Subcontract** for each MBE/WBE listed on the 00450 HRD 08 Construction Contractor Utilization Plan/Request for Waiver;; and (3) Bidder will submit documentation of its good faith efforts to meet the MBE/WBE/DBE goals when requested by the City. Failure to meet these requirements in good faith will result in Bidder forfeiting its bid bond.

PROJECT GOALS: 14^{AD4} % MBE 14^{AD4} % WBE _____ %
DBE

BIDDER PARTICIPATION: _____ % MBE _____ % WBE _____ % DBE

- 13. To the best of Bidder’s knowledge, the following are names of certified MBEs and/or WBEs with whom Bidder, or Bidder’s subcontractors, presently intend to contract with if awarded the Contract on the above project: **(All firms must currently be certified by Kansas City, Missouri Human Relations Department)**

- a. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____

Bidder: _____

Subcontract amount _____

- b. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

- c. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

- d. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

- e. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

- f. Name of M/WBE Firm _____
Address _____
Telephone No. _____
I.R.S. No. _____
Area/Scope of work _____
Subcontract amount _____

(List additional MBE/WBEs, if any, on additional pages and attach to this form)

- 14. By submitting its bid, Bidder is agreeing it will identify and timely submit within 48 Hours after Bid opening those MBE/WBE subcontractors with dollar amounts and scopes of work, which apply to or exceed the MBE/WBE goals for the Project on the **00450 HRD 08 Contractor Utilization Plan/Request for Waiver**.

- 15. Bidder agrees that failure to meet or exceed the MBE/WBE Goals for the above project will require the Director of Human Relations to recommend disapproval of the bid unless the Director of Human Relations finds the Bidder established good faith efforts towards meeting the goals as set forth in the HRD Forms and Instructions for Construction Projects and the City's MBE/WBE Ordinance.

Bidder: _____

Business Entity Type:

- Missouri Corporation
- Foreign Corporation
- Fictitious Name Registration
- Sole Proprietor
- Limited Liability Company
- Partnership
- Joint Venture
- Other: (Specify) _____

BIDDER

Legal name & address of Bidder, person firm, partnership, corporation, or association submitting Bid:

_____ Phone No: _____

Cell No: _____

Facsimile No: _____

Bidder's E-Mail: _____

_____ Federal ID. No. _____

I hereby certify that I have authority to execute this document on behalf of Bidder, person, firm, partnership, corporation or association submitting Bid.

By: _____
(Signature)

(Print Name)

Title: _____

Date: _____

(Attach corporate seal if applicable)

NOTARY

Subscribed and sworn to before me this _____ day of _____, 20__.

My Commission Expires: _____

SECTION 01757 - COMMISSIONING

PART 1 – GENERAL

1.01 SUMMARY

- A. This Section includes the requirements for each Commissioning phase of, the Project equipment/system and/or facility.

1.02 DEFINITIONS

- A. Commissioning - The process of planning, testing, and process start-up of the installation for compliance with contract requirements and demonstrating, through documented verification, that the project has successfully met the Contractual requirements. It includes training the Owner's staff to operate the facility.
- B. Commissioning Phases - The work activities of facility commissioning are grouped into the phases defined in the table below.

<u>Commissioning</u>		
<u>Planning Phase</u>	<u>Testing and Training Phase</u>	<u>Process Start-Up Phase</u>
Owner Training Plan and Schedule	Source Testing	Process Start-up
Commissioning Schedule	Owner Training	Process Operational Period
Subsystem Testing Plan	Installation Testing	Instrumentation and Controls Fine-Tuning
	Functional Testing	
	Closeout Documentation	

- C. Component - A basic building block of equipment, subsystems, and systems that requires installation or functional testing but does not have electrical connection or internal electronics. (Examples: filter effluent piping and manual isolation valves).
- D. Device - A basic building block of equipment, subsystems, and systems that requires installation or functional testing and does have electrical connections or internal electronics. (Examples: filter level transmitter or water pump pressure transmitter).
- E. Equipment - An assembly of component(s) and devices(s) that requires installation or functional testing. (Examples: Pump, motor, VFD, Ozone Generator, UV Disinfection System, etc.).
- F. Facility - A grouping of process areas, systems, subsystems, equipment, components, and devices (Examples: treatment plant, pump station, etc.).
- G. Functional Testing - Testing performed on a completed subsystem to demonstrate that equipment/system meets manufacturers’ calibration and adjustment requirements and other requirements as specified. Functional testing includes operating equipment/system manually in local, manually in remote (or remote manual), and automatically in remote (in remote auto).
- H. Installation Testing - Testing to demonstrate that subsystem component (piping, power, networks, devices, etc.) is ready and meets the project requirements in advance of functional testing. Installation testing also includes

manufacturers' certification of installation and other requirements as specified to prepare equipment/system for Functional Testing. Also referred to as Field Acceptance Testing.

- I. Instrumentation and Controls Fine-Tuning - Improving the performance of the Instrumentation Process Control system by operating for an extended time period.
- J. Manufacturer's Certificate of Source Testing - When applicable, the form is used during Source Testing for the manufacturer to confirm that the applicable source tests have been performed and results conform to the Contract Documents. The form is provided at the end of this Section.
- K. Manufacturer's Certificate of Installation and Functionality Compliance - The form is used during Installation Testing and Functional Testing. It is submitted at the end of Functional Testing to confirm that the equipment/system is installed in conformance with the Contract Documents and that it meets the Functional Testing requirements defined in the Contract Documents. The form is provided at the end of this Section.
- L. Process Area - A grouping of systems, subsystems, equipment, components, and devices that divide a facility into functional areas. (Examples: Filter Process Area or Chemical Area).
- M. Process Operational Period - A period of time after completion of the process start-up set aside for final Operational Testing to verify facility performance meets the Contract Document requirements. This period may specifically limit other construction activities.
- N. Process Start-up Phase - Operating the facility to verify performance meets the Contract Document requirements.
- O. Process Start-Up - Activities conducted after the testing and training phase that are necessary to place systems or process areas into operational service.
- P. Product - A system, subsystem or component.
- Q. Subsystem - A building block of systems made up from a grouping of components, devices, and equipment that perform a definable function. (Examples: Filter No. 1 Backwash Subsystem, Sedimentation Basin No. 1 Hoseless Sludge Removal Subsystem).
- R. System - A grouping of subsystems, equipment, components, and devices that perform a definable function. (Examples: Filter No. 1, Sedimentation Basin).

1.03 COMMISSIONING MANAGER

- A. Designate and provide a COMMISSIONING MANAGER for this project.
- B. Submit summary of the COMMISSIONING MANAGER's qualifications within 30 days of NTP:
 - 1. Include description of previous experience as a COMMISSIONING MANAGER on similar projects for the designated COMMISSIONING MANAGER with a list of references including phone numbers for review and Owner approval.
- C. COMMISSIONING MANAGER responsibilities include the following:
 - 1. Lead efforts relating to Commissioning.
 - 2. Be thoroughly familiar with commissioning requirements in the Contract Documents.
 - 3. Be regularly engaged and experienced in all aspects of commissioning.
 - 4. Provide technical instruction for commissioning.
 - 5. Provide primary interface with Engineer and Owner for efforts relating to Commissioning of Project facilities.
 - 6. Coordinate training efforts.
- D. COMMISSIONING MANAGER on-site:
 - 1. Testing and Training Phase: Full-time.
 - 2. Process Start-up Phase: Full-time.
- E. Designate and provide COMMISSIONING MANAGER assistants, as needed.

1.04 SERVICES OF MANUFACTURER'S REPRESENTATIVES

- A. Qualification of manufacturer's representative as specified in the Contract Documents technical sections include the following:
 - 1. Authorized representative of the manufacturer, factory trained and experienced in the technical applications, installation, operation, and maintenance of respective equipment/system with full authority by the equipment/system manufacturer to issue the certifications required of the manufacturer.
 - 2. Competent, experienced technical representative of equipment/system manufacturer for assembly, installation, testing guidance, and training.
 - 3. Additional qualifications may be specified in the individual sections.
 - 4. Submit qualifications of the manufacturer's representative no later than 30 days in advance of required observations.
 - 5. Representative subject to approval by Owner and Engineer.
 - 6. No substitute representatives will be allowed until written approval by Owner and Engineer has been obtained.
- B. Completion of manufacturer on-site services: Engineer approval required.
- C. Manufacturer is responsible for determining the time required to perform the specified services.
 - 1. Minimum times specified in the Contract Documents are estimates.
 - 2. No additional costs associated with performing the required services will be approved.
 - 3. Manufacturer required to schedule services in accordance with the Contractor's project schedule up to and including making multiple trips to project site when there are separate milestones associated with installation of each occurrence of manufacturer's equipment.
- D. Manufacturer's on-site services as specified in the Contract Documents include the following:
 - 1. Assistance during Commissioning Phase and Process Start-Up Phase.
 - 2. Provide daily copies of manufacturer's representatives field notes and data to Engineer.
 - 3. Services as specified in Section 01433 - Manufacturer's Field Services.
 - 4. Other requirements as specified in the Contract Documents.

1.05 PLANNING PHASE

- A. Overview of Planning Phase:
 - 1. Define approach and timing for Commissioning.
- B. Owner training plan and schedule:
 - 1. Complete as specified in Section 01664.
- C. Commissioning Schedule:
 - 1. Commissioning overview:
 - a. Comply with Commissioning Roles and Responsibilities Matrix specified at the end of this Section.
 - 2. Submittal due date:
 - a. Submit Commissioning Schedule not less than 60 calendar days prior to planned initial commissioning of each subsystem or system.
 - 3. Schedule requirements:
 - a. Schedule durations and float for commissioning activities to ensure Work does not fall behind schedule due to complications or delays during commissioning.
 - b. Time-scaled network diagram detailing the work to take place in the period between 90 calendar days prior to planned initial commissioning of equipment and systems, and prior to the date of Substantial Completion, together with supporting narrative.
 - c. Provide detailed schedule of commissioning activities including durations and sequencing requirements.

- (1) Identify the following activities:
 - (a) Testing and Training Phase:
 - (i) Source Testing.
 - (ii) Owner Training.
 - (iii) Installation Testing.
 - (iv) Functional Testing.
 - (v) Clean Water Facility Testing.
 - (vi) Closeout Documentation.
 - (b) Process Start-Up Phase:
 - (i) Process Start-Up.
 - (ii) Process Operational Period.
 - (iii) Instrumentation and Controls Fine-Tuning.
- d. Schedule manufacturer's services to avoid conflict with other on-site testing or other manufacturers' on-site services.
- e. Verify that conditions necessary to allow successful testing have been met before scheduling services.

D. Subsystem testing plans:

1. Provide separate testing plans for each individual subsystem and system that include the following:
 - a. Approach to testing including procedures, schedule, and recirculation requirements.
 - b. Test objective: Demonstrate subsystem meets the design requirements as specified in the technical sections.
 - c. Test descriptions, forms, temporary systems (pumps, piping, etc.), shutdown requirements for existing systems, test forms, test logs, witness forms, and checklists to be used to control and document the required tests.
 - d. Test forms: Include, but not limited to, the following information:
 - (1) Tag and name of equipment/system to be tested.
 - (2) Test date.
 - (3) Names of persons conducting the test.
 - (4) Names of persons witnessing the test, where applicable.
 - (5) Test data.
 - (6) Applicable project requirements.
 - (7) Check offs for each completed test or test step.
 - (8) Place for signature of person conducting tests and for the witnessing person, as applicable.
 - e. Define start-up sequencing of unit processes:
 - (1) Include testing of alarms, interlocks, permissives, control circuits, capacities, speeds, flows, pressures, vibrations, sound levels, and other parameters.
 - (2) Provide detailed test procedures setting forth step-by-step descriptions of the procedures for systematic testing of equipment/system.
 - (3) Demonstrate proper rotation, alignment, speed, flow, pressure, vibration, sound level, adjustments, and calibration.
 - (a) Perform initial checks in the presence of and with the assistance of the manufacturer's representative.
 - (4) Demonstrate proper operation of each control loop function including mechanical, electrical, alarms, local and remote controls, instrumentation, and other equipment/system functions.

- (a) Generate signals with test equipment/system to simulate operating conditions in each control mode.
- 2. Engineer approval of test plan is required prior to performing test.
 - a. Revise and update test plans based on review comments, actual progress, or to accommodate changes in the sequence of activities.
 - b. Submit test reports for each phase of testing for each equipment/system.
 - c. Engineer approval of preceding test reports is required prior to start of next test.
 - d. Tests will be rescheduled if test plan is not approved by the required deadline.
 - (1) Contractor is responsible for any resulting delay.
- 3. Contractor is responsible to reproduce and distribute final test procedures.
 - a. Provide 3 copies for Engineer.
- 4. Tests may commence only after Engineer has received approved test plan copies.
- 5. Submittals:
 - a. Submit test plans not less than 90 calendar days prior to planned installation testing of subsystem or system.
 - b. Completed Manufacturer's Certificate of Installation and Functionality Compliance.
 - c. Test procedures and forms: Provide signed-off copy of test forms and test reports upon completion of the test.
 - d. Test reports:
 - (1) Submit preliminary copies within 1 day after testing completion.
 - (2) Submit final copies and report within 14 days after testing completion.

1.06 TESTING AND TRAINING PHASE

A. Overview of Testing and Training Phase:

- 1. General:
 - a. Include specified Source Testing, Owner Training, Installation Testing, Functional Testing, Clean Water Facility Testing, and Closeout Documentation required by this Section and the technical sections.
- 2. Contractor responsibilities:
 - a. Furnish labor, power, chemicals, tools, equipment, instruments, and services required for and incidental to completing commissioning activities in accordance with the approved Commissioning Plans.
 - b. Prior to testing, verify equipment protective devices and safety devices have been installed, calibrated, and tested.
 - c. Acceptable tests: Demonstrate the equipment/system performance meets the requirements stated in the Contract Documents.
 - (1) When the equipment/system fails to meet the specified requirements, perform additional, more detailed, testing to determine the cause, correct, repair, or replace the causative components and repeat the testing that revealed the deficiency.

B. Source testing:

- 1. Also referred to as factory testing or factory acceptance testing (FAT).
- 2. Test components, devices, and equipment/system for proper performance at point of manufacture or assembly as specified in the technical sections.
- 3. Notify the Engineer in writing when the equipment/system is ready for source inspection and testing.
- 4. Source Test Plan:

- a. As specified in this Section and other technical sections.
 - b. Source testing requirements as specified in technical sections.
 - (1) Non-witnessed: Provide Manufacturer's Certificate of Source Testing.
 - (2) Witnessed: 1 Owner's representative and 1 Engineer's representative present during testing, unless otherwise specified, and provide Manufacturer's Certificate of Source Testing.
 - c. Prepared by Contractor as a result of discussions and planning emerging from regularly conducted commissioning meetings for source tests as specified in the Contract Documents.
 - d. Provide the following items for each Source Test:
 - (1) Purpose and goals of the test.
 - (2) Identification of each item of equipment/system, including system designation, location, tag number, control loop identifier, etc.
 - (3) Description of the pass/fail criteria that will be used.
 - (4) Listing of pertinent reference documents (Contract Documents and industry standards or sections applicable to the testing).
 - (5) Complete description, including drawings or photographs, of test stands and/or test apparatus.
 - (6) Credentials of test personnel.
 - (7) Descriptions of test equipment to be used, product information, and all appropriate calibration records for the test equipment.
 - (8) Test set-up procedures.
 - (9) Detailed step-by-step test procedures.
 - (a) The level of detail shall be sufficient for any witness with a rudimentary technical aptitude to be able to follow the steps and develop confidence that the tests were being performed as planned.
 - (b) All steps are significant, and all steps shall be included in the procedures.
 - (10) Sample data logs and data recording forms.
 - (11) Sample computations or analyses with the results in the same format as the final report to demonstrate how data collected will be used to generate final results.
 - (a) Complete disclosure of the calculation methodologies.
 - (b) Include a sample for each type of computation required for the test and analysis of the results.
 - (12) Detailed outline of the Source Test report.
 - (13) Sample test reports.
 - e. Submit Source Test Plan and forms as specified in the technical sections.
 - (1) Submit a copy of the Source Test Plan at least 21 days before any scheduled test date.
 - (2) Engineer approval of Source Test Plan required prior to beginning source testing.
 - (3) Schedule the testing after approval of the test procedures submittal.
 - f. Indicate the desired dates for source inspection and testing.
 - (1) Notify the Engineer of the scheduled tests a minimum of 15 days before the date of the test.
5. Test results:
- a. Prepare and submit test results with collected data attached.
6. Owner is responsible for costs associated with Owner's representatives and Engineer's representative witnessing initial Source Tests.

- a. If Source Test is not ready when the witnesses arrive or if the Source Test fails, the witnesses will return home with Contractor responsible for costs associated with the trip including costs described below. Contractor is responsible for rescheduling the Source Test and witnesses' costs associated with the second trip including costs described below.
 - (1) On-site time: 1 day at the site plus travel time each direction, unless specified otherwise.
 - (2) Transportation costs:
 - (a) Travel 1 day on commercial airline to site including air flight costs.
 - (b) Travel 1 day on commercial airline from site including air flight costs.
 - (c) Mid-size rental car or taxi services from hotel to and from the test site plus fuel, tolls, and airport parking at the departing airport.
 - (d) International travel: Per-diem rates as established by the US Department of State for the specific location and dates of travel. Travel expenses may include the direct cost of securing passports, visas, language interpreters, document translators, communications, and internet access.
 - (3) Hotel costs at a facility with an American Automobile Association 3 diamond rating or better for single occupancy room per person per day.
 - (4) Meal allowance of \$61 per person per day.
 - (5) On-site time: 1 day at the site, unless specified otherwise.
 - (6) Only actual costs will be documented and billed.
- b. Fees incurred such as airline reservation change fees, loss of fare due to purchase of nonrefundable tickets, hotel cancellation/rebooking fees, and similar expenses incurred as a result of OSS-requested changes to the inspection schedule after the initial notification shall be borne by the Contractor.
- c. Contractor is responsible for witnesses' costs associated with retests including costs described above.

7. Contractor is responsible for providing fuel, chemicals, and other consumables needed for Source Testing.

C. Owner training:

- 1. Provide training as specified in Section 01664.

D. Installation Testing:

- 1. Perform subsystem testing according to approved Subsystem Testing Plans.
- 2. Initiate the Manufacturer's Certificate of Proper Installation for all equipment.
 - a. Manufacturer's Certificate of Proper Installation form is included in this Section.
 - b. Manufacturer's Certificate of Proper Installation certifies the equipment meets the following requirements:
 - (1) Has been properly installed, adjusted, aligned, and lubricated.
 - (2) Is free of any stresses imposed by connecting piping or anchor bolts.
 - (3) Is able to be operated as necessary for Functional Testing.
 - c. Form shall be submitted after completion of Functional Testing, as specified in this Section.
- 3. Coordinate Installation Testing with restrictions and requirements as specified in Section 01140 - Work Restrictions.
- 4. Perform coating holiday testing as specified in Section 09960 - High- Performance Coatings.
- 5. Perform pressure and leakage testing as specified in individual component Sections.
- 6. Perform mechanical equipment Installation Testing: As in individual equipment sections.
 - a. Remove rust preventatives and oils applied to protect equipment during construction.
 - b. Flush lubrication systems and dispose of flushing oils.

- (1) Recharge lubrication system with lubricant recommended by manufacturer.
- c. Flush fuel system and provide fuel for testing and start-up.
- d. Install and adjust packing, mechanical seals, O-rings, and other seals. Replace defective seals.
- e. Remove temporary supports, bracing, or other foreign objects installed to prevent damage during shipment, storage, and erection.
- f. Check rotating machinery for correct direction of rotation and for freedom of moving parts before connecting driver.
- g. Perform cold alignment and hot alignment to manufacturer's tolerances.
- h. Adjust V-belt tension and variable pitch sheaves.
- i. Inspect hand and motorized valves for proper adjustment.
 - (1) Tighten packing glands to ensure no leakage but permit valve stems to rotate without galling.
 - (2) Verify valve seats are positioned for proper flow direction.
- j. Tighten leaking flanges or replace flange gasket.
 - (1) Inspect screwed joints for leakage.
- k. Install gratings, safety chains, handrails, shaft guards, and sidewalks prior to operational testing.
- 7. Electrical devices and subsystems Installation Testing: As specified in Section 16950 - Electrical System Testing and Settings, and the technical sections.
- 8. Instrumentation devices and subsystems Installation Testing
- 9. Heating, ventilating, and air conditioning systems Installation Testing:
 - a. Perform testing of heating, ventilating, and air conditioning equipment, balancing of distribution systems, and adjusting of ductwork accessories.
 - b. Test hydronic systems, if required by technical sections.

E. Functional Testing:

- 1. Perform subsystem testing according to approved Subsystem Testing Plan.
- 2. Notify the Engineer 5 days prior to when the Work is ready for Functional Testing.
 - a. Perform testing in the presence of the Engineer.
- 3. Determine Functional Testing durations with Owner's input.
 - a. Durations will vary depending on the availability of water for testing.
 - b. Target minimum Functional Test duration: 8 hours.
 - (1) Identify equipment/system that cannot be tested for a minimum of 8 hours as specified in technical sections.
- 4. Perform Functional Testing as specified in technical sections.
 - a. Perform Functional Testing in addition to the other tests specified in the technical sections.
 - b. Perform Functional Testing to demonstrate that the component equipment functions as an entire system in accordance with the design requirements.
 - c. Perform Functional Testing to demonstrate that the unit process has operated in a manner necessary to demonstrate equipment/system functions manually in local, manually in remote (or remote manual), and automatically in remote (in remote auto).
 - d. Perform testing with Contractor-provided water.
 - e. Repair or replace parts that operate improperly and retest.
 - f. Submit testing results as specified in the technical sections to the Owner and Engineer for approval of Functional Testing results.
- 5. Provide completed Manufacturer's Certificate of Installation and Functionality Compliance forms for all equipment.

- a. Manufacturer's Certificate of Installation and Functionality Compliance form is included in this Section.
- b. Manufacturer's Certificate of Installation and Functionality Compliance certifies the equipment/system meets the following requirements:
 - (1) Is suitable for satisfactory full-time operation under full-load conditions.
 - (2) Operates within the allowable limits for vibration and noise.
 - (3) Electrical and instrumentation requirements:
 - (a) Electrical equipment, instrumentation, and control panels are properly installed, calibrated, and functioning.
 - (b) Electrical Installation Testing is complete, and test results have been approved by the Engineer.
 - (i) Noted deficiencies have been corrected.
 - (ii) Relays, circuit breakers, and other protective devices are set.
 - (c) Control logic for start-up, shutdown, sequencing, interlocks, control, and emergency shutdown has been tested and is properly functioning.
 - (d) Motor control is calibrated and tested.

F. Closeout documentation:

1. Submittals:

- a. Provide records generated during Commissioning Phase of Project.
 - (1) Required documents include but are not limited to:
 - (a) Training documentation.
 - (b) Manufacturer's Certificate of Source Testing.
 - (c) Manufacturer's Certificate of Installation and Functionality Compliance.
 - (d) Daily logs of equipment/system testing identifying tests conducted and outcome.
 - (e) Test forms and documentation.
 - (f) Functional Testing results.
 - (g) Logs of time spent by manufacturer's representatives performing services on the job site.
 - (h) Equipment lubrication records.
 - (i) Electrical phase, voltage, and amperage measurements.
 - (j) Insulation resistance measurements.
 - (k) Bearing temperature measurements.
 - (2) Data sheets of control loop testing including testing and calibration of instrumentation devices and setpoints. Format: 2 electronic copies and 3 hard copies organized in notebooks.
 - (3) Due date: Within 14 calendar days of Substantial Completion.

1.07 PROCESS START-UP PHASE

A. Overview of Process Start-Up Phase:

- 1. Operating the facility to verify performance meets the Contract Document requirements.

B. Process Start-Up:

- 1. Perform process start-up in the presence of the Engineer.
- 2. Pre-start-up activities:
 - a. Commissioning Documentation and Data Review.
 - b. Start-Up Go/No-Go Decision Criteria.
 - c. Building and Fire Inspection Compliance Check.

- d. Process Start-Up Sequence Review.
 - (1) Submit a Process Start-Up plan for review by Engineer not less than 90 calendar days prior to planned commencement of process start-up activities.
 - (2) Include the following:
 - (a) Pre-start-up activities.
 - (b) Process Start-Up.
 - (c) Process Operational Period.
 - e. Description of Temporary Testing Arrangement, if applicable.
 - f. Final Process Start-Up Forms and Documentations.
 - g. Final Operational Testing Plan.
- 3. Control loop tuning.
 - a. Perform control loop tuning during system testing with water to the extent possible.
- 4. Process area start-ups.
 - a. Process start-up individual process areas comprised of multiple interdependent systems where possible and beneficial to reduce complexity and risk of complete facility testing.
 - b. Process area test flows may be limited by upstream and downstream process constraints (i.e., tank and basin volumes) and/or localized recirculation capabilities.
- 5. Facility-wide process start-up.
 - a. Upon approved completion of pre-start-up activities, perform entire facility process start-up.
 - (1) Complete control loop tuning during this phase of process start-up.
 - (2) Continue process start-up operations until facility meets or exceeds the Contract requirements.
 - b. Process control systems testing:
 - (1) Test complete system instrumentation, controls and PLC, HMI, and LOI programming for the facility.
 - c. HVAC systems start-up and testing:
 - (1) Test complete HVAC system for the facility.
 - d. Ancillary systems start-up and testing:
 - (1) Test complete security system, phone system, fire alarm system, etc. for the facility.
 - e. Remaining equipment/system tests:
 - (1) Conduct remaining specified equipment/system performance tests that could not be performed during the Testing and Training Phase due to inter-system and/or treatment process dependencies.

C. Process Operational Period:

- 1. Prior to beginning the Process Operational Period:
 - a. Conformance with treatment standards is required prior to Operational Testing, if applicable.
 - (1) Biological processes require time to build up the necessary population of organisms to meet treatment standards, as specified in Section 01140 - Work Restrictions.
 - b. Correct any outstanding punch list items prior to the Operational Testing.
- 2. Duration: 30 calendar days.
- 3. Engineer will be present for process operational period unless such presence is expressly waived in writing.
- 4. Prove facility conformance with Contract Document requirements.
- 5. Contractor to provide:
 - a. Specified start-up materials and operating supplies.

- b. Necessary craft of labor assistance, in the event of an emergency equipment failure requiring immediate attention (emergency is defined as a failure of function which precludes the further operation of a critical segment of or the whole of the Work) with a response time of not more than 4 hours from the time of notification.
 - c. Manufacturer's authorized representative to supervise placing equipment/systems in operation and provide guidance during Operational Testing per applicable section.
 - d. Necessary manufacturer's representatives and operating supplies for retesting systems that fail to pass the initial Operational Testing due to deficiencies in products of workmanship at no additional cost to the Owner.
 - e. List of 24-hour "on-call" representative supervisory persons who will monitor the Operational Testing and serve as liaison for the Engineer and Owner.
6. Owner will provide:
- a. Operations personnel for duration of test.
7. Prior to date of Substantial Completion of Installation, the Contractor's COMMISSIONING MANAGER shall oversee Process Operational Period.
- a. Owner staff will operate the completed Project construction.
 - b. Entire system shall continuously meet performance requirements and shall operate without fault, failure, or defect for a continuous period.
 - c. Individual equipment/system failures that are corrected within 24 hours and do not prevent the entire project from continuously satisfying the established operational requirements shall not require the consecutive day test to be restarted unless the failure recurs.
 - d. Restart the consecutive test period for any of the following conditions:
 - (1) Any failure of the complete Project construction to meet operational requirements.
 - (2) When malfunctions or deficiencies cause shutdown or partial operation of the facility, or results in failure of the complete Project construction to meet operational requirements.
 - (3) Any individual equipment/system failure that meets any of the following conditions:
 - (a) Requires more than 24 hours to correct.
 - (b) Recurs within the 24-hour correction period requiring further correction.
 - (4) Immediately correct defects in material, workmanship, or equipment/system which became evident during Operational Testing.

1.08 INSTRUMENTATION AND CONTROLS FINE-TUNING

A. After the Process Operational Period, test PCIS system for additional 60 days.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

End of Section

MANUFACTURER'S CERTIFICATE OF SOURCE TESTING

OWNER _____ EQPT/SYSTEM _____
PROJECT NAME _____ EQPT TAG NO. _____
PROJECT NO. _____ EQPT SERIAL NO. _____
SPECIFICATION NO. _____
SPECIFICATION TITLE _____

Comments: _____

I hereby certify Source Testing has been performed on the above-referenced equipment/system as defined in the Contract Documents, and results conform to the Contract Document requirements. Testing data is attached.

Date of Execution: _____, 20_____

Manufacturer: _____

Manufacturer's Authorized Representative Name (*print*): _____

(Authorized Signature)

If applicable, Witness Name (*print*): _____

(Witness Signature)

**MANUFACTURER'S CERTIFICATE OF INSTALLATION AND
FUNCTIONALITY COMPLIANCE**

OWNER _____ EQPT/SYSTEM _____
PROJECT NAME _____ EQPT TAG NO. _____
PROJECT NO. _____ EQPT SERIAL NO. _____
SPECIFICATION NO. _____
SPECIFICATION TITLE _____

I hereby certify that the above-referenced equipment/system has been: (Check Applicable)

- Installed in accordance with manufacturer's recommendations.
- Inspected, checked, and adjusted.
- Serviced with proper initial lubricants.
- Electrical/instrumentation and mechanical connections meet quality and safety standards.
- All applicable safety equipment has been properly installed.
- Functionally tested.
- System has been performance tested and meets or exceeds specified performance requirements.

NOTES:

Attach test results with collected data and test report.

Attach written certification report prepared by and signed by the electrical and/or instrumentation subcontractor.

Comments: _____

I, the undersigned manufacturer's representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate this equipment/system, and (iii) authorized to make recommendations required to ensure that the equipment/system furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date: _____, 20 ____

Manufacturer: _____

Manufacturer's Authorized Representative Name (*print*): _____

By Manufacturer's Authorized Representative: _____

(Authorized Signature)

COMMISSIONING ROLES AND RESPONSIBILITIES MATRIX

NO.	TASK	OWNER	CONTRACTOR	ENGINEER
Testing and Training Phase				
Source Testing				
1	Source Testing	Witness	Lead	Witness, Review
Installation Testing				
2	Electrical Conductor Testing	No Action	Lead	Witness
3	Electrical Field Acceptance Tests	No Action	Lead	Witness
4	Instrument Field Calibration	No Action	Lead	Witness
5	Network Installation Testing	Witness	Lead	Witness
6	Loop Testing	Witness	Lead	Witness
7	Pressure Testing	No Action	Lead	Witness
8	Leak Testing	No Action	Lead	Witness
9	Holiday Testing	No Action	Lead	Witness
10	HVAC Testing	No Action	Lead	Witness
11	Motor Electrical Testing	No Action	Lead	Witness
Functional Testing				
12	Network Operational Testing	Witness	Lead	Review
13	Preliminary Run Testing Local/Manual Control	Witness	Lead	Review
14	PCIS Functional Demonstration Testing - Local/Auto Control Testing - Remote/Manual Contact Testing - Alarm Testing - Control Loop Testing	No Action	Lead	Review
15	Subsystem Start-Up and Testing	Witness	Lead	Review
16	Equipment/System Start-Up and Testing	Witness	Lead	Review
17	HVAC Start-Up and Testing	Witness	Lead	Review
18	Corrosion Control Start-Up and Testing	Witness	Lead	Review
19	Wide Area Network Communications Testing	Support	Lead	Witness
20	Manufacturer's Certificate of Installation and Functionality Compliance	No Action	Lead	Witness, Review
Clean Water Facility Testing				
21	Test Water Management Plan Finalization	Support	Lead	Review
22	Clean Water Facility Testing	Witness	Lead	Witness, Review
Process Start-Up Phase				
Process Start-Up				
23	Commissioning Documentation and Data Review	Review	Support	Lead
24	Start-Up Go/No-Go Decision Criteria	Lead	Support	Review
25	Building and Fire Inspection Compliance Check	No Action	Lead	Witness

NO.	TASK	OWNER	CONTRACTOR	ENGINEER
Testing and Training Phase				
26	HVAC Functionality Check	No Action	Lead	Witness
27	Start-Up Sequence Review	Support	Lead	Review
28	Temporary Testing Arrangement Finalization	Support	Lead	Support
29	Start-Up Forms Finalization	Support	Lead	Support
30	Operation Testing Plan Finalization	Review	Support	Lead
31	Test Water Management Plan Finalization	Support	Lead	Review
32	System Testing	Support	Lead	Witness
33	Control Loop Tuning	Support	Lead	Witness
34	Process Area Start-Ups	Support	Lead	Witness
35	Facility-Wide Start-Up	Support	Lead	Witness
36	Process Control Systems Testing	Support	Lead	Witness
38	HVAC Final Testing, Adjust, and Balancing	Witness	Lead	Witness, Review
Process Operational Period				
39	Operational Testing	Support	Lead	Witness, Review
40	Final Testing Reports	Support	Lead	Review
41	Water Quality Testing and Documentation	Support	Lead	Review
Instrumentation and Controls Reliability Phase				
Instrumentation and Controls Reliability Period				
42	As specified in Section 15950 - Testing, Calibration, and Commissioning			
<p>Legend:</p> <p>Lead: Primarily responsible for organization, coordination, and execution of task work product or result.</p> <p>Support: Assist the lead with organization, coordination, and execution of task work product or result.</p> <p>Witness: Observe and document completion of task work product or result.</p> <p>Review: As necessary to accept task work product result.</p> <p>No Action: Limited or no involvement.</p>				



DB 00435 – ALTERNATIVE TECHNICAL CONCEPTS (ATCS)

Project/Contract Numbers: 81000984

Project Title: Blue River Screen House Improvements

PART 1 - GENERAL

1.01 SUMMARY

- A. This project includes design criteria for Design-Build Shortlisted Respondents to adhere to, follow, and may also be indicative of the design intent of the City and City's preferences. The City would like to promote innovation and encourage best value; therefore, the City will consider technical alternatives that are better than or equal to the Indicative Design Criteria or Indicative Preferred Design Criteria. Proposed variances from Indicative Design Criteria must be included and submitted as part of the Interim Deliverable and Additional ATC Requests.

1.02 DEFINITIONS

- A. Refer to Section 01420 – Definitions and Acronyms for additional definitions.
- a. Alternative Technical Concept (ATC)– Proposed variances from the Respondent that have been approved by the City and will be considered proprietary and will be kept Confidential.
 - b. Fixed Design Criteria – Must be adhered to and followed by the Respondent; changes to Fixed Criteria will be declared by addendum.
 - c. Indicative Design Criteria – City's Design intent
 - d. Indicative Preferred Design Criteria – Indicative Design Criteria with strong City preference.
 - e. Proposed Variances – Any criteria different from design criteria and has not been approved by City.

1.03 DELIVERABLES

- A. ATC Request
- a. Overview - The ATC request will communicate the Respondent's design concepts and technical approach for their design. The goal of the ATC presentations is for the respondent to solicit early technical feedback from the City in order to improve the quality of Proposals received by the City.

The deliverable is intended to facilitate conversation and evaluation of design ideas between the Respondent and the City. The deliverable should be broad enough to provide the City with a general understanding of the Respondent's potential approaches and should also specifically focus on any concepts that may constitute a deviation from the Project Technical Requirements or other Contract Documents and provide justification for such variance.

The material does not need to be complete or finalized; however, all proposed variances to the Indicative Design Criteria must be included. It is understood that the material will be conceptual and preliminary, subject to replacement or modification before being included in the final proposal.

- b. Submittal



DB 00435 – ALTERNATIVE TECHNICAL CONCEPTS (ATCS)

Project/Contract Numbers: 81000984

Project Title: Blue River Screen House Improvements

1. Requirements – Submitted Electronically to City Contacts and includes the following.
 - a. Abbreviated business case analysis
 - i. Any reductions in Operating Costs
 - ii. Lower net Present value (in comparison to Representative Projects Design Criteria)
 - iii. Assumptions
 - iv. Calculations
 - b. Supporting Documentation which may include
 - i. Conceptual design drawings
 - ii. Figures
 - iii. Equipment Data Sheets
 - iv. Performance Information
 - c. It is recommended to also include the following if not part of the business case analysis.
 - i. Summary of concepts under consideration, including process flow diagram(s).
 - ii. Advantages and disadvantages of the concepts presented including capital and operational cost implications.
 - iii. Potential variances from the Project Technical Requirements or other Contract Documents associated with the concepts under consideration.
 - iv. Any additional information that the Respondent believes will be helpful to the City in evaluating the concepts.
2. Date: (As specified in the Procurement Schedule)
3. Format:
 - a. Proposed Variance List listed herein. Additional pages, outside of the table, can be utilized to further discuss major deviations.
 - b. Support Documentation
 - i. Page Format: 8-1/2" x 11" Sheets with Minimum 11-point font.
 - ii. Maximum page count: 20 pages (a front-and-back printed page shall count as two pages)

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.01 Confidential Meetings

A. Confidential Meeting #2

- a. During this meeting, the Respondent may present its ATC request and discuss all proposed variances. As part of the variance discussion, Respondent shall provide an abbreviated business case analysis and supporting design documentation
- b. During the presentation of the Alternative Technical Concept, the City will ask clarifying questions to gain an understanding of the Respondent's concept(s), Respondents may submit more than one technical approach still under consideration by the Respondent at the time of the ATC request. Following each individual Respondent's presentations, the City will discuss



DB 00435 – ALTERNATIVE TECHNICAL CONCEPTS (ATCS)

Project/Contract Numbers: 81000984

Project Title: Blue River Screen House Improvements

and evaluate the Respondent's contemplated approach(es) and deviations from the Contract requirements and will provide feedback within one week from Confidential Meeting #2. The

- c. City may issue addenda modifying any portions of this RFP or the contract Documents if it is determined that there are errors, conflicts, or if additional clarity is deemed to be needed for all Respondents.

END OF SECTION



ADDENDUM NUMBER 5

Project Number 81000984

Project Title Blue River Screen House Improvements

ISSUE DATE: **October 5, 2022**

Shortlisted Respondents are hereby notified that the Proposal and Contract Documents for the above project, for which Proposals are to be received on **November 9, 2022**, are amended as follows:

Information to Proposers The following is provided to Proposers for information only:

1. BIM Guidelines (Draft)
2. SKM Model 12 – BR WWTP SKM
3. SKM Model 12 – BR WWTP SKM V10.0.0.2

Q11.	Document Request for Proposals, Sec. 3. Submittal Date , Subparagraph 3, Page 2 Proposals due date and time are redacted. Under Paragraph 3.2 Procurement Schedule on Page 10, Proposal Submission date is November 9, 2022. Please verify November 9, 2022 is the submission date and identify the time of day.
A11.	November 9, 2022 is the submission date for Technical and Cost Proposals. Refer to Addendum 4 to view the unredacted date and time.
Q12.	Document Request for Proposals, Sec. 4. RFP package , Subparagraph 3, Page 2 Although not listed in this section, several additional forms were found and included in Attachment H. However, Item (11) Best Faith Efforts, if MBE/WBE goals are not met, listed under Attachment H has not been included.
A12.	The directions for Good Faith Efforts are included in <i>Attachment H: HRD 06 Instructions for Requests for Qualifications/Proposals</i>. Documentation of Good faith efforts shall be included as an attachment to HRD Form 8A – Contractor Utilization Plan_Request for Waiver.
Q13.	Provide Attachment #E: Project Technical Requirements
A13.	Attachment #E has been included in the Shortlisted Respondents Microsoft Team BRSH – Shortlisted Respondent #X. If a shortlisted respondent is unable to access the folder, promptly notice the City such that the issue may be addressed promptly.
Q14.	Document Attachment H: Design-Builder Contract Instructions Sec. 4. RFP package , Subparagraph 3, Page 2

	<p>Under Attachment H, HRD Form 06: Design-Builder Contract Instructions indicates Form 13 Affidavit of Intended Utilization is to be completed and submitted with Proposal. Form 13 was not included in these attachments. However, we noted that Form G-1 Design-Build Bid Form included some reference or</p>
A14.	<p>HRD 13 Affidavit of Intended Utilization has been combined with HRD Form 8A: Contractor Utilization Plan/Request for Waiver. By completing HRD Form 8A in its entirety, proposer will not need to submit HRD 13.</p>
Q15.	<p>Document Request for Proposals, Sec. 1.2. Project Scope, Bulleted Item Construction Phase Services, Page 5</p> <p>Item includes providing a “Smart BIM”, as specified by the city. Please define Smart BIM and clarify what deliverables KC Water is specifically expecting from the DB team to comply with this request.</p>
A15.	<p>BIM for this project will include a 3D/Graphic Representation of the Screen House at the commissioning of the project.</p> <p>Refer to the BIM guidelines, Section 01340 – Project BIM Coordination, and Section 01340.A – Attribute Standard.</p>
Q16.	<p>Document Request for Proposals, Sec. 1.2. Project Scope, Subparagraph 1.2.1 Project Technical Requirements, Page 5</p> <p>Section indicates Attachment E is to contain native files for the Respondents as well as a Basis of Design Report, Preliminary Drawings and Technical Specifications. Currently, Attachment E only provides Technical Specifications.</p> <p>Will KCMO be providing any other technical documents that will help describe in more detail the “Representative Project?”</p> <p>This section also states the Project Technical Requirements identifies Fixed Design Criteria, Indicative Design Criteria and Preferred Indicative Design Criteria.</p> <p>In addition to Attachment F, and to clarify, please identify what is the Fixed Design Criteria to ensure we are adhering to those criteria.</p> <p>Also, please specify if available, the Indicative and Preferred Indicative Design Criterium that allows us to consider technical alternatives or variances from those criteria, which is required to be documented in our Technical Proposal.</p>
A16.	<p>Attachment F: Form F-1. Project Design Criteria identifies which criterion are Fixed (F), Indicative (I), or Indicative Preferred (IP). Majority of the technical specifications shown on Form F-1 are indicative. This form also indicates the Design Parameters (Existing, Process, HVAC, and Electrical) which are Fixed, Indicative, or Indicative Preferred). All criteria are indicative unless explicitly called out as fixed.</p> <p>Variances from Indicative Criteria or Indicative Preferred criteria will be required</p>

	<p>When Respondent desires to deviate from indicative specification provided in Attachment E, variances will be required. Additionally, variances may be requested if there is an Alternate Technical concept with equipment items not covered by the technical specifications.</p> <p>The Electrical Basis of Design Report is provided in Attachment E and specifies the basis for all Electrical Requirements for the Blue River facility including the Blue River Screen House. These are fixed parameters as electrically it needs to be the same as the rest of the Blue River primary plant.</p> <p>Preliminary Drawings in Attachment D provide drawings applicable to the Blue River Screen House and 01110 - Summary of Work in Attachment B further describes the Representative project.</p>
Q17.	<p>Document Request for Proposals, Sec. 1.3. City’s Objective, Bulleted Item Quality, Page 6</p> <p>Please confirm and/or provide KCMO’s preferred quality goal for this project.</p>
A17.	<p>Refer to delete and replacement of <i>Document Request for Proposals, Sec. 1.3: City’s Objective, Bulleted Item Quality, Page 6</i> below.</p>
Q18.	<p>Document Request for Proposals, Sec. 3.3 Confidential Meetings, Subparagraph 1.2.1 Project Technical Requirements, Page 12</p> <p>Item e) indicates a non-disclosure agreement (NDA) will be signed by each meeting attendee, including City staff and others attending on the City’s behalf, prior to the start of each confidential meeting. Is any person, not a part of the Design-Build team, who joins the meeting virtually required to sign an NDA and if so, how would that be undertaken?</p>
A18.	<p>Item e) indicates “A non-disclosure agreement will be signed by each meeting attendee, including City staff and others attending on the City’s behalf, prior to the start of each confidential meeting.”</p> <p>This statement applies to City staff and others attending on City’s behalf (i.e. City’s advisors, City’s designated representatives, etc.) and does not require the acknowledgement of the Respondent.</p>
Q19.	<p>Document Request for Proposals, Sec. 3.3 Confidential Meetings, Subparagraph 1.2.1 Project Technical Requirements, Page 12</p> <p>The second sentence of the 4th paragraph which begins with “Responses provided by the City during meetings...”, indicates that any response by the City to a question during a confidential meeting that is submitted in writing by the Design-Build team, will be provided by an addendum to the RFP. If the Design-Build team asks questions, presents alternative technical concepts, and obtains answers from the City pertaining to those proposed variances to the Representative Project during the meeting, and follows the meeting with written correspondence related to the confidential alternative technical concepts, does the City intend to respond via an addendum to the RFP or by confidential</p>

	correspondence (such as a response to a confidential ATC) only with that Design-Build team?
A19.	Alternate Technical Concepts will be kept confidential and will be approved/rejected by the City within one (1) week following Confidential Meeting #2.
Q20.	Document Request for Proposals, Sec. 3: Procurement Process, Subparagraph 3.4.2 Confidential Meeting #2 (Mandatory), Page 12 This section indicates the duration of the meeting is expected to be 4 to 8 hours long. Currently, our second confidential meeting has been scheduled for only 2 hours. Will the City stay with the 2 hour timeframe or consider a longer period for this meeting?
A20.	The City will be moving forward with a 2 hour timeframe. Refer to delete and replacement of Document Request for Proposals, Sec. 3: Procurement Process, Subparagraph 3.4.2 Confidential Meeting #2 (Mandatory), Page 12 below.
Q21.	Document Request for Proposals, Sec. 3.6 Validity of Proposals, Page 13 This section indicates each Proposal will remain in full force and effect after the Proposal Submittal Due Date and cannot be withdrawn for a period of 180 days. This 180 day validity timeframe is also similarly stated in Section 4.3.2 Transmittal Letter under Item 6 on page 19. Is the Cost Proposal considered part of the “Proposal” and if so, is each Respondent then required to hold their bid price for 180 days as well? The Bid Form does not allow the Bidder to withdraw their Price Submittal Bid for 90 days. Considering the current pricing environment and escalation concerns, holding our Price for longer than 90 days would be problematic.
A21.	The proposal consists of both technical proposal and a cost proposal. Refer to Addendum 4. The bidder’s price will need to be held for 90 days.
Q22.	Document Request for Proposals, Sec. 4: Proposal Submission Requirements, Subparagraph 4.3 Submission Content, Subparagraph 4.3.3 Part 1 – Project Plans/Management Approach, Page 20 The first paragraph of this section mentions an “Extended Commissioning Phase”. Is the City expecting or requiring an extended commissioning period for this type of project? There are several other sections of the RFP that refer to extended commissioning phases, Section 4.3.4 specifically requires an initial one-year commissioning period with an optional one-year extension. Section 4.3.5 requires the Respondent to provide a schedule that includes extended commissioning milestones and Spec Section 01020 refers to related documents, including Spec Section 01757 – Commissioning. Please clarify any commissioning requirements.
A22.	The City is not expecting or requiring an extended commissioning period for this project. Refer to Addendum 4 for Section 01757 – Commissioning.

Q23.	<p>Document Request for Proposals, Sec. 4: Proposal Submission Requirements, Subparagraph 4.3 Submission Content, Subparagraph 4.3.3 Part 1 – Project Plans/Management Approach, Page 20</p> <p>Please clarify a potential conflict concerning changes to Key Personnel. The first sentence of the third paragraph from the bottom indicates “...no changes to the Key Personnel as represented in the Respondent’s SOQ are allowed.” Conversely, changes to Key Personnel are allowed per the last paragraph on this page.</p>
A23.	<p>If no changes are made to Key Personnel, then proposer should include the paragraph in quotations in this section of the proposal.</p> <p>If there are changes to Key Personnel due to extenuating circumstances, requiring a change to any Key personnel, an explanation for the change and present qualifications/experience of new team member shall be submitted to the City to evaluate. These requested changes to the Respondent’s Project Team from the SOQ are subject to acceptance or rejection by the City, at its sole discretion.</p>
Q24.	<p>Document Request for Proposals, Sec. 4: Proposal Submission Requirements, Subparagraph 4.3 Submission Content, Subparagraph 4.3.6 Part 4 – MBE/WBE Utilization, Page 28</p> <p>The goals established in this section is 14% MBE Participation and 14% WBE participation. These goals are different than those indicated on the Bid Form (11% MBE/11% WBE) and in the Contractor Utilization Plan/Request for Waiver Form 08 (11% MBE/WBE) provided in Attachment H. Please verify the preferred goals.</p>
A24.	<p>The project goals for this project are 14% MBE and 14% WBE. Additionally, refer to Addendum 4 to updates to the Bid form and the Contractor Utilization Plan.</p>
Q25.	<p>Document Request for Proposals, Sec. 4: Proposal Submission Requirements, Subparagraph 4.3 Submission Content, Subparagraph 4.3.7 Appendix A – Forms for Affirmation of Compliance, Page 28</p> <p>To ensure the correct forms are submitted at the appropriate time, please clarify which particular HRD documents/forms are required with Appendix A and which specific HRD documents are to be submitted within 48 hours of the bid opening, as stated in the Bid Form and Section 5.5.1</p>
A25.	<p>Include Appendix A at the time of the Bid opening. CREO documents will be due within 48 hours of the Public Bid Opening and will include HRD 08, 00450.01 – Letter of Intent to Subcontract, and Documentation of Good Faith efforts (If applicable). If CREO documents are submitted within 48 hours after the public bid opening, they will be inserted into Appendix A by City.</p> <p>The Public Bid Opening Date is November 22, 2022 at 2:00 PM. CREO documents will be due on November 24, 2022 at 2:00 PM.</p>
Q26.	<p>Document Request for Proposals, Sec. 5: Final Proposal Evaluation and Selection, Subparagraph 5.2 General Evaluation Procedure, Subparagraph 5.5.1 Public Bid Opening, Page 31</p>

	<p>Clarification is requested concerning the Proposal due date as it pertains to the Section 5.2. General Evaluation Procedure, and Sub-section 5.5.1 Public Bid Opening.</p> <p>According to the Submittal Date language on page 2 of the RFP and the Procurement Schedule in Section 3.2, our overall Proposal (both Technical and Cost Proposals) is due on November 9, 2022 and will not be opened until the due date. Per Section 5.2, the Selection committee will only review and score the Technical Proposals, after which the Cost Proposals are opened publicly on the Public Bid Opening date. According to Sub-section 5.5.1, the Cost Proposals will be opened publicly at 2:00 PM on the Public Bid Opening Date which is identified as November 9, 2022 (per Section 3.2). This sub-section also indicates the scores of the Technical Proposals will also be announced at that date/time. The timing seems problematic – should the Public Bid Opening Date be scheduled later than November 9 to allow the Selection Committee sufficient time to review and rank the Technical Proposals?</p>
A26.	Per Section 3.2, the technical and cost proposals submission is on November 9. The Public Bid Opening Date Is November 22, 2022. During the public bid opening, the City will announce the scores earned by each Technical Proposal and then will publicly open and read aloud the corresponding Cost Proposal.
Q27.	<p>Document Request for Proposals, Sec. 5: Final Proposal Evaluation and Selection, Subparagraph 5.6 Final Selection, Page 32.</p> <p>Would any and all Addenda issued by the City also be incorporated into the Contract issued to the successful Respondent?</p>
A27.	Yes. Also, the successful respondent will acknowledge receipt of all addenda issued by the City and approved Alternative Technical Concepts.
Q28.	<p>Document Request for Proposals, Sec. 6: Conditions for Respondents, Subparagraph 6.17 Indemnification – State of Missouri, Page 38.</p> <p>Is this indemnification clause pertinent to this project?</p>
A28.	This indemnification clause is utilized for the City of Kansas City, MO – Water Services Department. There are currently no right of ways within close proximity to the Blue River Screen House that are under the jurisdiction of the Department of Transportation. There is primary and secondary rail for locomotives located outside of the Blue River Primary treatment plant.
Q29.	<p>Document Request for Proposals, Sec. 4: Proposal Submission Requirements, Subparagraph 4.3 Submission Content, Subparagraph 4.3.4 Part 2 – Technical Approach, Subparagraph Drawings.</p> <p>Will City be providing an electronic BIM Model and Preliminary Drawings in Attachment E?</p>
A29.	For this proposal, City has provided all existing drawings of the Blue River Screen House. Refer to Addendum 3 for changes regarding drawings. Respondents shall include drawings in Appendix B to illustrate the proposed technical design approach to the City. A BIM is not required with the proposal.
Q30.	The Blue River WWTP Screen House SKM model cannot be opened or accessed, as it

	appears to be corrupt. Please provide a working model for the electrical information.
A30.	Two versions of the SKM model are attached with this addendum. 1. The Original 2. The Model which has been saved as the latest version of the software. If problems persist, please contact City as early as possible.
Q31.	The RFP references the DB team will address permitting. What permitting requirements are there aware of. Are permits such as MDNR, City Building, Stormwater, Floodplain applicable?
A31.	This anticipated land disturbance is less than 1 acre, a City Building permit is not anticipated to be required, this work is not anticipated to occur within the flood plain. MDNR does not require a construction permit for preliminary treatment and electrical improvements.

Bidding Requirements

1. Delete and replace the following section(s):

- a. Delete Document **Request For Proposals, Sec. 1.3 City's Objective**, Bulleted Item **Quality**, Page **6** and replace with the following Document **Request For Proposals, Sec. 1.3 City's Objective**, Bulleted Item **Quality**, Page **6**.

- ~~Quality: Provide treatment facilities and equipment that will be sustainable and will reliably produce required quantities of Class A Biosolids in full compliance with federal and state regulations and contractual standards for the full range of the sludge conditions set forth in this RFP.~~
- Provide treatment facilities and equipment that will be sustainable and will reliably remove wastewater screenings safely with minimal manual operation in full compliance with federal and state regulations and contractual standards for the full range of wastewater flows set forth in the RFP.

Specifications

1. Add the following sections.

- a. Document **Section 01340 – Project BIM Coordination**
- b. Document **Section 01340.A – Project BIM Attributes**

NOTE: Shortlisted Respondents must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

SECTION 01340 - PROJECT BIM COORDINATION

PART 1 - GENERAL

1.01 SUMMARY OF WORK

- A. This section covers Building Information Modeling (BIM) enabled projects.

1.02 Related Sections

- A. 01000 – General Requirements
- B. 01019 – Closeout Procedures
- C. 01615 – Equipment Identification & Tagging
- D. 01340.A - Attributes
- E. Kansas City Water Services Department Design Standards – CAD Drawing Standards

1.03 CODES AND SECTIONS

- A. Not Applicable

1.04 DEFINITIONS

A. General Definitions

1. BIM – Building Information Model
2. Design Phase – The overall design is broken into separate stages. Each phase is a certain level of development.
3. LIDAR - This is an acronym for Light Detection and Ranging. This method measures distances using laser light and measuring the reflection with a sensor. This is also called 3-D Laser Scanning.
4. Modeled Object – An equipment asset created in BIM. Modeled objects are tagged using a parent-child-grandchild data structure with CMMS tag level 6 is the parent, CMMS tag level 7 is the child, CMMS tag level 8 is the grandchild. The grandchild inherits data from the child and the child inherits data from the parent.
5. Overlay – Placing an object over the surface of another of another object thus allowing the object to be visible on drawings or other deliverables by viewer.
6. Point Cloud - A set of data points in space used for capturing existing conditions of any site.
7. Relative File Path – a defined location relative to BIM’s current directory
8. Site Types
 - a. Brownfield – Project locations with hazardous materials at in existing in-use facilities by City.
 - b. Grayfield - Project locations with existing in-use facilities by City.
 - c. Greenfield – Project locations with no in-use facilities by City.
9. Standard Component – Any valve, pipe, duct, fitting, cable, cable tray, conduit, wiring, or structural member where aforementioned component is dimensionally defined in a Design Standard.
10. State Plane Coordinate System – U.S. Coordinate system used by each U.S. state and has between one to six zones depending on size and shape.

B. Software Definitions

1. Software Packages
 - a. BIM 360 – Autodesk BIM software that shows the latest published Revit 3D models for design collaboration between Owner and Contractors.
 - b. CMMS – Computerized Maintenance Management System used for operation and maintenance of facility assets. CITY’s current CMMS is Hansen Infor™.
 - c. Revit – Autodesk software used for Building design, Foundation design, Structural design, and MEP design.
2. CMMS
 - a. CMMS Parameters – Fields within Autodesk Revit associated with identifying and describing an asset or equipment item. These fields allow for the creation of unique identifiers for each piece of equipment, and allowing for synching with CITY’s CMMS. Refer to Section 013124.A – BIM Attributes.
 - b. CMMS Synching – Process that integrates the BIM model with CMMS.
3. CMMS Facility Key – Unique identifier used in City’s asset management system. The asset management system relies on this unique identifier to incorporate all information collected into the asset management system. This may hereinafter also be referred to as the Comp Key.
4. Dynamic – Any item, field, attribute, or other component which receives an active input from a source other than by a manual user.
5. Parameter – Fields with populated values in BIM modeling software. In Autodesk Revit, these are commonly referred to as family parameters.
6. Publish – The process of pushing any model changes into cloud-based BIM software for the purpose of coordination between interdisciplinary and inter-organizational teams
7. Static – Any item, field, attribute, or other component which requires manual edit to change its value.

1.05 BIM INFORMATION PROVIDED BY OWNER

A. Existing

1. Existing survey information, GIS data, 2D drawing documents, and existing BIM models will be shared with BIM responsible person(s).
2. Non-available information will be determined prior to commencing any site visits. If needed, non-available information will be collected while on site and incorporated into the BIM model. Site visits may also identify any additional information needed for completion of Work and needed to be included in the BIM model.
3. CITY may provide a template from Revit, or BIM 360 before commencement of Work by Design Professional.
4. CITY encourages the use of LIDAR for documenting conditions due to increased efficiency over other methods.
5. CITY will provide CMMS Facility Key information for existing assets in CMMS.

1.06 BIM INFORMATION PROVIDED BY DP

A. General

1. All BIM-related design shall be performed in Autodesk Revit.

- a. Prior to commencing Work, DP shall confirm which software version to perform Work in.
 - b. Scope of BIM Work that may be performed using Autodesk Revit and loaded to a cloud-based location.
2. DP shall keep a published file for each BIM model revision used for design reviews for the purpose of traceability.
 3. All standard pipe, fittings and other components shall be easily identifiable and in addition to geometric dimensions, each standard component shall be specified enough such that it may be furnished and installed from provided design documentation. These components may be pulled from existing catalogs; however, they shall adhere to all data requirements.
 - a. Pipe and fittings
 - b. Conduit, Cable Tray
 - c. Ductwork
 - d. Major Structural, and Architectural Elements
 - e. Electrical Housing
 - f. Instrumentation & Controls Housing
 4. DP shall not add any level 7 equipment tags to BIM without CITY approval.
 5. Tolerances
 - a. Equipment locations shall be within a 1” tolerance. If equipment is installed on foundations with cast-in-place, tolerances shall be tightened such that the equipment aligns with foundations.
 - b. All equipment component dimensions in BIM model shall have tolerances no greater than 1/4” and representative of the dimensions for all buildings, tanks, equipment, piping, valves, and appurtenances used during project construction.
 - c. BIM tolerances will be within the GIS snapping tolerances required for a utility trace. DP shall tighten the tolerance of only the equipment items needed for a GIS utility trace.
- B. Existing Facility Assets
1. If the project has a tie-point to an existing asset, it is the DP’s responsibility to include all component information needed to complete the tie-in into the BIM model.
 2. Existing underground utilities shall use 2D representation.
 3. For parameters of exiting assets with missing information and requires an input by software, DP may use the text “N/A”.
- C. Equipment and Component Specifications
1. All final submittals from Suppliers shall be provided to DP for integration into the BIM model.
 2. For equipment packages, actuated valves, instruments, and piping specialty items, a hyperlink shall be used to connect aforementioned items in the BIM model to the project network location for all equipment with a Level 8 code.
- D. BIM Parameters
1. DP shall assign equipment tags per Section 01615 – Equipment Identification and Tagging.
 2. There shall be a BIM parameter for each field found in CITY’s CMMS.
 3. Equipment O&M Hyperlinks

- a. All equipment must have parameters added and grouped in accordance with the CITY attribute standards.
 - b. In Revit, all CMMS parameters will be located within the “Identity Data” parameter group.
 - c. In Revit, All facility asset parameters will be located within the “Data” parameter group.
 - d. In Revit, all layer parameters will be located within the “Layer” parameter group.
4. Parameters that are not applicable for components shall be filled in with the text “N/A”

1.07 COORDINATION

- A. The coordinate system used for all BIM projects shall be the Missouri Coordinate System of 1983, West Zone and NAVD 88 Datum.
- B. CITY and DP will coordinate project phases and the corresponding LOD for each phase before starting any pre-design work or design work using BIM.
- C. CITY preference is to have read-only access to current working models and to be able to download a copy of recently published versions of models.
- D. It is CITY’s responsibility to integrate BIM with City CMMS. Procedure following is provided as a courtesy.
 1. Tagging of all new equipment shall be per Section 01615 – Equipment Identification and Tagging.
 2. Newly assigned tags are provided to CITY for creation of new assets in CMMS.
 3. CITY issues Facility Key for input into BIM model.
 4. DP will add CMMS Facility Key input as BIM parameter.
 5. BIM will use Facility Key and network location for integration into CMMS.
- E. If the project involves the installation of new assets, then DP shall coordinate with CITY to have new CMMS Facility Keys assigned to the new assets. CMMS Facility Keys will be assigned by CITY after equipment tags have been assigned.

1.08 RECORD BIM DATA

- A. General: Transmit published BIM and all related files for CITY’s reference during normal working hours. Any construction-related needs will be deferred to construction drawings for interpretation by DP.
- B. At the end of the project, Record BIM Data shall be incorporated to include but not limited to: 3D representation of Work, all data parameters completed and all linked information in relative file paths.
- C. Data Parameters
 1. BIM and its data shall be conformed to construction records prior to BIM turnover.
 2. For BIM facility asset parameters, fill out all data parameters as defined in 01340.A – Attribute Standard including relative hyperlinks per the file structure for all information the DPs/Contractors have.
 3. Any hyperlink will direct the user to the designated file location.
 4. Transmittals required by DP must be included in the CITY’s Record Submittal Zip File. All files stored in Windows 10 shall have tag metadata that includes CMMS Level 1 through CMMS Level 8 asset information.

5. The folder containing the designated file locations will appear as shown in Figure 01.

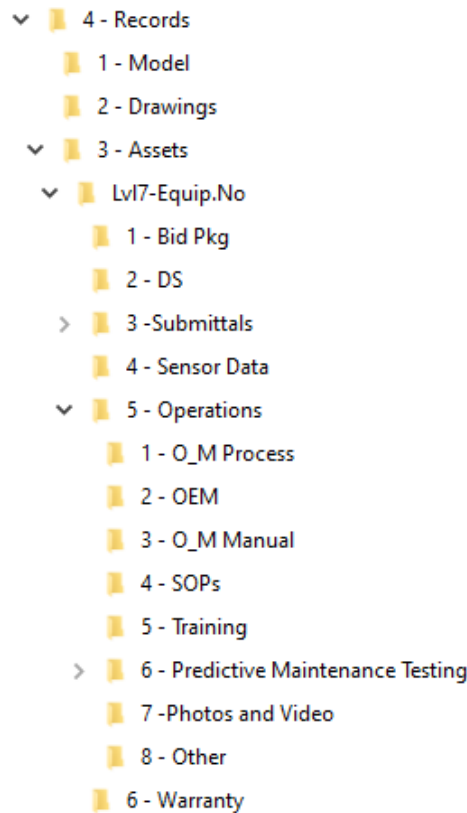


Figure 01: Record Submittal Zip File Structure

D. Submission

1. BIM model must be cross-checked against field records and is free of conflicting data.
2. Each BIM parameter with a link to a file shall be confirmed to work using relative file paths. Relative file paths will be used when during turnover of the Revit model and equipment documentation. Refer to CITY's Attribute Standard and CITY zip submittal.
3. Naming of BIM files must be coordinated with CITY's representative prior to submission at Closeout. At CITY's discretion, the file names will change at request by CITY.
4. Give particular attention to information on equipment components that cannot be readily identified in the field and recorded later.

E. For requirements regarding closeout procedures, refer to Section 01019.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

Equipment Parameters

Notes:

1. For the parameters listed herein, the parameters shall be found within the following parameter groups in Revit.

- Project Procurement Parameters -> General
- Model Content Parameters -> Layers
- Asset Identification Parameters -> Identity Data
- Facility Asset Parameters -> Data
- Asset Data Parameters -> Construction
- GIS Parameters -> Graphics

Asset Identification Parameters

ID Attribute	Attribute Description	Example Data	Comment
00CMMSAssetTag	CMMS Asset Tag	(Lvl.1)-(Lvl.2)-(Lvl.3)-(Lvl.4)-(Lvl.5)-(Lvl.6)-(Lvl.7)-(CMMS Equipment Number)	Text
00CMMSFacilityKey	CMMS Facility Key	(Assigned by KCWater)	Text
00CMMSPortal	CMMS Portal		URL
01CMMSDept	CMMS Department (Lvl. 1)	WSD	Text
02CMMSDiv	CMMS Division (Lvl. 2)	Wastewater	Text
03CMMSSec	CMMS Section (Lvl. 3)	Treatment	Text
04CMMSSubArea	CMMS Sub-Area (Lvl. 4)	PXXX	Text
05CMMSProc	CMMS Process/Function (Lvl. 5)		Text
06CMMSSubProc	CMMS Systems (Lvl. 6)		Text
07CMMSEquip	CMMS Equipment (Lvl. 7)		Text
08CMMSNumb	CMMS Equipment Number		Number
09CMMSDescription	CMMS Description		Text

Model Content

Design Attribute	Attribute Description	Example Data	Comment
00DisciplineCategory	Discipline Category		Text
01DisciplineDesignator(Lvl1)	Discipline Designator Level 1		Text (Options: A, C, D, E, F, G, H, IC, M, P, Q, R, S, T, V)
02DisciplineDesignator(Lvl2)	Discipline Designator Level 2		Text

Project Procurement

Design Attribute	Attribute Description	Example Data	Comment
01Project Number	Project Number		Integer
02BidPkgNumber	Bid Package Number		Text (This is the Contract Advertising Number for Contractor and/or Subcontractor)
03ProvidedBy	Provided By		Text (Options: Contractor, Design-Builder, Manufacturer, Owner)
04InstalledBy	Installed By		Text (Options: Contractor, Design-Builder, Manufacturer, Owner)
05LocalRep	Local Representative		Text
06Installation Date	Installation Date		Text
07Commission Date	Commission Date		Text
08Decommission Date	Decommission Date		Text
09Warranty Start Date	Warranty Start Date		Text
10Warranty Expiration Date	Warranty Expiration Date		Text
11Procurement Package	Procurement Package		Text (This is the advanced work package number associated with equipment item)
12Equipment Datasheet	Equipment Datasheet		

Asset Data

Design Attribute	Attribute Description	Example Data	Comment
01Expected Asset Category	Expected Asset Category		Text
02Expected Life In Years	Expected Life in Years		Text
03Install Date (20XX.XX.XX)	Installation Date		Text

04Warranty Expiration Date (20XX.XX.XX)	Warranty Expiration Date		Text
05Location	Location		Text
06Principle Cause of Failure	Principle Cause of Failutre		Text
07Expected Design Life	Expected Design Life		Text
08Remaining Useful Life (RUL)	Remaining Useful Life (RUL)		Text
09Remaining Asset Value (RAV)	Remaining Asset Value (RAV)		Text
10Equipment Cost	Equipment Cost		Text
11Serial Number	Serial Number		Text
12Manufacturer	Manufacturer		Text
13Model	Model		Text

Facility Design Parameters			
Design Attribute	Attribute Description	Example Data	Comment
01Normal Design Flow	Normal Design Flow		Integer
02Normal Design Flow UoM	Normal Design Flow Unit of Measure		Text
03Peak Design Flow	Peak Design Flow		Integer
04Peak Design Flow UoM	Peak Design Flow UoM		Text
05Biological Oxygen Demand (BOD)	Biological Oxygen Demand (BOD)		Integer
06Biological Oxygen Demand (BOD) UoM	Biological Oxygen Demand (BOD) Unit of Measure		Text
07Chemical Oxygen Demand (COD)	Chemical Oxygen Demand (COD)		Integer
08Chemical Oxygen Demand (COD) UoM	Chemical Oxygen Demand (COD) Unit of Measure		Text
09Total Suspended Solids (TSS)	Total Suspended Solids (TSS)		Integer
10Total Suspended Solids (TSS) UoM	Total Suspended Solids (TSS) Unit of Measure		Text
11Volatile Suspended Solids (VSS)	Volatile Suspended Solids (VSS)		Integer
12Volatile Suspended Solids (VSS) UoM	Volatile Suspended Solids (VSS) Unit of Measure		Text
13Total Kjedahl Nitrogen (TKN)	Total Kjedahl Nitrogen (TKN)		Integer
14Total Kjedahl Nitrogen (TKN) UoM	Total Kjedahl Nitrogen (TKN) Unit of Measure		Text
15NH3N	NH3N		Integer
16NH3N UoM	NH3N Unit of Measure		Text
17Alkalinity	Alkalinity		Integer
18Alkalinity UoM	Alkalinity Unit of Measure		Text
19pH	pH		Integer

GIS Parameters			
Design Attribute	Attribute Description	Example Data	Comment
01BIM (Prefix)	BIM (Prefix)		(Revit)
02BIM (UnID)	BIM (UnID)		(Revit)
03BIM (Suffix)	BIM (Suffix)		(Revit)
04EDMS Drawings (Prefix)	EDMS Drawings (Prefix)		(Currently utilizing Sharepoint)
05EDMS Drawings (UnID)	EDMS Drawings (UnID)		(Currently utilizing Sharepoint)
06EDMS Drawings (Suffix)	EDMS Drawings (Suffix)		(Currently utilizing Sharepoint)
07EDMS O&M Documents (Prefix)	EDMS O&M Documents (Prefix)		SOPs, O&M Manuals, Training, Digital Media, Other (Currently utilizing Sharepoint)
08EDMS O&M Documents (UnID)	EDMS O&M Documents (UnID)		SOPs, O&M Manuals, Training, Digital Media, Other (Currently utilizing Sharepoint)
09EDMS O&M Documents (Suffix)	EDMS O&M Documents (Suffix)		SOPs, O&M Manuals, Training, Digital Media, Other (Currently utilizing Sharepoint)
10CMMS O&M Logs (Prefix)	CMMS O&M Logs (Prefix)		Predictive, Preventative, Corrective, (Currently utilizing infoR)
11CMMS O&M Logs (UnID)	CMMS O&M Logs (UnID)		Predictive, Preventative, Corrective, (Currently utilizing infoR)
12CMMS O&M Logs (Suffix)	CMMS O&M Logs (Suffix)		Predictive, Preventative, Corrective, (Currently utilizing infoR)
13Mixed Reality (Prefix)	Mixed Reality (Prefix)		
14Mixed Reality (UnID)	Mixed Reality (UnID)		
15Mixed Reality (Suffix)	Mixed Reality (Suffix)		

**Kansas City Water Services Department (KCW)
BIM Guideline**



DRAFT

Table of Contents

- INTRODUCTION 4**

- 1. GENERAL INFORMATION 5**
 - 1.1 OVERVIEW5
 - 1.2 VISION6
 - 1.3 ROLES6
 - 1.3.1 DESIGN PROFESSIONAL BIM MANAGER6
 - 1.3.2 KCW BIM MANAGER.....6
 - 1.3.3 KCW BIM LEAD6
 - 1.3.4 KCW TECHNICAL ADVISORY COMMITTEE7
 - 1.4 MODEL & DATA OWNERSHIP8
 - 1.5 DESIGN PROCESS WORK SHARING.....8

- 2. REQUIREMENTS..... 10**
 - 2.1 AUTHORING SOFTWARE10
 - 2.2 AUTHORING DISCIPLINES.....10
 - 2.3 GEOLOCATION11
 - 2.4 KC WATER/ DESIGN PARTNER COLLABORATION11
 - 2.5 BIM IMPLEMENTATION PLAN12
 - 2.6 PHASING + INFORMATION EXCHANGE12
 - 2.7 BIM 3D – GEOMETRIC REPRESENTATION13
 - 2.8 BIM 4D – SCHEDULING14
 - 2.9 BIM – 5D COST.....14
 - 2.10 BIM 6D - SUSTAINABILITY14
 - 2.11 BIM 7D – ASSET MANAGEMENT14
 - 2.12 ASSET MANAGEMENT15
 - 2.13 TYPES OF MODEL ELEMENTS15
 - 2.14 THE MODEL MATRIX.....16
 - 2.15 TECHNICAL GUIDELINES.....22

- 2. DELIVERABLES 24**
 - 3.1 SUBMISSION REQUIREMENTS24
 - 3.2 QUALITY ASSURANCE25
 - 3.3 HANDOVERS25
 - 3.4 TRANSMITTALS.....26

2. APPENDIX 28

EXHIBIT A: GLOSSARY29

EXHIBIT B: BIM IMPLEMENTATION PLAN33

EXHIBIT C EQUIPMENT FAMILY PARAMETERS35

EXHIBIT D: KCW ASSET TAG GENERATOR38

EXHIBIT E: MINIMUM MODELING MATRIX.....47

EXHIBIT F: OPERATIONS + MAINTENANCE SUPPORT INFORMATION48

EXHIBIT G: REVIT SHARED PARAMETERS49

EXHIBIT H: REFERENCES + RESOURCES56

INTRODUCTION

The following document is provided to assist in the development of Integrated Lifecycle Management (ILM) strategies through Building Information Modeling (BIM) and Data Management.

The Building Information Modeling (BIM) Guideline represents a BIM pilot program and lifecycle data capture effort by the Kansas City Water Services Department (KCW). This guideline reflects an effort to enhance the technologies and processes employed by KCW and its participating Agencies in the realms of construction and facilities management. KCW is committed to adopting BIM as effectively and efficiently as possible.

KCW has issued these instructions to aid in the implementation of current and future BIM projects.

Owner's Goals:

At the completion of the project, the owner would like to have a BIM Model that they can use to manage and maintain facilities. The city desires that the BIM is capable of integrating with KCW's CMMS facility management software.

Design Team Goals:

The design team intends to utilize BIM for authoring 2D drawings and coordination of systems throughout design.

Construction Team Goals:

The construction team intends to utilize the model to help understand design intent and to help inform cost estimating exercises. They would also like to utilize BIM to reduce spatial conflicts between trades.

1. GENERAL INFORMATION

1.1 Overview

Building Information Modeling (BIM) is a collaborative effort involving the creation and management of digital, 3D models and their associated data. BIM is a tool for visual representation, immediate information exchange, enhanced data accuracy, and increased productivity.

BIM allows various stakeholders to participate or view the building construction and management process beginning at design inception and extending all the way to facilities management. As a project develops, detailed asset information is tracked and stored for future reference by the Kansas City Water Services Department (KCW).

BIM can accomplish a wide variety of objectives depending on the goal and scope of a given project. Building Information Models (BIMs) are multidimensional, each dimension addresses a different consideration of facility asset management.

Dimensions:

- 3D – Geometric Representation
- 4D – Schedule
- 5D – Cost
- 6D – Asset Management
- 7D – Sustainability

BIMs can be assigned a nearly unlimited range of visual and non-visual building related information. The unique functionality of BIM makes it an effective interdisciplinary coordination tool. It provides building stakeholders the benefit of seeing facility assets and their components in a virtual environment prior to physical construction.

Benefits of BIM include but are not limited to:

- A collaborative and integrated approach to design.
- Visually identifies coordination between Designers and Contractors.
- Project waste reduction and improved material schedules.
- Improved design review processes.
- Lifecycle asset management including information on product installation, warranties, serial numbers, and preventative maintenance.
- Improved facility O&M activities, including scheduled and unscheduled maintenance and repair.

1.2 Vision

The BIM Guidelines are provided to assist in project development and asset management of City owned facilities through the use of Building Information modeling (BIM).

Goals:

- Establish a virtual environment for integrated project design and data management.
- Integrate BIM into the KCW software portfolios as it pertains to asset management.
- Improve construction documentation quality.
- Increase efficiency of Record Closeout.
- Develop a Record BIM model for integration with facility management information.

1.3 Roles

1.3.1 Design Professional BIM Manager

This person shall be the primary contact with KCW for all BIM-related activities for the project. This person shall have the necessary experience and knowledge required for successful BIM implementation as it relates to the scope and complexity of the given project.

General Responsibilities:

- Compliance with KCW BIM Guidelines
- Check out and Check in responsibilities of all BIM-record information at project kickoff and project closeout.
- Maintaining and updating all metadata and information prior to submittal to the City.
- Coordinates all on-going work with other ongoing BIM projects at the same facility.

1.3.2 KCW BIM Manager

This person shall be the primary contact for all BIM-related activities for the project. This person shall have the necessary experience and knowledge required for successful BIM implementation as it relates to the scope and complexity of the given project.

1.3.3 KCW BIM Lead

This person shall be the secondary contact for all BIM-related activities. This person shall have the necessary experience and knowledge required for successful BIM implementation and information exchange.

1.3.4 KCW BIM Technical Advisory Committee

1. The BIM Technical Advisory Committee is composed of the following members or their designee:
 - a. Facilities & Plants Engineering Division Head who serves as chairperson and secretary.
 - b. KCW BIM Manager
 - c. Wastewater Treatment Division Manager
 - d. Water Treatment Division Manager
 - e. KCW Asset Manager
 - f. Chief Engineering Officer
 - g. (Elected External Design Professional)

2. The BIM Technical Advisory Committee is responsible for the review and recommendation for adoption or rejection of all changes to Technical Memorandum 20.
3. The BIM Technical Advisory Committee will meet as needed but no less than biannually.
4. The BIM Technical Advisory Committee chairperson will collect and distribute all proposed changes for review by the Committee prior to each meeting.
5. The BIM Technical Advisory Committee must come to a consensus to recommend any changes for approval before it is sent to the WSD Standards Committee.
6. Minutes from the meeting will be prepared and distributed within one week following each meeting.
7. Standards will be updated 2 weeks after the committee meetings and distributed to Engineering Project Managers and Facility Division Engineers. The new standards will be used on all active and proposed work for Facilities.

1.4 Model and Data Ownership

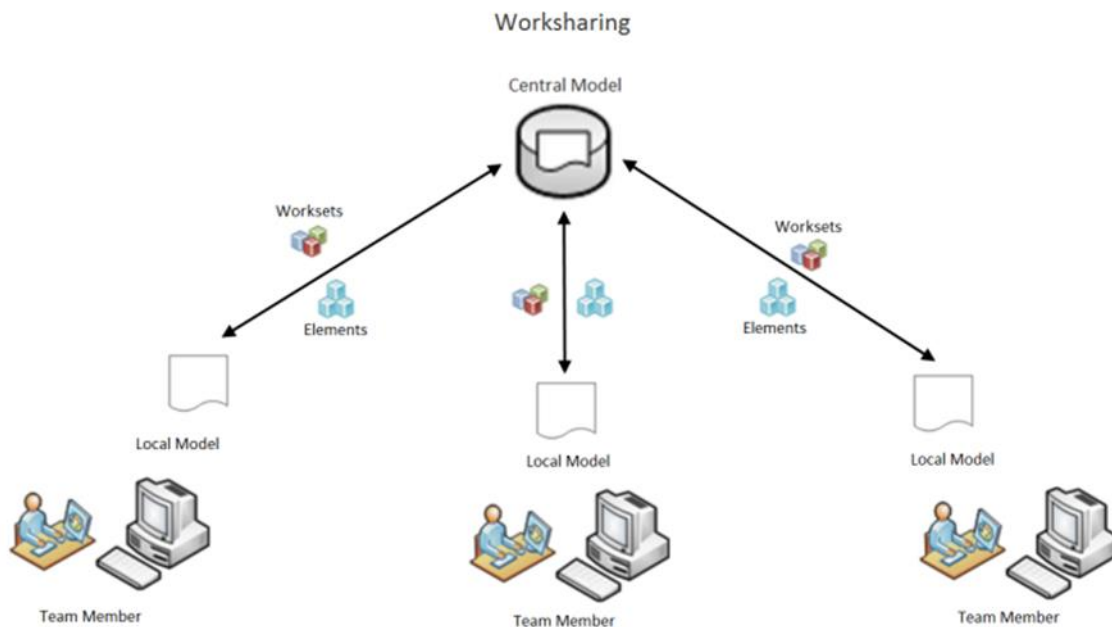
KCW retains ownership of all BIM related material at the moment of project delivery. Including but not limited to Building Data, Revit files, CAD files, Survey files and point cloud files developed within the project.

1.5 Design Process Work Sharing

Central Model

The central is the master file that contains all of the project data.

- Lives on the network server.
- Should only be one central model per project.
- Must be accessible to all users in the same way. (e.g. same drive letter)
- No user should work directly in this file.



Local Model

The local model is the individual file owned by team member.

- Lives on the user's local hard drive.
- A new version of the central file is downloaded onto the user's server/ local hard drive each time work is performed in the model. When you access a central model it will give you the option to create a new local file.
- Revit also has built in worksets. If you want to work on a workset, you have to "check out" the workset to make it editable.
- Elements can be modified by simply editing them within the Revit file. This process is called borrowing. Revit automatically borrows the element if they are available.
- At the completion of each work task in BIM, local changes are synched to the central server. At that time, any changes made by others will be reflected in the local hard drive.

Cloud Based Sharing

It is suggested that a method of cloud-based sharing will be agreed upon for the transfer of BIM models and files. This can be discussed in the project kickoff and outlined in the BIM Implementation Plan. Acceptable cloud-based solutions include:

- Autodesk BIM 360®

2. REQUIREMENTS

2.1 Authoring Software

KCW requires all record BIM models to be submitted with the most current release of Autodesk Revit. A kickoff meeting is recommended to establish what version is acceptable. BIM 360 is also the indicative preferred method of project delivery and the transfer of files.

- Autodesk AutoCAD based platforms: AutoCAD®, Civil 3D®, Map 3D®(.dwg)
- Autodesk Revit®(.rvt)
- Autodesk Navisworks® (.nws)
- Autodesk BIM 360®

2.2 Authoring Disciplines

BIM will be divided between authoring disciplines. Each authoring discipline will be responsible for all items needed for complete construction as depicted on construction documentation and all asset management information needed in the Building Information Model (BIM). Authoring Disciplines are as follows.

- Architectural
- Civil
- Electrical
- Mechanical
- Structural

Each discipline will have its own category of items.

During the project, the Design Professional/Contractor may elect to move a category from the above mentioned discipline and have a new discipline responsible for that scope.

At the time of delivery Revit model sub categories shall be merged into one of the 5 major categories as shown above.

2.3 Geolocation

Horizontal: All submitted BIM projects must be spatially referenced to the North American Datum (NAD) 1983 State Plane Missouri West FIPS 2403 US Feet coordinate system.

Building Information Models to be linked to other existing facility BIMs or all survey files shall be confirmed to be in alignment of northings, eastings, and elevations.

BIM projects shall be expressed in feet and inches. Dimension accuracy shall be 1/8", however the model should be designed as accurate as possible, typically 1/256".

Vertical: NAVD88

All elevations shall be indicated in NAVD 88 Datum (in feet and decimal parts thereof). The conversion from KC Datum to NAVD 88 Datum is +722.57 feet and shall be shown on the drawings in the proximity of the control point references.

2.4 KC Water / Design Partner Collaboration

KCW will provide the following information to the BIM manager for integration into the BIM. If the information does not exist, BIM Manager shall be responsible for incorporating all project specific information into the BIM as agreed upon in BIM implementation plan.

- Facility BIM
- Survey information
- GIS data
- Record construction documentation
- Information provided by DP
- Asset naming standards for data capture during construction will be provided. See Section 2.12 Asset Management
- A shared parameter file will be used to provide the data fields. See Exhibit G: Revit Shared Parameters

2.5 BIM Implementation Plan (BIP)

The BIM implementation Plan will be used to collaborate and align the City's BIM expectations with the project approach. The BIM implementation will confirm and/or update the following items.

- Software Version of Revit
- BIM file naming
- Project coordination
- Origin Point
- Level of Development
- BIM/Design milestones
- Record Submittal

KCW requires a BIM Implementation Plan (BIP) to be completed after a contract has been awarded for any project utilizing BIM technology.

This document is meant to establish goals and coordination efforts of appropriate stakeholders, while outlining the processes, work flows, and management of the BIM. This document is intended to be a supplement to KCW's BIM Contract Documents.

The KCW BIM Guideline defines the expectations that the City has for the final Record Model and data tracking. The Record Model and data tracking will be a collaborative effort between the Design and Construction teams and their consultants. The BIM Implementation Plan addresses the targeted BIM uses on the project, delineates roles and responsibilities of each company, and defines the detail and scope of information to be modeled and shared. Additionally, the BIP defines relevant processes, team setup, rules of engagement, and supporting software.

At any point in time during the project, this document along with the Level of Development Matrix (Exhibit E: Minimum Modeling Matrix) is the governing document that determines all aspects of the BIM. Changes to the BIM Implementation Plan will be incorporated only after owner and project team consensus and will be shared as a revised version to the document. See Exhibit B: BIM Implementation Plan.

2.6 Phasing + Information Exchange

There is not necessarily a direct relationship between a BIM's LOD and traditional design or construction phases as these systems may develop at differing rates. Information exchanges should be agreed upon by all parties and include BIM development milestones defined in the project's BIM Implementation Plan. These milestones should contain clear objectives, target dates and responsible parties.

2.7 BIM 3D – Geometric Representation

Level of Development (LOD) determines the detail or accuracy with which geometry is represented within a specified Building Information Model. Each LOD prescribes minimum content requirements; these requirements specify detail of representation and attached content. Each model element should only be considered reliable to its prescribed degree. This agreed upon LOD will provide a framework and standard for all parties creating BIMs.

Generally all components will be modeled to a LOD 200 unless otherwise specified. In the event, more detail is needed, a LIDAR scan may be performed and imported into the facility BIM for viewing by Design Professional and KCW. Refer to the BIM Implementation Plan and the Minimum Modeling Matrix for project specific requirements.

The Level of Development definitions as outlined in the American Institute of Architects (AIA) are shown below.

- **LOD 100 Conceptual**
The Model Element may be graphically represented in the Model with a symbol or other generic representation, but does not satisfy the requirements for LOD 200. Information related to the Model Element (i.e., cost per square foot, tonnage of HVAC, etc.) can be derived from other Model Elements
- **LOD 200 Generic Placeholders**
The Model Element is graphically represented within the Model as a generic system, object, or assembly with approximate quantities, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.
- **LOD 300 Specific Assemblies**
The Model Element is graphically represented within the Model as a specific system, object or assembly in terms of quantity, size, shape, location, and orientation. Non-graphic information may also be attached to the Model Element.
- **LOD 400 Detailed Assemblies**
The Model Element is graphically represented within the Model as a specific system, object or assembly in terms of size, shape, location, quantity, and orientation with detailing, fabrication, assembly, and installation information. Non-graphic information may also be attached to the Model Element.
- **LOD 500**
The Model Element is a field verified representation in terms of size, shape, location, quantity, and orientation. Non-graphic information may also be attached to the Model Elements.

2.8 BIM 4D – Scheduling

Construction Phasing shall be determined during discussions of the BIM implementation Plan.

2.9 BIM 5D – Cost

KC Water does not require any Cost information in Facility Building Models.

2.10 BIM 6D – Sustainability

KC Water sustainability efforts shall be addressed through the KC Water Sustainability Playbook adapted from the Envision® Guidance Manual.

2.11 BIM 7D – Asset Management

See Asset Management section 2.12.

2.12 Asset Management

Tracking specific Assets during Design & Construction aids KCW in more efficient maintenance and operation procedures of a facility. It is not enough to just say that an entire building is an asset, as different physical components of the building will have different service lives, different values, and different impacts on operations. Therefore, general categories, such as the building, must be broken down into individual components. Facility assets include all items owned by the facility that provide a benefit to the operation of the facility. This includes, for example, all land, site improvements, buildings, mechanical systems, electrical systems, utilities, vehicles, computers and office equipment. For each of these categories of assets, a detailed inventory must be developed. A formal inventory of assets are kept in the city's Computerized Maintenance Management System (CMMS). Within the Revit model, data fields will be applied to components linking them with the CMMS. A shared parameter file will be used to provide the data fields. All asset naming and definition standards for data capture during construction can be found in Exhibit C: Family Parameters and Exhibit D: KCW Tag Generator.

It's important to collect the *right* data, so your team isn't on an indefinite hunt for information. Don't make the mistake of assuming that more data is better. In fact, too much data or the wrong kind of data will result in lost time. Instead, collect the basics such as name, category, model number, etc., but make sure to include a notes field so your team can record unique facts about the asset.

2.13 Types of Model Elements

Manufacturer's Model Elements

Elements created by and acquired from manufacturers often have more information than is prudent to keep in the model; the level of detail as defined in the LOD Matrix should be retained for the design element. However, embedded performance data shall remain for analysis and specification purposes.

Custom Created Model Elements

Custom model elements that are created must utilize appropriate BIM Authoring tool templates. Custom models components need to be assigned as a part and part of a family or group.

Shared Parameters

The required Shared Parameters can be issued by KCW as a Revit Template file so those Instance Parameters can be transferred to the Design model. Facilities Data will be entered into these fields in the Construction model and eventually be passed to the Record Model. These Shared Parameters will exist at the Instance Level, not the Family Level. If Parameters requested by KCW exist at the Family Level for the Manufacturer's Elements or Custom Elements, that data will have to be duplicated at the Instance Level as well. Please refer to Exhibit C: Family Parameters and Exhibit D: KCW Tag Generator for the responsibility of populating the Shared Parameters data. DYNAMO may be used to batch import shared parameters.

2.14 The Model Content Matrix

The Model Content Matrix identifies which categories belong to which authoring disciplines. Categories are based on the Discipline designators in the AIA Cad Layer Guidelines | US National CAD Standard v5 with exceptions shown below.

DISCIPLINE DESIGNATORS (LEVEL 1)

- A – Architectural
- C – Civil
- D – Process
- E – Electrical
- F – Fire Protection
- G – General
- H – Hazardous Materials
- IC – Instrumentation and Controls
- M – Mechanical
- P – Plumbing
- Q – Equipment
- R – Resource
- S – Structural
- T – Telecommunication
- V – Survey

DISCIPLINE DESIGNATORS (LEVEL 2)

General G

General Informational	GI
General Contractual	GC
General Resource	GR

Hazardous Materials H

Asbestos	HA
Acidic	HD
Caustic	HT
Chemicals	HC
Flammables	HF
Lead	HL
Oils	HO
Oxidizers	HX
PCB	HP
Refrigerants	HR

Civil C

Civil Demolition	CD
Civil Survey	CV
Civil Grading	CG
Civil Paving	CP
Civil Improvements	CI
Civil Transportation	CT
Civil Utilities	CU

Structural S

Structural Demolition	SD
Structural Superstructure	SS
Structural Substructure	SB
Structural Framing	SF

Architectural A

Architectural Demolition	AD
Architectural Elements	AE
Architectural Interiors	AI
Architectural Finishes	AF
Architectural Graphics	AG
Architectural Reflected Ceilings	AR

Equipment Q

Civil Equipment	QC
Electrical Equipment	QE
Instrumentation Equipment	QI
Mechanical Equipment	QM
Operation Equipment	QO
Process Equipment	QD
Telecommunication Equipment	QT
Security Equipment	QY

Fire Protection F

Fire Auxiliary	FY
Fire Detection and Alarm	FA
Fire Suppression	FX

Plumbing P

Plumbing Site	PS
Plumbing Demolition	PD
Plumbing Piping	PP
Plumbing Systems	PQ
Plumbing Electrical	PE
Plumbing Instrumentation	PI
Plumbing	PL

Process D

Process Demolition	DD
Process Piping	DP
Process Areas	DA
Process Storage	DT

Mechanical M

Mechanical Demolition	MD
Mechanical HVAC	MH
Mechanical Piping	MP
Mechanical Instrumentation	MI

Electrical E

Electrical Demolition	ED
Electrical Power	EP
Electrical Lighting	EL
Electrical Instrumentation	EI
Electrical Telecommunications	ET
Electrical Auxiliary Systems	EY

Telecommunications T

Audio Visual	TA
Clock and Program	TC
Intercom	TI
Monitoring	TM
Data Networks	TN
Telephone	TT
Security	TY

Resource R

Resource Civil	RC
Resource Structural	RS
Resource Architectural	RA
Resource Mechanical	RM
Resource Electrical	RE

Equipment

ACTU – Actuator
AER – Aerator
AIRC – Air Compressor
BAS – Basin
BB – Battery Bank
BBC – Battery Charger
BELTPR – Belt Press
BLOW – Blower
BLDG – Building
CAMSEC – Cameras/Security/Monitor
CHMF – Chemical Feed
CMPSR - Compressor
CSILO – Chemical Silo/Storage
CHMUN – Chemical Unloading
CLAR – Clarifier
CLARM – Clarifier Mechanism
COMM – Communication
CMP – Computer/System
CONT – Containment Chemical or Oils
CONV – Conveyor
CRN – Crane
DHAD – Dehumidifier / Air Dryer
DIF – Diffusers
DGST – Digestors
DIST – Distribution (Wiring, etc.)
EDCD – Eddy Current Drive
ELEV – Elevator
FILT – Filter
FLOC – Flocculator
GATE – Gate Process
GEN – Generator
GRIT – Grit Removal Equipment
GRND – Grounds
HOIST – Hoist
HVAC – HVAC Equipment
HVACN – HVAC Conveyance

HX – Heat Exchanger
LAB – Laboratory Equipment
LIGHT – Lighting
MACHFX – Machinery/Tools-Fixed
MH – Manhole Structure
MIX – Mixer
MRAIL – Monorail
MTR – Motor
MTRNE – Motor (Non-Electrical)
MCC – Motor Control Center
OIT – Operator Interface Terminal / Field Controls
OHD – Overhead Doors (Truckbay)
PIPAB – Piping – Aboveground
PIPCH – Piping – Site/Channels
PLBG – Plumbing
PORTEQ – Portable/Mobile Equipment
PLC – Programmable Logic Controller
PMP – Pump
PMPMB – Pumps-Mobile
PUNIT – Pumping Unit
ROOF – Roof
SAFE – Safety-Life
SAMPLE – Sampler
SCRAIR – Scrubber – Air
SWS – Seal Water System
SECPR – Security/Process Alarm
SENS – Sensor/Meters
SLGCOL – SLG Collector/Sweep Assembly
SUBST – Substation – Electrical
SG – Switchgear
TANK – Tank
TOOLPW – Tools- Power Hand
TRAN – Transformer
TFIL – Trickling Filter
TFILAR – Trickling Filter Distribution Assembly
UV – Ultraviolet Equipment
UPS – Uninterruptable Power Supply

VLV – Valve
VFD – Variable Frequency Drive
VIBRAT – Vibrator
WELTNK – Water Elevated Tank
WRES – Water Reservoir
WELL – Water Well

2.15 BIM Technical Guidelines

File Templates

All design model Revit files will be started utilizing the Shared Parameters Revit Template. This will ensure that models coordinate and graphic standards match throughout all models and drawings.

Origin Point

The origin point (0, 0) for all models in their native software applications shall be agreed upon at project kickoff. (i.e. At the intersection of gridlines A and B, with a coordinated intersection of the project structure.) See BIM Implementation Plan.

Units

This Project will utilize the Imperial system of feet and inches for the unit of measure. Fractions of an inch are displayed in fractions, not decimals.

Software Build Versions

All members of the design teams will be working from the same “Build Version” of their associated design application software for their discipline.

Layering Guidelines

Any CAD based drawing files that may be used during the design process should follow the latest version of the KCWSD CAD Standards.

Tolerances in BIM

“Model Tolerance” is different from “Field Tolerance” that will vary for different trades based on their specifications.

This model tolerance is a measure of accuracy of the model objects as they are placed in the 3D BIM. Even if the objects in the model are placed to an accuracy of 1/256” in the model but the dimensioned drawings from the model contain dimensions to the level of accuracy of 1/8” of an inch, 1/8” of an inch will be treated as the “Model Tolerance”.

Model Tolerance will vary based on objects and existing conditions modeled. The model tolerances shall be discussed and agreed upon by all BIM team members.

Trade Colors

On large projects with multiple trades modeling, it is advantageous to have each trade model their elements in an assigned color. Color assignments to be determined, if necessary.

Piping Color Code

To facilitate identification of piping in plants and pumping stations it is recommended that the following color scheme be utilized:

Raw sludge line –gray

Sludge recirculation suction line - brown with yellow bands

Sludge draw off line - brown with orange bands

Sludge recirculation discharge line -brown

Digested sludge line -black

Sludge gas line -red

Natural gas line -red

Nonpotable water line - purple

Potable water line - blue

Fire main -red

Chlorine line -yellow

Sulfur Dioxide -yellow with red bands

Sewage (wastewater) line -gray

Compressed air line -dark green

Process air line -light green

Water lines for heating digesters or buildings - blue with a 6-inch (150 mm) red band spaced 30 inches (760 mm) apart

Fuel oil/diesel -red

Plumbing drains and vents -black

Ferric Chloride -orange

Polymer - unpainted PVC

3. DELIVERABLES

3.1 Submission Requirements

File Management

Models may be separated by disciplines for design and construction coordination throughout the construction process, but must ultimately be federated as a Record Revit Model.

The Record Model should follow the file naming format below. The first three [3] underscores (_) are used just to separate the section fields for explanation. The file names shall consist of the Facility Number, Project Identifier, Discipline and the date issued to the KCW.

Example Fields: Facility Number_Project Identifier-Discipline_PublishedDate.xxx

Final Construction Model Convention:

As-Built Model: P701_123_AsBuilt_YYYYMMDD.nwd

Record Model Convention:

- Architectural Model: P701_123_ARCH_YYYYMMDD.rvt
- Civil Model: P701_123_CIVIL_YYYYMMDD.rvt
- Electrical Model: P701_123_ELEC_YYYYMMDD.rvt
- Mechanical Model: P701_123_MECH_YYYYMMDD.rvt
- Structural Models: P701_123_STRL_YYYYMMDD.rvt

BIM will be divided between authoring disciplines. Each authoring discipline will be responsible for all items needed for complete construction as depicted on construction documentation and all asset management information needed in the Building Information Model (BIM). Authoring Disciplines are as follows.

During the project, the Design Professional/Contractor may elect to move a category from the above mentioned discipline and have a new discipline responsible for that scope.

At the time of delivery Revit model sub categories shall be merged into one of the 5 major categories as shown above.

3.2 Quality Assurance

BIM must be cross-checked against field records and is free of conflicting data. It is recommended to perform a collision detection during the design process. Any collisions identified (by way of tolerance or any other means) shall be addressed and corrected.

Each BIM parameter with a link to a file shall be confirmed to work using relative file paths. Relative file paths will be used when during turnover of the Revit model and equipment documentation. Refer to City's attribute standard.

All equipment shall be properly tagged. BIM Manager shall be responsible for capturing

Give particular attention to information on equipment components that cannot be readily identified in the field and recorded later.

3.3 Hand Overs

3D Model files required:

Record Model

A final record model is to be delivered to KCW depicting a representation of the physical conditions, environment, and assets of a facility. The Record Model should contain information relating to the main Architectural and MEP elements in addition to information including equipment and space planning systems to be used for maintenance and operations. The Record Model contains a depiction of space and equipment with information such as finishes, serial numbers, warranties and manufacturer of components in the building. The AEC Team shall submit a Record Revit Model of a predetermined LOD to KCWSD for their Lifecycle Operations and Maintenance process.

2D Model files required

Operations + Maintenance Support Information (OMSI)

[The OMSI is in the scope of work of the Contractor and/or Commissioning Agent]

OMSI provides key information produced during the design, construction of new facility acquisition. The OMSI Scope of Work helps ensure that virtually all as-built architectural/engineering, technical product and system information will be available in a standardized, user-friendly format for use over the lifecycle of the facility. The purpose of the work is to provide OMSI manuals that contain detailed, as-built information that describes the efficient, economical and safe operation, maintenance, and repair of the facility. The OMSI manuals are to be factual, concise, comprehensive and formatted to be easily used by operation and maintenance personnel. Descriptive matter and theory must include technical details that are essential for a comprehensive understanding of the operation, maintenance and repair of the system. The Construction Manager/Contractor shall ensure that OMSI manuals reflect changes to systems and equipment made during construction and prepared as outlined in Exhibit F: Operations + Maintenance Support Information.

2D PDFs are often required at the end of a project. For requirements regarding closeout procedures, refer to Contract Documents.

3.4 Transmittal

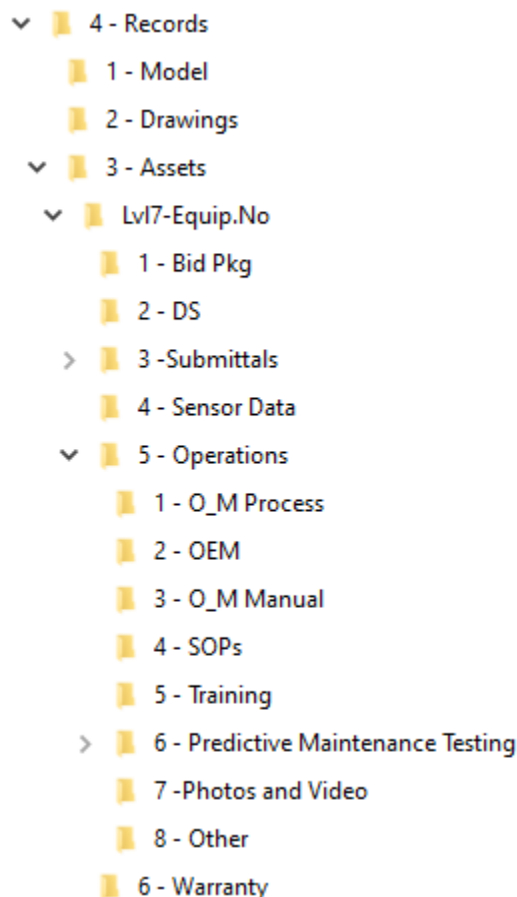
Record BIM Data

- General: Transmit published BIM and all related files for CITY’s reference during normal working hours. Any construction-related needs will be deferred to construction drawings for interpretation by DP.
- At the end of the project, Record BIM Data shall be incorporated to include but not limited to: 3D representation of Work, all data parameters completed and all linked information in relative file paths.

Data Parameters

- BIM and its data shall be conformed to construction records prior to BIM turnover.
- For BIM facility asset parameters, fill out all data parameters as defined in 013124.A – Attribute Standard including relative hyperlinks per the file structure for all information the DPs/Contractors have.
- Any hyperlink will direct the user to the designated file location.
- Transmittals required by DP must be included in the CITY’s Record Submittal Zip File. All files stored in Windows 10 shall have tag metadata that includes CMMS Level 1 through CMMS Level 8 asset information.

The folder containing the designated file locations will appear as shown below.



- BIM model must be cross-checked against field records and is free of conflicting data.
- Each BIM parameter with a link to a file shall be confirmed to work using relative file paths. Relative file paths will be used when during turnover of the Revit model and equipment documentation. Refer to CITY's Attribute Standard and CITY zip submittal.
- Naming of BIM files must be coordinated with CITY's representative prior to submission at Closeout. At CITY's discretion, the file names will change at request by CITY.
- Give particular attention to information on equipment components that cannot be readily identified in the field and recorded later.
- For requirements regarding closeout procedures, refer to Section 01019.

APPENDIX

EXHIBIT A: GLOSSARY

A list of definitions for terms used in this document.

EXHIBIT B: BIM IMPLEMENTATION PLAN (BIP)

The following document is provided to assist in the development of the goals and coordination efforts, as well as outline the processes, work flows, and management of the BIM. This document is intended to be complimentary to the KCW BIM Guideline.

EXHIBIT C: EQUIPMENT FAMILY PARAMETERS

The following document is provided to highlight which Equipment Assets are to be tracked for KCW. Each project shall determine the required assets to track. Asset details will be collected on the Equipment Assets determined by the project team.

EXHIBIT D: KCW ASSET TAG GENERATOR

This document governs asset management for objects within the BIM model. This will provide BIM stakeholders a method for capturing asset data throughout the duration of the project. Field codes will be used to reach the desired level of detail.

EXHIBIT E: MINIMUM MODELING MATRIX

Generally all components will be modeled to a LOD 200 unless otherwise specified. In the event, more detail is needed, a LIDAR scan may be performed and imported into the facility BIM for viewing by Design Professional and KCW. Refer to the BIM Implementation Plan for project specific requirements.

EXHIBIT F: OPERATIONS + MAINTENANCE SUPPORT INFORMATION

The following exhibit contains OMSI information which should be coordinated with the Equipment being tracked. The OMSI should be provided as PDF files.

EXHIBIT G: REVIT SHARED PARAMETERS

KCW will provide a shared parameters template file to transfer project standards. This template will align with document 1340 – BIM Coordination Standard. The KCW Shared Parameters template can be obtained by contacting the project manager.

EXHIBIT H: REFERENCES + SOURCES

This exhibit is an overview of supplementary information, resources and references used in the KCW BIM Guideline.

EXHIBIT A: GLOSSARY

BIM Glossary

AEC

Architectural/Engineering/Construction Team

AIA

American Institute of Architects

As-Built Documents

As-built documents are the collection electronic drawings or of paper drawings from the Construction Manager/Contractor that contain mark-ups, annotations, and comments about changes that have been made to the Contract Documents during the construction phase.

Building Information Modeling (BIM)

An integrated process aimed at providing coordinated, reliable information about a building project throughout different project phases—from design through construction and into operations. BIM gives architects, engineers, builders, and owners a clear overall vision of the project—to help them make better decisions faster, improve quality, and increase profitability of the project.

BIM Implementation Plan (BIP)

BIM Implementation Plan defines BIM roles and responsibilities for Lifecycle Management and Facilities Management data collection during Construction for a project issued.

BIM/Model Manager(s)

The project team member(s) responsible for managing the collaboration and sharing of electronic files during the project. Model managers are also responsible for maintaining the integrity of BIM models, which can include gathering, linking, and uploading updated models.

CMMS

The City's Computerized Maintenance Management System.

Construction Documents

The Construction Documents are a set of Drawings, that along with the Specifications, Addenda, Construction Change Directives, Change Orders or other written amendment or orders make up the set of documents that includes all pertinent information required for the contractor to price and build the project.

Construction Model

The model used to simulate and analyze the construction of a building.

Design Team

The Design Team is considered to be the Architect and all of the consultants that provide design services for a project. These design services can be rendered at any time during the project.

Design Model

The model used to communicate the design intent of a building.

DP

Design Professional.

EOR

Engineer of Record.

FM

Facilities Management Integrated Lifecycle Management (ILM)

A management process that improves collaboration and optimizes efficiency between the AEC team and Owner through standardization and refinement of business structures and facility practices into a process that collaboratively optimizes efficiency through all phases of design, fabrication, construction and lifecycle management.

KCW

Kansas City Water Services Department

LOD

Level of Development

MEP

Mechanical, Electrical and Plumbing. MEP/FP is Mechanical, Electrical, Plumbing and Fire Protection.

Metadata

The term refers to "data about data". For this document it refers to individual instances of application data, the data content, or "content about content". This content can be authored in a field, stored and managed in one database and transfer to yet another database.

O&M

Operations and Maintenance

OMSI

Operations and Maintenance Support Information

Record Model

Model containing all Contractual and As-Built conditions used to depict an accurate representation of the physical conditions, environment, and assets of a facility. The Record Model contains information relating to the main architectural, structural, and MEP elements, coordinated with the As-Built conditions and Sub-contractor models. It is the culmination of all the BIM Modeling throughout the project, including Operation, Maintenance, and Asset data from the As-Built model. A Record Model is the further development of the Design Model in the Authoring Software Platform for use by the Owner and Facility Management Team. (Also see Section 3)

Record Documents

The production of Record Documents is the capturing of the As-Built Documents annotation, comments, and mark-ups in drawing format. This may not include the updating of any models as done purely for 2D documentation and are typically delivered in electronic format.

RVT

An .RVT file is a Revit native file type. It is also the deliverable file format for all projects. This includes all of the Design Team’s models.

Schematics

Similar to a Single Line Diagram, a Schematic Diagram illustrates the inter-relationship of components, but incorporates more of a spatial context of the elements, i.e. locations. Generally these are not to scale.

TAC

Technical Advisory Committee

Asset Glossary

Asset Status	Provide the status of the asset being added, removed or replaced or out of service
ASSET ID	Short text for the asset.
ASSET DESCRIPTION	Longer full name of the asset
SUBOFUNIT	The ID of the parent asset to this asset
Division	Indicates whether the asset is for supporting water or wastewater
Section	Division (Water or Wastewater)
SUBAREA	Name & number of Facility
Process_Function	
System	
Unit/Asset Type	Identifies the category or type of asset; to be used for reporting purposes and grouping of management strategies

Cost	The price of the asset including installation and ancillary items. Avoid duplication or overlap of costs.
Serial #	Serial # of the asset as printed on nameplate
Manufacturer	
Model #	Model # if applicable
Expected Life in Years	The number of years the asset is expected to be useful under normal conditions and maintenance
Install Date	Date the asset is installed on site.
Warranty Expiration Date	Date the warranty expires if applicable
Size1	The number that defines the detail of the asset for instance a valve that is 24 inches would be listed as 24; a 100 HP pump would be 100.
Units1	The units that define the measurement for determining respective size.
Size2	Additional sizes available if needed for measuring more than one attribute.
Units2	Additional unit available if needed for defining additional attribute of respective size
Size3	Additional sizes available if needed for measuring more than one attribute.
Units3	Additional unit available if needed for defining additional attribute of respective size

EXHIBIT B: BIM IMPLEMENTATION PLAN

BIP OVERVIEW + GUIDING PRINCIPLES

This document is meant to establish goals and coordination efforts of appropriate stakeholders, while outlining the processes, work flows, and management of the BIM. This document is intended to be complimentary to the KCW BIM Guideline.

The KCW BIM Guideline defines the expectations that the city has for the final Record Model and data tracking. The Record Model and data tracking will be a collaborative effort between the Design and Construction teams and their consultants. The BIM Implementation Plan addresses the targeted BIM uses on the project, delineates roles and responsibilities of each company, and defines the detail and scope of information to be modeled and shared, relevant processes, team setup, rules of engagement, and supporting software.

At any point in time during the project, this document, along with attached Exhibits, is the governing document that determines all aspects of the BIM. Changes to the BIM Implementation Plan will be incorporated only after owner and project team reach consensus and will be shared as a revised version to the document.

The following information (Goals, Phasing + Scheduling, Roles + Responsibilities, Model Breakdown, Collaboration Plan, LOD, and Technical Guidelines) is intended to act as a guide only. It should be tailored based on project scope and design intent.

BIM IMPLEMENTATION PLAN TEMPLATE

This template shall act as an outline to identify project goals, execution strategies and sequencing, as well as project roles and responsibilities.

KCW BIM IMPLEMENTATION PLAN TEMPLATE

Project Name & Location:

File Sharing Project Site Location:

Model Origin:

Model Coordinate System:

Software Version:

Project Team:

Discipline/Trade	Consultant	Contact Person

Objective / Goal	Milestone	Timeline + Target Dates	Responsible	Deliverables + Performance Indicators
Strategic Objective/Goal 1: Description Here 1.1	P: Programming	Start	End	
	SD: Schematic Design			
	DD: Design Development			
	CD: Construction Documentation			

EXHIBIT D: KCW ASSET TAG GENERATOR

KCW Asset Tag Generator:

There are eight field types organized as a hierarchy – Functioning much like layer names in CAD these fields will contain detailed information starting with Major categories (Level 1) and progressing down to minor categories (Level 8). Each level will have a list of field codes that will be used to reach the desired level of detail. A link to the File Generator file is located here [..Tag Generator_v1.0.5-Alpha1.xlsm](#)

An example of the data field types with descriptions are shown below.

LEVEL 1 - Department

The first level of the Tag Generator denotes the Department. All assets will be defined as Water Services Department as shown below.

Lvl. 1	-	Lvl. 2	-	Lvl. 3	-	Lvl. 4	-	Lvl. 5	-	Lvl. 6	-	Lvl. 7	-	Lvl. 8
--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------

- Water Services Department

LEVEL 2 – Division

The second level of the Tag Generator denotes the Division. All assets will be defined as either Water or Wastewater as shown below.

Lvl. 1	-	Lvl. 2	-	Lvl. 3	-	Lvl. 4	-	Lvl. 5	-	Lvl. 6	-	Lvl. 7	-	Lvl. 8
--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------

- Wastewater
- Water

LEVEL 3 – Section

The third level of the Tag Generator denotes the Section. All assets will be defined as either Treatment, Pumping, or Storage as shown below.

Lvl. 1	-	Lvl. 2	-	Lvl. 3	-	Lvl. 4	-	Lvl. 5	-	Lvl. 6	-	Lvl. 7	-	Lvl. 8
--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------

- Treatment
- Pumping
- Storage

LEVEL 4 – Sub Area/ Description

The fourth level of the Tag Generator denotes the Sub area/ Description. All assets will be defined with the SubArea field code as shown below.

Lvl. 1	-	Lvl. 2	-	Lvl. 3	-	Lvl. 4	-	Lvl. 5	-	Lvl. 6	-	Lvl. 7	-	Lvl. 8
--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------

SubArea	SubArea Description
W800	NKC
W801	WAUKOMIS
W826	KCI
W830	ENGLEWOOD
W835	ARROWHEAD
W846	SHERMAN TANK
W847	NORTH TANK
W848	EAST TANK
W866	SHOAL CREEK
W867	CAMDEN PNT
W814	TURKEY CREEK
W815	BLUE RIDGE
W816	EAST BOTTOM
W819	WALDO
W822	RUSKIN
W824	RAYTOWN RD.
W825	HIGHGROVE
W827	RGAB
W828	SCENIC
W834	PROSPECT
W849	150 HWY.
W858	SOUTH TERM
W863	RAYMORE TNK
P667	12TH STREET SPS
P647	15TH STREET SPS
P601	25TH STREET FLOOD STATION
P626	50 HWY SPS/OOS
P671	671 GREGORY SPS/OOS
P673	673 GREEN HILLS SPS
P692	83RD STREET SPS

SubArea	SubArea Description
P678	87TH STREET SPS
P663	BIRCHWOOD SPS
P721	BIRMINGHAM FARM LAND APP
P693	BIRMINGHAM SPS
P711	BIRMINGHAM STP
P612	BLUE BANKS FLOOD STATION
P620	BLUE RIVER EFF PUMP STATION
P701	BLUE RIVER PRIMARY
P651	BLUE RIVER SCREENING/PUMPING
P702	BLUE RIVER SECONDARY
P710	BLUE RIVER SOLIDS HANDLING
P646	BRIARCLIFF WEST SPS
P603	BROADWAY FLOOD STATION
P686	BRUSH CREEK SPS
P652	BUCKEYE SPS
P691	BURLINGTON CREEK SPS
P679	DELEWARE DIVEST
P627	FIRST CREEK SPS
P631	FIRST CREEK SPS NEW 2014
P720	FISHING RIVER STP
P720P	FISHING RIVER STPP
P613	GARDNER SPS/OOS
P606	GILLIS FLOOD STATION
P688	HARLEM SPS
P611	HAWTHORNE FLOOD STATION
P745	KCI DEICING FACILITY
P744	KCI INDUSTRIAL PARK STP
P699	KEMPER FPS
P682	LAKE WAUKOMIS SPS
P677	LAWNDALE SPS
P648	LINE CREEK SPS
P622	LITTLE SHOAL CREEK SPS
P607	LYDIA FLOOD STATION
P694	MACE ROAD SPS
P680	MAIN STREET DIVEST
P609	MILWAUKEE FLOOD STATION
P658	NEID SPS
P643	NEW KCI SPS

SubArea	SubArea Description
P604	NORTH AIRPORT FLOOD STATION
P633	NORTH BRISTOL SPS
P619	NORTH CHURCH ESTATES SPS
P657	NORTHLAND MOBILE HOME SPS
P746	NORTHLAND MOBILE HOMES STP
P661A	OK Creek Gates
P668	OLD LINE CREEK SEE 648
P623	PIED CREEK SPS
P697	PLATTE WOODS SPS
P608	PROSPECT FLOOD STATION
P629	QUAIL RUN SPS
P662	RIVERSIDE HORIZONS SPS
P649	RIVERSIDE SPS
P718	ROCKY BRANCH STP
P669	ROUND GROVE SPS
P602	SANTE FE FLOOD STATION
P617	SANTE FE SPS
P632	SECOND CREEK INTERIMFORCE MAIN
P628	SECOND CREEK SPS
P621	SECONDARY FPS
P614	SOUTH AIRPORT FLOOD STATION
P637	SOUTH AIRPORT RELIEF WELLS
P676	SOUTH AIRPORT SPS
P640	SOUTH BRISTOL SPS
P600	SOUTHWEST BLVD.
P618	SWOPE INDUSTRIAL SPS
P683	THORNHILL SPS
P630	TIFFANY GREENS SPS
P641	TIFFANY LAKES PUMPING STATION
P715	TODD CREEK STP
P715P	TODD CREEK STPP
P718P	TODD CREEK STPP
P674	Trolley Trail Basin
P610	TRUMAN FLOOD STATION
P661	TURKEY CREEK SPS
P687	UPPER RUSH SPS
P696	WEATHERBY LAKE 2 SPS
P616	WESTSIDE EFFLUENT PUMP STATION

SubArea	SubArea Description
P712	WESTSIDE STP
P684	WHITE ALOE SPS
P642	WILDWOOD WEST SPS
P681	WINNER RD DIV STR

LEVEL 5 – Process/ Function

The fifth level of the Tag Generator denotes the Process/ Function. All assets will be defined with the field code as shown below.

Lvl. 1	-	Lvl. 2	-	Lvl. 3	-	Lvl. 4	-	Lvl. 5	-	Lvl. 6	-	Lvl. 7	-	Lvl. 8
--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------

Code	Process/Function	Shared
AUX	Auxillary	Y
BLGR	Buildings and Grounds	Y
CHEM	Chemical	WT
FILT	Filtration/Filter Gallery	WT
FWP	Finished Water Process	WT
PRI	Primary Treatment	Y
PMP	Pumping	Y
RWI	Raw Water Intake	WT
SEC	Secondary Treatment	Y
TEST	Testing	Y
UT	Utilities	Y
AUX	Auxillary	Y
BLGR	Buildings and Grounds	Y
PRI	Primary Treatment	Y
PMP	Pumping	Y
DIS	Disinfection	WW
PRE	Preliminary Treatment	WW
SOL	Solids Handling	WW
SEC	Secondary Treatment	Y
TEST	Testing	Y
UT	Utilities	Y

LEVEL 6 – Systems

The sixth level of the Tag Generator denotes the Systems. All assets will be defined with the field code as shown below.

Lvl. 1	-	Lvl. 2	-	Lvl. 3	-	Lvl. 4	-	Lvl. 5	-	Lvl. 6	-	Lvl. 7	-	Lvl. 8
--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------

Code	Systems	
~*~*	Administration Building and Grounds	WT
~*~*	Ammonia System	WT
~*~*	Backup Electrical	WT
~*~*	Carbon System	WT
~*~*	Chlorine System	WT
is this recarbonation system between secondary and final	CO2 Systems	WT
~*~*	Effluent Pump System	WT
~*~*	Electrical	WT
~*~*	Ferric System	WT
~*~*	Final Basins	WT
~*~*	Finished Water	WT
~*~*	Flouride System	WT
~*~*	Gallery Filtration System	WT
~*~*	Intake/ Raw Water System	WT
~*~*	Lime Feeding	WT
~*~*	Lime System (Unloading & Storage)	WT
~*~*	Phosphate System	WT
~*~*	Polymer System	WT
~*~*	Primary Basins	WT
~*~*	Rolling Stock	WT
~*~*	SCADA/I&C	WT
~*~*	Secondary Basins	WT
~*~*	Secondary PS System	WT
~*~*	Sludge Pumping	WT
~*~*	Sodium Permanganate Systems	WT
ACS	Activated Sludge	WW
ARD	Aerobic Digestion	WW
AND	Anaerobic Digestion (Incl Methane Gas Collection)	WW

NaOCl	Sodium Hypochlorite	WW
Code	Systems	
NaHSO3	Sodium BiSulfite	WW
BIO	Biotowers	WW
CLA	Clarification	WW
COM	Communication	WW
SCADA	SCADA/Instrumentation	WW
ELE	Electrical	WW
HVAC	HVAC	WW
GRSC	Grit/Screening	WW
PMP	Pump Sets	WW
SCIN	Sludge Holding Cells	WW
POT	Potable Water	WW
UV	Ultraviolet	WW
ODR	Odor control	WW
SDST	Sidestream	WW
THP	Thermal Hydrolysis	WW
CENT	Centrifuges	WW
CONV	Conveyor Systems	WW
STM	Steam Generation	WW
PAND	Post Anaerobic Digestion (Incl Methane Gas Conveyance)	WW

LEVEL 7 – Equipment

The seventh level of the Tag Generator denotes the Equipment. All assets will be defined with the field code as shown below.

Lvl. 1	-	Lvl. 2	-	Lvl. 3	-	Lvl. 4	-	Lvl. 5	-	Lvl. 6	-	Lvl. 7	-	Lvl. 8
--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------

Code	Equipment
~*?~	Code Needed
ACTU	ACTUATOR
AER	AERATOR
AIRC	AIR COMPRESSOR

BAS	BASIN
Code	Equipment
BB	BATTERY BANK
BBC	BATTERY CHARGER
BELTPR	BELT PRESS
BLOW	BLOWER
BLDG	BUILDING
CAMSEC	CAMERAS/SECURITY/MONITOR
CHMF	CHEMICAL FEED
CSILO	CHEMICAL SILO/STORAGE
CHMUN	CHEMICAL UNLOADING
CLAR	CLARIFIER
CLARM	CLARIFIER MECHANISM
COMM	COMMUNICATION
CMP	COMPUTER/SYSTEM
CONT	CONTAINMENT CHEM OR OILS
CONV	CONVEYOR
CRN	CRANE
DHAD	DEHUMIDIFIER/AIR DRYER
DIF	DIFFUSERS
DGST	DIGESTOR
DIST	DISTRIBUTION (Wiring etc)
EDCD	EDDY CURRENT DRIVES
ELEV	ELEVATOR
FILT	FILTER
FLOC	FLOCCULATOR
GATE	GATE-PROCESS
GEN	GENERATOR
GRIT	GRIT REMOVAL EQUIPMENT
GRND	GROUNDS
HOIST	HOIST
HVACN	HVAC - Conveyance
HVAC	HVAC - Heating and cooling
LAB	LABORATORY EQUIPMENT
SAFE	SAFETY-LIFE
LIGHT	LIGHTING
MACHFX	MACHINERY/TOOLS- FIXED
MH	MANHOLE STRUCTURE
MIX	MIXER

MRAIL	MONO RAIL
Code	Equipment
MTR	MOTOR
MTRNE	MOTOR (NON ELECTRICAL)
MCC	MOTOR CONTROL CENTER
OIT	OPERATOR INTERFACE TERMINAL
OHD	OVERHEAD DOORS (TRUCKBAY)
PIPAB	PIPING- ABOVEGROUND
PIPCH	PIPING- SITE/CHANNELS
PLBG	PLUMBING (non-process)
PORTEQ	PORTABLE/MOBILE EQUIPMENT
PLC	PROGRAMABLE LOGIC CONTROLLER
PMP	PUMP
PMPMB	PUMPS-MOBILE
PUNIT	PUMPING UNIT
ROOF	ROOF
SAMPLE	SAMPLER
SCRAIR	SCRUBBER- AIR
SWS	SEAL WATER SYSTEM
SEC	SECURITY ALARM
SENS	SENSOR/METERS
SLGCOL	SLG COLLECTOR/SWEEP ASSEMBLY
SUB ST	SUB STATIONS ELECTRICAL
SG	SWITCHGEAR
TANK	TANK
TOOLPW	TOOLS - POWER HAND
TRAN	TRANSFORMER
TFIL	TRICKLING FILTER
TFILAR	TRICKLING FILTER DISTRIB ASSEM
UV	ULTRAVIOLET EQUIPMENT
UPS	UNINTERRUPTABLE POWER SUPPLY
VLV	VALVE
VFD	VARIABLE FREQUENCY DRIVE
VIBRAT	VIBRATOR
WELTNK	WATER ELEVATED TANK
WRES	WATER RESERVOIR
WELL	WATER WELLS

LEVEL 8 – TBD

The eighth level of the Tag Generator is reserved for elements that require more detail. A list of Level 8 field codes will be determined at a later date.

Lvl. 1	-	Lvl. 2	-	Lvl. 3	-	Lvl. 4	-	Lvl. 5	-	Lvl. 6	-	Lvl. 7	-	Lvl. 8
--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------	---	--------

EXHIBIT E: MINIMUM MODELING MATRIX

Generally all components will be modeled to a LOD 200 unless otherwise specified. In the event more detail is needed, a LIDAR scan may be performed and imported into the facility BIM for viewing by Design Professional and KCW. Refer to the Minimum Modeling Matrix document for project specific requirements.

Minimum Modeling Matrix document: [link.xxx](#)

EXHIBIT F: OPERATIONS + MAINTENANCE SUPPORT INFORMATION

OPERATIONS + MAINTENANCE SUPPORT INFORMATION (OMSI)

OMSI should coordinated with the Equipment Attachments and be provided as PDF files.

Required Information	Description
Introduction	Facilities Description with outline and structure of O&M content
System Level Description	Description of the system and its purpose, how it operates, and any interfaces it may have
Preventive Maintenance	System-level tables guide maintenance personnel, via fault tree analysis, in a sequential, step-by-step isolation of a system problem to identify faulty equipment. Typical malfunctions, tests or inspections, and corrective actions or recommendations to correct malfunctions are included
Plumbing	Related to domestic water and sanitary waste systems
Fire Protection	Related to wet/dry pipe sprinkler systems
HVAC	Related to systems, including automated controls and exhaust, space heating, and central air systems
Fire Detection & Intrusion Alarms	Related to detection and alarm systems (wet/dry pipe sprinkler)
Electrical	Related to power distribution equipment and backup/emergency electrical (uninterruptible power supply, generator)
Conveying	General information and preventive maintenance for elevators, escalators, wheel chair lifts, conveyors, etc.
Operating Procedures	Controls/Startup/Shutdown/Emergency Over-Ride/Seasonal Changeover: Include equipment configurations for each mode of operation
Manufactures' Literature	Identifies manuals, cut sheets, etc., from equipment manufacturers that amplify information provided within the system-level O&M manual. Manufacturers' literature generally provides procedures to operate, maintain, troubleshoot, and repair specific items at the equipment level. This information is contained in a separate volume of binders, identified by facility/system, for easy reference. Specific material or complete documents can also be electronically scanned for its 'on-line' use, such as linking from the system-level manual
Warranties & Bonds	For Systems, Equipment or Component Parts of Equipment put into service during construction.

REVIT SHARED PARAMETERS

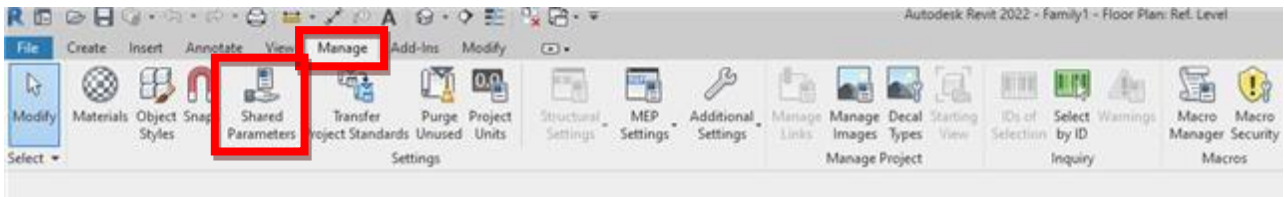
Overview

Shared Parameters allow KCW to retain asset information/ data in a consistent format across multiple projects/ facilities. The following electronic file named *KCW - Shared Parameters File Template* has been created to attach blank fields used for project information. Use this file to transfer Shared Parameters from the Template File to the Revit MEP Design Model, Revit MEP Construction Model and the Record Revit MEP Model.

This will create the Instance Parameter fields for metadata requested by KCW for MEP Equipment in the project models based on the *Exhibit B: Equipment Asset Details*. Author the requested information into these fields.

Process

- 1) Select "Manage" Ribbon tab.
- 2) Select "Shared Parameters"
- 3) Browse to file location.
- 4) Select "KCW – Shared Parameters.txt"



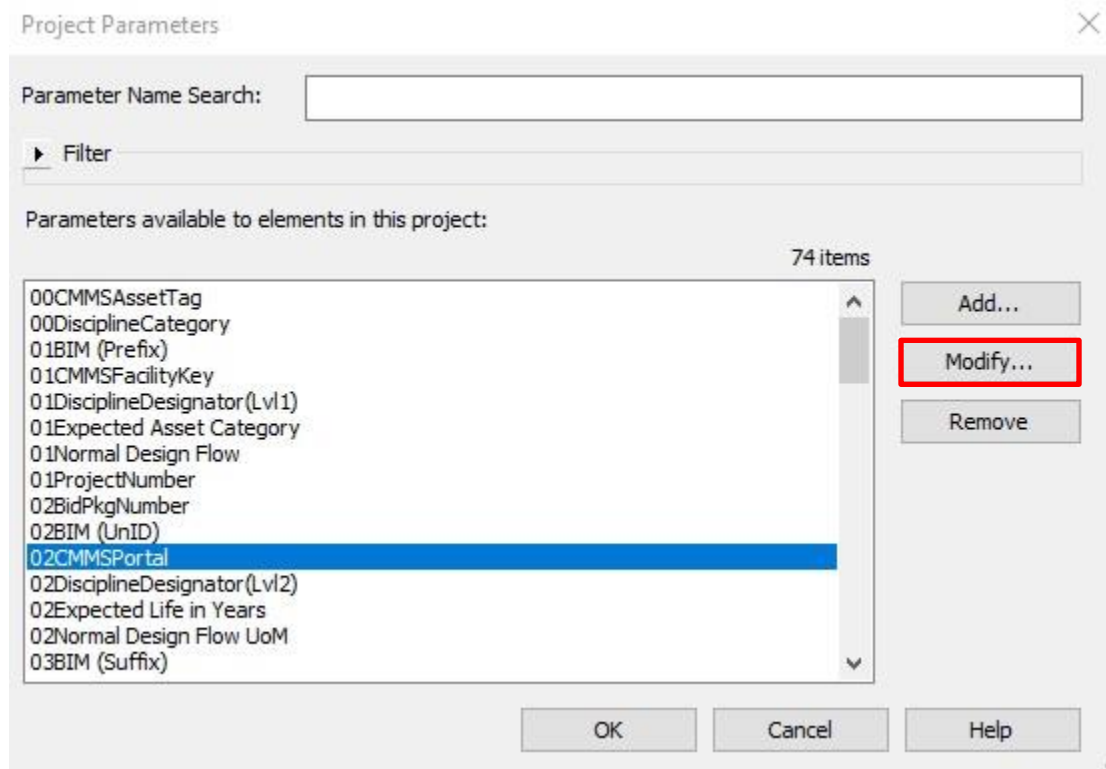
When migrating shared parameters, they shall be grouped under the following project parameters.

[Parameter Data](#) → [Parameter Groups](#)

- Asset Data → Construction
- Asset Identification → Identity Data
- Facility Design Parameters → Data
- GIS parameters → Graphics
- Model Content → Layers
- Project Procurement → Project Number

The process of grouping parameters into the desired group shall be done in the Project Parameters.

- 1) Select "Manage" Ribbon tab.
- 2) Select "Project Parameters"
- 3) Select the parameter you wish to modify.
- 4) Select Modify.



Select the desired group by clicking “Group Parameter Under”

Parameter Groups have been chosen from the list of default groups already created within Revit. You will see the following groups from the pull-down menu.

Parameter Groups

- Construction
- Identity Data
- Data
- Graphics
- Layers
- Project Number

Parameter Properties

Parameter Type

Project parameter
(Can appear in schedules but not in tags)

Shared parameter
(Can be shared by multiple projects and families, exported to ODBC, and appear in schedules and tags)

Select... Export...

Parameter Data

Name: 02CMMSPortal Type

Discipline: Common Instance

Type of Parameter: Text Values are aligned per group type

Group parameter under: Identity Data Values can vary by group instance

Tooltip Description:
<No tooltip description. Edit this parameter to write a custom tooltip. Custom tooltips have a limit of 250 characters.>

Add to all elements in the selected categories

Categories

Filter list: <show all>

Hide un-checked categories

- Abutments
- Air Systems
- Air Terminals
- Alignments
- Analytical Beams
- Analytical Braces
- Analytical Columns
- Analytical Floors
- Analytical Foundation Slabs
- Analytical Isolated Foundations
- Analytical Links
- Analytical Nodes
- Analytical Pipe Connections
- Analytical Spaces
- Analytical Surfaces
- Analytical Wall Foundations
- Analytical Walls
- Areas
- Assemblies
- Audio Visual Devices

Check All Check None

OK Cancel Help

- See next page for a full list of parameter data and the Parameter Groups they belong to.

Edit Shared Parameters



Shared parameter file:

Parameter group:
 Asset Data

Parameters:

- 01Expected Asset Category
- 02Expected Life in Years
- 03Install Date (20XX.XX.XX)
- 04Warranty Expiration Date (20XX.XX.XX)
- 05Location
- 06Principle Cause of Failure
- 07Expected Design Life
- 08Remaining Useful Life (RUL)
- 09Remaining Asset Value (RAV)
- 10Equipment Cost
- 11Serial Number
- 12Manufacturer
- 13Model

Parameters

-
-
-
-

Groups

-
-
-

Edit Shared Parameters



Shared parameter file:

Parameter group:
 Asset Identification

Parameters:

- 00CMMSAssetTag
- 01CMMSFacilityKey
- 02CMMSPortal
- 03CMMSDept
- 04CMMSDiv
- 05CMMSec
- 06CMMSSubArea
- 07CMMSProc
- 08CMMSSubProc
- 09CMMSEquip
- 10CMMSNumb
- 11CMMSDescription

Parameters

-
-
-
-

Groups

-
-
-

Shared parameter file:

C:\Users\bkipper\Desktop\BIM Documenta

Parameter group:

Facility Design Parameters

Parameters:

- 01Normal Design Flow
- 02Normal Design Flow UoM
- 03Peak Design Flow
- 04Peak Design Flow UoM
- 05Biological Oxygen Demand (BOD)
- 06Biological Oxygen Demand (BOD) UoM
- 07Chemical Oxygen Demand (COD)
- 08Chemical Oxygen Demand (COD) UoM
- 09Total Suspended Solids (TSS)
- 10Total Suspendend Solids (TSS) UoM
- 11Volatile Suspended Solids (VSS)
- 12Volatile Suspended Solids (VSS) UoM
- 13Total Kjedahl Nitrogen (TKN)
- 14Total Kjedahl Nitrogen (TKN) UoM
- 15NH3-N
- 16NH3N UoM
- 17Alkalinity
- 18Alkalinity UoM
- 19pH

Parameters

-
-
-
-

Groups

-
-
-



Shared parameter file:

C:\Users\bkipper\Desktop\BIM Documenta

Parameter group:

GIS Parameters

Parameters:

- 01BIM (Prefix)
- 02BIM (UnID)
- 03BIM (Suffix)
- 04EDMS Drawings (Prefix)
- 05EDMS Drawings (UnID)
- 06EDMS Drawings (Suffix)
- 07EDMS O&M Documents (Prefix)
- 08EDMS O&M Documents (UnID)
- 09EDMS O&M Documents (Suffix)
- 10CMMS O&M Logs (Prefix)
- 11CMMS O&M Logs (UnID)
- 12CMMS O&M Logs (Suffix)
- 13Mixed Reality (Prefix)
- 14Mixed Reality (UnID)
- 15Mixed Reality (Suffix)

Parameters

-
-
-
-

Groups

-
-
-

Edit Shared Parameters



Shared parameter file:
C:\Users\bkipper\Desktop\BIM Documenta Browse... Create...

Parameter group:
Model Content

Parameters:
00DisciplineCategory
01DisciplineDesignator(Lvl1)
02DisciplineDesignator(Lvl2)

Parameters
New...
Properties...
Move...
Delete

Groups
New...
Rename...
Delete

OK Cancel Help

Edit Shared Parameters



Shared parameter file:
C:\Users\bkipper\Desktop\BIM Documenta Browse... Create...

Parameter group:
Project Procurement

Parameters:
01ProjectNumber
02BidPkgNumber
03ProvidedBy
04InstalledBy
05LocalRep
06Installation Date
07Commission Date
08Decommission Date
09Warranty Start Date
10Warranty Expiration Date
11Procurement Package
12Equipment Datasheet

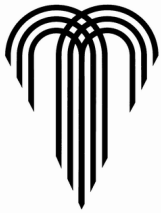
Parameters
New...
Properties...
Move...
Delete

Groups
New...
Rename...
Delete

OK Cancel Help

REFERENCES

CONTACTS



ADDENDUM NUMBER 6

Project Number 81000984/C1638

Project Title Blue River Screen House Improvements

ISSUE DATE: **October 20, 2022**

Shortlisted Respondents are hereby notified that the Proposal and Contract Documents for the above project, for which Proposals are to be received on **November 9, 2022**, are amended as follows:

Information to Proposers The following is provided to Proposers for information only:

1. City intends to release an additional Addendum the week of October 24-28, 2022 with the revised documents.
 - a. Draft Contract for Design-Build Services
 - b. Design-Build General Conditions
 - c. Draft Professional Services Agreement

Bidding Requirements

1. Add the following documents
 - a. All Division 2 Specifications located at <https://www.kcwater.us/projects/rulesandregulations/>
 - b. Blue River – Roofing BODR
 - c. Blue River – Ductwork BODR
 - d.
2. Delete the following section(s):
 - a. Delete Document **00700 – Construction General Conditions**, Document **00800 – Supplemental Conditions**.

3. Delete and replace the following section(s):
 - a. Delete Document **Request For Proposals, Sec. 3.2 Procurement Schedule, Bullet Public Bid Opening Date, Page 10** and replace with the following Document **Request For Proposals, Sec. 3.2 Procurement Schedule, Bullet Public Bid Opening Date, Page 10**:

• Proposal (Technical and Cost) Submission	November 9, 2022
• Interviews (Provisional)	Week of Nov. 15, 2022
• Public Bid Opening Date	November 22, 2022
• Notice of Intent to Contract	December 28, 2022

• Proposal (Technical and Cost) Submission	November 22, 2022
• Interviews (Provisional)	Week of Dec. 6, 2022
• Public Bid Opening Date	Dec. 13, 2022
• Notice of Intent to Contract	December 20, 2022

- b. Delete Document **Request for Proposal**, Section **4: Proposal Submission Requirements**, Subsection **4.3.4 Part 2 – Technical Approach**, Subparagraph **Drawings** and replace with the following Document **Request for Proposal**, Section **4: Proposal Submission Requirements**, Subsection **4.3.4 Part 2 – Technical Approach**, Subparagraph **Drawings**

~~**Drawings.** Respondent shall include drawings in Appendix B (Design Drawings) to illustrate and document its proposed technical design approach for the Representative Project (or approved Proposed Modified Project) and to complement the technical narrative. Reference shall be made to drawings within the major element narratives.~~

It is anticipated that the Respondent will use the existing drawings as provided in Attachment D (Project Background Documents), and the project design criteria in Attachment F (Technical Proposal Forms) as the basis for their Representative Project (or approved Proposed Modified Project).^{AD3}

~~**Organization.** Drawings shall be organized first by area and then by discipline matching the organization of the disciplines listed herein (General, Civil, Building Demolition, Artechitecture, Structural, Mechanical (Process), Mechanical (Plumbing), HVAC, Electrical, Instrumentation and Controls)^{AD3}~~

~~**Content.** Naming convention shall be consistent with the drawing list provided as part of the Project Technical Requirements. At a minimum the following drawings shall be prepared and submitted by the Shortlisted Respondent, with the drawings being 11" x 17" size, indicate north on layouts, and use 1/4" or 1/8" scale (facility and layout drawings):~~

~~General~~

- ~~• Cover sheet~~
- ~~• Index of Drawings~~
- ~~• Legend, abbreviations and general notes~~
- ~~• Hydraulic Profile (preliminary) include hydraulic grade elevations (NAVD and NGVD) for maximum, minimum and design flows.~~

~~Civil~~

- ~~• Existing conditions and demolition plan~~
- ~~• Site Plans showing concept location for major structures, roads, utilities, and grading. At a minimum, show the layout of the project site including property limits, existing features, proposed features, proposed and existing utilities as applicable, site drainage features, and access roads. The project site and project feature locations should be tied to the project site datum.~~
- ~~• Outside yard piping plan with major process piping and or site channels (≥24 in)~~
- ~~• Contract limits and construction access and parking.~~

~~Building Demolition~~

- ~~• Plan drawings illustrating the demolition requirements for existing~~

assets:

Architecture

- Life safety plan and code analysis
- Floor Plans
- Building Elevations
- 3D View of Buildings

Structural

- Foundation plans
- Floor plans
- Basic Building plans and sections
- Basic tanks/channels plans and sections

Mechanical (Process)

- Plans and sections of each facility identifying equipment and piping located and shown
- Plans and sections of each equipment asset and piping located and shown
- Layout of major interconnecting process piping between structures
- Show elevations and piping elevations (≥ 6 in)
- Show outline of control panels for large equipment (e.g., mechanical screens) that are installed within 15 feet of the building.

HVAC

- Floor plan with equipment and duct runs and control panels
- Heating Flow Diagram (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)
- Ventilation Flow Diagram process areas (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)

Electrical

- Overall building wide single line diagram
- Basic layout of power supply and distribution routing
- Site Plan
- Basic floor plan of electrical rooms and elevations
- Show proposed power distribution wiring, and instrumentation and communication wiring
- Show proposed layout of spaces that includes electrical space, control space and communications space

Instrumentation & Controls:

- Process P&IDs (all treatment process — major equipment, valves, gates, piping and instrumentation only; names and tags per Project Technical Requirements)
- Plant wide SCADA system architecture diagram
- Basic floor plans showing proposed control panels with names and

equipment tags

~~**Equipment Cut Sheets.** Respondent shall complete equipment cut sheets provided in Attachment F (Technical Proposal Forms) for the following major equipment, and include the completed forms within Appendix C Equipment Forms in its Technical Proposal:~~

- ~~1. Slide Gates~~
- ~~2. Multi-Rake Screens~~
- ~~3. HVAC System~~
- ~~4. Major Building Appurtenances (Doors, Windows, Skylights)~~
- ~~5. Electrical Gear (including switchgear, variable frequency drives, and motor control centers)~~
- ~~6. Other Major Equipment and Ancillary Systems~~

Drawings. Respondent shall include drawings in Appendix B (Design Drawings) to illustrate and document its proposed technical design approach for the Representative Project (or approved Proposed Modified Project) and to complement the technical narrative. Reference shall be made to drawings within the major element narratives.

It is anticipated that the Respondent will use the existing drawings as provided in Attachment D (Project Background Documents), and the project design criteria in Attachment F (Technical Proposal Forms) as the basis for their Representative Project (or approved Proposed Modified Project).^{AD3}

Organization. Drawings shall be organized first by area and then by discipline matching the organization of the disciplines listed herein (General, Civil, Building Demolition, Architecture, Structural, Mechanical (Process), Mechanical (Plumbing), HVAC, Electrical, Instrumentation and Controls)^{AD3}

Content. Naming convention shall be consistent with the drawing list provided as part of the Project Technical Requirements. The list of Drawings may be combined in the sheets delivered with the submittal, so long as the information is included in the Drawing set. For example, the index of drawings may be on the cover or combined with the legend, abbreviations, and general notes. At a minimum the following drawings shall be prepared and submitted by the Shortlisted Respondent, with the drawings being 11" x 17" size, indicate north on layouts, and use 1/4" or 1/8" scale (facility and layout drawings):

General

- Cover sheet
- Index of Drawings
- Legend, abbreviations and general notes
- Hydraulic Profile (preliminary) – include hydraulic grade elevations (NAVD and NGVD) for maximum, minimum and design flows.

Civil

- Site Plan showing concept location for existing and proposed major structures, roads, and utilities

- Outside yard piping, electrical routing plan
- Contract limits, and construction access and parking.

Building Demolition

- Plan drawings illustrating the demolition requirements for existing assets.

Architecture

- Life safety plan and code analysis
- Floor Plans
- Building Elevations (Optional)

Structural

- Basic Building plans and sections

Mechanical (Process)

- Plans and section of the facility identifying existing and proposed equipment and piping.
 - Show proposed layout of spaces or separate buildings as well as dimensions for major equipment such as gates, screens, control panels, conveyors and major piping.

HVAC

- Plan with equipment and duct runs

Electrical

- Overall building-wide single line diagram
- Basic layout of power supply and distribution routing
- Basic floor plan of electrical rooms and elevations

Instrumentation & Controls:

- Process P&IDs (all treatment process – major equipment, valves, gates, piping and instrumentation only; names and tags per Project Technical Requirements
- Screen House SCADA system architecture diagram
 - Show how the Screen House will integrate into the Plant SCADA system architecture

Equipment Cut Sheets. Respondent shall complete equipment cut sheets provided in Attachment F (Technical Proposal Forms) for the following major equipment, and include the completed forms within Appendix C Equipment Forms in its Technical Proposal:

1. Slide Gates
2. Multi-Rake Screens and conveyors
3. HVAC System
4. Electrical Gear (including switchgear, variable frequency drives, and motor control centers)
5. Other Major Equipment and Ancillary Systems

NOTE: Shortlisted Respondents must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

**REQUEST FOR PROPOSALS
FOR DESIGN-BUILD SERVICES CONTRACT
FOR PROJECT NO. 81000984 - CONTRACT NUMBER 1638
BLUE RIVER SCREEN HOUSE PROJECT
WATER SERVICES DEPARTMENT
CITY OF KANSAS CITY, MISSOURI**

1. **Purpose.** This is a Request for Proposals (“RFP”) issued by the City of Kansas City, Missouri (“City” or “Owner”) acting through its Water Services Department (WSD) for Design-Build services including design, construction, startup, and extended commissioning for the Blue River Screen House Facility Project (Project).

The City will use Fixed-Price Design-Build (FPDB) contracting method to deliver the Project, and is utilizing a two-step procurement process for selecting the entity that will provide best value as the Design-Builder for the Project. This RFP represents the second step of the procurement process and establishes the process for soliciting and evaluating Technical and Cost Proposals (Proposal) from those entities shortlisted as part of the Statement of Qualifications (SOQ) process. Only those Respondents identified in Paragraph 2 below are invited to submit a Proposal in response to the RFP. The City will review and evaluate Proposals in accordance with this RFP and select the Design-Builder.

The execution of a Contract will be subject to the terms and conditions of the RFP. This RFP is not a tender or an offer. Respondents must be thoroughly familiar with the scope of work and performance requirements discussed in this RFP. The City may reject any Proposal that fails to demonstrate such familiarity. In no event will the City be liable for any costs incurred by any Respondent or any other party in developing or submitting a Proposal, except as described in Section 3.10, below.

The Proposals must be submitted in accordance with the requirements set forth in this document.

2. **Definition of Request for Proposals.** This RFP is an invitation by the City to Design-Build Professionals soliciting Proposals from the following entities ("Shortlisted Respondents", "Respondents", or "Bidders"), listed in alphabetical order:

- Garney-CDM Smith
- Goodwin-Black & Veatch
- Radmacher-Olsson

Selected Respondents were shortlisted based on the qualifications of the Project Team that were submitted in their SOQs and are invited to submit their proposal for performing the services specified in this RFP.

Selection will be based upon the judgment of the City in obtaining a Design-Builder Professional that will be in the best interests of the City. Respondent’s submittal of a proposal in response to this RFP does not create any right in or expectation to a contract with the City.

3. **Submittal Date.** Sealed Proposals are due by ~~November 22, 2022 at 2:00PM~~ ~~November 9, 2022 at 2:00PM~~^{AD4 AD6} local time. Proposals shall be sent to Derrick Smith, Contract Administrator, Procurement Services, General Services Department, 414 East 12th Street, City Hall 1st Floor-RM 102W, Kansas City, MO 64106. Respondents should submit six (6) paper documents (one original and five [5] copies) as well as one electronic version of the **Technical Proposal** on a USB flash drive (in searchable PDF format). **One (1)** paper document (one original) of the **Cost Proposal**, as well as one electronic version of the **Cost Proposal** on a USB flash drive (in searchable PDF format), must be submitted in a single, sealed envelope or package separate from the Respondent's Technical Proposal.

Both Technical and Cost Proposals must be submitted in separate, sealed envelope or box and shall not be opened until after the due date. Each Technical and Cost Proposal document package shall be plainly labeled with the words "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984" and "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984," respectively, along with Proposer name and identification. The City reserves the right at any time to change or extend the due date and time for any reason.

Each Respondent assumes full responsibility for the timely delivery of its Proposals at the required location. Proposals received after the Submittal Date may be deemed non-responsive and be excluded from consideration. A delivery acknowledgement will be issued upon receipt of the Proposal package and will be provided to the Respondent via e-mail by the City's Project Manager.

Only written responses will be considered. All materials submitted will become part of the response, and may be incorporated into any subsequent contract(s) between the City and the selected Respondent.

4. **RFP Package.** The RFP package for this project contains the following:

- Section 1: Project Overview
- Section 2: Fixed-Price Design-Build Services
- Section 3: Procurement Process
- Section 4: Proposal Submission Requirements
- Section 5: Final Proposal Evaluation and Selection
- Section 6: Conditions for Respondents

Attachments:

- Attachment A: Definition of Terms
- Attachment B: Scope of Design-Build Services
- Attachment C: Draft Contract for Design-Build Services
- Attachment D: Project Background Documents (under separate cover)
- Attachment E: Project Technical Requirements (under separate cover)
- Attachment F: Technical Proposal Forms
 - (1) Form F-1. Project Design Criteria Checklist
 - (2) Form F-X (number to be provided by Respondent). Equipment Cut Sheet

Attachment G: Cost Proposal Forms

- (1) DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
- (2) 00430 Bid Bond
- (3) Form 01290.02 Schedule of Values

Attachment H: Submission Forms including Civil Rights and Equal Opportunity Department (CREO) Documents (To be submitted within 48 hours of Public Bid Opening, in accordance with Section 5.5.1)

- (1) HRD Form 06: Design-Builder Contract Instructions
- (2) HRD Form 8A: Contractor Utilization Plan/Request for Waiver
- (3) HRD Form 10: Timetable for MBE/WBE Utilization
- (4) HRD Form 11: Request for Modification or Substitution
- (5) 00450.01 Letter of Intent to Subcontract
- (6) 00515.01 Employee Eligibility Verification Affidavit
- (7) 01290.14 Contractor Affidavit for Final Payment
- (8) 01290.15 Subcontractor Affidavit for Final Payment
- (9) HRD Employee Identification Report Form
- (10) HRD Affidavit of Training Program
- (11) Best Faith Efforts, if MBE/WBE goals are not met.
- (12) Proposal Development Stipend Agreement Form

5. **Questions.** Forward all questions by email to both the following Project Manager and Procurement Manager. Questions received after the Deadline for Receipt of Written Questions (Section 3.2 Procurement Schedule) may not be answered. Interpretations or clarifications considered necessary by the Project Manager in response to such questions will be issued by Addenda to all Respondents. Oral or other interpretations or clarifications shall be without legal effect, even if made during formal meetings.

Isaac Garlington, Project Manager
4800 East 63rd Street,
Kansas City, MO 64130
Phone: (816) 513-0436
E-mail: isaac.garlington@kcmo.org

Derrick Smith, Procurement Manager
Procurement Services, General Services Department
414 East 12th Street, City Hall 1st Floor-RM 102W
Kansas City, MO 64106
(816) 513-0807 Phone
(816) 513-2812 Fax
Email: derrick.smith@kcmo.org



For persons with disabilities needing reasonable accommodations please contact the City's ADA Specialist at 816-513-6589.

SECTION 1: PROJECT OVERVIEW

1.1 Project Background

The Blue River WWTP is a 120 million gallons per day (mgd) municipal wastewater treatment facility that discharges treated effluent into the Missouri River.

Certain project background documents are being made available to the Respondents, as referenced in Attachments D (Project Background Documents) and E (Project Technical Requirements), for the purpose of preparing Proposals. The City is providing these documents only for the purpose of obtaining Proposals for the Project and does not confer a license or grant permission for any other use. Documents referenced in Attachment D (Project Background Documents) and Attachment E (Project Technical Requirements) will only be made available in electronic format.

Due to criticality of adequate screening, and the desire to allocate risk to one entity, the City decided there is benefit in utilizing a Design-Build method for the Project and a Fixed-Price Design-Build (FPDB) method was selected. The FPDB method outlined in this RFP was chosen to allow WSD staff involvement in the design process for the Project while leveraging the schedule, collaboration, and other advantages that result from use of a design-build process.

Ongoing coordination services and meetings with WSD will be required.

Because the City has specific technical requirements, preferences, and standards regarding some elements of the facilities design, as well as the desire to control how and where risk will be assigned as part of this Project, preliminary project design parameters are provided in Attachment E (Project Technical Requirements) and further described in Section 1.2.1. Project Technical Requirements.

1.2 Project Scope

This RFP is to provide Design-Builder Services for design, construction, and commissioning the following scope of work as defined in the Project Technical Requirements (Attachment E), within the City's Budget and Scopes Rank Ordered as follows:

Rank Order

- 1) Multi-Rake Screens and Conveyors
- 2) Channel Separation System
- 3) Grit Equalization across Channels
- 4) Actuated Slide Gates
[Rerouting of Birmingham/Westside Sludge Line^{AD4}](#)
- 5) Power Upgrades
- 6) Heating, Ventilation, and Air Conditioning (HVAC)

For full scope of services, refer to Section 01110 – Summary of Work

Under the FPDB method, the Design-Builder's scope of work for the Project will be performed in two (2) phases under a single Contract for Design-Build Services between the City and Design-

Builder. These phases (described in Attachment B (Scope of Design-Build Services)) may run concurrently and are generally described as follows:

- **Design Phase** services performed under the Contract for Design-Build Services include completing the entirety of the Project’s final design and pre-construction activities.
- **Construction Phase** services performed under the Contract for Design-Build Services include: performing construction; performing post-construction tasks, such as commissioning and initial performance testing; providing a "Smart BIM", as specified by the City; and performing warranty and other work required.

1.2.1 Project Technical Requirements

The Project Technical Requirements, as provided in Attachment E (Project Technical Requirements), are considered Contract Documents and define the basis of project design and definition as developed to-date for this RFP. Technical Proposals must incorporate all Project Technical Requirements. Attachment E (Project Technical Requirements) includes the native files for the Respondents to use in developing Proposals. Project Technical Requirements are included within:

- Basis of Design Report
- Preliminary Drawings
- Technical Specifications

The Project Technical Requirements describe the “Representative Project.” Respondents may deviate from the Representative Project (“Respondent’s Proposed Modified Project”), if justified and approved by the City. **All Technical Proposals and Cost Proposals must be based on either the Representative Project or the approved Proposed Modified Project.** The Project Technical Requirements (Attachment E) are available on a USB flash drive or eBuilder for Shortlisted Respondents.

The Project Technical Requirements identify both **Fixed Design Criteria, Indicative Design Criteria, and Preferred Indicative Design Criteria** for the Representative Project. Fixed Design Criteria must be adhered to and followed by the Respondent. However, the City would like to promote innovation and encourage best value; therefore, the City will consider technical alternatives that are better than or equal to the Indicative Design Criteria. Proposed variances from Indicative Design Criteria must be included within and submitted as part of the Technical Submittal (see Section 4). Recommended variances will be discussed between the City and the Respondent, and the City will determine if the variation is “approved” or “not approved.” Respondent recommendations (both “approved” and “not approved” variances) for Indicative Design Criteria and Preferred Indicative Design Criteria will be considered proprietary and will be kept confidential. The Respondent must also document the recommended technical alternatives to the Indicative Design Criteria in its Technical Proposal.

1.3 City's Objectives

The City's objectives for delivery of the Project are as follows:

- **Quality:** Provide treatment facilities and equipment that will be sustainable and will reliably produce required quantities of Class A biosolids in full compliance with federal and state regulations and contractual standards for the full range of the sludge conditions set forth in this RFP.
- **Cost:** Minimize capital cost with consideration of optimizing life-cycle cost.
- **Schedule:** Achieve the scheduled completion dates for design, construction and performance testing of the Project.
- **Risk:** Achieve an optimal balance of risk allocation between the City and the Design-Builder. In general, the party best suited to manage the risk owns the risk
- **Safety:** Implement an effective safety program incorporating best industry practices.
- **Operations and Maintenance (O&M):** Optimize operating and maintenance requirements so that the facility is capable of reliably and continuously operating in a cost-effective manner over the long-term. Develop and deliver, in conjunction with City and WSD management, a program that provides effective class room and hands on training for WSD staff to transition to full-time operation and maintenance of new facilities, electronic O&M manuals, and Standard Operating Procedures.
- **Accountability:** Provide for Design-Builder assumption of single point of accountability for performance of all services under the Contract for Design-Builder Services.
- **Smooth Transition:** Smooth transition of design deliverables (i.e. as-builts, building information models [BIM]), electronic O&M Manuals, etc. from the Design-Builder to the City for use in the City's O&M systems, such as maintenance management and asset management. Smooth transition of facility operations following commissioning activities between the Design-Builder and the City.
- **Collaboration:** Provide for coordinated design development with City input in a manner that preserves Design-Builder's sole responsibility for the achievement of Project performance objectives while meeting City objectives associated with cost, quality, aesthetics, and long-term operability.
- **Sustainability:** Per Section 1.6, all solutions identified to improve the quality of life of facility personnel, reduce labor usage, reduce material usage, and reduce waste created after construction is completed.

By selecting the FPDB delivery method for the Project, the City is committed to working in close collaboration with the Design-Builder.

1.4 Project Funding

The cost for design and construction of the Project is currently estimated at **\$5 million**. This budget does not include the City’s other Project costs, such as professional advisory services, site investigations, environmental studies, certain governmental approvals, taxes, and other related costs.

The Project may be financed through a combination of City municipal revenue bonds and cash.

1.5 Project Schedule

The Project schedule is anticipated as follows:

- Design-Builder Notice-to-Proceed February 2023
- Facility Commissioning August 2024
- Substantial Completion September 2024
- Final Completion November 2024

1.6 Sustainability

The City has adopted an overall policy supporting a greater use of “green solutions” or enhanced sustainability measures that consider environmental quality, social equity and economic vitality. In order to minimize waste, enhance efficiencies, and achieve multiple benefits and project synergies, all City projects must identify opportunities for sustainability improvements and implement those improvements when financially reasonable and operationally practical.

The Envision™ rating system is used by WSD to promote sustainability in a variety of infrastructure projects and to encourage sustainable approaches as an important part of project design. Envision™ will also be used to evaluate and grade the sustainability of Project components as they are developed.

City also desires for all City of Kansas City, MO services to be carbon neutral by the year, 2030.

SECTION 2: FIXED-PRICE DESIGN-BUILD SERVICES

2.1 General

The services to be undertaken by the Design-Builder include all Work defined in the Contract, including all Design Professional Services, Construction Services, and other obligations to be performed by Design/Builder under the Contract Documents, including without limitation project management, supervision, training, testing, permitting, commissioning, and all other services and deliverables required by Contractor to achieve Final Acceptance of the Project in accordance with the Contract Documents.

Design-Builder services are as noted in Section 1 and more fully described in Attachment B (Scope of Design-Builder Services).

2.2 Roles and Responsibilities

City: The City will cooperate with the Design-Builder and will fulfill its responsibilities in a timely manner to facilitate the Design-Builder's timely and efficient performance of services. The City's responsibilities include:

- Review submissions and provide comments to Design-Builder in a timely manner.
- Furnish existing studies and provide complete, accurate, and reliable data and information regarding the Project, including record drawings, preliminary studies, environmental impact assessments, Preliminary Design BIM models, Site plans, etc.
- Provide information and provide (or engage Design-Builder to perform) additional studies that may be necessary to complete the Project.
- Provide adequate funding.
- Provide access to the Project site and any necessary easements.
- Obtain the governmental approvals and permits the City is responsible for and assist Design-Builder in obtaining governmental approvals and permits Design-Builder is responsible for.
- Provide necessary data and inputs, characteristics and ranges (e.g., wastewater influent or biosolids) for Project start-up and performance testing.

Design-Builder: The Design-Builder will cooperate with the City and will provide in a timely manner the services, as described in Section 2.1, necessary to complete the general Project scope specified in Attachment B (Scope of Design-Build Services).

The roles and responsibilities of the City and the Design-Builder are more fully described Attachments B (Scope of Design-Build Services) and C (Draft Contract for Design-Build Services) in the RFP.

SECTION 3: PROCUREMENT PROCESS

3.1 Communications and City Contact

On behalf of the City, **Derrick Smith, Procurement Services Department** will act as the Procurement Manager and as the sole point of contact (City Contact) and administrator for the RFP process. All communications shall be submitted in writing by email, sent to the procurement manager, carbon copy the Project Manager, and shall specifically reference this RFP. All questions or comments should be directed to the Procurement Manager as identified under Paragraph 5 of this RFP. All communications and questions regarding the Project shall only be made through the City Contact with the exception of City-certified Disadvantaged Business Enterprises, Minority Business Enterprises, and Women Business Enterprises (D/M/WBE) and of Respondents contacting the Civil Rights and Equal Opportunity Department to assist in meeting MBE/WBE goals. D/M/WBEs may contact WSD, General Services, and CREO staff directly regarding the Project.

No oral communication from the City Contact or any other individual is binding. Oral or written contact with other City staff, WSD staff, the Owner's Advisor, or any public official specific to the Project during the RFP/Design-Builder Selection process is prohibited. A violation of this provision may result in disqualification of the Respondent from the RFP/Design-Builder Selection process.

3.2 Procurement Schedule

The procurement process includes several confidential meetings which are discussed in further detail in Section 3.4 Confidential Meetings. The approximate procurement schedule is as follows:

- Issuance of RFP September 2, 2022
- Confidential Meetings (2) Sept. 7, 2022 – Oct. 26, 2022
- Site visits (2)^{AD4} Through October 21, 2022^{AD4}
- Deadline for Receipt of Written Questions October 26, 2022
- Issuance of Final Addendum November 1, 2022
- Proposal (Technical and Cost) Submission November 22, 9^{AD6}, 2022
- Interviews (Provisional) 2022 Week of Dec. 6 Nov. 15^{AD6},
- Public Bid Opening Date Dec. 13 Nov. 22^{AD6}, 2022
- Notice of Intent to Contract Dec. 20, Dec. 28, 2022^{AD6}

3.3 Confidential Meetings

Following the issuance of the RFP, the Owner intends to conduct **two (2)** confidential individual meetings with each Respondent during various times of the RFP Period as listed in Section 3.2 Procurement Schedule and as described in the following Sections 3.4.1 through 3.4.3.

All information discussed in these meetings will remain confidential with the exception of clarifications to the RFP made by the City, which will be issued by addenda. The City anticipates that the confidential meetings will be held at **4800 East 63rd Street, Kansas City, MO, 64130** or Blue River located at **7300 Hawthorne Road, Kansas City, MO 64120**. The City will advise each Respondent of its proposed meeting time for Confidential Meeting #1 no later than one week prior to meeting and Confidential Meeting #2 no later than two weeks prior to meeting. The City may hold further confidential meetings at its sole discretion upon notice to the Respondents.

The meetings are intended to provide additional information about the Project, the RFP, Project Technical Requirements, Preliminary Design Contract Documents, technical questions/clarifications, scope of services, and the Draft Contract. The City's commitment to confidentiality is subject to applicable law. The City reserves the right to determine whether any element or feature of the preliminary technical concepts is objectionable or non-objectionable for any reason. The RFP will be amended as necessary to preclude the use of any elements or features determined to be objectionable by the City. The meetings will be conducted to allow:

- a) Respondents to present the concepts to the City and convey to the City the value and benefit of the Respondent's approach to meeting the City's Project requirements as defined in the RFP;
- b) The City to understand each Respondent's technical approach/concepts and to review the approach/concepts for compliance with the City's Project requirements as defined in this RFP;
- c) The City to evaluate any alternative technologies and variances, and to inform Respondents if any are found to be objectionable;
- d) Clarification of the City's Project Technical Requirements through addenda to the RFP; and
- e) Respondents to comment on the RFP, including the Draft Contract for Design-Build Services, and the City to clarify the Draft Contract for Design-Build Services after consideration of Respondent comments.

The City plans to conduct such informational meetings in a responsive manner, affording comparable opportunities for discussion to each Respondent.

Except as expressly provided otherwise in this RFP, the confidential meetings are subject to the following rules:

- a) The City will not discuss with any Respondent any information submitted as part of this procurement other than its own;
- b) Respondents shall not seek to obtain commitments from the City in the meetings or otherwise seek to obtain an unfair competitive advantage over any other Respondent;
- c) No aspect of these meetings is intended to provide any Respondent with access to information that is not similarly available to other Respondents. Accordingly, material information about the Project or procurement that the City reveals or discusses in response to questions raised in a confidential meeting will be revealed to the other Respondents unless the City, in its sole discretion, determines that disclosure (i) would (a) impair the confidentiality of information submitted as part of this procurement or (b) reveal a Respondent's confidential business strategies; (ii) is not necessary in order to address an error in the RFP Documents, (iii) is not necessary for purposes of fairness and transparency; and (iv) is not required by the Public Records Act;
- d) The content or discussions that occur during confidential meetings will not be considered in Proposal evaluations; and
- e) A non-disclosure agreement will be signed by each meeting attendee, including City staff and others attending on the City's behalf, prior to the start of each confidential meeting.

During confidential meetings, Respondents may ask questions, and the City may provide responses. Responses provided by the City during meetings may not be relied upon unless such questions are submitted in writing and the City provides written responses by an addendum to this RFP.

3.4.1 Confidential Meeting #1 (Mandatory)

Confidential Meeting #1 will occur as scheduled in Section 3.2, after the issuance of the RFP with the purpose of reviewing with the Respondent's the RFP, procurement process, and RFP documents. The Respondent may discuss technical ideas with the City during this meeting. The City Contacts will initiate scheduling the optional meeting with Respondents upon issuance of the RFP.

The duration for this meeting will be up to two (2) hours and attendance from the Respondent's team shall be limited to two (2) hours and attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions.

3.4.2 Confidential Meeting #2 (Mandatory)

Confidential Meeting #2 will occur no earlier than twenty-one (21) days before the Proposal Submission date with the purpose of discussing technical ideas provided as well as the Draft Contract for Design-Build Services. This meeting may also include representatives from the City's Legal Department and the duration is expected to be four (4) to eight (8) hours depending on Respondent's agenda. Respondent shall send agenda to City Contacts one week prior to meeting. Attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions. Attendance may also include the

Respondent's legal representative or counsel for discussions related to the Draft Contract for Design-Build Services. This meeting will be scheduled by City at least two (2) weeks in advance.

Any proposed variances from the Indicative Design Criteria or Preferred Indicative Criteria must be discussed during this meeting. If the City does not approve a Respondent's proposal for a variation from Indicative Criteria, it will inform the Respondent by e-mail within two (2) weeks after Confidential Meeting #1.

3.4 Interviews

The City may conduct an interview/oral presentation with each Respondent after proposals are submitted. The interviews may consist of an oral presentation by the Respondent, as well as a questions and answers portion administered by the City. An agenda for the interview/oral presentation will be sent to each Respondent prior to the interview.

The purpose of the interview is to enable each Respondent to: (a) demonstrate Proposal clarity of expression and thoroughness; (b) demonstrate a strong understanding of Project issues; (c) articulate its thoughts and ideas in a logical and factual manner; (d) demonstrate communication between team members and impressions of ability to work cohesively; (e) confirm Respondent's key personnel commitments; (f) provide direct, clear, thorough and insightful answers to questions; and (g) clarify the City's understanding of the proposal and what is covered by it.

3.5 Withdrawal from Proposing

A Respondent may withdraw from submitting a Proposal by providing a written request, duly executed by an authorized representative, and delivered to the City Contact at any time prior to the Proposal Submittal Due Date. Individuals making the withdrawal will be required to provide evidence of authorization to represent the Respondent. After the Proposal Submittal Due Date, Proposals shall not be withdrawn or modified except to the extent agreed to by the City. If a Respondent withdraws from submitting a Proposal, a Stipend from the City will not be paid to that Respondent.

3.6 Validity of Proposal

The offer represented by each Proposal will remain in full force and effect after the Proposal Submittal Due Date and cannot be withdrawn for a period of **ninety (90) ~~180~~^{AD4}** days unless:

- The City has cancelled the RFP;
- The City has awarded the Contract to another Respondent and Contract execution has occurred; or
- The City, in its sole discretion, allows a Respondent to withdraw its Proposal prior to such deadline.

The City and the Respondent may mutually agree, in writing, to extend the validity of a Proposal beyond the validity period. If a Respondent agrees to extend the validity of its Proposal beyond the validity period, the Proposal Security (see Section 3.7 Proposal Bid Security) shall also be extended and/or replaced with compliant Proposal Security.

3.7 Proposal Bid Security

The Cost Proposal shall include security for the Respondent's obligations under the Proposal in the amount of 5% of Base Bid which shall be in the form of a Bid Bond (on Form 00430 Bid Bond provided in Attachment G, Cost Proposal Forms), Cashier's Check, Letter of Credit, Certificate of Deposit or other instrument approved in advance by the City. Prior to submittal of the Cost Proposal the City Treasurer must approve both the financial institution and text of a Letter of Credit. A Cashier's Check or a Certificate of Deposit shall be payable to the City Treasurer. The proposal bid bond must be valid until at least the end of the Proposal validity period in Section 3.6.

By submitting its Proposal, each Respondent understands and agrees that the City shall be entitled to draw on the proposal bid security in its entirety and Respondent if:

- Respondent withdraws, repudiates or otherwise indicates in writing that it will not meet any commitments made in the Proposal, except as specifically permitted under this RFP;
- Respondent is selected for negotiations under Section 5 of this RFP and fails to negotiate with the City in good faith;
- Respondent refuses or is unable to execute and deliver the Contract, evidence of insurance, payment and performance bonds and any other documents required by the City as a condition to award.

By submitting a Proposal, Respondent is agreeing to correct any mistakes on a proposal security submission when requested by the City. When such a mistake occurs and a Respondent fails or refuses to correct the mistake or execute the Contract when requested by the City, any proposal security shall be forfeited to the City and the Respondent shall also be subject to debarment and damages.

3.8 Addenda

This RFP is subject to revision after the date of issuance via written addenda until the Issuance of Final Addendum date in Section 3.2 Procurement Schedule . The City may extend the Submittal Due Date (and any dates in the Procurement Schedule) via addendum at any time. A copy of all such written addenda will be posted at the Kansas City, Missouri Plan Room, <http://www.kcmoplanroom.org>. All addenda will be posted at this location. Any document or plan may be viewed or downloaded from this location.

The following documents will be made available for download: (1) the RFP (including all Attachments) and (2) addenda to the RFP. It is each Respondent's responsibility to obtain all RFP addenda prior to submitting its Proposal.

If the Respondent has any doubt as to the true meaning of any part of this RFP, or if any discrepancies in or omissions from this RFP are discovered by Respondent, a written request for an interpretation or correction may be submitted to the City Contact (see Section 3.1) for response. The Respondent submitting the request will be responsible for delivery no later than the Deadline for Receipt of Written Questions. The City will not be responsible for any other explanation or interpretations of the documents.

It is the responsibility of all Respondents to ascertain whether any addenda have been issued before the Submittal Due Date by checking the Kansas City, Missouri Plan Room. If an Addendum is issued, Respondent must acknowledge receipt of Addendum on the DB 00410 Design-Build Bid Form submitted with the Cost Proposal (see Section 4.3.11 Cost Proposal).

3.9 Inclusion of Proposal in the Contract

Portions of the successful Respondent's Proposal will be used to complete various Contract provisions and Exhibits and will therefore become part of the Contract. All other information is for evaluation purposes only and will not become part of the Contract.

3.10 Reimbursement for Proposal Submitted

For those Respondents that submit a responsive Proposal and are not awarded the Contract, the City will reimburse each unsuccessful Respondent for Proposal preparation costs with a not-to-exceed value of \$45,000. The City will have no further obligation for cost reimbursement. All work performed by a Respondent pursuant to submitting a Proposal, shall be considered works for hire and shall become the property of the City without restriction or limitation on the City's use. Payment of reimbursement shall be made within sixty (60) days after receipt of invoice from Respondent for reimbursement. The Respondent's invoice should include documentation that supports the actual costs incurred for approval of goods and services, providing the Notice of Intent to Award for this project's FPDB Contract has been issued to the successful Respondent. **The Respondent shall complete the Proposal Development Stipend Agreement Form included in Attachment H (Submission Forms) as acknowledgement that the Respondent will accept the reimbursement and that the Respondent agrees with the terms and conditions associated with the reimbursement. If the Respondent chooses not to accept reimbursement, then Respondent shall provide a copy of the Proposal Development Stipend Agreement Form, unsigned, accompanied with a brief statement that the Respondent chooses not to accept Reimbursement.** The completed Proposal Development Stipend Agreement Form shall serve as the legal agreement between the City and Respondent as it specifically relates to the reimbursement.

The stipend shall be paid to the Respondent(s) following the council approval of the ordinance of the Construction contract with the selected Design Builder. Design-Builders are encouraged to become City vendor prior to proposal submission for the Project. Upon such payment, the City

shall acquire from the Respondent perpetual, nonexclusive, royalty-free licenses to allow the City to use the design, or any part thereof, any ideas and/or information contained in the Proposal and to use such design, or any part thereof, any ideas and/or information in this Project or in connection with other projects. In order to receive a stipend, a Respondent must obtain a Vendor Number from the City. Respondents can obtain the necessary forms for obtaining a Vendor Number by calling (816) 513-1836.

3.11 Site Access Period

The City will provide Respondents scheduled access, during periods shown in Section 3.2, to Project site located at the Blue River WWTP by appointment. Each Respondent shall contact the City Contact to schedule a date and time to tour the Facilities. The City will provide up to two (2) hours of site access for each Respondent. City staff will accompany the Respondent in touring the Facilities, however, staff will not be allowed to answer procurement or Proposal-related questions. Site access will be granted approximately one (1) week after the Request for Proposal is provided.

Respondents visiting the Project site shall be responsible for their own safety including equipment and safety procedures. No information conveyed by the City to Respondent resulting from these site tours shall act to modify the RFP unless such modifications are made by Addendum.

SECTION 4: PROPOSAL SUBMISSION REQUIREMENTS

4.1 Submittal Due Date

Refer to Paragraph 3 above for submittal location and due date.

4.2 Submission Format

Except as expressly provided in this Section, the Technical Proposal must not exceed **twenty-five (25)** total narrative pages (most or all 8½ x 11 inch with 1-inch or greater margins), excluding the transmittal letter, index or table of contents, front and back covers, title pages/separation tabs, and appendices. A maximum of **five (5)** of the total pages may be 11 x 17-inch z-fold format. Eleven (11) point font or larger must be used in Parts 1 and 2 of the Technical Proposal. The Technical Proposal shall be typed or printed double-sided to the extent possible, with each double-sided page counting as two pages, on recycled and recyclable paper, and shall be continuously numbered. Each Technical Proposal Part and Appendix shall be labeled with title headers.

The Technical Proposal submission envelope or box shall include Respondent's name and address and shall be labeled "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

The Cost Proposal submission envelope or box shall include the completed Cost Proposal submission forms in Attachment G (Cost Proposal Forms) and any supporting documentation requested in this RFP. Cost Proposal must be accompanied by Proposal bid security in accordance with Section 3.8 Proposal Bid Security.

The Cost Proposal envelope shall include Respondent's name and address and shall be labeled "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

Drawings shall be half-size versions (11" x 17") of ANSI 22" x 34" sheets. The set shall include a cover sheet and index of all drawings included in the set. Drawings are excluded from the page limit of the Technical Proposal.

4.3 Submission Content

4.3.1 General Outline

The **Technical Proposal** must include the following in the order listed:

- Transmittal Letter
- Part 1 – Project Plans/Management Approach
 - Project Team/SOQ Confirmation

- Design-Build Coordination and Management
- Quality Control and Management
- Safety Plan
- Permitting
- Self-Performance and Subcontracting
- Part 2 – Technical Proposal
 - Project Understanding
 - Technical Narratives
 - Including variances from Indicative Design Criteria
 - Technical Drawings (reference Appendix B)
 - Equipment Information (reference Appendix C)
- Part 3 – Construction Schedule, Planning and Sequencing (reference Appendix D)
- Part 4 – MBE/WBE Utilization
- Appendix A – Forms for Affirmation and Compliance (not included in page count)
 - Copies of Missouri Construction and Engineering Licenses for Lead Contractor, Design Manager, and Engineer of Record
 - Bonding Capacity
 - Declaration of Insurance
 - Form 00515.01 Employee Eligibility Verification Affidavit
- Appendix B – Design Drawings (not included in page count)
- Appendix C – Equipment Forms (not included in page count)
- Appendix D – Project Schedule (not included in page count)

The content requirements set forth in this RFP represent the minimum content requirements for the Technical Proposal. It is the Respondent's responsibility to present all relevant information and

other materials in its Technical Proposal. The Technical Proposal, however, should not contain standard marketing or other general materials. It is the Respondent's responsibility to modify such materials so that only directly relevant information is included in the Technical Proposal.

Per Section 2-1585, City Code of Ordinances, the Technical Proposal may not contain any reference to the cost of the Project.

The **Cost Proposal** must include the following:

- Cost Proposal
 - DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
 - 00430 Bid Bond

4.3.2 *Transmittal Letter*

Each Respondent must provide a Transmittal Letter following the Proposal cover that formally conveys the Proposal to the City. The letter must be signed by an authorized representative of the Respondent who is empowered to sign such material and to commit the Respondent to the obligations contained in the Proposal. If Respondent is a corporation or an LLC, an authorized officer shall sign his/her name and indicate his/her title beneath the full corporate name. If Respondent is a joint venture, an authorized representative for each member of the joint venture shall sign the letter, and specifically state that, if the joint venture is selected as the Design-Builder entity, each member will be jointly and severally liable to the City for the obligations arising out of the contract between the joint venture and the City.

The Transmittal Letter may include any information deemed relevant to the Respondent, but must include the following:

1. An identification of the Respondent's Point of Contact, including name, address, phone number, and email address, and must specify who would be the Design-Builder's signatory to any contract documents executed with the City.
2. An Executive Summary of the Proposal, with no references whatsoever to the Cost Proposal.
3. A declaration of the Respondent's intent, if selected, to enter into a contract with the City for the Project in accordance with the terms of this RFP;
4. An affirmation that all professional and business registrations and licenses required for the Project have been obtained or will be obtained prior to award of the Contract for Design-Build Services. This includes, but is not limited to the registrations/licenses for the members of the Respondent's team that are professional engineers and will be the Engineer-of-Record for the Project;
5. A statement of the Respondent's intent to provide Performance and Payment Bonds and all insurance required under the Contract for Design-Build Services, respectively by the date of award of the Contract.

6. An affirmation that the representations made in the Proposal will remain in force and effect for ~~ninety (90) one hundred and eighty (180)~~^{AD4} days from the Proposal Submission Due Date.
7. An affirmation that the Respondent has completed and included in either Appendix A (Forms for Affirmation of Compliance), Appendix C (Equipment Forms), or in Part 5 – Cost Proposal all required submission forms provided in Attachment F (Technical Proposal Forms), Attachment G (Cost Proposal Forms), and Attachment H (Submission Forms including CREO Documents).

The Transmittal Letter shall be limited to three (3), 8 ½ x 11 inch pages.

4.3.3 Part 1 – Project Plans/Management Approach

The Respondent shall use Part 1 of the Technical Proposal to demonstrate their approach for managing the Project from Design Phase through Extended Commissioning Phase. It is not expected that the Respondent will include specific and developed plans, but should concisely demonstrate how the project will be executed with regards to project management, controls, quality, safety, permitting, and self-performing/subcontracting. The approaches should discuss who will manage the plan, how it will be assured/ensured, and provide a summary of the plan including discussion on how they comply with the City's practices.

Project Team/SOQ Confirmation. The purpose of this subsection of the Proposal is for the Respondent to confirm that the Project team submitted in its SOQ has not changed; or to provide information and an explanation regarding any changes to its Project Team differing from that submitted in its SOQ. Any changes to the Respondent's Project Team from the SOQ are subject to acceptance or rejection by the City, at its sole discretion. If the Respondent's Project Team has not changed from the SOQ, the Respondent shall include the following statement in this section of its Proposal:

“ _____ (Name of Respondent's Team or Organization) confirms that all qualifications and experience information, including the members and composition of our Project Team, provided in our Statement of Qualifications previously submitted to the City for the Blue River Screen House Facility Project has not changed, and is valid, true, and accurate.”

No changes of the primary member organizations that comprise the Project Team (Lead Designer and Lead Contractor) are allowed, and no changes to the Key Personnel as represented in the Respondent's SOQ are allowed. If extenuating circumstances require a change to any of the primary member organizations or Key Personnel, the Respondent shall provide an explanation for the change and present qualifications and experience information for the new team member(s) for the City to evaluate. The City reserves the right to reject as non-responsive the Proposal of a Respondent that changes primary member organizations or Key Personnel from that indicated in the SOQ.

Respondent shall identify the Lead Operations Coordinator, an additional role in Key Personnel, in this section and provide the information required below in the following section for this additional Key Personnel and verify proposed Staffing in RFQ.

Change in Key Personnel. Respondent shall identify any Key Personnel, as defined in Section 01420 found in RFP Attachment A, that have changed from what was previously provided in the Respondent's SOQ. The City expects Key Personnel named in this Proposal to remain on the Project Team for the duration of the Project unless changes are beyond the Respondents control and approved by the City.

For any additions or changes that have occurred to the Respondent's Project Team, the Respondent shall provide the following information relative to the assignments and qualifications of the Respondent's team:

- For any new personnel, provide sufficient reasoning and detail for the City to understand how such personnel would enhance the Respondent's ability to deliver the Project and to provide value to the City.
- Proposal Appendix A (Forms for Affirmation of Compliance) should include resumes (see RFQ for resume format and requirements), copies of licenses or registrations, and project references for any additional or new personnel that the Respondent proposes as part of its Project Team that were not identified in the SOQ.

Design-Build Coordination and Management Plan. The Respondent shall demonstrate that: (a) its coordination and management approach during design and construction includes specific measures to control budget, documentation, and schedule; and (b) it will implement policies and procedures to facilitate communication and input from members of the Project Team and City. At a minimum, Respondent shall:

- Describe the roles and responsibilities of the Project Team members, and how the Project Team is going to function to benefit the Project. Include an organization chart of the Project Team to illustrate its functionality, team reporting structure, etc.
- Describe the Respondent's concepts for managing the design, construction, and commissioning phases of the Project and how the Respondent intends to control budget, documentation, and schedule.
- Describe how the Respondent intends to control and coordinate the flow of information between design and construction teams, and how the Respondent plans to interface with the City and permitting agencies.
- Describe the communications methods for facilitating City review during all phases of the Project, including but not be limited to meetings, progress reports, submission of BIM updates, and document management tools.
- Describe Respondent's design process, including procedures for equipment selection, constructability reviews by the Lead Contractor, obtaining City input and Lead Designer's involvement in oversight of construction. Describe where the design team will be geographically located and how operations team members will be involved in design and construction. Describe how Respondent will leverage Project Team's experience and

expertise, including Lead Operations Coordinator, that is specifically applicable to this Project, including expertise related to Headworks Operations.

- Describe the Respondents approach to involving City staff in the operations and maintenance of the facilities during the Construction and Extended Commissioning Phases, the training of City staff, and other activities to efficiently transfer operations and maintenance responsibilities to the City following the completion of the Extended Commissioning Phase. Describe Respondent's approach for development of standard operating procedures (SOPs), maintenance verification systems, and how the Respondent will work with the City's existing computerized maintenance management system.

Quality Control and Management. Respondent shall demonstrate: (a) clear and comprehensive quality assurance and control procedures during both design and construction; and extended commissioning (b) the availability and proposed utilization of established quality management procedures previously implemented on other similar projects. At a minimum, Respondent shall:

- Describe the Respondent's quality control and management methods, policies, and procedures during design. This shall include a description of Respondent's approach for monitoring and managing the quality of its work from initiation to completion of the Project, including but not limited to checking of all calculations, discipline design checklists, interdisciplinary design checklists, and standardized comment forms that document all check comments and responses for each design submittal. Use of the Revit-based BIM is required for design purposes.
- Provide a summary of quality control procedures to be utilized during construction, which includes but is not limited to materials testing for concrete and soils at a minimum, and independent special inspections.

Safety Plan. Respondent shall demonstrate that its proposed safety measures, policies, and procedures will maintain a safe construction site and will consider public safety. At a minimum, Respondent shall:

- Submit a summary description of the corporate safety program that has been established by the Lead Contractor.
- Provide a description of safety programs or procedures that would be specifically applicable to and utilized for the Project. Include how Respondent proposes to address any unique safety issues for the Project.
- Provide experience, training, and qualifications of onsite safety supervisor.

Permitting. Respondent shall describe its specific approach to the permitting and regulatory requirements anticipated for the Project. In conjunction with the Project Technical Requirements and assignments of permit responsibilities, Respondent shall identify any additional anticipated permits, special considerations for obtaining permits and compliance, approach to coordinating

with regulatory agencies and City, and proposed strategies to obtaining permits to minimize the influence on project schedule.

Self-Performance and Subcontracting. The selected Design-Builder shall perform with its own organization not less than fifty-percent (50%) of the total contract price. The dollar value included in this percentage performed by the Design-Builder shall include the value of labor, materials and equipment directly performed or procured by the Design-Builder and shall not include the value of work performed or provided by subcontractors.

Respondent shall provide a description of the general delivery approach of the Project, including use of subcontractors and proposed approach for self-performance. Identify proposed components Respondent would self-perform and the Respondent's approach to managing this work and subcontracted work.

4.3.4 Part 2 – Technical Approach

Part 2 of the Technical Proposal will be used by the City to understand and evaluate the Proposer's: (a) approach to meeting/exceeding the RFP Technical Requirements; (b) incorporation of innovative ideas and cost savings measures; and (c) incorporation of quality materials/equipment that will provide the City with cost effective operations and maintenance.

Project Understanding. Respondent shall discuss generally the tasks involved in the Project to demonstrate its knowledge of the overall Project and Project requirements and needs. Identify and describe how the Respondent would define and approach key Project challenges. Describe how the Respondent would be structured to best manage its activities and satisfy the needs of the Project, including the Lead Contractor's involvement/role during design, the Lead Designer's involvement/role during construction, and the Lead Operations Coordinator's involvement/role during design, construction, and extended commissioning phases. Include the following discussions regarding the Respondent's project understanding:

- Define 5 key issues and challenges in both the design and construction of the Project. Describe how to mitigate potential negative impacts (i.e., risk mitigation strategy) of each key issue and any unique approaches or strengths the Respondent may have relative to the issues and challenges. Describe Respondent's contingency plans for various performance issues that might be encountered on the Project.
- Discuss any innovative ideas and approaches to completing the design and construction of the Project. Demonstrate the Respondent's ingenuity through design concepts, construction materials, and construction methods to achieve the most efficient and long-lasting treatment facility.
- Discuss any prominent concerns with the Respondent's capacity to meet the Project's schedule and budget and how the Respondent will manage budget and schedule requirements. The Respondent may provide situations and examples where its approach to managing the schedule and budget has been successful, but may not include any specific cost information in the Technical Proposal.

- Describe how the Respondent will approach start-up and commissioning including the key tasks the Respondent would recommend for achieving compliance with the Project requirements. Identify concerns and challenges with commissioning and how Respondent’s team will address the risks. Respondent shall present an approach to start-up and commissioning with the key tasks the Respondent would recommend. Identify future start-up and commissioning plans that will be developed and approved by the Owner and indicate when they will be developed and submitted.
- ~~Describe how the Respondent shall describe its ability and approach to providing Extended Commissioning Phase services for an initial one year period with optional one year extension. Respondent shall provide a description of its staffing plan and organization chart; and its approach to assisting the City in the necessary operations and maintenance activities. The Respondent is expected to conform to City standard operating procedures in completing its operations and maintenance duties.~~^{AD4}

Technical Approach Narratives. Proposer shall provide a Technical Approach Narrative that clearly describes its specific technical approach to the Project with respect to the Project Areas and major Project elements as listed below. The intent of the technical approach narratives is to identify areas of compliance with the Fixed Design Criteria, as defined in the Project Technical Requirements, identify the Respondent’s approach for the Indicative Design Criteria, and to provide justification for the approved design criteria variances as proposed in the Interim Deliverable submittal.

The organization of the Technical Approach Narrative shall follow the organization and content of the Project Design Criteria:

- Performance Requirements
- Project Site and Existing Facilities
- Hydraulic Model Design Criteria
- Discipline Design Criteria:
 - A – Architectural
 - C – Civil
 - E - Electrical
 - F - Fire Protection
 - IC - Instrumentation and Controls
 - M - Mechanical
 - P – Plumbing
 - S - Structural

Within major Project elements describe the approach to each of the following technical aspects:

1. Design criteria used and comparison to Project Technical Requirements (Fixed and Indicative Design Criteria). Indicate approach for the Fixed Design Criteria and any deviations from the Indicative Design Criteria using Form F-1 Project Design Criteria.
2. Operational strategies for unit process and equipment.

3. Construction sequence narrative including identifying shut-downs and temporary facilities (electricity, water, conveyance or others).
4. List required standard operating procedures and operating manuals to be provided.

Drawings. Respondent shall include drawings in Appendix B (Design Drawings) to illustrate and document its proposed technical design approach for the Representative Project (or approved Proposed Modified Project) and to complement the technical narrative. Reference shall be made to drawings within the major element narratives.

~~It is anticipated that the Respondent will use the provided electronic BIM Model and Preliminary Drawings, as provided in Attachment E (Project Technical Requirements), as the basis for their design of the Representative Project (or approved Proposed Modified Project).~~^{AD3}

It is anticipated that the Respondent will use the existing drawings, as provided in Attachment D (Project Background Documents), the specifications in Attachment E (Project Technical Requirements), and the project design criteria in Attachment F (Technical Proposal Forms) as the basis for their Representative Project (or approved Proposed Modified Project).^{AD3}

~~*Organization.* Drawings shall be organized first by area and then by discipline matching the organization of the Preliminary Drawings as provided in Attachment E (Project Technical Requirements)~~^{AD3}

Organization. Drawings shall be organized first by area and then by discipline matching the organization of the disciplines listed herein (General, Civil, Building Demolition, Architecture, Structural, Mechanical (Process), Mechanical (Plumbing), HVAC, Electrical, Instrumentation and Controls)^{AD3}

Content. Naming convention shall be consistent with the drawing list provided as part of the Project Technical Requirements. At a minimum, the following drawings shall be prepared and submitted by the Shortlisted Respondent, with the drawings being 11" x 17" size, indicate north on layouts, and use 1/4" or 1/8" scale (facility and layout drawings):

General

- Cover sheet
- Index of Drawings
- Legend, abbreviations and general notes
- Hydraulic Profile (preliminary) - include hydraulic grade elevations (NAVD and NGVD) for maximum, minimum and design flows
- ~~Process Flow Diagram (PFD) — indicate major equipment, tanks and channels, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs~~^{AD6}

Civil

- Existing conditions and demolition plan
- Site Plans showing concept location of existing and proposed major structures, roads, and utilities. ~~utilities and grading~~ — At a minimum, show the layout of the project site including

~~property limits, existing features, proposed features, proposed and existing utilities as applicable, site drainage features, and access roads. The project site and project feature locations should be tied to the project site datum.~~^{AD6}

- Outside yard piping plan with major process piping and or site channels (≥ 24 in)
- Contract limits and construction access and parking

Building Demolition

- Plan drawings illustrating the demolition requirements for existing assets.

Architecture

- Life safety plan and code analysis
- Floor plans
- Building elevations (Optional)^{AD6}
- ~~3D views of buildings~~^{AD6}

Structural

- ~~Foundation plans~~^{AD6}
- ~~Floor plans~~^{AD6}
- Basic Building plans and sections
- ~~Basic tanks/channels plans and sections~~^{AD6}

Mechanical (Process)

- Plans and sections of each facility identifying existing and proposed equipment and piping located and shown^{AD6}
 - ~~Show proposed layout of spaces or separate buildings as well as dimensions for major equipment such as gates, screens, control panels, conveyors and major piping. that includes pump space, other mechanical spaces, maintenance space, storage space as well as major dimensions for pump equipment, flow control gates, isolation gates, major piping, isolation valves, access corridors, maintenance areas, and other appurtenant facilities included in Respondent's proposed design concept~~
 - ~~Show proposed locations for doors, overhead doors~~^{AD6}
- ~~Plans and sections of each equipment asset and piping located and shown~~^{AD6}
- ~~Layout of major interconnecting process piping between structures~~^{AD6}
- ~~Show elevations and piping elevations (≥ 6 in)~~^{AD6}
- ~~Show outline of control panels for large equipment (e.g., mechanical screens) that are installed within 15 feet of the building.~~^{AD6}

Mechanical (Plumbing)

- Show water piping, trench drains, and associated piping (≥ 6 in)

HVAC

- Floor plan with equipment and duct runs ~~and control panels~~^{AD6}
- ~~Heating Flow Diagram (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)~~^{AD6}

- ~~Ventilation Flow Diagram process areas (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)~~
AD6

Electrical

- Overall building-wide single line diagram
- Basic layout of power supply and distribution routing
- ~~Site Plan~~^{AD6}
- Basic floor plan of electrical rooms and elevations
- ~~Show proposed power distribution wiring, and instrumentation and communication wiring~~
AD6
- ~~Show proposed layout of spaces that includes electrical space, control space and communications space~~^{AD6}

Instrumentation and Controls:

- Process P&IDs (all treatment process - major equipment, valves, gates, piping and instrumentation only; names and tags per Project Technical Requirements)
- Screen house SCADA system architecture diagram
 - Show how the Screen House will integrate into the Plant SCADA system architecture^{AD6}
 - ~~Plant-wide SCADA system architecture diagram~~^{AD6}
 - ~~Basic floor plans showing proposed control panels with names and equipment tags~~
AD6

Equipment Cut Sheets. Respondent shall complete equipment cut sheets provided in Attachment F (Technical Proposal Forms) for the following major equipment, and include the completed forms within Appendix C Equipment Forms in its Technical Proposal:

1. Slide Gates
2. Multi-Rake Screens and Conveyors^{AD6}
3. HVAC System
4. ~~Major Building Appurtenances (Doors, Windows, Skylights)~~^{AD6}
5. Electrical Gear (including switchgear, variable frequency drives, and motor control centers)
6. Other Major Equipment and Ancillary Systems

4.3.5 Part 3 – Construction Schedule, Planning and Sequencing

Provide a summary version of the Respondent's proposed project schedule. Summarized schedule will include the Respondents proposed dates for achieving the Design, Construction, and **Startup and Commissioning** ~~Extended Commissioning~~^{AD4} milestones - these proposed dates will be included within the Agreement executed by the City and successful Respondent.

Respondents shall: (a) describe construction sequencing of major Project elements and how sequencing may affect the critical path; (b) discuss any concerns with the capacity to meet the Project's schedule and how the Respondent will manage the schedule. Respondent shall describe how they would approach site logistics and limitations during construction, such as construction staging areas, etc.

Respondent shall develop a detailed Project Schedule and provided within Appendix D (Construction Schedule) of its Proposal. The detailed Project Schedule shall be a preliminary resource-loaded CPM construction schedule without any reference to cost, prepared using Microsoft Project 2007 or later format. Include no more than three hundred (300) individual activities, for identifying tasks, durations, and key milestones during the design, construction, and commissioning phases. Show milestones for key decision points, milestones, shutdown periods, OCCP and permit review periods for WSD and AHJs, approvals, purchasing and testing dates associated with Schedule based upon the City's anticipated award date. Include time for permit or regulatory approval processes required prior and during construction. Include schedule for start-up and commissioning period and performance verification testing.

4.3.6 Part 4 – MBE/WBE Utilization

City desires that Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) have a maximum opportunity to participate in the performance of City contracts. The goals for this specific Project are 14% MBE participation and 14% WBE participation. The Respondent shall identify any MBE/WBE subconsultants or subcontractors that are part of the Respondent's Project Team.

The City's CREO Forms and CREO Instructions for Construction Projects are incorporated into this RFP and the Contract Documents. The MBE/WBE Directory is available on the City's website at www.kcmo.org. Please call the Civil Rights and Equal Opportunity Department at (816) 513-1836 for assistance.

Waiver of MBE/WBE Requirements. The City Council may waive any and all MBE/WBE requirements imposed by any Bidding Document or the MBE/WBE Ordinance and Contract with the lowest and best Bidder if the City Council determines a waiver is in the best interests of the City.

Workforce Program Requirements. City desires that minorities and women have a maximum opportunity to practice their trades on city construction projects. The minimum company-wide goals are a ten percent (10%) minority workforce and two percent (2%) women workforce. The City's HRD Forms and HRD Instructions for Construction Projects are incorporated into this RFP and the Contract Documents.

4.3.7 Appendix A - Forms for Affirmation of Compliance

Include in Appendix A of the Proposal the completed forms provided in RFP Attachment H (Submission Forms including HRD Documents).

In accordance with Section 4.3.3 of this RFP, for any new Key Personnel that the Respondent intends to use that are not identified in its SOQ and for the Lead Operations Coordinator, Respondent shall provide resumes for such individuals within Appendix A. Provide certifications and licenses for the Lead Operations Coordinator and any new Key Personnel (if applicable), and otherwise required by Section 4.3.3.

4.3.8 Appendix B – Design Drawings

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix B all design drawings necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.9 Appendix C – Equipment Forms

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix C all equipment forms necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.10 Appendix D – Project Schedule

In accordance with Section 4.3.5 of this RFP, Respondent shall provide in Appendix D a detailed-level schedule for the Project. The schedule shall identify critical path, proposed early work packages, and projected float.

4.3.11 Part 5 - Cost Proposal

A Proposal submitted in response to this RFP must contain a Cost Proposal that fully conforms with and satisfies the format and content requirements described herein, and sets forth the Respondent's proposed Fixed Price Design-Build to perform the Design-Build Contract services. In evaluating the Cost Proposal, the City will apply the price evaluation criteria set forth in Section 5 of this RFP. Accordingly, Respondents are required to complete and submit all forms provided in Attachment G (Cost Proposal Forms) and include in their Cost Proposal all other information necessary to permit the City to perform informed evaluation.

DB 00410 Design-Build Bid Form. This form must be completed in its entirety and submitted with the Cost Proposal. Respondent shall provide a price for Design Services and Construction Services, the sum of which comprises the "Base Bid." The Base Bid is the Cost of Work for the Representative Project (or approved Proposed Modified Project), including allowances as described below. Variations or deviations from the Representative Project that do not have City approval shall be excluded.

Additionally, Respondent shall provide as supplemental to the Cost Proposal the Vendor's Proposals for the below-listed equipment as listed in Form F.1, clearly indicating what is included in the scope.

- Forebay Slide Gates
- Multi-Rake Screens
- Shaftless Screw Conveyor

Scoring of the Cost Proposal will be based on the Base Bid.

THE COST PROPOSAL SHALL BE SUBMITTED, IN A SEPARATE SEALED ENVELOPE OR PACKAGE CLEARLY MARKED "COST PROPOSAL."

ALL PRICE AND COST INFORMATION SHALL BE INCLUDED ONLY IN THE COST PROPOSAL. NO PRICE INFORMATION SHALL BE INCLUDED IN THE OTHER PARTS OF THE PROPOSAL (INCLUDING THE TRANSMITTAL LETTER AND APPENDICES). IF ANY PRICE INFORMATION IS INCLUDED IN THE OTHER PARTS OF THE PROPOSAL, THE ENTIRE PROPOSAL MAY BE REJECTED.

SECTION 5: FINAL PROPOSAL EVALUATION AND SELECTION

5.1 Selection Committee

The City will appoint a committee (“Selection Committee”) consisting of no more than five (5) members, which will include staff designated by the WSD Director per Ordinance No. 190622, as deemed necessary, with the expertise appropriate for the evaluation of all technical aspects of the Project. Copies of Proposals will be distributed to the Selection Committee members who will rely on the contents for scoring purposes. The Selection Committee will review the Proposals, excluding the Cost Proposal.

5.2 General Evaluation Procedure

The submission of a Proposal by Respondents shall constitute acknowledgement of acceptance of all terms and conditions set forth in this RFP unless otherwise expressly stated herein. All Proposals must be submitted in writing and must include all required documents including forms, appendices, and other information requested in this RFP.

All Technical Proposals and documents, and meetings related thereto, shall be considered to be "closed records" and "closed meetings," respectively, as defined in Chapter 610, RSMo (the "Missouri Sunshine Law") and therefore protected from disclosure until the Public Bid Opening Date (Section 3.2).

In general, the procedure for evaluation of Proposals and selecting a Design-Builder will consist of the following:

- Selection Committee will open Technical Proposals.
- Selection Committee will review the Technical Proposals (with assistance provided by outside advisors if desired by City) to determine if Responsiveness Requirements and Mandatory (Pass/Fail) Requirements are met.
- City staff may conduct interviews for any or all submitted Proposals.
- Selection Committee will score Technical Proposals based on evaluation criteria described in Section 5.4.
- For those Proposals that meet the Responsiveness Requirements and Mandatory (Pass/Fail) Requirements, the Cost Proposal will be opened publicly as described in Section 5.5.1 Public Bid Opening.
- The ranking of Respondents and the Successful Shortlisted Respondent will be publicly posted of the City’s Plan Room Website which will begin the five (5) day appeal period.
- After the five (5) day appeal period has expired and no appeals have been recorded, contract negotiations will begin with the Successful Shortlisted Respondent.

- Award of the Contract for Design-Build Services will be made only after the successful negotiation of the Contract and the City. Council's ordinance adopting the Contract for Design-Build Services takes effect.

During the Proposal evaluation process, written questions or requests for clarifications may be submitted to one or more Respondents regarding its Proposal or related matters. Failure to respond in a timely manner to any such questions or requests may be grounds for elimination of the Respondent from further consideration. Respondent is responsible for the accuracy of its Proposals. Discrepancies between words and figures will be resolved in favor of the words.

5.3 Responsiveness Requirements

Each Proposal will be reviewed to determine whether it is responsive to the RFP. Respondents must comply with all terms and conditions of this RFP, including, without limitation, the requirement to provide all documentation requested in this RFP. Failure to comply with the requirements of this RFP may result in a Proposal being rejected as non-responsive. Each Proposal shall be reviewed for responsiveness in accordance with the following conditions:

1. Timely submittal (refer to Section 4.1 of RFP for the Submittal Due Date).
2. Compliance with submittal requirements in accordance with Section 4 of RFP, including submittal of all information and documentation required in Section 4.

If a Respondent fails to satisfy these conditions, the Proposal may be deemed non-responsive by the City and not considered for further review.

At its sole discretion at any time, however, the City Manager or his delegate may waive any requirements imposed by this solicitation or by any City regulation when failure to grant the waiver will result in an increased cost to the City and the requirement waived would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City Council at any time may waive any requirements imposed in this solicitation by the City's Code of Ordinances when it finds failure to grant the waiver will result in an increased cost to the City and the waived requirement would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City reserves the right to waive any irregularities and/or formalities as deemed appropriate.

The City Council may waive any and all D/M/WBE requirements imposed by any SOQ or Proposal document or the MBE/WBE Ordinance and award the Contract to the most qualified Design-Builder if the City Council determines a waiver is in the best interests of the City.

5.4 Evaluation Criteria

The City will evaluate and rank the responsive Proposals by applying the weighted evaluation criteria set forth below to determine the Successful Respondent. The total number of points that will be used in evaluating all of the factors for a Proposal is 200, allocated as illustrated in the following table:

Criterion	Maximum Score Possible (Points)
Part 1. Project Plans/Management Approach	30
Part 2. Technical Approach	60
Part 3. Construction Schedule, Planning and Sequencing	10
Part 4. MBE/WBE Utilization	Pass/Fail
Cost Proposal	100
Total Possible Score	200

The highest Technical Proposal will be awarded 100 points. Points will be added to each of the other Technical Proposals corresponding to the 100 points and the original points earned by that Proposal. For example:

Technical Proposal	Number of Points	Score
Highest	94	100 pts.
2nd Highest	87 (94-87=7)	93 pts. (100-7 points)
3rd Highest	84 (94-84=10)	90 pts. (100-10 points)

5.5 Cost Proposal Evaluation

The Cost Proposal with the lowest bid price will be awarded 100 points. City's Budget is \$5,000,000.00. The City's limit for department selection for a design-build project is \$6,000,000.^{AD4}

One (1) point will be deducted from each of the other Cost Proposals for each percentage that the Base Bid exceeds the lowest Base Bid using the following formula:

$$\left(1 - \frac{\text{Proposer's Bid} - \text{Lowest Bid}}{\text{Lowest Bid}}\right) \times 100$$

5.5.1 Public Bid Opening

Cost Proposals will be opened publicly on at 2:00 PM on the Public Bid Opening Date (Section 3.2). The City will publicly announce the scores earned by each Technical Proposal, and then will publicly open and read aloud the corresponding Cost Proposal. Cost Proposal scores will be calculated and added to previously determined Proposal scores. Proposals and corresponding Respondents will be ranked based upon the Proposal scores.

The 48-hour period for providing CREO documents (e.g., HRD Form 8, Contractor Utilization Plan/Request for Waiver) shall begin to run as of this date and time.

5.6 Final Selection

The lowest and best Bid is that Proposal with the highest combined points for the Technical Proposal and Cost Proposal, and that has been determined by the City to be responsive. Respondent agrees that all representations made in its SOQ, its Technical Proposal, and its Cost Proposal shall continue to be binding on Respondent if it is the successful Respondent on the Project, and that this RFP, the RFQ, Respondent's Technical Proposal, Respondent's Cost Proposal, and Respondent's SOQ shall be deemed incorporated into any Contract issued to Respondent for the Project.

After the evaluation process is complete, the City will notify Respondents of the rankings. The top-ranked Respondent will be selected to serve as the Design-Builder and to begin negotiations with the City for the Contract for Design-Build Services award. If negotiations with the top-ranked Respondent are not successful, the City will select the next-ranked Respondent for award and negotiate the final terms of the Contract.

SECTION 6: CONDITIONS FOR RESPONDENTS

6.1 City Policies and Ordinances

The City will administer the RFP process under competitive proposal policies. The following is a summary of some of the policies and ordinance packages to be followed and completed as part of the RFP process. The City encourages and expects Proposers to pursue subcontracting, mentoring, joint venturing, teaming and partnering opportunities with the types of firms described in this Section in the ordinary course of its teaming/business strategies for all aspects of the Project. Additional policies and ordinances otherwise not specifically listed below may also apply at time of the Proposal.

- Code of Ordinances, Sections 3-501 through 3-525, also known as the “Workforce Program.”

6.2 Prohibited Activities by Former City Employees and Officials

Section 2-2044 of the City’s Code prohibits former elected City officials and former executive or administrative employees of the City from trying to influence a decision of the City on behalf of an employer or client for one year after that former employee or official leaves the City’s employ. By submitting an RFP, the Design-Builder affirms that Design-Builder and its team members and employees are in compliance with the requirements of Section 2-2044. Failure to comply with the requirements of Section 2-1018 may cause the SOQ and Proposal to be rejected.

6.3 Change in RFP, Contract and Additional Work

The City reserves the right to add to, delete, modify or enlarge this RFP, including any specifications and/or statement of work, the proposed contract, the terms and conditions, and any subsequently executed contract. The City reserves the right to award additional contracts for related work or subsequent Project phases to the selected Design-Builder.

6.4 Late Proposals

Proposals and modifications of proposals received after the exact hour and date specified for receipt will not be considered unless: (1) they are sent via the U.S. Postal Service, common carrier or contract carrier, by a delivery method that guarantees the proposal will be delivered to the City prior to the submission deadline; or (2) if submitted by mail, common carrier or contract carrier it is determined by the City that the late receipt was due solely to an error by the US Postal Service, common carrier or contract carrier; or (3) the Proposal is timely delivered to the City but is at a different City location than that specified in this RFP; or (4) the City extends the time after the deadline for a force majeure event that could potentially affect any or all Respondents meeting the deadline.

6.5 Interviews, Discussions and Negotiations with Design-Builders

The Respondent's Proposals, including any proposed personnel and any other required proposal documents may be subject to negotiation by the City at any time. The City may interview none, one, some or all of the Respondents that submit Proposals. Proposals may be evaluated and award made with or without, discussions and/or negotiations with the Respondent. The City reserves the right to request additional information from any or all Respondents. Negotiations by the City will not be deemed a counter offer or a rejection of any original SOQ or Proposal.

6.6 Rejection of Proposals

If the City rejects all Proposals, the City may re-solicit Proposals only from those Respondents who submitted a Proposal pursuant to this RFP and/or use an expedited Bid submission schedule with or without re-advertising or issuing any other public notice when the City determines, in its sole discretion, that the delay due to the normal solicitation procedures would not be in the City's best interests.

6.7 Disclosure of Proprietary Information

A Respondent may restrict the disclosure of scientific and technological innovations in which it has a proprietary interest, or other information that is protected from public disclosure by law, which is contained in any portion of its Proposal by:

- a. Marking each page of each such document in at least 16-point font with the words "Proprietary Information"; and
- b. Printing each page of such document on a different color paper than the paper on which the remainder of the Proposal is printed; and
- c. Segregating each page of each such portion of its Technical Proposal in a sealed envelope/package, which shall prominently display, on the outside, the words "Proprietary Information" in at least 16-point font, along with the name and address of the Respondent; and
- d. After either the Public Bid Opening Date or the rejection of all Proposals, if a request is made under the Missouri Sunshine Law for access to portion(s) of a Respondent's Technical Proposal that has been marked "Proprietary Information," as provided above, the City will notify that Respondent of the request, and it shall be the burden of that Respondent to establish that such documents are exempt from disclosure under the law.

6.8 Contract Information Management System

The selected Design-Builder shall be required to use City's Internet web based Contract Information Management System/Project Management Communications Tool provided by City and protocols included in that software during the term of this Contract. The selected Design-Builder shall submit user applications to City's provided Contract Information Management

System for all personnel, subcontractors or suppliers as applicable. The City will use e-Builder (by Trimble) for document control and workflows.

6.9 Affirmative Action

It is the policy of the City that any person or entity entering into a contract with the City, will employ applicants and treat employees equally without regard to their race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age. The City's Affirmative Action ordinance requires that any person or entity who employs fifty (50) or more persons and is awarded a contract from the City totaling more than \$300,000.00 must:

- Execute and submit an affidavit, in a form prescribed by the City, warranting that the contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the contract.
- Submit, in print or electronic format, a copy of the contractor's current certificate of compliance to the City's CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years. If, and only if, contractor does not possess a current certification of compliance, contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years.
- Require any subcontractor awarded a subcontract exceeding \$300,000.00 to affirm that subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.
- Obtain from any subcontractor awarded a subcontract exceeding \$300,000.00 a copy of the subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, subcontractor does not possess a current certificate of compliance, contractor shall obtain a copy of the subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.
- If you have any questions regarding the City's Affirmative Action requirements, please contact CREO at (816) 513-1836 or visit the City's website at www.kcmo.org.

6.10 American with Disabilities Act (ADA) Standards

It is the policy of the City and required by law that any new or renovated facility meet the scoping and technical requirements of the 2010 ADA Standards for newly designed and constructed or altered local government facilities, public accommodations, and facilities. The selected Design-Builder shall design the project so it conforms to the 2010 ADA Standards, as applicable and as amended from time to time, and is readily accessible to and usable by individuals with disabilities.

The City will make available to the selected Design-Builder the City's ADA Compliance Manager, who can facilitate interaction with advocates in the disability community.

6.11 Design-Builder Conflict of Interest

A conflict of interest situation may disqualify an organization. If the Design-Builder believes there may be a conflict of interest, it must list the organizations and the names of entities or persons associated with the Design-Builder who may have a conflict of interest, or appearance of a conflict of interest, with the City.

Details of the potential conflict of interest must also be included. Names of entities associated with the Design-Builder who may have a conflict of interest with any activity of this Project should be included in the Proposal. Provide details and reasons. Design-Builders are subject to disqualification on the basis of conflict of interest as determined by the City.

6.12 Additional Information

The City reserves the right, in its sole discretion, to request additional information or documents from any or all Respondents, including supplements or corrections to the Proposals.

6.13 City's Buy American and Missouri Preference Policies

It is the policy of the City that any manufactured goods or commodities used or supplied in the performance of any City contract or any subcontract thereto shall be manufactured or produced in the United States whenever possible. When Bids offer quality, price, conformity with specifications, term of delivery and other conditions imposed in the specifications that are equal, the City shall select the Bid that uses manufactured goods or commodities that are manufactured or produced in the United States. The City shall give preference to all commodities manufactured, produced, or grown within the State of Missouri and to all firms, corporations, or individuals doing business as Missouri firms, corporations or individuals, when quality is equal or better and delivered price is the same or less. It is the bidder's responsibility to claim these preferences.

6.14 Tax Clearance

Respondent will be required to furnish to Owner sufficient proof from City's Commissioner of Revenue, verifying that Respondent is in compliance with the license and tax ordinances administered by City's Revenue Division as a precondition to Owner making its first payment under any Contract over \$50,000.00. Respondent will also be required to obtain proof of City tax compliance from all of its Subcontractors prior to the Subcontractors performing any Work.

6.15 Prevailing Wage Requirements

The successful Respondent shall pay the prevailing hourly rate of wages as determined by the Missouri Annual Wage Order and/or Federal Wage Determination set forth in the Project Manual. In case of a conflict between Missouri and Federal wage rates, the higher rate shall apply.

6.16 Indemnification – City of Kansas City

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the City and any of its agencies, officials, officers, or employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable, including negligent acts or omissions of the City, its agencies, officials, officers, or employees. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

6.17 Indemnification – State of Missouri

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the Missouri Highways and Transportation Commission (MHTC) and the Missouri Department of Transportation (MoDOT) and their respective employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

5.6.3 Codes and Standards

The applicable provisions of the following codes are used in the design. Unless specifically stated otherwise, the latest edition of all codes and standards shall apply.

- International Building Code.
- International Mechanical Code, 2012 edition.
- UPC, 2012 edition.
- National Fire Protection Association, latest edition.

5.6.4 Mechanical Design References

The applicable sections of the following commercial standards and publications are used in the design:

- Air Movement and Control Association (AMCA).
- Air Conditioning, Heating, and Refrigeration Institute (AHRI).
- SMACNA.
- ASTM International.
- ASHRAE.
- ANSI.
- NEMA.
- NFPA Section 820.
- NFPA Section 13 and 14.

5.6.5 Mechanical Piping and Ductwork Materials

The pipe, duct, and fitting materials are to be selected based on the type of material or fluid being conveyed and selected for longevity, durability and economy. Duct design considerations shall include the following:

- Sheet metal thicknesses:
 - The greater of that thickness required to in accordance with SMACNA for the design pressure specified and the following minimum thicknesses:

Table 5.34 Sheet Metal Duct Minimum Thickness Criteria

Diameter or Largest Dimension of Rectangular Duct (Inches)	Minimum Sheet Thickness, Inches (B&S Gauge)
Up to 12	0.025 (22)
13 to 30	0.032 (20)
Larger than 31	0.040 (18)

- Spacing of hangers and supports:
 - Provide supports as required in accordance with SMACNA stipulations but no greater than the spacing or the following requirements; whichever is less:
 - Ducts 18 inches and smaller in largest dimension: 8 feet on center.
 - Ducts over 18 inches in largest dimension: 4 feet on center.
 - Design pressure: 2 inches water column.
 - Hanger reinforcement:
 - Ducts 18 inches and smaller in largest dimension: None.

- Ducts over 18 inches and under 30 inches in largest dimension: 1-1/2 inches by 1-1/2 inches by 1/8-inch angles, 8 feet on center.
 - Ducts 30 inches and larger in largest dimension: 1-1/2 inches by 1-1/2 inches by 1/8-inch angles, 4 feet on center.
- Access openings:
 - Size: 2 inches less than duct size.
 - Doors:
 - Gauge not less than duct sheet.
 - Provide continuous hinge and latch on outside.
 - Gasket: Along door periphery.
 - Visual panel: 1/8-inch thick, clear plexiglass.
- Turning vanes:
 - Material: Same as ductwork.
 - Type:
 - Single-blade vanes for duct widths less than 36 inches.
 - Airfoil type vanes for duct widths of 36 inches and greater:
 - ◀ No trailing edge.
 - Mounted in side rails.
 - Provide turning vanes for square-turn elbows and splitters.
 - Size: 2-inch blades for ducts up to 18 inches, 4-1/2 inch blades for larger ducts.

Insulation shall be provided on ducts carrying conditioned air that pass through outdoor or unconditioned spaces. Insulation to be either flexible or rigid duct liner with one coated surface meeting the following:

- Thickness: As required to achieve the following R-values:
 - For interior ducting on air conditioning supply, return and fresh air ducts. (FCU-1A and 1B) Provide 1-1/2 inches minimum thickness to meet an installed value of R4.2.
- Temperature range: 40 to 250 deg. F.
- Density: 1.5 pounds per cubic foot.
- Thermal conductivity: 0.25 Btu-inch per hour per square foot per degree Fahrenheit at 75 deg. F.
- Fire hazard classification in accordance with ASTM E84:
 - Flame spread: 25.
 - Smoke developed: 50.
- Service conditions: Velocities to 2,500 feet per minute.

Leading edges of insulation to be provided with galvanized metal nosing; other edges shall be sealed with manufacturer's recommended edge treatment. Insulation shall be attached with adhesive to duct and fasteners shall be spaced at not to exceed 12 inches transverse (perpendicular) to flow and 18 inches parallel (longitudinal) to flow. Fasteners also to be provided within 3 inches of transverse edges and 4 inches of longitudinal edges.

5.3.4.8 Thermoplastic Polyolefin Roofing

A qualified manufacturer that is UL listed, listed in FM Approvals' RoofNav for roofing system identical to that used for this Project. Installer Qualifications to be a qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty. Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period for 20 years from date of Substantial Completion. Special warranty includes roof membrane, base flashings, roof insulation, fasteners, cover boards, vapor retarder, substrate board, and other components of roofing system.

Installed roofing system and flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roof system and flashings shall remain watertight. Roof membrane shall withstand 2000 hours of exposure when tested according to

ASTM G152, ASTM G154, or ASTM G155. Roof membrane shall resist impact damage when tested according to ASTM D3746, ASTM D4272, or the "Resistance to Foot Traffic Test" in FM Approvals 4470. Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience. Roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897 to be corner Uplift Pressure to be as established by ASCE/SEI 7. Perimeter Uplift Pressure to be as established by ASCE/SEI 7. Field-of-Roof Uplift Pressure to be as established by ASCE/SEI 7. Roof membrane, base flashings, and component materials shall comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a roofing system and shall be listed in FM Approvals' RoofNav for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals Certification markings. Fire/Windstorm Classification to be Class 1A-90. Hail-Resistance Rating to be SH. Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products. Roofing system shall have an initial solar reflectance of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1. Exterior Fire-Test Exposure to be ASTM E108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency. Fire-Resistance Ratings to comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

TPO Roofing sheet to be ASTM D6878/D6878M, internally fabric- or scrim-reinforced, TPO sheet.

Manufacturers are subject to compliance with requirements, provide products by one of the following:

- Carlisle SynTec Incorporated.
- Firestone Building Products.
- Johns Manville; a Berkshire Hathaway company.

Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer. Thickness to be 60 mils, nominal. Exposed Face Color to be White.

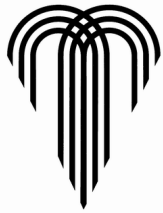
Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components. Substrate Board to be ASTM C1396/C1396M, Type X gypsum board. Thickness to be 5/8 inch (16 mm). Substrate Board to be ASTM C1177/C1177M, glass-mat, water-resistant gypsum board or ASTM C1278/C1278M, fiber-reinforced gypsum board.

Manufacturers are subject to compliance with requirements, provide products by one of the following:

- CertainTeed Corporation.
- Georgia-Pacific Gypsum LLC.
- National Gypsum Company.

Thickness to be type X, 5/8 inch (16 mm) thick. Surface Finish to be Factory primed. Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening substrate board to roof deck. Preformed roof

insulation boards manufactured or approved by TPO roof membrane manufacturer, approved for use in FM Approvals' RoofNav-listed roof assemblies. Polyisocyanurate Board Insulation to be ASTM C1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces. Compressive Strength to be 20 psi (138 kPa). Roof Field to be 1/4 inch per foot (1 to be 48) minimum. Saddles and Crickets to be 1/2 inch per foot (1 to be 24) unless otherwise indicated on Drawings. Flexible Walkways to be Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch (5 mm) thick and acceptable to roofing system manufacturer. Size to be approximately 36 by 60 inches install roofing system according to roofing system manufacturer's written instructions, FM Approvals' RoofNav assembly requirements, and FM Global Property Loss Prevention Data Sheet 1-29. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning Work on adjoining roofing. Install roof membrane and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.



ADDENDUM NUMBER 7

Project Number 81000984

Project Title Blue River Screen House Improvements

ISSUE DATE: **November 8, 2022**

Shortlisted Respondents are hereby notified that the Proposal and Contract Documents for the above project, for which Proposals are to be received on **November 22, 2022**, are amended as follows:

Information to Proposers The following is provided to Proposers for information only:

1. Exhibit 7 – Insurance Requirements is anticipated to be issued in a future addendum.
2. Blue River Screen House Roof Survey.pdf
3. Blue River Pump Station – Wet Well Levels.xlsx
4. Vulcan Equipment Data.zip

Q32.	Provide a copy of the report dated April 2002 entitled Asbestos Assessment, Birmingham Wastewater Treatment Plant.
A32.	Addendum 4 includes the Big Blue River WTD – Asbestos Report for Blue River items concerning Asbestos. Additionally, refer to the deletion and replacement referenced in Answer A33.
Q33.	Document 00800 – Supplementary Conditions, Section SC-6.21 – CONTRACTOR’S Responsibilities Supplementary Conditions - For Section SC-6.21 has no content associated with this topic. Is this pertinent to this project or are there additional requirements?
A33.	00800 - Supplementary Conditions has been removed from Contract Documents. For warranty and guarantee requirements, refer to added Design-Build General Conditions below.
Q34.	Document Form G-1 00410 Design-Build Bid Form – Price Submittal, Section Paragraph 5 Document Request for Proposals, Sec. 3.6 Validity of Proposals, Page 13 This section indicates each Proposal will remain in full force and effect after the Proposal Submittal Due Date and cannot be withdrawn for a period of 180 days. This 180 day validity timeframe is also similarly stated in Section 4.3.2 Transmittal Letter under Item 6 on page 19. Is the Cost Proposal considered part of the “Proposal” and if so, is each Respondent then

	<p>required to hold their bid price for 180 days as well?</p> <p>The Bid Form does not allow the Bidder to withdraw their Price Submittal Bid for 90 days. Considering the current pricing environment and escalation concerns, holding our Price for longer than 90 days would be problematic.</p>
A34.	Refer to the issued Addendum 4 Form G-1 DB 00410: Design-Build Bid Form
Q35.	<p>Document Request for Proposals, Sec. 4: Proposal Submission Requirements, Subparagraph 4.3 Submission Content, Subparagraph 4.3.6 Part 4 – MBE/WBE Utilization, Page 28</p> <p>Document Form G-1 00410 Design-Build Bid Form – Price Submittal, Section Paragraphs 11-15</p> <p>The goals established in this section is 14% MBE Participation and 14% WBE participation. These goals are different than those indicated on the Bid Form (11% MBE/11% WBE) and in the Contractor Utilization Plan/Request for Waiver Form 08 (11% MBE/WBE) provided in Attachment H. Please verify the preferred goals.</p>
A35.	Refer to the issued Addendum 4 Form G-1 DB 00410: Design-Build Bid Form
Q36.	<p>Attachment H – Submission Forms</p> <p>Please confirm that the City will update the following forms contained in Attachment H to reflect this project so the Design-Build team can complete and submit the proper forms with our Proposal: HRD Form 08, Form 00450.01, HRD Affidavit of Training Program, Form 00490, and Form 01290.09</p>
A36.	CREO KC Form 08 has been included herein. Refer to delete and replacement below.
Q37.	<p>Attachment F – Technical Proposal Forms</p> <p>Attachment F - Form F-1 Project Design Criteria lists several Specification Sections under the Proposed Value Column. Some were not included in the information received as part of the RFP documents/attachments or with Addendum No. 3 (Attachment E). Please provide the following missing specification sections: 01810, 03300, 02770, 07420, 07222, 07620, 07550, 10400, 14553, 15810, 15200.100CPVC, 16221.E, 16222, and 16500.</p>
A37.	<p>Any sections not listed in Appendix F shall be required to be submitted as a Alternative Technical Concept (ATC)</p> <p>Refer to Section 00435 – Alternative Technical Concept added in Addendum 4.</p>
Q38.	<p>Document 01000 – General Project Requirements, Subparagraph 1.02 – Related Sections</p> <p>Section 01000 - This Section references several related specification sections that are not included in the RFP Documents or Addendum No. 3. Please provide the following sections: 01353, 01566, 01570, 01580, 01581, 02180, and 02300.</p>
A38.	Refer to the added sections below.

Q39.	Are there pdfs referencing the Vulcan screens currently installed? It appears there are structural changes made for the new screens. Additionally, are there O&M manuals for the existing screens?
A39.	For structural modification documentation, refer to Attachment D: SC-4.02.6 drawings entitled <i>Bar Screens and Grinders at the Big Blue River Wastewater Treatment Plant</i>. Vulcan Equipment and O&M Data has been attached.
Q40.	Is there a maximum power demand meter connected to Screen Building MCC-5? If so, we would like to receive the maximum demand information for MCC-5 over the last 12 months?
A40.	Please defer to the SKM Model in Addendum 5 in regards to the existing facility electrical design.
Q41.	In Paragraph 1.01, we assume location of Work is at the Blue River WWTP. In Paragraph 1.06, it indicates that the City will use an existing IDIQ contract for dewatering of channels. Who is the entity that will perform this work? Is it acceptable to contract this entity and if so what is the contact information? Is the City requesting we include the cost for this IDIQ contractor to perform this work in our Bid or will the City issue a separate task order to this contractor to perform the work, coordinating the work with our team?
A41.	The City will issue and fund a PO for the dewatering work per Work Restrictions with Ace Pipe Cleaning.
Q42.	Please confirm which forms in Attachment H are to be included in the Technical Proposal, Price Proposal, or 48 hour submission.
A42.	Attachment H includes HRD 06 – RFQP Instructions, which indicates which forms are due at which time. Technical Proposal - Employee Eligibility Verification Affidavit Cost Proposal - 00410 - Design-Build Bid Form: Affidavit of Intended Utilization Within 48 hours after Bid Opening - 00450 – CREO KC Contractor Utilization Plan/Request for Waiver - 00450.01 – CREO KC Letter of Intent to Subcontract - 00460 - CREO KC Form 10 Timetable for MBE/WBE Utilization - 00485 - CREO KC Affidavit of Training Program - CREO KC Employee Identification Report Form - Best Faith Efforts, if MBE/WBE goals are not met

Bidding Requirements

1. Add the following documents.
 - a. Draft Contract for Design-Build Services
 - b. Design-Build General Conditions

- c. Section 01335 – Document Management
- d. Section 01352 – Selective Alterations and Demolition
- e. Section 01354 – Hazardous Material Procedures
- f. Section 01400 – Quality Control
- g. Section 01410 – Regulatory Requirements
- h. Section 01433 – Manufacturers’ Field Service
- i. Section 01480 – Water Tightness
- j. Section 01565 - Asbestos
- k. Section 01566 – Cleanup Operations
- l. Section 01570 – Temporary Erosion & Sediment Control
- m. Section 01580 – Project Signs
- n. Section 01581 – Public Communications
- o. Section 01600 – Product Delivery, Storage, and Handling
- p. Section 01615 – Equipment Identification and Tagging
- q. Section 01630 – Substitution Request
- r. Section 01664 – Training

2. Delete and replace the following section(s):

- a. Delete Document **Request for Proposals Paragraph 4. RFP Package**, Subparagraph **Attachments**, Subparagraph **Attachment H**, Page **3** and replace with the following Document **Request for Proposals Paragraph 4. RFP Package**, Subparagraph **Attachments**, Subparagraph **Attachment H**, Page **3**

~~Attachment H: Submission Forms including Civil Rights and Equal Opportunity Department (CREO) Documents (To be submitted within 48 hours of Public Bid Opening, in accordance with Section 5.5.1)~~

- ~~(1) HRD Form 06: Design-Builder Contract Instructions~~
- ~~(2) HRD Form 8A: Contractor Utilization Plan/Request for Waiver~~
- ~~(3) HRD Form 10: Timetable for MBE/WBE Utilization~~
- ~~(4) HRD Form 11: Request for Modification or Substitution~~
- ~~(5) 00450.01 Letter of Intent to Subcontract~~
- ~~(6) 00515.01 Employee Eligibility Verification Affidavit~~
- ~~(7) 01290.14 Contractor Affidavit for Final Payment~~
- ~~(8) 01290.15 Subcontractor Affidavit for Final Payment~~
- ~~(9) HRD Employee Identification Report Form~~
- ~~(10) HRD Affidavit of Training Program~~
- ~~(11) Best Faith Efforts, if MBE/WBE goals are not met~~
- ~~(12) Proposal Development Stipend Agreement Form~~

Attachment H: Submission Forms including Civil Rights and Equal Opportunity Department (CREO) Documents

- (1) HRD Form 06: Design-Builder Contract Instructions
- (2) 00450 CREO KC Form 8: Contractor Utilization Plan/Request for Waiver
- (3) 00450.01 CREO KC Letter of Intent to Subcontract
- (4) 00460 CREO KC Form 10 Timetable for MBE/WBE Utilization
- (5) 00470 CREO KC Form 11 Request for Modification Or Substitution
- (6) 00515.01 Employee Eligibility Verification Affidavit
- (7) 01290.14 Contractor Affidavit for Final Payment

- (8) 01290.15 Subcontractor Affidavit for Final Payment
- (9) 00485.04 CREO KC Employee Identification Report Form
- (10) CREO KC Affidavit of Training Program
- (11) Best Faith Efforts, if MBE/WBE goals are not met
- (12) Proposal Development Stipend Agreement Form

- b. Delete Document **Request for Proposals Section 5: Final Proposal Evaluation and Selection, Subsection 5.5 Cost Proposal Evaluation, Subsection 5.5.1 Public Bid Opening, Page 33** and replace with the following Document **Request for Proposals Section 5: Final Proposal Evaluation and Selection, Subsection 5.5 Cost Proposal Evaluation, Subsection 5.5.1 Public Bid Opening, Page 33**

~~The 48-hour period for providing CREO documents (e.g., HRD Form 8, Contractor Utilization Plan/Request for Waiver) shall begin to run as of this date and time.~~

The 48-hour period for providing CREO documents shall begin to run as of this date and time.

- c. Delete Document **Attachment B: 01110 – Summary of Work** and replace with the following Document **Attachment B: 01110 – Summary of Work.**
 - ~~1. CITY will use an existing IDIQ contract for dewatering of channels.~~
 - 1. The following items designed or specified by Design-Builder shall be constructed by issuing Purchase Orders for CITYs existing IDIQ contracts for the following items:
 - a. Dewatering of channels
 - b. Roof work including modification and/or repair
 - c. HVAC work including equipment installation, equipment modification, ductwork and conveyance installation and/or modification and;
 - d. Instrumentation and Controls Work including wiring, programming and commissioning.
- d. Delete Document **Attachment B: 01290.02 – Schedule of Values** and replace with the following Document **Attachment B: 01290.02 – Schedule of Values**
- e. Delete Document **Attachment B: 01290.09 – Subcontractors and Major Material Suppliers List** and replace with the following Document **Attachment B: 01290.09 – Subcontractors and Major Material Suppliers List**
- f. Delete Document **Attachment C: 00470 HRD Request for Modification or Substitution** and replace with the following Document **Attachment C: 00470 CREO KC Request for Modification or Substitution**
- g. Delete Document **Attachment C: 00490 – Pre-Contract Bidder’s Certification** and replace with the following Document **Attachment C: 00490 – Pre-Contract Bidder’s Certification**
- h. Delete Document **Attachment C: 00610 – Performance and Maintenance Bond** and replace with the following Document **Attachment C: 00610 – Performance and Maintenance Bond**
- i. Delete Document **Attachment C: 00615 – Payment Bond** and replace with the following Document **Attachment C: 00615 – Payment Bond**

- j. Delete Document **Attachment F: Form F-1 - Project Design Criteria** and replace with the following Document **Attachment F: Form F-1 - Project Design Criteria.**
- k. Delete Document **Attachment H: 00450 HRD Contractor Utilization Plan_Request for Waiver** and replace with the following Document **Attachment H: 00450 CREO KC Contractor Utilization Plan_Request for Waiver**
- l. Delete Document **Attachment H: 00450.01 HRD Letter of Intent to Subcontract** and replace with the following Document **Attachment H: 00450.01 CREO KC Letter of Intent to Subcontract**
- m. Delete Document **Attachment H: 00460 HRD Timetable for MBE/WBE Utilization** and replace with the following Document **Attachment H: 00460 CREO KC Timetable for MBE/WBE Utilization**
- n. Delete Document **Attachment H: 00485 HRD Affidavit of Training Program** and replace with the following Document **Attachment H: CREO KC Affidavit of Training Program**

NOTE: Shortlisted Respondents must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

**REQUEST FOR PROPOSALS
FOR DESIGN-BUILD SERVICES CONTRACT
FOR PROJECT NO. 81000984 - CONTRACT NUMBER 1638
BLUE RIVER SCREEN HOUSE PROJECT
WATER SERVICES DEPARTMENT
CITY OF KANSAS CITY, MISSOURI**

1. **Purpose.** This is a Request for Proposals (“RFP”) issued by the City of Kansas City, Missouri (“City” or “Owner”) acting through its Water Services Department (WSD) for Design-Build services including design, construction, startup, and extended commissioning for the Blue River Screen House Facility Project (Project).

The City will use Fixed-Price Design-Build (FPDB) contracting method to deliver the Project, and is utilizing a two-step procurement process for selecting the entity that will provide best value as the Design-Builder for the Project. This RFP represents the second step of the procurement process and establishes the process for soliciting and evaluating Technical and Cost Proposals (Proposal) from those entities shortlisted as part of the Statement of Qualifications (SOQ) process. Only those Respondents identified in Paragraph 2 below are invited to submit a Proposal in response to the RFP. The City will review and evaluate Proposals in accordance with this RFP and select the Design-Builder.

The execution of a Contract will be subject to the terms and conditions of the RFP. This RFP is not a tender or an offer. Respondents must be thoroughly familiar with the scope of work and performance requirements discussed in this RFP. The City may reject any Proposal that fails to demonstrate such familiarity. In no event will the City be liable for any costs incurred by any Respondent or any other party in developing or submitting a Proposal, except as described in Section 3.10, below.

The Proposals must be submitted in accordance with the requirements set forth in this document.

2. **Definition of Request for Proposals.** This RFP is an invitation by the City to Design-Build Professionals soliciting Proposals from the following entities ("Shortlisted Respondents", "Respondents", or "Bidders"), listed in alphabetical order:

- Garney-CDM Smith
- Goodwin-Black & Veatch
- Radmacher-Olsson

Selected Respondents were shortlisted based on the qualifications of the Project Team that were submitted in their SOQs and are invited to submit their proposal for performing the services specified in this RFP.

Selection will be based upon the judgment of the City in obtaining a Design-Builder Professional that will be in the best interests of the City. Respondent’s submittal of a proposal in response to this RFP does not create any right in or expectation to a contract with the City.

3. **Submittal Date.** Sealed Proposals are due by ~~November 22, 2022 at 2:00PM~~ ~~November 9, 2022 at 2:00PM~~^{AD4 AD6} local time. Proposals shall be sent to Derrick Smith, Contract Administrator, Procurement Services, General Services Department, 414 East 12th Street, City Hall 1st Floor-RM 102W, Kansas City, MO 64106. Respondents should submit six (6) paper documents (one original and five [5] copies) as well as one electronic version of the **Technical Proposal** on a USB flash drive (in searchable PDF format). **One (1)** paper document (one original) of the **Cost Proposal**, as well as one electronic version of the **Cost Proposal** on a USB flash drive (in searchable PDF format), must be submitted in a single, sealed envelope or package separate from the Respondent's Technical Proposal.

Both Technical and Cost Proposals must be submitted in separate, sealed envelope or box and shall not be opened until after the due date. Each Technical and Cost Proposal document package shall be plainly labeled with the words "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984" and "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984," respectively, along with Proposer name and identification. The City reserves the right at any time to change or extend the due date and time for any reason.

Each Respondent assumes full responsibility for the timely delivery of its Proposals at the required location. Proposals received after the Submittal Date may be deemed non-responsive and be excluded from consideration. A delivery acknowledgement will be issued upon receipt of the Proposal package and will be provided to the Respondent via e-mail by the City's Project Manager.

Only written responses will be considered. All materials submitted will become part of the response, and may be incorporated into any subsequent contract(s) between the City and the selected Respondent.

4. **RFP Package.** The RFP package for this project contains the following:

- Section 1: Project Overview
- Section 2: Fixed-Price Design-Build Services
- Section 3: Procurement Process
- Section 4: Proposal Submission Requirements
- Section 5: Final Proposal Evaluation and Selection
- Section 6: Conditions for Respondents

Attachments:

- Attachment A: Definition of Terms
- Attachment B: Scope of Design-Build Services
- Attachment C: Draft Contract for Design-Build Services
- Attachment D: Project Background Documents (under separate cover)
- Attachment E: Project Technical Requirements (under separate cover)
- Attachment F: Technical Proposal Forms
 - (1) Form F-1. Project Design Criteria Checklist
 - (2) Form F-X (number to be provided by Respondent). Equipment Cut Sheet

Attachment G: Cost Proposal Forms

- (1) DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
- (2) 00430 Bid Bond
- (3) Form 01290.02 Schedule of Values

Attachment H: Submission Forms including Civil Rights and Equal Opportunity Department (CREO) Documents ~~(To be submitted within 48 hours of Public Bid Opening, in accordance with Section 5.5.1)~~^{AD7}

- (1) HRD Form 06: Design-Builder Contract Instructions
- ~~(2) HRD Form 8A: Contractor Utilization Plan/Request for Waiver~~^{AD7}
- ~~(3) HRD Form 10: Timetable for MBE/WBE Utilization~~^{AD7}
- ~~(4) HRD Form 11: Request for Modification or Substitution~~^{AD7}
- ~~(5) 00450.01 Letter of Intent to Subcontract~~^{AD7}
- (2) 00450 CREO KC Form 8: Contractor Utilization Plan/Request for Waiver^{AD7}
- (3) 00450.01 CREO KC Letter of Intent to Subcontract^{AD7}
- (4) 00460 CREO KC Form 10 Timetable for MBE/WBE Utilization^{AD7}
- (5) 00470 CREO KC Form 11 Request for Modification Or Substitution^{AD7}
- (6) 00515.01 Employee Eligibility Verification Affidavit
- (7) 01290.14 Contractor Affidavit for Final Payment
- (8) 01290.15 Subcontractor Affidavit for Final Payment
- (9) ~~HRD Employee Identification Report Form~~^{AD7}
- (10) ~~HRD Affidavit of Training Program~~^{AD7}
- (9) CREO KC Employee Identification Report Form^{AD7}
- (10) CREO KC Affidavit of Training Program^{AD7}
- (11) Best Faith Efforts, if MBE/WBE goals are not met.
- (12) Proposal Development Stipend Agreement Form

5. **Questions.** Forward all questions by email to both the following Project Manager and Procurement Manager. Questions received after the Deadline for Receipt of Written Questions (Section 3.2 Procurement Schedule) may not be answered. Interpretations or clarifications considered necessary by the Project Manager in response to such questions will be issued by Addenda to all Respondents. Oral or other interpretations or clarifications shall be without legal effect, even if made during formal meetings.

Isaac Garlington, Project Manager
4800 East 63rd Street,
Kansas City, MO 64130
Phone: (816) 513-0436
E-mail: isaac.garlington@kcmo.org

Derrick Smith, Procurement Manager
Procurement Services, General Services Department
414 East 12th Street, City Hall 1st Floor-RM 102W
Kansas City, MO 64106
(816) 513-0807 Phone
(816) 513-2812 Fax
Email: derrick.smith@kcmo.org



For persons with disabilities needing reasonable accommodations please contact the City's ADA Specialist at 816-513-6589.

SECTION 1: PROJECT OVERVIEW

1.1 Project Background

The Blue River WWTP is a 120 million gallons per day (mgd) municipal wastewater treatment facility that discharges treated effluent into the Missouri River.

Certain project background documents are being made available to the Respondents, as referenced in Attachments D (Project Background Documents) and E (Project Technical Requirements), for the purpose of preparing Proposals. The City is providing these documents only for the purpose of obtaining Proposals for the Project and does not confer a license or grant permission for any other use. Documents referenced in Attachment D (Project Background Documents) and Attachment E (Project Technical Requirements) will only be made available in electronic format.

Due to criticality of adequate screening, and the desire to allocate risk to one entity, the City decided there is benefit in utilizing a Design-Build method for the Project and a Fixed-Price Design-Build (FPDB) method was selected. The FPDB method outlined in this RFP was chosen to allow WSD staff involvement in the design process for the Project while leveraging the schedule, collaboration, and other advantages that result from use of a design-build process.

Ongoing coordination services and meetings with WSD will be required.

Because the City has specific technical requirements, preferences, and standards regarding some elements of the facilities design, as well as the desire to control how and where risk will be assigned as part of this Project, preliminary project design parameters are provided in Attachment E (Project Technical Requirements) and further described in Section 1.2.1. Project Technical Requirements.

1.2 Project Scope

This RFP is to provide Design-Builder Services for design, construction, and commissioning the following scope of work as defined in the Project Technical Requirements (Attachment E), within the City's Budget and Scopes Rank Ordered as follows:

Rank Order

- 1) Multi-Rake Screens and Conveyors
- 2) Channel Separation System
- 3) Grit Equalization across Channels
- 4) Actuated Slide Gates
[Rerouting of Birmingham/Westside Sludge Line^{AD4}](#)
- 5) Power Upgrades
- 6) Heating, Ventilation, and Air Conditioning (HVAC)

For full scope of services, refer to Section 01110 – Summary of Work

Under the FPDB method, the Design-Builder's scope of work for the Project will be performed in two (2) phases under a single Contract for Design-Build Services between the City and Design-

Builder. These phases (described in Attachment B (Scope of Design-Build Services)) may run concurrently and are generally described as follows:

- **Design Phase** services performed under the Contract for Design-Build Services include completing the entirety of the Project’s final design and pre-construction activities.
- **Construction Phase** services performed under the Contract for Design-Build Services include: performing construction; performing post-construction tasks, such as commissioning and initial performance testing; providing a "Smart BIM", as specified by the City; and performing warranty and other work required.

1.2.1 Project Technical Requirements

The Project Technical Requirements, as provided in Attachment E (Project Technical Requirements), are considered Contract Documents and define the basis of project design and definition as developed to-date for this RFP. Technical Proposals must incorporate all Project Technical Requirements. Attachment E (Project Technical Requirements) includes the native files for the Respondents to use in developing Proposals. Project Technical Requirements are included within:

- Basis of Design Report
- Preliminary Drawings
- Technical Specifications

The Project Technical Requirements describe the “Representative Project.” Respondents may deviate from the Representative Project (“Respondent’s Proposed Modified Project”), if justified and approved by the City. **All Technical Proposals and Cost Proposals must be based on either the Representative Project or the approved Proposed Modified Project.** The Project Technical Requirements (Attachment E) are available on a USB flash drive or eBuilder for Shortlisted Respondents.

The Project Technical Requirements identify both **Fixed Design Criteria, Indicative Design Criteria, and Preferred Indicative Design Criteria** for the Representative Project. Fixed Design Criteria must be adhered to and followed by the Respondent. However, the City would like to promote innovation and encourage best value; therefore, the City will consider technical alternatives that are better than or equal to the Indicative Design Criteria. Proposed variances from Indicative Design Criteria must be included within and submitted as part of the Technical Submittal (see Section 4). Recommended variances will be discussed between the City and the Respondent, and the City will determine if the variation is “approved” or “not approved.” Respondent recommendations (both “approved” and “not approved” variances) for Indicative Design Criteria and Preferred Indicative Design Criteria will be considered proprietary and will be kept confidential. The Respondent must also document the recommended technical alternatives to the Indicative Design Criteria in its Technical Proposal.

1.3 City's Objectives

The City's objectives for delivery of the Project are as follows:

- **Quality:** Provide treatment facilities and equipment that will be sustainable and will reliably produce required quantities of Class A biosolids in full compliance with federal and state regulations and contractual standards for the full range of the sludge conditions set forth in this RFP.
- **Cost:** Minimize capital cost with consideration of optimizing life-cycle cost.
- **Schedule:** Achieve the scheduled completion dates for design, construction and performance testing of the Project.
- **Risk:** Achieve an optimal balance of risk allocation between the City and the Design-Builder. In general, the party best suited to manage the risk owns the risk
- **Safety:** Implement an effective safety program incorporating best industry practices.
- **Operations and Maintenance (O&M):** Optimize operating and maintenance requirements so that the facility is capable of reliably and continuously operating in a cost-effective manner over the long-term. Develop and deliver, in conjunction with City and WSD management, a program that provides effective class room and hands on training for WSD staff to transition to full-time operation and maintenance of new facilities, electronic O&M manuals, and Standard Operating Procedures.
- **Accountability:** Provide for Design-Builder assumption of single point of accountability for performance of all services under the Contract for Design-Builder Services.
- **Smooth Transition:** Smooth transition of design deliverables (i.e. as-builts, building information models [BIM]), electronic O&M Manuals, etc. from the Design-Builder to the City for use in the City's O&M systems, such as maintenance management and asset management. Smooth transition of facility operations following commissioning activities between the Design-Builder and the City.
- **Collaboration:** Provide for coordinated design development with City input in a manner that preserves Design-Builder's sole responsibility for the achievement of Project performance objectives while meeting City objectives associated with cost, quality, aesthetics, and long-term operability.
- **Sustainability:** Per Section 1.6, all solutions identified to improve the quality of life of facility personnel, reduce labor usage, reduce material usage, and reduce waste created after construction is completed.

By selecting the FPDB delivery method for the Project, the City is committed to working in close collaboration with the Design-Builder.

1.4 Project Funding

The cost for design and construction of the Project is currently estimated at **\$5 million**. This budget does not include the City’s other Project costs, such as professional advisory services, site investigations, environmental studies, certain governmental approvals, taxes, and other related costs.

The Project may be financed through a combination of City municipal revenue bonds and cash.

1.5 Project Schedule

The Project schedule is anticipated as follows:

- Design-Builder Notice-to-Proceed February 2023
- Facility Commissioning August 2024
- Substantial Completion September 2024
- Final Completion November 2024

1.6 Sustainability

The City has adopted an overall policy supporting a greater use of “green solutions” or enhanced sustainability measures that consider environmental quality, social equity and economic vitality. In order to minimize waste, enhance efficiencies, and achieve multiple benefits and project synergies, all City projects must identify opportunities for sustainability improvements and implement those improvements when financially reasonable and operationally practical.

The Envision™ rating system is used by WSD to promote sustainability in a variety of infrastructure projects and to encourage sustainable approaches as an important part of project design. Envision™ will also be used to evaluate and grade the sustainability of Project components as they are developed.

City also desires for all City of Kansas City, MO services to be carbon neutral by the year, 2030.

SECTION 2: FIXED-PRICE DESIGN-BUILD SERVICES

2.1 General

The services to be undertaken by the Design-Builder include all Work defined in the Contract, including all Design Professional Services, Construction Services, and other obligations to be performed by Design/Builder under the Contract Documents, including without limitation project management, supervision, training, testing, permitting, commissioning, and all other services and deliverables required by Contractor to achieve Final Acceptance of the Project in accordance with the Contract Documents.

Design-Builder services are as noted in Section 1 and more fully described in Attachment B (Scope of Design-Builder Services).

2.2 Roles and Responsibilities

City: The City will cooperate with the Design-Builder and will fulfill its responsibilities in a timely manner to facilitate the Design-Builder's timely and efficient performance of services. The City's responsibilities include:

- Review submissions and provide comments to Design-Builder in a timely manner.
- Furnish existing studies and provide complete, accurate, and reliable data and information regarding the Project, including record drawings, preliminary studies, environmental impact assessments, Preliminary Design BIM models, Site plans, etc.
- Provide information and provide (or engage Design-Builder to perform) additional studies that may be necessary to complete the Project.
- Provide adequate funding.
- Provide access to the Project site and any necessary easements.
- Obtain the governmental approvals and permits the City is responsible for and assist Design-Builder in obtaining governmental approvals and permits Design-Builder is responsible for.
- Provide necessary data and inputs, characteristics and ranges (e.g., wastewater influent or biosolids) for Project start-up and performance testing.

Design-Builder: The Design-Builder will cooperate with the City and will provide in a timely manner the services, as described in Section 2.1, necessary to complete the general Project scope specified in Attachment B (Scope of Design-Build Services).

The roles and responsibilities of the City and the Design-Builder are more fully described Attachments B (Scope of Design-Build Services) and C (Draft Contract for Design-Build Services) in the RFP.

SECTION 3: PROCUREMENT PROCESS

3.1 Communications and City Contact

On behalf of the City, **Derrick Smith, Procurement Services Department** will act as the Procurement Manager and as the sole point of contact (City Contact) and administrator for the RFP process. All communications shall be submitted in writing by email, sent to the procurement manager, carbon copy the Project Manager, and shall specifically reference this RFP. All questions or comments should be directed to the Procurement Manager as identified under Paragraph 5 of this RFP. All communications and questions regarding the Project shall only be made through the City Contact with the exception of City-certified Disadvantaged Business Enterprises, Minority Business Enterprises, and Women Business Enterprises (D/M/WBE) and of Respondents contacting the Civil Rights and Equal Opportunity Department to assist in meeting MBE/WBE goals. D/M/WBEs may contact WSD, General Services, and CREO staff directly regarding the Project.

No oral communication from the City Contact or any other individual is binding. Oral or written contact with other City staff, WSD staff, the Owner's Advisor, or any public official specific to the Project during the RFP/Design-Builder Selection process is prohibited. A violation of this provision may result in disqualification of the Respondent from the RFP/Design-Builder Selection process.

3.2 Procurement Schedule

The procurement process includes several confidential meetings which are discussed in further detail in Section 3.4 Confidential Meetings. The approximate procurement schedule is as follows:

- Issuance of RFP September 2, 2022
- Confidential Meetings (2) Sept. 7, 2022 – Oct. 26, 2022
- Site visits (2)^{AD4} Through October 21, 2022^{AD4}
- Deadline for Receipt of Written Questions October 26, 2022
- Issuance of Final Addendum November 1, 2022
- Proposal (Technical and Cost) Submission November 22, 9^{AD6}, 2022
- Interviews (Provisional) 2022 Week of Dec. 6 Nov. 15^{AD6},
- Public Bid Opening Date Dec. 13 Nov. 22^{AD6}, 2022
- Notice of Intent to Contract Dec. 20, Dec. 28, 2022^{AD6}

3.3 Confidential Meetings

Following the issuance of the RFP, the Owner intends to conduct **two (2)** confidential individual meetings with each Respondent during various times of the RFP Period as listed in Section 3.2 Procurement Schedule and as described in the following Sections 3.4.1 through 3.4.3.

All information discussed in these meetings will remain confidential with the exception of clarifications to the RFP made by the City, which will be issued by addenda. The City anticipates that the confidential meetings will be held at **4800 East 63rd Street, Kansas City, MO, 64130** or Blue River located at **7300 Hawthorne Road, Kansas City, MO 64120**. The City will advise each Respondent of its proposed meeting time for Confidential Meeting #1 no later than one week prior to meeting and Confidential Meeting #2 no later than two weeks prior to meeting. The City may hold further confidential meetings at its sole discretion upon notice to the Respondents.

The meetings are intended to provide additional information about the Project, the RFP, Project Technical Requirements, Preliminary Design Contract Documents, technical questions/clarifications, scope of services, and the Draft Contract. The City's commitment to confidentiality is subject to applicable law. The City reserves the right to determine whether any element or feature of the preliminary technical concepts is objectionable or non-objectionable for any reason. The RFP will be amended as necessary to preclude the use of any elements or features determined to be objectionable by the City. The meetings will be conducted to allow:

- a) Respondents to present the concepts to the City and convey to the City the value and benefit of the Respondent's approach to meeting the City's Project requirements as defined in the RFP;
- b) The City to understand each Respondent's technical approach/concepts and to review the approach/concepts for compliance with the City's Project requirements as defined in this RFP;
- c) The City to evaluate any alternative technologies and variances, and to inform Respondents if any are found to be objectionable;
- d) Clarification of the City's Project Technical Requirements through addenda to the RFP; and
- e) Respondents to comment on the RFP, including the Draft Contract for Design-Build Services, and the City to clarify the Draft Contract for Design-Build Services after consideration of Respondent comments.

The City plans to conduct such informational meetings in a responsive manner, affording comparable opportunities for discussion to each Respondent.

Except as expressly provided otherwise in this RFP, the confidential meetings are subject to the following rules:

- a) The City will not discuss with any Respondent any information submitted as part of this procurement other than its own;
- b) Respondents shall not seek to obtain commitments from the City in the meetings or otherwise seek to obtain an unfair competitive advantage over any other Respondent;
- c) No aspect of these meetings is intended to provide any Respondent with access to information that is not similarly available to other Respondents. Accordingly, material information about the Project or procurement that the City reveals or discusses in response to questions raised in a confidential meeting will be revealed to the other Respondents unless the City, in its sole discretion, determines that disclosure (i) would (a) impair the confidentiality of information submitted as part of this procurement or (b) reveal a Respondent's confidential business strategies; (ii) is not necessary in order to address an error in the RFP Documents, (iii) is not necessary for purposes of fairness and transparency; and (iv) is not required by the Public Records Act;
- d) The content or discussions that occur during confidential meetings will not be considered in Proposal evaluations; and
- e) A non-disclosure agreement will be signed by each meeting attendee, including City staff and others attending on the City's behalf, prior to the start of each confidential meeting.

During confidential meetings, Respondents may ask questions, and the City may provide responses. Responses provided by the City during meetings may not be relied upon unless such questions are submitted in writing and the City provides written responses by an addendum to this RFP.

3.4.1 Confidential Meeting #1 (Mandatory)

Confidential Meeting #1 will occur as scheduled in Section 3.2, after the issuance of the RFP with the purpose of reviewing with the Respondent's the RFP, procurement process, and RFP documents. The Respondent may discuss technical ideas with the City during this meeting. The City Contacts will initiate scheduling the optional meeting with Respondents upon issuance of the RFP.

The duration for this meeting will be up to two (2) hours and attendance from the Respondent's team shall be limited to two (2) hours and attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions.

3.4.2 Confidential Meeting #2 (Mandatory)

Confidential Meeting #2 will occur no earlier than twenty-one (21) days before the Proposal Submission date with the purpose of discussing technical ideas provided as well as the Draft Contract for Design-Build Services. This meeting may also include representatives from the City's Legal Department and the duration is expected to be four (4) to eight (8) hours depending on Respondent's agenda. Respondent shall send agenda to City Contacts one week prior to meeting. Attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions. Attendance may also include the

Respondent's legal representative or counsel for discussions related to the Draft Contract for Design-Build Services. This meeting will be scheduled by City at least two (2) weeks in advance.

Any proposed variances from the Indicative Design Criteria or Preferred Indicative Criteria must be discussed during this meeting. If the City does not approve a Respondent's proposal for a variation from Indicative Criteria, it will inform the Respondent by e-mail within two (2) weeks after Confidential Meeting #1.

3.4 Interviews

The City may conduct an interview/oral presentation with each Respondent after proposals are submitted. The interviews may consist of an oral presentation by the Respondent, as well as a questions and answers portion administered by the City. An agenda for the interview/oral presentation will be sent to each Respondent prior to the interview.

The purpose of the interview is to enable each Respondent to: (a) demonstrate Proposal clarity of expression and thoroughness; (b) demonstrate a strong understanding of Project issues; (c) articulate its thoughts and ideas in a logical and factual manner; (d) demonstrate communication between team members and impressions of ability to work cohesively; (e) confirm Respondent's key personnel commitments; (f) provide direct, clear, thorough and insightful answers to questions; and (g) clarify the City's understanding of the proposal and what is covered by it.

3.5 Withdrawal from Proposing

A Respondent may withdraw from submitting a Proposal by providing a written request, duly executed by an authorized representative, and delivered to the City Contact at any time prior to the Proposal Submittal Due Date. Individuals making the withdrawal will be required to provide evidence of authorization to represent the Respondent. After the Proposal Submittal Due Date, Proposals shall not be withdrawn or modified except to the extent agreed to by the City. If a Respondent withdraws from submitting a Proposal, a Stipend from the City will not be paid to that Respondent.

3.6 Validity of Proposal

The offer represented by each Proposal will remain in full force and effect after the Proposal Submittal Due Date and cannot be withdrawn for a period of **ninety (90) ~~180~~^{AD4}** days unless:

- The City has cancelled the RFP;
- The City has awarded the Contract to another Respondent and Contract execution has occurred; or
- The City, in its sole discretion, allows a Respondent to withdraw its Proposal prior to such deadline.

The City and the Respondent may mutually agree, in writing, to extend the validity of a Proposal beyond the validity period. If a Respondent agrees to extend the validity of its Proposal beyond the validity period, the Proposal Security (see Section 3.7 Proposal Bid Security) shall also be extended and/or replaced with compliant Proposal Security.

3.7 Proposal Bid Security

The Cost Proposal shall include security for the Respondent's obligations under the Proposal in the amount of 5% of Base Bid which shall be in the form of a Bid Bond (on Form 00430 Bid Bond provided in Attachment G, Cost Proposal Forms), Cashier's Check, Letter of Credit, Certificate of Deposit or other instrument approved in advance by the City. Prior to submittal of the Cost Proposal the City Treasurer must approve both the financial institution and text of a Letter of Credit. A Cashier's Check or a Certificate of Deposit shall be payable to the City Treasurer. The proposal bid bond must be valid until at least the end of the Proposal validity period in Section 3.6.

By submitting its Proposal, each Respondent understands and agrees that the City shall be entitled to draw on the proposal bid security in its entirety and Respondent if:

- Respondent withdraws, repudiates or otherwise indicates in writing that it will not meet any commitments made in the Proposal, except as specifically permitted under this RFP;
- Respondent is selected for negotiations under Section 5 of this RFP and fails to negotiate with the City in good faith;
- Respondent refuses or is unable to execute and deliver the Contract, evidence of insurance, payment and performance bonds and any other documents required by the City as a condition to award.

By submitting a Proposal, Respondent is agreeing to correct any mistakes on a proposal security submission when requested by the City. When such a mistake occurs and a Respondent fails or refuses to correct the mistake or execute the Contract when requested by the City, any proposal security shall be forfeited to the City and the Respondent shall also be subject to debarment and damages.

3.8 Addenda

This RFP is subject to revision after the date of issuance via written addenda until the Issuance of Final Addendum date in Section 3.2 Procurement Schedule . The City may extend the Submittal Due Date (and any dates in the Procurement Schedule) via addendum at any time. A copy of all such written addenda will be posted at the Kansas City, Missouri Plan Room, <http://www.kcmoplanroom.org>. All addenda will be posted at this location. Any document or plan may be viewed or downloaded from this location.

The following documents will be made available for download: (1) the RFP (including all Attachments) and (2) addenda to the RFP. It is each Respondent's responsibility to obtain all RFP addenda prior to submitting its Proposal.

If the Respondent has any doubt as to the true meaning of any part of this RFP, or if any discrepancies in or omissions from this RFP are discovered by Respondent, a written request for an interpretation or correction may be submitted to the City Contact (see Section 3.1) for response. The Respondent submitting the request will be responsible for delivery no later than the Deadline for Receipt of Written Questions. The City will not be responsible for any other explanation or interpretations of the documents.

It is the responsibility of all Respondents to ascertain whether any addenda have been issued before the Submittal Due Date by checking the Kansas City, Missouri Plan Room. If an Addendum is issued, Respondent must acknowledge receipt of Addendum on the DB 00410 Design-Build Bid Form submitted with the Cost Proposal (see Section 4.3.11 Cost Proposal).

3.9 Inclusion of Proposal in the Contract

Portions of the successful Respondent's Proposal will be used to complete various Contract provisions and Exhibits and will therefore become part of the Contract. All other information is for evaluation purposes only and will not become part of the Contract.

3.10 Reimbursement for Proposal Submitted

For those Respondents that submit a responsive Proposal and are not awarded the Contract, the City will reimburse each unsuccessful Respondent for Proposal preparation costs with a not-to-exceed value of \$45,000. The City will have no further obligation for cost reimbursement. All work performed by a Respondent pursuant to submitting a Proposal, shall be considered works for hire and shall become the property of the City without restriction or limitation on the City's use. Payment of reimbursement shall be made within sixty (60) days after receipt of invoice from Respondent for reimbursement. The Respondent's invoice should include documentation that supports the actual costs incurred for approval of goods and services, providing the Notice of Intent to Award for this project's FPDB Contract has been issued to the successful Respondent. **The Respondent shall complete the Proposal Development Stipend Agreement Form included in Attachment H (Submission Forms) as acknowledgement that the Respondent will accept the reimbursement and that the Respondent agrees with the terms and conditions associated with the reimbursement. If the Respondent chooses not to accept reimbursement, then Respondent shall provide a copy of the Proposal Development Stipend Agreement Form, unsigned, accompanied with a brief statement that the Respondent chooses not to accept Reimbursement.** The completed Proposal Development Stipend Agreement Form shall serve as the legal agreement between the City and Respondent as it specifically relates to the reimbursement.

The stipend shall be paid to the Respondent(s) following the council approval of the ordinance of the Construction contract with the selected Design Builder. Design-Builders are encouraged to become City vendor prior to proposal submission for the Project. Upon such payment, the City

shall acquire from the Respondent perpetual, nonexclusive, royalty-free licenses to allow the City to use the design, or any part thereof, any ideas and/or information contained in the Proposal and to use such design, or any part thereof, any ideas and/or information in this Project or in connection with other projects. In order to receive a stipend, a Respondent must obtain a Vendor Number from the City. Respondents can obtain the necessary forms for obtaining a Vendor Number by calling (816) 513-1836.

3.11 Site Access Period

The City will provide Respondents scheduled access, during periods shown in Section 3.2, to Project site located at the Blue River WWTP by appointment. Each Respondent shall contact the City Contact to schedule a date and time to tour the Facilities. The City will provide up to two (2) hours of site access for each Respondent. City staff will accompany the Respondent in touring the Facilities, however, staff will not be allowed to answer procurement or Proposal-related questions. Site access will be granted approximately one (1) week after the Request for Proposal is provided.

Respondents visiting the Project site shall be responsible for their own safety including equipment and safety procedures. No information conveyed by the City to Respondent resulting from these site tours shall act to modify the RFP unless such modifications are made by Addendum.

SECTION 4: PROPOSAL SUBMISSION REQUIREMENTS

4.1 Submittal Due Date

Refer to Paragraph 3 above for submittal location and due date.

4.2 Submission Format

Except as expressly provided in this Section, the Technical Proposal must not exceed **twenty-five (25)** total narrative pages (most or all 8½ x 11 inch with 1-inch or greater margins), excluding the transmittal letter, index or table of contents, front and back covers, title pages/separation tabs, and appendices. A maximum of **five (5)** of the total pages may be 11 x 17-inch z-fold format. Eleven (11) point font or larger must be used in Parts 1 and 2 of the Technical Proposal. The Technical Proposal shall be typed or printed double-sided to the extent possible, with each double-sided page counting as two pages, on recycled and recyclable paper, and shall be continuously numbered. Each Technical Proposal Part and Appendix shall be labeled with title headers.

The Technical Proposal submission envelope or box shall include Respondent's name and address and shall be labeled "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

The Cost Proposal submission envelope or box shall include the completed Cost Proposal submission forms in Attachment G (Cost Proposal Forms) and any supporting documentation requested in this RFP. Cost Proposal must be accompanied by Proposal bid security in accordance with Section 3.8 Proposal Bid Security.

The Cost Proposal envelope shall include Respondent's name and address and shall be labeled "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

Drawings shall be half-size versions (11" x 17") of ANSI 22" x 34" sheets. The set shall include a cover sheet and index of all drawings included in the set. Drawings are excluded from the page limit of the Technical Proposal.

4.3 Submission Content

4.3.1 General Outline

The **Technical Proposal** must include the following in the order listed:

- Transmittal Letter
- Part 1 – Project Plans/Management Approach
 - Project Team/SOQ Confirmation

- Design-Build Coordination and Management
- Quality Control and Management
- Safety Plan
- Permitting
- Self-Performance and Subcontracting
- Part 2 – Technical Proposal
 - Project Understanding
 - Technical Narratives
 - Including variances from Indicative Design Criteria
 - Technical Drawings (reference Appendix B)
 - Equipment Information (reference Appendix C)
- Part 3 – Construction Schedule, Planning and Sequencing (reference Appendix D)
- Part 4 – MBE/WBE Utilization
- Appendix A – Forms for Affirmation and Compliance (not included in page count)
 - Copies of Missouri Construction and Engineering Licenses for Lead Contractor, Design Manager, and Engineer of Record
 - Bonding Capacity
 - Declaration of Insurance
 - Form 00515.01 Employee Eligibility Verification Affidavit
- Appendix B – Design Drawings (not included in page count)
- Appendix C – Equipment Forms (not included in page count)
- Appendix D – Project Schedule (not included in page count)

The content requirements set forth in this RFP represent the minimum content requirements for the Technical Proposal. It is the Respondent's responsibility to present all relevant information and

other materials in its Technical Proposal. The Technical Proposal, however, should not contain standard marketing or other general materials. It is the Respondent's responsibility to modify such materials so that only directly relevant information is included in the Technical Proposal.

Per Section 2-1585, City Code of Ordinances, the Technical Proposal may not contain any reference to the cost of the Project.

The **Cost Proposal** must include the following:

- Cost Proposal
 - DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
 - 00430 Bid Bond

4.3.2 *Transmittal Letter*

Each Respondent must provide a Transmittal Letter following the Proposal cover that formally conveys the Proposal to the City. The letter must be signed by an authorized representative of the Respondent who is empowered to sign such material and to commit the Respondent to the obligations contained in the Proposal. If Respondent is a corporation or an LLC, an authorized officer shall sign his/her name and indicate his/her title beneath the full corporate name. If Respondent is a joint venture, an authorized representative for each member of the joint venture shall sign the letter, and specifically state that, if the joint venture is selected as the Design-Builder entity, each member will be jointly and severally liable to the City for the obligations arising out of the contract between the joint venture and the City.

The Transmittal Letter may include any information deemed relevant to the Respondent, but must include the following:

1. An identification of the Respondent's Point of Contact, including name, address, phone number, and email address, and must specify who would be the Design-Builder's signatory to any contract documents executed with the City.
2. An Executive Summary of the Proposal, with no references whatsoever to the Cost Proposal.
3. A declaration of the Respondent's intent, if selected, to enter into a contract with the City for the Project in accordance with the terms of this RFP;
4. An affirmation that all professional and business registrations and licenses required for the Project have been obtained or will be obtained prior to award of the Contract for Design-Build Services. This includes, but is not limited to the registrations/licenses for the members of the Respondent's team that are professional engineers and will be the Engineer-of-Record for the Project;
5. A statement of the Respondent's intent to provide Performance and Payment Bonds and all insurance required under the Contract for Design-Build Services, respectively by the date of award of the Contract.

6. An affirmation that the representations made in the Proposal will remain in force and effect for ~~ninety (90) one hundred and eighty (180)~~^{AD4} days from the Proposal Submission Due Date.
7. An affirmation that the Respondent has completed and included in either Appendix A (Forms for Affirmation of Compliance), Appendix C (Equipment Forms), or in Part 5 – Cost Proposal all required submission forms provided in Attachment F (Technical Proposal Forms), Attachment G (Cost Proposal Forms), and Attachment H (Submission Forms including CREO Documents).

The Transmittal Letter shall be limited to three (3), 8 ½ x 11 inch pages.

4.3.3 Part 1 – Project Plans/Management Approach

The Respondent shall use Part 1 of the Technical Proposal to demonstrate their approach for managing the Project from Design Phase through Extended Commissioning Phase. It is not expected that the Respondent will include specific and developed plans, but should concisely demonstrate how the project will be executed with regards to project management, controls, quality, safety, permitting, and self-performing/subcontracting. The approaches should discuss who will manage the plan, how it will be assured/ensured, and provide a summary of the plan including discussion on how they comply with the City's practices.

Project Team/SOQ Confirmation. The purpose of this subsection of the Proposal is for the Respondent to confirm that the Project team submitted in its SOQ has not changed; or to provide information and an explanation regarding any changes to its Project Team differing from that submitted in its SOQ. Any changes to the Respondent's Project Team from the SOQ are subject to acceptance or rejection by the City, at its sole discretion. If the Respondent's Project Team has not changed from the SOQ, the Respondent shall include the following statement in this section of its Proposal:

“ _____ (Name of Respondent's Team or Organization) confirms that all qualifications and experience information, including the members and composition of our Project Team, provided in our Statement of Qualifications previously submitted to the City for the Blue River Screen House Facility Project has not changed, and is valid, true, and accurate.”

No changes of the primary member organizations that comprise the Project Team (Lead Designer and Lead Contractor) are allowed, and no changes to the Key Personnel as represented in the Respondent's SOQ are allowed. If extenuating circumstances require a change to any of the primary member organizations or Key Personnel, the Respondent shall provide an explanation for the change and present qualifications and experience information for the new team member(s) for the City to evaluate. The City reserves the right to reject as non-responsive the Proposal of a Respondent that changes primary member organizations or Key Personnel from that indicated in the SOQ.

Respondent shall identify the Lead Operations Coordinator, an additional role in Key Personnel, in this section and provide the information required below in the following section for this additional Key Personnel and verify proposed Staffing in RFQ.

Change in Key Personnel. Respondent shall identify any Key Personnel, as defined in Section 01420 found in RFP Attachment A, that have changed from what was previously provided in the Respondent's SOQ. The City expects Key Personnel named in this Proposal to remain on the Project Team for the duration of the Project unless changes are beyond the Respondents control and approved by the City.

For any additions or changes that have occurred to the Respondent's Project Team, the Respondent shall provide the following information relative to the assignments and qualifications of the Respondent's team:

- For any new personnel, provide sufficient reasoning and detail for the City to understand how such personnel would enhance the Respondent's ability to deliver the Project and to provide value to the City.
- Proposal Appendix A (Forms for Affirmation of Compliance) should include resumes (see RFQ for resume format and requirements), copies of licenses or registrations, and project references for any additional or new personnel that the Respondent proposes as part of its Project Team that were not identified in the SOQ.

Design-Build Coordination and Management Plan. The Respondent shall demonstrate that: (a) its coordination and management approach during design and construction includes specific measures to control budget, documentation, and schedule; and (b) it will implement policies and procedures to facilitate communication and input from members of the Project Team and City. At a minimum, Respondent shall:

- Describe the roles and responsibilities of the Project Team members, and how the Project Team is going to function to benefit the Project. Include an organization chart of the Project Team to illustrate its functionality, team reporting structure, etc.
- Describe the Respondent's concepts for managing the design, construction, and commissioning phases of the Project and how the Respondent intends to control budget, documentation, and schedule.
- Describe how the Respondent intends to control and coordinate the flow of information between design and construction teams, and how the Respondent plans to interface with the City and permitting agencies.
- Describe the communications methods for facilitating City review during all phases of the Project, including but not be limited to meetings, progress reports, submission of BIM updates, and document management tools.
- Describe Respondent's design process, including procedures for equipment selection, constructability reviews by the Lead Contractor, obtaining City input and Lead Designer's involvement in oversight of construction. Describe where the design team will be geographically located and how operations team members will be involved in design and construction. Describe how Respondent will leverage Project Team's experience and

expertise, including Lead Operations Coordinator, that is specifically applicable to this Project, including expertise related to Headworks Operations.

- Describe the Respondents approach to involving City staff in the operations and maintenance of the facilities during the Construction and Extended Commissioning Phases, the training of City staff, and other activities to efficiently transfer operations and maintenance responsibilities to the City following the completion of the Extended Commissioning Phase. Describe Respondent's approach for development of standard operating procedures (SOPs), maintenance verification systems, and how the Respondent will work with the City's existing computerized maintenance management system.

Quality Control and Management. Respondent shall demonstrate: (a) clear and comprehensive quality assurance and control procedures during both design and construction; and extended commissioning (b) the availability and proposed utilization of established quality management procedures previously implemented on other similar projects. At a minimum, Respondent shall:

- Describe the Respondent's quality control and management methods, policies, and procedures during design. This shall include a description of Respondent's approach for monitoring and managing the quality of its work from initiation to completion of the Project, including but not limited to checking of all calculations, discipline design checklists, interdisciplinary design checklists, and standardized comment forms that document all check comments and responses for each design submittal. Use of the Revit-based BIM is required for design purposes.
- Provide a summary of quality control procedures to be utilized during construction, which includes but is not limited to materials testing for concrete and soils at a minimum, and independent special inspections.

Safety Plan. Respondent shall demonstrate that its proposed safety measures, policies, and procedures will maintain a safe construction site and will consider public safety. At a minimum, Respondent shall:

- Submit a summary description of the corporate safety program that has been established by the Lead Contractor.
- Provide a description of safety programs or procedures that would be specifically applicable to and utilized for the Project. Include how Respondent proposes to address any unique safety issues for the Project.
- Provide experience, training, and qualifications of onsite safety supervisor.

Permitting. Respondent shall describe its specific approach to the permitting and regulatory requirements anticipated for the Project. In conjunction with the Project Technical Requirements and assignments of permit responsibilities, Respondent shall identify any additional anticipated permits, special considerations for obtaining permits and compliance, approach to coordinating

with regulatory agencies and City, and proposed strategies to obtaining permits to minimize the influence on project schedule.

Self-Performance and Subcontracting. The selected Design-Builder shall perform with its own organization not less than fifty-percent (50%) of the total contract price. The dollar value included in this percentage performed by the Design-Builder shall include the value of labor, materials and equipment directly performed or procured by the Design-Builder and shall not include the value of work performed or provided by subcontractors.

Respondent shall provide a description of the general delivery approach of the Project, including use of subcontractors and proposed approach for self-performance. Identify proposed components Respondent would self-perform and the Respondent's approach to managing this work and subcontracted work.

4.3.4 Part 2 – Technical Approach

Part 2 of the Technical Proposal will be used by the City to understand and evaluate the Proposer's: (a) approach to meeting/exceeding the RFP Technical Requirements; (b) incorporation of innovative ideas and cost savings measures; and (c) incorporation of quality materials/equipment that will provide the City with cost effective operations and maintenance.

Project Understanding. Respondent shall discuss generally the tasks involved in the Project to demonstrate its knowledge of the overall Project and Project requirements and needs. Identify and describe how the Respondent would define and approach key Project challenges. Describe how the Respondent would be structured to best manage its activities and satisfy the needs of the Project, including the Lead Contractor's involvement/role during design, the Lead Designer's involvement/role during construction, and the Lead Operations Coordinator's involvement/role during design, construction, and extended commissioning phases. Include the following discussions regarding the Respondent's project understanding:

- Define 5 key issues and challenges in both the design and construction of the Project. Describe how to mitigate potential negative impacts (i.e., risk mitigation strategy) of each key issue and any unique approaches or strengths the Respondent may have relative to the issues and challenges. Describe Respondent's contingency plans for various performance issues that might be encountered on the Project.
- Discuss any innovative ideas and approaches to completing the design and construction of the Project. Demonstrate the Respondent's ingenuity through design concepts, construction materials, and construction methods to achieve the most efficient and long-lasting treatment facility.
- Discuss any prominent concerns with the Respondent's capacity to meet the Project's schedule and budget and how the Respondent will manage budget and schedule requirements. The Respondent may provide situations and examples where its approach to managing the schedule and budget has been successful, but may not include any specific cost information in the Technical Proposal.

- Describe how the Respondent will approach start-up and commissioning including the key tasks the Respondent would recommend for achieving compliance with the Project requirements. Identify concerns and challenges with commissioning and how Respondent’s team will address the risks. Respondent shall present an approach to start-up and commissioning with the key tasks the Respondent would recommend. Identify future start-up and commissioning plans that will be developed and approved by the Owner and indicate when they will be developed and submitted.
- ~~Describe how the Respondent shall describe its ability and approach to providing Extended Commissioning Phase services for an initial one year period with optional one year extension. Respondent shall provide a description of its staffing plan and organization chart; and its approach to assisting the City in the necessary operations and maintenance activities. The Respondent is expected to conform to City standard operating procedures in completing its operations and maintenance duties.~~^{AD4}

Technical Approach Narratives. Proposer shall provide a Technical Approach Narrative that clearly describes its specific technical approach to the Project with respect to the Project Areas and major Project elements as listed below. The intent of the technical approach narratives is to identify areas of compliance with the Fixed Design Criteria, as defined in the Project Technical Requirements, identify the Respondent’s approach for the Indicative Design Criteria, and to provide justification for the approved design criteria variances as proposed in the Interim Deliverable submittal.

The organization of the Technical Approach Narrative shall follow the organization and content of the Project Design Criteria:

- Performance Requirements
- Project Site and Existing Facilities
- Hydraulic Model Design Criteria
- Discipline Design Criteria:
 - A – Architectural
 - C – Civil
 - E - Electrical
 - F - Fire Protection
 - IC - Instrumentation and Controls
 - M - Mechanical
 - P – Plumbing
 - S - Structural

Within major Project elements describe the approach to each of the following technical aspects:

1. Design criteria used and comparison to Project Technical Requirements (Fixed and Indicative Design Criteria). Indicate approach for the Fixed Design Criteria and any deviations from the Indicative Design Criteria using Form F-1 Project Design Criteria.
2. Operational strategies for unit process and equipment.

3. Construction sequence narrative including identifying shut-downs and temporary facilities (electricity, water, conveyance or others).
4. List required standard operating procedures and operating manuals to be provided.

Drawings. Respondent shall include drawings in Appendix B (Design Drawings) to illustrate and document its proposed technical design approach for the Representative Project (or approved Proposed Modified Project) and to complement the technical narrative. Reference shall be made to drawings within the major element narratives.

~~It is anticipated that the Respondent will use the provided electronic BIM Model and Preliminary Drawings, as provided in Attachment E (Project Technical Requirements), as the basis for their design of the Representative Project (or approved Proposed Modified Project).~~^{AD3}

It is anticipated that the Respondent will use the existing drawings, as provided in Attachment D (Project Background Documents), the specifications in Attachment E (Project Technical Requirements), and the project design criteria in Attachment F (Technical Proposal Forms) as the basis for their Representative Project (or approved Proposed Modified Project).^{AD3}

~~*Organization.* Drawings shall be organized first by area and then by discipline matching the organization of the Preliminary Drawings as provided in Attachment E (Project Technical Requirements)~~^{AD3}

Organization. Drawings shall be organized first by area and then by discipline matching the organization of the disciplines listed herein (General, Civil, Building Demolition, Architecture, Structural, Mechanical (Process), Mechanical (Plumbing), HVAC, Electrical, Instrumentation and Controls)^{AD3}

Content. Naming convention shall be consistent with the drawing list provided as part of the Project Technical Requirements. At a minimum, the following drawings shall be prepared and submitted by the Shortlisted Respondent, with the drawings being 11" x 17" size, indicate north on layouts, and use 1/4" or 1/8" scale (facility and layout drawings):

General

- Cover sheet
- Index of Drawings
- Legend, abbreviations and general notes
- Hydraulic Profile (preliminary) - include hydraulic grade elevations (NAVD and NGVD) for maximum, minimum and design flows
- ~~Process Flow Diagram (PFD) — indicate major equipment, tanks and channels, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs~~^{AD6}

Civil

- Existing conditions and demolition plan
- Site Plans showing concept location of ~~existing and proposed major structures, roads, and utilities. utilities and grading~~ — At a minimum, show the layout of the project site including

~~property limits, existing features, proposed features, proposed and existing utilities as applicable, site drainage features, and access roads. The project site and project feature locations should be tied to the project site datum.~~^{AD6}

- Outside yard piping plan with major process piping and or site channels (≥ 24 in)
- Contract limits and construction access and parking

Building Demolition

- Plan drawings illustrating the demolition requirements for existing assets.

Architecture

- Life safety plan and code analysis
- Floor plans
- Building elevations (Optional)^{AD6}
- ~~3D views of buildings~~^{AD6}

Structural

- ~~Foundation plans~~^{AD6}
- ~~Floor plans~~^{AD6}
- Basic Building plans and sections
- ~~Basic tanks/channels plans and sections~~^{AD6}

Mechanical (Process)

- Plans and sections of each facility identifying existing and proposed equipment and piping located and shown^{AD6}
 - ~~Show proposed layout of spaces or separate buildings as well as dimensions for major equipment such as gates, screens, control panels, conveyors and major piping. that includes pump space, other mechanical spaces, maintenance space, storage space as well as major dimensions for pump equipment, flow control gates, isolation gates, major piping, isolation valves, access corridors, maintenance areas, and other appurtenant facilities included in Respondent's proposed design concept~~
 - ~~Show proposed locations for doors, overhead doors~~^{AD6}
- ~~Plans and sections of each equipment asset and piping located and shown~~^{AD6}
- ~~Layout of major interconnecting process piping between structures~~^{AD6}
- ~~Show elevations and piping elevations (≥ 6 in)~~^{AD6}
- ~~Show outline of control panels for large equipment (e.g., mechanical screens) that are installed within 15 feet of the building.~~^{AD6}

Mechanical (Plumbing)

- Show water piping, trench drains, and associated piping (≥ 6 in)

HVAC

- Floor plan with equipment and duct runs ~~and control panels~~^{AD6}
- ~~Heating Flow Diagram (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)~~^{AD6}

- ~~Ventilation Flow Diagram process areas (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)~~
AD6

Electrical

- Overall building-wide single line diagram
- Basic layout of power supply and distribution routing
- ~~Site Plan~~^{AD6}
- Basic floor plan of electrical rooms and elevations
- ~~Show proposed power distribution wiring, and instrumentation and communication wiring~~
AD6
- ~~Show proposed layout of spaces that includes electrical space, control space and communications space~~^{AD6}

Instrumentation and Controls:

- Process P&IDs (all treatment process - major equipment, valves, gates, piping and instrumentation only; names and tags per Project Technical Requirements)
- Screen house SCADA system architecture diagram
 - Show how the Screen House will integrate into the Plant SCADA system architecture^{AD6}
 - ~~Plant-wide SCADA system architecture diagram~~^{AD6}
 - ~~Basic floor plans showing proposed control panels with names and equipment tags~~
AD6

Equipment Cut Sheets. Respondent shall complete equipment cut sheets provided in Attachment F (Technical Proposal Forms) for the following major equipment, and include the completed forms within Appendix C Equipment Forms in its Technical Proposal:

1. Slide Gates
2. Multi-Rake Screens and Conveyors^{AD6}
3. HVAC System
4. ~~Major Building Appurtenances (Doors, Windows, Skylights)~~^{AD6}
5. Electrical Gear (including switchgear, variable frequency drives, and motor control centers)
6. Other Major Equipment and Ancillary Systems

4.3.5 Part 3 – Construction Schedule, Planning and Sequencing

Provide a summary version of the Respondent's proposed project schedule. Summarized schedule will include the Respondents proposed dates for achieving the Design, Construction, and **Startup and Commissioning** ~~Extended Commissioning~~^{AD4} milestones - these proposed dates will be included within the Agreement executed by the City and successful Respondent.

Respondents shall: (a) describe construction sequencing of major Project elements and how sequencing may affect the critical path; (b) discuss any concerns with the capacity to meet the Project's schedule and how the Respondent will manage the schedule. Respondent shall describe how they would approach site logistics and limitations during construction, such as construction staging areas, etc.

Respondent shall develop a detailed Project Schedule and provided within Appendix D (Construction Schedule) of its Proposal. The detailed Project Schedule shall be a preliminary resource-loaded CPM construction schedule without any reference to cost, prepared using Microsoft Project 2007 or later format. Include no more than three hundred (300) individual activities, for identifying tasks, durations, and key milestones during the design, construction, and commissioning phases. Show milestones for key decision points, milestones, shutdown periods, OCCP and permit review periods for WSD and AHJs, approvals, purchasing and testing dates associated with Schedule based upon the City's anticipated award date. Include time for permit or regulatory approval processes required prior and during construction. Include schedule for start-up and commissioning period and performance verification testing.

4.3.6 Part 4 – MBE/WBE Utilization

City desires that Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) have a maximum opportunity to participate in the performance of City contracts. The goals for this specific Project are 14% MBE participation and 14% WBE participation. The Respondent shall identify any MBE/WBE subconsultants or subcontractors that are part of the Respondent's Project Team.

The City's CREO Forms and CREO Instructions for Construction Projects are incorporated into this RFP and the Contract Documents. The MBE/WBE Directory is available on the City's website at www.kcmo.org. Please call the Civil Rights and Equal Opportunity Department at (816) 513-1836 for assistance.

Waiver of MBE/WBE Requirements. The City Council may waive any and all MBE/WBE requirements imposed by any Bidding Document or the MBE/WBE Ordinance and Contract with the lowest and best Bidder if the City Council determines a waiver is in the best interests of the City.

Workforce Program Requirements. City desires that minorities and women have a maximum opportunity to practice their trades on city construction projects. The minimum company-wide goals are a ten percent (10%) minority workforce and two percent (2%) women workforce. The City's HRD Forms and HRD Instructions for Construction Projects are incorporated into this RFP and the Contract Documents.

4.3.7 Appendix A - Forms for Affirmation of Compliance

Include in Appendix A of the Proposal the completed forms provided in RFP Attachment H (Submission Forms including HRD Documents).

In accordance with Section 4.3.3 of this RFP, for any new Key Personnel that the Respondent intends to use that are not identified in its SOQ and for the Lead Operations Coordinator, Respondent shall provide resumes for such individuals within Appendix A. Provide certifications and licenses for the Lead Operations Coordinator and any new Key Personnel (if applicable), and otherwise required by Section 4.3.3.

4.3.8 Appendix B – Design Drawings

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix B all design drawings necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.9 Appendix C – Equipment Forms

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix C all equipment forms necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.10 Appendix D – Project Schedule

In accordance with Section 4.3.5 of this RFP, Respondent shall provide in Appendix D a detailed-level schedule for the Project. The schedule shall identify critical path, proposed early work packages, and projected float.

4.3.11 Part 5 - Cost Proposal

A Proposal submitted in response to this RFP must contain a Cost Proposal that fully conforms with and satisfies the format and content requirements described herein, and sets forth the Respondent's proposed Fixed Price Design-Build to perform the Design-Build Contract services. In evaluating the Cost Proposal, the City will apply the price evaluation criteria set forth in Section 5 of this RFP. Accordingly, Respondents are required to complete and submit all forms provided in Attachment G (Cost Proposal Forms) and include in their Cost Proposal all other information necessary to permit the City to perform informed evaluation.

DB 00410 Design-Build Bid Form. This form must be completed in its entirety and submitted with the Cost Proposal. Respondent shall provide a price for Design Services and Construction Services, the sum of which comprises the "Base Bid." The Base Bid is the Cost of Work for the Representative Project (or approved Proposed Modified Project), including allowances as described below. Variations or deviations from the Representative Project that do not have City approval shall be excluded.

Additionally, Respondent shall provide as supplemental to the Cost Proposal the Vendor's Proposals for the below-listed equipment as listed in Form F.1, clearly indicating what is included in the scope.

- Forebay Slide Gates
- Multi-Rake Screens
- Shaftless Screw Conveyor

Scoring of the Cost Proposal will be based on the Base Bid.

THE COST PROPOSAL SHALL BE SUBMITTED, IN A SEPARATE SEALED ENVELOPE OR PACKAGE CLEARLY MARKED "COST PROPOSAL."

ALL PRICE AND COST INFORMATION SHALL BE INCLUDED ONLY IN THE COST PROPOSAL. NO PRICE INFORMATION SHALL BE INCLUDED IN THE OTHER PARTS OF THE PROPOSAL (INCLUDING THE TRANSMITTAL LETTER AND APPENDICES). IF ANY PRICE INFORMATION IS INCLUDED IN THE OTHER PARTS OF THE PROPOSAL, THE ENTIRE PROPOSAL MAY BE REJECTED.

SECTION 5: FINAL PROPOSAL EVALUATION AND SELECTION

5.1 Selection Committee

The City will appoint a committee (“Selection Committee”) consisting of no more than five (5) members, which will include staff designated by the WSD Director per Ordinance No. 190622, as deemed necessary, with the expertise appropriate for the evaluation of all technical aspects of the Project. Copies of Proposals will be distributed to the Selection Committee members who will rely on the contents for scoring purposes. The Selection Committee will review the Proposals, excluding the Cost Proposal.

5.2 General Evaluation Procedure

The submission of a Proposal by Respondents shall constitute acknowledgement of acceptance of all terms and conditions set forth in this RFP unless otherwise expressly stated herein. All Proposals must be submitted in writing and must include all required documents including forms, appendices, and other information requested in this RFP.

All Technical Proposals and documents, and meetings related thereto, shall be considered to be "closed records" and "closed meetings," respectively, as defined in Chapter 610, RSMo (the "Missouri Sunshine Law") and therefore protected from disclosure until the Public Bid Opening Date (Section 3.2).

In general, the procedure for evaluation of Proposals and selecting a Design-Builder will consist of the following:

- Selection Committee will open Technical Proposals.
- Selection Committee will review the Technical Proposals (with assistance provided by outside advisors if desired by City) to determine if Responsiveness Requirements and Mandatory (Pass/Fail) Requirements are met.
- City staff may conduct interviews for any or all submitted Proposals.
- Selection Committee will score Technical Proposals based on evaluation criteria described in Section 5.4.
- For those Proposals that meet the Responsiveness Requirements and Mandatory (Pass/Fail) Requirements, the Cost Proposal will be opened publicly as described in Section 5.5.1 Public Bid Opening.
- The ranking of Respondents and the Successful Shortlisted Respondent will be publicly posted of the City’s Plan Room Website which will begin the five (5) day appeal period.
- After the five (5) day appeal period has expired and no appeals have been recorded, contract negotiations will begin with the Successful Shortlisted Respondent.

- Award of the Contract for Design-Build Services will be made only after the successful negotiation of the Contract and the City. Council's ordinance adopting the Contract for Design-Build Services takes effect.

During the Proposal evaluation process, written questions or requests for clarifications may be submitted to one or more Respondents regarding its Proposal or related matters. Failure to respond in a timely manner to any such questions or requests may be grounds for elimination of the Respondent from further consideration. Respondent is responsible for the accuracy of its Proposals. Discrepancies between words and figures will be resolved in favor of the words.

5.3 Responsiveness Requirements

Each Proposal will be reviewed to determine whether it is responsive to the RFP. Respondents must comply with all terms and conditions of this RFP, including, without limitation, the requirement to provide all documentation requested in this RFP. Failure to comply with the requirements of this RFP may result in a Proposal being rejected as non-responsive. Each Proposal shall be reviewed for responsiveness in accordance with the following conditions:

1. Timely submittal (refer to Section 4.1 of RFP for the Submittal Due Date).
2. Compliance with submittal requirements in accordance with Section 4 of RFP, including submittal of all information and documentation required in Section 4.

If a Respondent fails to satisfy these conditions, the Proposal may be deemed non-responsive by the City and not considered for further review.

At its sole discretion at any time, however, the City Manager or his delegate may waive any requirements imposed by this solicitation or by any City regulation when failure to grant the waiver will result in an increased cost to the City and the requirement waived would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City Council at any time may waive any requirements imposed in this solicitation by the City's Code of Ordinances when it finds failure to grant the waiver will result in an increased cost to the City and the waived requirement would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City reserves the right to waive any irregularities and/or formalities as deemed appropriate.

The City Council may waive any and all D/M/WBE requirements imposed by any SOQ or Proposal document or the MBE/WBE Ordinance and award the Contract to the most qualified Design-Builder if the City Council determines a waiver is in the best interests of the City.

5.4 Evaluation Criteria

The City will evaluate and rank the responsive Proposals by applying the weighted evaluation criteria set forth below to determine the Successful Respondent. The total number of points that will be used in evaluating all of the factors for a Proposal is 200, allocated as illustrated in the following table:

Criterion	Maximum Score Possible (Points)
Part 1. Project Plans/Management Approach	30
Part 2. Technical Approach	60
Part 3. Construction Schedule, Planning and Sequencing	10
Part 4. MBE/WBE Utilization	Pass/Fail
Cost Proposal	100
Total Possible Score	200

The highest Technical Proposal will be awarded 100 points. Points will be added to each of the other Technical Proposals corresponding to the 100 points and the original points earned by that Proposal. For example:

Technical Proposal	Number of Points	Score
Highest	94	100 pts.
2nd Highest	87 (94-87=7)	93 pts. (100-7 points)
3rd Highest	84 (94-84=10)	90 pts. (100-10 points)

5.5 Cost Proposal Evaluation

The Cost Proposal with the lowest bid price will be awarded 100 points. City's Budget is \$5,000,000.00. The City's limit for department selection for a design-build project is \$6,000,000.^{AD4}

One (1) point will be deducted from each of the other Cost Proposals for each percentage that the Base Bid exceeds the lowest Base Bid using the following formula:

$$\left(1 - \frac{\text{Proposer's Bid} - \text{Lowest Bid}}{\text{Lowest Bid}}\right) \times 100$$

5.5.1 Public Bid Opening

Cost Proposals will be opened publicly on at 2:00 PM on the Public Bid Opening Date (Section 3.2). The City will publicly announce the scores earned by each Technical Proposal, and then will publicly open and read aloud the corresponding Cost Proposal. Cost Proposal scores will be calculated and added to previously determined Proposal scores. Proposals and corresponding Respondents will be ranked based upon the Proposal scores.

~~The 48-hour period for providing CREO documents (e.g., HRD Form 8, Contractor Utilization Plan/Request for Waiver) shall begin to run as of this date and time.^{AD7}~~

The 48-hour period for providing CREO documents shall begin to run as of this date and time.^{AD7}

5.6 Final Selection

The lowest and best Bid is that Proposal with the highest combined points for the Technical Proposal and Cost Proposal, and that has been determined by the City to be responsive. Respondent agrees that all representations made in its SOQ, its Technical Proposal, and its Cost Proposal shall continue to be binding on Respondent if it is the successful Respondent on the Project, and that this RFP, the RFQ, Respondent's Technical Proposal, Respondent's Cost Proposal, and Respondent's SOQ shall be deemed incorporated into any Contract issued to Respondent for the Project.

After the evaluation process is complete, the City will notify Respondents of the rankings. The top-ranked Respondent will be selected to serve as the Design-Builder and to begin negotiations with the City for the Contract for Design-Build Services award. If negotiations with the top-ranked Respondent are not successful, the City will select the next-ranked Respondent for award and negotiate the final terms of the Contract.

SECTION 6: CONDITIONS FOR RESPONDENTS

6.1 City Policies and Ordinances

The City will administer the RFP process under competitive proposal policies. The following is a summary of some of the policies and ordinance packages to be followed and completed as part of the RFP process. The City encourages and expects Proposers to pursue subcontracting, mentoring, joint venturing, teaming and partnering opportunities with the types of firms described in this Section in the ordinary course of its teaming/business strategies for all aspects of the Project. Additional policies and ordinances otherwise not specifically listed below may also apply at time of the Proposal.

- Code of Ordinances, Sections 3-501 through 3-525, also known as the “Workforce Program.”

6.2 Prohibited Activities by Former City Employees and Officials

Section 2-2044 of the City’s Code prohibits former elected City officials and former executive or administrative employees of the City from trying to influence a decision of the City on behalf of an employer or client for one year after that former employee or official leaves the City’s employ. By submitting an RFP, the Design-Builder affirms that Design-Builder and its team members and employees are in compliance with the requirements of Section 2-2044. Failure to comply with the requirements of Section 2-1018 may cause the SOQ and Proposal to be rejected.

6.3 Change in RFP, Contract and Additional Work

The City reserves the right to add to, delete, modify or enlarge this RFP, including any specifications and/or statement of work, the proposed contract, the terms and conditions, and any subsequently executed contract. The City reserves the right to award additional contracts for related work or subsequent Project phases to the selected Design-Builder.

6.4 Late Proposals

Proposals and modifications of proposals received after the exact hour and date specified for receipt will not be considered unless: (1) they are sent via the U.S. Postal Service, common carrier or contract carrier, by a delivery method that guarantees the proposal will be delivered to the City prior to the submission deadline; or (2) if submitted by mail, common carrier or contract carrier it is determined by the City that the late receipt was due solely to an error by the US Postal Service, common carrier or contract carrier; or (3) the Proposal is timely delivered to the City but is at a different City location than that specified in this RFP; or (4) the City extends the time after the deadline for a force majeure event that could potentially affect any or all Respondents meeting the deadline.

6.5 Interviews, Discussions and Negotiations with Design-Builders

The Respondent's Proposals, including any proposed personnel and any other required proposal documents may be subject to negotiation by the City at any time. The City may interview none, one, some or all of the Respondents that submit Proposals. Proposals may be evaluated and award made with or without, discussions and/or negotiations with the Respondent. The City reserves the right to request additional information from any or all Respondents. Negotiations by the City will not be deemed a counter offer or a rejection of any original SOQ or Proposal.

6.6 Rejection of Proposals

If the City rejects all Proposals, the City may re-solicit Proposals only from those Respondents who submitted a Proposal pursuant to this RFP and/or use an expedited Bid submission schedule with or without re-advertising or issuing any other public notice when the City determines, in its sole discretion, that the delay due to the normal solicitation procedures would not be in the City's best interests.

6.7 Disclosure of Proprietary Information

A Respondent may restrict the disclosure of scientific and technological innovations in which it has a proprietary interest, or other information that is protected from public disclosure by law, which is contained in any portion of its Proposal by:

- a. Marking each page of each such document in at least 16-point font with the words "Proprietary Information"; and
- b. Printing each page of such document on a different color paper than the paper on which the remainder of the Proposal is printed; and
- c. Segregating each page of each such portion of its Technical Proposal in a sealed envelope/package, which shall prominently display, on the outside, the words "Proprietary Information" in at least 16-point font, along with the name and address of the Respondent; and
- d. After either the Public Bid Opening Date or the rejection of all Proposals, if a request is made under the Missouri Sunshine Law for access to portion(s) of a Respondent's Technical Proposal that has been marked "Proprietary Information," as provided above, the City will notify that Respondent of the request, and it shall be the burden of that Respondent to establish that such documents are exempt from disclosure under the law.

6.8 Contract Information Management System

The selected Design-Builder shall be required to use City's Internet web based Contract Information Management System/Project Management Communications Tool provided by City and protocols included in that software during the term of this Contract. The selected Design-Builder shall submit user applications to City's provided Contract Information Management

System for all personnel, subcontractors or suppliers as applicable. The City will use e-Builder (by Trimble) for document control and workflows.

6.9 Affirmative Action

It is the policy of the City that any person or entity entering into a contract with the City, will employ applicants and treat employees equally without regard to their race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age. The City's Affirmative Action ordinance requires that any person or entity who employs fifty (50) or more persons and is awarded a contract from the City totaling more than \$300,000.00 must:

- Execute and submit an affidavit, in a form prescribed by the City, warranting that the contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the contract.
- Submit, in print or electronic format, a copy of the contractor's current certificate of compliance to the City's CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years. If, and only if, contractor does not possess a current certification of compliance, contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years.
- Require any subcontractor awarded a subcontract exceeding \$300,000.00 to affirm that subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.
- Obtain from any subcontractor awarded a subcontract exceeding \$300,000.00 a copy of the subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, subcontractor does not possess a current certificate of compliance, contractor shall obtain a copy of the subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.
- If you have any questions regarding the City's Affirmative Action requirements, please contact CREO at (816) 513-1836 or visit the City's website at www.kcmo.org.

6.10 American with Disabilities Act (ADA) Standards

It is the policy of the City and required by law that any new or renovated facility meet the scoping and technical requirements of the 2010 ADA Standards for newly designed and constructed or altered local government facilities, public accommodations, and facilities. The selected Design-Builder shall design the project so it conforms to the 2010 ADA Standards, as applicable and as amended from time to time, and is readily accessible to and usable by individuals with disabilities.

The City will make available to the selected Design-Builder the City's ADA Compliance Manager, who can facilitate interaction with advocates in the disability community.

6.11 Design-Builder Conflict of Interest

A conflict of interest situation may disqualify an organization. If the Design-Builder believes there may be a conflict of interest, it must list the organizations and the names of entities or persons associated with the Design-Builder who may have a conflict of interest, or appearance of a conflict of interest, with the City.

Details of the potential conflict of interest must also be included. Names of entities associated with the Design-Builder who may have a conflict of interest with any activity of this Project should be included in the Proposal. Provide details and reasons. Design-Builders are subject to disqualification on the basis of conflict of interest as determined by the City.

6.12 Additional Information

The City reserves the right, in its sole discretion, to request additional information or documents from any or all Respondents, including supplements or corrections to the Proposals.

6.13 City's Buy American and Missouri Preference Policies

It is the policy of the City that any manufactured goods or commodities used or supplied in the performance of any City contract or any subcontract thereto shall be manufactured or produced in the United States whenever possible. When Bids offer quality, price, conformity with specifications, term of delivery and other conditions imposed in the specifications that are equal, the City shall select the Bid that uses manufactured goods or commodities that are manufactured or produced in the United States. The City shall give preference to all commodities manufactured, produced, or grown within the State of Missouri and to all firms, corporations, or individuals doing business as Missouri firms, corporations or individuals, when quality is equal or better and delivered price is the same or less. It is the bidder's responsibility to claim these preferences.

6.14 Tax Clearance

Respondent will be required to furnish to Owner sufficient proof from City's Commissioner of Revenue, verifying that Respondent is in compliance with the license and tax ordinances administered by City's Revenue Division as a precondition to Owner making its first payment under any Contract over \$50,000.00. Respondent will also be required to obtain proof of City tax compliance from all of its Subcontractors prior to the Subcontractors performing any Work.

6.15 Prevailing Wage Requirements

The successful Respondent shall pay the prevailing hourly rate of wages as determined by the Missouri Annual Wage Order and/or Federal Wage Determination set forth in the Project Manual. In case of a conflict between Missouri and Federal wage rates, the higher rate shall apply.

6.16 Indemnification – City of Kansas City

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the City and any of its agencies, officials, officers, or employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable, including negligent acts or omissions of the City, its agencies, officials, officers, or employees. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

6.17 Indemnification – State of Missouri

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the Missouri Highways and Transportation Commission (MHTC) and the Missouri Department of Transportation (MoDOT) and their respective employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

BLUE RIVER SCREEN HOUSE ROOF SURVEY

Blue River Primary Wastewater Plant – 7300 Hawthorne Road



CONTRACT FOR DESIGN-BUILD SERVICES

This **CONTRACT FOR DESIGN-BUILD SERVICES** ("Agreement") is entered into this _____ day of _____, 20__ ("Agreement Date") by and between the City of Kansas City, Missouri ("Owner") and _____ ("Design-Builder"). In consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder hereby agree as follows:

WITNESSETH:

WHEREAS, on or about _____, Owner issued a Request for Qualifications ("RFQ") soliciting interested parties to submit a Statement of Qualifications ("SOQ") to serve as the design-builder for the Project; and

WHEREAS, on or about _____, Design-Builder submitted its SOQ to Owner; and

WHEREAS, on or about _____, Owner notified Design-Builder that it was one of the shortlisted proposers invited to respond to a Request for Proposals ("RFP"); and

WHEREAS, on or about _____ ("Proposal Submittal Date"), Design-Builder submitted its proposal ("Proposal") in response to the RFP; and

WHEREAS, on or about _____, Owner notified Design-Builder that it was the successful proposer; and

WHEREAS, on or about _____, Owner awarded Design-Builder this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants and obligations contained herein, Owner and Design-Builder hereby agree as follows:

Article 1 **The Project**

1.1 The Project is generally referred as _____ (Project No. _____), and is specifically defined in the Contract Documents.

Article 2 **The Work**

2.1 Design-Builder shall complete all Work as specified or indicated in the Contract Documents.

Article 3 **Contract Times**

3.1 Commencement Date. Design-Builder shall commence the Work upon receipt of the Notice to Proceed ("Commencement Date"). The Commencement Date shall be no later than fifteen (15) days after the Agreement Date, unless the Parties mutually agree otherwise in writing.

3.2 Contract Times

3.2.1 Scheduled Acceptance Date. Acceptance shall be achieved as expeditiously as reasonably practicable, but in no event later than _____ (“Scheduled Acceptance Date”).

3.2.2 Scheduled Final Completion Date. Final Completion of the Work shall be achieved as expeditiously as reasonably practicable, but in no event later than sixty (60) days after the Acceptance Date (the last day of such 60-day period being referred to as the “Scheduled Final Completion Date”).

3.3 Schedule Adjustments. All of the scheduled completion dates set forth in Section 3.2 above (collectively referred to as “Contract Time(s)”) shall be subject to adjustment in accordance with the General Conditions of Contract.

3.4 Time of the Essence. Owner and Design-Builder mutually agree that the Scheduled Acceptance Date and Scheduled Final Completion Date, individually and collectively, are of the essence of this Agreement.

3.5 Delay Liquidated Damages. Design-Builder understands that if any of the Contract Times is not attained, Owner will suffer damages which are difficult to determine and accurately specify. To compensate Owner for such damages, Design-Builder hereby agrees to pay Owner Delay Liquidated Damages as follows:

3.5.1 Acceptance. If the Acceptance Date has not been achieved by the Scheduled Acceptance Date, then Design-Builder shall pay to Owner Delay Liquidated Damages of _____ Dollars (\$ _____) per day for each day between the Scheduled Acceptance Date and the Acceptance Date.

3.5.2. Final Completion. If the Final Completion Date has not been achieved by the Scheduled Final Completion Date, Designer-Builder shall pay to Owner Delay Liquidated Damages of _____ Dollars (\$ _____) per day for each day between the Scheduled Final Completion Date and the Final Completion Date.

3.6 Delay Liquidated Damages Not Penalty. The Parties acknowledge, recognize and agree on the following:

(a) that because of the unique nature of the Project, it is difficult or impossible to determine with precision the amount of damages that would or might be incurred by Owner as a result of Design-Builder’s failure to complete the Work on or before the applicable Contract Time(s);

(b) that any sums which would be payable under this Agreement as Delay Liquidated Damages are in the nature of liquidated damages, and not a penalty, and are fair and reasonable, and such payment represents a reasonable estimate of fair compensation for the losses that may reasonably be anticipated from such failure;

(c) that any sums which would be payable under this Agreement as Delay Liquidated Damages shall be in lieu of all liability for any and all extra costs, losses, expenses, claims, penalties and any other damages, whether special or consequential, and of whatsoever nature

incurred by Owner which are occasioned by any delay in achieving the applicable Contract Time(s); and

(d) that, in recognition of the acknowledgments above, Design-Builder is expressly estopped from arguing, and waives any rights it may have to argue, that Delay Liquidated Damages are a penalty and that they are not enforceable.

For the avoidance of doubt, and notwithstanding anything to the contrary in Paragraph (c) above, Delay Liquidated Damages are not intended to excuse Design-Builder from liability for any other breach of its obligations under the Contract Documents.

Article 4 **Contract Price**

4.1 **Contract Price.** The Contract Price is the sum of _____ (\$_____), as set forth in Design-Builder's Cost Proposal (attached hereto as Exhibit 4.1). The Contract Price is subject to adjustments made in accordance with Article 9 of the General Conditions of Contract. Except as specifically provided in this Agreement or the General Conditions of Contract, the Contract Price is deemed to include all sales, consumer, use and other taxes mandated by applicable Legal Requirements in effect as of the Agreement Date, as well as royalties and license fees in connection with the Work.

4.2 **Allowance Payment Items and Allowance Payment Values**

4.2.1 **General.** The Contract Price includes all Allowance Payment Items set forth in Exhibit 4.2. The corresponding Allowance Payment Values for the Allowance Payment Items are set forth in Design-Builder's Cost Proposal.

4.2.2 **Performance of Work on Allowance Payment Items.** No work shall be performed on any Allowance Payment Item without Design-Builder first obtaining in writing advanced authorization to proceed from Owner.

4.2.3 **Reconciliation of Allowance Payment Values.** If the actual costs for an Allowance Payment Item differ from the stated Allowance Payment Value, the Contract Price shall ultimately be adjusted accordingly by Change Order. If, at the time the Final Application for Payment, the actual costs for any Allowance Payment Value are less than the corresponding Allowance Payment Value, such difference shall be reflected in a Change Order that reduces the Contract Price by such difference.

Article 5 **Payment Procedures**

5.1 **Progress Payments.**

5.1.1 **Submission.** Design-Builder shall submit to Owner on the _____ (__) day of each month, beginning with the first month after the Commencement Date, Applications for Payment in accordance with Article 6 of the General Conditions of Contract.

5.1.2 **Payment.** Owner shall make payment within thirty (30) days after Owner's receipt of each properly submitted and accurate Application for Payment in accordance with Article 6 of the General Conditions of Contract, but in each case less the total of payments previously made,

and less amounts properly withheld under Section 6.3 of the General Conditions of Contract or otherwise.

5.2 Retainage on Progress Payments.

5.2.1 Retainage. Owner will withhold retainage in the amount of five percent (5%) on progress payments due Design-Builder. After fifty percent (50%) of the total Contract Price has been completed and requisitioned through Applications for Payment, and two and one-half (2.5%) of the Contract Price has been retained, Owner shall cease withholding any retainage from future progress payments owing to Design-Builder hereunder, *provided, however*, that Design-Builder's performance is deemed satisfactory by Owner, in its sole discretion. If Design-Builder is forecasting Acceptance to be forty-five (45) calendar days beyond the Scheduled Acceptance Date, the progress will be considered unsatisfactory and Owner shall resume withholding five percent (5%) of each invoiced amount from future payments until Owner and Design-Builder have agreed upon a plan for mitigating such delay.

5.2.2 Reduction of Retainage. Within thirty (30) days after the Acceptance Date, Owner shall release to Design-Builder all retainage, less an amount equal to: (a) two hundred percent (200%) of the reasonable value of all remaining Punch List items as of the Acceptance Date; and (b) all other amounts Owner is entitled to withhold pursuant to Section 6.3 of the General Conditions of Contract.

5.2.3 Letter of Credit. Design-Builder shall have the right to substitute an irrevocable letter of credit in lieu of cash for all or any portion of the retainage, provided that the letter of credit shall: (a) be a direct pay letter of credit payable immediately upon presentation by Owner, issued by a financial institution, and on a form, approved by Owner in its sole discretion; (b) permit partial draws and be in the amount of one hundred percent (100%) of the required retainage amount, or such lesser amount as Owner agrees in writing from time-to-time to reflect reductions in required retainage; and (c) name Owner as sole payee and beneficiary. Owner shall be entitled to draw upon the letter of credit to provide the requisite cash to satisfy any of Design-Builder's obligations under the Contract Documents. Owner shall further be entitled to draw upon the letter of credit, and hold the proceeds as retainage, if the letter of credit is not renewed or extended at least thirty (30) days prior to its expiration.

5.3 Final Payment. Owner shall pay the outstanding retention at Final Payment, in accordance with Section 6.6 of the General Conditions of Contract.

5.4 Interest. All amounts not paid when due as provided in Article 6 of the General Conditions of Contract shall bear interest in accordance with Mo. Rev. Stat. §34.057, at the rate of one and one-half percent (1.5%) per month.

5.5 Owner's Rights to Offset. Owner shall have the right to withhold Delay Liquidated Damages from any monies unpaid, otherwise due, or to become due, to Design-Builder, to demand and receive payment from Design-Builder of such Delay Liquidated Damages, and to initiate applicable dispute resolution procedures under Article 10 of the General Conditions of Contract to recover such Delay Liquidated Damages. The withholding of such damages from any monies unpaid, otherwise due, or to become due shall be in addition to retainage under the Contract Documents. Owner has the discretion to allow Delay Liquidated Damages to accrue without withholding and by doing so does not waive any rights to withhold them at a later time.

Article 6
Design-Builder's Representations

6.1 Representations. Design-Builder makes the following representations as of the Agreement Date:

(a) Design-Builder examined, carefully studied, and thoroughly understood the RFP Documents, including the Addenda.

(b) Design-Builder has visited the Site and has become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

(c) Design-Builder is familiar with and is satisfied as to all Legal Requirements that may affect cost, progress, or performance of the Work.

(d) Design-Builder has examined, carefully studied, and thoroughly understands: (1) the reports and drawings (if any) of explorations and tests of subsurface conditions at or contiguous to the Site; (2) all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified or made available by Owner; (3) environmental reports; and (4) conditions and restrictions of site access and egress.

(e) Design-Builder is aware of the nature of other work that will be undertaken by Owner's Separate Contractors, and of the relationship of such other work to the Work as indicated in the Project Requirements.

(f) Design-Builder has correlated the Project Requirements with the information known to Design-Builder, information obtained from the geotechnical and environmental reports, observations made during visits to the Site, reports and drawings identified in the RFP Documents, and all additional examinations, investigations, explorations, tests, studies and data made known to Design-Builder.

(g) Design-Builder has given Owner written notice of all conflicts, errors, ambiguities, or discrepancies that Design-Builder has discovered in the RFP Documents as of the Agreement Date and the written resolution thereof by Owner is acceptable to Design-Builder.

(h) The RFP Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

(i) Design-Builder shall be bound by and shall perform its obligations in full compliance with the Contract Documents.

Article 7
Insurance and Bonds

7.1 Insurance.

7.1.1 Insurance Requirements. Design-Builder shall procure and maintain the insurance required by Exhibit 7.1.

7.1.2 Evidence of Insurance. No later than seven (7) days after the Agreement Date,

Design-Builder shall deliver to Owner the certificates, endorsements, and other evidence of insurance required to be provided by Design-Builder in accordance with Section 5.1.3(a) of the General Conditions.

7.2 Performance and Payment Bonds.

7.2.1 Provision of the Bonds. No later than seven (7) days after the Agreement Date, Design-Builder shall deliver to Owner:

(a) a Performance Bond in the penal amount equal to one hundred percent (100%) of the Contract Price, which bond shall cover the faithful performance of all Design-Builder's obligations under the Contract Documents (the "Performance Bond"); and

(b) a Payment Bond in the penal amount equal to one hundred percent (100%) of the Contract Price (the "Payment Bond").

7.2.2 Surety Rating. The surety for the Performance and Payment Bonds shall: (a) have a rating of A- or better in the latest revision of the A.M. Best Owner's Insurance Report; (b) be authorized by law to do business in Missouri; and (c) be listed in the most recent U.S. Department of Treasury Circular 570.

7.2.3 Form of Bonds. The Performance Bond shall be in the form set forth in Exhibit 7.2.3(a) and the Payment Bond shall be in the form set forth in Exhibit 7.2.3(b).

7.2.4 Duration of Performance Bond. The Performance Bond shall remain valid for a period of two (2) years after Final Completion.

Article 8 **Contract Documents**

8.1 Contract Documents. The Contract Documents consist of the documents listed below:

1. This Agreement and all of the Exhibits;
2. General Conditions of Contract;
3. Attachment A (Project Requirements);
4. Addenda numbers ___ through ___ inclusive, to the extent such Addenda modify the other Contract Documents; and
5. Elements of Design-Builder's Technical Proposal (*to be identified and agreed upon*).
6. The following, which shall be designated, completed, delivered, prepared, or issued after the Agreement Date and are not attached hereto:
 - (a) The Released for Construction Documents.

(b) Any and all written amendments, Change Orders, Work Change Directives, and Minor Changes amending, modifying, or supplementing the Contract Documents.

8.2 Amending the Contract Documents. The Contract Documents may only be amended, modified, or supplemented through a written amendment executed by the Parties or a Change Order, Work Change Directive, or Minor Change issued in accordance with Article 9 of the General Conditions of Contract.

8.3 Order of Precedence of the Contract Documents. The Contract Documents comprise the entire agreement between Owner and Design-Builder governing the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the laws of the State of Missouri. The following order of precedence shall apply in the case of direct, irresolvable conflicts between or among Contract Documents:

1. Written amendments and Change Orders
2. Work Change Directives
3. Minor Changes
4. This Agreement, and all of the Exhibits except for Exhibit 8.3 (Elements of Design-Builder's Technical Proposal).
5. The General Conditions of Contract
6. Released for Construction Documents
7. Attachment A (Project Requirements)
8. Exhibit 8.3 (Elements of Design-Builder's Technical Proposal)

8.4 Exceptions to the Order of Precedence. Notwithstanding the order of precedence set forth in Section 8.3 above, the betterments and higher and/or more stringent standards or specifications and design and construction criteria, concepts, and drawings contained in Exhibit 8.3 (Elements of Design-Builder's Technical Proposal) shall supersede the applicable requirements of the Project Requirements and shall apply to the performance of the Work.

Article 9 **Miscellaneous**

9.1 Defined Terms. Terms used in this Agreement will have the meanings indicated in the General Conditions of Contract.

9.2 Notice. Whenever the Contract Documents require that notice be provided to the other Party, notice will be deemed to have been validly given: (a) if delivered in person to the individual intended to receive such notice; or (b) four (4) days after being sent by registered or certified mail, postage pre-paid, with return receipt requested, to the address indicated in the Agreement, or (c) one (1) business day after being sent by overnight delivery via a nationally recognized courier

service (e.g., FedEx or UPS), postage, transmittal or shipping charges prepaid, to the addresses set forth below:

If to Design-Builder:

If to Owner:

9.3 Consequential Damages.

9.3.1 Waiver. To the fullest extent permitted by law, and notwithstanding any other provision of the Contract Documents other than those set forth in Section 9.3.2, in no event, whether arising out of contract, breach of warranty (express or implied), tort (including negligence), strict liability, indemnity, contribution, or any other cause of or form of action whatsoever, shall either Party be liable to the other for any consequential, incidental, indirect, special, exemplary, or punitive damages (including damages for loss of use, loss of profits or anticipated profits, loss of revenue or anticipated revenue, loss of goodwill, claims from Owner's customers, borrowing or financing, productivity or shop space, increased cost of capital, punitive damages, and loss of business opportunity) arising out of or in connection with the performance or non-performance of its obligations under the Contract Documents.

9.3.2 Exceptions to Waiver. The waiver of consequential damages set forth in Section 9.3.1 above shall not be deemed to affect or waive:

- (a) Design-Builder's obligation to pay Delay Liquidated Damages in accordance with Section 3.5 above;
- (b) Design-Builder's liability for fraud, fraudulent misrepresentation, intentional misconduct, Gross Negligence, or criminal acts of Design-Builder or any DB-Related Entity;
- (c) Design-Builder's liability for its indemnity obligations under Article 7 of the General Conditions of Contract; and
- (d) Design-Builder's liability for any loss, cost, or expense to the extent such loss, cost or expense is paid by the proceeds of insurance (excluding payment of deductibles) up to the specific amounts Design-Builder is required to carry under Exhibit 7.1 to this Agreement.

9.3.3 Binding on Other Persons and Entities. The provisions of this Section 9.3: (a) shall be binding on and extend to the benefit of all successors, assignees, employees, officers, directors and Affiliates of each Party; and (b) except to the extent prohibited by applicable Legal Requirements or specific terms to the contrary in this Section 9.3, shall apply even in the event of the fault, negligence (in whole or in part), tort, strict liability, breach of contract or otherwise, of the person or entity in whose favor such provisions operate.

9.4 Alternative Technical Concepts. The accepted Alternative Technical Concepts ("ATCs"), as set forth in Design-Builder's Technical Proposal, are intended to modify and/or replace, as applicable, the Project Requirements. Design-Builder acknowledges that Owner's acceptance of

such ATCs is not intended to shift any risk or responsibility to Owner in the event that any ATC fails to be available (e.g., Equipment or Material that is unavailable from a Supplier), fails to perform as proposed by Design-Builder, or is otherwise not able to be used. In such event, Design-Builder shall, at its sole cost and expense, and without any adjustment to the Contract Price or Contract Times, perform the Work as originally required by the Project Requirements (i.e., prior to the modification and/or replacement of the Project Requirements to account for the ATC), or as required to produce a result that is reasonably acceptable to Owner.

9.5 Self-Performance Requirements. Design-Builder shall perform with its own organization, or an Affiliate of Design-Builder, not less than _____ percent (___%) of the total Contract Price. The dollar value included in the above percentage shall include the value of labor, Equipment and Materials directly performed or procured by Design-Builder or its Affiliate and shall not include the value of work performed or provided by Design Consultants or Subcontractors.

9.6 MBE/WBE Requirements. Owner has adopted a Minority/Women Business Enterprise (“MBE/WBE”) Program (Sections 3-421 through 3-469, Code of Ordinances). Design-Builder shall comply with all MBE/WBE requirements set forth in such Program in performing its obligations under the Contract Documents.

9.7 Workforce Program and Prevailing Wage Requirements

9.7.1 Workforce Program Requirements. Owner has adopted a Construction Employment (“Workforce”) Program (Sections 3-501 through 3-525, Code of Ordinances). Design-Builder shall comply with all Workforce requirements set forth in such Program in performing its obligations under the Contract Documents.

9.7.2 Prevailing Wages. Design-Builder shall comply and require each of its Subcontractors to comply with:

- (a) Sections 290.210 to 290.340, RSMO the State of Missouri Prevailing Wage Law (the “Law”);
- (b) 8 CSR 30-3.010 to 8 CSR 30-3.060, the Prevailing Wage Law Rules (the “Rules”);
- (c) The Annual Wage Order (the “Wage Order”) issued by the State of Missouri’s Department of Labor and Industrial Relations; and
- (d) Any applicable Annual Incremental Wage Increase (the “Wage Increase”) to the Annual Wage Order.

The Law, Rules, Annual Wage Order and any Wage Increase are incorporated into and made part hereof the Contract Documents and shall be collectively referred to in this Section 9.7.2 as the “Prevailing Wage Requirements.” Design-Builder shall pay and require each of its Subcontractors to pay to all workers performing the Work not less than the prevailing hourly rate of wages for the class or type of work performed by the worker in accordance with the Prevailing Wage Requirements. Design-Builder shall take whatever steps are necessary to insure that the prevailing hourly wage rates are paid and that all workers for Design-Builder and each of its Subcontractors are paid for the class or type of work performed by the worker in accordance with the Prevailing Wage Requirements. If Design-Builder shall fail to start to perform Design-Builder’s obligations under the Contract Documents within sixty (60) days from the Agreement Date,

Design-Builder and each of its Subcontractors shall be obligated to pay all workers in accordance with any new Wage Order, as subsequently amended by any applicable Wage Increase, issued by the Department of Labor and Industrial Relations within the aforementioned sixty (60) day period. The new Wage Order and any applicable Wage Increase shall govern notwithstanding the fact that the Wage Order being replaced might be physically attached or incorporated in the Contract Documents.

9.8 Attachments and Exhibits. The following attachments (“Attachments”) and exhibits (“Exhibits”) are specifically made part of, and incorporated by reference into, this Agreement:

Attachment A	Project Requirements
Exhibit 4.1	Design-Builder’s Cost Proposal
Exhibit 7.1	Insurance Requirements
Exhibit 7.2.3(a)	Form of Performance Bond
Exhibit 7.2.3(b)	Form of Payment Bond
Exhibit 8.3	Elements of Design-Builder’s Technical Proposal
Exhibit 9.8(a)	Mobilization and Engineering Schedule
Exhibit 9.8(b)	Proposed Baseline Schedule
Exhibit 9.8(c)	Schedule of Values for Mobilization and Engineering
Exhibit 9.8(d)	List of Key Personnel

IN WITNESS WHEREOF, Owner and Design-Builder have signed this Agreement in duplicate. One counterpart each has been delivered to Owner and Design-Builder.

OWNER:

DESIGN-BUILDER:

City of Kansas City, Missouri

(Name of Design-Builder)

(Signature)

(Signature)

(Printed Name)

(Printed Name)

(Title)

(Title)

Date: _____

Date: _____

GENERAL CONDITIONS OF CONTRACT

Article 1 General

1.1 Mutual Obligations

1.1.1 Owner and Design-Builder commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith, to permit each Party to realize the benefits afforded under the Contract Documents.

1.2 Basic Definitions

1.2.1 For the purposes of the Contract Documents, the following words and terms shall have the meanings specified below (other words and abbreviations that have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings), *provided, however*, that capitalized terms defined in other Contract Documents, including but not limited to the Agreement, shall have the meanings specified in such document. For convenience, this Section 1.2 includes an index of capitalized terms used in the Agreement and these General Conditions of Contract.

Acceptance means satisfaction by Design-Builder of all Acceptance Date Conditions.

Acceptance Date means the date on which Acceptance of the Project occurs.

Acceptance Date Conditions means the preconditions for the achievement of Acceptance, as set forth in Section 8.2.1 below.

Acceptance Standards means the standards set forth in the Project Requirements that the Project must meet during the performance of the Acceptance Tests.

Acceptance Tests means those tests set forth in the Project Requirements required to achieve Acceptance.

Acceptance Test Plans means the testing protocols, procedures and processes for the performance of the Acceptance Tests prepared and documented by Design-Builder and approved by Owner in accordance with Section 2.14.3 below.

Acceptance Test Report means the report and all supporting data provided by Design-Builder to Owner in accordance with Section 2.14.6 below and the Project Requirements demonstrating that the Acceptance Tests have been conducted, the Acceptance Standards have been demonstrated and all other Acceptance Date Conditions have been achieved.

Addenda means written or graphic instruments issued by or on behalf of Owner prior to the Agreement Date that clarify, correct, or modify the RFP Documents.

Affiliate means, (a) any person or entity which directly or indirectly through one or more intermediaries controls, or is controlled by, or is under common control with, Design-Builder or any of its members, partners or shareholders holding an interest in Design-Builder; and (b) any person or entity for which ten percent (10%) or more of the equity interest in such person or entity is held directly or indirectly, beneficially or of record by: (i) Design-Builder; (ii) any of Design-Builder's members, partners or shareholders that own ten percent (10%) or more of Design-Builder or Design-Builder's members, partners or shareholders; or (iii) any Affiliate of Design-Builder under clause (a) of this definition. For purposes of this definition the term "control" means the possession, directly or indirectly, of the power to cause the direction of the management of a person and/or entity, whether through voting securities, by contract, family relationship or otherwise.

Agreement has the meaning set forth in the Preamble, and refers to the document titled “Agreement by and Between Owner and Design-Builder,” signed by both Parties, and further includes all Exhibits expressly identified in the Agreement.

Agreement Date has the meaning set forth in the Preamble.

Allowance Payment Item means an item or portion of the Work which has not been defined sufficiently, or for which Owner has yet to make certain decisions necessary, to permit pricing by Design-Builder.

Allowance Payment Value means the estimated dollar amount included in the Schedule of Values as a placeholder value for an Allowance Payment Item, pending acceptance by Owner of pricing offered by Design-Builder and other applicable terms.

Alternative Technical Concepts (ATCs) mean those modifications to the Project Requirements proposed by Design-Builder in its Proposal and that were accepted by Owner.

Application for Payment means a request for payment in form acceptable to Owner that is submitted by Design-Builder to Owner on a monthly basis, or other periodic basis acceptable to Owner, and which includes, without limitation, all supporting documentation and information required by Owner or the Contract Documents.

Bankrupt Party has the meaning set forth in Section 11.5.1 below.

Baseline Schedule has the meaning set forth in Section 2.1.3 below. The Baseline Schedule, among other things, shall identify certain events that are critical to the orderly progress and timely completion of the Work and the dates by which such events are required to occur. The Baseline Schedule shall be in a critical path method format, and shall include all information, data, and detail required by the Project Requirements.

Books and Records means all documents (whether paper, electronic, or other media) and electronically stored information, including, but not limited to, any and all books, correspondence, receipts, vouchers, estimates, records, contracts, cost data, schedules, Subcontracts, schedules, job cost reports, and other data, including computations and projections, of Design-Builder and any of its Subcontractors related to bidding, negotiating, pricing, or performing the Work.

Builder’s Risk Insurance means the policy of insurance required under the Agreement identified as the Builder’s Risk policy, which policy is intended to provide property insurance for the construction Work in progress and other coverages.

Certificate of Acceptance means a certification issued by Owner to Design-Builder, stating that Design-Builder, to the best of Owner’s actual knowledge and belief, has achieved Acceptance, and confirming that date upon which such event occurred as well as other information as more specifically set forth in Section 8.2 below.

Certificate of Final Completion means a certification issued by Owner to Design-Builder, stating that Design-Builder, to the best of Owner’s actual knowledge and belief, has achieved Final Completion, and confirming that date upon which such event occurred as well as other information as more specifically set forth in Section 8.3 below.

Change Order has the meaning set forth in Section 9.1.3 below.

Commencement Date has the meaning set forth in Section 3.1 of the Agreement.

Commissioning means starting up, operating and maintaining the Work, or specific portions of the Work, in order to test, tune and adjust the Equipment and Materials, systems, subsystems

and processes comprising the Work to: (a) achieve stable operating conditions; (b) prepare the Project for Design-Builder's performance of the Acceptance Tests; and (c) conduct and document the results of Acceptance in accordance with the Project Requirements.

Commissioning Plan means the testing protocols, procedures and processes for conducting Commissioning activities in accordance with the Project Requirements and Section 2.14.1 below.

Compensable Delays has the meaning set forth in Section 8.6.1 below.

Confidential Information has the meaning set forth in Section 13.1.1 below.

Contract Documents means those documents specifically referenced and listed in the Section 9.1 of the Agreement as Contract Documents.

Contract Price has the meaning set forth in Section 4.1 of the Agreement.

Contract Time(s) has the meaning set forth in Section 3.2 of the Agreement.

Cost of the Work has the meaning set forth in Section 9.8.1 below. *day* or *days* mean calendar days unless otherwise specifically noted in the Contract Documents.

DB-Related Entity means Design Consultants, Subcontractors, Sub-Subcontractors, and anyone for whose acts any of them may be legally or contractually responsible.

Delay Liquidated Damages mean those liquidated damages associated with the failure of Design-Builder to achieve Acceptance on or before the Scheduled Acceptance Date and/or Final Completion on or before the Scheduled Final Acceptance Date.

Design-Builder has the meaning set forth in the Preamble.

Design-Builder's Cost Proposal means Exhibit 4.1 to the Agreement.

Design-Builder's Project Manager means that person designated by Design-Builder under Section 2.1.1 below, who will be the principal representative of Design-Builder with respect to the performance of the Work.

Design-Builder's Representative means that person designated by Design-Builder under Section 2.1.1 below, who shall be the principal representative of Design-Builder with respect to contractual matters, and shall have full authority to act on behalf of Design-Builder and make binding decisions on behalf of Design-Builder with respect to any matter arising out of or relating to the Contract Documents.

Design-Builder's Safety Representative means that person designated by Design-Builder under Section 2.8.1 below, whose principal duty shall be the prevention of accidents and the protection of all persons and property located on or adjacent to the Site. Design-Builder's Safety Representative shall take such action as appropriate to ensure the proper implementation of, and compliance with, safety policies, precautions, procedures and plans.

Design-Builder Proposed Change Order means a proposed change order submitted to Owner from Design-Builder in accordance with Section 9.5 below.

Design Consultant is a qualified, licensed design professional, eligible to provide professional engineering, architectural and/or land surveying services, who may be an employee of Design-Builder, or may be retained by Design-Builder or any DB-Related Entity, to furnish design services required under the Contract Documents.

Differing Site Conditions has the meaning set forth in Section 4.3.1 below.

Directive Letter has the meaning set forth in Section 9.6.1 below.

Electronic Data has the meaning set forth in Section 12.1.1 below.

Equipment and Materials shall mean all of the equipment, materials, machinery, apparatus, structures, supplies and other goods required by the terms of the Contract Documents to complete the Work and to be incorporated into the Project or provided to Owner. The term "Equipment and Materials" shall not be construed to include any construction equipment, supplies, materials, apparatus or tools owned by Design-Builder or any DB-Related Entity that are used to complete the Work but are not contemplated under the Contract Documents to become incorporated into the Project or to be provided to Owner.

Excusable Delay has the meaning set forth in Section 8.4.1 below.

Exhibits has the meaning set forth in Section 9.8 of the Agreement.

Final Application for Payment means the Application for Payment submitted by Design-Builder to Owner after Design-Builder has achieved Final Completion, requesting payment of the unpaid balance of the Contract Price (less any amounts properly withheld by Owner).

Final Completion has the meaning set forth in Section 8.3 below.

Final Completion Date means the date that Final Completion occurs.

Force Majeure Events are those events that are beyond the reasonable control of Design-Builder, all DB-Related Entities, and Owner, including but not limited to the events of war, terrorism, floods, labor disputes (other than those set forth in Section 8.4.2(b)), earthquakes, epidemics, pandemics, public health emergencies, unusually severe and abnormal weather conditions, and other acts of God.

General Conditions of Contract refers to this document.

Good Engineering and Construction Practice means those methods, techniques, standards, and practices which, at the time they are to be employed and in light of the circumstances known or reasonably believed to exist at such time, are generally recognized and accepted as good engineering, equipping, installation, construction, commissioning, and testing practices for the design, construction, and improvement of capital projects in the water treatment industry similar to the Project in scope and complexity using the design-build delivery method, under similar circumstances, as followed in the United States.

Governmental Approval means any authorization, consent, approval, license, lease, ruling, permit, certification, exemption, or registration by or with any Governmental Unit.

Governmental Unit means any national, state or local government, any political subdivision thereof, or any governmental, quasi-governmental, judicial, public or statutory instrumentality, administrative agency, authority, body or other person and/or entity having jurisdiction over the Site, performance of the Work, the Project or the Parties.

Gross Negligence means: (a) a marked and flagrant departure from the standard of conduct of a reasonable person acting in the circumstances at the time of the alleged misconduct; and/or (b) such wanton or reckless conduct or omissions as constitutes, in effect, a disregard for harmful, foreseeable and avoidable risks or consequences; provided that Gross Negligence does not include any act or failure to act insofar as it: (i) constituted mere ordinary negligence; or (ii) was done or omitted in accordance with the written instructions or written approval of the

Parties.

Hazardous Environmental Condition means the presence of Hazardous Materials in such quantities or circumstances that may be reasonably considered to present an imminent or substantial safety or health hazard for Owner, Design-Builder, any DB-Related Entity, and their respective employees, agents or representatives, the general public or the surrounding environment.

Hazardous Materials means any materials, waste, substances and chemicals deemed to be hazardous under applicable Legal Requirements.

Key Personnel means those individuals designated as such in Exhibit 9.8(d) to the Agreement.

Legal Requirements means all applicable federal, state and local laws, codes, ordinances (including the Code of Ordinances of Kansas City, Missouri), rules, statutes, regulations, orders and decrees, and other requirements of any Governmental Unit, including, without limitation, any interpretation of such items by the applicable Governmental Unit.

Liquidated Damages means Delay Liquidated Damages.

Mobilization and Engineering Schedule means that schedule attached as Exhibit 9.8(a) to the Agreement.

Named Team Members means those persons or entities specifically identified in Design-Builder's Technical Proposal as "Named Team Members."

Notice of Design-Builder Claim for Change Order has the meaning set forth in Section 9.5.1 below.

Notice of Termination for Convenience means a written notice from Owner to Design-Builder that terminates the right of Design-Builder to perform all or a portion of the Work, specifying the date upon which such notice shall be deemed effective and any other applicable terms.

Operations and Maintenance Data (O&M Data) mean the manual(s) and other information as required by the Project Requirements that provide overall operating approach and strategy for the Project, as well as the Services Manuals required for operating and maintaining the Equipment and Materials, facilities and systems, including the related computer programs prepared by Design-Builder containing detailed standard procedures and other specific instructions, policies, directives, routines, schedules and other matters relating to the Project, developed and maintained as required by Section 2.10 below.

Overhead and Profit Markup means all field, Project, and home office overhead, including, but not limited to: (a) field supervision and administration above the general foreman level, such as superintendents, assistant superintendents, purchasing agents, accountants, clerks, timekeepers, office managers, and all others on the field staff; (b) office supplies; (c) drinking water; (d) temporary heat, light and power; (e) field toilets; (f) costs of services; (g) small tools and expendable materials required for, or consumed in, the performance of the Work; (h) telephone system and charges; (i) facsimile machines, telephones, telegrams, and the charges associated therewith; (j) photographs; (k) photocopying; (l) postage; (m) insurance; (n) taxes; (o) general and administrative expenses incurred at the home, branch, and/or district offices; and (p) profit.

Owner is the City of Kansas City, Missouri.

Owner Indemnitee means and includes Owner, Owner's Advisor, and their officers, directors, employees, representatives, and agents.

Owner's Advisor is the entity set forth in the Agreement.

Owner's Representative means that person designated by Owner under Section 3.3.1 below, who shall have full authority to act on behalf of Owner with respect to the Project.

Party or *Parties* has the meaning set forth in the Preamble.

Payment Bond has the meaning set forth in Section 7.2.1(b) of the Agreement.

Performance Bond has the meaning set forth in Section 7.2.1(a) of the Agreement.

Preamble means the introductory paragraphs of the Agreement that identify, among other things, the Agreement Date, the Parties and the background to the Parties entering into the Agreement.

Pre-Existing Intellectual Property means Design-Builder's proprietary algorithms, software, hardware, databases and other background technology and intellectual property that Design-Builder developed or licensed from third parties prior to the Agreement Date.

Project is the project set forth in Article 1 of the Agreement.

Project Requirements mean all documents set forth in Attachment A to the Agreement.

Project Warranties has the meaning set forth in Section 2.9.1 below.

Project Warranties Term means that period from the Agreement Date through the date that is two (2) years following the Acceptance Date, as such period may be extended pursuant to Section 2.9.6, *provided, however*, that if the Contract Documents require a longer warranty period for a specific element of the Work, the Project Warranties Term for such specific element of the Work shall be that longer warranty period.

Proposal means that document submitted by Design-Builder pursuant to the RFP.

Proposal Submittal Date means the date Design-Builder submitted its Proposal to Owner.

Proposed Baseline Schedule means that schedule attached as Exhibit 9.8(b) to the Agreement.

Punch List means that list of Work that has been identified as incomplete in accordance with Section 2.11 below.

Released for Construction Documents mean those final, complete design documents that: (a) are to be used for performing the construction and in correlation with all applicable Governmental Approvals; (b) have been signed and sealed by a properly licensed Design Consultant or a properly licensed employee of Design-Builder; and (c) have been approved by Owner in accordance with Section 2.4.5 below.

RFP has the meaning set forth in the Preamble.

RFP Documents mean those documents identified as such in the RFP.

Scheduled Acceptance Date means the date that is set forth in Section 3.2.2 of the Agreement.

Scheduled Final Completion Date means the date that is set forth in Section 3.2.3 of the Agreement.

Schedule of Values for Mobilization and Engineering means that schedule of values attached as Exhibit 9.8(c) to the Agreement.

Separate Contractor means a person and/or entity, other than Design-Builder, retained by Owner to perform work or to provide services, or Equipment and Materials, in connection with the Project.

Site is the parcels of land or premises on which the Project is located, as more specifically described in the Project Requirements.

Subcontract means any and all agreements between Design-Builder and any DB-Related Entity.

Subcontractor means any person or entity (other than Design Consultants) with whom Design-Builder has entered into any Subcontract for such person or entity to perform any portion of the Work, including Suppliers.

Sub-Subcontractor is any person or entity (other than a Design Consultant) retained by a Subcontractor as an independent contractor to perform any portion of a Subcontractor's Work, including Suppliers.

Subsystem Test Plans means the testing protocols, procedures and processes for conducting functional testing activities in accordance with the Project Requirements and Section 2.13.2 below.

Supplier is any person or entity retained by Design-Builder or a DB-Related Entity to provide Equipment and Materials, or construction equipment, supplies or other goods to be used in the performance of the Work but not incorporated into the Work.

TIA has the meaning set forth in Section 8.5.3 below.

Training Plan means Design-Builder's plan for the training of Owner employees in the long-term operations and maintenance of the Project, as developed and executed by Design-Builder, in conjunction with the qualified technical trainers of Subcontractors, Sub-Subcontractors and Suppliers, and in accordance with the Project Requirements.

Work means all work, services, activities and other obligations to be performed by Design-Builder under the Contract Documents, including without limitation, design, engineering, permitting, procurement of Equipment and Materials, project management, supervision, construction, commissioning, start-up, testing and all other services and deliverables reasonably inferable from the Contract Documents required to achieve Final Completion.

Work Change Directive means a written order prepared and signed by Owner, directing a change in the Work prior to agreement on an adjustment in any Contract Time, Contract Price, or other terms in the Contract Documents pertaining to the change in the Work.

Work Product means all drawings, specifications, calculations, data, models, images, materials, products, documents, and work developed or produced by or on behalf of Design-Builder in connection with the Project, including, without limitation all materials, products, and such items developed or produced by all Design Consultants, Subcontractors and Sub-Subcontractors, whether in hard-copy, digital or electronic data, or any other medium.

Article 2

Design-Builder's Services and Responsibilities

2.1 General.

2.1.1 The parties will meet within seven (7) days after the Commencement Date to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.

2.1.2 The Mobilization and Engineering Schedule shall be the basis for monitoring Design-Builder's performance of the Work until such time as the Baseline Schedule has been approved by Owner in accordance with Section 2.1.3 below. Likewise, the Schedule of Values for Mobilization and Engineering shall be used as the basis for payment for Design-Builder's activities for the first one hundred eighty (180) days after the Commencement Date. The Mobilization and Engineering Schedule will be updated each month to indicate planned and actual progress and forecast activities within the 180-day period covered by such schedule.

2.1.3 Within one hundred twenty (120) days from the Commencement Date, Design-Builder shall submit to Owner, for its review and approval, the following:

(a) A proposed Baseline Schedule that includes, among other things: (1) the order in which Design-Builder proposes to carry out the Work; and (2) the times when submissions and approvals or consents by Owner are required (*provided, however*, that such times shall be no less than Owner's minimum review duration identified in Section 3.1 below). The proposed Baseline Schedule shall be derived from the Proposed Baseline Schedule, and meet the format and other requirements established by the Contract Documents to demonstrate that all major Project components, activities, and events are being performed in a logical sequence for Design-Builder to achieve the Contract Times.

(b) A proposed Schedule of Values that shall be consistent with the Schedule of Values for Mobilization and Engineering, and shall consist of a detailed breakdown of the Contract Price into measurable components of the completed Work for the purpose of making payment to Design-Builder. The Schedule of Values shall be compatible with and representative of the Baseline Schedule.

(c) A proposed forecast of monthly cash flow requirements for the entire Project, incorporating the actual cash flow for the time elapsed since the Commencement Date.

(d) If Owner does not approve a proposed submission under Paragraphs (a), (b), or (c) above, Design-Builder shall submit a revised submission to Owner within seven (7) days of its receipt of Owner's comments on such submission. This process shall continue until such time as the submission is so approved by Owner, which submission shall be then deemed, as applicable, the Proposed Baseline Schedule, Schedule of Values for Mobilization and Engineering, and forecast of monthly cash flow Requirements. Design-Builder shall provide Owner with updates of these documents as set forth in the Contract Documents.

(e) Owner's review and approval of the Baseline Schedule shall not be construed as relieving Design-Builder of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

2.1.4 Design-Builder shall designate a member of its Key Personnel as its Project manager (the "Design-Builder's Project Manager"), who shall be reasonably available to Owner and shall have the necessary expertise and experience required to supervise the Work. Design-Builder's Project Manager will be stationed at the Site and present at all appropriate times. Design-Builder will have a representative at the Site authorized to act on its behalf when Design-Builder's Project Manager is not present. Design-Builder shall also designate a qualified member of its Key Personnel as its Project representative (the "Design-Builder's Representative"), who shall communicate regularly with Owner and shall be vested with the authority to act on behalf of Design-Builder. Neither Design-Builder's Project Manager or Design-Builder's Representative may be replaced without prior written approval of Owner, with such approval not to be unreasonably withheld, and any replacement shall

be acceptable to Owner.

2.1.5 Design-Builder shall provide management, supervision and professional staff for the Work in accordance with the organizational chart set forth in Design-Builder's Technical Proposal. Design-Builder acknowledges the importance of its Key Personnel in successfully performing the Project. Absent separation of employment, none of the Key Personnel may be withdrawn from the Project without prior written approval of Owner, with such approval not to be unreasonably withheld. It is understood and agreed that Design-Builder will provide Owner with at least thirty (30) days written notice of any request to withdraw any Key Personnel or Named Team Member. Any replacement personnel shall have equivalent skill, experience and reputation. Design-Builder shall remove or replace, or have removed or replaced, any personnel performing the Work if Owner has a reasonable objection to such individual.

2.1.6 Design-Builder shall participate in monthly progress meetings with Owner. During such meetings, progress during the prior month shall be reviewed. These meetings shall be attended by, among other: (a) Design-Builder's Project Manager and other required Design-Builder personnel, as well as key Subcontractors and Design Consultants responsible for Work completed during the specified duration and Work scheduled during the upcoming reporting duration; and (b) Owner representatives and others as designated by Owner. Owner may direct that personnel from Design-Builder and DB-Related Entities attend any or all meetings if Owner believes, in its sole opinion, that such personnel are necessary to have at such meetings.

2.1.7 Design-Builder assumes responsibility to Owner for the proper performance of the Work of all DB-Related Entities and any acts and omissions in connection with such performance.

2.2 Design Professional Services.

2.2.1 Design-Builder shall, consistent with applicable state licensing laws, provide or furnish through Design Consultants or qualified, licensed design professionals employed by Design-Builder, the necessary design services, including architectural, engineering and other design professional services, for the preparation of the required drawings, specifications and other design submittals to permit Design-Builder to complete the Work consistent with the Contract Documents.

2.2.2 Design-Builder shall incorporate all obligations and understandings of the Contract Documents applicable to design services in its respective contracts with any Design Consultant and Subcontractors, including but not limited to the obligations relative to ownership and use of the Work Product set forth in Article 12 below.

2.3 Standard of Care.

2.3.1 Design-Builder shall perform the Work in accordance with: (a) the Contract Documents; (b) applicable Legal Requirements and Governmental Approvals; and (c) Good Engineering and Construction Practice. Notwithstanding the above, if any of (a), (b) or (c) in the preceding sentence conflict, Design-Builder shall be obligated to perform the Work in accordance with the more stringent standard.

2.4 Design Development Services.

2.4.1 Design-Builder shall review all technical specifications and design requirements included in the Project Requirements to determine whether such specifications or requirements include any errors, omissions or other deficiencies that would in any manner or to any degree impair the ability of Design-Builder to complete the Work in accordance with the Contract Documents. Design-Builder shall, within a reasonable period of time after discovery of the errors, omissions or other deficiencies, notify Owner in writing of any such errors, omissions or deficiencies, which notice shall

include a reasonable description of the issue and its likely impact on the performance of the Work. In connection with such notice, Design-Builder may request an appropriate Change Order, in accordance with the requirements of Articles 8 and 9 herein, that the Contract Price and/or Contract Time(s) be adjusted to compensate Design-Builder for the effects of any such errors, omissions or deficiencies, *provided, however*, that Owner reserves all rights to defend this requested Change Order if Owner believes that the error, omission or deficiency should have been discovered by Design-Builder prior to submitting its Proposal. The failure of Design-Builder to provide notice in accordance with this Section 2.4.1, including Articles 8 and 9 as applicable) shall constitute a waiver of any right to any price, schedule or performance relief associated with any error, omission or deficiency included in the Project Requirements.

2.4.2 Notwithstanding Section 2.4.1 above, or anything else in the Contract Documents, Design-Builder assumes and shall have exclusive responsibility for the accuracy and efficacy of the Released for Construction Documents. Accordingly, in no event shall Design-Builder be entitled to any price, schedule or performance relief associated with any error, omission or deficiency in the Released For Construction Documents, and shall bear full responsibility for the consequences of such errors, omissions or deficiencies, notwithstanding the fact that the Project Requirements may have included certain design criteria and requirements for the Work.

2.4.3. Owner shall review and act upon design submittals as set forth in the Project Requirements. Notwithstanding anything to the contrary in the Contract Documents, Owner's review, comment and/or approval of any design submittal, including but not limited to the Released for Construction Documents, shall not be deemed to transfer any design liability from Design-Builder to Owner or relieve Design-Builder of any of its obligations under the Contract Documents or liability for the design services that are part of the Work.

2.4.4 The Released for Construction Documents shall be consistent with the latest set of approved interim design submissions, and shall be submitted to Owner and approved by Owner in accordance with the Project Requirements. Design-Builder shall proceed with construction in accordance with the approved Released for Construction Documents. Any modifications to the Released for Construction Documents will constitute a change to the Contract Documents and Design-Builder shall seek Owner approval in advance of issuing such revisions.

2.4.5 To the extent not prohibited by the Contract Documents or Legal Requirements, Design-Builder may prepare interim design submissions and Released for Construction Documents for a portion of the Work to permit construction to proceed on that portion of the Work prior to completion of the Released for Construction Documents for the entire Work.

2.5 Legal Requirements.

2.5.1 Design-Builder shall perform the Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements.

2.5.2 Design-Builder may request an appropriate Change Order, in accordance with the requirements of Articles 8 and 9 herein, that the Contract Price and/or Contract Time(s) be adjusted to compensate Design-Builder for the impacts of any changes in the Legal Requirements enacted after the Agreement Date. Such impacts may include, without limitation, revisions Design-Builder is required to make to the Released for Construction Documents because of such changes in Legal Requirements. For the avoidance of doubt, any tariff adopted, promulgated, issued, or modified by the U.S. federal government after the Agreement Date shall be treated as a change in Legal Requirements under this Section 2.5.2, provided that such tariff or modification was not scheduled prior to the Agreement Date. Notwithstanding the above, the relief afforded by this Section 2.5.2 shall not apply to changes in Legal Requirements relating to: (a) Design-Builder's or any DB-Related Entity's corporate existence or the maintenance of its business; (b) changes in Legal Requirements affecting payroll taxes or other taxes associated with labor; or (c) changes in Legal Requirements affecting taxes imposed on an entity's gross revenue, income or profits.

2.6 Government Approvals and Permits.

2.6.1 Except as specifically identified in Section 3.4.1 below, Design-Builder shall obtain, maintain, and pay for all costs to obtain and maintain (including all application, permit and filing fees) for all necessary Governmental Approvals from or by any Governmental Unit that may be required for the proper prosecution and execution of the Work, including any additional Governmental Approval identified in the Project Requirements as the responsibility of Design-Builder. If any such Governmental Approval is required to be formally issued in the name of Owner, Design-Builder shall undertake all commercially reasonable efforts to obtain such Governmental Approvals with Owner's reasonable support and cooperation. Design-Builder shall develop all data and technical documents for Governmental Approval submittals, prepare and submit all applications, participate in meetings with Governmental Units and Owner as required, and expedite all Governmental Approvals to meet Project schedule requirements. Governmental Approval applications and other documentation required in connection with a Governmental Approval shall be subject to approval by Owner. Design-Builder shall deliver to Owner, promptly after Design-Builder's receipt, a copy of each such Governmental Approval, with a listing of the status of all such Governmental Approvals included in the monthly reports required by the Contract Documents.

2.6.2 Design-Builder shall provide all commercially reasonable assistance to Owner to obtain those Governmental Approvals that are the responsibility of Owner under Section 3.4.1 below. No construction activity will commence until: (a) all Governmental Approvals required for the relevant construction activity (including any activity that may disturb the Site) have been obtained; (b) Owner has been notified that such Governmental Approvals have been obtained; and (c) Owner has, after reviewing the validity and scope of the Governmental Approval, authorized Design-Builder to proceed.

2.6.3 Design-Builder shall ensure that the Work conforms to the requirements and stipulations of all Governmental Approvals. Design-Builder shall not be entitled to an adjustment in the Contract Price and/or Contract Time(s) for any events arising from or related to Design-Builder or any DB-Related Entity violating or failing to comply with any Governmental Approval, including but not limited to suspensions arising therefrom. Such violations and failures to comply shall be at the sole risk of Design-Builder.

2.7 Design-Builder's Construction Services.

2.7.1 Unless otherwise provided in the Contract Documents to be the responsibility of Owner or a Separate Contractor, Design-Builder shall provide through itself or Subcontractors the necessary supervision, labor, inspection, commissioning, start-up, testing, Equipment and Materials, construction equipment, supplies, temporary utilities and other temporary facilities and other related services to permit Design-Builder to achieve Acceptance and Final Completion of the Project consistent with the Contract Documents. Except as otherwise expressly set forth in the Agreement or these General Conditions of Contract, Design-Builder retains all market risk, whether or not foreseeable, pertaining to cost and availability of labor, Equipment and Materials, and all other items required or used in connection with the performance of the Work.

2.7.2 Design-Builder shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents. Design-Builder shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction, Commissioning and Acceptance Testing.

2.7.3 Design-Builder shall employ only Subcontractors who are duly licensed in Missouri and qualified to perform the Work consistent with the Contract Documents. Owner may reasonably object to Design-Builder's selection of any Subcontractor. Those Subcontractors who are Named Team Members shall be deemed acceptable to Owner for the scope of Work designated in Design-Builder's Technical Proposal.

2.7.4 Design-Builder shall coordinate the activities of all Subcontractors. If any Separate Contractor performs work on, adjacent, or in proximity to the Project or the Site, or has any element of work that interfaces or affects the Work, Design-Builder agrees to reasonably cooperate and coordinate its activities with those of such Separate Contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption. Design-Builder specifically agrees to attend and participate in any coordination meetings that are held by Owner to manage and coordinate the work of Design-Builder and Separate Contractors.

2.7.5 Design-Builder shall keep the Site reasonably free from debris, trash and construction wastes to permit Design-Builder to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Acceptance, Design-Builder shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work.

2.7.6 Subject to Section 4.3 below, Design-Builder shall be responsible for all utility relocations necessary or convenient to its performance of the Work. For all such relocations, Design-Builder will meet all of Owner's requirements, procedures and standards.

2.7.7 Design-Builder shall be responsible for making arrangements to obtain, provide and pay for all temporary and permanent utilities associated with the Work, except for those utilities specifically identified in the Contract Documents as being provided by Owner and furnished without cost to Design-Builder.

2.7.8 During any adverse weather (including but not limited to unusually severe and abnormal weather conditions as referenced in Section 8.4.3 below), Design-Builder shall take commercially reasonable precautions so that the Work may progress properly.

2.8 Design-Builder's Responsibility for Project Safety.

2.8.1 Design-Builder recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to: (a) all individuals at the Site, whether working or visiting; (b) the Work, including Equipment and Materials incorporated into the Work or stored on-Site or off-Site; and (c) all other property at the Site or adjacent thereto. Design-Builder assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work. Design-Builder shall, prior to commencing construction, designate a member of its Key Personnel with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work ("Design-Builder's Safety Representative"). Unless otherwise required by the Contract Documents, Design-Builder's Safety Representative shall be an individual stationed at the Site who may have responsibilities on the Project in addition to safety. The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with Design-Builder's personnel, Subcontractors of any tier, and others as applicable.

2.8.2 Design-Builder and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any Owner-specific safety requirements set forth in the Contract Documents, provided that such Owner-specific requirements do not violate any applicable Legal Requirement. Design-Builder will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to Owner's Representative and, to the extent mandated by Legal Requirements, to all Governmental Units having jurisdiction over safety-related matters involving the Project or the Work. Owner shall have the right to suspend any or all Work if Design-Builder fails to comply with its obligations hereunder.

2.8.3 Design-Builder's responsibility for safety under this Section 2.8 is not intended in any way to relieve Subcontractors of any tier of their own contractual and legal obligations and responsibility for: (a) complying with all Legal Requirements, including those related to health and safety matters; and (b) taking all necessary measures to implement and monitor all safety precautions and

programs to guard against injuries, losses, damages or accidents resulting from their performance of the Work.

DRAFT

2.9 Design-Builder's Project Warranties.

2.9.1 Design-Builder warrants to Owner that the Work shall, through the Project Warranties Term: (1) be new, of recent manufacture and of good quality; (2) conform to the requirements of the Contract Documents; and (3) be free of construction faults or defects, as established by the Project Requirements (collectively the "Project Warranties"). The Project Warranties are subject to the following:

(a) The Project Warranties include remedy for damages or defects caused by Commissioning and Acceptance Tests performed by Design-Builder.

(b) The Project Warranties exclude remedy for damages or defects caused by modifications not undertaken or executed by Design-Builder under this Agreement. In addition, the Project Warranties exclude remedy for damages or defects caused by Owner's improper or insufficient maintenance, Owner's improper operation, or normal wear and tear under normal usage.

2.9.2 Design-Builder shall perform or cause to be performed all warranty work in a manner that will minimize interference with the ongoing operations of the Project. Design-Builder shall provide a written plan for all proposed warranty work, unless expressly waived by Owner. If Owner prefers to accept nonconforming Work that is discovered prior to Final Completion, it may do so instead of requiring its removal and correction, in which case a Change Order will be issued, at Owner's option, to reflect a reasonable reduction in the Contract Price.

2.9.3 If Owner determines at any time during the Project Warranties Term that any of the Work is not in conformance with the requirements of the Project Warranties, it shall provide written notice to Design-Builder of such determination. Design-Builder shall, within seven (7) days of receipt of such written notice, take meaningful steps to commence correction of such nonconforming Work, including the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. Notwithstanding the above, Design-Builder shall respond to a verbal or electronic notification from Owner of an emergency warranty condition that could cause serious loss or damage within twenty-four (24) hours of such notification. Such response shall require that a competent representative or representatives of Design-Builder familiar with the Project, including its specific equipment, design and operational requirements, inspect the Work and, while on Site: (a) correct the problem; (b) if the problem cannot be corrected while on Site, mitigate while on Site the imminent harm from the emergency; and (c) fully correct the problem within a reasonable period of time. If Design-Builder fails to commence the necessary steps within, as applicable, such seven (7) day period (or in the event of any emergency warranty condition, respond within a twenty-four (24) hour period and correct and/or mitigate the problem as set forth in the preceding sentence), Owner, in addition to any other remedies provided under the Contract Documents, may provide Design-Builder with written notice that Owner will commence correction of such nonconforming Work with its own forces or with third party contractors. If Owner does perform such corrective Work, Design-Builder shall be responsible for all reasonable costs incurred by Owner in performing such correction, including but not limited to any retesting and reinspection costs.

2.9.4 Owner may, based on good cause, direct Design-Builder to perform a "root cause" analysis of any alleged defect in the Work. If Design-Builder fails to perform such analysis as directed by Owner, or if Owner concludes that the "root cause" analysis is flawed, Owner may elect to conduct an independent analysis of the alleged defect, whereupon Design-Builder shall cooperate with Owner and provide such information relevant to the alleged defect as Owner may request. If the "root cause" or independent analysis reveals a defect or defects in any part of the Work, Contractor shall be responsible for the costs and expenses of remedying the such defects, including the costs of the "root cause" or independent analysis. If the "root cause" or independent analysis demonstrates that there is no defect, then Owner shall bear the reasonable costs and expenses of such analyses. All remedial measures related to defects revealed by any "root cause" or independent analysis must be approved by Owner prior to implementation by Design-Builder.

2.9.5 Nothing contained in this Section 2.9 shall be construed to establish a period of limitation with respect to other obligations that Design-Builder has under the Contract Documents or under Legal Requirements with respect to the Work, including warranties and obligations with respect to latent defects. The Project Warranties Term relates only to the specific obligations of Design-Builder to respond to notices from Owner under the Project Warranties, and has no relationship to the time within which the obligation of Design-Builder to comply with the Contract Documents may be enforced, nor the time within which proceedings may be commenced to establish Design-Builder's liability with respect to its obligations under the Contract Documents.

2.9.6 The "call-back" obligations set forth in this Section 2.9 shall apply to all Work modified, corrected, repaired, replaced and/or reperformed pursuant to the Contract Documents. If, after the Acceptance Date, any Work is modified, corrected, repaired, replaced and/or reperformed, then the Project Warranties Term applicable to such portion of the Work that has been modified, corrected, repaired, replaced and/or reperformed shall be extended for one year from the date of completion of the modification, correction, repair, replacement or reperformance, but in no event longer than three (3) years after the Acceptance Date.

2.9.7 During the Project Warranties Term, Design-Builder and Owner shall be permitted to enforce all warranties provided by Suppliers and other third parties with respect to the Work. However, no such warranty shall relieve Design-Builder of any obligation with respect to the Project Warranties.

2.9.8 Design-Builder acknowledges and agrees that:

(a) It shall be fully responsible for the costs associated with all warranty work and shall reimburse Owner for its costs resulting from a breach of the Project Warranties, subject to the terms and conditions of the Contract Documents.

(b) The Project Warranties are in addition to, and not in limitation of, any other warranties, rights and remedies available under the Contract Documents or Legal Requirements, and shall not limit Design-Builder's liability or responsibility imposed by the Contract Documents or Legal Requirements with respect to the Work, including liability for negligent design defects, latent construction defects, strict liability, negligence or fraud.

(c) The provisions of this Section 2.9 shall survive the termination of the Agreement.

2.9.9 Without limiting any of the Project Warranties, Design-Builder shall, for the protection of Owner, obtain from all Subcontractors and Suppliers from which Design-Builder procures Equipment and Materials such warranties and guarantees as are normally provided with respect thereto and as may be specifically required by the Contract Documents, each of which shall be assigned to Owner to the full extent of the terms thereof. No such warranty or guarantee shall relieve Design-Builder of any obligation hereunder, and no failure of any warranted or guaranteed structures, improvements, or Equipment or Materials shall be the cause for any increase in the Contract Price or otherwise excuse Design-Builder from the performance of any Work or warranty obligation. For the avoidance of doubt, disclaimers and limitations in specific Equipment and Materials that conflict with this Section 2.9 shall not be construed to limit Design-Builder's obligations or Owner's rights under this Section 2.9.

2.9.10 Nothing in the Contract Documents is intended to limit any third party warranty that provides Owner with greater warranty rights than those provided under the Project Warranties.

2.9.11 EXCEPT FOR THE EXPRESS WARRANTIES SET FORTH IN THE CONTRACT DOCUMENTS, DESIGN-BUILDER MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, LATENT OR PATENT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PURPOSE RELATING TO THE WORK PERFORMED UNDER THE CONTRACT DOCUMENTS, AND ALL SUCH OTHER

WARRANTIES ARE HEREBY EXPRESSLY EXCLUDED AND DISCLAIMED.

2.10 O&M Data.

2.10.1 Design-Builder shall develop and submit the O&M Data in accordance with the Project Requirements. The O&M Data shall: (a) contain a detailed description of the means and methods of properly operating and maintaining the Project; (b) document standard operating procedures and predictive, preventive and corrective maintenance procedures, practices and schedules; and (c) otherwise be sufficiently detailed to permit the Project to be operated and maintained by Owner's operations and maintenance staff.

2.11 Punch List Requirements.

2.11.1 Design-Builder shall submit a proposed Punch List to Owner when Design-Builder believes that the Work has achieved Acceptance in compliance with the Contract Documents. In no event shall the Punch List contain any incomplete items necessary for performance of the Acceptance Tests. Owner shall have the right to approve each Punch List in its reasonable discretion. The failure to include any items on such list does not alter the responsibility of Design-Builder to complete all Work in accordance with the Contract Documents.

2.11.2 Design-Builder shall promptly complete all items on the Punch List. Owner shall have the option to correct or otherwise resolve any and all Punch List items not promptly completed by Design-Builder by using its own forces or by hiring others. The reasonable cost of such correction or resolution of remaining punch list items by Owner or others shall be deducted from the final payment to Design-Builder.

2.11.3 Design-Builder acknowledges the long-term nature of the Commissioning and Acceptance Tests activities required under the Contract Documents and agrees that Owner has a material interest in the prompt completion of the items to be included on the Punch List, notwithstanding the achievement of Acceptance.

2.12 Training Plan.

2.12.1 Design-Builder shall prepare and submit to Owner the Training Plan for training of Owner's supervision, operations and maintenance employees in accordance with the Project Requirements. Owner approval of the Training Plan is a condition precedent to certain testing required for the achievement of Acceptance, which approval will not be unreasonably withheld. Consequently, Design-Builder shall complete training of designated Owner employees in accordance with the approved Training Plan prior to Acceptance in order to enable such Owner employees to assume operation and maintenance responsibility for the Project upon the Acceptance Date.

2.13 Commissioning, Functional Testing and Acceptance Testing

2.13.1 Design-Builder shall prepare and submit to Owner for its review and approval a detailed Commissioning Plan and schedule in accordance with the Project Requirements. Owner approval of the Commissioning Plan and schedule is a condition precedent to certain testing required for the achievement of Acceptance, which approval will not be unreasonably withheld.

2.13.2 Design-Builder shall prepare and submit to Owner for its review and approval detailed Subsystem Test Plans in accordance with the Project Requirements. In no event may Design-Builder commence with the performance of any installation or functional testing prior to Owner approval of the applicable Subsystem Test Plan, which approval will not be unreasonably withheld.

2.13.3 Design-Builder shall prepare and submit to Owner for its review and approval detailed Acceptance Test Plans in accordance with the Project Requirements. In no event may Design-Builder commence with the performance of any Acceptance Test prior to Owner approval of the

applicable Acceptance Test Plan, which approval will not be unreasonably withheld.

2.13.4 At least fourteen (14) days prior to the actual commencement of any Acceptance Test, Design-Builder shall certify in writing that it is ready to begin the Acceptance Test in accordance with the requirements of this Section 2.13, the Acceptance Test Plan and the Project Requirements.

2.13.5 Design-Builder shall not commence the Acceptance Tests until the following events have occurred:

(a) The requirements of Sections 2.13.3 and 2.13.4 above have been met and Owner has approved the Acceptance Test Plan with respect to the Acceptance Tests; and

(b) Design-Builder is prepared with adequate supervision, labor, Equipment and Materials to start-up the Work in accordance with the Contract Documents.

2.13.6 Design-Builder shall perform all Acceptance Tests in accordance with the Contract Documents, including but not limited to the approved Acceptance Test Plans. All Acceptance Tests shall be conducted in coordination with Owner. Design-Builder shall permit Owner and any designated representative of Owner to inspect the preparations for the Acceptance Tests and to be present for the conduct of the Acceptance Tests for purposes of ensuring compliance with the Acceptance Test Plan and the integrity of the Acceptance Tests results.

2.13.7 Within seven (7) days following the last day of successfully completing the Acceptance Tests, Design-Builder shall furnish Owner with the preliminary Acceptance Test Report consistent with the requirements specified in the Project Requirements. Owner shall review and provide approval or conditional approval within seven (7) days of receipt of such preliminary report. Within twenty-one (21) days following the last day of successfully completing the Acceptance Tests, Design-Builder shall furnish Owner with the Acceptance Test Report consistent with the requirements specified in the Project Requirements. The Acceptance Test Report shall describe and certify: (a) each Acceptance Test conducted; (b) the results of the Acceptance Tests; (c) the level of satisfaction of the Acceptance Standards relating thereto; and (d) the level of satisfaction of all Acceptance Date Conditions. The written test report shall include copies of the original data sheets, log sheets and all calculations used to determine performance during the Acceptance Tests, and copies of laboratory reports conducted in conjunction with the Acceptance Tests, including all laboratory sampling and test results. No failure of Design-Builder to furnish the certified Acceptance Test Report within the twenty-one (21) day period following the conclusion of the Acceptance Tests shall operate to adjust the Scheduled Acceptance Date.

2.14 Care, Custody and Control, Risk of Loss and Damage to Owner Property

2.14.1 Design-Builder shall have care, custody, and control of the Work (including but not limited to having responsibility for the security of the Site) until the Acceptance Date.

2.14.2 Design-Builder shall bear all risk of loss concerning the Work until the Acceptance Date, regardless of: (a) the extent to which the loss was insured or the availability of insurance proceeds; and/or (b) whether Owner had title to the Work or paid for any of the Work that was subject to a loss.

Article 3 **Owner's Services and Responsibilities**

3.1 Duty to Cooperate.

3.1.1 Owner shall, throughout the performance of the Work, cooperate with Design-Builder and

perform its responsibilities, obligations and services in a timely manner to facilitate Design-Builder's timely and efficient performance of the Work and so as not to delay or interfere with Design-Builder's performance of its obligations under the Contract Documents.

3.1.2 Owner shall provide Contractor with reasonable access to the Site, including land rights and areas for storage reasonably sufficient that Design-Builder may perform the Work in accordance with the Contract Times.

3.1.3 Owner shall provide timely reviews and approvals (where required) of interim design submissions and the Released for Construction Documents consistent with the turnaround times set forth in the Contract Documents and the Baseline Schedule, *provided, however* that, unless stated otherwise in the Contract Documents, Owner shall have twenty-one (21) days after receipt of such submissions to act upon such submissions, unless: (a) a shorter review period is specifically indicated in the Project Requirements; or (b) Design-Builder and Owner mutually agree upon a shorter review period for a specific submission. Design-Builder may, for more complex or time-sensitive submittals, request joint review meetings with Owner in the interest of expediting such reviews, and Owner will, to the extent it is reasonably able to do so, attempt to satisfy such requests. Owner approval, or narrative indicating approval by Owner or indication that Owner is approving, means that Owner is reviewing for conformance with the Contract Documents and indicating its belief at a specific time that submittals being reviewed are in conformance. In providing such approval, Owner is not accepting any responsibility or liability for itself or relieving responsibility for performance of the Design-Builder under the Contract Documents, for which the Design-Builder remains wholly responsible..

3.1.4 Owner shall give Design-Builder prompt and timely notice of any Work that Owner notices to be defective or not in compliance with the Contract Documents.

3.2 Furnishing of Services and Information.

3.2.1 Owner has provided the RFP Documents for Design-Builder to consider in developing the Proposal and for executing the Work.

3.2.2 Owner agrees to pay for power consumed by the Project and furnish and/or pay for influent water, solids, and fuels required for startup, commissioning and activities related to the normal operation of Plant equipment.

3.3 Owner's Representative.

3.3.1 Owner shall designate a representative responsible for providing Owner-Furnished Information and approvals in a timely manner to permit Design-Builder to fulfill its obligations under the Contract Documents ("Owner's Representative"). Owner's Representative shall also provide Design-Builder with prompt notice if it observes any failure on the part of Design-Builder to fulfill its contractual obligations, including any errors, omissions or defects in the performance of the Work. Owner's Representative shall communicate regularly with Design-Builder and shall be vested with the authority to act on behalf of Owner.

3.3.2 Owner's Representative shall have full authority to act on behalf of Owner with respect to matters requiring Owner's approval or authorization. Owner's Representative may delegate all or a portion of its authority to others by written notice to Design-Builder, which delegated authority may be revoked or modified at any time by written notice to Design-Builder.

3.3.3 Owner's Representative may be replaced with seven (7) days' prior written notice to Design-Builder, and may delegate its authority and responsibilities to assistants with written notice Design-Builder.

3.4 Government Approvals.

3.4.1 Owner shall obtain and pay for only the Governmental Approvals expressly set forth in the Project Requirements as being the sole responsibility of Owner.

3.4.2 Owner shall provide reasonable assistance to Design-Builder in obtaining those Governmental Approvals that are Design-Builder's responsibility.

3.5 Separate Contractors.

3.5.1 Owner is responsible for all work performed on the Project or at the Site by Separate Contractors with whom Owner has contracted. Owner shall contractually require its Separate Contractors to cooperate, and coordinate their activities so as not to interfere, with Design-Builder in order to enable Design-Builder to timely complete the Work consistent with the Contract Documents.

Article 4

Hazardous Environmental Conditions and Differing Site Conditions

4.1 Hazardous Environmental Conditions.

4.1.1 Where Owner has advised Design-Builder of known Hazardous Materials or Hazardous Environmental Conditions at the Site, these Hazardous Materials and Hazardous Environmental Conditions are part of the Work and Design-Builder shall take such action as is necessary, in accordance with applicable Legal Requirements, to plan for and to remediate and render harmless all such Hazardous Materials and Hazardous Environmental Conditions. Remediation plans for such known Hazardous Materials and Hazardous Environmental Conditions shall be provided to Owner for approval prior to undertaking the remediation.

4.1.2 If Design-Builder encounters any unknown Hazardous Environmental Conditions at the Site, it shall stop Work immediately in the affected part of the Work to the extent required to avoid any such safety or health hazard until it has taken such action as is necessary, in accordance with applicable Legal Requirements, to protect the interests of any affected party. Design-Builder shall, immediately upon encountering any Hazardous Environmental Conditions at the Site, notify Owner and, if required by Legal Requirements, assist Owner in providing notifications to all Governmental Units having jurisdiction over the Project or Site.

4.1.3 Design-Builder, in consultation with Owner, shall take all necessary measures required to ensure that Hazardous Environmental Conditions are remediated or rendered harmless in accordance with applicable Legal Requirements. Design-Builder shall, as may be directed by Owner and prior to proceeding with any such work: (a) obtain all environmental site assessments of the affected property and submit copies of such assessments to Owner for its approval; (b) develop remediation plans for the Hazardous Environmental Conditions, subject to Owner's approval; and (c) obtain on Owner's behalf all applicable Governmental Approvals to implement such plans. During the period of any investigation and remediation efforts, Design-Builder shall take all necessary measures to isolate and contain such Hazardous Environmental Conditions from the unaffected parts of the Work, and shall continue the Work to the maximum extent possible on unaffected parts of the Work.

4.1.4 Except for those Hazardous Materials and Hazardous Environmental Conditions set forth in Section 4.1.6 below, Design-Builder will be entitled, in accordance with these General Conditions of Contract, to an adjustment in the Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance have been adversely impacted by the presence of unknown Hazardous Environmental Conditions.

4.1.5 To the fullest extent permitted by Legal Requirements, Owner shall indemnify and hold

harmless Design-Builder from and against any and all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from unknown Hazardous Environmental Conditions. Nothing in this Section 4.1.5 shall obligate Owner to indemnify or hold harmless Design-Builder from and against the consequences of the breach of contract, negligence, recklessness or willful misconduct of Design-Builder or any DB-Related Entity.

4.1.6 Notwithstanding anything to the contrary in this Section 4.1, Design-Builder shall bear full responsibility for the handling, treatment, storage, removal, remediation, avoidance, or other appropriate action (if any), with respect to: (a) any Hazardous Material or Hazardous Environmental Condition present at, on, in or under, or migrating and/or emanating to or from the Site, to the extent brought or caused to be brought on the Site by any act or omission of Design-Builder or any DB-Related Entity; (b) Hazardous Materials or Hazardous Environmental Conditions that are part of the Work pursuant to Section 4.1.1 above; and (c) the creation or exacerbation of any known or unknown Hazardous Environmental Condition due to the breach of contract, negligence, recklessness or willful misconduct of Design-Builder or any DB-Related Entity. To the fullest extent permitted by Legal Requirements, Design-Builder shall indemnify, defend and hold harmless each Owner Indemnitee from and against all claims, losses, damages, liabilities and expenses, including attorneys' fees and expenses, arising out of or resulting from Items (a), (b) and/or (c) above.

4.1.7 As between Owner and Design-Builder, Owner is the generator of any pre-existing Hazardous Materials or Hazardous Environmental Condition.

4.1.8 Owner represents that the Site has not been designated as a "Superfund" site by the United States Environmental Protection Agency.

4.2 Inspection of Site Conditions.

4.2.1 Design-Builder represents and warrants that it has, as of the Agreement Date, ascertained the nature and location of the Work, the character and accessibility of the Site, the existence of obstacles to construction which are ascertainable or visible upon a thorough investigation of the Site, the availability of facilities and utilities, the location and character of existing or adjacent work or structures, the surface conditions, and other general and local conditions (including labor) which might affect its performance of the Work or the cost thereof.

4.2.2 Design-Builder shall, after the Agreement Date, undertake such testing, inspections and investigations as may be necessary to perform its obligations under the Contract Documents, including but not limited to additional geotechnical evaluations or Hazardous Materials studies. All reports or analyses generated by Design-Builder's testing, inspections and investigations, including but not limited to additional geotechnical testing, shall be furnished to Owner promptly after such reports or analyses are generated.

4.3 Differing Site Conditions.

4.3.1 Concealed or latent physical conditions or subsurface conditions at the Site that: (a) materially differ from the conditions indicated in the Contract Documents; or (b) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work, are collectively referred to herein as "Differing Site Conditions." If Design-Builder encounters a Differing Site Condition, Design-Builder will be entitled to an adjustment in the Contract Price and/or Contract Time(s) to the extent Design-Builder's cost and/or time of performance are adversely impacted by the Differing Site Condition. The term "Differing Site Conditions" excludes: (a) conditions of which Design-Builder had actual or constructive knowledge as of the Agreement Date; and (b) conditions that should have been discovered through a reasonable Site investigation performed in accordance with Section 4.2. For the avoidance of doubt, Hazardous Environmental Conditions are not deemed Differing Site Conditions, and shall be treated as set forth under Section 4.1 above.

4.3.2 Upon encountering a Differing Site Condition, Design-Builder shall provide prompt written notice to Owner of such condition, which notice shall not be later than fourteen (14) days after such condition has been encountered. Design-Builder shall, to the extent reasonably possible, provide such notice before the Differing Site Condition has been substantially disturbed or altered.

DRAFT

Article 5

Insurance and Bonds

5.1 Design-Builder's Insurance Requirements.

5.1.1 Design-Builder shall obtain and maintain, at its own cost and expense, the insurance coverages specified in Exhibit 7.1 of the Agreement, which insurance shall be in accordance with this Section 5.1.

5.1.2 All insurance required by Section 5.1 shall be from insurance companies that are duly licensed or authorized to do business in the state of Missouri, and have a current policyholder's management and financial size category rating of not less than "A-VIII" according to A.M. Best's Financial Strength and Financial Size Category.

5.1.3 Design-Builder shall deliver to Owner, with copies to each additional insured, the following:

(a) Certificates of insurance and endorsements establishing that Design-Builder has obtained and is maintaining the policies and coverages required hereunder, with the understanding that updated, compliant certificates of insurance and endorsements shall be delivered annually, at least ten (10) days prior to the expiration of any policy, to evidence renewal of the required insurance coverages.

(b) Upon request by Owner or any additional insured, evidence of such required insurance, including documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant endorsements, exclusions, and evidence of insurance required to be purchased and maintained by Design-Builder, Design Consultants, or Subcontractors. In any documentation furnished under this provision, Design-Builder, Design Consultants, and Subcontractors may block out (redact) any confidential premium or pricing information or other information not applicable to this Project or Contract.

(c) Failure of Owner or any additional insured to demand the documents required by this Section 5.1.3, or failure of Owner to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the obligation of the relevant party (i.e., Design-Builder, Design Consultant, or Subcontractor) to obtain and maintain such insurance.

5.1.4 Design-Builder shall require its Design Consultants and Subcontractors to purchase and maintain the insurance coverages specified under Section 7.1 to the Agreement.

5.1.5 Owner does not represent that insurance coverage and limits established in Section 7.1 of the Agreement will be adequate to protect the interests of Design-Builder, Design Consultants, or Subcontractors. Each such party is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Design-Builder deems necessary.

5.1.6 The insurance and insurance limits required under the Agreement are minimums and shall not be deemed as a limitation on Design-Builder's liability, or that of any DB-Related Entity, under the indemnities granted to Owner, additional insureds and other individuals and entities in the Contract Documents or otherwise.

5.1.7 If in any instance Design-Builder has not performed its obligations respecting obtaining and maintaining insurance coverage required hereunder, or is unable to enforce and collect any such insurance for failure to assert claims in accordance with the terms of the insurance policies, then for purposes of determining Design-Builder's liability and the limits thereon or determining reductions in compensation due from Owner to Design-Builder on account of available insurance, Design-Builder shall be treated as if it has elected to self-insure up to the full amount of insurance coverage that would have been available had Design-Builder performed such obligations and not

committed such failure.

5.1.8 Design-Builder, Design Consultants, and Subcontractors shall be solely responsible for any and all deductibles or self-insured retentions that shall apply under any required, or otherwise purchased, insurances and shall have no recourse against Owner for any such costs.

5.1.9 All policies of insurance that Design-Builder is required to purchase and maintain under the Agreement shall:

(a) Contain a provision requiring the insurer to give not less than thirty (30) days' prior notice to Owner whenever the insurer gives Design-Builder a notice of cancellation or non-renewal with respect to the policy (except in the case of any non-premium payment, not less than ten (10) days' prior notice, which the insurer shall be obligated to give to Owner simultaneously with providing such notice to Design-Builder). The provision required by the preceding sentence shall not be deemed to infer a right of cancellation that would otherwise not exist in the absence of such provision.

(b) Delete any specific design-build or similar exclusions that could compromise coverage because of Design-Builder's involvement in the design-build process.

(c) Contain coverage terms and conditions that reflect the industry standard for projects of a similar size, scope, and nature of this Project that the commercial market will provide and support as of the date of such insurance procurement and any subsequent renewals.

(d) Other than for professional liability insurance, workers compensation/employer's liability insurance and builder's risk insurance, where additional insured coverage is required include cross-liability clauses allowing one insured to bring a claim against another insured party. With regard to pollution liability insurance, a cross-liability clause will be allowed as long as it does not impact Owner's ability to sue another insured party and collect under the policy.

(e) Other than for professional liability insurance and workers compensation/employer's liability insurance, be endorsed so that the insurer agrees to waive, to the extent permitted by law, all rights of subrogation or action that it may have or acquire against Owner, Owner Indemnitees, or any additional insured.

(f) Other than for professional liability insurance, workers compensation/employer's liability insurance, automobile liability insurance, and contractor pollution liability insurance, contain a provision under which the insurer agrees that the failure of one insured to observe and fulfill the terms of the policy will not prejudice the coverage of the other insureds.

(g) With regard to builder's risk and any other first-party property insurance, have each policy endorsed to contain a standard mortgagee clause to the effect that Owner and other insureds will not be prejudiced by an unintended and/or inadvertent error, omission or mistaken description of the risk interest in property insured under the policies, incorrect declaration of values, failure to advise insurers of any change of risk interest or property insured, or failure to comply with a statutory requirement.

(h) For commercial general liability and umbrella/excess liability insurance, , not include defense costs within the limits of coverage or permit erosion of coverage limits by defense costs.

(i) Design-Builder's commercial general liability, automobile liability, umbrella or excess, and pollution liability must:

1. Include and list as additional insureds Owner and the Owner Indemnitees, and include coverage for the respective officers, directors, members, partners, and

employees of all such additional insureds;

2. Afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

3. Not seek contribution from insurance maintained by the additional insured; and

4. As to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Design-Builder's acts or omissions, or the acts and omissions of DB-Related Entities, in the performance of Design-Builder's operations.

5.2 Performance and Payment Bonds.

5.2.1 Design-Builder shall provide Owner with the Performance and Payment Bonds in accordance with Section 7.2 of the Agreement.

Article 6 **Payment**

6.1 General.

6.1.1 Owner shall pay Design-Builder for the Work in accordance with Articles 4 and 5 of the Agreement and this Article 6.

6.1.2 Owner shall pay Design-Builder through monthly progress payments described in Section 6.2 below, with payments to be based upon the Schedule of Values agreed upon by the Parties pursuant to Section 2.1.3 above. In making such progress payments, Owner shall retain the amounts set forth in Section 5.2.1 of the Agreement, as well as other amounts permitted under the Contract Documents or at law.

6.2 Monthly Progress Payments.

6.2.1 On or before the date established in the Agreement, Design-Builder shall submit for Owner's review and approval its Application for Payment requesting payment for all Work performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents, including, without limitation, such documents, information and data as Owner may require to: (a) waive or release lien rights for all Work performed (other than with respect to any retainage then withheld); and (b) evaluate or verify the right to receive payment of any amount requested for payment.

6.2.2 The Application for Payment may request payment for Equipment and Materials not yet incorporated into the Project, provided that: (a) Owner is satisfied that the Equipment and Materials are suitably stored at either the Site or another acceptable location; (b) the Equipment and Materials are protected by suitable insurance; and (c) upon the earlier of incorporation into the Project or payment, Owner will receive the Equipment and Materials free and clear of all liens and encumbrances.

6.2.3 The Application for Payment shall constitute Design-Builder's representation that the Work described therein has been performed consistent with the Contract Documents, has progressed to the point indicated in the Application for Payment, and that title to all Work will pass to Owner free and clear of all claims, liens, encumbrances, and security interests upon the incorporation of the

Work into the Project, or upon Design-Builder's receipt of payment, whichever occurs earlier. The passage of title shall not be construed as relieving Design-Builder from the sole responsibility for all Work upon which payments have been made (including but not limited to risk of loss or the restoration of any damaged Work), or as waiving the right of Owner to require the fulfillment of all of the terms of the Contract Documents.

6.3 Withholding of Payments.

6.3.1 On or before the date established in the Agreement, Owner shall pay Design-Builder all amounts properly due. If Owner determines that Design-Builder is not entitled to all or part of an Application for Payment as a result of Design-Builder's failure to meet its obligations hereunder, it will notify Design-Builder in writing at least five (5) days prior to the date payment is due. The notice shall indicate the specific amounts Owner intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Design-Builder must take to rectify Owner's concerns. Design-Builder and Owner will attempt to resolve Owner's concerns prior to the date payment is due. If the Parties cannot resolve such concerns, Design-Builder may pursue its rights under the Contract Documents, including those under Article 10 below.

6.3.2 Notwithstanding anything to the contrary in the Contract Documents, Owner shall pay Design-Builder all undisputed amounts in an Application for Payment within the times required by the Agreement. Payments which Owner disputes in good faith shall not be deemed due.

6.4 Right to Stop Work and Interest.

6.4.1 If Owner fails to pay timely Design-Builder any amount that becomes due and is not subject to a good faith dispute, then Design-Builder, in addition to all other remedies provided in the Contract Documents, may stop Work pursuant to Section 11.3 below. All payments due and unpaid, other than those subject to a good faith dispute, shall bear interest at the rate set forth in the Agreement.

6.5 Design-Builder's Payment Obligations.

6.5.1 Design-Builder will pay its Design Consultants and Subcontractors, in accordance with its contractual obligations to such parties, all the amounts Design-Builder has received from Owner on account of their work. Design-Builder will impose similar requirements on Design Consultants and Subcontractors to pay those parties with whom they have contracted. Design-Builder will indemnify and defend Owner against any claims for payment and mechanic's liens as set forth in Section 7.3 below.

6.6 Final Payment.

6.6.1 Upon achieving Final Completion in accordance with Section 8.3 below, Design-Builder shall provide Owner with a Final Application for Payment. The Final Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents, including, without limitation the following:

(a) An affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, Equipment or Materials, construction equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect Owner's interests.

(b) A general release executed by Design-Builder waiving all claims, except for receipt of final payment by Design-Builder and those claims previously made in writing to Owner and remaining unsettled at the time of final payment, which previously made claims shall be specifically listed in an attachment to the general release.

- (c) Consent of Design-Builder's surety to final payment.
- (d) Certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents.
- (e) Final Project Workforce Monthly Report and Final Companywide Workforce Monthly Report.

6.6.2 After receipt of a proper Final Application for Payment from Design-Builder, Owner shall make final payment by the time required in the Agreement. If Owner is not in agreement with said Application, Owner shall return the final Application for Payment to Design-Builder, indicating in writing the reasons for not recommending final payment, in which case Design-Builder shall make the necessary corrections and resubmit the Final Application for Payment.

6.6.3 Final payment shall be an absolute bar to the assertion of any claim of any type by Design-Builder other than those expressly set forth in the attachment set forth in Section 6.6.1(b) above.

Article 7

Indemnification

7.1 Intellectual Property Infringement.

7.1.1 Design-Builder shall defend any action or proceeding brought against any Owner Indemnitee based on any claim that the Work, or any part thereof, or the operation or use of the Work or any part thereof, constitutes infringement or unauthorized use of any patent, trademark, copyright, or trade secret now or hereafter issued. Owner shall give prompt written notice to Design-Builder of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design-Builder shall indemnify and hold harmless Owner Indemnitees from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Owner Indemnitees or Design-Builder in any such action or proceeding. Design-Builder agrees to keep all Owner Indemnitees regularly informed of all developments in the defense of such actions.

7.1.2 If any Owner Indemnitee is enjoined from the operation or use of the Work, or any part thereof, as the result of any patent, trademark, copyright or trade secret suit, claim, or proceeding, Design-Builder shall at its sole expense take reasonable steps to procure the right to operate or use the Work. If Design-Builder cannot so procure such right within a reasonable time, Design-Builder shall promptly, at Design-Builder's option and at Design-Builder's expense: (a) modify the Work so as to avoid infringement of any such patent, trademark copyright, or trade secret; or (b) replace said Work with Work that does not infringe or violate any such patent, trademark, copyright or trade secret; *provided, however*, that any such modification or replacement shall not adversely affect the performance, use, operation, or any material characteristic of the Project, and shall be subject to the approval of the Owner Indemnitees.

7.2 Tax Claim Indemnification.

7.2.1 If, in accordance with Owner's direction, an exemption for all or part of the Work is claimed for taxes, Owner shall indemnify, defend and hold harmless Design-Builder from and against any liability, penalty, interest, fine, or tax assessment imposed by the applicable Governmental Unit, and reasonable attorneys' fees or other expenses or costs incurred by Design-Builder as a result of defending a claim caused by any action taken by Design-Builder in accordance with Owner's directive with respect to such claimed tax exemption. Owner shall furnish Design-Builder with any applicable tax exemption certificates necessary to obtain such exemption, upon which Design-Builder may rely.

7.3 Payment Claim Indemnification.

7.3.1 Provided that Owner is not in breach of its contractual obligation to make payments to Design-Builder for the Work, Design-Builder shall indemnify, defend and hold harmless Owner Indemnitees from any claims or mechanic's liens brought against Owner Indemnitees or against the Project as a result of the failure of Design-Builder or any DB-Related Entity to pay for any services, Equipment and Materials, materials, labor, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work. Within three (3) days of receiving written notice from any Owner Indemnitee that such a claim has been asserted or mechanic's lien has been filed, Design-Builder shall commence to take the steps necessary to discharge said claim or lien, including, if necessary, the furnishing of a mechanic's lien bond that will remove such claim or lien from title. If Design-Builder fails to do so, Owner Indemnitees will have the right to discharge the claim or lien and hold Design-Builder liable for costs and expenses incurred, including attorneys' fees.

7.4 Design-Builder's General Indemnification.

7.4.1 Design-Builder, to the fullest extent permitted by law, shall indemnify, hold harmless and defend Owner Indemnitees from and against claims, losses, damages, liabilities, including attorneys' fees and expenses, for bodily injury, sickness or death, and third party property damage or destruction (other than to the Work itself) to the extent resulting from the intentional misconduct or negligent acts or omissions of Design-Builder or any DB-Related Entity. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 7.4.

7.4.2 If an employee of any Design-Builder or any DB-Related Entity has a claim against any Owner Indemnitee, Design-Builder's indemnity obligation set forth in Section 7.4.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder or any DB-Related Entity under any employee benefit acts, including workers' compensation or disability acts.

7.5 Defense and Indemnification Procedures.

7.5.1 If any Owner Indemnitee receives notice of or otherwise has actual knowledge of a claim which it believes is within the scope of Design-Builder's indemnification under the Contract Documents, it shall by writing as soon as practicable: (a) inform Design-Builder of such claim; (b) send to Design-Builder a copy of all written materials Owner Indemnitee has received asserting such claim; and (c) notify Design-Builder that either: (i) the defense of such claim is being tendered to Design-Builder; or (ii) Owner Indemnitee has elected to conduct its own defense for a reason set forth below.

7.5.2 If the insurer under any applicable insurance policy accepts tender of defense, Design-Builder and Owner Indemnitee shall cooperate in the defense as required by the insurance policy. If no defense is provided by insurers under potentially applicable insurance policies, then the following provisions shall apply.

7.5.3 If the defense is tendered to Design-Builder, it shall within forty-five (45) days of said tender deliver to Owner Indemnitee a written notice stating that Design-Builder: (a) accepts the tender of defense and confirms that the claim is subject to full indemnification hereunder without any "reservation of rights" to deny or disclaim full indemnification thereafter; (b) accepts the tender of defense but with a "reservation of rights" in whole or in part; or (c) rejects the tender of defense if it reasonably determines it is not required to indemnify against the claim under the Contract Documents. If such notice is not delivered within such forty-five (45) days, the tender of defense shall be deemed rejected.

7.5.4 If Design-Builder accepts the tender of defense, Design-Builder shall have the right to select legal counsel for Owner Indemnitee, subject to reasonable approval of Owner Indemnitee, and Design-Builder shall otherwise control the defense of such claim, including settlement, and

bear the fees and costs of defending and settling such claim. During such defense: (a) Design-Builder shall, at Design-Builder's expense, fully and regularly inform Owner Indemnitee of the progress of the defense and of any settlement discussions; and (b) Owner Indemnitee shall, at Design-Builder's expense for all of Owner Indemnitee's reasonable out-of-pocket third party expenses, fully cooperate in said defense, provide to Design-Builder all materials and access to personnel it requests as necessary for defense, preparation and trial and which or who are under the control of or reasonably available to Owner Indemnitee and maintain the confidentiality of all communications between it and Design-Builder concerning such defense to the extent allowed by law.

7.5.5 Owner Indemnitee shall be entitled to select its own legal counsel and otherwise control the defense of such claim if: (a) the defense is tendered to Design-Builder and it refuses the tender of defense, or fails to accept such tender within forty-five (45) days, or reserves any right to deny or disclaim such full indemnification thereafter; or (b) Owner Indemnitee, at the time it gives notice of the claim or at any time thereafter, reasonably determines that: (i) a conflict exists between it and Design-Builder which prevents or potentially prevents Design-Builder from presenting a full and effective defense; or (ii) Design-Builder is otherwise not providing an effective defense in connection with the claim and Design-Builder lacks the financial capability to satisfy potential liability or to provide an effective defense. Owner Indemnitee may assume its own defense pursuant to the above by delivering to Design-Builder written notice of such election and the reasons thereof.

7.5.6 If Owner Indemnitee is entitled and elects to conduct its own defense pursuant hereto, all reasonable costs and expenses it incurs in investigating and defending and claim for which it is entitled to indemnification hereunder (and any settlements or judgments resulting there from) shall be reimbursed by Design-Builder after completion of the proceeding.

7.5.7 If Owner Indemnitee is entitled to and elects to conduct its own defense, then it shall have the right to settle or compromise the claim with Design-Builder's prior written consent, which shall not be unreasonably withheld or delayed, or with approval of the court, and with the full benefit of Design-Builder's indemnity. Notwithstanding the foregoing, if Owner Indemnitee elects to conduct its own defense and it is later determined that no indemnification obligation existed as to the particular claim, Owner Indemnitee shall pay its own costs and expenses relating thereto. In addition, if Owner Indemnitee elects to conduct its own defense because it perceives a conflict of interest, Owner Indemnitee shall pay its own costs and expenses relating thereto.

7.6 Survival.

7.6.1 All of Design-Builder's obligations under this Article 7 shall survive any termination of the Agreement, whether for cause or convenience.

Article 8 **Contract Times**

8.1 General.

8.1.1 Design-Builder agrees that it will commence performance of the Work and achieve completion of the Work within the Contract Time(s) in accordance with Article 3 of the Agreement.

8.1.2 Design-Builder shall perform the Work, as applicable, in accordance with the Mobilization and Engineering Schedule and the Baseline Schedule. Design-Builder shall provide Owner with monthly updates, or more frequently as required by conditions and progress of the Work, comparing actual progress to the Baseline Schedule, but such updates shall not be deemed to modify the Baseline Schedule or Contract Time(s), nor relieve Design-Builder of its obligations to complete the Work within the Contract Time(s), as may be adjusted in accordance with this Article 8.

8.1.3 The conditions for Acceptance are set forth in Section 8.2 below. Design-Builder acknowledges that Owner may want to take-over and operate some elements of the Work before Acceptance of the entire Work. To accomplish this, the Parties will discuss and agree upon the terms upon which Owner may do so, including but not limited to the impact of such on Design-Builder's responsibility for risk of loss, insurance and warranty.

8.2 Acceptance

8.2.1 The following conditions shall constitute the "Acceptance Date Conditions," each of which must be satisfied in all material respects by Design-Builder in order for the Acceptance Date to occur, and each of which must be and remain satisfied as of the Acceptance Date:

(a) Design-Builder shall have completed the Acceptance Tests and such tests shall have demonstrated that the Project has met all of the Acceptance Standards, as certified by Design-Builder and agreed to by Owner in accordance with the Contract Documents.

(b) Design-Builder and Owner have agreed in writing upon the Punch List (or, if they are unable to agree, Owner shall have prepared and issued the Punch List to Design-Builder within thirty (30) days of Design-Builder having submitted its proposed Punch List to Owner).

(c) All Governmental Approvals required under Legal Requirements and the Contract Documents to be obtained by Design-Builder which are necessary for the continued routine operation of the Project shall be in full force and effect and certified copies of all such Governmental Approvals shall have been delivered to Owner.

(d) Design-Builder shall be in possession of, and shall have delivered to Owner, copies of the warranties of Equipment and Materials, together with copies of all related operating manuals provided by Suppliers.

(e) Design-Builder shall have delivered to Owner the O&M Data in accordance with Section 2.10 above and the Contract Documents.

(f) Design-Builder shall have delivered to Owner all final Record Documents, the final BIM model, and other closeout documents required by the Contract Documents, as applicable to Acceptance.

(g) Design-Builder shall have satisfied its training obligations with respect to Owner's operations and maintenance staff in accordance with the approved Training Plan and the specific requirements of the Project Requirements.

(h) Owner has approved the Acceptance Test Report.

(i) All Liquidated Damages due under the Agreement have been paid or otherwise satisfied for failure of Design-Builder to achieve Acceptance on or before the Scheduled Acceptance Date.

(j) Design-Builder has satisfied all of the requirements for Acceptance set forth in the Project Requirements.

(k) Design-Builder and Owner have executed a Certification of Acceptance that all of the foregoing conditions have been satisfied.

8.2.2 When Design-Builder considers that Acceptance Date Conditions have been achieved, it shall so notify Owner in writing. Owner shall determine, within twenty-one (21) days following its receipt of such notice, whether it concurs that the Acceptance Date Conditions have been achieved. If Owner disagrees, it shall promptly send written notice to Design-Builder of the basis for its

disagreement. Design-Builder shall expeditiously correct the conditions raised by Owner in order to achieve the Acceptance Date Standards. The preceding process will continue until Owner determines that Acceptance has been achieved.

8.2.3 The Acceptance Date shall be the day on which Owner has executed the Certificate of Acceptance. However, for the sole purpose of determining Design-Builder's liability to Owner for Delay Liquidated Damages for failure to achieve Acceptance on or before the Scheduled Acceptance Date, Acceptance shall be deemed effective as of the date Design-Builder has executed the Certificate of Acceptance.

8.3 Final Completion.

8.3.1 Final Completion shall be deemed to have occurred when all of the following conditions have been satisfied:

- (a) Design-Builder has achieved Acceptance in accordance with Section 8.2 above.
- (b) All Work (including all repairs identified during or required due to the performance of successful Acceptance Tests and all clean-up and removal of construction materials, demolition debris and temporary facilities) is complete, and in all respects is in compliance with the Contract Documents.
- (c) Design-Builder shall have delivered to Owner all closeout documents and other deliverables required by the Contract Documents.
- (d) Design-Builder's surety has consented to the release of final payment to Design-Builder.
- (e) Design-Builder has certified to Owner that all of its claims against Owner have been resolved, except for those set forth in the attachment to the general release described in Section 6.6.1(b) above.
- (f) All Liquidated Damages due under the Agreement have been paid or otherwise satisfied.
- (g) Design-Builder has satisfied all of the requirements for Final Completion set forth in the Project Requirements.
- (h) Design-Builder and Owner have executed a Certification of Final Completion that all of the foregoing conditions have been satisfied.

8.3.2 When Design-Builder considers that Final Completion has been achieved, it shall so notify Owner in writing. Owner shall determine, within twenty-one (21) days following its receipt of such notice, whether it concurs that Final Completion has been achieved. If Owner disagrees, it shall promptly send written notice to Design-Builder of the basis for its disagreement. Design-Builder shall expeditiously correct the conditions raised by Owner in order to achieve Final Completion. The preceding process will continue until Owner determines that Final Completion has been achieved.

8.3.3 The Final Completion Date shall be the day on which Owner has executed the Certificate of Final Completion. However, for the sole purpose of determining Design-Builder's liability to Owner for Delay Liquidated Damages for failure to achieve Final Completion on or before the Scheduled Final Completion Date, Final Completion shall be deemed effective as of the date Design-Builder has executed the Certificate of Final Completion.

8.4 Excusable Delays.

8.4.1 The term “Excusable Delay” shall refer to delays in the performance of the Work to the extent caused directly by acts, omissions, conditions, events, or circumstances beyond the reasonable control of Design-Builder and all DB-Related Entities), including, by way of example, acts or omissions of Owner or anyone under Owner’s control (including Owner’s Separate Contractors), changes in the Work, Differing Site Conditions, unknown Hazardous Environmental Conditions, Force Majeure Events, and suspensions of work under Section 11.1 below.

8.4.2 Notwithstanding Section 8.4.1 above, all cost, time, and other risks arising from the following events or circumstances shall be borne exclusively by Design-Builder, shall not be deemed Excusable Delays, and shall not be the basis for any relief, monetary or otherwise, to Design-Builder:

(a) general market and economic conditions affecting the availability, supply or cost of labor, Equipment and Materials, construction equipment, supplies, or commodities;

(b) strikes, labor disputes, work slowdowns, work stoppages, boycotts or other similar labor disruptions, unless such strikes, disputes, slowdowns, stoppages, boycotts or disruption affect a specific trade on a national or regional level and were not caused by the improper acts or omissions of Design-Builder or any DB-Related Entity;

(c) delays in obtaining or delivery of Equipment and Materials, or any other goods or services, from any DB-Related Entity, unless the DB-Related Entity’s reason for delay arises from an event that would otherwise be excusable to Design-Builder under these General Conditions of Contract;

(d) delays of common carriers, unless the common carrier’s reason for the delay arises from an event that would otherwise be excusable to Design-Builder under these General Conditions of Contract;

(e) bankruptcy or insolvency of any DB-Related Entity;

(f) the inability of a DB-Related Entity to perform, unless such inability would be otherwise excusable to Design-Builder under these General Conditions of Contract;

(g) any acts, omissions, conditions, events, or circumstances that were caused by or arose from the negligent acts, omissions, fault, recklessness, willful misconduct, breach of contract, or violation of law by Design-Builder or any DB-Related Entity; and

(h) the exercise of any right or any act by Owner permitted under the Contract Documents, except to the extent the Contract Documents expressly require an adjustment in the Contract Time(s) as a result of such exercise or act (e.g., a change in the Work that will delay performance).

8.4.3 If Design-Builder intends to seek Excusable Delay classification for any weather condition, it shall demonstrate, as a condition to qualifying for an Excusable Delay, that the actual weather encountered was unusually severe and abnormal compared with the five-year average weather statistics compiled by the United States National Oceanic and Atmospheric Administration for the time of year and locality of the Site.

8.4.4 If Design-Builder intends to seek Excusable Delay classification for a delay in the issuance of a Governmental Approval, it shall demonstrate that: (a) Design-Builder and all applicable DB-Related Entities have submitted all applications, data, studies, reports, responses and other information required under Legal Requirements in order to obtain the Governmental Approval; (b) Design-Builder and all applicable DB-Related Entities have in all respects used commercially reasonable efforts to obtain the Governmental Approval; and (c) Design-Builder and all applicable DB-Related Entities have consistently maintained a fully responsive, engaged and respectful

professional relationship with the staff and management of the Governmental Unit in a manner that, while not expressly required under Legal Requirements, is generally recognized among regular practitioners in the permitting field as necessary on a practical level to secure similar Governmental Approvals in a timely manner in light of the discretion accorded Governmental Units under Legal Requirements.

DRAFT

8.5 Adjustment of Contract Time(s).

8.5.1 Design-Builder shall be entitled to request a Change Order adjusting the Contract Time(s) to reflect not more than the amount of time Design-Builder is actually delayed by an Excusable Delay, expressly conditioned upon Design-Builder demonstrating that: (a) Design-Builder has complied with the procedural requirements of Section 8.4 and this Section 8.5; (b) the delay impacts the critical path of the Work as demonstrated by Section 8.5.3 below; (c) the delay was not foreseeable as of the Agreement Date by Design-Builder, and would not have been foreseen as of the Agreement Date by a reasonably experienced design-builder; (d) Design-Builder, in view of all the circumstances, has exercised reasonable efforts to avoid and mitigate the delay and did not, through itself or any DB-Related Entity, cause the delay; and (e) the delay for which relief is requested is not within the scope of those events or circumstances described in Section 8.4.2.

8.5.2 If Design-Builder intends to seek an adjustment in the Contract Time(s) as the result of an Excusable Delay, it shall comply with Sections 8.5.3 and 9.4 below.

8.5.3 Design-Builder shall demonstrate the critical path impact of an Excusable Delay and the impact on the Contract Time(s) through a written time impact analysis ("TIA") establishing the influence of the event on the most current monthly updated Baseline Schedule. Each TIA shall include a fragmentary network, and for events that have yet to occur (such as an Owner proposed change), the fragmentary network shall demonstrate how Design-Builder proposes to incorporate such event into the most current monthly updated Baseline Schedule. The TIA shall demonstrate: (a) the time impact based on the date the event occurred, or, in the instance of an Owner proposed change, the date such proposed change was given to Design-Builder; (b) the status of the Work at such point in time; and (c) the time computation of all affected activities.

8.6 Compensation for Delays

8.6.1 Design-Builder shall be entitled to request an adjustment of the Contract Price pursuant to the provisions of Article 9 for all Excusable Delays for which Design-Builder is entitled to a time extension pursuant to Section 8.5 above ("Compensable Delays"), *provided, however*, that Compensable Delays shall not be deemed to include: (a) Force Majeure Events; or (b) Excusable Delays where Design-Builder's performance was or would have been concurrently delayed or interrupted by any event that does not otherwise qualify as an Excusable Delay ("Concurrent Delay"). Design-Builder's sole remedy for a Concurrent Delay is an extension of the Contract Time(s), provided that Design-Builder has complied with the requirements of Section 8.5 above.

8.7 Recovery Schedules

8.7.1 Notwithstanding the right of Design-Builder to request a time extension for an Excusable Delay pursuant to this Article 8, Design-Builder agrees that it will, if directed by Owner, develop and implement a recovery schedule and plan to improve progress and take such measures to overcome such delay. Should Owner have a reasonable belief that the Contract Time(s) will not be met, then Owner has the right, but not the obligation, to so notify Design-Builder and direct Design-Builder to overcome such delay by working additional overtime, engaging additional personnel and taking such other measures as necessary to complete the Work within the Contract Time(s). If such delay is not an Excusable Delay, Design-Builder shall bear all costs related to such overtime, additional personnel and other measures. If such delay is an Excusable Delay, and Design-Builder has met the requirements of this Article 8 for an adjustment to the Contract Time(s) for such delay, then Design-Builder may request an adjustment to the Contract Price in accordance with the requirements of Article 9 for the increase in costs incurred by Design-Builder directly related to such overtime, additional personnel and other measures.

Article 9

Changes to the Contract Price and Contract Times

9.1 Right of Owner to Make Changes.

9.1.1 Without invalidating the Agreement, Owner may by written order, at any time and from time-to-time, authorize and/or request changes in, additions to, or deletions in the Work, including but not limited to those involving: (a) changes in, additions to, or deletions in the Contract Documents; (b) changes in the method, manner, sequence and time of performance of the Work (provided that Design-Builder retains and accepts full responsibility for all associated construction means, methods, techniques, sequences, and procedures); (c) changes in Owner-furnished services or deliverables, or (d) a direction to accelerate performance of the Work. If Owner proposes making a change in the Work, Owner shall advise Design-Builder and Design-Builder shall follow the processes set forth in Section 9.2 below.

9.1.2 No oral instruction, order or statement by Owner or Owner's Representative shall constitute a change under this Article 9. If Design-Builder believes that any oral instruction, order or statement by Owner may result in a change in the Work or require an adjustment to the Contract Price or the Contract Time(s), Design-Builder shall request that the oral instruction, order or statement be given in writing and shall thereafter comply with the provisions of this Article 9.

9.1.3 A "Change Order" is a written instrument issued after execution of the Agreement signed by Owner and Design-Builder, stating their agreement upon the scope of a change in the Work, and the agreed adjustment, if any, to the Contract Price, Contract Time(s), or any other requirement of the Contract Documents. Unless specifically stated to the contrary in the Change Order, an executed Change Order shall constitute the final and complete compensation and satisfaction for all costs and schedule impacts related to: (a) the implementation of the changes that are the subject of the Change Order; and (b) the cumulative impact of effects resulting from such changes on all prior Work and changes in the Work to be performed as scheduled.

9.1.4 All changes in the Work authorized by applicable Change Order shall be performed under the applicable conditions of the Contract Documents. Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for such changes.

9.2 Work Change Directives.

9.2.1 A Work Change Directive is a written order prepared and signed by Owner directing a change in the Work prior to agreement on an adjustment in the Contract Price and/or the Contract Time(s).

9.2.2 Upon receipt of a Work Change Directive, Design-Builder shall promptly proceed with the change in the Work involved, unless Owner directs otherwise. Owner and Design-Builder shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for the Work Change Directive. Upon reaching an agreement, the Parties shall prepare and execute an appropriate Change Order reflecting the terms of the agreement.

9.2.3 If the Parties are not able to agree on the method for adjusting the Contract Price for a Work Change Directive within a reasonable time, then Owner shall pay Design-Builder for such Work on a Cost of the Work basis as set forth in Section 9.7.1(c) below.

9.3 Minor Changes in the Work.

9.3.1 Minor changes in the Work do not involve an adjustment in the Contract Price and/or Contract Time(s) and do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents.

9.3.2 Owner may request minor changes in the Work that do not involve an adjustment in the Contract Price or Contract Time(s), and do not materially or adversely affect the Work. If Design-Builder disputes that such order involves a minor change, Design-Builder shall notify Owner in accordance with Section 9.4 below.

9.3.3 Design-Builder may make minor changes in the Work consistent with the intent of the Contract Documents, *provided, however*, that Design-Builder shall promptly inform Owner, in writing, of any such changes and record such changes on the documents maintained by Design-Builder.

9.4 Procedures Following Owner's Notice of Proposed Change.

9.4.1 Design-Builder shall, within twenty-one (21) days after receipt of notice of a proposed Owner change, prepare and submit to Owner in writing the information set forth in Section 9.5.2 below as if such change were the subject of a Design-Builder Proposed Change Order, and such other information and data as Owner may reasonably request. Owner shall endeavor to review Design-Builder's submittal with Design-Builder within twenty-one (21) days of its receipt of such submittal. If the Parties reach agreement on the terms of Owner's proposed change and Owner elects to proceed with such change, a Change Order shall be executed by the Parties. If the Parties are unable to reach agreement on the terms of the proposed change, Owner shall have the right, in its sole discretion, to direct Design-Builder to proceed with the change by issuing a Work Change Directive to Design-Builder.

9.4.2 Owner shall have the right, at any time and at its sole discretion, not to undertake any proposed change. If Owner elects not to undertake a proposed change for which Design-Builder performed design and preconstruction services in developing its submittal under Section 9.4.1 above, Design-Builder shall be paid its reasonable design and preconstruction costs incurred for such submittal.

9.5 Design-Builder Proposed Change Orders.

9.5.1 If Design-Builder believes that it is entitled under the Contract Documents to an adjustment to the Contract Price, Contract Time(s), or other relief due to any event or situation arising out of or related to the Work (including but not limited to alleged Excusable Delays, disputes over Owner's instructions or interpretation of the Contract Documents), Design-Builder shall, within seven (7) days after Design-Builder knows, or should have reasonably known, of such event or situation giving rise to the requested relief, submit to Owner a written notice labeled "Notice of Design-Builder Proposed Change Order." The Notice of Design-Builder Proposed Change Order shall describe the general nature of the event or situation and, if such Notice involves an Excusable Delay, the probable duration thereof.

9.5.2 Design-Builder shall, within fourteen (14) days after providing Owner with a Notice of Design-Builder Proposed Change Order, submit to Owner in writing: (a) a description of the facts, circumstances and contractual basis for the relief sought, with sufficient specificity for Owner to assess the matter; (b) the cost data supporting any proposed adjustments to the Contract Price; and (c) the scheduling information and analysis required under Section 8.5.3 above to support any request for adjustment to the Contract Time(s).

9.5.3 Owner shall endeavor to review Design-Builder's submittal under Section 9.5.2 above within fourteen (14) days of its receipt of such submittal. If Owner believes that Design-Builder's request is justified, in whole or in part, Owner shall advise Design-Builder and an appropriate Change Order shall be executed. If Owner disputes Design-Builder's request, and the Parties are unable to resolve the dispute, such dispute shall be resolved in accordance with Article 10 below. Owner may request clarifications and/or additional information to assist with its decision to such proposed change order.

9.6 Owner Directive Letters

9.6.1 If the Parties are unable to reach agreement on the terms of a Design-Builder Proposed Change Order under the processes set forth in Section 9.5 above, then Owner may, in its sole discretion, issue to Design-Builder a written notice ("Directive Letter") that directs Design-Builder to proceed in accordance with the terms of such notice notwithstanding the inability of the Parties to reach agreement on the terms of the Design-Builder Proposed Change Order. Design-Builder shall fully comply with all Directive Letters, and shall have the right to pursue its remedies under Article 10 below.

9.7 Contract Price Adjustments.

9.7.1 The increase or decrease in the Contract Price resulting from a change in the Work shall be determined by one or more of the following methods:

- (a) Unit prices set forth in the Agreement or as subsequently agreed to between the Parties;
- (b) A mutually accepted lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by Owner; or
- (c) If the Parties have not reached agreement on the basis of (a) or (b) above, the Contract Price shall be adjusted based upon the Cost of the Work and Overhead and Profit Markup as set forth in Section 9.8 below.

9.8 Cost of the Work and Overhead and Profit Markup.

9.8.1 The term "Cost of the Work" shall mean costs: (i) reasonably, actually and properly incurred by Design-Builder in the proper performance of the Work associated with the change; (ii) reasonably documented; and (iii) that would not have been incurred but for the change in the Work. The Cost of the Work shall include only the following:

(a) Craft Labor.

(1) Actual wages shall be computed on the base hourly rates paid by Design-Builder to its craft labor for all levels general foreman (or equivalent level) and below to perform the changed Work at the Site or, with Owner's agreement, at locations off the Site. No supervision or project management time above the general foreman level shall be included by Design-Builder as a direct labor cost, as this is covered by the Overhead Markup.

(2) Labor burden shall be established as a percent of the actual wages paid for each craft under (a) above. The burden shall be limited to payment for: vacation allowance, health and welfare, pension, apprenticeship programs and other similar programs as required for each craft, social security, unemployment insurance, and workers' compensation insurance. Labor burden shall not include expenses relating to employee profit sharing plans, bonuses, voluntary employee contributions to charities, savings plans, or general liability insurance

(b) Equipment and Materials. Design-Builder's net cost, including freight and transportation F.O.B Site, for all Equipment and Materials. All actually received quantity discounts and prompt payment discounts shall be reflected as credits for any Equipment and Materials purchased.

(c) Small Tools and Supplies. Small tools and supplies shall be paid based on five percent (5%) of the labor costs allowed in Item .1 above. Equipment and tools having a replacement value of \$500 or less, whether or not consumed or used, shall be considered small tools compensated

by the preceding percentage and no separate payment will be made therefor under any other category of cost.

(d) Construction Equipment.

(1) All construction equipment leased specifically for changes in the Work shall be at Design-Builder's net invoiced cost.

(2) If construction equipment is owned and actually engaged in the performance of the change in the Work, hourly rates will be computed based on the latest version of the "Blue Book Rental Rate for Construction Equipment." Hourly rates will be computed by dividing monthly Blue Book rates (excluding operating costs) by 176, and adjusting for region and depreciation. In the case of any machinery or equipment not referred to in the Blue Book Rental Rates, a monthly rental rate shall be computed on the basis of an amount that is the equivalent of 3% of the purchased price of such equipment. The hourly rate in such cases will be determined by dividing the monthly rate by 176 when actually operating. Payment for equipment idled as a direct result of the change, if applicable, shall be based on 40% of the rate determined herein, without inclusion of operating costs.

(e) Subcontractors. Payments properly made by Design-Builder to Subcontractors for performance of portions of the Work, including any bond premiums incurred by Subcontractors. Each Subcontractor will price its change in the Work based upon the requirements set forth in Items (a) through (d) above.

(f) Design and Engineering Changes.

(1) Payment will be made for the cost of labor for design and engineering services, whether provided by Design-Builder or a Design Consultant, equal to the sum of the following: (i) actual wages (i.e., the base wage paid to the employee exclusive of any fringe benefits); plus (ii) an overhead rate to be agreed-upon between Owner and Design-Builder, not to exceed the applicable audited overhead rate. For Design Consultants, up to an additional ten percent (10%) on the total of such labor and overhead costs may be allowed to account for profit on design and engineering service labor.

(2) Payment will be made for the recovery of necessary expenses for other direct costs incurred in performing the work of a design and/or engineering change order, whether incurred by Design-Builder or a Design Consultant, provided that such costs are not included in Design-Builder's or Design Consultant's indirect cost or overhead rate. Costs for travel, meals and lodging shall be reimbursed in accordance with Owner's Travel Reimbursement Guidelines.

(g) Bond and Builder's Risk Insurance. Payment for additional bond cost will be based upon a rate that reflects the actual additional bond premiums. Payment for additional Builder's Risk Insurance premiums will be based on the actual additional premium for the change.

(h) Miscellaneous. Other costs reasonably and properly incurred in the performance of the Work may be considered Cost of the Work to the extent approved in writing by Owner.

9.8.2 The Overhead and Profit Markup to be applied to the Cost of the Work for a change shall be as follows:

.1 For: (a) craft labor engaged under Section 9.8.1(a) above; (b) Equipment and Materials furnished under Section 9.8.1(b) above; (c) small tools and supplies furnished under Section 9.8.1(c) above; (d) rented and owned construction equipment under Section 9.8.1(d) above; and (e) miscellaneous costs under Section 9.8.1 (h) above, an Overhead and Profit Markup of ten percent (10%) will be applied.

.2 For design professional services labor engaged under Section 9.8.1(f) above, an Overhead and Profit Markup of ten percent (10%) will be applied.

.3 For bonds and Builder's Risk Insurance under Section 9.8.1(g) above, no Overhead and Profit Markup will be applied.

.4 Contractor and each higher-tier Subcontractor not performing the Work will be allowed to apply an Overhead and Profit Markup of five percent (5%) on the lower-tier Subcontractor's direct costs (i.e., excluding the lower-tier Subcontractor's Overhead and Profit Markup, regardless of the tier of the Subcontractor.

9.8.3 In the event of a Compensable Delay, Design-Builder will be entitled to recover for its time-related Project overhead costs that would not have been incurred but for the Excusable Delay. Overhead and Profit Markup of ten percent (10%) will be applied to such Project overhead costs.

9.9 Emergencies.

9.9.1 In any emergency affecting the safety of persons and/or property, Design-Builder shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Contract Price and/or Contract Time(s) on account of emergency work shall be determined as provided in this Article 9.

9.10 Duty to Proceed.

9.10.1 Except only for Design-Builder's right to stop work under Section 11.3.1 below, no dispute between Design-Builder and Owner, including but not limited to those relating to the entitlement, cost or time associated with a notice of proposed Owner change or Design-Builder Notice of Proposed Change Order, shall interfere with the progress of the Work. Design-Builder shall have the duty to diligently proceed with the Work in accordance with Owner's instructions despite any dispute, including but not limited to those events where the Parties are in disagreement as to whether instructions from Owner constitute a change to the Work and justify adjustments to the Contract Price and/or Contract Time(s). Design-Builder's sole recourse in the event of such a dispute will be to pursue its rights under Article 10 below.

9.11 Burden of Proof.

9.10.1 Design-Builder shall bear the burden of proof in establishing its entitlement to relief under this Article 9, including but not limited to adjustments in the Contract Price and Contract Time(s).

Article 10

Contract Adjustments and Disputes

10.1 Requests for Contract Adjustments and Relief.

10.1.1 If either Design-Builder or Owner believes that it is entitled to relief against the other for any event arising out of or related to the Work or Project, such Party shall provide written notice to the other Party of the basis for its claim for relief. Such notice shall, if possible, be made prior to incurring any cost or expense and in accordance with any specific notice requirements contained in applicable sections of these General Conditions of Contract. In the absence of any specific notice requirement, written notice shall be given within a reasonable time, not to exceed twenty-one (21) days, after the occurrence giving rise to the claim for relief or after the claiming Party reasonably should have recognized the event or condition giving rise to the request, whichever is later. Such notice shall include sufficient information to advise the other Party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request.

DRAFT

10.2 Dispute Avoidance and Resolution.

10.2.1 The Parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize and resolve and any disputes. If any disputes do arise, Design-Builder and Owner each commit to resolving such disputes in an amicable, professional and expeditious manner.

10.2.2 Design-Builder and Owner will first attempt to resolve disputes at the field level through discussions between Design-Builder's Project Manager and Owner's Representative. Such discussions shall conclude within fourteen (14) days of the written notice provided for in Section 10.1.1 unless Owner and Design-Builder mutually agree otherwise.

10.2.3 If a dispute is not resolved at the field level within fourteen (14) days of the written notice provided for in Section 10.1.1, then, upon the written request of either Party, the dispute shall be elevated to Design-Builder's senior representative and Owner's Director or designee. Such individuals shall meet as soon as conveniently possible, but in no case later than thirty (30) days after such a request is made, to attempt to resolve such dispute. Five (5) days prior to any meetings between such individuals, the Parties will exchange relevant information that will assist the Parties in resolving the dispute.

10.2.4 Either Party shall have the right to exercise its right to initiate its rights to litigation under Section 10.4 below if a dispute has not been resolved within sixty (60) days of the request of a Party under Section 10.2.3 above to elevate the dispute to the individuals set forth in Section 10.2.3 above.

10.3 Mediation.

10.3.1 If, after the meeting set forth in Section 10.2.3 above, the senior representatives determine that the dispute cannot be resolved on terms satisfactory to both Parties, the Parties may mutually agree to mediate the dispute. For the avoidance of doubt, mediation is voluntary and will not be a condition precedent to the initiation of litigation. Any mediation will be based upon a process mutually agreed upon by the Parties.

10.4 Litigation.

10.4.1 Any and all legal proceedings between the Parties shall be solely and exclusively initiated and maintained in the state or federal courts of Jackson County, Missouri. Owner and Design-Builder each irrevocably consents to the jurisdiction of such courts in any such proceeding and each Party waives any objection it may have to the jurisdiction of any such proceeding. Any legal proceedings shall consist of a bench trial and not a trial by jury, and each party hereby waives its right to a jury trial in connection with any legal proceedings.

10.4.2 Notwithstanding Section 10.4.1 above, any prevailing Party may seek enforcement of any judgment rendered in a court in any jurisdiction where the non-prevailing Party or its property may be located.

10.5 Duty to Continue Performance.

10.6.1 Unless provided to the contrary in the Contract Documents, Design-Builder shall continue to perform the Work and Owner shall continue to satisfy its payment obligations to Design-Builder, pending the final resolution of any Dispute between Design-Builder and Owner.

Article 11

Stop Work and Termination Rights

11.1 Owner's Right to Stop Work.

11.1.1 Owner may, at any time, without cause and for its convenience, order Design-Builder in writing to stop and suspend the Work. Such suspension shall not exceed either sixty (60) consecutive days or in the aggregate more than one hundred twenty (120) days.

11.1.2 Design-Builder is entitled to seek an adjustment of the Contract Price and/or Contract Time(s) under Articles 8 and 9 below if its cost or time to perform the Work has been adversely impacted by any suspension or stoppage of the Work by Owner under Section 11.1.1.

11.2 Owner's Right to Perform and Terminate for Cause.

11.2.1 If Design-Builder, at any time, fails to: (a) provide a sufficient number of skilled workers; (b) supply the Equipment and Materials required by the Contract Documents; (c) comply with applicable Legal Requirements; (d) timely pay, without cause, Design Consultants or Subcontractors; (e) achieve Acceptance within one hundred eighty (180) days of the Scheduled Acceptance Date, as such date may be adjusted pursuant to Article 8 above; or (f) perform material obligations under the Contract Documents, then Owner, in addition to any other rights and remedies provided in the Contract Documents, by Legal Requirements, or at law or in equity, shall have the rights set forth in Sections 11.2.2 and 11.2.3 below, and as provided at law.

11.2.2 Upon the occurrence of an event set forth in Section 11.2.1 above, Owner may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be promptly cured, within seven (7) days of Design-Builder's receipt of such notice. If Design-Builder fails to cure, or reasonably commence and diligently continue to cure, such problem, then Owner may give a second written notice to Design-Builder of its intent to terminate within an additional seven (7) day period. If Design-Builder, within such second seven (7) day period, fails to cure, or reasonably commence and diligently continue to cure, such problem, then Owner may declare the Agreement terminated for default by providing written notice to Design-Builder of such declaration. Notwithstanding anything to the contrary, if Owner has provided Design-Builder with three (3) initial notices of Owner's intent to terminate the Agreement for any of the reasons set forth in Section 11.2.1 above, then Owner shall have no further obligation to provide Design-Builder with an opportunity to cure, and may terminate the Agreement for cause as set forth in a written notice from Owner.

11.2.3 Upon declaring the Agreement terminated pursuant to Section 11.2.2 above, Owner may enter upon the Site and take possession, for the purpose of completing the Work, of all Work Product, Equipment and Materials, construction equipment, supplies, scaffolds, tools, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which Design-Builder hereby transfers, assigns and sets over to Owner for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, Equipment and Materials, construction equipment, supplies, and other items; *provided, however*, that Owner shall not take possession of any construction equipment, supplies, scaffolds, tools, appliances and other similar items owned or rented by Design-Builder.

11.2.4 In the event of such termination, Design-Builder shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. If the unpaid balance of the Contract Price exceeds the costs of finishing the Work, including Liquidated Damages and other amounts due, Design-Builder will only be entitled to be paid for Work performed prior to its default (unless otherwise agreed to by the Parties), and the balance will be for the account of and retained by Owner. If the actual and reasonable costs of finishing the Work exceed the unpaid balance, Design-Builder shall, within thirty (30) days of receipt of written notice setting out the amount of the excess costs, pay the

difference to Owner. Such costs and expense shall include not only the reasonable cost of completing the Work (including costs to accelerate the Work as necessary to achieve Acceptance as near as possible to the Scheduled Acceptance Date), but also losses, damages, costs and expense, including reasonable attorneys' fees and expenses, incurred by Owner in connection with the re-procurement and defense of claims arising from Design-Builder's default, subject to the waiver of consequential damages and limitations of liability set forth in Article 6 of the Agreement.

11.2.5 If Owner improperly terminates the Agreement for cause, the termination for cause will be converted automatically to and treated as a termination for convenience under the provisions of Section 11.6 below.

11.3 Design-Builder's Right to Stop Work.

11.3.1 Design-Builder may, in addition to any other rights afforded under the Contract Documents or at law, stop the Work if Owner has failed to pay amounts properly due under Design-Builder's Application for Payment, *provided, however*, that amounts subject to a good faith dispute shall not be deemed properly due.

11.3.2 Should the event set forth in Section 11.3.1 above occur, Design-Builder has the right to provide Owner with written notice that Design-Builder will stop the Work unless said event is cured within seven (7) days from Owner's receipt of Design-Builder's notice. If Owner does not cure the problem within such seven (7) day period, Design-Builder may stop the Work. In such case, Design-Builder shall be entitled to make a claim for adjustment to the Contract Price and/or Contract Time(s) to the extent it incurs additional Costs of the Work or the progress of the Work has been adversely impacted by such stoppage.

11.4 Design-Builder's Right to Terminate for Cause.

11.4.1 Design-Builder, in addition to any other rights and remedies provided in the Contract Documents, may terminate the Agreement for cause for the following reasons:

(a) The Work has been stopped for sixty (60) consecutive days, or more than one hundred twenty (120) days in the aggregate, because of court order, any Government Unit having jurisdiction over the Work, failure of Owner to obtain Governmental Approvals that are Owner's responsibility under the Contract Documents, or orders by Owner under Section 11.1.1 above, provided that such stoppages are not due to the acts or omissions of Design-Builder or any DB-Related Entity; and

(b) Owner's failure to cure the problems set forth in Section 11.3.1 above within sixty (60) days after Design-Builder has stopped the Work.

11.4.2 Upon the occurrence of an event set forth in Section 11.4.1 above, Design-Builder may provide written notice to Owner that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Owner's receipt of such notice. If Owner fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to Owner of its intent to terminate within an additional seven (7) day period. If Owner, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare the Agreement terminated for default by providing written notice to Owner of such declaration. In such case, Design-Builder shall be entitled to recover in the same manner as if Owner had terminated the Agreement for its convenience under Section 11.6 below.

11.5 Bankruptcy of Owner or Design-Builder.

11.5.1 If either Owner or Design-Builder institutes or has instituted against it a case under the United States Bankruptcy Code (such Party being referred to as the "Bankrupt Party"), such event

may impair or frustrate the Bankrupt Party's ability to perform its obligations under the Contract Documents. Accordingly, should such event occur:

(a) The Bankrupt Party, its trustee or other successor, shall furnish, upon request of the non-Bankrupt Party, adequate assurance of the ability of the Bankrupt Party to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

(b) The Bankrupt Party shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action.

If the Bankrupt Party fails to comply with its foregoing obligations, the non-Bankrupt Party shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated and pursue any other recourse available to the non-Bankrupt Party under this Article 11.

11.5.2 The rights and remedies under Section 11.5.1 above shall not be deemed to limit the ability of the non-Bankrupt Party to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code or the right of Design-Builder to stop Work under any applicable provision of these General Conditions of Contract.

11.6 Owner's Right to Terminate for Convenience.

11.6.1 Design-Builder's performance of Work under the Agreement may be terminated by Owner in accordance with this Section 11.6 in whole or in part, without cause or whenever Owner shall determine that such termination is in the best interest of Owner. Any such termination shall be effected by delivery to Design-Builder of a Notice of Termination for Convenience, specifying the extent to which performance of Work under the Agreement is terminated, and the date upon which such termination becomes effective.

11.6.2 Design-Builder shall comply with instructions in the Notice of Termination for Convenience and, unless such notice directs otherwise:

(a) Immediately discontinue the Work on the date specified in such notice and to the extent specified in such notice;

(b) Place no further orders or Subcontracts except as may be necessary for completion or such portion of the Work as is not discontinued;

(c) Assign to Owner any Subcontract relating to the performance of Work that is discontinued that Owner elects in writing, at its sole election and without obligation, to have assigned to it, with Owner assuming, and Design-Builder being relieved of, all obligations under the Subcontract accruing from the date of the assignment;

(d) Promptly cancel or terminate, on terms reasonably and commercially appropriate, all Subcontracts that Owner does not elect to have assigned to Owner to the extent that such Subcontracts relate to the performance of Work that is discontinued;

(e) Complete performance of such part of the Work as shall not have been terminated by the Notice of Termination for Convenience;

(f) Take such action as may be necessary, or as Owner may direct, for the protection and preservation of the property related to the Agreement which is in the possession of Design-Builder and in which Owner has or may acquire an interest; and

(g) Deliver to Owner all Work Product produced during the period commencing on the

Agreement Date to the date of the termination, which Work Product shall, for the avoidance of doubt, become the property of Owner (except for the intellectual property set forth in Section 12.3 below), to the extent that it may not have been the property of Owner before the date of termination.

Design-Builder shall proceed immediately with the performance of the above obligations notwithstanding any delay in determining or adjusting the cost, or any item of reimbursable cost, under this Section 11.6.

11.6.3 In the event of a termination for convenience, Design-Builder shall be entitled to receive only the following with respect to the terminated portion of the Project (to the extent not previously paid or subject to a good faith dispute) as its sole and exclusive remedy for such termination:

(a) Its costs performed through the date of termination in accordance with the Schedule of Values;

(b) The reasonable costs incurred by Design-Builder in the performance of its obligations under Section 11.6.2 above directly resulting directly from such termination, including all actual and reasonable demobilization costs and amounts due in settlement of terminated Subcontracts; and

(c) A fair and reasonable Overhead and Profit Markup attributable to the Work performed on the terminated portion of the Work up to the time of termination.

Design-Builder shall not be entitled to recover any overhead costs or profit on unperformed portions of the Work. In no case shall Design-Builder or any DB-Related Entity be entitled to anticipatory or unearned profits, unabsorbed overhead, opportunity costs, or consequential or other damages as a result of a termination for convenience under this Section 11.6.

11.6.4 The obligation of Owner to pay amounts due in settlement of Subcontracts under Section 11.6.3 above shall be limited to the reasonable costs incurred by Design-Builder in settling and closing out Subcontracts that Owner does not elect to have assigned to it under Section 11.6.3 above and shall be subject to cost substantiation. Any convenience termination settlement payment under any Subcontract shall be calculated in the same manner as provided in Section 11.6.3 above with respect to the convenience termination settlement payment to Design-Builder.

11.6.5 The total sum to be paid to Design-Builder under Section 11.6.3 above shall not exceed the total Contract Price as reduced by the amount of payments otherwise made and as further reduced by the price of Work not terminated.

Article 12

Ownership of Work Product

12.1 Ownership of Work Product

12.1.1 Owner shall own all rights, title and interest in the Work Product upon its receipt of such Work Product. Owner's ownership rights, include without restriction or limitation, the right of Owner, and anyone contracting with Owner, to incorporate any ideas or information from the Work Product into: (a) any other contract awarded in reference to the Project; or (b) any subsequent procurement by Owner on another project. The rights conferred herein to Owner include, without limitation, Owner's ability to use the Work Product without the obligation to notify or seek permission from Design-Builder.

12.2 Use of Work Product at Owner's Risk

12.2.1 Owner's use of the Work Product on any subsequent procurement by Owner on another project shall be at Owner's sole risk, and Design-Builder neither warrants nor represents that the

Work Product is suitable for use on another project without modification. Owner waives any rights to seek recovery from Design-Builder for any claims, damages, liabilities, losses and expenses arising out of or resulting from Owner's use of the Work Product on another project.

12.3 Pre-Existing Intellectual Property

12.3.1 Owner acknowledges and agrees that in the performance of the Work hereunder Design-Builder will use Pre-Existing Intellectual Property. Design-Builder shall retain all right, title and interest in Pre-Existing Intellectual Property. Design-Builder hereby grants to Owner licenses to the Pre-Existing Intellectual Property on a non-exclusive, cost free, irrevocable, perpetual basis for use by Owner. Owner shall not license, transfer or otherwise make available Pre-Existing Intellectual Property to any third-party without the written consent of Design-Builder, which consent is hereby granted for purposes of completing, operating, maintaining or repairing the Project following the termination or completion of this Agreement. Owner's use of any such Pre-Existing Intellectual Property for purposes other than in connection with the Project shall be at its own risk and Design-Builder shall have no liability therefor.

Article 13 **Electronic Data**

13.1 Electronic Data.

13.1.1 The Parties recognize that Contract Documents, including drawings, specifications and three-dimensional modeling (such as Building Information Models) and other Work Product may be transmitted among Owner, Design-Builder and others in electronic media as an alternative to paper hard copies (collectively "Electronic Data").

13.2 Transmission of Electronic Data.

13.2.1 Owner and Design-Builder shall agree upon the software and the format for the transmission of Electronic Data. Each Party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

13.2.2 Neither Party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work Product. Unless specifically set forth in the Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

13.2.3 By transmitting Work Product in electronic form, the transmitting Party does not transfer or assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article 12 above. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting Party of tangible goods.

13.3 Electronic Data Protocol.

13.3.1 The Parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error. Consequently, the Parties understand that there is some level of increased risk in the use of Electronic Data for the communication of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and Design Consultants to agree, to the following protocols, terms and conditions set forth in this Section 13.3.

13.3.2 Electronic Data will be transmitted in the format agreed upon in Section 13.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

13.3.3 The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the Parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall also address the duty, if any, to update such information, data or other information contained in the electronic media if such information changes prior to Final Completion of the Project.

13.3.4 The transmitting Party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving Party, and the transmitting Party did not participate in such change or alteration.

Article 14

Retention and Owner's Access to Books and Records

14.1 Owner's Right to Examine, Copy and Audit.

14.1.1 Owner shall have the right to examine, copy and audit all Books and Records in connection with Work to be performed on a Cost of the Work or similar basis, including adjustments for Compensable Delays under Section 9.8.3 and disputes. In the event that Design-Builder is a joint venture, said right to examine, copy and audit shall apply collaterally and to the same extent to the Books and Records of the joint venture sponsor, and those of each individual joint venture member. No audit rights shall extend to any lump-sum amount or unit price once the parties have agreed upon such amount or price, except to the extent such audit rights are required under applicable Legal Requirements.

14.1.2 Upon written notice by Owner, Design-Builder immediately shall make available at its office at all reasonable times the Books and Records for examination, audit, or reproduction. Notice shall be in writing, delivered by hand or by certified mail, and shall provide not fewer than five (5) days' notice of the examination and/or audit. Owner may take possession of such Books and Records by reproducing such Books and Records for off-site review or audit. When requested in Owner's written notice of examination and/or audit, Design-Builder shall provide Owner with copies of electronic and electronically stored Books and Records in a reasonably usable format that allows Owner to access and analyze all such Books and Records. For Books and Records that require proprietary software to access and analyze, Design-Builder shall provide Owner with two licenses with maintenance agreements authorizing Owner to access and analyze all such Books and Records. If Design-Builder is unable to provide the licenses, Design-Builder shall provide Owner with access to Design-Builder's project accounting system whereby Owner can obtain applicable Books and Records, including job cost reports, material distribution reports, labor cost reports, labor productivity reports, standard time/overtime analysis reports, manhour reports, and the like.

14.1.3 Owner has sole discretion as to the selection of an examiner or auditor and the scope of the examination or audit.

14.1.4 Design-Builder shall preserve all of its Books and Records, and Owner may examine, audit, or reproduce the Books and Records, from the Agreement Date until the later of three (3) years after: (a) final payment under this Contract; (b) final settlement of a termination for convenience under Section 12.2; or, in the event of litigation between the Parties, (c) the final resolution of any such litigation.

14.1.5 Failure by Design-Builder to make available to Owner its Books and Records or Design-Builder's refusal to cooperate with a notice of audit shall be deemed a material breach of the Contract and grounds for termination.

14.1.6 Design-Builder shall insert a clause containing all the provisions of this Article 14 in all Subcontracts over \$10,000.

Article 15 **Miscellaneous**

15.1 Confidential Information.

15.1.1 Confidential Information is defined as information which is determined by the transmitting Party to be of a confidential or proprietary nature and: (a) the transmitting Party identifies as either confidential or proprietary; (b) the transmitting Party takes steps to maintain the confidential or proprietary nature of the information; and (c) the document is not otherwise available in or considered to be in the public domain, and was not available to the receiving Party prior to its disclosure on a non-confidential basis (provided that the source of the information is not known by the receiving Party to be bound by a confidentiality agreement or otherwise prohibited from transmitting such information by a contractual, legal or fiduciary duty), or was not independently developed by the receiving Party without the use of any Confidential Information by the disclosing Party. The receiving Party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with the Project.

15.1.2 Design-Builder may share Confidential Information with the other DB-Related Entities as appropriate for the procurement and execution of the Work.

15.1.3 The confidentiality obligations herein shall expire within three (3) years of the Final Completion Date.

15.2 Assignment.

15.2.1 Neither the Agreement nor any right, privilege, delegation, or interest thereunder may be assigned or transferred in whole or in part by Owner or Design-Builder without the prior written consent of the other Party, and any attempted assignment or transfer without such written consent shall be void, except as set forth in Section 15.2.2 below.

15.3 Successorship.

15.3.1 Design-Builder and Owner intend that the provisions of the Contract Documents are binding upon the Parties, their employees, agents, heirs, successors and permitted assigns.

15.4 Governing Law.

15.4.1 This Agreement and all Contract Documents shall be governed by the laws of Missouri, without giving effect to its conflict of law principles or any provision of the laws of Missouri that would void or make unenforceable any waiver, release or limitation on liability or remedies set forth in or required by this Agreement or the Contract Documents.

15.5 Severability.

15.5.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were

deleted.

DRAFT

15.6 Third Party Rights.

15.6.1 Except as set forth below, this Agreement is exclusively for the benefit of Owner and Design-Builder and shall not provide any third parties with any remedy, claim, liability, reimbursement, cause of action or other rights. Notwithstanding the above, it is understood and agreed that: (a) Owner is an intended third-party beneficiary of all Subcontracts; (b) Owner Indemnitees are intended beneficiaries of the indemnification rights afforded to them under the Contract Documents; and (c) nothing shall impair the rights of any DB-Related Entity to seek recovery under Builder's Risk Insurance.

15.7 No Waiver.

15.7.1 The failure of either Design-Builder or Owner to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

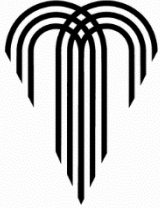
15.8 Headings.

15.8.1 The headings used in these General Conditions of Contract, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

15.9 Amendments.

15.9.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each Party.

END OF GENERAL CONDITIONS OF CONTRACT



CONTRACTOR UTILIZATION PLAN/REQUEST FOR WAIVER

Project Number _____

Project Title _____

(Department Project)

Department

(Bidder/Proposer)

STATE OF _____)

) ss

COUNTY OF _____)

I, _____, of lawful age and upon my oath state as follows:

1. This Affidavit is made for the purpose of complying with the provisions of the MBE/WBE submittal requirements on the above project and the MBE/WBE Program and is given on behalf of the Bidder/Proposer listed below. It sets out the Bidder/Proposer's plan to utilize MBE and/or WBE contractors on the project.
2. The project target goals are _____% MBE and _____% WBE.
3. Bidder/Proposer assures that it will utilize a minimum of the following percentages of MBE/WBE participation in the above project:

| **BIDDER/PROPOSER PARTICIPATION:** _____% MBE _____% WBE

| **POST-BID/POST-RFP ESTIMATED BUDGET:** \$ _____

4. The following are the M/WBE subcontractors whose utilization Bidder/Proposer warrants will meet or exceed the above-listed Bidder/Proposer Participation. Bidder/Proposer warrants that it will utilize the M/WBE subcontractors to provide the goods/services described in the applicable Letter(s) of Intent to Subcontract, copies of which shall collectively be deemed incorporated herein. (*All firms must currently be certified by Kansas City, Missouri*)

| Name of M/WBE Firm _____

Address _____

Telephone No. _____

I.R.S. No. _____



Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

Name of M/WBE Firm _____
 Address _____
 Telephone No. _____
 I.R.S. No. _____

(List additional M/WBEs, if any, on additional page and attach to this form)

4. The following is a breakdown of the percentage of the total contract amount that Bidder/Proposer agrees to pay to each listed M/WBE:

MBE/WBE BREAKDOWN SHEET

MBE FIRMS:

Name of MBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____



TOTAL MBE \$ / TOTAL MBE %: \$ _____ %

WBE FIRMS:

Name of WBE Firm	Supplier/Broker/Contractor	Subcontract Amount*	Weighted Value**	% of Total Contract
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

TOTAL WBE \$ / TOTAL WBE %: \$ _____ %

*“Subcontract Amount” refers to the dollar amount that Bidder/Proposer has agreed to pay each M/WBE subcontractor as of the date of contracting and is indicated here solely for the purpose of calculating the percentage that this sum represents in proportion to the total contract amount. Any contract amendments and/or change orders changing the total contract amount may alter the amount due an M/WBE under their subcontract for purposes of meeting or exceeding the Bidder/Proposer participation.

**“Weighted Value” means the portion of the subcontract amount that will be credited towards meeting the Bidder/Proposer participation. See CREO KC Forms and Instructions for allowable credit and special instructions for suppliers.

- Bidder/Proposer acknowledges that the monetary amount to be paid each listed M/WBE for their work, and which is approved herein, is an amount corresponding to the percentage of the total contract amount allocable to each listed M/WBE as calculated in the MBE/WBE Breakdown Sheet. Bidder/Proposer further acknowledges that this amount may be higher than the subcontract amount listed therein as change orders and/or amendments changing the total contract amount may correspondingly increase the amount of compensation due an M/WBE for purposes of meeting or exceeding the Bidder/Proposer participation



6. Bidder/Proposer acknowledges that it is responsible for considering the effect that any change orders and/or amendments changing the total contract amount may have on its ability to meet or exceed the Bidder/Proposer participation. Bidder/Proposer further acknowledges that it is responsible for submitting a Request for Modification or Substitution if it will be unable to meet or exceed the Bidder/Proposer participation set forth herein.
7. If Bidder/Proposer has not achieved both the M/WBE goal(s) set for this Project, Bidder/Proposer hereby requests a waiver of the MBE and/or WBE goal(s) that Bidder/Proposer has failed to achieve
8. Bidder/Proposer will present documentation of its good faith efforts, a narrative summary detailing its efforts and the reasons its efforts were unsuccessful when requested by the City.
9. I hereby certify that I am authorized to make this Affidavit on behalf of the Bidder/Proposer named below and who shall abide by the terms set forth herein:

Bidder/Proposer primary contact: _____

Address: _____

Phone Number: _____

Facsimile number: _____

E-mail Address: _____

By: _____

Title: _____

Date: _____

(Attach corporate seal if applicable)

Subscribed and sworn to before me this _____ day of _____, 20____.

My Commission Expires: _____

Notary Public





LETTER OF INTENT TO SUBCONTRACT

Check one:	
Original LOI:	<input type="checkbox"/>
Updated LOI:	<input type="checkbox"/>

Project Name/Title _____
 Project Location/Number _____

PART I: Prime Contractor _____ agrees to enter into a contractual agreement with M/W/DBE Subcontractor _____ who will provide the following goods/services in connection with the above-reference contract: [Insert a brief narrative describing goods/services to be provided. Broad Categorizations (e.g., "electrical," "plumbing," etc.) or the listing of NAICS Codes in which M/W/DBE Subcontractor is certified are insufficient and may result in denial of this Letter of Intent to Subcontract.]

for an estimated amount of \$ _____ (or _____ % of the total estimated contract value.)

- M/WBE Vendor type:
- Subcontractor/manufacturer (counts as 100% of contract value towards goals)
 - Supplier (counts as 60% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)
 - Broker (counts as 10% of the total dollar amount paid or to be paid by a prime contractor for supplies or goods towards goals)

M/W/DBE Subcontractor is, to the best of Prime Contractor's knowledge, currently certified with the City of Kansas City's Civil Rights & Equal Opportunity Department to perform in the capacities indicated herein. Prime Contractor agrees to utilize M/W/DBE Subcontractor in the capacities indicated herein, and M/W/DBE Subcontractor agrees to work on the above-referenced contract in the capacities indicated herein, contingent upon award of the contract to Prime Contractor.

PART 2: This section is to be completed by the M/W/DBE subcontractor listed above. Please attach additional sheets as needed for more than one intended sub-tier contract. **IMPORTANT: Falsification of this document will result in denial and other remedies available under City Code.**

- Select one:
- The M/W/DBE Subcontractor listed above **IS NOT** subcontracting any portions of the above-stated scope of work(s). (Continue to Part 3.)
 - The M/W/DBE Subcontractor listed above **IS** subcontracting certain portions of the above stated scope of work(s) to:

(1) Company name: _____

Full address: _____
Street number and name City, State and Zip Code

Primary contact: _____
Name Phone

a) This subcontractor is (select one): MBE WBE DBE N/A

- i: If this subcontractor is an M/W/DBE certified with the City of Kansas City, Missouri, a separate Letter of Intent must be attached to this document.
- ii. If this subcontractor is NOT a certified M/W/DBE certified with the City of Kansas City, Missouri, the firm must still be listed for reporting purposes but a Letter of Intent is not required.

b) Scope of work to be performed: _____

c) The dollar value of this agreement is: _____





REQUEST FOR MODIFICATION OR SUBSTITUTION

(This Form **must** be submitted to CREO KC to request substitutions for an MBE/WBE listed in the Contractor Utilization Plan or for modification of the amount of MBE/WBE participation listed in the Contractor Utilization Plan. This Form shall be an amendment to the Contractor Utilization Plan.)

BIDDER/PROPOSER/CONTRACTOR: _____

ADDRESS: _____

PROJECT NUMBER OR TITLE: _____

AMENDMENT/CHANGE ORDER NO: (if applicable) _____

Project Goals:	_____ % MBE	_____ % WBE
Contractor Utilization Plan:	_____ % MBE	_____ % WBE

1. I am the duly authorized representative of the above Bidder/Contractor/Proposer and am authorized to request this substitution or modification on behalf of the Bidder/Contractor/Proposer.

2. I hereby request that the Director of CREO KC recommend or approve: (check appropriate space(s))

a. ____ A substitution of the certified MBE/WBE firm _____,
(Name of new firm)
 to perform _____,
(Scope of work to be performed by new firm)

for the MBE/WBE firm _____ which is currently
(Name of old firm)
 listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan to
 perform the following scope of work: _____.
(Scope of work of old firm)

b. ____ A modification of the amount of MBE/WBE participation currently listed on the Bidder's/Contractor's/Proposer's Contractor Utilization Plan from
 _____ % MBE _____ % WBE *(Fill in % of MBE/WBE Participation currently listed on Contractor Utilization Plan)*

TO

_____ % MBE _____ % WBE *(Fill in New % of MBE/WBE Participation requested for Contractor Utilization Plan)*

- c. Attach 00450.01 Letter of Intent to Subcontract letter for each new MBE/WBE to be added.
- d. Attach a copy of the most recent 00485.01 or on-line M/WBE Monthly Utilization Report

3. Bidder/Contractor/Proposer states that a substitution or modification is necessary because: (check applicable reason(s))



___The MBE/WBE listed on the Contractor Utilization Plan is non-responsive or cannot perform.

___The MBE/WBE listed on the Contractor Utilization Plan has increased its previously quoted price without a corresponding change in the scope of work.

___The MBE/WBE listed on the Contractor Utilization Plan has committed a material default or breach of its contract.

___Requirements of the scope of work of the contract have changed and make subcontracting not feasible or not feasible at the levels required by the goals established for the contract.

___The MBE/WBE listed on the Contractor Utilization Plan is unacceptable to the City contracting department.

___Bidder/Contractor/Proposer has not attempted intentionally to evade the requirements of the Act and it is in the best interests of the City to allow a modification or substitution.

4. The following is a narrative summary of the Bidder's/Contractor's/Proposer's good faith efforts exhausted in attempts to substitute the MBE/WBE firm named above which is currently listed on the Contractor Utilization Plan with other qualified, certified MBE/WBE firms for the listed scope of work or any other scope of work in the project:

5. Bidder/Proposer/Contractor will present documentation when requested by the City to evidence its good faith efforts.

Dated: _____

(Bidder/Proposer/Contractor)

By: _____
(Authorized Representative)





AFFIDAVIT OF TRAINING PROGRAM

This form must be submitted with 48 hours of Bid Opening

Bidder _____

Project Title and Number _____

STATE OF MISSOURI)

) ss:

COUNTY OF _____)

After being duly sworn the person whose name and signature appears below hereby states under penalty of perjury that:

1. I am the duly authorized officer of the business indicated above ("Bidder") and I make this affidavit on behalf of Bidder.
2. Bidder certifies that it presently participates in a training program that facilitates entry into the construction industry and which may include an on-the-job or in-house training program, further described as follows:

(attach additional pages, if necessary)

3. If requested by the City, Bidder agrees to provide City further documentation of, or other information about, this training program within 48 hours of the request.
4. Bidder acknowledges that failure to submit this form to the City within 48 hours of the Bid Opening will automatically render its bid non-responsive.

I am authorized to make this Affidavit on behalf of the Bidder named below as:

_____ of _____
(Title) (Name of Bidder)

Dated: _____ By: _____
(Affiant)

Subscribed and sworn to before me this ____ day of _____, 20____.

My Commission Expires: _____
Notary Public





PERFORMANCE AND MAINTENANCE BOND

Project Number **81000984/1638**

Project Title **Blue River Screen House Project**

KNOW ALL MEN BY THESE PRESENTS: That _____, as PRINCIPAL (CONTRACTOR), and _____, (SURETY), licensed to do business as such in the State of Missouri, hereby bind themselves and their respective heirs, executors, administrators, successors, and assigns unto Kansas City, Missouri, a constitutionally chartered municipal corporation, (OWNER), as obligee, in the penal sum of _____ Dollars (\$ _____) for the payment whereof CONTRACTOR and SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

CONTRACTOR has entered into a Contract with OWNER for **Project/Contract Numbers 81000984/1638, Blue River Screen House Project**, which Contract, including any present or future amendment thereto, is incorporated herein by reference and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if CONTRACTOR shall promptly and faithfully perform said Contract including all duly authorized changes thereto, and including any maintenance requirements contained therein, according to all the terms thereof, including those under which CONTRACTOR agrees to pay legally required wage rates including the prevailing hourly rate of wages in the locality, as determined by the Department of Labor and Industrial Relations or by final judicial determination, for each craft or type of workman required to execute the Contract and, further, shall defend, indemnify, and hold harmless OWNER from all damages, including but not limited to, liquidated damages, loss and expense occasioned by any failure whatsoever of said CONTRACTOR and SURETY to fully comply with and carry out each and every requirement of the Contract, then this obligation shall be void; otherwise, it shall remain in full force and effect.

WAIVER. That SURETY, for value received, hereby expressly agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder, shall in any way affect the obligations of this Bond; and it does hereby waive notice of any such change, extension of time, or alteration or addition to the terms of the Contract or the Work to be performed thereunder.

IN WITNESS WHEREOF, the above parties have executed this instrument the ____ day of _____, 20__.

CONTRACTOR

Name, address and facsimile number of Contractor

I hereby certify that I have authority to execute this document on behalf of Contractor.

By: _____
Title: _____

(Attach corporate seal if applicable)

SURETY

Name, address and facsimile number of Surety:

I hereby certify that (1) I have authority to execute this document on behalf of Surety; (2) Surety has an A.M. Best rating of A-, V, or better; (3) Surety is named in the current list of "Companies Holding Certificates of Authority as Acceptable Reinsuring Companies: as published in Circular 570 (most current revision) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury; and (4) Surety is duly licensed to issue bonds in the State of Missouri and in the jurisdiction in which the Project is located.

By: _____
Title: _____
Date: _____

(Attach seal and Power of Attorney)



PAYMENT BOND

Project Number **81000984/1638**

Project Title **Blue River Screen House Project**

KNOW ALL MEN BY THESE PRESENTS: That _____, as PRINCIPAL (CONTRACTOR), and _____, (SURETY), licensed to do business as such in the State of Missouri, hereby bind themselves and their respective heirs, executors, administrators, successors, and assigns unto Kansas City, Missouri, a constitutionally chartered municipal corporation, (OWNER), as obligee, in the penal sum of _____ Dollars (\$_____) for the payment whereof CONTRACTOR and SURETY bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

CONTRACTOR has entered into a contract with OWNER for **Project/Contract Numbers 81000984/1638, Blue River Screen House Project**, which Contract, including any present or future amendment thereto, is incorporated herein by reference and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if in connection with the Contract, including all duly authorized modifications thereto, prompt payment shall be made to all laborers, subcontractors, teamsters, truck drivers, owners or other suppliers or for equipment employed on the job, and other claimants, for all labor performed in such work whether done for CONTRACTOR, a subcontractor, SURETY, a completion contractor or otherwise (at the full wage rates required by any law of the United States or of the State of Missouri, where applicable), for services furnished and consumed, for repairs on machinery, for equipment, tools, materials, lubricants, oil, gasoline, water, gas, power, light, heat, oil, telephone service, grain, hay, feed, coal, coke, groceries and foodstuffs, either consumed, rented, used or reasonably required for use in connection with the construction of the work or in the performance of the Contract and all insurance premiums, both for compensation and for all other kinds of insurance on the work, for sales taxes and for royalties in connection with, or incidental to, the completion of the Contract, in all instances whether the claim be directly against CONTRACTOR, against SURETY or its completion contractor, through a subcontractor or otherwise, and, further, if CONTRACTOR shall defend, indemnify and hold harmless OWNER from all such claims, demands or suits by any such person or entity, then this obligation shall be void; otherwise, it shall remain in full force and effect.

Any conditions legally required to be included in a Payment Bond on this Contract, including but not limited to those set out in §107.170 RSMo. are included herein by reference.

SURETY agrees that, in the event that CONTRACTOR fails to make payment of the obligations covered by this Bond, it will do so and, further, that within forty-five (45) days of receiving, at the address given below, a claim hereunder stating the amount claimed and the basis for the claim in reasonable detail, it (a) will send an answer to the claimant, with a copy to OWNER stating the amounts that are undisputed and the basis for challenging any amounts that are disputed, and (b) will pay any amounts that are undisputed. The amount of this Bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder.

While this Bond is in force, it may be sued on at the instance of any party to whom any such payment is due, in the name of OWNER to the use for such party. OWNER shall not be liable for the payment of any costs or expenses of any such suit.

No suit shall be commenced or pursued hereunder other than in a state court of competent jurisdiction in Jackson, Clay or Platte County, Missouri, or in the United States District Court for the Western District of Missouri.

WAIVER. That SURETY, for value received, hereby expressly agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the Work to be performed thereunder, shall in any way affect the obligations of this Bond; and it does hereby waive notice of any such change, extension of time, or alteration or addition to the terms of the Contract or the Work to be performed thereunder.

IN WITNESS WHEREOF, the above parties have executed this instrument the _____ day of _____, 20_____.

CONTRACTOR

Name, address and facsimile number of Contractor

I hereby certify that I have authority to execute this document on behalf of Contractor.

By: _____
Title: _____

(Attach corporate seal if applicable)

SURETY

Name, address and facsimile number of Surety:

I hereby certify that (1) I have authority to execute this document on behalf of Surety; (2) Surety has an A.M. Best rating of A- or better; (3) Surety is named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (most current revision) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury; and(4) Surety is duly licensed to issue bonds in the State of Missouri and in the jurisdiction in which the Project is located.

By: _____
Title: _____
Date: _____

(Attach seal and Power of Attorney)

SECTION 01110 – SUMMARY OF WORK

PART 1 GENERAL

1.01 LOCATION OF WORK

- A. The work of this Contract is located at Blue River WWTP at 7300 Hawthorne Road, Kansas City, MO 64120.

1.02 SCOPE OF WORK

- A. Furnish all labor, materials, equipment and incidentals required and construct the Blue River Screen House Project in its entirety as shown on the Drawings and as specified herein for a fully functioning system within the project budget.
- B. The Work includes, but is not necessarily limited to, the following:
 - 1. Demolition and removal of existing equipment as indicated and necessary for the construction of the project including the chain and rake bar screens, out-of-service piping and appurtenances.
 - 2. Design and Construction of channel separation system including the forebay, slide gates, channel modifications, and the afterbay. Channel separation system will be designed and constructed to prevent flows from one channel bypassing the flows of any other individual channel. Modifications to allow even distribution of screenings and grit to each channel.
 - 3. Furnishing and installation of multi-rake screens and associated fittings including modifications to existing facility needed to accommodate current flows, anticipated 2035 flows, installation and removal of multi-rake screens via roof access.
 - 4. ~~Furnishing and installation of re-routing Westside line from the afterbay of the Blue River Screen House to upstream of the forebay of the Blue River Screen House. Line re-route shall be designed with a hydraulic analysis and built to accommodate unidirectional flow flowing into the Screen House^{AD4}~~
 - 5. Furnishing and installation of new conveyance system for the transport of screenings from the discharge of multi-rake screens to the building dumpster.
 - 6. Furnishing and installation of new building appurtenances as required for the installation of the multi-rake screens. Building appurtenances may include but not necessarily limited to doors, windows, wall penetrations, roof skylights, handrails, guardrails, safety gates, floor plates, and wall panels.
 - 7. Electrical modifications including demolition and replacement of existing electrical equipment, coordination with the electrical utility, and installation of power and control to all new equipment as shown on the Drawings. Instrumentation as required for H2S detection at Blue River Screen House and near Parshall flume.
 - 8. Furnish and install HVAC system upgrades for Blue River Screen House facility and/or may include removal of parshall flume roof for increased ventilation/air changes per hour entering Blue River Screen House.

1.03 WORK SEQUENCE

- A. Perform Work in sequence as indicated in the contract documents to ensure completion of the Work in the Contract Time. Completion dates of the various stages shall be in accordance with the approved construction schedule submitted by the Contractor or Design-Builder.

1.04 CONTRACTOR'S USE OF PREMISES

- A. Contractor shall limit the use of the premises for his/her Work and for storage to allow for:
 - 1. Work by other agencies.
 - 2. Owner occupancy.
 - 3. Public use.
- B. Coordinate use of premises with Owner.
- C. Contractor shall assume full responsibility for security of all his/her and his/her subcontractors materials and equipment stored on the site.
- D. If directed by the Owner, move any stored items which interfere with operations of Owner or other contractors.
- E. Obtain and pay for use of additional storage or work areas if needed to perform the Work.

1.05 OWNER OCCUPANCY

- A. Owner will occupy premises during performance of the work for the conduct of his/her normal operations. Coordinate all construction operations with Owner to minimize conflict and to facilitate Owner usage.

1.06 CONSTRUCTION COORDINATION

- A. Activities by Others which may affect performance of the Work:

~~1. CITY will use an existing IDIQ contract for dewatering of channels.~~^{AD7}

- 1. The following items designed or specified by Design-Builder shall be constructed by issuing Purchase Orders for CITY's existing IDIQ contracts for the following items:
 - a. Dewatering of channels
 - b. Roof work including modification and/or repair
 - c. HVAC work including equipment installation, equipment modification, ductwork and conveyance installation and/or modification and;
 - d. Instrumentation and Controls Work including wiring, programming and commissioning.^{AD7}

- B. Contractor shall coordinate with the Owner regarding scheduling and sequence of work.

END OF SECTION



SUBCONTRACTORS AND MAJOR MATERIAL SUPPLIERS LIST

Project Number 81000984 Project Title Blue River Screen House Project

From Contractor _____ To _____ Date _____

Spec. No.	Section Title	4	Firm, Address (Check box if Supplier)	Phone, FAX and e-mail	Contact

Attachments:

Signed by: _____ Date _____

Distribution: Owner Design-Builder Contractor Construction Manager Design Professional Consultant Other

SECTION 01335 –DOCUMENT MANAGEMENT

PART 1 - GENERAL

1.01 SUMMARY

- A. An internet-based coordination and document management systems (DMS), e-builder & B2G, will be used for the Project. This system will be used to manage project documentation among the City (and/or Designee) , Contractor (or Design-Builder) and Engineer of Record. The Contractor or Design-Builder shall utilize the document management system for all project related correspondence and documentation.
- B. The DMS will be utilized to create, track and organize project documentation (City’s Representative will provide the exceptions), including, but not limited to, the following:
 - 1. Schedules.
 - 2. Applications for Payment.
 - 3. Meeting minutes with action items.
 - 4. Project correspondence.
 - 5. Shop Drawing and Sample(s) Submittals.
 - 6. Transmittals.
 - 7. Change Management:
 - (a) General Contractor Requests for Interpretation.
 - (b) Proposal Requests.
 - (c) Work Change Directives. (Storage only)
 - (d) Change Orders.
 - 8. Reporting:
 - (a) Certified Payroll Report. (B2G)
 - (b) Subcontractors and Major Material Suppliers List. (B2G)
 - (c) Daily Labor Force Reports. (B2G)
 - (d) Daily Inspection Reports.
 - (e) Photographs and Video.
 - (f) Certificate of Achievement of Full Operation.
 - (g) Contractor Affidavit for Final Payment.
 - (h) Subcontractor Affidavit for Final Payment.
 - (i) Punch Lists.
 - 9. Notifications:
 - (a) Correction of Defective Work.
 - (b) Notification of Non-Compliant Work.

1.02 RELATED SECTIONS

- A. General Conditions of Contract Between Owner and Design-Builder
- B. Section 01300 – Submittals.

1.03 COORDINATION MEETING

- A. Prior to the pre-construction conference, the City will facilitate a meeting with the Contractor or Design-Builder to review requirements for project coordination, document control and use of the DMS. The meeting should be scheduled to allow

- the Contractor or Design-Builder time to submit the initial project correspondence, other requirements and preliminary schedules in accordance with General Conditions
- B. At this meeting, the City will present the procedures to be used for document management for the Project.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

Not used.

END OF SECTION

SECTION 01352 – SELECTIVE ALTERATIONS AND DEMOLITION

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes:
1. Cutting or modifying existing or new work.
 2. Partial demolition of structures.

1.02 REFERENCES

- A. American National Standards Institute (ANSI):
1. A10.6 - Safety and Health Program Requirements for Demolition Operations.
- B. International Concrete Repair Institute (ICRI):
1. Guideline No. 310.2R - Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair.
 2. Guideline No. 310.3R - Guide for the Preparation of Concrete Surfaces for Repair Using Hydro Demolition Methods.

1.03 RELATED SECTIONS

- A. General Conditions of Contract Between Owner and Design-Builder
- B. Section 01020 – Record Documents.
- C. Section 01140 – Work Restrictions.
- D. Section 01300 – Submittals.
- E. Section 01329 – Safety Plan.
- F. Section 01354 – Hazardous Material Procedures.
- G. Section 01566 – Cleanup Operations.
- H. Section 01580 – Project Signs.
- I. Section 02300 – Earthwork.

1.04 DEFINITIONS

- A. Chipping hammer: A hand-operated electrical or pneumatic demolition device for removal of hardened concrete or masonry materials having a weight of less than 15 pounds and an impact frequency of greater than 2,000 blows/minute.
- B. Concrete breaker: A hand-operated electrical or pneumatic demolition device for removal of hardened concrete or masonry materials having a weight greater or impact frequency less than the limits defined for a chipping hammer.
- C. Coring equipment: Non-impact rotary drill with diamond cutting edges.
- D. Heavy abrasive blast: Cleaning procedure by which various abrasives materials, or steel shot, are forcibly propelled by high pressure against a surface to remove loose material and produce a concrete surface roughened to ICRI Surface Profile CSP-7, or higher, as specified in ICRI 301.3R.
- E. Salvage materials: Materials removed from existing facility.

1.05 DESCRIPTION OF WORK

- A. The work includes partial demolition, cutting, and modifying of existing facilities, utilities, and/or structures.
- B. These facilities may be occupied and/or operational. Satisfactory completion of the work will require that the Contractor plan activities carefully to work around unavoidable obstacles and to maintain overall stability of structures and structural elements. It will further require restoration of existing facilities, utilities, and structures that are to remain in place and that are damaged by demolition or removal operations.

1.06 SUBMITTALS

- A. General:
 - 1. Submit as specified in Section 01300 - Submittals.
- B. Shop drawings include:
 - 1. Demolition Plan outlining the proposed sequence of events and procedures to be utilized for any demolition activities required as part of the Work. This plan shall include a plan for proper notification of Owner and other affected parties relative to the respective Work.
 - 2. The location of all embedded items shall be documented using diagrams and/or other media that clearly show dimensions and locations of existing structural elements, existing embedded items, and any new embedded items and their relationship to each other.
- C. Submittals for information only:
 - 1. Permits and notices authorizing demolition.
 - 2. Certificates of severance of utility services.
 - 3. Permit for transport and disposal of debris.
- D. Quality assurance submittals:
 - 1. Qualifications of non-destructive testing agency/agencies.
- E. Project record documents.
- F. Drawings and/or other media documenting locations of service lines and capped utilities.

1.07 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Assign relocation, removal, cutting, coring, and patching to trades and workers qualified to perform the Work in a manner that causes the least damage and that provides means of returning surfaces to an appearance at least equal to that of the surrounding areas unaffected by the Work.
 - 2. Non-destructive testing agencies shall have a minimum of 5 years' experience performing non-destructive testing for location of steel reinforcement in existing concrete under conditions that are similar to that required for this Work.

1.08 SEQUENCING

- A. Perform Work in sequences and within times specified in Section 01140 - Work Restrictions.
- B. If the facility or utility to be modified cannot be removed from service, perform the Work while the facility is in operation using procedures and equipment that do not jeopardize operation or materially reduce the efficiency of that facility.
- C. Coordinate the Work with operation of the facility:

1. Do not begin alterations of designated portions of the Work until specific permission for activities in each area has been granted by Owner in writing.
 2. Engineer will coordinate the planned procedure with facility manager.
 3. Complete Work as quickly and with as little delay as possible.
- D. Operational functions of the facility that are required to be performed to facilitate the Work will be performed by facility personnel only.
- E. Owner will cooperate in every way practicable to assist in expediting the Work.
- F. When necessary for the proper operation or maintenance of portions of the facility, reschedule operations so the Work will not conflict with required operations or maintenance.

1.09 REGULATORY REQUIREMENTS

- A. Dispose of debris in accordance with governing regulatory agencies.
- B. Comply with applicable air pollution control regulations.
- C. Obtain permits for building demolition, transportation of debris to disposal site and dust control.

1.10 PREPARATION

- A. Non-destructive evaluation of existing concrete and masonry:
 1. Prior to cutting, drilling, coring, and/or any other procedure that penetrates existing concrete [or masonry], retain and pay for the services of a qualified non-destructive testing agency to perform investigations to determine the location of existing steel reinforcement, plumbing, conduit, and/or other embedment's in the concrete.
 2. Submit documentation of the investigations to the Engineer for review and approval as specified in Section 01300 - Submittals before any work involving penetration of existing concrete is initiated.
- B. Obtain permission from adjacent property owners, including railroads, when outriggers, swinging cranes, and other equipment may have to traverse or extend into adjacent property.

1.11 PROJECT CONDITIONS

- A. Do not interfere with use of adjacent structures and elements of the facility not subject to the Work described in this Section. Maintain free and safe passage to and from such facilities or adequate barriers to prevent unsafe passage.
- B. Provide, erect, and maintain barricades, lighting, guardrails, and protective devices as required to protect building occupants, general public, workers, and adjoining property:
 1. Do not close or obstruct roadways without permits.
 2. Conduct operations with minimum interference to public or private roadways.
- C. Prevent movement, settlement, or collapse of structures adjacent services, sidewalks, driveways and trees:
 1. Provide and place bracing or shoring.
 2. Cease operations and notify Engineer immediately when safety of structures appears to be endangered. Take precautions to properly support structure. Do not resume operations until safety is restored.
 3. Assume liability for movement, settlement, or collapse.

4. Promptly repair damage.
- D. Provide and arrange for capping and plugging utility services. Disconnect and stub off.
1. Notify affected utility company in advance and obtain approval before starting demolition.
 2. Place markers to indicate location of disconnected services.
- E. Unknown conditions:
1. The drawings may not represent all conditions at the site and adjoining areas. Compare actual conditions with drawings before commencement of Work.
 2. Existing utilities and drainage systems below grade are located on the Drawings based on information from existing documents and from surface facilities such as manholes, valve boxes, area drains, and other surface fixtures.
 3. If existing active services encountered are not indicated or otherwise made known to the Contractor and interfere with the permanent facilities under construction, notify the Engineer in writing, requesting instructions on their disposition. Take immediate steps to ensure that the service provided is not interrupted, and do not proceed with the Work until written instructions are received from the Engineer.

PART 2 - PRODUCTS

2.01 SALVAGE MATERIALS

- A. No materials shall be designated for salvage.

PART 3 - EXECUTION

3.01 EXAMINATIONS

- A. Prior to beginning selective demolition operations, perform a thorough inspection of the facility and site, and report to the Engineer defects and structural damage to, or deterioration of existing construction to remain.
- B. Examine areas affected by the Work and verify the following conditions prior to commencing demolition:
1. Disconnection of utilities as required.
 2. Utilities serving occupied or active portions of surrounding facilities will not be disturbed, except as otherwise indicated.
- C. If unsatisfactory conditions exist, notify the Engineer, and do not begin demolition operations until such conditions have been corrected.

3.02 PREPARATION

- A. General:
1. Review Section 01354 – Hazardous Material Procedures, before beginning selective alterations and demolition work.
- B. Protection:
1. Erect weatherproof closures to protect the interior of facilities and elements or equipment that are not designed for exposure to the weather. Provide temporary heat, cooling, and humidity control as necessary to prevent damage to existing and new construction. Maintain existing exiting paths and/or provide new paths in compliance with Building Code requirements.

2. Erect and maintain dustproof partitions as required to prevent spread of dust, to other parts of building. Maintain negative pressure in the area where the Work is being performed to prevent the accidental spread of dust and to minimize the spread of fumes related to the Work.
3. Upon completion of Work, remove weatherproof closures and dustproof partitions, and repair damaged surfaces to match adjacent surfaces.
4. Provide and maintain protective devices to prevent injury from falling objects.
5. Locate guardrails in stairwells and around open shafts to protect workers. Post clearly visible warning signs.
6. Cause as little inconvenience to adjacent building areas as possible.
7. Protect landscaping, benchmarks, and existing construction to remain from damage or displacement.
8. Carefully remove designated materials and equipment to be salvaged by Owner or reinstalled.
9. Store and protect materials and equipment to be reinstalled.

C. Layout:

1. The limits of selective demolition are indicated on the Drawings. Confine demolition operations within the limits indicated on the Drawings.
2. Lay out demolition and removal work at the site and coordinate with related Work for which demolition and removal is required. Clearly mark the extent of structural elements to be removed on the actual surfaces that will be removed.
3. Arrange for Engineer's inspection of the lay out extents.
4. Do not begin demolition/removal operations until the lay out markings have been reviewed by the Engineer.

3.03 DEMOLITION

A. General:

1. Perform demolition work in accordance with ANSI A10.6.
2. Demolish designated portions of structures and appurtenances in orderly and careful manner in accordance with the Selective Demolition Plan.
3. Conduct demolition and removal work in a manner that will minimize dust and flying particles.
 - a. Use water or dust palliative when necessary to prevent airborne dust.
 - b. Provide and maintain hoses and connections to water main or hydrant.
4. Demolish concrete and masonry in small sections. Perform demolition with small tools as much as possible. Blasting with explosive charges is not permitted.
5. Sawcut concrete to establish the edges of demolition, wherever possible.
 - a. Do not use a concrete breaker within 6 inches of reinforcing or structural metals that are designated to remain.
 - b. At edges that are not sawcut, remove the final 6 inches of material with a chipping hammer as defined herein. At surfaces where material is removed with a chipping hammer, follow with a heavy abrasive blast to remove all loose material and microcracking.
 - c. Alternate techniques to remove concrete may be used if acceptable to the Engineer; however, techniques other than those deemed by ICRI Guideline No. 310.2R to provide a low risk of introducing microcracking will require a subsequent procedure to remove loose material.

- d. Provide final surface preparation for concrete repairs as specified in Division 3 specifications.
 6. At locations indicated on the Drawings that the existing reinforcing is to be preserved, remove concrete using methods that do not damage the reinforcing. Use one of the following techniques:
 - a. Hydro demolition techniques as outlined in ICRI Guideline No. 310.3R.
 - b. Chipping hammer, as defined herein, followed by heavy abrasive blast to remove all loose material and microcracking at remaining surfaces impacted by the chipping hammer.
 - c. Alternate methods may be used, only if acceptable to the Engineer.
 - d. For all methods, provide a small, completed area for Engineer's review and acceptance. If the proposed method, in the opinion of the Engineer, damages the reinforcing, revise the removal method to remove the concrete with a less aggressive technique to protect the reinforcing.
 7. Remove materials carefully, to the extent indicated and as required.
 - a. Provide neat and orderly junctions between existing and new materials.
 - b. Use methods that terminate surfaces in straight lines at natural points of division.
 8. Do not remove anything beyond the limits of Work indicated without prior written authorization of the Engineer. If in doubt about whether to remove an item, obtain written authorization of the Engineer prior to proceeding.
 9. Perform work to provide the least interference and most protection to existing facilities to remain.
 10. Assume possession of demolished materials, unless otherwise indicated on the Drawings or specified.
 - a. Remove demolished materials from site at least weekly and dispose of in accordance with Laws and Regulations.
 11. Do not burn materials on site.
- B. Sizing of openings in existing concrete or masonry:
1. Make openings large enough to permit final alignment of pipe and fittings without deflections, but without oversizing.
 2. Allow adequate space for packing around pipes and conduit to ensure watertightness.
 3. If the Engineer deems the opening to be insufficient in size to accomplish these criteria, remove additional material using the procedures outlined in this Section.
- C. Cutting openings in existing concrete or masonry:
1. Do not allow saw cuts to extend beyond limits of openings.
 2. Create openings by the following method or other means acceptable to the Engineer that prevents over-cutting of member at corners:
 - a. Core-drill through slab or wall at corners, being careful not to damage materials beyond the area to be removed.
 - b. Saw cut completely through the member, between the core holes at the corners.
 - c. As an alternate to sawcutting through the member, score the edges of the opening with a saw to a 1-inch depth on both surfaces (when accessible).
 - (1) Remove concrete or masonry to within 6 inches of material to remain with a concrete breaker.
 - (2) Remove the remaining material with a chipping hammer.

- d. Remove the remaining material at the corners left by the core-drilling with a chipping hammer.
- 3. Prevent debris from falling into adjacent tanks or channels in service or from damaging existing equipment and other facilities.
- D. Pump out buried tanks. Remove tanks and service piping from site.
- E. Immediately upon discovery, remove and dispose of contaminated, vermin-infested, or dangerous materials using safe means that will not endanger health of workers and public.
- F. Remove trees and shrubs within marked areas; clear undergrowth and dead plant material as specified in Section 02300 - Earthwork.
- G. Backfill open pits and holes caused by demolition as specified in Section 02300 - Earthwork.
- H. Rough grade areas affected by demolition.
- I. Remove demolished materials, tools, and equipment upon completion of demolition.

3.04 RESTORATION

A. General:

- 1. Repair damage caused by demolition to conditions equal to those that existed prior to beginning of demolition.
 - a. Patch and replace portions of existing finished surfaces that are damaged, lifted, and discolored with matching material. Refinish patched portion surfaces in a manner which produces uniform color and texture to entire surface.
 - b. When existing finish cannot be matched, refinish entire surface to nearest change of plane where angle of change exceeds 45 degrees.
- 2. The cost of repairs shall be at the Contractor's expense, and no increase in the Contract Price.
- 3. When new construction abuts or finishes flush with existing construction, make smooth transitions. Match finish of existing construction.
- 4. Where partitions are removed, patch floors, walls, and ceilings with finish materials that match existing materials.
- 5. Where removal of partitions results in adjacent spaces becoming one, rework floors, walls, and ceilings to provide smooth planes without breaks, steps, or bulkheads.
- 6. Where changes of plane exceed 2 inches, request instructions for making transition.
- 7. Trim and refinish existing doors as necessary to clear new floors.
- 8. Match patched construction with adjacent construction in texture and appearance so that patch or transition is invisible at 5-foot distance.
- 9. When finished surfaces are cut so that smooth transition is impossible, terminate existing surface in neat manner along straight line at natural line of division and provide appropriate trim.

B. Restore existing concrete reinforcement as follows:

- 1. Where existing reinforcement is to be incorporated into the new Work, protect, clean, and extend into new concrete.
- 2. Where existing reinforcement is not to be retained, cut off as follows:
 - a. At the removal line where new concrete joins existing concrete, cut reinforcement flush with concrete surface.
 - b. Where concrete surface at the removal line will become the finished surface, cut reinforcement 2 inches below the surface, paint ends with epoxy, and patch holes with dry pack mortar.

- C. Restore areas affected by removal of existing equipment, equipment pads and bases, piping, supports, electrical panels, electric devices, and conduits such that little or no evidence of the previous installation remains:
1. Fill areas in existing floors, walls, and ceilings from removed piping, conduit, and fasteners with non-shrink grout and finish smooth.
 2. Remove concrete bases for equipment and supports by:
 - a. Saw cutting clean, straight lines with a depth equal to the concrete cover over reinforcement minus 1/2 inch below finished surface.
 - (1) Do not cut existing reinforcement on floors.
 - b. Chip concrete within scored lines and cut exposed reinforcing steel and anchor bolts.
 - c. Patch with non-shrink grout to match adjacent grade and finish.
 3. Terminate abandoned piping and conduits with blind flanges, caps, or plugs.

3.05 FIELD QUALITY CONTROL

- A. Do not proceed with demolition without Engineer's inspection of lay out.
- B. Do not deviate from the submitted demolition plan without notifying the Engineer prior to Work.

End of Section

SECTION 01354 – HAZARDOUS MATERIAL PROCEDURES

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section includes procedures required when encountering hazardous materials, including asbestos and lead-based paint (LBP), at the Work site.

1.02 REFERENCES

- A. Occupational Safety and Health Administration (OSHA) United States Code of Federal Regulations (CFR) including, but not limited to:
 - 1. Title 29 - Labor:
 - a. 1910 – Occupational Safety and Health Standards
 - (1) 1910.1025 – Lead
 - (2) 1910.1001 – Asbestos
 - (3) 1910.1200 – Hazard Communication
 - b. 1926 – Safety and Health Regulations for Construction
 - (1) 1926.62 – Lead
 - (2) 1926.1101 – Asbestos
 - (3) 1926.65 – Hazardous waste operations and emergency response (HAZWOPER)
 - (4) 1926.59 – Hazard Communication
- B. United States Environmental Protection Agency (USEPA) including, but not limited to:
 - 1. Title 40 - Protection of Environment:
 - a. Part 61, Subpart M – National Emission Standard for Asbestos
 - b. Part 261 - Identification and Listing of Hazardous Waste
 - c. Part 763 – Asbestos
- C. Missouri Department of Natural Resources (MDNR):
 - 1. Revised Statutes of Missouri Title XL Additional Executive Departments
 - a. Chapter 643 – Air Conservation
 - (1) 225 – 265 – Asbestos Abatement and Asbestos Removal
- D. Society for Protective Coatings (SSPC):
 - 1. SSPC Guide 6 (SSPC-6) – Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations
 - 2. SSPC Guide 7 (SSPC-7) – Guide to Disposal of Lead-Contaminated Surface Preparation Debris
- E. Existing KCMO Owner Reports (available upon request from Owner’s Project Manager):
 - 1. (Request from City of Kansas City, MO – Water Services Department Project Manager)

1.03 RELATED SECTIONS

- A. General Conditions of Contract Between Owner and Design-Builder
- B. Section 01020 – Record Documents.
- C. Section 01140 – Work Restrictions.
- D. Section 01300 – Submittals.
- E. Section 01329 – Safety Plan.
- F. Section 01565 – Asbestos Abatement.
- G. Section 01566 – Cleanup Operations.
- H. Section 01580 – Project Signs.

1.04 SUBMITTALS

- A. Hazardous Materials Management Plan (HMMP):
 - 1. The HMMP will be submitted at least 10 days prior to the commencement of the Work and is the CONTRACTOR's comprehensive plan for the management of hazards encountered during the work, and should include:
 - a. Information about the CONTRACTOR's designated Certified Industrial Hygienist (CIH) per Part 1.05 of this Section and SECTION 01565.
 - b. Spill management procedures in the event of asbestos, lead or any other hazardous materials release.
 - c. Intended methods of hazardous materials removal, containment, and disposal, including description of engineering controls, personal protective equipment (PPE), and compliance monitoring.
 - d. Schedule and sequence of work for all hazardous materials work.
 - e. A copy of the Site-Specific Hazard Communication Plan in accordance with 29 CFR 1910.1200.
 - f. Copies of licenses, certifications, fit test records, medical surveillance records and notifications to handle and control hazardous materials, as applicable.
- B. Submit laboratory reports, as applicable.
- C. Refer to SECTION 01565 – ASBESTOS ABATEMENT for additional requirements.

1.05 DEFINITIONS

- A. Refer to Section 01420 – Definitions and Acronyms

1.06 HAZARDOUS MATERIALS PROCEDURES

- A. When hazardous materials are encountered that were identified by existing reports prepared for Owner:
 - 1. Prepare and initiate implementation of the HMMP, as detailed in Part 1.04 of this Section.
 - 2. Complete notifications to Federal, State and local agencies as required by applicable Laws and Regulations within the times stipulated by such Laws and Regulations.
 - 3. CONTRACTOR will designate a CIH, as required per Part 1.04 of this Section, to issue pertinent instructions and recommendations for protection of workers and other affected persons' health and safety.
 - 4. Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, applicable laws and regulations.

- B. When hazardous materials are encountered that were not identified by existing reports prepared for OWNER:
 - 1. Prepare and initiate implementation of the HMMP as detailed in Part 1.04 of this Section.
 - 2. Notify immediately OWNER, ENGINEER, and other affected parties.
 - 3. Complete notifications to Federal, State and local agencies as required by applicable Laws and Regulations within the times stipulated by such Laws and Regulations.
 - 4. CONTRACTOR will designate a CIH, as required per Part 1.04 of this Section, to issue pertinent instructions and recommendations for protection of workers and other affected persons' health and safety.
 - 5. Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, applicable laws and regulations.
- C. Forward to OWNER copies of reports, permits, receipts, and other documentation related to remedial work.
- D. CONTRACTOR will assume responsibility for worker health and safety, including health and safety of subcontractors and their workers.
 - 1. Provide training to workers on recognition, reporting, and safety and health procedures required when hazardous materials are encountered, as relevant to the Work.
- E. File requests for adjustments to Contract Times and Contract Price due to the finding of previously unidentified hazardous materials at the Work site in accordance with Contract Documents.
 - 1. CONTRACTOR and subcontractors will minimize delays by continuing performance of the Work in areas not affected by hazardous materials operations.

1.07 LEAD-BASED PAINT REMOVAL AND DISPOSAL

- A. Includes existing paint on the interior and/or exterior surfaces, as outlined in the LBP Survey Report for OWNER per SSPC specifications, which may contain lead in concentrations which will require implementation of hazardous material compliance procedures as legislated by CFR Title 29 and Title 40.
- B. CONTRACTOR and/or its' subcontractors will collect samples of suspected LBP using the methods and frequencies prescribed by CFR Title 29 and Title 40 from the structures identified herein and have samples tested by a certified testing laboratory to determine lead content in samples.
 - 1. Collect a sufficient number of paint samples to provide adequate information regarding lead content in paint on the interior and/or exterior surfaces outlined in the LBP Survey Report for OWNER per SSPC specifications.
 - 2. Ensure that samples contain the total thickness of the paint to the substrate, where removed.
 - 3. Ensure that each sample contains a sufficient quantity of paint to facilitate proper and adequate analyses by testing laboratory.
 - 4. Ensure that samples are adequately identified with location from which it was removed.
- C. Laboratory testing will be completed in accordance with applicable testing standards by a National Lead Laboratory Accreditation Program (NLLAP)–certified laboratory.
 - 1. Submit 10 copies of complete laboratory analyses of paint samples.
- D. Prior to beginning the Work associated the removal, containment, and disposal of LBP and associated debris, prepare and submit to the OWNER 10 copies of the HMMP, as required by Part 1.04 of this Section. The HMMP will detail the following:
 - 1. Listing of LBP removal equipment to be used.
 - 2. Outline of procedures to be used to remove LBP.
 - 3. Data and specifications describing chemical stripping materials to be used, if applicable.

4. Data and specifications describing abrasive blast materials and grit size to be used, if applicable.
 5. Description of planned LBP removal, hazardous waste debris containment, and hazardous waste disposal methods.
 6. Safety plan, consisting of a written plan of action covering operational requirements for safe removal of LBP, safe handling and containment of waste and debris generated by the operation, and safe disposal of hazardous waste and non-hazardous waste materials, complying with the most stringent requirements of the following:
 - a. Equipment and material manufacturer's safety sheets.
 - b. 29 CFR 1910.1025.
 - c. 29 CFR 1926.62.
 7. Certifications of personnel to perform work.
 8. Selection of an appropriately permitted disposal facility.
- E. Carry out LBP removal, containment, and disposal work in accordance with SSPC guidelines.
 - F. Assume responsibility for the proper implementation of the LBP removal method selected. When abrasive blast cleaning is selected to remove LBP, comply with all applicable Federal, State, and local air quality, pollution, and environmental control regulations for blast cleaning. When chemical stripping is selected to remove the LBP, adhere to the chemical manufacturer's recommendations for the application of the product, the removal of the paint, and the containment of the debris.
 - G. LBP removal work shall be performed by a Contractor having prior experience in the removal method selected and shall provide at least 5 references of similar projects completed, 3 of which must have been completed within the past 12 months, documenting their experience.
 - H. Utilize a minimum of Class 3 containment and ventilation system, as described in SSPC-6, during LBP removal and containment procedures, as required for the conditions.
 - I. Do not leave spent abrasive blast material, chemical stripping material, or LBP debris uncontained on the project site overnight.
 - J. Test each container of paint debris, spent blast cleaning abrasive, chemical stripping debris, and other waste material generated by the operation to determine the waste material hazardous waste classification, as required by 40 CFR 261 and the selected disposal facility.
 - K. Assume responsibility for the disposal of LBP waste and associated waste generated by the removal of the LBP and the preparation of the surfaces for recoating. Dispose in accordance with applicable Federal, State, local, and selected disposal facility requirements and regulations.
 - L. Accurately complete the Uniform Hazardous Waste Manifest included at the end of SSPC-7. Indicate on the Manifest that the OWNER is the hazardous waste generator and obtain the OWNER's USEPA identification number for use in completing the Manifest.

1.08 ASBESTOS MATERIALS

- A. It is the specific intent of these Contract Documents to exclude from the Work any and all new products or materials containing asbestos. No products containing asbestos shall be incorporated in the Work.
- B. Refer to the list of reports prepared for Owner, referenced in Part 1.2 of this Section, identifying locations which may have ACM. The reports also designate the condition of the ACM in each location as either friable or non-friable.
- C. Asbestos abatement shall be executed as outlined in SECTION 01565 – ASBESTOS ABATEMENT of these Contract Documents.

PART 2 - PRODUCTS

PART 3 – EXECUTION

3.01 ASBESTOS MATERIALS

A. Notifications:

1. CONTRACTOR shall notify OSHA 24 hours prior to performing ACM removal operations.
2. CONTRACTOR will provide written notification to USEPA Regional Asbestos NESHAP contact at least 20 working days prior to the start of the Work per SECTION 01565.
3. CONTRACTOR shall notify MDNR at least 10 working days prior to the start of performing ACM removal operations.
4. CONTRACTOR shall notify OWNER 3 working days in advance of commencing asbestos material removal operations.

B. Work area:

1. CONTRACTOR will establish a regulated work area, using at a minimum, construction warning tape to establish limits of work area for the asbestos material removal.
2. On-site stockpiling or storage of ACM designated for disposal shall not be allowed.

C. Safety:

1. CONTRACTOR's safety plan will be provided as part of the HMMP (Part 1.02) and will detail requirements, as outlined in 29 CFR 1910.1001, 40 CFR 1926.1101 and 40 CFR 1926.65.

D. Worker qualifications:

1. Refer to SECTION 01565 – ASBESTOS ABATEMENT of these Contract Documents for qualifications for personnel performing asbestos abatement work.

E. Legal disposal:

1. Refer to SECTION 01565 – ASBESTOS ABATEMENT for asbestos disposal requirements.

END OF SECTION

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality assurance - control of installation.
- B. Reference and standards.

1.2 RELATED SECTIONS

- A. Section 01300 - Submittals: Submission of manufactures' instructions and certificates.

1.3 QUALITY ASSURANCE - CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform Work by persons qualified to produce required and specified quality.

1.4 REFERENCES AND STANDARDS

- A. For products or workmanship specified by association, trade, or other consensus standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- B. Conform to reference standard by date of issue current on date for receiving bids, except where a specific date is established by code.
- C. Obtain copies of standards where required by product specification sections.
- D. Neither the contractual relationships, duties, nor responsibilities of the parties in Contract nor those of the Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that existing site conditions are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.

B. Examine and verify specific conditions described in the applicable individual specification sections.

3.2 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

End of Section.

SECTION 01410 - REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Regulatory authorities and codes. Any costs associated with code compliance with the Kansas City, Missouri Codes Department are the responsibility of the CONTRACTOR.

1.02 AUTHORITIES HAVING JURISDICTION

- A. Building Department: City of Kansas City, Missouri.

1.03 APPLICABLE CODES

- A. International Code Council (ICC).
 - 1. Building code:
 - a. International Building Code (IBC), 2018.
 - 1) With City of Kansas City, Missouri amendments.
 - b. International Existing Building Code (IEBC), 2018.
 - 2. With City of Kansas City, Missouri amendments Electrical code:
 - a. National Fire Protection Association (NFPA), NFPA 70: National Electrical Code (NEC), 2017.
 - 1) With City of Kansas City, Missouri amendments.
 - 3. Energy code:
 - a. International Energy Conservation Code (IECC), 2021.
 - 1) With City of Kansas City, Missouri amendments.
 - 4. Fire code:
 - a. International Fire Code (IFC), 2018.
 - 1) With City of Kansas City, Missouri amendments.
 - 5. Fuel gas code:
 - a. International Fuel Gas Code (IFGC) – 2018.
 - 1) With City of Kansas City, Missouri amendments.
 - 6. Mechanical code:
 - a. International Mechanical Code (IMC), 2018.
 - 1) With City of Kansas City, Missouri amendments.
 - 7. Plumbing code:
 - a. Uniform Plumbing Code (UPC2018).
 - 1) With City of Kansas City, Missouri amendments.

PART 2 PRODUCTS

Not used

PART 3 EXECUTION

Not used

SECTION 01433 - MANUFACTURERS' FIELD SERVICES

PART 1 – GENERAL

1.01 SUMMARY

- A. This Section includes procedural requirements including field services for testing, startup, and training for the City of Kansas City Missouri.
- B. The Contractor or Design-Builder shall furnish all labor, materials, equipment, and incidentals as necessary to comply with these requirements.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract; including General and Supplementary Conditions, all applicable Division 1 Sections, and all applicable Division Sections; apply to this Section.
- B. Related Sections include the following:
 - 1. Divisions 2 through 16 Sections for specific requirements for any field services and startup instructions of applicable products in those Sections.
 - 2. Section 01300 – Submittals.
 - 3. Section 01664 – Training.
 - 4. Section 01757 – Commissioning.

1.03 DEFINITIONS

- A. Refer to Section 01420 – Definitions and Acronyms

1.04 SUBMITTALS

- A. Informational submittals:
 - 1. Training Schedule: Submit in accordance with requirements of this Specification not less than 30 days prior to start of equipment installation and revise as necessary for acceptance.
 - 2. Lesson plan: Submit, in accordance with requirements of this Specification, proposed lesson plan not less than 30 days prior to scheduled training and revise as necessary for acceptance. Lesson will also be submitted and approved for training credit by the Missouri Department of Natural Resources Operator Certification Program.

1.05 QUALIFICATIONS OF MANUFACTURER'S REPRESENTATIVE

- A. Authorized representative of the manufacturer, factory trained, and experienced in the technical applications, installation, operation, and maintenance of respective equipment, subsystems, or system, with full authority by the equipment manufacturer to issue the certifications required of the manufacturer. Additional qualifications may be specified in the individual specification section.
- B. Representative subject to acceptance by the City's Representative. No substitute representatives will be allowed unless prior written approval by such has been given.

PART 2 - PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 FULFILLMENT OF SPECIFIED MINIMUM SERVICES

- A. Furnish manufacturers' services, when required by individual specification section, to meet requirements of this section.
- B. Comply with the requirements in Division 1 Section 01757– Commissioning.
- C. Where time is necessary in excess of that stated in the Specifications for manufacturers' services, or when a minimum time is not specified, time required to perform specified services shall be considered incidental.
- D. Contractor or Design-Builder shall schedule manufacturers' services to avoid conflict with other onsite testing in this project and other training of division personnel or manufacturers' onsite services.
- E. Before scheduling services, determine the conditions necessary to allow successful testing have been met.
- F. Only those days of service approved by the City's Representative will be credited to fulfill specified minimum services.
- G. Contractor or Design-Builder shall coordinate manufacturer's field services with the systems integrator, so both are on-site during field services if desired by the City.
- H. When specified in individual specification sections, manufacturer's onsite services shall include:
 - 1. Assistance during product (system, subsystem, or component) installation to include observation, guidance, instruction of Contractor or Design-Builder's assembly, erection, installation or application procedures.
 - 2. Inspection, checking, and adjustment as required for product (system, subsystem, or component) to function as warranted by manufacturer and necessary to furnish manufacturer's certificate of Proper Installation.
 - 3. Providing, on a daily basis, copies of manufacturers' representatives field notes and data to Owner.
 - 4. Revisiting the Site as required to correct problems and until installation and operation are acceptable to the Engineer of Record or City's Representative.
 - 5. Resolution of assembly or installation problems attributable to or associated with respective manufacturer's products and system.
 - 6. Assistance during functional and performance testing, commissioning, and system startup and evaluation.
 - 7. Training of Owner's personnel in the operation and maintenance of respective product as required.

3.02 MANUFACTURER'S CERTIFICATE OF COMPLIANCE

- A. When so specified, a Manufacturer's Certificate of Compliance form, a copy of which is attached to this section, shall be completed in full, signed by an entity supplying the product, material, or service, and submitted prior to shipment of product or material or execution of the services.
- B. City's Representative may permit use of certain materials or assemblies prior to sampling and testing if accompanied by accepted certification of compliance.
- C. Such form shall certify proposed product, material, or service complies with that specified. Attach supporting reference data, affidavits, and certifications as appropriate.

- D. May reflect recent or previous test results on material or product, if acceptable to the City's Representative.

3.03 MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION

- A. When so specified, a copy of the Manufacturer's Certificate of Proper Installation form shall be completed and signed by equipment manufacturer's representative.
- B. This form shall certify signing party is a duly authorized representative of the manufacturer, is empowered by the manufacturer to inspect, approve, and operate their equipment, and is authorized to make recommendations required to ensure equipment is complete and operational.

3.04 TRAINING

- A. Refer to Section 01664– Training for training requirements.

3.05 SUPPLEMENTS

- A. Supplements listed below, following "End of Section", are part of this Specification.
 - 1. Manufacturer's Certificate of Compliance Form.
 - 2. Manufacturer's Certificate of Proper Installation Form.

End of Section

MANUFACTURER'S CERTIFICATE OF COMPLIANCE FORM

OWNER: _____ PROJECT, MATERIAL OR SERVICE SUBMITTED: _____

PROJECT NAME: _____ PROJECT NO. _____

COMMENTS:

I hereby certify that the above referenced product, material, or service called for by the Contract for the named Project will be furnished in accordance with the applicable requirements. I further certify that the product, material, or service are of the quality specified and conform in all respects with the Contract requirements and are in the quantity shown.

Date of Execution _____, 20 ____

Manufacturer: _____

Manufacturer's Authorized Representative (print) _____

Manufacturer's Authorized Representative (Signature) _____

MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION FORM

OWNER			EQPT SERIAL NO.
EQPT TAG NO.			EQPT/SYSTEM
PROJECT NO.			SPEC. SECTION

I hereby certify that the above referenced equipment/system has been:

(Check Applicable)

- Installed in accordance with Manufacturer's recommendations.
- Inspected, checked, and adjusted.
- Serviced with proper initial lubricants.
- Electrical and mechanical connections meet quality and safety standards.
- All applicable safety equipment has been properly installed.
- Functional tests.
- System has been performance tested, and meets or exceeds specified performance requirements.

(When complete system of one manufacturer)

COMMENTS:

I, the undersigned Manufacturer's Representative, hereby certify that I am (i) a duly authorized representative of the manufacturer, (ii) empowered by the manufacturer to inspect, approve, and operate their equipment, and (iii) authorized to make recommendations required to ensure equipment furnished by the manufacturer is complete and operational, except as may be otherwise indicated herein. I further certify that all information contained herein is true and accurate.

Date of Execution _____, 20 ____

Manufacturer: _____

Manufacturer's Authorized Representative (print) _____

Manufacturer's Authorized Representative (Signature) _____

SECTION 01480 – WATER TIGHTNESS

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes hydrostatic leakage testing for concrete water-containing structures.

1.02 REFERENCES

A. Definitions.

1. Refer to Section 01420 – Definitions and Acronyms

B. Reference standards.

1. Section 01420 – Definitions and Acronyms
2. Section 03000 - Concrete
3. Section 02300 - Earthwork

1.03 DEFINITIONS

A. Definitions.

1. Damp spots: Surfaces where visible moisture can be picked up by a dry hand.
2. Containment structure lined: Liquid-containing structure with barrier coating or membrane applied to the inside surfaces to prevent leaking of contents to the outside.
3. Containment structure, unlined: Liquid containing structure where only the concrete structure itself is used to prevent leaking of contents to the outside.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination.

B. Pre-installation meetings.

C. Sequencing.

D. Scheduling.

1.05 SUBMITTALS

A. Shop drawings:

1. Description and details of each evaporation/precipitation-measuring device anticipated for use during the test.

B. Tests and evaluation reports:

1. Results of water leakage test for each structure and for each portion of a structure designated for testing.

C. Special procedure submittals:

1. Testing plan for each structure, or portion thereof, required to be tested.
 - a. Describe methods of obtaining water for testing and of releasing water for disposal, including provisions for dechlorination if required.
 - b. Include plans showing locations where measurements will be made and locations of evaporation/precipitation-measuring device.
 - c. Indicate plans for filling and draining structure(s).
 - d. Include schedule showing duration of test for each structure or cell to be tested, date and time for start of each test, dates and times of observations and measurements

during the test, dates and times for closeout of testing procedures, and date for submittal of final results.

2. Proposed procedures and products for repair of leaks.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 GENERAL

- A. Test structures and portions of structures listed in the following paragraphs for water leakage.
 1. Unless otherwise specified, the Contractor shall:
 - a. Obtain all required permits for discharging testing water.
 - b. Provide dechlorination of such water if required by the permits.
 - c. Prepare and fill the structures.
 - d. Provide access and equipment required for testing and for recording test results.
 - e. Take measurements and make observations required for testing.
 2. At all times during testing, the Engineer shall have access to observe measurements by others or to make independent measurements.
- B. Test all new concrete structures for water leakage:
- C. Required preparation for testing is designated in this Section. Waiver of, or failure to complete preparations shall not change the testing criteria or approval criteria for the areas tested.
- D. Retest structures and portions of structures until the evaluation criteria are satisfied.

3.02 TEST WATER SOURCE AND DISPOSAL

- A. Water used for the first filling of the tank will be furnished by Owner.
 1. Contractor shall obtain water for leakage testing from:
 - a. Disinfected effluent between April 1 and October 31.
 - b. Secondary effluent between November 1 and March 31.
- B. In the event that retesting is required, Contractor shall bear the cost of refilling the tank for subsequent tests.
- C. After leakage testing is complete, Contractor shall dispose of water by discharging to Primary Treatment.

3.03 PREPARATION

- A. For each structure to be tested, prepare and submit a plan showing schedule and sequence of activities, method of filling, and methods of disposing of test water.
- B. Sequencing requirements:
 1. Complete construction of concrete structure and cure concrete to obtain minimum specified 28-day compressive strength as specified in Section 03000 - Concrete.
 - a. Do not begin tests until all portions of structure are complete and have reached their minimum specified 28-day compressive strength.
 - b. Do not begin tests until at least 14 days have passed since completion of the last concrete placement.
 2. Complete tests before:

- a. Covering any surface of the structure with materials that might mask the location of leaks or obscure damp concrete surfaces. Such coverings include, but are not limited to basin bottom grout, masonry veneer, stucco, plaster, and other coatings.
 - b. Installation of equipment, unless otherwise approved by the Engineer.
 - c. Backfilling structures to elevations above the limits indicated in the following paragraphs.
- 3. Liners and coatings:
 - a. Field-coated or installed liners and coatings shall be applied in strict conformance to manufacturer's standards.
 - b. Install liners that are mechanically locked to the concrete surface during placement of plastic concrete and before leakage testing.
 - (1) Examine liners for pinholes, tears, and partially fused splices, complete all required liner integrity testing, and make required repairs before commencing leakage testing.
 - c. Unless otherwise specified, do not install surface-applied protective or decorative coatings and linings until leakage tests have been completed.
- C. Weather requirements:
 - 1. Tests on structures with tops open to the atmosphere shall not be scheduled for periods when the 10-day weather forecast indicates a substantial change in weather patterns.
 - 2. Measurements of water surface levels in the structure shall not be scheduled for periods when the weather forecast indicates a difference of more than 35 degrees Fahrenheit between the ambient temperature readings at the times of initial and final measurements.
 - 3. Tests shall not be scheduled for periods when the 10-day weather forecast indicates that the water surface may freeze before the test is complete.
- D. Groundwater requirements:
 - 1. Bring groundwater to a level not higher than 3 feet below the bottom of the structure and maintain at that level for the duration of the test.
- E. Clean interior of structure:
 - 1. Remove dirt, contaminants, and construction debris.
 - 2. Flush floors and sumps to provide clean surfaces.
 - 3. Remove standing water that would interfere with examination of surfaces, cracks, or joints.
- F. Observe the structure, or portions of the structure being tested, for potential leak locations.
 - 1. Give particular attention to cracks, open joints, voids, and honeycombed and repaired surfaces.
 - 2. Visually observe openings, fitting, and pipe penetrations in the structure at both faces, if possible.
 - 3. Repair potential leak locations in accordance with these Specifications and as approved by the Engineer.
 - 4. Backfill excavations to the top of the structure foundation. Do not place backfill against water-bearing walls or over footings unless approved in advance by the Engineer.
 - a. If requesting backfilling of walls before testing, include a description of methods that will be used to detect leakage in the backfilled areas.
 - b. Engineer's approval of backfilling before testing shall not relieve Contractor of the responsibility to conduct leakage tests, to satisfy the leakage acceptance criteria for the structure, or to repair leaking portions of the structure, including those portions below or behind the backfill.

5. See Drawings and Section 02300 - Earthwork for requirements to provide wall stability before backfilling.

G. Inlets to/outlets from the structure:

1. Inlets to and outlets from the structure shall be watertight.
 - a. Include valves, sluice, and/or slide gate valves and temporary bulkheads as required.
 - b. Inlets and outlets not required to be operable may be temporarily sealed before testing the compartments to which they open.
 - c. Secure inlets used to fill the structure for testing to ensure that no water is entering or leaving the structure once it has been filled to the test level.
2. Adjustments to measured leakage at inlets and outlets based on manufacturers or Contractor's estimates will not be allowed.
 - a. Adjustments to measured leakage may be permitted by the Engineer, and, at their discretion, only when the Contractor makes specific measurements of leakage at each individual inlet and outlet using methods approved by the Engineer.

3.04 HYDROSTATIC LEAKAGE TEST FOR OPEN OR COVERED CONTAINMENT STRUCTURES

- A. Isolate sections of water-holding structures that can be isolated in actual operation. Fill and test sections for leakage separately.
 1. Fill structures and sections of structures scheduled for testing to the normal operating water level indicated on the Hydraulic Profile indicated on the Drawings.
- B. Initial rate for filling of structures shall not exceed 8 feet in 24 hours.
- C. HST-100 testing includes 2 parts, "Qualitative Testing," and "Quantitative Testing," as described in the following paragraphs:
 1. HST-100, Part 1 - Qualitative Testing:
 - a. During the first 24 hours after structures are filled, examine exposed concrete surfaces for damp spots or flowing water.
 - (1) Make observations in early morning, at midday, and in late afternoon.
 - (2) Continue observations through the duration of the Quantitative Testing period.
 - (3) Pay particular attention to conditions at joints, honeycombed areas, cracks, and repaired portions of the structure.
 - b. Evaluation criteria:
 - (1) The structure shall be considered to have failed these Qualitative Testing requirements if any of the following conditions are observed.
 - (a) Water droplets or moist areas on an outside surface that could only have originated inside the structure.
 - (b) Water is flowing or seeping from joints, cracks, or surfaces.
 - (i) Exception: Dampness or wetness on top of a footing, in the absence of flowing water, shall not be considered as failure to meet this criterion.
 - (c) Moisture can be transferred to a dry hand from the outside surfaces of the filled area.
 - c. Repairs and retesting:

- (1) Where damp spots or flowing water as described in the preceding paragraphs are observed, mark locations, provide repairs, and retest the structure as specified in subsequent paragraphs.
2. HST-100 - Part 2: Quantitative Testing:
 - a. If approved by the Engineer, Quantitative Testing may begin before repairs are made to areas failing Part 1 of this test; however:
 - (1) Adjustments to volume loss calculations of Quantitative Testing based on observed leakage will not be permitted.
 - (2) All defects identified for repair during Qualitative Testing shall be repaired to the satisfaction of the Engineer before approval of the structure.
 - b. Report the results of Quantitative Testing on "Leakage Test Report" included as Figure A at the end of this Section, or similar form prepared by the Contractor and containing at least the information included in Figure A.
 - c. Unlined concrete structures:
 - (1) Fill to the designated water surface elevation. Maintain that level for at least 72 hours before recording initial water levels for leakage test.
 - (2) Duration of test:
 - (a) Theoretical time required to lower the water surface in the structure by 3/8 inch when leakage is occurring at the maximum allowable rate specified in subsequent paragraphs of this Section.
 - (b) The duration ("D") of the test in days is determined by the following equation:

$$D = \frac{.375 \text{ inches}}{0.005 \text{ in/in/day} \times H \text{ ft} \times 12 \text{ in/ft}}$$

Where H = Maximum Liquid Depth

 - (i) Round results upward to the next full 24-hour period (day).
 - (ii) Minimum duration of test: 24 hours (1 day).
 - (iii) Maximum duration of test: 120 hours (5 days).
 - d. Lined concrete structures and secondary containment areas:
 - (1) Fill to the designated water surface elevation. Recording of water levels for leakage tests may begin as soon as the designated water surface level is reached and the water surface is calm. 2) Duration of test: 72 hours (3 days).
 - e. Measurements: Water level:
 - (1) Record water levels at 24-hour intervals for the full duration of the test period.
 - (2) Measure water levels at not less than 2 locations on opposite ends of the structure, and preferably at 4 locations spaced equally around the structure. Mark locations on the structure and take measurements at the same locations throughout the duration of the test.
 - (3) Measure, to an accuracy of 1/16 inch, the vertical distance to the water surface from a fixed point on the structure above.
 - f. Measurements: Temperatures:

- (1) As part of the first and last sets of level measurements, record water temperature at a depth of 18 inches below the water surface. Measure temperature at the same locations where level measurements are taken.
 - (2) Record ambient temperature at the time of each water level measurement.
- g. Measurements: Evaporation and precipitation:
- (1) Measure evaporation and precipitation by floating pans inside the structures during testing.
 - (a) For uncovered structures, measure both evaporation and precipitation.
 - (b) For covered structures that are well ventilated, measure evaporation.
 - (2) Measure using specially constructed clear containers:
 - (a) Provide clear plastic, calibrated, open-top containers not less than 18 inches in diameter and 18-inches deep.
 - (b) Partially fill containers with water and float inside the structure. Make provisions to hold containers in place at each measurement location, but away from structure walls and items passing overhead, such as beams or pipes.
 - (c) Measure initial depth of water in each device. Measure changes in water level in each device at the same time measurements of the water level inside the structure are taken.
- h. Restart of test:
- (1) The Engineer may order a restart of the test when, in the Engineer's opinion, measurements have become unreliable due to unusual precipitation or other factors.
 - (2) If measurements or observed leakage during the testing period indicate that the allowable leakage requirements will be exceeded, the test may be terminated before completion of the full test period. Take appropriate actions to correct problems before restarting the test.
- i. Calculations of leakage test results:
- (1) For each section of the structure tested, use water surface level records to calculate average loss of volume per 24-hour interval.
 - (a) For each 24-hour interval during the test, calculate the average of all measured drops in water level around the structure.
 - (b) Use the average drop thus determined to calculate an average loss of volume for each 24-hour interval.
 - (2) Adjustments to leakage calculations:
 - (a) For uncovered basins, calculations shall be corrected for precipitation added to the structure.
 - (b) Calculations may be corrected for evaporation and water temperature.
- j. Evaluation criteria:
- (1) Unless otherwise specified, the average loss of volume during any 24-hour interval shall not exceed the limits shown in Table A.

Table A - Loss of Volume Criteria for Leakage Tests	
Structure Type	Maximum Loss of Water Volume
<ul style="list-style-type: none"> • Structure fully lined prior to leakage test. • Secondary containment areas. 	No measurable loss over 72-hour test period.
<ul style="list-style-type: none"> • Structure with monolithically placed membrane floor slab. 	0.0125 percent of volume per 24-hour period.
<ul style="list-style-type: none"> • Concrete paved canals, drying beds, lagoons, and similar structures. 	0.100 percent of volume per 24-hour period.
<ul style="list-style-type: none"> • Other containment structures. 	0.050 percent of volume per 24-hour period.

k. Repairs and retesting:

- (1) Structures and portions of structures that have satisfied the qualitative requirements of HST-100, but have failed to satisfy the quantitative requirements of HST-100 may be immediately retested for volume loss.
 - (a) If the structure fails the second test for volume loss, the structure shall be drained, and the Contractor shall observe the interior for probable areas of leakage.
 - (b) The structure shall not be retested until repairs to the probable areas of leakage are complete.

3.05 REPAIRS FOR RETESTING

A. Locations showing damp spots or flowing water:

1. Mark locations of visible leaks and damp spots.
2. Drain structures for repair.
3. Repair defects causing damp spots and flowing water using methods specified in Section 03300 - Cast-in-Place Concrete and approved by the Engineer.
 - a. Repair both interior and exterior surfaces and make structures watertight.
 - b. Submit proposed repair products and procedures for Engineer's review.
 - c. Refill structures for retesting.
4. Repeat filling, observations, and repairs until no leaks or damp spots appear.

B. Structures for which loss of water volume loss exceeds the limits specified after adjustments for evaporation, and precipitation:

1. Determine cause of volume loss.
2. Drain structures of water.
3. Repair defects causing loss of water volume using methods specified in Section 03300 - Cast-in-Place Concrete and approved by the Engineer.
 - a. Submit proposed repair products and procedures for Engineer's review.
4. Refill water-holding structures.

5. Repeat testing and repairs until volume loss does not exceed specified limits.

End of Section

FIGURE A							
WATERTIGHTNESS TEST REPORT							
PROJECT: _____			SUBMITTED BY: _____				
STRUCTURE: _____			WITNESSED BY: _____				
AREA: _____			TEST DATES: _____				
TEST DURATION: _____			TEST DURATION: _____				
Surface area of structure tested: _____ (square feet) Volume of structure tested: _____ (cubic feet) Volume of structure tested: _____ (gallons) Measured loss through gates, etc.: _____ (gallons / day) Allowable loss of water volume: _____ (per day) Allowable loss of water volume: _____ (% in 24 hours) Allowable measured loss over test duration (inches): _____ Measured loss of water: _____ (gallons / day - From E below) Measured loss of water volume (%): _____ (in 24 hours - From E below)							
Water Temperature:		Start of test: _____ °F		End of test: _____ °F			
			Water Surface Elevation (top of structure to top of water)				
			Location #1	Location #2	Location #3	Location #4	Initials**
Day	Date	Time	(inches)	(inches)	(inches)	(inches)	
1							
2							
3							
4							
5							
Changes in Level:							

SECTION 01565 - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.01 SUMMARY

- A. The Contractor shall provide the following:
 - 1. All labor, materials, and incidentals as necessary to comply with these requirements and to remove all ACM as specified.
 - 2. The equipment and safety provisions required for protecting workers while handling asbestos-containing material (ACM) except for respiratory protection.
 - 3. The disposal of Regulated Asbestos Containing Materials (RACM). Disposal includes packaging of RACM. Disposal may be accomplished either by land filling at an appropriately permitted facility or converting RACM to non-Asbestos waste.
 - 4. Obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements known to the OWNER and associated with codes, regulations, and standards. Obtain all necessary permits for disposal of ACM at no additional cost to the OWNER.
- B. The Contractor shall comply with specifications herein and adherence to work practices, procedures and requirements set forth in all applicable Federal, State and local regulation. Applicable codes, regulations and standards take precedence, when available.
- C. The Contractor shall coordinate all activities with Kansas City Missouri Air Quality Division (Health Department) as necessary.

1.02 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and all applicable Division Sections, apply to this section.
- B. Asbestos Abatement Related Documents:
 - 1. (Request from City of Kansas City, MO – Water Services Department Project Manager)

1.03 SUBMITTALS

- A. Submit the following to the OWNER for review before starting work.
 - 1. Certified Statement: Submit certified statement to be notarized-signed by an officer of the abatement contracting firm stating which exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.
 - 2. Copy of the CONTRACTOR's or subcontractors current Missouri State Registration for Asbestos Contractors issued by the Missouri Department of Natural Resources (MDNR).
 - 3. Copy of State and/or local license for waste transport subcontractor.
 - 4. Name and address of landfill where RACM are to be disposed. CONTRACTOR to include contact person and contact's telephone number.
 - 5. Chain of Custody Form and Form of Waste Manifest proposed for use.
 - 6. Sample of disposal bag and any added labels to be used.
 - 7. Material Safety Data Sheet: Submit Material Safety Data Sheets, or equivalent, in accordance with the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) for the following:
 - a. Surfactants
 - b. Encapsulants
 - c. Solvents

8. Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.
- B. On a weekly basis, submit copies of all waste manifests and disposal tickets to OWNER.
 - C. Waste Shipment Record: Maintain a waste shipment record as required by the National Emission Standards for Hazardous Air Pollutants (NESHAP) regulation which indicates the waste generator, transporter, and disposal site; and describes the nature, size, type of container, and form of asbestos waste. Submit to OWNER within 30 days of departure from building.
 - D. Submit for the OWNERs records, copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance to standards and regulations bearing upon performance of the Work including:
 1. State and Local Regulations: Submit copies of codes and regulations applicable to the Work.
 2. Submit notices required by Federal, State and local regulations together with proof of timely transmittal to agency requiring the notice.
 3. Submit copies of current valid permits required by state and local regulations.
 4. Submit copies of all Federal, State and local licenses and permits necessary to carry out the Work.

1.04 CODES, REGULATIONS AND STANDARDS

- A. Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable Federal, State and local codes and regulations have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.
- B. The CONTRACTOR shall assume full responsibility and liability for the compliance with all applicable Federal, State and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The CONTRACTOR is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State and local regulations. The CONTRACTOR shall hold the OWNER and ENGINEER harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of the CONTRACTOR, the CONTRACTOR's employees, or subcontractors.
- C. Federal Requirements that govern asbestos abatement work, and transportation and disposal of asbestos waste materials include but are not limited to the following:
 1. OSHA United States Code of Federal Regulations (CFR) including, but not limited to:
 - a. Title 29 – Labor:
 - (1) 1910 – Occupational Safety and Health Standards
 - (a) 1910.1001 – Asbestos
 - (b) 1910.132 – General Requirements
 - (c) 1910.134 – Respiratory Protection
 - (d) 1910.145 – Specifications for Accident Prevention Signs and Tags
 - (e) 1910.146 – Permit-Required Confined Spaces
 - (2) 1926 – Safety and Health Regulations for Construction
 - (a) Part 1926.1101 – Asbestos
 - (b) Part 1926.103 – Respiratory Protection
 - (c) Part 1926.95-107 – Personal Protective and Life Saving Equipment
 - (d) 1926.33 – Access to Employee Exposure and Medical Records

- (e) 1926.59 – Hazard Communication
- (f) 1926.20-35 – General Safety and Health Provisions
- b. Title 49 – Transportation:
 - (1) Part 171 – General Information, Regulations, and Definitions
 - (2) Part 172 – Hazardous Materials Table, Special Provisions, hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans
 - (3) Part 171-180 – General Awareness and Training Requirements for Handlers, Loaders and Drivers, and Editorial and Technical Revisions
- 2. United States Environmental Protection Agency (USEPA) including, but not limited to:
 - a. Title 40 – Protection of Environment:
 - (1) Part 763, Subpart G – Asbestos Worker Protection
 - (2) Part 763, Subpart E – Asbestos Hazard Emergency Response Act (AHERA)
 - (3) Part 763, Subpart E, Appendix C – Asbestos Model Accreditation Plan (MAP)
 - (4) Part 61, Subpart A – National Emission Standards for Hazardous Air Pollutants, General Provisions
 - (5) Part 61, Subpart M – National Emission Standards for Hazardous Air Pollutants, National Emission Standard for Asbestos
- 3. State Requirements which govern asbestos abatement work or transportation and disposal of asbestos waste materials include, but are not limited to:
 - a. Missouri State Law – Chapter 643, Air Conservation
 - b. Missouri Code of State Regulations (CSR) – 10 CSR 10-6, Air Quality Standards, Definitions, Sampling and Reference Methods and Air Pollution Control Regulations for Entire State of Missouri.
- 4. Abide by all local requirements which govern asbestos abatement work or hauling and disposal of asbestos waste materials.

1.05 NOTICES

A. USEPA

1. Postmark or Deliver Written Notification as required by USEPA NESHAP Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAP Contact at least 20 working days prior to beginning any work on asbestos containing materials (ACM). Send notification to the following address with a copy to Owner’s Project Manager:

Air Quality Program, Health Department
 Suite 3000, 2400 Troost
 Kansas City, Missouri 64108
 (816) 983-4301

2. Include the following information in the notification sent to the Air Quality Program:
 - a. Indication whether the notification is the original or revised notification.
 - b. Name, address, and telephone number of Owner or operator.
 - c. Name, address, and telephone number of Contractor.
 - d. Type of Operation (demolition or renovation).
 - e. Description of the facility or affected part of the facility being demolished or renovated, including the size (square feet, number of floors), age, present and prior use of the facility.
 - f. Estimate of the approximate amount of RACM to be removed from the facility in terms of linear feet of pipe, and square feet of surface area for other facility components. Also estimate the approximate amount of Category I and Category II non-friable ACM (NACM) in the affected part of the facility that will not be removed before demolition.
 - g. For facilities in which the amount of friable asbestos materials is less than 260 linear feet on pipes and less than 160 square feet or 35 cubic feet if the length and width could not be measured. On other facility components, explain techniques of estimation.
 - h. Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state of the facility being demolished or renovated.
 - i. Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of 40 CFR 61.145.
 - j. Scheduled starting and completion dates of demolition or renovation.
 - k. Nature of planned demolition or renovation and method(s) to be used, including demolition or renovation techniques to be used and description of affected facility components.
 - l. Procedures to be used to comply with the requirements of NESHAP Asbestos Regulations (40 CFR 61 Subpart M).
 - m. Name and location of the waste disposal site where the asbestos containing waste material will be deposited.
 - n. A certification that at least one person trained as required by paragraph (c)(8) of 40 CFR 61.145 will supervise the stripping and removal described by this notification.
3. For emergency renovations described in paragraph (a)(4)(iv) of 40 CFR 61.145, the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, would cause equipment damage, or an unreasonable financial burden.
 - a. Description of procedures to be followed in the event that the unexpected RACM is found or Category II NACM becomes crumbled, pulverized, or reduced to powder.
 - b. Name, address, and telephone number of the waste transporter.

1.06 STATE AND LOCAL AGENCIES

- A. Send written notification as required by State and local regulations prior to beginning any work on ACM.

1.07 PERMITS

- A. All ACM is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for ACM, as required for transporting of waste ACM to a disposal site.
- B. CONTRACTOR is responsible for obtaining any demolition, building, renovation or other permits, and for paying application fees, if any, where required by State or Local jurisdictions.

1.08 LICENSES

- A. Licenses: Maintain current licenses as required by applicable Federal, State and/or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the Work in this contract.

1.09 POSTING AND FILING OF REGULATIONS

- A. Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulations and standard. Maintain one copy of each at job site and one copy on file in Contractor's office.

1.10 WORKER TRAINING

- A. AHERA Accreditation: All workers are to be accredited Abatement Workers as required by the USEPA MAP Asbestos Abatement Worker Training (40 CFR Part 763, Subpart E, Appendix C).
- B. State and Local License: All workers are to be trained, certified and accredited as required by State of Missouri.
- C. Training - Class I: Complete in accordance with 29 CFR 1926.1101. Provide training for all workers who will perform Class I operations that is the equivalent in curriculum, training method and length to the USEPA MAP asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).
- D. Training - Class II Intact (Non-Friable): Provide training for workers who will be performing Class II work involving only the removal and/or disturbance of one generic category of building material, such as roofing materials, flooring materials, siding materials or cement asbestos panels, which includes at a minimum, the specific work practices and engineering controls which specifically relate to that category. Provide a course that includes "hands-on" training and takes at least 8 hours. Provide training that includes the elements set forth in 29 CFR 1926.1101(k) and the Compliance Directive CPL 2-2.63.
- E. Training - Class II Non-Intact (Friable): Provide training for workers who will be performing Class II work on materials that are friable or will become friable during the work that is the equivalent in curriculum, training method and length to the USEPA MAP asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).
- F. Competent Person: Competent Person for work on removal of ACM must be trained as required by OSHA regulation 29 CFR 1926.1101(k)(9) and 1926.32(f); and as set forth in the Compliance Directive CPL 2-2.63 Appendix D page D-22 to D-23.

PART 2 - PRODUCTS

2.01 PROTECTIVE CLOTHING

- A. General. Provide and require the use of protective clothing, to include coveralls or similar whole-body clothing, head coverings, gloves, and foot coverings for any employee exposed to airborne concentrations of asbestos that exceed the total weight average (TWA) and/or excursion limit prescribed by 29 CFR 1926.1101 or for which a required negative exposure assessment is not produced, and for any employee performing Class I operations which involve the removal of over 25 linear or 10 square feet of thermal system insulation (TSI) or surfacing ACM or presumed ACM.
- B. Coveralls: Provide disposable full-body coveralls and disposable head covers. Contractor will require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.
- C. Additional Protective Clothing: Provide each worker with the protective clothing as required by Federal, State and local regulations, including but is not limited to, hardhats, cold weather gear, gloves, boots and goggles.
- D. Disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, Engineer and other authorized representatives who may inspect the job site as needed.

2.02 MATERIALS

- A. Provide 6-millimeter (mil) thick leak-tight polyethylene disposal bags with three labels showing the following text. **Peel and stick type labels are prohibited.**
 - 1. First Label: Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:
“DANGER CONTAINS ASBESTOS FIBERS AVOID CREATING DUST CANCER AND LUNG DISEASE HAZARD BREATHING AIRBORNE FIBERS IS HAZARDOUS TO YOUR HEALTH”.
 - 2. Second Label: Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances
“RQ-ASBESTOS WASTE CLASS 9 NA2212-PG III”.
 - 3. Third Label: Provide the name of the waste generator (Owner's name), the location from which the waste was generated and the names and addresses of the transporter. This label must be durable, able to repel dirt and moisture (e.g., permanent marker). Label must be placed directly on disposal bag(s) in a legible format.
- B. Polyethylene Sheet: Provide flame resistant polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6-mil thick, frosted or black as indicated.
- C. Duct Tape: Provide duct tape in 2-inch or 3-inch widths as indicated, with an adhesive which is formulated to stick firmly to sheet polyethylene.
- D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick firmly to sheet polyethylene.
- E. Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.
- F. Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

PART 3 – EXECUTION

3.01 GENERAL

A. Worker Protection

1. Provide worker protection as required by the most stringent OSHA and/or USEPA standards applicable to the Work. The following procedures are the minimum standards to be adhered to regardless of asbestos fiber count in the Work Area.
2. Each time the Work Area is entered remove all personal clothes in designated Changing Room provided by Contractor, and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.
3. Warning Signs: Near the Work Area a sign complying with requirements of the USEPA NESHAP regulation (40 CFR Part 61) shall be visible in a manner and location that a person can read the following:
“DANGER ASBESTOS CANCER AND LUNG DISEASE HAZARD AUTHORIZED PERSONNEL ONLY RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA”.

B. Transportation and Disposal of RACM

1. All waste is to be transported by a waste transportation contractor or subcontractor with all required licenses from all state and local authorities with jurisdiction.
2. Mix all liquid ACM waste with a blendable material so that it forms a blendable (non-liquid) form and have the concurrence of the landfill operator prior to disposal.
3. Load all adequately wetted RACM in disposal bags or leak-tight containers. All materials are to be contained in one of the following:
 - a. Two 6-mil disposal bags; or
 - b. Two 6-mil disposal bags and a fiberboard drum; or
 - c. Sealed steel drum with no bag.
4. Protect interior of truck or dumpster with critical and primary barriers, as required by authorities having jurisdiction.
5. Carefully load containerized waste in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to ensure that no unauthorized persons have access to the material.
6. Warning Signs: During loading and unloading mark dumpsters, receptacles and vehicles with a sign to comply with requirements of the USEPA NESHAP regulation (40 CFR Part 61), in a visible location that reads:
“DANGER ASBESTOS DUST HAZARD CANCER AND LUNG DISEASE HAZARD AUTHORIZED PERSONNEL ONLY”
7. Do not store containerized materials outside of the Work Area. Take containers from the Work Area directly to a sealed truck or dumpster.
8. Do not transport disposal bagged materials on open trucks. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat used drums that have been contaminated as RACM and dispose of in accordance with this specification.
9. Advise the landfill operator or processor, at least ten days in advance of transport, of the quantity of ACM to be delivered.
10. At disposal site unload containerized waste:
 - a. At a disposal site, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for rebagging. Clean entire truck and contents using procedures set forth under Project Decontamination.
11. Retain receipts from landfill or processor for amount of ACM disposed.

12. At completion of hauling and disposal of each load, submit copy of waste manifest, chain of custody form, and landfill receipt to Owner.

3.02 SEQUENCING

- A. Isolate air intakes
 1. Shut down air handling units that draw in fresh air from any area within 30 feet of the Work Area. Seal all air intakes with 6-mil plastic sheeting.
 2. Provide horizontal or vertical extension to relocate the opening of air intakes outside or above the Work Area.
- B. Install critical barriers over all openings into building or equipment within 30 feet of the Work Area. Do not cover building surfaces. Erect temporary screens of reinforced plastic sheeting as required to prevent wind carrying products of work to any entries of the building or other occupied portions of the site.
- C. Do not sand, abrade or grind asbestos containing materials.
- D. Airborne Fiber Levels: Maintain airborne fiber levels as set forth herein.
- E. Use Manual methods which do not render asbestos containing materials “non-intact.” These include the use of spud, spade, flat-blade or slicing tools, such as axes, mattocks, pry bars, spud bars, crow bars, shovels, flat-blade knives, and utility knives, to slice, cut, strip-off, shear-under, or pry up the material.
- F. Remove ACM in an intact state to the extent feasible.
- G. Perform all removal work on non-intact ACM using wet methods, or that which will be rendered non-intact during removal, unless wet methods are not feasible or will create safety hazards.
 1. For removal of ACM in outside conditions, perform all removal work on non-intact asbestos containing materials when outside temperatures are warm enough that the ACM is above the phase change (glass) point. Carryout removal of ACM in a manner that will minimize pulverizing, breaking or abrading of involved materials.
 2. Wet surface with amended water. Use sufficient water to completely wet surface but not cause ponding or running of water. Cut into sections able to fit in disposal boxes as applicable. Use rotary blade to cut. Do not saw or use powered rippers. Lift sections and place in disposal boxes as applicable. Use a high-efficiency particulate air (HEPA) vacuum or wet sweep into sweep shovels to pick up debris as applicable. Bag and dispose of as specified herein.
 3. For insulation, wet insulation with amended water sufficiently to enable it to be removed in a crumbly damp mass. Remove by scraping with hoes. Dispose of insulation as a non-asbestos waste.
- H. When removing with a power cutter:
 1. Continuously mist the blade of the cutting machine during use unless the competent person determines that misting substantially decreases worker safety.

2. Collect dust and debris resulting from the cutting operation:
 - a. Aggregate Surface: Collect all dust resulting from the cutting operation with a HEPA dust collector or by HEPA vacuuming along cut line.
 - b. Smooth Surface: Collect all dust resulting from the cutting operation with a HEPA dust collector, by HEPA vacuuming along cut line, or by gently sweeping and then carefully and completely wiping up the wetted dust and debris left along the cut line.
 3. Immediately bag dust and debris resulting from the cutting operation or place in covered containers.
- I. Intact ACM shall be removed from Work Area as soon as it is practical, but no later than the end of the work shift.
 - J. ACM that is non-intact shall be removed from the Work Area as soon as it is practical, but in any event no later than at the end of the work shift. Non-intact ACM remaining in the Work Area will be kept wet, and placed in an impermeable waste bag, or wrapped in plastic sheeting.

3.03 DECONTAMINATION PROCEDURES

- A. Require all workers to adhere to the following personal decontamination procedures at a minimum whenever they leave the Work Area:
 1. Type B or C Supplied Air or Powered Air-Purifying Respirators (PAPR):
 - a. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.
 - b. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required at a minimum:
 - (1) Thoroughly wet body including hair and face. If using a PAPR hold blower unit above head to keep canisters dry.
 - (2) With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.
 - (3) Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.
 - (4) Carefully wash face piece of respirator inside and out.
 - c. If using PAPR, shut down in the following sequence:
 - (1) Cap inlets to filter cartridges, and then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this will short out and destroy battery.
 - (2) Shower completely with soap and water.
 - (3) Rinse thoroughly.
 - (4) Rinse shower room walls and floor prior to exit.
 - (5) Proceed from shower to Changing Room and change into street clothes or into new disposable work items.
- B. Remote Shower: The procedures above are to be used if the decontamination facility is used as a remote shower. If a worker cannot gain direct access to the Equipment Room, require that they enter

Decontamination Unit and proceed directly through Shower Room to Equipment Room.
Decontamination procedure is then completed as required above.

C. Within Work Area:

1. Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above, and then dress in street clothes before entering the non-Work Areas of the building.

END OF SECTION

SECTION 01566 – CLEANUP OPERATIONS

PART 1 - GENERAL

1.01 SUMMARY

- A. The Contractor shall provide all material, labor and equipment necessary for cleanup operations. The Contractor shall maintain a neat and clean job site at all times.

1.02 SPECIFICATION MODIFICATIONS

- A. It is understood that throughout this section these Specifications may be modified by appropriate items in Section 01015 – Specific Project Requirements or as otherwise indicated on the Contract Drawings.

1.03 RELATED SECTIONS

- A. General Conditions of Contract Between Owner and Design-Builder
- B. Section 01000 – General Project Requirements.
- C. Section 01300 – Submittals.
- D. Section 02510 – PCC Sidewalks, Driveways, Ramps.
- E. Section 02930 – Seeding.
- F. Section 02931 – Sodding.
- G. Section 03000 – Concrete.

1.04 CODES AND STANDARDS

- A. Not used.

1.05 DEFINITIONS

- A. Not used.

1.06 INFORMATION PROVIDED BY THE CITY

- A. As provided in the Contract Documents.

1.07 SUBMITTALS

- A. The Contractor shall submit as specified in Section 01300 – Submittals, if proposing alternate methods and facilities for concrete washout facilities. See paragraph 3.03.E.3 in this Section.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SITE MAINTENANCE

- A. Cleanup operations shall be conducted in accordance with Section 00700 General Conditions, Article 6 – Contractor’s Responsibilities.
- B. Adequate cleanup shall be a condition for the processing of the Contractor’s monthly progress payment applications.
- C. The Contractor shall, at all times, keep the premises from accumulations of excavated materials, waste materials and other debris resulting from the Work. Site maintenance shall include, but is not limited to, the following:

1. The Contractor shall sweep streets daily to maintain the Site in a neat and clean condition.
 2. Provide adequate trash receptacles on the Site and promptly empty when filled.
 3. Conduct periodic cleanup of the Site to avoid hazards, interference with traffic or operations at the Site.
 4. Keep construction materials such as pipe, forms and scaffolding neatly stacked.
 5. Conduct immediate cleanup to protect the Work by removing splattered concrete, asphalt, oil, paint, corrosive liquids and cleaning solutions from all surfaces (linear construction) including walls, floors and metal surfaces (vertical construction) before the surfaces are marred.
 6. Volatile wastes shall be properly stored in covered metal containers and removed from the Site daily.
 7. Wastes shall not be buried on the site or disposed of into storm drains, sanitary sewers, streams or waterways. All wastes shall be removed from the site and disposed of in a manner complying with all local permits, ordinances and anti-pollution laws.
 8. Overloading of trucks is prohibited to prevent spillages on all access and haul routes. The Contractor shall provide periodic inspection of traffic areas to enforce the requirements of this Section.
 9. The Contractor shall prevent all excess material from washing into stream beds, storm water facilities, streets, culverts, etc.
- D. All excavated material not incorporated into the Work shall be removed and disposed of by the Contractor so that the site will be left in equal or better condition than its original state.
- E. Any deficiency in the quantity of material for filling depressions caused by settlement shall be supplied by the Contractor.
- F. The Contractor shall remove all mobilized equipment, surplus materials, debris and temporary facilities from the site. The construction site shall be left in its original condition or better condition than before the Work commenced.
- G. In addition, as directed by the City, the Contractor may be required to obtain a City approved release form, signed by the property owners affected by the Work.

3.02 DUST CONTROL

- A. The Contractor shall take all reasonable measures to prevent unnecessary dust. Earth surfaces subject to dusting shall be kept moist with water or by the approved application of an approved chemical suppressant. When practical, dusty materials in piles or in transit shall be covered to prevent blowing.
- B. The Contractor shall make provisions so that buildings or operating facilities that may be adversely affected by dust shall be adequately protected from dust. Existing or new machinery, motors, instrument panels or similar equipment shall be protected by suitable dust screens. Proper ventilation shall be included with dust screens.
- C. Contractor shall maintain and keep all streets clean throughout the Work period. The Contractor shall perform street sweeping on a daily basis to remove dust and debris from paved areas within the Work site as well as on all access and haul routes.

3.03 CONCRETE WORK

- A. See Section 02510 – PCC Sidewalks, Driveways and Handicap Access Ramps for additional requirements.
- B. See Section 03000 – Miscellaneous Concrete for additional requirements.

- C. Three (3) working days after all subsurface work has been completed, the contractor shall initiate the following restoration work: seed and/or sod (depending on contract requirements and/or written agreements with property owners), replacing concrete sidewalks, curbs, gutters, driveways and other surfaces impacted by the Work.
- D. Three (3) working days after the placement of concrete, the Contractor shall conduct cleanup operations related to the completed concrete work as follows:
 - 1. Removal of forms, backfilling of the form excavation and debris removal from streets, sidewalks and parkway areas shall be accomplished within three (3) working days after the concrete placement. The backfilled areas within one foot of new concrete shall not be compacted until the concrete has cured a minimum of five (5) days.
 - 2. Five (5) working days after the concrete is placed, the Contractor shall complete all joint caulking, pavement restoration, seeding and sodding. If construction is being performed during periods other than designated seeding and sodding seasons, all locations without turf cover shall be completed within ten (10) working days after the beginning of the next seeding and sodding season. Refer to Section 02930 – Seeding and Section 02931 - Sodding for additional requirements.
 - 3. If cleanup, backfilling, sodding, joint caulking or pavement restoration is not accomplished within the above limits, all tear-out and installation operations shall cease until these items are finished. Proceeding without these items being completed is at the sole discretion of the City.
 - 4. All excavated material shall be removed and disposed of by the Contractor so that the grounds will be left in equal or better condition than its original state. Any deficiency in the quantity of material for filling depressions caused by settlement shall be supplied by the Contractor.
 - 5. Surplus materials, equipment, tools, temporary facilities and structures shall be removed by the Contractor; all debris shall be hauled away by the Contractor and the construction site shall be left in equal or better condition than its original state. Payment of completed items on the Schedule of Values shall be subject to the completion of the cleanup operations.
 - 6. Tear-out and installation shall not begin if unfavorable conditions for concrete placement are forecast for the next day.
 - 7. All cleanup operations, as stated above, shall be completed five (5) working days after concrete placement.
- E. Concrete Washout Facilities:
 - 1. The Contractor shall provide facilities for concrete washout to collect and retain all the concrete washout water and solids in leak proof containers.
 - 2. Lined wash pits or washout boxes are acceptable.
 - 3. Alternate methods for washout facilities may be considered by the City. The Contractor shall submit for review and approval, per Section 01300 – Submittals, the alternate methods and facilities to be used.
 - 4. The location of washout facilities shall be indicated on the Construction Site Plan (See Section 01000 – General Project Requirements, paragraph CONSTRUCTION SITE PLAN).
 - 5. Concrete washout facilities shall be inspected daily and after heavy rains to check for leaks, identify any plastic linings or sidewalls that have been damaged by construction activities and determine whether they have been filled to over 75 percent capacity.

6. When the washout container is filled to over 75 percent of its capacity, the wash-water shall be vacuumed out or allowed to evaporate to avoid overflows. When the remaining cementitious solids have hardened, they shall be removed from the Site.
7. Damages to the washout container shall be repaired promptly.
8. Before heavy rains, the washout container's liquid level shall be lowered or the container shall be covered to avoid an overflow during the rain storm.
9. Washout facilities shall be removed from the Site upon completion of the Work and the area restored as specified herein.

END OF SECTION

SECTION 01570 - TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 – GENERAL

1.01 SUMMARY

- A. The Contractor shall provide erosion and sediment control measures for all areas within and adjacent to the Project site. The Contractor shall assume that the work is to be done under the City’s General Operating Permit (Permit No: MOR100006). The Contractor does not need to make separate application to the Missouri Department of Natural Resources (MDNR).
- B. Specific erosion and sediment control measures are specified in APWA 5100 and Standard Erosion and Sediment Control (ESC) Drawings. These measures shall be implemented in order to control erosion and water pollution.
- C. No separate payment shall be made for Erosion and Sediment Control. The Contractor shall include in the lump sum total bid price: all labor, material and equipment necessary to comply with this Section and all other Work indicated in the Contract Documents.

1.02 DESCRIPTION

- A. The Contractor shall install and maintain temporary erosion and sediment control devices prior to commencing construction operations and continue through the construction period until such time as seeding and sodding has been completed and turf is established on all graded areas.
- B. The Contractor shall prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) utilizing the latest version of the City’s SWPPP template to develop the plan. The plan must include a narrative of the types and appropriate uses of Best Management Practices (BMPs) for erosion and sediment control and stormwater management. The requirements of the SWPPP must be as stringent as those described in the City’s General Operating Permit (No: MOR100006) and 10 CSR 20-6.200. Additionally, the SWPPP must comply with the City of Kansas City’s MS4 permit.
- C. Failure to control erosion and water pollution will result in the Contractor being noncompliant. Any noncompliance constitutes grounds for the following enforcement actions. The Contractor shall have 24 hours after receiving a notice of noncompliance from the City’s representative (i.e. Project Manager, Design Professional, Inspector/ Representative of the City) to correct the problem. If weather conditions prevent the correction of BMPs within 7 calendar days, the reasons for the delay must be documented (including pictures) and there must be a narrative explaining why the work cannot be accomplished within the 7 day time period. The documentation must be filed with the regular inspection reports. The Contractor shall correct the problem as soon as weather conditions allow. If the Contractor fails to correct the problem after the time prescribed, the City will hire a remediation expert to fix the problem. In such an event, the Contractor shall be liable to the City for the remediation costs plus a 10 percent mark-up of the total contract price. If the Contractor continues to be noncompliant, the Director (or an authorized agent thereof) may issue a stop work order and delay any payment until control measures are properly functioning and any damage has been mitigated. In such an event, any delay to the Project schedule will result in liquidated damages assessed against the Contractor.

1.03 SPECIFICATION MODIFICATIONS

- A. It is understood that throughout this section, these Specifications may be modified by appropriate items in Section 01015 – Specific Project Requirements or as otherwise indicated on the Contract Drawings.

1.04 RELATED SECTIONS

- A. Section 01000 – General Project Requirements.
- C. Section 01300 – Submittals.
- D. Section 02200 – Earthwork.
- E. Section 02575 – Surface Restoration.
- F. Section 02930 – Seeding.
- G. Section 02931 – Sodding.

1.05 QUALITY ASSURANCE

- A. The Contractor is responsible for the quality assurance and quality control of the Work. The Work shall be performed by a contractor with a proven record of performance for similar erosion and sedimentation control work.

1.06 INFORMATION PROVIDED BY THE CITY

- A. As provided in the Contract Documents.

1.07 CONTRACTOR SUBMITTALS

- A. The Contractor shall submit to the City/Design Professional for review and approval, in accordance with Section 01300 – Submittals, all specifications and data covering the proposed materials to be used for erosion and sedimentation control work.
- B. The Contractor shall submit the following to the City/Design Professional for review and approval prior to the preconstruction conference:
 - 1. The Contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) for Projects that disturb one or more acres of land or disturb less than one acre when part of a larger Project which will disturb one or more acres over the life of the Project.
 - 2. The SWPPP shall meet the requirements of this Section, applicable references on the plans, the City’s adopted Erosion and Sediment Control Specifications (ESCS), and all sections of the APWA-KCMO specifications that reference erosion control requirements. The Contractor shall develop, implement, and adhere to the erosion control and stormwater pollution prevention plan based upon the City’s guidelines and requirements.
 - 3. No work can begin until the SWPPP is approved by the City/Design Professional.
 - 4. The Contractor shall update and maintain the SWPPP as necessary to develop ongoing site-specific control measures until final acceptance of the Project.

PART 2 – PRODUCTS

- A. Unless otherwise specified, acceptable products for Inlet Protection include the following:
 - 1. Gutter Buddy, Dandy Curb® or approved equal.

PART 3 – EXECUTION

3.01 SAFETY

- A. Perform all work in accordance with applicable Occupational Safety and Health Administration (OSHA) standards.

3.02 PERFORMANCE

- A. City Projects are covered by a general NPDES permit maintained by the Water Services Department's Storm Water Division. The Permit imposes a number of obligations including, but not limited to, the following:
 - 1. New Projects must be reported to the MDNR 90 days before the Project starts.
 - 2. Each site must have and follow a written Storm Water Pollution Prevention Plan (SWPPP). Each site must be inspected weekly and following each rain event, for compliance with the SWPPP. Written inspection reports must be kept.
 - 3. All personnel on site must be briefed on the requirements of the SWPPP.
 - 4. A copy of the SWPPP must be on site at all times.
 - 5. All deficient items shall be promptly corrected. In no case shall the correction period exceed two calendar days.
 - 6. Quarterly reports must be filed by the City with MDNR identifying and giving the status and percent complete of each Project.
 - 7. MDNR must be notified if hazardous substances or contaminated soil are discovered on site.
- B. The Contractor shall follow the approved SWPPP, as well as all erosion control measures included in the Contract Documents and implement other BMP measures as directed by the City/Design Professional.
- C. The Contractor shall prevent erosion during his operations until vegetation is re-established. The Contractor shall prepare erosion control plans and submit in writing to the City/Design Professional any proposed modifications to the plans. The proposed modifications shall describe materials that will be used and the tasks that will be performed to control runoff on the site.
- D. Erosion control devices shall be in place before land is disturbed.
- E. All earthen structures shall be seeded or sodded. See Section 02930 – Seeding or Section 02931 – Sodding for additional requirements.
- F. Vegetation shall be established to provide adequate protection or develop other suitable means.
- G. Sediment trapping devices shall be installed in the proper location prior to grading.
- H. The Contractor shall establish perimeter sediment trapping measures that function properly.
- I. The Contractor shall prevent sediment from leaving the site and/or from damaging adjacent property.
- J. The Contractor shall prevent and or remove mud on public roads or at intersections with public roads that is related to the Project work being completed.
- K. The Contractor shall provide a temporary construction entrance to reduce/eliminate the transport of mud from the construction site onto public right of ways.
- L. The Contractor shall provide dust control measures for any graveled areas or exposed soil areas. See Section 01000 – General Project Requirements, paragraph DUST CONTROL for additional requirements.
- M. The Contractor shall temporarily or permanently stabilize all areas with exposed soil. See Section 02930 – Seeding or Section 02931 – Sodding for additional requirements.
- N. The Contractor shall adequately stabilize all finished cut and fill slopes.
- O. All on-site drainage channels and outlets shall be adequately stabilized.
- P. Route stream around work areas.
- Q. Repair stream channel damages per the Contract Documents.
- R. Provide stabilization or a temporary stream channel crossing where needed.

3.03 INSTALLATION

- A. Methods, materials and maintenance shall be the sole responsibility of the Contractor. The Contractor and the City/Design Professional shall conduct weekly onsite inspections using the “Erosion and Sediment Control Checklist” provided by the Owner. Remove any onsite pollutant sources (debris piles with petroleum cans, chemical containers, fueling trucks/tanks or other possible sources of pollution). Upon notification of a weather forecast with a reasonable likelihood of rain, or at the direction of the City/Design Professional, the Contractor shall construct temporary berms and install erosion control fencing as necessary to control the potential eroded sediment and prevent it from leaving the construction area. If the Contractor’s construction operations are complete to the point where seeding or sodding is the major item at hand before final acceptance can be made, and seeding or sodding is out-of-season or disallowed by the City/Design Professional, the Contractor shall construct one of the following erosion control measures:
1. Incorporate the use of erosion control fencing immediately downstream of vulnerable areas that are susceptible to the formation of small streams. Maintain the erosion control devices until seeding or sodding season returns. Upon return of the sodding season, the area shall be re-graded to the lines and grades established in the Contract Drawings and sodded at the direction of the City/Design Professional. See Section 02930 – Seeding and Section 02931 – Sodding for additional requirements.
 2. Terrace the ground with graded berms and incorporate the use of both temporary slope drains (See ESCS Section 10.03.4.3 and Section 02200 – Earthwork for additional requirements) and erosion control fencing (as specified in this Section). Maintain the erosion control devices until seeding or sodding season returns. Upon return of the seeding or sodding season, the area shall be re-graded to the lines and grades established in the Contract Drawings and seeded/sodded at the direction of the City/Design Professional. See Section 02930 – Seeding and Section 02931 – Sodding for additional requirements.
 3. Fertilize, place seed or sod, and irrigate as directed by APWA-KCMO 2400. Maintain the erosion control devices until seeding or sodding season returns. Upon return of the seeding or sodding season the Contractor shall re-establish the grade and replace all dead seed or sod at the direction of the City/Design Professional. See Section 02930 – Seeding and Section 02931 – Sodding for additional requirements.
- B. Silt fence shall be installed, inspected and maintained in accordance with APWA ESC–10.
- C. Berms shall be constructed in accordance to APWA ESC–29:
1. Berms are required if the silt fence is not installed or properly maintained.
 2. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
 3. Remove sediment deposits as necessary to provide adequate storage volume for the next rain.
 4. The Contractor shall remove berms when they have served their usefulness.
 5. Sediment trapped by this practice shall be uniformly distributed on the source area prior to seeding or sodding.
- D. The Rock Check Dam shall be constructed, inspected and maintained in accordance to APWA ESC–15.
- E. Inlet Protection. Work covered under this item consists of installing a Gutter Buddy, Dandy Curb® or equal inlet protection system for inlets and median barrier inlets without

grates. The purpose is to keep silt, sediment and construction debris out of the storm system:

1. The inlet protection system shall be a sewn fabric unit enclosing a porous structure in the form of a cylindrical tube placed in front of and extending beyond the inlet opening on both sides.
2. Place inlet protection unit on the street with aggregate pouch near the inlet it will be installed to protect.
3. For oil and sediment, place absorbent in the sock tube.
4. Center the unit against curb or median inlet opening so that the curb side of the unit creates a seal with the curb or median barrier and inlet structure. There will be approximately twelve (12) inches of the inlet protection unit overhanging on each side of the opening. If the unit is not installed in this manner, it will not function properly.
5. The Contractor shall remove all accumulated sediment and debris from in front of the unit and from the street surface in the vicinity of every installed unit after each rain event or as directed by the City/Design Professional. Dispose of the unit at an appropriate recycling or solid waste facility when the unit is no longer being used.
6. Oil and sediment. Remove and replace absorbent when near saturation.

3.04 MAINTENANCE AND REPAIR

- A. The Contractor is responsible for maintaining all erosion and sediment control measures until acceptance of the Project by the City.
- B. Erosion control measures showing evidence of overtopping, breaks or erosion shall be repaired or replaced with suitable materials.
- C. All storm sewer inlets shall be regularly maintained so that sediment will not enter the system.
- D. Repair and clean-out all control measures that are not functioning properly.
- E. Remove temporary measures that are no longer needed.
- F. Seeded or sodded areas requiring maintenance (fertilizer, re-sodding, re-seeding or additional mulch and watering) shall be promptly addressed. See Section 02930 – Seeding and Section 02931 – Sodding for additional requirements.

3.05 WARRANTY

- A. Seeding and sodding work shall have taken root and established satisfactory coverage before acceptance by the City. The Contractor shall maintain as described in paragraph 3.04 above and shall guarantee seeding and sodding for one (1) year after acceptance. The Contractor shall scarify, re-seed or re-sod, fertilize and mulch (seeded areas) any barren area greater than 1 square foot. See Section 02575 – Surface Restoration for requirements on early acceptance.

END OF SECTION



STORMWATER POLLUTION PREVENTION PLAN

(SWPPP)

For Capital Improvement Projects Disturbing One or More Acres
Missouri State General Operating Permit (Land Disturbance Permit) MO-R100000
(July 2022 – Jun 2027)

(Insert Project Name)

(Insert Project Site Address)

(Insert Owner Department)

(Insert Project Site Telephone Number {if applicable})

Contacts in case of spills:

For **hazardous substances releases**, under the Missouri Spill Bill, responsible parties or spillers are required to report to Missouri Department of Natural Resources 24-hour Environmental Emergency Response Spill Line at **(573) 634-2436**, or the National Response Center at (800)-424-8802.

For **non-hazardous substances releases**, should a spill or an unauthorized discharge cause or permit any contaminants, other than sediment, or hazardous substance to discharge or enter waters of the state, the unauthorized discharge must be reported to the Missouri Department of Natural Resources regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. Call Kansas City Regional Office **(816) 251-0700**, or the Department's Environmental Services Program (573) 526-3315.

CERTIFICATIONS
(To be Completed by ALL PARTIES)

Design Professional's Declaration:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Design Professional: _____

Print Name: _____ Title: _____

Signature: _____ Date: _____

City's Review:

I have reviewed this SWPPP for compliance with the requirements contained in the City's Missouri State Operating Permit for land disturbance activities and have found the plan complete prior to commencement of land disturbance activities.

Owner Department: _____

Print Name: _____ Title: _____

Signature: _____ Date: _____

General Contractor's Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

General Contractor: _____

Print Name: _____ Title: _____

Signature: _____ Date: _____

Note: Name the person(s) responsible for inspection, operation, and maintenance of BMPs. The SWPPP shall list the names and describe the role of all owners/primary operators (such as general contractor, project manager) responsible for environmental or sediment and erosion control at the land disturbance site.

Subcontractors Certification:

I hereby certify that I understand the requirements stated in this SWPPP, that I am responsible for completing the requirements, which have been listed in the plan as being a part of my scope of work.

Subcontractor/Project Role: _____
Signature: _____ Title: _____
Print Name: _____ Date: _____

Subcontractor/Project Role: _____
Signature: _____ Title: _____
Print Name: _____ Date: _____

Subcontractor/Project Role: _____
Signature: _____ Title: _____
Print Name: _____ Date: _____

Subcontractor/Project Role: _____
Signature: _____ Title: _____
Print Name: _____ Date: _____

Subcontractor/Project Role: _____
Signature: _____ Title: _____
Print Name: _____ Date: _____

Subcontractor/Project Role: _____
Signature: _____ Title: _____
Print Name: _____ Date: _____

Subcontractor/Project Role: _____
Signature: _____ Title: _____
Print Name: _____ Date: _____

Contents

CERTIFICATIONS.....	I
PART I: GENERAL PROJECT INFORMATION.....	1
PART II: GENERAL REQUIREMENTS.....	2
PART III: PROJECT PLANNING & DESIGN.....	3
PART IV: PROJECT INFORMATION.....	12
PART V: BMP PERFORMANCE REQUIREMENTS.....	15
PART VI: SITE INSPECTION REPORT.....	19
Appendix A – SWPPP Update and Modification Log.....	22
Appendix B – Public Notification Sign.....	24
Appendix C – General Location Map.....	26
Appendix D – Site Map(s).....	28
Appendix E – Site Inspection Reports.....	31
Appendix F – City’s Construction General Permit & Additional Information.....	36

PART I: GENERAL PROJECT INFORMATION
(To be completed by Owner Department or Design Professional)

1. Project Site Name: _____

Project Site Address/Location: _____

City: _____ **State:** _____ **Zip Code:** _____ **County:** _____

Section, Township, Range: _____

Project Number: _____

Owner Department: _____

Address: _____

City: _____ **State:** _____ **Zip Code:** _____

Phone: _____ **Fax:** _____

E-mail: _____ **Cell Phone:** _____

2. Record of Important Dates: fill in during construction activities.

Completed SWPPP approval	
Groundbreaking activities begin	
Stabilization measures initiated	
Permanent stabilization achieved	

3. Describe the Nature of the Land Disturbance Activity:

- (a) The function of the project (e.g., low density residential, shopping mall, highway, etc.),
- (b) The intended sequence and timing of activities that disturb the soils at the site; and
- (c) Estimates of the total area expected to be disturbed by excavation, grading, or other land disturbance support activities including off-site borrow and fill areas.

(Use additional sheets as necessary)

(a)	
(b) 1)	7)
2)	8)
3)	9)
4)	10)
5)	11)
6)	12)

Estimated Project Start Date: _____

Estimated Project Completion Date: _____

(c) Total Site Area (in acres): _____

Estimated Total Area (in acres) to be disturbed by all activities: _____

PART II: GENERAL REQUIREMENTS **(Applicable to All PARTIES)**

1. Conditions for SWPPP Update

The SWPPP shall be amended and updated as appropriate during the term of the land disturbance activity. All SWPPP modifications shall be signed and dated. The SWPPP shall be amended to incorporate any significant site condition changes which impact the nature and condition of stormwater discharges. At a minimum, these changes include whenever:

- (a) The location, design, operation, or maintenance of BMPs is changed;
- (b) Design of the construction project is changed that could significantly affect the quality of the stormwater discharges;
- (c) Site inspections indicate deficiencies in the SWPPP or any BMP;
- (d) Missouri Department of Natural Resources notifies the permittee in writing of deficiencies in the SWPPP;
- (e) The SWPPP is determined to be ineffective in minimizing or controlling erosion and sedimentation (e.g., there is visual evidence of excessive site erosion or sediment deposits in streams, lakes, or downstream waterways, sediment or other wastes off site); and/or
- (f) Missouri Department of Natural Resources determines violations of water quality standards may occur or have occurred.

2. Record of SWPPP Update: fill in Appendix A

3. Restriction and Limitations

The land disturbance permit does NOT allow placement of fill material into any stream or wetland, alteration of a stream channel, or obstruction of stream flow unless authorized by a CWA Section 404 Permit, or placement of fill in floodplains unless authorized by appropriate federal and/or state floodplain development authorities.

The land disturbance permit does NOT supersede any requirement of the National Environmental Policy Act; the Endangered Species Act; the National Historic Preservation Act; the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; or any other relevant acts.

4. Erosion and Sediment Controls

Ensure the **design, installation, and maintenance** of effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:

- (a) Control stormwater volume, velocity, and peak flow rates to minimize soil erosion;
- (b) Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion and scour;
- (c) Minimize the amount of exposed soil during construction activity;
- (d) Minimize the disturbance of steep slopes;
- (e) Minimize sediment discharges from the site. Address factors such as:
 - 1) The amount, frequency, intensity, and duration of precipitation;
 - 2) The nature of resulting stormwater runoff;
 - 3) Expected flow from impervious surfaces, slopes, and drainage features; and
 - 4) Soil characteristics, including the range of soil particle size expected to be present on the site.
- (f) Provide and maintain natural buffers around surface waters as detailed in the Permit – Part V. BMP REQUIREMENTS Condition 7, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration and filtering, unless infeasible; and
- (g) Minimize soil compaction and preserve topsoil where practicable.

PART III: PROJECT PLANNING & DESIGN
(To be completed by DESIGN PROFESSIONAL)

1. General Information

Design Professional develops the initial SWPPP, including narrative description and SITE MAP (s) containing all the information as required by the MO-R100000 (effective July 2022).

Designer's Name: _____
Company Name: _____
Address: _____
City: _____ **State:** _____ **Zip Code:** _____
Phone: _____ **Fax:** _____
E-mail: _____ **Cell Phone:** _____

2. Soil Disturbing Activities:

Soil disturbing activities for this project will include the following (Check all that apply):

- Clearing and grubbing of existing trees
- Stripping of topsoil within the limits of construction
- Stockpiling and re-spreading
- Utility trench excavation and backfill
- Preparing sub grade for streets and sidewalks
- Backfilling curbs and sidewalks
- Disposal areas for excess excavated material
- Borrow areas for fill material
- Construction of sediment basins or storm water
- Construction of compacted fill areas for residential building
- Minimize soil compaction and preserve topsoil
- Provide and maintain natural buffers around surface waters
- Other: _____

3. Downstream Information:

Name of primary receiving water body: _____

Does this Project require 404 Permit? Permit Number: _____

Water Quality Certification Number: _____

List and Describe the location of all outfalls:

Outfall Location	Receiving Waterbody	Distance to receiving waterbody
1)		
2)		
3)		
4)		
5)		

4. Determine the 2-year, 24-hour Storm Event

A 2-year, 24-hour storm event can be determined for the project location using the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14 https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html, or can be determine using local rainfall distribution for a 2-year, 24 hours storm event using multi-decade local high density rain gauge data, as approved by Missouri Department of Natural Resources.

Specify the method used to determine the 2-year, 24-hour storm event for the project location:

- NOAA Atlas 14
- Based on multi-decade local high density rain gauge data, as approved by the Department

Specify the 2-year, 24-hour storm event for the project location: _____ inch

5. Authorized Non-stormwater Discharges

Authorized non-stormwater discharges associated with construction activities: check all occurring on site, and note where these discharges occur.

- (a) Discharges from emergency fire-fighting activities;

Where: _____

- (b) Hydrant flushing and water line flushing, provided the discharged water is managed to avoid instream water quality impacts;

Where: _____

- (c) Landscape watering, including to establish vegetation;

Where: _____

- (d) Water used to control dust;

Where: _____

- (e) Waters used to rinse vehicles and equipment, provided there is no discharge of soaps, solvents, or detergents used for such purposes;

Where: _____

- (f) External building washdown, provided soaps, solvents, and detergents are not used, and external surfaces do not contain hazardous substances (e.g., paint or caulk containing polychlorinated biphenyls (PCBs))

Where: _____

- (g) Pavement wash waters, provided spills or leaks of toxic or hazardous substances have not occurred (unless all spill material has been removed) and where soaps, solvents, and detergents are not used. Directing pavement wash waters directly into any Waters of the State, storm drain inlet, or stormwater conveyance (constructed or natural site drainage features), unless the conveyance is connected to an effective control, is prohibited;

Where: _____

- (h) Uncontaminated air conditioning or compressor condensate;

Where: _____

- (i) Uncontaminated, non-turbid discharges of ground water or spring water;

Where: _____

- (j) Foundation or footing drains where flows are not contaminated with process materials;

Where: _____

and

(k) Uncontaminated construction dewatering water discharged in accordance with requirements found in this permit for specific dewatering activities.

Where: _____

6. Requirements for Best Management Practices (BMPs)

BMPs for land disturbance are a schedule of activities, practices, or procedures that reduces the amount of soil available for transport or a device that reduces the amount of suspended solids in runoff before discharge to waters of the state. BMPs are divided into two main categories: structural or non-structural; and they are also classified as temporary or permanent. Temporary BMPs may be added and removed as necessary with updates to the Stormwater Pollution Prevention Plan (SWPPP).

(1) Site Preservation:

- (a) **EXISTING VEGETATION, TREES, AND TOPSOIL SHALL BE PRESERVED WHERE PRACTICABLE.**
- (b) The disturbance of steep slopes shall be minimized.

(2) Riparian Buffer or a Structural Equivalent for Surface Waters of the State:

For surface Waters of the State, defined in Section 644.016.1(27) RSMo, located on or adjacent to the site, a riparian buffer or structural equivalent must be maintained in accordance with at least one of the following options.

- (a) Provide and maintain a 50-foot undisturbed natural buffer; or
- (b) Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or
- (c) If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.
- (d) Exempt from compliance with (a), (b), or (c) above if one or more of the following exceptions apply and documentation is provided in the SWPPP:
 - 1) As authorized per CWA Section 404 Department of the Army permit and its associated Section 401 Water Quality Certification from the Department.
 - 2) If there is no discharge of stormwater to waters of the state through the area between the disturbed portions of the site and Waters of the State located within 50 feet of the site. This includes situations where permanent control measures have been implemented that will prevent such discharges, such as a berm or other barrier.
 - 3) Where no natural buffer exists due to preexisting development disturbances that occurred prior to the initiation of planning for the current development of the site.
 - a. Where some natural buffer exists but portions of the area within 50 feet of the Waters of the State are occupied by preexisting development disturbances the permittee is required to comply with (a), (b), or (c) above.
 - 4) For linear projects where site constraints make it infeasible to implement a buffer or equivalent provided the permittee limit disturbances within 50 feet of any Waters of the State and/or supplemental erosion and sediment controls are provided to treat stormwater discharges from earth disturbances within 50 feet of the Waters of the State. It must also be documented in the SWPPP the rationale for why it is infeasible to implement (a), (b), or (c) and describe any buffer width retained and supplemental BMPs installed.
- (e) Where the permittee is retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water:
 - 1) The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris; or
 - 2) The edge of the stream or river bank, bluff, or cliff, whichever is applicable.

(3) Perimeter Control:

Sediment controls shall be used along any perimeter areas of the site that are downgradient from any exposed soil or other disturbed areas. Prevent stormwater from circumventing the edge of the perimeter control. For sites where perimeter controls are infeasible, other practices shall be implemented to minimize discharges to perimeter areas of the site.

(4) Stockpile Management:

Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil.

- (a) Locate the piles outside of any natural buffers zones, established under the condition above, and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;
- (b) Install a sediment barrier along all downgradient perimeter areas;
- (c) Divert surface flows around stockpiles to reduce and minimize erosion of the stockpile.

(5) Sedimentation Basins:

A sedimentation basin shall be included for each drainage area with ten or more acres disturbed at one time.

- (a) The sedimentation basin shall be sized, at a minimum, to treat a local 2-year, 24-hour storm.
- (b) Sediment basins shall not be constructed in any Waters of the State or natural buffer zones.
- (c) Discharges from dewatering activities shall be managed by appropriate controls. The SWPPP shall include a description of any anticipated dewatering methods and specific BMPs designed to treat dewatering water.
 - 1) Appropriate controls include, but are not limited to, sediment socks, dewatering tanks, tube settlers, weir tanks, filtration systems (e.g., bag or sand filters), and passive treatment systems that are designed to remove or retain sediment.
 - 2) Erosion controls and velocity dissipation devices (e.g., check dams, riprap, and vegetated buffers) to minimize erosion at inlets, outlets, and discharge points from shall be utilized.

Where use of a sediment basin is infeasible, the SWPPP shall evaluate and specify other similarly effective BMPs to be employed to control erosion and sediment. These similarly effective BMPs shall be selected from appropriate BMP guidance documents authorized by this permit. The BMPs must provide equivalent water quality protection to achieve compliance with this permit. The SWPPP shall require both temporary and permanent sedimentation basins to have a stabilized spillway to minimize the potential for erosion of the spillway or basin embankment.

(6) Concrete Washout Facilities:

Concrete washout facilities shall be used to contain concrete waste from the activities onsite, unless the washout of trucks and equipment is managed properly at an off-site location. The washout facility shall be managed to prevent solid and/or liquid waste from entering Waters of the State by the following:

- (a) Direct the wash water into leak-proof containers or pits designed so that no overflows can occur due to inadequate sizing or precipitation;
- (b) Locate washout activities away from Waters of the State, stormwater inlets, and/or stormwater conveyances where practicable. If not practicable, use BMPs to reduce risk of waste leaving the washout facility;
- (c) Designate the washout area(s) and conduct such activities only in these areas.
- (d) Ensure contractors are aware of the location, such as by marking the area(s) on the map or signage visible to the truck and/or equipment operators.

(7) Sediment Trackout from the Site:

Minimize sediment trackout from the site and sediment transport onto roadways.

- (a) Restrict vehicle traffic to designated exit points.
- (b) Use appropriate stabilization techniques or BMPs at all points that exit onto paved roads or areas outside of the site.
- (c) Use additional controls or BMPs to remove sediment from vehicle and equipment tires prior to exit from facility where necessary.
- (d) Stormwater inlets susceptible to receiving sediment or other pollutants from the permitted land disturbance site shall have curb inlet protection. This may include inlets off the active area where track out from vehicles and equipment could impact the stormwater runoff to those inlets.

(8) Selection of BMPs:

Appropriate BMPs shall be selected for use at the site.

- (a) Stormwater volume and velocity shall be considered when selecting effective BMPs.
- (b) A BMP that has demonstrated ineffectiveness in preventing or minimizing sediment or other pollutants from leaving a given site shall be replaced with a more effective BMP, or additional and sequential BMPs and treatment devices may be incorporated as site conditions allow.
- (c) A schedule for performing erosion control measures shall be considered in selecting BMPs.

(d) Stormwater discharges which leave the site from disturbed areas shall pass through an appropriate impediment to sediment movement such as a sedimentation basin, sediment traps (including vegetative buffers), or silt fences prior to leaving the land disturbance site.

(9) Types of BMPs:

Check all the types of BMPs used at the site:

• ***Soil Stabilization and Slope Protection BMPs***

- | | | |
|---------------------------------------|--|--|
| <input type="checkbox"/> Scheduling | <input type="checkbox"/> Hydro-seeding | <input type="checkbox"/> Earth Dikes/Swales & Lined Ditches |
| <input type="checkbox"/> Straw Mulch | <input type="checkbox"/> Hydraulic/Wood Mulch | <input type="checkbox"/> Outlet Protection/Velocity |
| <input type="checkbox"/> Slope Drains | <input type="checkbox"/> Streambank Stabilization | <input type="checkbox"/> Preservation of Existing Vegetation |
| <input type="checkbox"/> Soil Binders | <input type="checkbox"/> Geotextiles, ECBs or TRMs | <input type="checkbox"/> Other (specify): _____ |

• ***Perimeter Controls & Sediment Barriers***

- | | | | |
|---|---|---|--|
| <input type="checkbox"/> Silt Fence | <input type="checkbox"/> Sandbag Barrier | <input type="checkbox"/> Storm Drain Inlet Protection | <input type="checkbox"/> Fiber Rolls |
| <input type="checkbox"/> Sediment Traps | <input type="checkbox"/> Check Dam | <input type="checkbox"/> Sediment/Desilting Basin | <input type="checkbox"/> Gravel Bag Berm |
| <input type="checkbox"/> Street Sweeping and Vacuuming | <input type="checkbox"/> Direct Stormwater to vegetated areas | | |
| <input type="checkbox"/> Maintain natural buffers around surface waters | <input type="checkbox"/> Other (specify): _____ | | |

• ***Establish Stabilized Construction Exits***

- | | | |
|-------------------------------------|--|---|
| <input type="checkbox"/> Stone Pads | <input type="checkbox"/> Entrance/Outlet Tire Wash | <input type="checkbox"/> Other (specify): _____ |
|-------------------------------------|--|---|

• ***Non-Storm Water Management BMPs***

- | | | |
|--|--|--|
| <input type="checkbox"/> Pile Driving | <input type="checkbox"/> Concrete Finishing | <input type="checkbox"/> Demolition/Removal Over Water |
| <input type="checkbox"/> Dewatering | <input type="checkbox"/> Concrete Curing | <input type="checkbox"/> Illicit/Illegal Discharge |
| <input type="checkbox"/> Clean Water | <input type="checkbox"/> Paving & Grinding | <input type="checkbox"/> Vehicle & Equipment Cleaning |
| <input type="checkbox"/> Dust Control | <input type="checkbox"/> Water Conservation Practices | <input type="checkbox"/> Temporary Stream Crossing |
| <input type="checkbox"/> Material/Equipment Use Over water | <input type="checkbox"/> Vehicle & Equipment Fueling & Maintenance | |
| <input type="checkbox"/> Other (specify): _____ | | |

• ***Waste Management & Materials Pollution Control BMPs***

- | | | |
|---|---|---|
| <input type="checkbox"/> Spill Prevention & Control | <input type="checkbox"/> Liquid Waste Management | <input type="checkbox"/> Sanitary/Septic Waste Management |
| <input type="checkbox"/> Stockpile Management | <input type="checkbox"/> Concrete Waste Management (Washout Area) | <input type="checkbox"/> Hazardous Waste Management |
| <input type="checkbox"/> Solid Waste Management | <input type="checkbox"/> Material Delivery/Storage/Use | <input type="checkbox"/> Contaminated Waste Management |

Other (specify): _____

• ***Permanent Stabilization BMPs***

Retaining Walls Infiltration Basins Outlet Protection/Velocity Dissipation

Biofilters Vegetative Buffers Earth Dikes, Drainage Swales & Lined Ditches

Porous Pavement Slope Protection Detention/Retention Devices

Other (specify): _____

(10) Description of BMPs:

Describe both structural and non-structural BMPs that will be used at the site.

(a) Provide the following general information for each BMP type which will be used one or more times at the site:

BMP Type 1:

Physical description:

Site conditions required:

Installation/construction procedures (including typical drawing):

Operation/maintenance procedures and schedules:

BMP Type 2:

Physical description:

Site conditions required:

Installation/construction procedures (including typical drawing):

Operation/maintenance procedures and schedules:

(b) Provide the following information for each specific instance where a BMP is to be installed:

- 1) The BMP is temporary or permanent
- 2) When the BMP will be installed in relation to each phase of the land disturbance procedures to complete the project
- 3) Site conditions required before removal of the temporary BMP

BMP 1:

The BMP is temporary , or permanent .

Describe when the BMP will be installed in relation to each phase of the land disturbance procedures to complete the project:

Installation/construction procedures (including typical drawing):

Operation/maintenance procedures and schedules:

BMP 2:

The BMP is temporary , or permanent .

Describe when the BMP will be installed in relation to each phase of the land disturbance procedures to complete the project:

Installation/construction procedures (including typical drawing):

Operation/maintenance procedures and schedules:

7. Site Map Requirements:

Create a legible site map or multiple maps if necessary, identifying:

- (a) Site boundaries of the property;
- (b) Locations of all waters of the state (including wetlands) within the site and half a mile downstream of the site's outfalls;
- (c) Location of all outfalls;
- (d) Location of stormwater inlets and conveyances including ditches, pipes, man-made conduits, and swales;
- (e) Areas of soil disturbance and areas that will not be disturbed (or a statement that all areas of the site will be disturbed unless otherwise noted);
- (f) Locations of on-site and off-site material, waste, borrow, concrete washout facility, disposal of the material removed from sediment basins, equipment storage areas and stockpiles;
- (g) Designated points where vehicles will exit the site;
- (h) Location of structural and non-structural BMPs, including natural buffer areas, identified in the SWPPP;
- (i) Direction(s) of stormwater flow (use arrows) and approximate slopes before and after grading activities;
- (j) Location and timing of stabilization measures;
- (k) Areas where final stabilization has been achieved;
- (l) Change of a drainage course; and
- (m) The sloped areas for all phases of the project.

Add the maps to Appendices C and D.

8. Resources:

The contractor must select, install, use, operate, and maintain appropriate BMPs for the permitted sites. The following manuals are acceptable resources for the selection of appropriate BMPs, but should not be considered exclusive:

- Kansas City Metro Chapter of the American Public Works Association:
Design Guidance Documents: Division 5100 Erosion and Sediment Control manual.

Standard Drawings: Erosion and Sediment Control Details (2/2017)
http://kcmetro.apwa.net/Content/Chapters/kcmetro.apwa.net/File/Specifications%2FErosion%20and%20Sediment%20Control_Details_APWA%20021517.pdf
- National Menu of Best Management Practices (BMPs) for Stormwater-Construction. United States Environmental Protection Agency USEPA (1/27/2022).
<https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater-construction>
- Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites. United States Environmental Protection Agency (USEPA), EPA 833-R-06-004 (May 2007).
https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf
- Developing a Stormwater Pollution Prevention Plan (SWPPP)
<https://www.epa.gov/npdes/developing-stormwater-pollution-prevention-plan-swppp>
- Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri. Missouri Department of Natural Resources. 1/7/2016
<https://dnr.mo.gov/document-search/protecting-water-quality-field-guide>

PART IV: PROJECT INFORMATION
(To be completed by OWNER DEPARTMENT & GENERAL CONTRACTOR)

1. Project Contact Information

City Department: _____
Project Manager's Name: _____
Address: _____
Phone: _____ **Fax:** _____
E-mail: _____ **Cell Phone:** _____

Note: The project manager is responsible for notifying the landowner and each contractor or entity (including utility crews and city employees or their agents) who will perform work at the site, of the existence of the SWPPP, and what actions or precautions shall be taken while on site to minimize the potential for erosion and the potential for damaging any BMP. The project manager and owner department are responsible for any damage a subcontractor may do to established BMPs, and any subsequent water quality violation resulting from the damage.

General Contractor's Name: _____
Company Name: _____
Address: _____
City: _____ **State:** _____ **Zip Code:** _____
Phone: _____ **Fax:** _____
E-mail: _____ **Cell Phone:** _____

Contractor's Environmental Lead

Designated Individual: _____
Address: _____
City: _____ **State:** _____ **Zip Code:** _____
Phone: _____ **Fax:** _____
E-mail: _____ **Cell Phone:** _____

Note: The General Contractor must designate an environmental lead who has primary responsibility for ensuring compliance with the Storm Water Pollution Prevention Plan (SWPPP) during construction. This environmental lead shall have knowledge in erosion, sediment, and stormwater control principles, knowledge of the permit, and the site's SWPPP. The environmental lead shall ensure all personnel and contractors understand any requirements of this permit may be affected by the work they are doing. The environmental lead or designated inspector(s) knowledgeable in erosion, sediment, and stormwater control principles, shall inspect all structures that function to prevent or minimize pollution of Waters of the State.

State Contacts for Spills, Overflows, and Other Unauthorized Discharges:

Should an unauthorized discharge cause or permit any contaminants, other than sediment, or hazardous substance to discharge or enter waters of the state, the unauthorized discharge must be reported to the Missouri Department of Natural Resources regional office, **(816) 251-0700**, as soon as practicable but no more than 24 hours after the discovery of the discharge.

If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's Environmental Emergency Response hotline at **(573) 634-2436**. Leaving a message on a Department staff member voice-mail does not satisfy this reporting requirement.

Note: A record of all spills shall be retained with the SWPPP and made available to the Department upon request.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. Sequence of Construction:

The General Contractor must complete the following intended construction sequence and timing for major activities, including any opportunities for phasing, grading and stabilization activities to minimize the overall amount of disturbed soil that will be subject to potential erosion at one time.

Phase	BMP's & Stabilization Methods
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
10) _____	_____
11) _____	_____
12) _____	_____
13) _____	_____
14) _____	_____
15) _____	_____
16) _____	_____
17) _____	_____

PART V: BMP PERFORMANCE REQUIREMENTS **(To be Implemented by GENERAL CONTRACTOR)**

1. On-site Record Keeping

- (1) The SWPPP must be developed and implemented prior to conducting any land disturbance activities and must be specific to the land disturbance activities at the site.
- (2) The SWPPP shall be updated any time site conditions warrant adjustments to the project or BMPs. See Part I. General Requirements – 1. SWPPP Update and 2. Record of SWPPP Update.
- (3) An electronic copy or a paper copy of the SWPPP, and any required reports, must be accessible to anyone on site at all times when land disturbance operations are in process or other operational activities that may affect the maintenance or integrity of the BMP structures and made available.
- (4) A log of each inspection and/or copy of the inspection report shall be kept readily accessible and must be made available upon request by the Missouri Department of Natural Resources. Electronic logs are acceptable, as long as reports can be provided within 24 hours. The inspection report shall be signed by the environmental lead or designated inspector.
- (5) A record of all spills shall be retained with the SWPPP.

2. General Requirements

(1) Notification Sign:

A public notification sign shall be posted at the main entrance to the site, or a publicly visible location, with the specific MOR100 permit number. See Appendix B. for the sign. The public notification sign must be visible from the public road that provides access to the site's main entrance. An alternate location is acceptable provided the public can see it and it is noted in the SWPPP. The public notification sign must remain posted at the site until the site is finalized.

(2) Housekeeping Practices:

Good housekeeping practices shall be maintained at all times to keep waste from entering waters of the state.

- (a) Provide solid and hazardous waste management practices, including providing trash containers, regular site cleanup for proper disposal of solid waste such as scrap building material, product/material shipping waste, food/beverage containers, spent structural BMPs;
- (b) Provide containers and methods for proper disposal of waste paints, solvents, and cleaning compounds.
- (c) Manage sanitary waste. Portable toilets shall be positioned so they are secure and will not be tipped or knocked over and so they are located away from waters of the state and stormwater inlets and stormwater conveyances.
- (d) Ensure the storage of construction materials be kept away from drainage courses, stormwater conveyances, storm drain inlets, and low areas.

(3) Fueling Facilities:

All fueling facilities present shall, at all times adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers.

(4) Equipment and Vehicle Washing:

No detergents, additives, or soaps of any kind shall be discharged. Rinse waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.

(5) Hazardous Wastes:

Any hazardous wastes that are generated onsite shall be managed, stored, and transported according to the provisions of the Missouri Hazardous Waste Laws and Regulations.

(6) Material and Chemical Storage:

- (a) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater;
- (b) Store all paints, solvents, petroleum products, petroleum waste products, and storage containers (such as drums, cans, or cartons) so they are not exposed to stormwater or provide other prescribed BMPs (such as plastic lids and/or portable spill pans) to prevent the commingling of stormwater with container contents. Commingled water may not be discharged.

- (c) Provide spill prevention, control, and countermeasures to contain the spill. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall prevent the contamination of groundwater.

(7) Leak and Spill Prevention:

Implement measures intended to prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicles and equipment to thereby prevent the contamination of stormwater from these substances. This may include prevention measures such as, but not limited to, utilizing drip pans under vehicles and equipment stored outdoors, covering fueling areas, using dry clean-up methods, use of absorbents, and cleaning pavement surfaces to remove oil and grease.

(8) Spills, Overflows, and Other Unauthorized Discharges:

- (a) Any spill, overflow, or other discharge not specifically authorized in the permit are unauthorized.
- (b) Spills must be cleaned up as soon as possible to prevent entrainment in stormwater.
- (c) Should a spill or an unauthorized discharge cause or permit any contaminants, other than sediment, or hazardous substance to discharge or enter waters of the state, the unauthorized discharge must be reported to the Missouri Department of Natural Resources regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a Department staff member voice-mail does not satisfy this reporting requirement.
- (d) A record of all spills shall be retained with the SWPPP and made available to the Missouri Department of Natural Resources upon request.

3. Structural BMP Installation and Maintenance

All BMPs shall be properly installed and operational at the locations and relative times specified in the SWPPP. Installation of BMPs necessary to prevent soil erosion and sedimentation at the downgradient project boundary (e.g. buffers, perimeter controls, exit point controls, storm drain inlet protection) must be complete prior to the start of all phases of construction. By the time construction activity in any given portion of the site begins, downgradient BMPs must be installed and operational to control discharges from the initial site clearing, grading, excavating, and other earth-disturbing activities. Additional BMPs shall be installed as necessary throughout the life of the project.

All BMPs shall be maintained and remain in effective operating condition during the entire duration of the project, with repairs made within the timeframes specified elsewhere in this permit, until final stabilization has been achieved. BMPs must be protected from activities that would reduce their effectiveness. Any sediment must be removed per the BMP manufacturer's instructions or before it has accumulated to one-half of the above-ground height of any BMP that collects sediment (i.e., silt fences, sediment traps, etc.). The project is considered to achieve final stabilization when Condition 5 listed below is met.

(1) Perimeter Control BMPs:

- (a) Perimeter control BMPs for runoff from disturbed areas shall be installed before general site clearing is started. Note this requirement does not apply to earth disturbances related to initial site clearing and establishing entry, exit, or access of the site, which may require that stormwater controls be installed immediately after the earth disturbance.
- (b) For phased projects, BMPs shall be properly installed as necessary prior to construction activities.
- (c) Install sediment controls along any perimeter areas of the site that are downgradient from any exposed soil or other disturbed areas. Prevent stormwater from circumventing the edge of the perimeter control. For sites where perimeter controls are infeasible, other practices shall be implemented to minimize discharges to perimeter areas of the site.
- (d) Stormwater discharges which leave the site from disturbed areas shall pass through an appropriate impediment to sediment movement such as a sedimentation basin, sediment traps (including vegetative buffers), or silt fences prior to leaving the land disturbance site.

(2) Stockpiles or Land Clearing Debris Piles of Sediment or Soil:

- (a) Install a sediment barrier along all downgradient perimeter areas;
- (b) Divert surface flows around stockpiles to reduce and minimize erosion of the stockpile.
- (c) For piles that will be unused for 14 or more days, provide cover with appropriate temporary stabilization.
- (d) It is prohibited to rinse, sweep, or otherwise place any soil, sediment, debris, or stockpiled product which has accumulated on pavement or other impervious surfaces into any stormwater conveyance, storm drain inlet, or Water of the State.

(3) Sedimentation Basins:

A sedimentation basin shall be used for each drainage area with ten or more acres disturbed at one time.

- (a) Sediment basins shall not be constructed in any Waters of the State or natural buffer zones.
- (b) Both temporary and permanent sedimentation basins shall have a stabilized spillway to minimize the potential for erosion of the spillway or basin embankment.
- (c) The basin shall be maintained until final stabilization of the disturbed area served by the basin.
- (d) Accumulated sediment shall not exceed 50% of total volume or as prescribed in the design, whichever is less.
- (e) Dewatering:
 - 1) Discharges from dewatering activities shall be managed by appropriate controls as specified in the SWPPP. Appropriate controls may include, but are not limited to, sediment socks, dewatering tanks, tube settlers, weir tanks, filtration systems (e.g. bag or sand filters), and passive treatment systems that are designed to remove or retain sediment.
 - 2) Erosion controls and velocity dissipation devices (e.g., check dams, riprap, and vegetated buffers) to minimize erosion at inlets, outlets, and discharge points from shall be utilized.
 - 3) Water with an oil sheen, or visible floating solids and foam shall not be discharged.
 - 4) Prevent discharges to the receiving stream causing excessive visual turbidity. Visual turbidity refers to a sediment plume or other cloudiness in the water caused by sediment that can be identified by an observer.
 - 5) Until final stabilization has been achieved, sediment basins and impoundments shall utilize outlet structures or floating skimmers that withdraw water from the surface when discharging. Under frozen conditions, it may be considered infeasible to withdraw water from the surface and an exception can be made for that specific period as long as discharges that may contain sediment and other pollutants are managed by appropriate controls. If determined infeasible due to frozen conditions, documentation must be provided in the SWPPP to support the determination, including the specific conditions or time period when this exception applies.

(4) Sediment Trackout and Sediment Transport:

Minimize sediment trackout from the site and sediment transport onto roadways.

- (a) Restrict vehicle traffic to designated exit points.
- (b) Use appropriate stabilization techniques or BMPs at all points that exit onto paved roads or areas outside of the site.
- (c) Use additional controls or BMPs to remove sediment from vehicle and equipment tires prior to exit from facility where necessary.
- (d) Any sediment or debris that is tracked out past the exit pad or is deposited on a roadway after a precipitation event shall be removed by the shorter of either the same business day (for business days only), or by the end of the next business day if track-out occurs on a non-business day, and before predicted rain events. Remove the track-out sediment by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. Sediment or debris tracked out on pavement or other impervious surfaces shall not be disposed of into any stormwater conveyance, storm drain inlet, or Waters of the State.
- (e) Stormwater inlets susceptible to receiving sediment or other pollutants from the permitted land disturbance site shall have curb inlet protection. This may include inlets off the active area where track out from vehicles and equipment could impact the stormwater runoff to those inlets.

(5) Concrete Washout Facilities:

Concrete washout facilities shall be used to contain concrete waste from the activities onsite, unless the washout of trucks and equipment is managed properly at an off-site location. The washout facility shall be managed to prevent solid and/or liquid waste from entering Waters of the State by the following:

- (a) Direct the wash water into leak-proof containers or pits designed so that no overflows can occur due to inadequate sizing or precipitation;
- (b) Locate washout activities away from Waters of the State, stormwater inlets, and/or stormwater conveyances where practicable. If not practicable, use BMPs to reduce risk of waste leaving the washout facility;
- (c) Washout facilities shall be cleaned, or new facilities must be constructed and ready for use, once the washout is 75% full;
- (d) Designate the washout area(s) and conduct such activities only in these areas.
- (e) Ensure contractors are aware of the location, such as by marking the area(s) on the map or signage visible to the truck and/or equipment operators.

(6) Immediate Stabilization After Soil Disturbing Activities:

Soil disturbing activities on site that have ceased either temporarily or permanently shall initiate stabilization immediately in accordance with the options below.

- (a) For soil disturbing activities that have been temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days:
 - 1) BMPs shall be constructed to establish interim stabilization;
 - 2) Interim stabilization must be initiated immediately and completed within 14 calendar days.
- (b) For soil disturbing activities that have been permanently ceased on any portion of the site:
 - 1) Final stabilization of disturbed areas shall be implemented;
 - 2) Final stabilization must be initiated immediately and completed within 14 calendar days.
- (c) If the slope of the area is greater than 3:1 (three feet horizontal to one foot vertical), then interim stabilization shall be established within seven calendar days of ceasing operations on that part of the site.
- (d) Allowances to the 14-day completion period for temporary and final stabilization may be made due to weather and equipment malfunctions. The use of allowances shall be documented in the SWPPP. Allowances may be determined unnecessary after review by the Department.
- (e) The following activities would constitute the immediate initiation of stabilization:
 - 1) Prepping the soil for vegetative or non-vegetative stabilization as long as seeding, planting, and/or installation of non-vegetative stabilization products takes place as soon as practicable;
 - 2) Applying mulch or other non-vegetative product to the exposed areas;
 - 3) Seeding or planting the exposed areas;
 - 4) Finalizing arrangements to have stabilization product fully installed in compliance with the deadlines for completing stabilization.
- (f) Until stabilization is complete, interim sediment control shall consist of well-established and maintained BMPs that are reasonably certain to protect waters of the state from sediment pollution over an extended period of time. This may require adding more BMPs to an area than is normally used during daily operations. The types of BMPs used must be suited to the area disturbed, taking into account the number of acres exposed and the steepness of the slopes.
- (g) If vegetative stabilization measures are being implemented, stabilization is considered “installed” when all activities necessary to seed or plant the area are completed. Installed does not mean established.
- (h) If non-vegetative stabilization measures are being implemented, stabilization is considered “installed” when all such measures are implemented or applied. Non-vegetative stabilization shall prevent erosion and shall be chosen for site conditions, such as slope and flow of stormwater.
- (i) Final stabilization is not considered achieved until vegetation has grown and established to meet the requirements below.

(7) Final Stabilization:

Prior to removal of BMPs, ceasing site inspections, and removing from the quarterly report, final stabilization must be achieved. Final stabilization shall be achieved as soon as possible once land disturbance activities have ceased.

Document in the SWPPP the type of stabilization and the date final stabilization is achieved.

- (a) The project is considered to have achieved final stabilization when perennial vegetation (excluding volunteer vegetation), pavement, buildings, or structures using permanent materials (e.g., riprap, gravel, etc.) cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetation must be at least **70%** coverage of 100% of the vegetated areas on site. Vegetation must be evenly distributed.
- (b) Disturbed areas on agricultural land are considered to have achieved final stabilization when they are restored to their preconstruction agricultural use. If former agricultural land is changing to non-agricultural use, this is no longer considered agricultural land and shall follow condition (a).
- (c) If the intended function of a specific area of the site necessitates that it remains disturbed, final stabilization is considered achieved if all of the following are met:
 - 1) Only the minimum area needed remains disturbed (i.e., dirt access roads, motocross tracks, utility pole pads, areas being used for storage of vehicles, equipment, materials). Other areas must meet the criteria above.
 - 2) Permanent structural BMPs (e.g., rock checks, berms, grading, etc.) or non-vegetative stabilization measures are implemented and designed to prevent sediment and other pollutants from entering waters of the state.
 - 3) Inspection requirements in Part IV. SWPPP MANAGEMENT REQUIREMENT, Condition 11 are met and documented in the SWPPP.
 - 4) Winter weather and frozen conditions do not excuse any of the above final stabilization requirements. If vegetation is required for stabilization the permittee must maintain BMPs throughout winter weather and frozen conditions until thawing and vegetation meets final stabilization criteria above. Document stabilization attempts during frozen conditions in the SWPPP. Consider future freezing when removing vegetation and plan with temporary stabilization techniques before the ground becomes frozen.

PART VI: SITE INSPECTION REPORT (To be Maintained by GENERAL CONTRACTOR)

Refer to page 4 in Part III. Project Planning & Design, specify the **2-year, 24-hour storm event** for the project location:
_____ inch.

Specify the notification method when stormwater runoff occurs: _____

1. Site Inspector:

Regularly scheduled inspections shall be conducted by a qualified person (an inspector). An inspector can be the environmental lead or a person trained by and directly supervised by the environmental lead. The inspector shall be knowledgeable in erosion, sediment, and stormwater control principles, and shall have knowledge of the permit, and the site's SWPPP.

2. Scope of Inspection:

Refer to **Appendix E** for the site inspection report. Site inspections shall include, at a minimum, the following:

- (1) Inspect all structures that function to prevent or minimize pollution of Waters of the State.
- (2) For disturbed areas that have not achieved final stabilization, all installed BMPs and other pollution control measures shall be inspected to ensure they are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
- (3) For areas on site that have achieved either temporary or final stabilization, while at the same time active construction continues on other areas, ensure that all stabilization measures are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
- (4) Inspect all material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit. Inspect for conditions that could lead to spills, leaks, or other accumulations of pollutants on the site.
- (5) Inspect all areas where stormwater typically flows within the site, including drainage ways designed to divert, convey, and/or treat stormwater.
- (6) All stormwater outfalls shall be inspected for evidence of erosion, sediment deposition, or impacts to the receiving stream. If a discharge is occurring during an inspection, the inspector must observe and document the visual quality of the discharge and take note of the characteristics of the stormwater discharge, including turbidity, color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.
- (7) When practicable the receiving stream shall also be inspected for a minimum of 50 feet downstream of the outfall.
- (8) The perimeter of the site shall be inspected for evidence of BMP failure to ensure concentrated flow does not develop a new outfall.

3. Inspection Frequency:

All BMPs must be inspected in accordance to one of the schedules listed below. The inspection frequency shall be documented in the table below, and any changes to the frequency of inspections, including switching between the options listed below, must be documented on the inspection report:

- (1) **7-day option:** at least once every seven (7) calendar days and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased during a normal workday or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday; or
- (2) **14-day option:** once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches of precipitation or greater, or the occurrence of runoff from snowmelt. To determine if a storm event of 0.25 inches or greater has occurred on the site, the permittee shall either keep a properly maintained rain gauge on site, or obtain the storm event information from a weather station near the site location.
 - (a) Inspections are only required during the project's normal working hours.
 - (b) An inspection must be conducted within 24 hours of a storm event which has produced 0.25 inches. The inspection shall be conducted within 24 hours of the event end, or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
 - (c) If it is elected to inspect every 14 calendar days and there is a storm event at the site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee shall conduct an inspection

4) Outfalls examined for visual signs of erosion or sedimentation at outfalls. Excessive erosion or sedimentation may be due to BMP failure or insufficiency. Response to observations should be addressed in the inspection report.

(d) Corrective actions taken or necessary to correct the observed problem.

(e) Listing of areas where land disturbance operations have permanently or temporarily stopped.

5. Inspection Follow-up

Any structural or maintenance deficiencies for BMPs or stabilization measures shall be documented and corrected as soon as possible, but no more than seven (7) calendar days after the inspection.

- (1) Corrective action documentation shall be stored with the associated site inspection report.
- (2) Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events.
- (3) If weather conditions or other issues prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (this may include pictures) and there must be a narrative explaining why the work cannot be accomplished within the seven-day time period. The problem shall be corrected as soon as weather conditions or issues allow.
- (4) Corrective actions may be required by the Missouri Department of Natural Resources. The site operator must comply with any corrective actions required by the Department as a result of permit violations found during an inspection.

Appendix A – SWPPP Update and Modification Log

Appendix B – Public Notification Sign



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

STORMWATER DISCHARGES FROM
THIS LAND DISTURBANCE SITE ARE
AUTHORIZED BY THE MISSOURI
STATE OPERATING PERMIT NUMBER:

ANYONE WITH QUESTIONS OR
CONCERNS ABOUT STORMWATER
DISCHARGES FROM THIS SITE,
PLEASE CONTACT THE MISSOURI
DEPARTMENT OF NATURAL
RESOURCES AT

1-800-361-4827

Appendix C – General Location Map

Attach the General Location Map

Appendix D – Site Map(s)

SITE MAP REQUIREMENTS:

The first should show the undeveloped site and its current features. An additional map or maps should be created to show the developed site. These maps should include the following:

- Site boundaries of the property;
- Locations of all Waters of the State (including wetlands) within the site and half a mile downstream of the site's outfalls;
- Location of all outfalls;
- Location of stormwater inlets and conveyances including ditches, pipes, man-made conduits, and swales;
- Areas of soil disturbance and areas that will not be disturbed (or a statement that all areas of the site will be disturbed unless otherwise noted);
- Locations of on-site and off-site material, waste, borrow, concrete washout facility, disposal of the material removed from sediment basins, equipment storage areas and stockpiles;
- Designated points where vehicles will exit the site;
- Location of structural and non-structural BMPs, including natural buffer areas, identified in the SWPPP;
- Direction(s) of stormwater flow (use arrows) and approximate slopes before and after grading activities;
- Location and timing of stabilization measures;
- Areas where final stabilization has been achieved;
- Change of a drainage course; and
- The sloped areas for all phases of the project.

Attach SITE MAPs.

Appendix E – Site Inspection Reports

Instructions

Using the Inspection Report

This inspection report is designed to be customized according to the BMP's and conditions at your site. For ease of use, you should take a copy of your site plan and number all of the stormwater BMPs and areas of your site that will be inspected. A brief description of the BMP or area should then be listed in the site-specific section of the inspection report. For example, specific structural BMPs such as construction site entrances, sediment ponds, or specific areas with silt fence (e.g., silt fence along Main Street; silt fence along slope in NW corner, etc.) should be numbered and listed. You should also number specific non-structural BMPs or areas that will be inspected (such as trash areas, material storage areas, temporary sanitary waste areas, etc.).

You can complete the items in the "General Information" section that will remain constant, such as the project name, NPDES tracking number, and inspector (if you only use one inspector). Print out multiple copies of this customized inspection report to use during your inspections.

When conducting the inspection, walk the site by following your SITE MAP and numbered BMPs/areas for inspection.

Also note whether the overall site issues have been addressed (customize this list according to the conditions at your site). Note any required corrective actions, the date, and responsible person for the correction in the Corrective Action Log.

8		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
13		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
14		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
15		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
16		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
17		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
18		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
19		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
20		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions at your site.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Timeline Requirements
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4	Are discharge points free of sediment deposition, erosion, or impacts on the receiving stream?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	If practicable, is the receiving stream (including 50 ft or more downstream) free from the impact of the discharge points?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
5	Are storm drain inlets properly protected?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
6	Is the construction exit equipped to prevent sediment from being tracked out?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

7	Is trash, litter or other type of waste on site properly handled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
9	Are vehicle and equipment fueling, cleaning, storage and maintenance areas free of spills, leaks, or any other deleterious material?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
10	Are materials that are potential stormwater contaminants stored inside or under cover?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	
12	(Other)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Non-Compliance

CERTIFICATION STATEMENT

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Print name and title: _____

Signature: _____ Date: _____

Appendix F – City’s Construction General Permit & Additional Information

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-R100000

Owner:
Address:

Continuing Authority:
Address:

Facility Name:
Facility Address:

Legal Description:
UTM Coordinates:

Receiving Stream:
First Classified Stream and ID:
USGS Basin & Sub-watershed No.:

is authorized to discharge from the facility described herein, in accordance with the effluent limitations, inspection, reporting, and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

All Outfalls

Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, filling, and other activities that result in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution to waters of the state).

This permit authorizes stormwater and certain non-stormwater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

July 5, 2022
Effective Date

June 30, 2027
Expiration Date

Chris Wieberg, Director, Water Protection Program

I. APPLICABILITY

A. Permit Coverage and Authorized Discharges

1. This Missouri State Operating Permit (permit) authorizes the discharge of stormwater and certain non-stormwater discharges from land disturbance sites that disturb one or more acres, or disturb less than one acre when part of a larger common plan of development or sale that will disturb a cumulative total of one or more acres over the life of the project.

A Missouri State Operating Permit must be issued before any site vegetation is removed or the site disturbed. Any site owner/operator subject to these requirements for stormwater discharges and who disturbs land prior to permit issuance from the Missouri Department of Natural Resources (Department) is in violation of both State regulations per 10 CSR 20-6.200(1)(A) and Federal regulations per 40 CFR 122.26. The owner/operator of this permit is responsible for compliance with this permit [10 CSR 20-6.200 (3)(B)].

2. This general permit is issued to a city, county, state or federal agency, other governmental jurisdiction, or other private area-wide projects as determined by the Department on a case-by-case basis, for land disturbance projects performed by or under contract to the permittee.
3. This permit authorizes stormwater discharges from land disturbance support activities (e.g., equipment staging yards, material storage areas, excavated material disposal areas, borrow areas, concrete, or asphalt batch plants) provided appropriate stormwater controls are designed, installed, and maintained and the following conditions are met and addressed in the Stormwater Pollution Prevention Plan (SWPPP). The permittee is responsible for compliance with this permit for any stormwater discharges from construction support activity.
 - (a) The support activity is directly related to the construction site required to have permit coverage for stormwater discharges;
 - (b) The support activity is not a commercial operation or serve multiple unrelated construction sites;
 - (c) The support activity does not continue to operate beyond the completion of the construction activity at the project it supports;
 - (d) Sediment and erosion controls are implemented in accordance with the conditions of this permit; and
 - (e) The support activity is strictly stormwater discharges or non-stormwater discharges listed in PART I, APPLICABILITY, Condition A.4. Support activities which discharge process water shall apply for separate coverage (e.g., a concrete batch plant discharging process water shall be covered under a MOG49).
4. This permit authorizes non-stormwater discharges associated with your construction activity from the following activities provided that these discharges are treated by appropriate Best Management Practices (BMPs) where applicable and addressed in the permittee's site specific SWPPP required by this general permit:
 - (a) Discharges from emergency fire-fighting activities;
 - (b) Hydrant flushing and water line flushing, provided the discharged water is managed to avoid instream water quality impacts;
 - (c) Landscape watering, including to establish vegetation;
 - (d) Water used to control dust;
 - (e) Waters used to rinse vehicles and equipment, provided there is no discharge of soaps, solvents, or detergents used for such purposes;
 - (f) External building washdown, provided soaps, solvents, and detergents are not used, and external surfaces do not contain hazardous substances (e.g., paint or caulk containing polychlorinated biphenyls (PCBs))
 - (g) Pavement wash waters, provided spills or leaks of toxic or hazardous substances have not occurred (unless all spill material has been removed) and where soaps, solvents, and detergents are not used. Directing pavement wash waters directly into any water of the state, storm drain inlet, or stormwater conveyance (constructed or natural site drainage features), unless the conveyance is connected to an effective control, is prohibited;
 - (h) Uncontaminated air conditioning or compressor condensate;
 - (i) Uncontaminated, non-turbid discharges of ground water or spring water;
 - (j) Foundation or footing drains where flows are not contaminated with process materials; and
 - (k) Uncontaminated construction dewatering water discharged in accordance with requirements found in this permit for specific dewatering activities.

B. Permit Restrictions and Limitations

1. This permit does not authorize the discharge of process wastewaters, treated or otherwise.
2. For sites operating within the watershed of any Outstanding National Resource Water (which includes the Ozark National Riverways and the National Wild and Scenic Rivers System), sites that discharge to an Outstanding State Resource Water, or facilities located within the watershed of an impaired water as designated in the Clean Water Act (CWA) Section 303(d) list with an impairment for sedimentation/siltation:
 - (a) This permit authorizes stormwater discharge provided no degradation of water quality occurs due to discharges from the permitted facility per 10 CSR 20-7.031(3)(C).
 - (b) A site with a discharge found to be causing degradation or contributing to an impairment by discharging a pollutant of concern, during an inspection or through complaint investigations, may be required to become a no discharge facility or obtain a site-specific permit with more stringent monitoring and SWPPP requirements.
3. This permit does not allow placement of fill material into any stream or wetland, alteration of a stream channel, or obstruction of stream flow unless the appropriate CWA Section 404 permitting authority provides approval for such actions or determines such actions are exempt from Section 404 jurisdiction. Additionally, this permit does not authorize placement of fill in floodplains unless approved or determined exempt by appropriate federal and/or state floodplain development authorities.
4. This operating permit does not affect, remove, or replace any requirement of the National Environmental Policy Act; the Endangered Species Act; the National Historic Preservation Act; the Comprehensive Environmental Response, Compensation and Liability Act; the Resource Conservation and Recovery Act; or any other relevant acts. Determination of applicability to the above mentioned acts is the responsibility of the permittee. Additionally, this permit does not establish terms and conditions for runoff resulting from silvicultural activities listed in Section 402(1)(3)(a) of the Clean Water Act.
5. Compliance with all requirements in this permit does not supersede any requirement for obtaining project approval from an established local authority nor remove liability for compliance with county and other local ordinances.
6. The Department may require any facility or site authorized by a general permit to apply for a site-specific permit [10 CSR 20-6.010(13)(C)].
7. If a facility or site covered under a current general permit desires to apply for a site-specific permit, the facility or site may do so by contacting the Department for application requirements and procedures.
8. Any discharges not expressly authorized in this permit and not clearly disclosed in the permit application cannot become authorized or shielded from liability under CWA section 402(k) or Section 644.051.16, RSMo, by disclosure to EPA, state, or local authorities after issuance of this permit via any means, including any other permit applications, funding applications, the SWPPP, discharge monitoring reporting, or during an inspection. Discharges at the facility not expressly authorized by this permit must be covered by another permit, be exempt from permitting, or be authorized through some other method.

II. EXEMPTIONS FROM PERMIT REQUIREMENTS

1. Sites that discharge all stormwater runoff directly to a combined sewer system (as defined in 40 CFR 122.26 and 40 CFR 35.2005) connecting to a publicly owned treatment works which has consented to receive such a discharge are exempt from Department stormwater permit requirements.
2. Land disturbance activities that disturb less than one (1) acre of total land area which are not part of a common plan or sale where water quality standards are not exceeded are exempt from Department stormwater permit requirements.

3. Oil and gas related activities as listed in 40 CFR 122.26(a)(2)(ii) where water quality standards are not exceeded are exempt from Department stormwater permit requirements.
4. Linear, strip, or ribbon construction or maintenance operations meeting one (1) of the following criteria are exempt from Department stormwater permit requirements:
 - (a) Grading of existing dirt or gravel roads which does not increase the runoff coefficient and the addition of an impermeable surface over an existing dirt or gravel road;
 - (b) Cleaning or routine maintenance of roadside ditches, sewers, waterlines, pipelines, utility lines, or similar facilities;
 - (c) Trenches two (2) feet in width or less; or
 - (d) Emergency repair or replacement of existing facilities as long as BMPs are employed during the emergency repair.

III. REQUIREMENTS

1. The permittee shall post a public notification sign at the main entrance to the site, or a publically visible location, with the specific MOR100 permit number. The public notification sign must be visible from the public road that provides access to the site's main entrance. An alternate location is acceptable provided the public can see it and it is noted in the SWPPP. The public notification sign must remain posted at the site until the site is finalized.
2. The permittee shall be responsible for notifying the land owner and each contractor or entity (including utility crews and city employees or their agents) who will perform work at the site of the existence of the SWPPP and what actions or precautions shall be taken while on site to minimize the potential for erosion and the potential for damaging any BMP. The permittee is responsible for any damage a subcontractor may do to established BMPs and any subsequent water quality violation resulting from the damage.
3. Ensure the design, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants. At a minimum, such controls must be designed, installed, and maintained to:
 - (a) Control stormwater volume, velocity, and peak flow rates to minimize soil erosion;
 - (b) Control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion and scour;
 - (c) Minimize the amount of exposed soil during construction activity;
 - (d) Minimize the disturbance of steep slopes;
 - (e) Minimize sediment discharges from the site. Address factors such as:
 - 1) The amount, frequency, intensity, and duration of precipitation;
 - 2) The nature of resulting stormwater runoff;
 - 3) Expected flow from impervious surfaces, slopes, and drainage features; and
 - 4) Soil characteristics, including the range of soil particle size expected to be present on the site.
 - (f) Provide and maintain natural buffers around surface waters as detailed in Part V. BMP REQUIREMENTS Condition 7, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration and filtering, unless infeasible; and
 - (g) Minimize soil compaction and preserve topsoil where practicable.

A 2-year, 24-hour storm event can be determined for the project location using the National Oceanic and Atmospheric Administration's National Weather Service Atlas 14 which can be located at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html, or the permittee can determine local rainfall distribution for a 2-year, 24 hours storm event using multi-decade local high density rain gauge data, as approved by the Department.

4. BMPs for land disturbance [10 CSR 20-6.200(1)(D)2] are a schedule of activities, practices, or procedures that reduces the amount of soil available for transport or a device that reduces the amount of suspended solids in runoff before discharge to waters of the state. The term BMPs are also used to describe the sediment and erosion controls and other activities used to prevent stormwater pollution. BMPs are divided into two main categories: structural or non-structural; and they are also classified as temporary or permanent. Temporary BMPs may be added and removed as necessary with updates to the SWPPP as specified in the requirements below.

5. Installation of BMPs necessary to prevent soil erosion and sedimentation at the downgradient project boundary (e.g. buffers, perimeter controls, exit point controls, storm drain inlet protection) must be complete prior to the start of all phases of construction. By the time construction activity in any given portion of the site begins, downgradient BMPs must be installed and operational to control discharges from the initial site clearing, grading, excavating, and other earth-disturbing activities. Additional BMPs shall be installed as necessary throughout the life of the project.
6. All BMPs shall be maintained and remain in effective operating condition during the entire duration of the project, with repairs made within the timeframes specified elsewhere in this permit, until final stabilization has been achieved.
 - (a) Ensure BMPs are protected from activities that would reduce their effectiveness.
 - (b) Remove any sediment per the BMP manufacturer's instructions or before it has accumulated to one-half of the above-ground height of any BMP that collects sediment (i.e., silt fences, sediment traps, etc.)
 - (c) The project is considered to achieve final stabilization when Part V. BMP REQUIREMENTS, Condition 13 is met.
7. Minimize sediment trackout from the site and sediment transport onto roadways.
 - (a) Restrict vehicle traffic to designated exit points.
 - (b) Use appropriate stabilization techniques or BMPs at all points that exit onto paved roads or areas outside of the site.
 - (c) Use additional controls or BMPs to remove sediment from vehicle and equipment tires prior to exit from facility where necessary.
 - (d) Any sediment or debris that is tracked out past the exit pad or is deposited on a roadway after a precipitation event shall be removed by the shorter of either the same business day (for business days only), or by the end of the next business day if track-out occurs on a non-business day, and before predicted rain events. Remove the track-out sediment by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. Sediment or debris tracked out on pavement or other impervious surfaces shall not be disposed of into any stormwater conveyance, storm drain inlet, or water of the state.
 - (e) Stormwater inlets susceptible to receiving sediment or other pollutants from the permitted land disturbance site shall have curb inlet protection. This may include inlets off the active area where track out from vehicles and equipment could impact the stormwater runoff to those inlets.
8. Concrete washout facilities shall be used to contain concrete waste from the activities onsite, unless the washout of trucks and equipment is managed properly at an off-site location. The washout facility shall be managed to prevent solid and/or liquid waste from entering waters of the state by the following:
 - (a) Direct the wash water into leak-proof containers or pits designed so that no overflows can occur due to inadequate sizing or precipitation;
 - (b) Locate washout activities away from waters of the state, stormwater inlets, and/or stormwater conveyances where practicable. If not practicable, use BMPs to reduce risk of waste leaving the washout facility;
 - (c) Washout facilities shall be cleaned, or new facilities must be constructed and ready for use, once the washout is 75% full;
 - (d) Designate the washout area(s) and conduct such activities only in these areas.
 - (e) Ensure contractors are aware of the location, such as by marking the area(s) on the map or signage visible to the truck and/or equipment operators.
9. Good housekeeping practices shall be maintained at all times to keep waste from entering waters of the state.
 - (a) Provide solid and hazardous waste management practices, including providing trash containers, regular site cleanup for proper disposal of solid waste such as scrap building material, product/material shipping waste, food/beverage containers, spent structural BMPs;
 - (b) Provide containers and methods for proper disposal of waste paints, solvents, and cleaning compounds.
 - (c) Manage sanitary waste. Portable toilets shall be positioned so that they are secure and will not be tipped or knocked over and so that they are located away from waters of the state and stormwater inlets and stormwater conveyances.
 - (d) Ensure the storage of construction materials be kept away from drainage courses, stormwater conveyances, storm drain inlets, and low areas.

10. All fueling facilities present shall at all times adhere to applicable federal and state regulations concerning underground storage, above ground storage, and dispensers.
11. Any hazardous wastes that are generated onsite shall be managed, stored, and transported according to the provisions of the Missouri Hazardous Waste Laws and Regulations.
12. Store all paints, solvents, petroleum products, petroleum waste products, and storage containers (such as drums, cans, or cartons) so they are not exposed to stormwater or provide other prescribed BMPs (such as plastic lids and/or portable spill pans) to prevent the commingling of stormwater with container contents. Commingled water may not be discharged under this permit. Provide spill prevention, control, and countermeasures to contain the spill. Any containment system used to implement this requirement shall be constructed of materials compatible with the substances contained and shall prevent the contamination of groundwater.
13. Implement measures intended to prevent the spillage or loss of fluids, oil, grease, fuel, etc. from vehicles and equipment to thereby prevent the contamination of stormwater from these substances. This may include prevention measures such as, but not limited to, utilizing drip pans under vehicles and equipment stored outdoors, covering fueling areas, using dry clean-up methods, use of absorbents, and cleaning pavement surfaces to remove oil and grease.
14. Spills, Overflows, and Other Unauthorized Discharges.
 - (a) Any spill, overflow, or other discharge not specifically authorized in the permit above are unauthorized.
 - (b) Should an unauthorized discharge cause or permit any contaminants, other than sediment, or hazardous substance to discharge or enter waters of the state, the unauthorized discharge must be reported to the regional office as soon as practicable but no more than 24 hours after the discovery of the discharge. If the spill or overflow needs to be reported after normal business hours or on the weekend, the facility must call the Department's Environmental Emergency Response hotline at (573) 634-2436. Leaving a message on a Department staff member voice-mail does not satisfy this reporting requirement.
 - (c) A record of all spills shall be retained with the SWPPP and made available to the Department upon request.
 - (d) Other spills not reaching waters of the state must be cleaned up as soon as possible to prevent entrainment in stormwater but are not required to be reported to the Department.
15. The full implementation of this operating permit shall constitute compliance with all applicable federal and state statutes and regulations in accordance with RSMo 644.051.16 and the CWA §402(k); however, this permit may be reopened and modified or alternatively revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Clean Water Act §§ 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) if the effluent standard or limitation so issued or approved contains different conditions or is otherwise more stringent than any effluent limitation in the permit or controls any pollutant not limited in the permit. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, termination, notice of planned changes, or anticipated non-compliance does not stay any permit condition.

IV. STORMWATER POLLUTION PREVENTION PLAN (SWPPP) MANAGEMENT REQUIREMENTS

1. The primary requirement of this permit is the development and implementation of a SWPPP which incorporates site specific practices to best minimize the soil exposure, soil erosion, and the discharge of pollutants, including solids for each site covered under this permit.

The purpose of the SWPPP is to ensure the design, implementation, management, and maintenance of BMPs in order to prevent sediment and other pollutants in stormwater discharges associated with the land disturbance activities [40 CFR 122.44 (k)(4)] from entering waters of the state above established general and narrative criteria; compliance with Missouri Water Quality Standards; and compliance with the terms and conditions of this general permit.

- (a) **The SWPPP must be developed and implemented prior to conducting any land disturbance activities and must be specific to the land disturbance activities at the site.**
- (b) The permittee shall fully implement the provisions of the SWPPP required under this permit as a condition of this general permit throughout the term of the land disturbance project. Failure to develop, implement, and maintain a SWPPP may lead to immediate enforcement action.

- (c) The SWPPP shall be updated any time site conditions warrant adjustments to the project or BMPs.
 - (d) Either an electronic copy or a paper copy of the SWPPP, and any required reports, must be accessible to anyone on site at all times when land disturbance operations are in process or other operational activities that may affect the maintenance or integrity of the BMP structures and made available as specified under Part VIII. STANDARD PERMIT CONDITIONS, Condition 1 of this permit. The SWPPP shall be readily available upon request and should not be sent to the Department unless specifically requested
2. Failure to implement and maintain the BMPs chosen, which can be revised and updated, is a permit violation. The chosen BMPs will be the most reasonable and cost effective while also ensuring the highest quality water discharged attainable for the facility. Facilities with established SWPPPs and BMPs shall evaluate BMPs on a regular basis and change the BMPs as needed if there are BMP deficiencies.
 3. The SWPPP must:
 - (a) List and describe the location of all outfalls;
 - (b) List any allowable non-stormwater discharges occurring on site and where these discharges occur;
 - (c) Incorporate required practices identified below;
 - (d) Incorporate sediment and erosion control practices specific to site conditions;
 - (e) Discuss whether or not a 404 Permit is required for the project; and
 - (f) Name the person(s) responsible for inspection, operation, and maintenance of BMPs. The SWPPP shall list the names and describe the role of all owners/primary operators (such as general contractor, project manager) responsible for environmental or sediment and erosion control at the land disturbance site.
 4. The SWPPP briefly must describe the nature of the land disturbance activity, including:
 - (a) The function of the project (e.g., low density residential, shopping mall, highway, etc.);
 - (b) The intended sequence and timing of activities that disturb the soils at the site; and
 - (c) Estimates of the total area expected to be disturbed by excavation, grading, or other land disturbance support activities including off-site borrow and fill areas;
 5. In order to identify the site, the SWPPP shall include site information including size in acres. The SWPPP shall have sufficient information to be of practical use to contractors and site construction workers to guide the installation and maintenance of BMPs.
 6. The function of the SWPPP and the BMPs listed therein is to prevent or minimize pollution to waters of the state. A deficiency of a BMP means it was not effective in preventing or minimizing pollution of waters of the state.

The permittee shall select, install, use, operate and maintain appropriate BMPs for the permitted site. The following manuals are acceptable resources for the selection of appropriate BMPs.

Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites, (Document number EPA 833-R-06-004) published by the United States Environmental Protection Agency (USEPA) in May 2007. This manual as well as other information, including examples of construction SWPPPs, is available at the USEPA internet site at https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf; and <https://www.epa.gov/npdes/developing-stormwater-pollution-prevention-plan-swppp>.

The latest version of *Protecting Water Quality: A field guide to erosion, sediment and stormwater best management practices for development sites in Missouri*, published by the Department. This manual is available at: <https://dnr.mo.gov/document-search/protecting-water-quality-field-guide>.

The permittee is not limited to the use of these guidance manuals. Other guidance publications may be used to select appropriate BMPs. However, all BMPs must be described and justified in the SWPPP. Although the use of these manuals or other resources is recommended and may be used for BMP selection, they do not supersede the conditions of this permit. They may be used to inform in the decision making process for BMP selection but they are not themselves part of the permit conditions.

The permittee may retain the SWPPP, inspection reports, and all other associated documents (including a copy of this permit) electronically pursuant to RSMo 432.255. The documents must be made available to all interested persons in either paper or electronic format as required by this permit and the permittee must remit a copy (electronic or otherwise) of the SWPPP and inspection reports to the Department upon request.

7. The SWPPP must contain a legible site map, multiple maps if necessary, identifying:
 - (a) Site boundaries of the property;
 - (b) Locations of all waters of the state (including wetlands) within the site and half a mile downstream of the site's outfalls;
 - (c) Location of all outfalls;
 - (d) Direction(s) of stormwater flow (use arrows) and approximate slopes before and after grading activities;
 - (e) Areas of soil disturbance and areas that will not be disturbed (or a statement that all areas of the site will be disturbed unless otherwise noted);
 - (f) Location of structural and non-structural BMPs, including natural buffer areas, identified in the SWPPP;
 - (g) Locations where stabilization practices are expected to occur;
 - (h) Locations of on-site and off-site material, waste, borrow, or equipment storage areas and stockpiles;
 - (i) Designated points where vehicles will exit the site;
 - (j) Location of stormwater inlets and conveyances including ditches, pipes, man-made conduits, and swales; and
 - (k) Areas where final stabilization has been achieved.
8. An individual shall be designated by the permittee as the environmental lead. This environmental lead shall have knowledge in erosion, sediment, and stormwater control principles, knowledge of the permit, and the site's SWPPP. The environmental lead shall ensure all personnel and contractors understand any requirements of this permit may be affected by the work they are doing. The environmental lead or designated inspector(s) knowledgeable in erosion, sediment, and stormwater control principles shall inspect all structures that function to prevent or minimize pollution of waters of the state.
9. Throughout coverage under this permit, the permittee shall amend and update the SWPPP as appropriate during the term of the land disturbance activity. All SWPPP modifications shall be signed and dated. The permittee shall amend the SWPPP to incorporate any significant site condition changes which impact the nature and condition of stormwater discharges. At a minimum, these changes include whenever the:
 - (a) Location, design, operation, or maintenance of BMPs is changed;
 - (b) Design of the construction project is changed that could significantly affect the quality of the stormwater discharges;
 - (c) The permittee's inspections indicate deficiencies in the SWPPP or any BMP;
 - (d) Department notifies the permittee in writing of deficiencies in the SWPPP;
 - (e) SWPPP is determined to be ineffective in minimizing or controlling erosion and sedimentation (e.g., there is visual evidence of excessive site erosion or sediment deposits in streams, lakes, or downstream waterways, sediment or other wastes off site); and/or
 - (f) Department determines violations of water quality standards may occur or have occurred.
10. Site Inspections: The environmental lead, or a designated inspector, shall conduct regularly scheduled inspections. These inspections shall be conducted by a qualified person, one who is responsible for environmental matters at the site, or a person trained by and directly supervised by the person responsible for environmental matters at the site. Site inspections shall include, at a minimum, the following:
 - (a) For disturbed areas that have not achieved final stabilization, all installed BMPs and other pollution control measures shall be inspected to ensure they are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
 - (b) For areas on site that have achieved either temporary or final stabilization, while at the same time active construction continues on other areas, ensure that all stabilization measures are properly installed, appear to be operational, and are working as intended to minimize the discharge of pollutants.
 - (c) Inspect all material, waste, borrow, and equipment storage and maintenance areas that are covered by this permit. Inspect for conditions that could lead to spills, leaks, or other accumulations of pollutants on the site.
 - (d) Inspect all areas where stormwater typically flows within the site, including drainage ways designed to divert, convey, and/or treat stormwater.

- (e) All stormwater outfalls shall be inspected for evidence of erosion, sediment deposition, or impacts to the receiving stream. If a discharge is occurring during an inspection, the inspector must observe and document the visual quality of the discharge and take note of the characteristics of the stormwater discharge, including turbidity, color; odor; floating, settled, or suspended solids; foam; oil sheen; and other indicators of stormwater pollutants.
 - (f) When practicable the receiving stream shall also be inspected for a minimum of 50 feet downstream of the outfall.
 - (g) The perimeter of the site shall be inspected for evidence of BMP failure to ensure concentrated flow does not develop a new outfall.
 - (h) The SWPPP must explain how the environmental lead will be notified when stormwater runoff occurs.
11. Inspection Frequency: All BMPs must be inspected in accordance to one of the schedules listed below. The inspection frequency shall be documented in the SWPPP, and any changes to the frequency of inspections, including switching between the options listed below, must be documented on the inspection form:
- (a) At least once every seven (7) calendar days and within 48 hours after any storm event equal to or greater than a 2-year, 24-hour storm has ceased during a normal work day or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday; or
 - (b) Once every 14 calendar days and within 24 hours of the occurrence of a storm event of 0.25 inches of precipitation or greater, or the occurrence of runoff from snowmelt. To determine if a storm event of 0.25 inches or greater has occurred on the site, the permittee shall either keep a properly maintained rain gauge on site, or obtain the storm event information from a weather station near the site location.
 - 1) Inspections are only required during the project's normal working hours.
 - 2) An inspection must be conducted within 24 hours of a storm event which has produced 0.25 inches. The inspection shall be conducted within 24 hours of the event end, or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
 - 3) If it is elected to inspect every 14 calendar days and there is a storm event at the site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, the permittee shall conduct an inspection within 24 hours of the end of the storm or within 72 hours if the rain event ceases during a non-work day such as a weekend or holiday.
 - (c) Areas on site that have achieved stabilization, while at the same time active construction continues on other areas, may reduce inspection frequency to monthly, for those stabilized areas, if the following conditions exist:
 - 1) For areas where disturbed portions have undergone temporary stabilization, inspections shall occur at least once a month while stabilized and when re-disturbed shall follow either frequency outlined in (a),(b), or (c) above.
 - 2) Areas on site that have achieved final stabilization must be inspected at least once per month until the permit is terminated.
 - (d) If construction activities are suspended due to frozen conditions, the permittee may temporarily reduce site inspections to monthly until thawing conditions begin to occur if all of the following are met:
 - 1) Land disturbances have been suspended; and
 - 2) All disturbed areas of the site have been stabilized in accordance with Part V. BMP REQUIREMENTS, Condition 13.
 - 3) The change shall be noted in the SWPPP.
 - (e) Any basin dewatering shall be inspected daily when discharge is occurring. The discharge shall be observed and dewatering activities shall be ceased immediately if the receiving stream is being impacted. These inspections shall be noted on a log or on the inspection report.

If weather conditions or other issues prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (including pictures), and there must be a narrative explaining why the work cannot be accomplished within the seven day time period. The documentation must be filed with the regular inspection reports. The corrections shall be made as soon as weather conditions or other issues allow.

12. Site Inspection Reports: A log of each inspection and/or copy of the inspection report shall be kept readily accessible and must be made available upon request by the Department. Electronic logs are acceptable as long as reports can be provided within 24 hours. If inspection reports are kept off site, the SWPPP must indicate where they are stored. The inspection report shall be signed by the environmental lead or designated inspector (electronically or otherwise).
- (a) The inspection report is to include the following minimum information:
 - 1) Inspector's name and title.
 - 2) Date and time of inspection.
 - 3) Observations relative to the effectiveness of the BMPs and stabilization measures. The following must be

documented:

- a. Whether BMPs are installed, operational, and working as intended;
 - b. Whether any new or modified stormwater controls are needed;
 - c. Facilities examined for conditions that could lead to spill or leak;
 - d. Outfalls examined for visual signs of erosion or sedimentation at outfalls. Excessive erosion or sedimentation may be due to BMP failure or insufficiency. Response to observations should be addressed in the inspection report.
- 4) Corrective actions taken or necessary to correct the observed problem.
 - 5) Listing of areas where land disturbance operations have permanently or temporarily stopped.
13. Any structural or maintenance deficiencies for BMPs or stabilization measures shall be documented and corrected as soon as possible but no more than seven (7) calendar days after the inspection.
- (a) Corrective action documentation shall be stored with the associated site inspection report.
 - (b) Immediately take all reasonable steps to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events.
 - (c) If weather conditions or other issues prevent correction of BMPs within seven calendar days, the reasons for the delay must be documented (this may include pictures) and there must be a narrative explaining why the work cannot be accomplished within the seven day time period. The permittee shall correct the problem as soon as weather conditions or issues allow.
 - (d) Corrective actions may be required by the Department. The permittee must comply with any corrective actions required by the Department as a result of permit violations found during an inspection.

V. BMP REQUIREMENTS

1. The information, practices, and BMP requirements in this section shall be implemented on site and, where noted, provided for in the SWPPP.
2. Existing vegetation and trees shall be preserved where practicable. The permittee is encouraged to preserve topsoil where practicable.
3. The permittee shall select appropriate BMPs for use at the site and list them in the SWPPP. When selecting effective BMPs, the permittee shall consider stormwater volume and velocity. A BMP that has demonstrated ineffectiveness in preventing or minimizing sediment or other pollutants from leaving a given site shall be replaced with a more effective BMP, or additional and sequential BMPs and treatment devices may be incorporated as site conditions allow. The permittee should consider a schedule for performing erosion control measures when selecting BMPs.
4. The SWPPP shall include a description of both structural and non-structural BMPs that will be used at the site.
 - (a) The SWPPP shall provide the following general information for each BMP which will be used one or more times at the site:
 - 1) Physical description of the BMP;
 - 2) Site conditions that must be met for effective use of the BMP;
 - 3) BMP installation/construction procedures, including typical drawings; and
 - 4) Operation and maintenance procedures and schedules for the BMP.
 - (b) The SWPPP shall provide the following information for each specific instance where a BMP is to be installed:
 - 1) Whether the BMP is temporary or permanent;
 - 2) When the BMP will be installed in relation to each phase of the land disturbance procedures to complete the project; and
 - 3) Site conditions that must be met before removal of the BMP if the BMP is not a permanent BMP.
5. Structural BMP Installation: The permittee shall ensure all BMPs are properly installed and operational at the locations and relative times specified in the SWPPP.
 - (a) Perimeter control BMPs for runoff from disturbed areas shall be installed before general site clearing is started. Note this requirement does not apply to earth disturbances related to initial site clearing and establishing entry, exit, or access of the site, which may require that stormwater controls be installed immediately after the earth

- disturbance.
- (b) For phased projects, BMPs shall be properly installed as necessary prior to construction activities.
 - (c) Stormwater discharges which leave the site from disturbed areas shall pass through an appropriate impediment to sediment movement such as a sedimentation basin, sediment traps (including vegetative buffers), or silt fences prior to leaving the land disturbance site.
 - (d) A drainage course change shall be clearly marked on a site map and described in the SWPPP.
 - (e) If vegetative stabilization measures are being implemented, stabilization efforts are considered “installed” when all activities necessary to seed or plant the area are completed. Vegetative stabilization is not considered “operational” until the vegetation is established.
6. Install sediment controls along any perimeter areas of the site that are downgradient from any exposed soil or other disturbed areas. Prevent stormwater from circumventing the edge of the perimeter control. For sites where perimeter controls are infeasible, other practices shall be implemented to minimize discharges to perimeter areas of the site.
7. For surface waters of the state, defined in Section 644.016.1(27) RSMo, located on or adjacent to the site, the permittee must maintain a riparian buffer or structural equivalent in accordance with at least one of the following options. The selection and location must be described in the SWPPP.
- (a) Provide and maintain a 50-foot undisturbed natural buffer; or
 - (b) Provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer; or
 - (c) If infeasible to provide and maintain an undisturbed natural buffer of any size, implement erosion and sediment controls to achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.
 - (d) The permittee is not required to comply with (a), (b), or (c) above if one or more of the following exceptions apply and documentation is provided in the SWPPP:
 - 1) As authorized per CWA Section 404 Department of the Army permit and its associated Section 401 Water Quality Certification from the Department.
 - 2) If there is no discharge of stormwater to waters of the state through the area between the disturbed portions of the site and waters of the state located within 50 feet of the site. This includes situations where the permittee has implemented permanent control measures that will prevent such discharges, such as a berm or other barrier.
 - 3) Where no natural buffer exists due to preexisting development disturbances that occurred prior to the initiation of planning for the current development of the site.
 - a. Where some natural buffer exists but portions of the area within 50 feet of the waters of the state are occupied by preexisting development disturbances the permittee is required to comply with (a), (b), or (c) above.
 - 4) For linear projects where site constraints make it infeasible to implement a buffer or equivalent provided the permittee limit disturbances within 50 feet of any waters of the state and/or the permittee provides supplemental erosion and sediment controls to treat stormwater discharges from earth disturbances within 50 feet of the water of the state. The permittee must also document in the SWPPP the rationale for why it is infeasible for the permittee to implement (a), (b), or (c) and describe any buffer width retained and supplemental BMPs installed.
 - (e) Where the permittee is retaining a buffer of any size, the buffer should be measured perpendicularly from any of the following points, whichever is further landward from the water:
 - 1) The ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris; or
 - 2) The edge of the stream or river bank, bluff, or cliff, whichever is applicable.
8. Slopes for disturbed areas must be identified in the SWPPP. A site map or maps defining the sloped areas for all phases of the project must be included in the SWPPP. The disturbance of steep slopes shall be minimized.
9. Manage stockpiles or land clearing debris piles composed, in whole or in part, of sediment and/or soil.
- (a) Locate the piles outside of any natural buffers zones, established under the condition above, and away from any stormwater conveyances, drain inlets, and areas where stormwater flow is concentrated;
 - (b) Install a sediment barrier along all downgradient perimeter areas;
 - (c) Divert surface flows around stockpiles to reduce and minimize erosion of the stockpile.

- (d) For piles that will be unused for 14 or more days, provide cover with appropriate temporary stabilization in accordance with Part V. BMP REQUIREMENTS, Condition 13.
 - (e) Rinsing, sweeping, or otherwise placing any soil, sediment, debris, or stockpiled product which has accumulated on pavement or other impervious surfaces into any stormwater conveyance, storm drain inlet, or water of the state is prohibited.
10. The site shall include BMPs for pollution prevention measures and shall be noted in the SWPPP. At minimum such measures must be designed, installed, implemented, and maintained to:
- (a) Minimize the discharge of pollutants from equipment and vehicle rinsing; no detergents, additives, or soaps of any kind shall be discharged. Rinse waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
 - (b) Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater;
 - (c) Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures, including, but not limited to, the installation of containment berms and use of drip pans at petroleum product and liquid storage tanks and containers; and
 - (d) Prevent discharges from causing or contributing to an exceedance of water quality standards including general criteria.
11. Sedimentation Basins: The SWPPP shall include a sedimentation basin for each drainage area with ten or more acres disturbed at one time.
- (a) The sedimentation basin shall be sized, at a minimum, to treat a local 2-year, 24-hour storm.
 - (b) Sediment basins shall not be constructed in any waters of the state or natural buffer zones.
 - (c) Discharges from dewatering activities shall be managed by appropriate controls. The SWPPP shall include a description of any anticipated dewatering methods and specific BMPs designed to treat dewatering water.
 - 1) Appropriate controls include, but are not limited to, sediment socks, dewatering tanks, tube settlers, weir tanks, filtration systems (e.g. bag or sand filters), and passive treatment systems that are designed to remove or retain sediment.
 - 2) Erosion controls and velocity dissipation devices (e.g., check dams, riprap, and vegetated buffers) to minimize erosion at inlets, outlets, and discharge points from shall be utilized.
 - 3) Water with an oil sheen shall not be discharged and shall be marked in SWPPP.
 - 4) Visible floating solids and foam shall not be discharged.
 - (d) Until final stabilization has been achieved, sediment basins and impoundments shall utilize outlet structures or floating skimmers that withdraw water from the surface when discharging.
 - 1) Under frozen conditions, it may be considered infeasible to withdraw water from the surface and an exception can be made for that specific period as long as discharges that may contain sediment and other pollutants are managed by appropriate controls. If determined infeasible due to frozen conditions, documentation must be provided in the SWPPP to support the determination, including the specific conditions or time period when this exception applies.
 - (e) Accumulated sediment shall not exceed 50% of total volume or as prescribed in the design, whichever is less. Note in the SWPPP the locations for disposal of the material removed from sediment basins.
 - (f) Prevent discharges to the receiving stream causing excessive visual turbidity. For the purposes of this permit, visual turbidity refers to a sediment plume or other cloudiness in the water caused by sediment that can be identified by an observer.
 - (g) The SWPPP shall require the basin be maintained until final stabilization of the disturbed area served by the basin.

Where use of a sediment basin is infeasible, the SWPPP shall evaluate and specify other similarly effective BMPs to be employed to control erosion and sediment. These similarly effective BMPs shall be selected from appropriate BMP guidance documents authorized by this permit. The BMPs must provide equivalent water quality protection to achieve compliance with this permit. The SWPPP shall require both temporary and permanent sedimentation basins to have a stabilized spillway to minimize the potential for erosion of the spillway or basin embankment.

12. Soil disturbing activities on site that have ceased either temporarily or permanently shall initiate stabilization immediately in accordance with the options below. For soil disturbing activities that have been temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days:
 - (a) The permittee shall construct BMPs to establish interim stabilization; and
 - (b) Stabilization must be initiated immediately and completed within 14 calendar days.
 - (c) For soil disturbing activities that have been permanently ceased on any portion of the site, final stabilization of disturbed areas must be initiated immediately and completed within 14 calendar days.
 - 1) Allowances to the 14-day completion period for temporary and final stabilization may be made due to weather and equipment malfunctions. The use of allowances shall be documented in the SWPPP. Allowances may be determined unnecessary after review by the Department.
 - (d) Until stabilization is complete, interim sediment control shall consist of well-established and maintained BMPs that are reasonably certain to protect waters of the state from sediment pollution over an extended period of time. This may require adding more BMPs to an area than is normally used during daily operations. The types of BMPs used must be suited to the area disturbed, taking into account the number of acres exposed and the steepness of the slopes. If the slope of the area is greater than 3:1 (three feet horizontal to one foot vertical), then the permittee shall establish interim stabilization within seven days of ceasing operations on that part of the site. The following activities would constitute the immediate initiation of stabilization:
 - 1) Prepping the soil for vegetative or non-vegetative stabilization as long as seeding, planting, and/or installation of non-vegetative stabilization products takes place as soon as practicable;
 - 2) Applying mulch or other non-vegetative product to the exposed areas;
 - 3) Seeding or planting the exposed areas;
 - 4) Finalizing arrangements to have stabilization product fully installed in compliance with the deadlines for completing stabilization.
 - (e) If vegetative stabilization measures are being implemented, stabilization is considered “installed” when all activities necessary to seed or plant the area are completed. Installed does not mean established.
 - (f) If non-vegetative stabilization measures are being implemented, stabilization is considered “installed” when all such measures are implemented or applied.
 - 1) Non-vegetative stabilization shall prevent erosion and shall be chosen for site conditions, such as slope and flow of stormwater.
 - (g) Final stabilization is not considered achieved until vegetation has grown and established to meet the requirements below.
13. Prior to removal of BMPs, ceasing site inspections, and removing from the quarterly report, final stabilization must be achieved. Final stabilization shall be achieved as soon as possible once land disturbance activities have ceased. Document in the SWPPP the type of stabilization and the date final stabilization is achieved.
 - (a) The project is considered to have achieved final stabilization when perennial vegetation (excluding volunteer vegetation), pavement, buildings, or structures using permanent materials (e.g., riprap, gravel, etc.) cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetation must be at least 70% coverage of 100% of the vegetated areas on site. Vegetation must be evenly distributed.
 - (b) Disturbed areas on agricultural land are considered to have achieved final stabilization when they are restored to their preconstruction agricultural use. If former agricultural land is changing to non-agricultural use, this is no longer considered agricultural land and shall follow condition (a).
 - (c) If the intended function of a specific area of the site necessitates that it remain disturbed, final stabilization is considered achieved if all of the following are met:
 - 1) Only the minimum area needed remains disturbed (i.e., dirt access roads, motocross tracks, utility pole pads, areas being used for storage of vehicles, equipment, materials). Other areas must meet the criteria above.

- 2) Permanent structural BMPs (e.g., rock checks, berms, grading, etc.) or non-vegetative stabilization measures are implemented and designed to prevent sediment and other pollutants from entering waters of the state.
- 3) Inspection requirements in Part IV. SWPPP MANAGEMENT REQUIREMENT, Condition 11 are met and documented in the SWPPP.
- (d) Winter weather and frozen conditions do not excuse any of the above final stabilization requirements. If vegetation is required for stabilization the permittee must maintain BMPs throughout winter weather and frozen conditions until thawing and vegetation meets final stabilization criteria above. Document stabilization attempts during frozen conditions in the SWPPP. Consider future freezing when removing vegetation and plan with temporary stabilization techniques before the ground becomes frozen.

VI. SITE FINALIZATION & PERMIT TERMINATION

1. Until a site is finalized, the permittee must comply with all conditions in the permit, including continuation of site inspections and reporting quarterly to the Department. To finalize the site and remove from this permit coverage, the site shall meet the following requirements:
 - (a) For any areas that (1) were disturbed during construction, (2) are not covered over by permanent structures, and (3) over which the permittee had control during the construction activities, the requirements for final vegetative or non-vegetative stabilization in Part V. BMP REQUIREMENTS, Condition 13;
 - (b) The permittee has removed and properly disposed of all construction materials, waste, and waste handling devices and has removed all equipment and vehicles that were used during construction, unless intended for long-term beyond construction phase;
 - (c) The permittee has removed all temporary BMPs that were installed and maintained during construction, except those that are intended for long-term use or those that are biodegradable; and
 - (d) The permittee has removed all potential pollutants and pollutant-generating activities associated with construction, unless needed for long-term use following the construction activities.
2. The permit may be terminated if;
 - (a) There has been a transfer of control of all areas of the site for which the current permittee is responsible under this permit to another operator, and that operator has obtained coverage under this permit;
 - (b) Active sites obtain coverage under an individual or alternative general NPDES permit, with land disturbance conditions; or
 - (c) This permit may be terminated when all projects covered under this permit are finalized. In order to terminate the permit, the permittee shall notify the Department by submitting a Request for Termination along with the final quarterly report for the current calendar quarter.

VII. REPORTING AND SAMPLING REQUIREMENTS

1. The permittee is not required to sample stormwater under this permit. The Department may require sampling and reporting as a result of illegal discharges, compliance issues related to water quality concerns, or evidence of off-site impacts from activities at a site. If such an action is needed, the Department will specify in writing the sampling requirements, including such information as location and extent. If the permittee refuses to perform sampling when required, the Department may terminate the general permit and require the facility to obtain a site-specific permit with sampling requirements.
2. Electronic Discharge Monitoring Report (eDMR) Submission System. The NPDES Electronic Reporting Rule, 40 CFR Part 127, reporting of any report required by the permit shall be submitted via an electronic system to ensure timely, complete, accurate, and nationally consistent set of data for the NPDES program. The eDMR system is currently the only Department-approved reporting method for this permit unless specified elsewhere in this permit, or a waiver is granted by the Department. The facility must register in the Department's eDMR system through the Missouri Gateway for Environmental Management (MoGEM) before the first report is due.
3. Permittees shall prepare a quarterly report with a list of active land disturbance sites including any off-site borrow or depositional areas associated with the construction project and submit the following information electronically as an

attachment to the eDMR system until such a time when the current or a new system is available to allow direct input of the data:

- (a) The name of the project;
- (b) The location of the project (including the county);
- (c) The name of the primary receiving water(s) for each project;
- (d) A description of the project;
- (e) The number of acres disturbed;
- (f) The percent of completion of the project; and
- (g) The projected date of completion.

The quarterly report(s) shall be maintained by the permittee and readily available for review by the Department at the address provided on the application as well as submitted quarterly via the Department’s eDMR system. The permittee shall submit quarterly reports according to Table A.

Table A	Schedule for Quarterly Reporting
Activity for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

VIII. STANDARD PERMIT CONDITIONS

1. Records: The permittee shall retain copies of this general permit, the SWPPP and all amendments for the site named in the State Operating Permit, results of any monitoring and analysis, and all site inspection records required by this general permit.
 - (a) The records shall be accessible during normal business hours and retained for a period of at least three (3) years from the date of termination.
 - (b) The permittee shall provide a copy (electronic or otherwise) of the SWPPP to the Department, USEPA, or any local agency or government representative if they request a copy in the performance of their official duties within 24 hours of the request (or next working day), unless given more time by the representative.
 - (c) The permittee shall provide a copy of the SWPPP to those who are responsible for installation, operation, or maintenance of any BMP. The permittee, their representative, and/or the contractor(s) responsible for installation, operation and maintenance of the BMPs shall have a current copy of the SWPPP with them when on the project site.

2. Land Ownership and Change of Ownership: Federal and Missouri stormwater regulations [10 CSR 20-6.200(1) (B)] require a stormwater permit and erosion control measures for all land disturbances of one or more acres. These regulations also require a permit for less than one acre lots if the lot is part of a larger common plan of development or sale where that plan is at least one acre in size.
 - (a) If the permittee sells any portion of a permitted site to a developer for commercial, industrial, or residential use, this land remains a part of the common sale and the new owner must obtain a permit prior to conducting any land disturbance activity. Therefore, the original permittee must amend the SWPPP to show that the property has been sold and, therefore, no longer under the original permit coverage.
 - (b) Property of any size which is part of a larger common plan of development where the property has achieved final stabilization and the original permit terminated will require application of a new land disturbance permit for any future land disturbance activity unless the activity is by an individual residential building lot owner on a site less than one acre.
 - (c) If a portion of a larger common plan of development is sold to an individual for the purpose of building his or her own private residence, a permit is required if the portion of land sold is equal to or greater than one acre. No permit is required, however, for less than one acre of land sold.

3. Permit Transfer: This permit may not be transferred to a new owner.

4. Termination: This permit may be terminated when the project has achieved final stabilization, defined in Part VI. **SITE FINALIZATION & PERMIT TERMINATION.**
 - (a) In order to terminate the permit, the permittee shall notify the Department by submitting the form Request for Termination of Operating Permit Form MO 780-2814. The form should be submitted to the appropriate regional office or through an approved electronic system if it should become available.
 - (b) The Cover Page (Certificate Page) of the Master General Permit for Land Disturbance specifies the “effective date” and the “expiration date” of the Master General Permit. The “issued date” along with the “expiration date” will appear on the State Operating Permit issued to the applicant. **This permit does not continue administratively beyond the expiration date.**
5. Duty to Reapply: If the project or development completion date will be after the expiration date of this general permit, then the permittee must reapply to the Department for a new permit. This permit may be applied for and issued electronically in accordance with Section 644.051.10, RSMo.
 - (a) Due to the nature of the electronic permitting system, a period of time may be granted at the discretion of the Department in order to apply for a new permit after the new version is effective. Applicants must maintain appropriate best management practices and inspections during the discretionary period.
6. Duty to Comply: The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Missouri Clean Water Law and Federal Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
7. Modification, Revocation, and Reopening:
 - (a) If at any time the Department determines that the quality of waters of the state may be better protected by reopening this permit, or revoking this permit and requiring the owner/operator of the permitted site to apply for a site-specific permit, the Department may revoke a general permit and require any person to obtain such an operating permit as authorized by 10 CSR20-6.010(13) and 10 CSR 20-6.200(1)(B).
 - (b) If this permit is reopened, modified, or revoked pursuant to this Section, the permittee retains all rights under Chapter 536 and 644 Revised Statutes of Missouri upon the Department’s reissuance of the permit as well as all other forms of administrative, judicial, and equitable relief available under law.
8. Other Information: Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information.
9. Duty to Provide Information: The permittee shall furnish to the Department, within 24 hours unless explicitly granted more time in writing, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.
10. Inspection and Entry: The permittee shall allow the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:
 - (a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of the permit;
 - (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 - (c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 - (d) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Federal Clean Water Act or Missouri Clean Water Law, any substances or parameters at any location.

11. Signatory Requirement:

- (a) All permit applications, reports required by the permit, or information requested by the Department shall be signed and certified. (See 40 CFR 122.22 and 10 CSR 20-6.010)
- (b) The Federal Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or non-compliance) shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six (6) months per violation, or by both.
- (c) The Missouri Clean Water Law provides that any person who knowingly makes any false statement, representation or certification in any application, record, report, plan, or other document filed or required to be maintained pursuant to sections 644.006 to 644.141 shall, upon conviction, be punished by a fine of not more than ten thousand dollars, or by imprisonment for not more than six months, or by both.

12. Property Rights: This permit does not convey any property rights of any sort or any exclusive privilege.

13. Notice of Right to Appeal: If you were adversely affected by this decision, you may be entitled to pursue an appeal before the administrative hearing commission (AHC) pursuant to Sections 621.250 and 644.051.6 RSMo. To appeal, you must file a petition with the AHC within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC. Any appeal should be directed to:

Administrative Hearing Commission
U.S. Post Office Building, Third Floor
131 West High Street, P.O. Box 1557
Jefferson City, MO 65102-1557
Phone: 573-751-2422
Fax: 573-751-5018
Website: <https://ahc.mo.gov>



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

STORMWATER DISCHARGES FROM
THIS LAND DISTURBANCE SITE ARE
AUTHORIZED BY THE MISSOURI
STATE OPERATING PERMIT NUMBER:

ANYONE WITH QUESTIONS OR
CONCERNS ABOUT STORMWATER
DISCHARGES FROM THIS SITE,
PLEASE CONTACT THE MISSOURI
DEPARTMENT OF NATURAL
RESOURCES AT

1-800-361-4827

MISSOURI DEPARTMENT OF NATURAL RESOURCES
FACT SHEET FOR MASTER GENERAL PERMIT
MO-R100xxx

The Federal Water Pollution Control Act [Clean Water Act (CWA)] Section 402 of Public Law 92-500 (as amended) established the National Pollution Discharge Elimination System (NPDES) permit program. This program regulates the discharge of pollutants from point sources into the waters of the United States and the release of stormwater from certain point sources. All such discharges are unlawful without a permit (Section 301 of the CWA). After a permit is obtained, a discharge not in compliance with all permit terms and conditions is unlawful. Missouri State Operating Permits (MSOPs) are issued by the Missouri Department of Natural Resources (Department) under an approved program operated in accordance with federal and state laws (Federal CWA and Missouri Clean Water Law Section 644 as amended). Permits are issued for a period of five (5) years unless otherwise specified.

Per 40 CFR 124.56, 40 CFR 124.8, and 10 CSR 20-6.020(1)(A)2, a Fact Sheet shall be prepared to give pertinent information regarding the applicable regulations, rationale for the development of effluent limitations and conditions, and the public participation process for the permit. A Fact Sheet is not an enforceable part of an MSOP.

DEFINITIONS FOR THE PURPOSES OF THIS PERMIT:

Common Promotional Plan: A plan undertaken by one (1) or more persons to offer lots for sale or lease; where land is offered for sale by a person or group of persons acting in concert, and the land is contiguous or is known, designated, or advertised as a common unit or by a common name or similar names, the land is presumed, without regard to the number of lots covered by each individual offering, as being offered for sale or lease as part of a common promotional plan.

Dewatering: The act of draining rainwater and/or groundwater from basins, building foundations, vaults, and trenches.

Effective Operating Condition: For the purposes of this permit, a stormwater control is kept in effective operating condition if it has been implemented and maintained in such a manner that it is working as designed to minimize pollutant discharges.

Emergency-Related Project: A project initiated in response to a public emergency (e.g. earthquakes, extreme flooding conditions, tornado, disruptions in essential public services, pandemic) for which the related work requires immediate authorization to avoid imminent endangerment to human health/safety or the environment or to reestablish essential public services.

Exposed Soils: For the purposes of this permit, soils that as a result of earth-disturbing activities are left open to the elements.

Immediately: For the purposes of this permit, immediately should be defined as within 24 hours.

Impervious Surface: For the purpose of this permit, any land surface with a low or no capacity for soil infiltration including, but not limited to, pavement, sidewalks, parking areas and driveways, packed gravel or soil, or rooftops.

Infeasible: Infeasible means not technologically possible or not economically practicable and achievable in light of best industry practices.

Install or Installation: When used in connection with stormwater controls, to connect or set in position stormwater controls to make them operational.

Land Disturbance Site or Site: The land or water area where land disturbance activities will occur and where stormwater controls will be installed and maintained. The land disturbance site includes construction support activities, which may be located at a different part of the property from where the primary land disturbance activity will take place or on a different piece of property altogether. Off-site borrow areas directly and exclusively related to the land disturbance activity are part of the site and must be permitted.

Larger Common Plan of Development or Sale: A continuous area where multiple separate and distinct construction activities are occurring under one plan, including any off-site borrow areas that are directly and exclusively related to the land disturbance activity. Off-site borrow areas utilized for multiple different land disturbance projects are considered their own entity and are not part of the larger common plan of development or sale. See definition of Common Promotional Plan to understand what a ‘common plan’ is.

Minimize: To reduce and/or eliminate to the extent achievable using stormwater controls that are technologically available and economically practicable and achievable in light of best industry practices.

Non-structural Best Management Practices (BMPs): Institutional, educational, or pollution prevention practices designed to limit the amount of stormwater runoff or pollutants that are generated in the landscape. Examples of non-structural BMPs include picking up trash and debris, sweeping up nearby sidewalks and streets, maintaining equipment, and training site staff on stormwater control practices.

Operational: for the purposes of this permit, stormwater controls are made “operational” when they have been installed and implemented, are functioning as designed, and are properly maintained.

Ordinary High Water Mark: The line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris.

Peripheral: For the purposes of this permit, peripheral should be defined as the outermost boundary of the area that will be disturbed.

Permanently: For the purposes of this permit, permanently is defined as any activity that has been ceased without any intentions of future disturbance.

Pollution Prevention Controls (or Measures): Stormwater controls designed to reduce or eliminate the addition of pollutants to construction site discharges through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Qualified Person (inspections): A person knowledgeable in the principles and practice of erosion and sediment controls and pollution prevention who possesses the appropriate skills and training to assess conditions at the construction site that could impact stormwater quality and the appropriate skills and training to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

Stormwater Control (also referred to as sediment/erosion controls): refers to any temporary or permanent BMP or other method used to prevent or reduce the discharge of pollutants to waters of the state.

Structural BMP: Physical sediment/erosion controls working individually or as a group (treatment train) appropriate to the source, location, and area climate for the pollutant to be controlled. Examples of structural BMPs include silt fences, sedimentation ponds, erosion control blankets, and seeding.

Temporary Stabilization: A condition where exposed soils or disturbed areas are provided temporary vegetation and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

Treatment Train: A multi-BMP approach to managing the stormwater volume and velocity and often includes erosion prevention and sediment control practices often applied when the use of a single BMP is inadequate in preventing the erosion and transport of sediment. A good option to utilize as a corrective action.

Volunteer Vegetation: A volunteer plant is a plant that grows on its own, rather than being deliberately planted for stabilization purposes. Volunteers often grow from seeds that float in on the wind, are dropped by birds, or are inadvertently mixed into soils. Commonly, volunteer vegetation is referred to as 'weeds'. This does not meet the requirements for final stabilization.

Waters of the State: Section 644.016.1(27) RSMo. defines waters of the state as, "All waters within the jurisdiction of this state, including all rivers, streams, lakes and other bodies of surface and subsurface water lying within or forming a part of the boundaries of the state which are not entirely confined and located completely upon lands owned, leased or otherwise controlled by a single person or by two or more persons jointly or as tenants in common."

PART I – BASIC PERMIT INFORMATION

Facility Type: Industrial Stormwater; Land Disturbance
Facility SIC Code(s): 1629
Facility Description: Construction or land disturbance activity (e.g., clearing, grubbing, excavating, grading, filling, and other activities that result in the destruction of the root zone and/or land disturbance activity that is reasonably certain to cause pollution to waters of the state).

This permit establishes a Stormwater Pollution Prevention Plan (SWPPP) requirement for pollutants of concern from this type of facility or for all facilities and sites covered under this permit. 10 CSR 20-6.200(7) specifies "general permits shall contain BMP requirements and/or monitoring and reporting requirements to keep the stormwater from becoming contaminated".

Land disturbance activities include clearing, grubbing, excavating, grading, filling and other activities that result in the destruction of the root zone and/or other activities that are reasonably certain to cause pollution to waters of the state. A Missouri State Operating Permit for land disturbance permit is required for construction disturbance activities of one or more acres or for construction activities that disturb less than one acre when they are part of a larger common plan of development or sale that will disturb a cumulative total of one or more acres over the life of the project.

The primary requirement of a land disturbance permit is the development of a SWPPP which incorporates site-specific BMPs to minimize soil exposure, soil erosion, and the discharge of pollutants. The SWPPP ensures the design, implementation, management, and maintenance of BMPs in order to prevent sediment and other pollutants from leaving the site.

When it precipitates, stormwater washes over the loose soil on a construction site and various other materials and products being stored outside. As stormwater flows over the site, it can pick up pollutants like sediment, debris, and chemicals from the loose soil and transport them to nearby storm sewer systems or directly into rivers, lakes, or coastal waters.

The Missouri Department of Natural Resources is responsible for ensuring that construction site operators have the proper stormwater controls in place so that construction can proceed in a way that protects your community's clean water and the surrounding environment. One way the department helps protect water quality is by issuing land disturbance permits.

Local conditions are not considered when developing conditions for a general permit. A facility may apply for a site-specific permit if they desire a review of site-specific conditions.

PART II – RECEIVING STREAM INFORMATION

APPLICABLE DESIGNATIONS OF WATERS OF THE STATE:

Per Missouri Effluent Regulations (10 CSR 20-7.015), the waters of the state are divided into seven (7) categories. This permit applies to facilities discharging to the following water body categories:

- ✓ Missouri or Mississippi River [10 CSR 20-7.015(2)]
- ✓ Lakes or Reservoirs [10 CSR 20-7.015(3)]
- ✓ Losing Streams [10 CSR 20-7.015(4)]
- ✓ Metropolitan No-Discharge Streams [10 CSR 20-7.015(5)]
- ✓ Special Streams [10 CSR 20-7.015(6)]
- ✓ Subsurface Waters [10 CSR 20-7.015(7)]
- ✓ All Other Waters [10 CSR 20-7.015(8)]

Missouri Water Quality Standards (10 CSR 20-7.031) defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's designated water uses shall be maintained in accordance with 10 CSR 20-7.031(24). A general permit does not take into consideration site-specific conditions.

MIXING CONSIDERATIONS:

This permit applies to receiving streams of varying low flow conditions. Therefore, the effluent limitations must be based on the smallest low flow streams considered, which includes waters without designated uses. As such, no mixing is allowed [10 CSR 20-7.031(5)(A)4.B.(I)(a)]. No Zone of Initial Dilution is allowed. [10 CSR 20-7.031(5)(A)4.B.(I)(b)].

RECEIVING STREAM MONITORING REQUIREMENTS:

There are no receiving water monitoring requirements recommended at this time.

PART III – RATIONALE AND DERIVATION OF EFFLUENT LIMITATIONS & PERMIT CONDITIONS

305(B) REPORT, 303(d) LIST, & TOTAL MAXIMUM DAILY LOAD (TMDL):

Section 305(b) of the Federal CWA requires each state identify waters not meeting Water Quality Standards and for which adequate water pollution controls have not been required. Water Quality Standards protect such beneficial uses of water as whole body contact, maintaining fish and other aquatic life, and providing drinking water for people, livestock, and wildlife. The 303(d) list helps state and federal agencies keep track of waters which are impaired but not addressed by normal water pollution control programs.

A TMDL is a calculation of the maximum amount of a given pollutant a body of water can absorb before its water quality is affected. If a water body is determined to be impaired as listed on the 303(d) list, then a watershed management plan will be developed which shall include the TMDL calculation. For facilities with an existing general permit before a TMDL is written on their receiving stream, the Department will evaluate the permit and may require any facility authorized by this general permit to apply for and obtain a site-specific operating permit.

ANTI-BACKSLIDING:

A provision in the Federal Regulations [CWA Section 303(d)(4); CWA Section 402(c); 40 CFR Part 122.44(I)] requires a reissued permit to be as stringent as the previous permit with some exceptions.

- ✓ Not Applicable: All effluent limitations in this permit are at least as protective as those previously established.

ANTIDEGRADATION:

Antidegradation policies ensure protection of water quality for a particular water body on a pollutant by pollutant basis to ensure Water Quality Standards are maintained to support beneficial uses such as fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as an Outstanding National Resource Water or Outstanding State Resource Water [10 CSR 20-7.031(3)(C)]. Antidegradation policies are adopted to minimize adverse effects on water.

The Department has determined the best avenue forward for implementing the Antidegradation requirements into general stormwater permits is by requiring the appropriate development and maintenance of a SWPPP. The SWPPP must identify all reasonable and effective BMPs, taking into account environmental impacts and costs. This analysis must document why no discharge or no exposure options are not feasible at the facility. This selection and documentation of appropriate control measures will then serve as the analysis of alternatives and fulfill the requirements of the Antidegradation Rule and Implementation Procedure 10 CSR 20-7.031(3) and 10 CSR 20-7.015(9)(A)5.

Any facility seeking coverage under this permit which undergoes expansion or discharges a new pollutant of concern must update their SWPPP and select reasonable and cost effective new BMPs. New facilities seeking coverage under this permit are required to develop a SWPPP including this analysis and documentation of appropriate BMPs. Renewal of coverage for a facility requires a review of the SWPPP to ensure the selected BMPs continue to be appropriate.

- ✓ Applicable; the facility must review and maintain stormwater BMPs as appropriate.

BENCHMARKS:

When a permitted feature or outfall consists of only stormwater, a benchmark may be implemented at the discretion of the permit writer. Benchmarks require the facility to monitor and, if necessary, replace and update stormwater control measures. Benchmark concentrations are not effluent limitations. A benchmark exceedance, therefore, is not a permit violation; however, failure to take corrective action is a violation of the permit. Benchmark monitoring data is used to determine the overall effectiveness of control measures and to assist the permittee in knowing when additional corrective actions may be necessary to comply with the limitations of the permit.

- ✓ Not applicable; this permit does not contain numeric benchmarks.

BEST MANAGEMENT PRACTICES (BMPs):

Minimum site-wide BMPs are established in this permit to ensure all permittees are managing their sites equally to protect waters of the state from certain activities which could cause negative effects in receiving water bodies. While not all sites require a SWPPP because the SIC codes are specifically exempted in 40 CFR 122.26(b)(14), these BMPs are not specifically included for stormwater purposes. These practices are minimum requirements for all industrial sites to protect waters of the state. If the minimum BMPs are not followed, the facility may violate general criteria [10 CSR 20-7.031(4)]. Statutes are applicable to all permitted facilities in the state; therefore, pollutants cannot be released unless in accordance with RSMo 644.011 and 644.016 (17).

CHANGES IN DISCHARGES OF TOXIC POLLUTANT:

This special condition reiterates the federal rules found in 40 CFR 122.44(f) and 122.42(a)(1). In these rules, the facility is required to report changes in amounts of toxic substances discharged. Toxic substances are defined in 40 CFR 122.2 as "...any pollutant listed as toxic under section 307(a)(1) or, in the case of "sludge use or disposal practices," any pollutant identified in regulations implementing section 405(d) of the CWA." Section 307 of the CWA then refers to those parameters found in 40 CFR 401.15.

The permittee should also consider any other toxic pollutant in the discharge as reportable under this condition.

EFFLUENT LIMITATION GUIDELINE:

Effluent Limitation Guidelines, or ELGs, are found at 40 CFR 400-499. These are limitations established by the EPA based on the SIC code and the type of work a facility is conducting. Most ELGs are for process wastewater and some address stormwater. All are technology based limitations which must be met by the applicable facility at all times.

- ✓ The industries covered under this permit have an associated Effluent Limit Guideline (ELG) which is applicable to the stormwater discharges in this permit and is applied under 40 CFR 125.3(a).

ELECTRONIC DISCHARGE MONITORING REPORT (EDMR) SUBMISSION SYSTEM:

The U.S. Environmental Protection Agency (EPA) promulgated a final rule on October 22, 2015, to modernize CWA reporting for municipalities, industries, and other facilities by converting to an electronic data reporting system. The final rule requires regulated entities and state and federal regulators to use information technology to electronically report data required by the National Pollutant Discharge Elimination System (NPDES) permit program instead of filing paper reports. To comply with the federal rule, the Department is requiring all permittees to begin submitting discharge monitoring data and reports online.

- ✓ Applicable; this permit requires quarterly reports.

GENERAL CRITERIA CONSIDERATIONS:

In accordance with 40 CFR 122.44(d)(1), effluent limitations shall be placed into permits for pollutants determined to cause, have reasonable potential to cause, or to contribute to, an excursion above any water quality standard, including narrative water quality criteria. In order to comply with this regulation, the permit writer has completed a reasonable potential determination on whether discharges have reasonable potential to cause or contribute to an excursion of the general criteria listed in 10 CSR 20-7.031(4). In instances where reasonable potential exists, the permit includes limitations within the permit to address the reasonable potential. In discharges where reasonable potential does not exist, the permit may include monitoring to later determine the discharge's potential to impact the narrative criteria. Additionally, RSMo 644.076.1, as well as Standard Permit Conditions Part VIII of this permit state it shall be unlawful for any person to cause or allow any discharge of water contaminants from any water contaminant or point source located in Missouri in violation of sections 644.006 to 644.141 of the Missouri Clean Water Law or any standard, rule, or regulation promulgated by the commission.

LAND APPLICATION:

Land application, or surficial dispersion of wastewater and/or sludge, is performed by facilities to maintain a basin as no-discharge. Requirements for these types of operations are found in 10 CSR 20-6.015; authority to regulate these activities is from RSMo 644.026.

- ✓ Not applicable; this permit does not authorize operation of a surficial land application system to disperse wastewater or sludge.

LAND DISTURBANCE:

Land disturbance, sometimes called construction activities, are actions which cause disturbance of the root layer or soil; these include clearing, grading, and excavating of the land. 40 CFR 122.26(b)(14) and 10 CSR 20-6.200(3) requires permit coverage for these activities. Coverage is not required for facilities when only providing maintenance of original line and grade, hydraulic capacity, or to continue the original purpose of the facility.

- ✓ Applicable; this permit provides coverage for land disturbance activities. These activities have SWPPP requirements and may be combined with the standard site SWPPP. Land disturbance BMPs should be designed to control the expected peak discharges. The University of Missouri has design storm events for the 25 year 24 hour storm; these can be found at: http://ag3.agebb.missouri.edu/design_storm/comparison_reports/20191117_25yr_24hr_comparison_able.htm; to calculate peak discharges, the website <https://www.lmnoeng.com/Hydrology/rational.php> has the rational equation to calculate expected discharge volume from the peak storm events.

NUTRIENT MONITORING:

Nutrient monitoring is required for facilities characteristically or expected to discharge nutrients (nitrogenous compounds and/or phosphorus) when the design flow is equal to or greater than 0.1 MGD per 10 CSR 20-7.015(9)(D)8.

- ✓ This is a stormwater only permit; therefore, it is not subject to provisions found in 10 CSR 20-7.015 per 10 CSR 20-7.015(1)(C).

OIL/WATER SEPARATORS:

Oil water separator (OWS) tank systems are frequently found at industrial sites where process water and stormwater may contain oils and greases, oily wastewaters, or other immiscible liquids requiring separation. Food industry discharges typically require pretreatment prior to discharge to municipally owned treatment works. Per 10 CSR 26-2.010(2)(B), all oil water separator tanks must be operated according to manufacturer's specifications and authorized in NPDES permits per 10 CSR 26-2.010(2) or may be regulated as a petroleum tank.

- ✓ Not applicable; this permit does not authorize the operation of OWS. The facility must obtain a separate permit to cover operation of and discharge from these devices.

PERMIT SHIELD:

The permit shield provision of the CWA (Section 402(k)) and Missouri Clean Water Law (644.051.16 RSMo) provides that when a permit holder is in compliance with its NPDES permit or MSOP, they are effectively in compliance with certain sections of the CWA and equivalent sections of the Missouri Clean Water Law. In general, the permit shield is a legal defense against certain enforcement actions but is only available when the facility is in compliance with its permit and satisfies other specific conditions, including having completely disclosed all discharges and all facility processes and activities to the Department at time of application. It is the facility's responsibility to ensure that all potential pollutants, waste streams, discharges, and activities, as well as wastewater land application, storage, and treatment areas, are all fully disclosed to the Department at the time of application or during the draft permit review process. Subsequent requests for authorization to discharge additional pollutants or expanded or newly disclosed flows, or for authorization for previously unpermitted and undisclosed activities or discharges, will likely require permit modification or may require the facility be covered under a site specific permit.

PRETREATMENT PROGRAM:

This permit does not regulate pretreatment requirements for facilities discharging to an accepting permitted wastewater treatment facility. If applicable, the receiving entity (the publicly owned treatment works - POTW) must ensure compliance with any effluent limitation guidelines for pretreatment listed in 40 CFR Subchapter N per 10 CSR 20-6.100. Pretreatment regulations per RSMo 644.016 are limitations on the introduction of pollutants or water contaminants into publicly owned treatment works or facilities.

- ✓ Not Applicable; the facilities covered under this permit are not required to meet pretreatment requirements under an ELG.

PUBLIC NOTICE OF COVERAGE FOR AN INDIVIDUAL FACILITY:

Public Notice of reissuance of coverage is not required unless the facility is a specific type of facility as defined in 10 CSR 20-6.200(1). The need for an individual public notification process shall be determined and identified in the permit [10 CSR 20-6.020(1)(C)5.].

- ✓ Not applicable; public notice is not required for coverage under this permit to individual facilities. The MGP is public noticed in lieu of individual permit PN requirements.

REASONABLE POTENTIAL ANALYSIS (RPA):

Federal regulation 40 CFR Part 122.44(d)(1)(i) requires effluent limitations for all pollutants which are or may be discharged at a level which will cause or have the reasonable potential to cause or contribute to an in-stream excursion above narrative or numeric water quality standard. In accordance with 40 CFR Part 122.44(d)(iii) if the permit writer determines any given pollutant has the reasonable potential to cause or contribute to an in-stream excursion above the water quality standard, the permit must contain effluent limits for the pollutant.

- ✓ The permit writer reviewed industry materials, available past inspections, and other documents and research to evaluate general and narrative water quality reasonable potential for this permit. Permit writers also use the Department's permit writer's manual, the EPA's permit writer's manual (<https://www.epa.gov/npdes/npdes-permit-writers-manual>), program policies, and best professional judgment. For each parameter in each permit, the permit writer carefully considers all applicable information regarding technology based effluent limitations, effluent limitation guidelines, and water quality standards. Best professional judgment is based on the experience of the permit writer, cohorts in the Department and resources at the EPA, research, and maintaining continuity of permits if necessary. For stormwater permits, the permit writer is required per 10 CSR 6.200(6)(B)2 to consider: A. application and other information supplied by the permittee; B. effluent guidelines; C. best professional judgment of the permit writer; D. water quality; and E. BMPs.

SCHEDULE OF COMPLIANCE (SOC):

Per § 644.051, RSMo, a permit may be issued with a Schedule of Compliance (SOC) to provide time for a facility to come into compliance with new state or federal effluent regulations, water quality standards, or other requirements. Such a schedule is not allowed if the facility is already in compliance with the new requirement or if prohibited by other statute or regulation. An SOC includes an enforceable sequence of interim requirements (e.g. actions, operations, or milestone events) leading to compliance with the Missouri Clean Water Law, its implementing regulations, and/or the terms and conditions of an operating permit. *See also* Section 502(17) of the CWA, and 40 CFR 122.2. For new effluent limitations, the permit may include interim monitoring for the specific parameter to demonstrate the facility is not already in compliance with the new requirement. Per 40 CFR 122.47(a)(1) and 10 CSR 20-7.031(11), compliance must occur as soon as possible. If the permit provides a schedule for meeting new water quality based effluent limits, an SOC must include an enforceable, final effluent limitation in the permit even if the SOC extends beyond the life of the permit.

- ✓ Not Applicable: This permit does not contain a SOC.

SETBACKS:

Setbacks, sometimes called separation distances, are common elements of permits and are established to provide a margin of safety in order to protect the receiving water and other features from accidents, spills, unusual events, etc. Specific separation distances are included in 10 CSR 20-8 for minimum design standards of wastewater structures. While wastewater is considered separately from stormwater under this permit, the guides and Chapter 8 distances may remain relevant to requirements under this permit if deemed appropriate by the permittee.

- ✓ Discharge to the watersheds of a Metropolitan No-Discharge Stream (10 CSR 20-7.031 Table F) is authorized by this permit if the discharges are in compliance with 10 CSR 20-7.015(5) and 10 CSR 20-7.031(7). Discharges to these watersheds are authorized for uncontaminated stormwater discharges only.
- ✓ This permit authorizes stormwater discharges which are located in a way to allow water to be released into sinkholes, caves, fissures, or other openings in the ground which could drain into aquifers (except losing streams) per 10 CSR 20-7.015(7). It is the best professional judgment of the permit writer to allow discharges to losing streams as the effluent is stormwater only.
- ✓ This permit authorizes stormwater discharge in the watersheds of Outstanding state Resource Waters (OSRW); Outstanding National Resources Waters (ONRW), which includes the Ozark National Riverways and the National Wild and Scenic Rivers System; and impaired waters as designated in the 305(b) Report provided no degradation of water quality occurs in the OSRW and ONRW due to discharges from the permitted facility per 10 CSR 20-7.015(6)(B) and 10 CSR 20-7.031(3)(C). Additionally, if the facility is found to be causing degradation or contributing to an impairment by discharging a pollutant of concern during an inspection or through complaint investigations, they will be required to become a no discharge facility or obtain a site specific permit with more stringent monitoring and SWPPP requirements. Missouri's impaired waters can be found at <https://dnr.mo.gov/water/what-were-doing/water-planning/quality-standards-impaired-waters-total-maximum-daily-loads/impaired-waters>. Sites within 1000 feet of a OSRW, ONRW, or water impaired for sediment must operate as a no-discharge facility. These additional protections are borrowed from the USEPA 2021 draft Construction General Permit.

SLUDGE – DOMESTIC BIOSOLIDS:

Biosolids are solid materials resulting from domestic wastewater treatment meeting federal and state criteria for beneficial use (i.e. fertilizer). Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works; including, but not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment process; and material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in a treatment works.

- ✓ This permit does not authorize discharge or land application of biosolids. Sludge/biosolids is not generated by this industry.

SLUDGE – INDUSTRIAL:

Industrial sludge is solid, semi-solid, or liquid residue generated during the treatment of industrial process wastewater in a treatment works; including, but not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment process; scum and solids filtered from water supplies and backwashed; and a material derived from industrial sludge.

- ✓ Not applicable; sludge is not generated by this industry.

SPILL REPORTING:

Any emergency involving a hazardous substance must be reported to the Department's 24 hour Environmental Emergency Response hotline at (573) 634-2436 at the earliest practicable moment after discovery. The Department may require the submittal of a written report detailing measures taken to clean up a spill. These reporting requirements apply when the spill results in chemicals or materials leaving the permitted property or reaching waters of the state. This requirement is in addition to the noncompliance reporting requirement found in Standard Conditions Part I. <https://dnr.mo.gov/waste-recycling/investigations-cleanups/environmental-emergency-response>.

Underground and above ground storage devices for petroleum products, vegetable oils, and animal fats may be subject to control under federal Spill Prevention, Control, and Countermeasure Regulation and are expected to be managed under those provisions, if applicable. Substances regulated by federal law under the Resource Conservation and Recovery Act (RCRA) or the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) which are transported, stored, or used for maintenance, cleaning or repair shall be managed according to the provisions of RCRA and CERCLA.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

In accordance with 40 CFR 122.44(k), BMPs must be used to control or abate the discharge of pollutants when: 1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities; 2) Authorized under section 402(p) of the CWA for the control of stormwater discharges; 3) Numeric effluent limitations are infeasible; or 4) the practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA. In accordance with the EPA's *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites*, (Document number EPA 833-R-06-004) published by the EPA in 2007 https://www.epa.gov/sites/production/files/2015-10/documents/sw_swppp_guide.pdf, BMPs are measures or practices used to reduce the amount of pollution entering waters of the state from a permitted facility. BMPs may take the form of a process, activity, or physical structure. Additionally, in accordance with the Stormwater Management, a SWPPP is a series of steps and activities to 1) identify sources of pollution or contamination, and 2) select and carry out actions which prevent or control the pollution of storm water discharges. Additional information can be found in *Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices* (EPA 832-R-92-006; September 1992).

A SWPPP must be prepared if the SIC code for the facility is found in 40 CFR 122.26(b)(14) and/or 10 CSR 20-6.200(2). A SWPPP may be required of other facilities where stormwater has been identified as necessitating better management.

The purpose of a SWPPP is to comply with all applicable stormwater regulations by creating an adaptive management plan to control and mitigate stream pollution from stormwater runoff. Developing a SWPPP provides opportunities to employ appropriate BMPs to minimize the risk of pollutants being discharged during storm events. The following paragraph outlines the general steps the permittee should take to determine which BMPs will work to achieve the benchmark values or limits in the permit. This section is not intended to be all encompassing or restrict the use of any physical BMP or operational and maintenance procedure assisting in pollution control. Additional steps or revisions to the SWPPP may be required to meet the requirements of the permit.

Areas which should be included in the SWPPP are identified in 40 CFR 122.26(b)(14). Once the potential sources of stormwater pollution have been identified, a plan should be formulated to best control the amount of pollutant being released and discharged by each activity or source. This should include, but is not limited to, minimizing exposure to stormwater, good housekeeping measures, proper facility and equipment maintenance, spill prevention and response, vehicle traffic control, and proper materials handling. Once a plan has been developed, the facility will employ the control measures determined to be adequate to prevent pollution from entering waters of the state. The facility will conduct inspections of the BMPs to ensure they are working properly and re-evaluate any BMP not achieving compliance with permitting requirements. For example if the BMP being employed is deficient in controlling stormwater pollution, corrective action should be taken to repair, improve, or replace the failing BMP. If failures do occur, continue this trial and error process until appropriate BMPs have been established.

The EPA has developed factsheets on the pollutants of concern for specific industries along with the BMPs to control and minimize stormwater (<https://www.epa.gov/npdes/stormwater-discharges-industrial-activities>). Along with EPA's factsheets, the International Stormwater BMP database (<https://bmpdatabase.org/>) may provide guidance on BMPs appropriate for specific industries.

For new, altered, or expanded stormwater discharges, the SWPPP shall identify reasonable and effective BMPs while accounting for environmental impacts of varying control methods. The antidegradation analysis must document why no discharge or no exposure options are not feasible. The selection and documentation of appropriate control measures shall serve as an alternative analysis of technology and fulfill the requirements of antidegradation [10 CSR 20-7.031(3)].

Alternative analysis evaluation of the BMPs is a structured evaluation of BMPs which are reasonable and cost effective. The alternative analysis evaluation should include practices designed to be: 1) non-degrading; 2) less degrading; or 3) degrading water quality. The glossary of the *Antidegradation Implementation Procedure* defines these three terms. The chosen BMP will be the most reasonable and effective management strategy while ensuring the highest statutory and regulatory requirements are achieved and the highest quality water attainable for the facility is discharged. The alternative analysis evaluation must demonstrate why "no discharge" or "no exposure" is not a feasible alternative at the facility. This structured analysis of BMPs serves as the antidegradation review, fulfilling the requirements of 10 CSR 20-7.031(3) Water Quality Standards and *Antidegradation Implementation Procedure*, Section II.B.

- ✓ Applicable: A SWPPP shall be developed and implemented for each site and shall incorporate required practices identified by the Department with jurisdiction, incorporate control practices specific to site conditions, and provide for maintenance and adherence to the plan.

UNDERGROUND INJECTION CONTROL (UIC):

The UIC program for all classes of wells in the State of Missouri is administered by the Missouri Department of Natural Resources and approved by EPA pursuant to section 1422 and 1425 of the Safe Drinking Water Act (SDWA) and 40 CFR 147 Subpart AA. Injection wells are classified based on the liquids which are being injected. Class I wells are hazardous waste wells which are banned by RSMo 577.155; Class II wells are established for oil and natural gas production; Class III wells are used to inject fluids to extract minerals; Class IV wells are also banned by Missouri in RSMo 577.155; Class V wells are shallow injection wells; some examples are heat pump wells and groundwater remediation wells. Domestic wastewater being disposed of sub-surface is also considered a Class V well.

In accordance with 40 CFR 144.82, construction, operation, maintenance, conversion, plugging, or closure of injection wells shall not cause movement of fluids containing any contaminant into Underground Sources of Drinking Water (USDW) if the presence of any contaminant may cause a violation of drinking water standards or groundwater standards under 10 CSR 20-7.031 or other health-based standards or may otherwise adversely affect human health. If the Department finds the injection activity may endanger USDWs, the Department may require closure of the injection wells or other actions listed in 40 CFR 144.12(c), (d), or (e). In accordance with 40 CFR 144.26, the permittee shall submit a Class V Well Inventory Form for each active or new underground injection well drilled, or when the status of a well changes, to the Missouri Department of Natural Resources, Geological Survey Program, P.O. Box 250, Rolla, Missouri 65402. Single family residential septic systems and non-residential septic systems used solely for sanitary waste and having the capacity to serve fewer than 20 persons a day are excluded from the UIC requirements (40 CFR 144.81(9)).

- ✓ Not applicable; this permit does not authorize subsurface wastewater systems or other underground injection. These activities must be assessed under an application for a site specific permit. Certain discharges of stormwater into sinkholes may qualify as UIC. It is important the permittee evaluate all stormwater basins, even those holding water; as sinkholes have varying seepage rates. This permit does not allow stormwater discharges into sinkholes. The facility must ensure sinkholes are avoided in the construction process. The State's online mapping resource <https://modnr.maps.arcgis.com/apps/webappviewer/index.html?id=87ebef4af15d438ca658ce0b2bbc862e> has a sinkhole layer.

VARIANCE:

Per the Missouri Clean Water Law Section 644.061.4, variances shall be granted for such period of time and under such terms and conditions as shall be specified by the commission in its order. The variance may be extended by affirmative action of the commission. In no event shall the variance be granted for a period of time greater than is reasonably necessary for complying with the Missouri Clean Water Law Section 644.006 to 644.141 or any standard, rule, or regulation promulgated pursuant to Missouri Clean Water Law Section 644.006 to 644.141.

- ✓ Not Applicable: This permit is not drafted under premises of a petition for variance.

WASTELOAD ALLOCATIONS (WLA) FOR LIMITATIONS:

Per 10 CSR 20-2.010(78), the amount of pollutant each discharger is allowed by the Department to release into a given stream after the Department has determined total amount of pollutant which may be discharged into the stream without endangering its water quality. Water quality based maximum daily and average monthly effluent limitations were calculated using methods and procedures outlined in USEPA's Technical Support Document For Water Quality-based Toxics Control (TSD) (EPA/505/2-90-001).

- ✓ Not applicable; water quality limitations were not applied in this permit.

WATER QUALITY STANDARDS:

Per 10 CSR 20-7.031(4), General Criteria shall be applicable to all waters of the state at all times, including mixing zones. Additionally, 40 CFR 122.44(d)(1) directs the Department to include in each NPDES permit conditions to achieve water quality established under Section 303 of the CWA, including state narrative criteria for water quality.

WHOLE EFFLUENT TOXICITY (WET) TEST:

Per 10 CSR 20-7.031(1)(FF), a toxicity test conducted under specified laboratory conditions on specific indicator organism; and per 40 CFR 122.2, the aggregate toxic effect of an effluent measured directly by a toxicity test. A WET test is a quantifiable method of determining if a discharge from a facility may be causing toxicity to aquatic life by itself, in combination with, or through synergistic responses when mixed with receiving water.

- ✓ Not applicable: At this time, permittees are not required to conduct a WET test. This permit is for stormwater only.

PART IV – EFFLUENT LIMITATIONS DETERMINATION

EPA Construction General Permit (CGP)

The CGP was used to research and support best professional judgment decisions made in establishing technology-based conditions for this general permit which are consistent with national standards. The permit writer determined the standards established by the CGP are achievable and consistent with federal regulations. Additionally, the conditions reflecting the best practicable technology currently available are utilized to implement the ELG.

In this general permit, technology-based effluent conditions are established through the SWPPP and BMP requirements. Effective BMPs should be designed on a site-specific basis. The implementation of inspections provides a tool for each facility to evaluate the effectiveness of BMPs to ensure protection of water quality. Any flow through an outfall is considered a discharge. Future permit action due to permit modification may contain new operating permit terms and conditions which supersede the terms and conditions, including effluent limitations, of this operating permit.

PART V–REPORTING REQUIREMENTS

SAMPLING:

The permittee is not required to sample stormwater under this permit. The Department may require sampling and reporting as a result of illegal discharges, compliance issues related to water quality concerns or BMP effectiveness, or evidence of off-site impacts from activities at the facility. If such an action is needed, the Department will specify in writing the sampling requirements, including such information as location and extent. If the permittee refuses to perform sampling when required, the Department may terminate the general permit and require the facility to obtain a site-specific permit with sampling requirements.

REPORTING:

There are quarterly reporting requirements for MO-R100xxx land disturbance permits. Project specific information is required to be report to the Department through the eDMR system.

PART VI – RAINFALL VALUES FOR MISSOURI & SURFACE WATER BUFFER ZONES

Knowledge of the 2-year, 24-hour storm event is used in this permit for two main reasons:

- 1) The design, installation, and maintenance of effective erosion and sediment controls to minimize the discharge of pollutants.
- 2) If the seven-day inspection frequency is utilized, an inspection must occur within 48 hours after any storm event equal to or greater than a 2-year, 24 hour storm has ceased.

For site-specific 2-year, 24-hour storm event information utilize the National Oceanic and Atmospheric Administration’s National Weather Service Atlas 14 (NOAA Atlas 14) which is located at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html. For more information visit; https://www.weather.gov/media/owp/oh/hdsc/docs/Atlas14_Volume8.pdf.

Surface Water Buffer Zones: In order to design controls that match the sediment removal efficiency of a 50-foot buffer, you first need to know what this efficiency is for your site. The sediment removal efficiencies of natural buffers vary according to a number of site-specific factors, including precipitation, soil type, land cover, slope length, width, steepness, and the types of erosion and sediment controls used to reduce the discharge of sediment prior to the buffer. For additional information;

https://www.epa.gov/sites/default/files/2017-02/documents/2017_cgp_final_appendix_g_-_buffer_reqs_508.pdf

PART VII – ADMINISTRATIVE REQUIREMENTS

On the basis of preliminary staff review and applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the permit. The proposed determinations are tentative pending public comment.

PUBLIC MEETING:

The department hosted three public meetings for this permit. The meetings were held on January 27, February 17, and March 9, 2021.

PUBLIC NOTICE:

The Department shall give public notice when a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest or because of water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and facility must be notified of the denial in writing.

The Department must give public notice of a pending permit or of a new or reissued Missouri State Operating Permit. The public comment period is a length of time not less than thirty (30) days following the date of the public notice, during which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed permit, please refer to the Public Notice page located at the front of this draft permit. The Public Notice page gives direction on how and where to submit appropriate comments.

- ✓ The Public Notice period for this permit is started March 25, 2022 and ended April 25, 2022. Two comment letters were received.

DATE OF FACT SHEET: 03/2/2022

COMPLETED BY:

SARAH WRIGHT

MS4 & LAND DISTURBANCE PERMITTING COORDINATOR

MISSOURI DEPARTMENT OF NATURAL RESOURCES

WATER PROTECTION PROGRAM

OPERATING PERMITS SECTION - STORMWATER AND CERTIFICATION UNIT

(573) 526-1139

Sarah.wright@dnr.mo.gov, dnr.generalpermits@dnr.mo.gov

SECTION 01580 – PROJECT SIGNS

PART 1 - GENERAL

1.01 SUMMARY

- A. Contractor shall provide all material, labor and equipment necessary for the fabrication, printing, and installation of Project signs.
- B. This section covers project sign requirements for all Owner projects which includes the following:
 - 1. Project identification sign description
 - 2. Project sign installation
 - 3. Maintenance and removal of Project sign
 - 4. Printing of signs
 - 5. Installation of signs

1.02 SPECIFICATION MODIFICATIONS

- A. It is understood that throughout this section these Specifications may be modified by appropriate items in Contract Documents, or as otherwise indicated on the Drawings.

1.03 RELATED SECTIONS

- A. Section 01581 – Public Communications

1.04 INFORMATION PROVIDED BY CITY

- A. City shall provide the graphic design templates of the Project sign in an electronic format to be used in the printing process.

1.05 SUBMITTALS

- A. Submit as specified in Section 01300 – Submittals
- B. Shop Drawings (not used)
- C. Product Data (not used)
- D. Samples (not used)
- E. Other
 - 1. Project Sign Locations: Submit for review and approval a map of the Project area of marked up Drawings showing the location and orientation of each project sign.
 - 2. Submit for review and approval notifications to homeowners and business adjacent to the location of the Project signs.
 - 3. Re-use of Placards: If the Contractor has salvaged placards from previous projects, they may be re-used if approved by the City. Submit color photographs that accurately show the condition of each placard to be re-used for review and approval.
 - 4. Notice of Removal: Submit written notification to City that all Project signs have been removed.

PART 2 - PRODUCTS

2.01 PRINTERS

- A. A list of printing companies that have previous experience may be provided by City upon requested by Contractor.

2.02 FRAME

- A. Metal frame and hardware shall be in conformance with Water Services standard detail D-20142 – Installation Detail for Project Signs (see Figure 3).

2.03 PLACARDS

- A. Upper Placard Size: 6 feet wide by 4 feet tall.
- B. Lower Placard Size: 6 feet wide by 1 foot tall.
- C. Material: Coroplast® corrugated plastic sheeting or approved equal.
- D. Sheeting Thickness: 10 mm (approximately one-half (3/8) inch thickness).
- E. Sheeting Color: White.
- F. Print Method: Direct to Coroplast® with outdoor UV laminate coating.

2.04 PLACARD CONTENT

- A. Construction Phase Upper Placard: For each project sign the Contractor shall provide an upper placard which will be displayed through construction. An example of the Construction Phase Upper Placard is shown in Figure 1.
- B. Post-Construction Phase Upper Placard: For each project sign the Contractor shall provide an upper placard which will be displayed post construction. An example of the Construction Phase Upper Placard is shown in Figure 2.
- C. Lower Placard: For each project sign, the Contractor shall provide a lower placard. Examples of the Lower Placard are shown in Figures 1 and 2.
- D. The City will provide graphic images for all placards.

2.05 NUMBER OF SIGNS TO BE PROVIDED

- A. The number of project signs to be provided is defined in Contract Documents. Each Project sign includes the following:
 - 1. One (1) Construction Phase Upper Placard to be displayed during construction.
 - 2. One (1) Post-Construction Phase Upper Placard to be displayed after completion of the Work.
 - 3. One (1) Lower Placard to be displayed during construction and post-construction.
 - 4. Printing of placards
- B. Frames as shown in City standard detail D-20142 – Installation Detail for Project Signs (see Figure 3).

PART 3 - EXECUTION

3.01 INSTALATION AND PLACEMENT OF SIGNS

- A. Installation: Project signs shall be fabricated and installed in accordance with City standard detail D-20142 – Installation Detail for Project Signs (see Figure 3).
- B. Location: Project signs shall be located within the Site as defined by Contract's General Conditions. Project signs shall be erected in a conspicuous place but shall not interfere with the vision of pedestrian or vehicular traffic such as to create a hazard. Locations of signs shall be coordinated with the City prior to installation and submitted accordance with paragraph SUBMITTALS.
- C. Notifications: The Contractor shall notify any homeowners or businesses adjacent to the location of the signs at least three (3) days prior to erecting signs.
- D. Project sign(s) shall be erected not less than two (2) days before the start of construction activities. No construction activities are allowed until the Project signs are erected.

- E. Project signs shall remain in place for the duration of the Project and shall be maintained true, plumb, and in neat condition.

3.02 REPLACEMENT OF UPPER PLACARDS

- A. Upon completion of the Work and at the direction by the City, the Contactor shall remove the Construction Phase Upper Placard (Figure 1) on all Project signs and replace them with the Post-Construction Upper Placard (Figure 2).
- B. The Lower Placards are to remain in place.

3.03 REMOVAL OF PROJECT SIGNS

- A. All Project signs shall be maintained for thirty (30) calendar days after completion of the Work, or as otherwise directed by the City.
- B. Contractor shall remove all Project signs and restore the area disturbed by construction activities.
- C. Project signs shall be removed from the Project areas and will become property of the Contractor.
- D. The Contractor may dispose of Project signs or salvage and reuse them on future City projects. The City will assess the condition of the signs and determine the appropriateness of reuse.
- E. Within three (3) days of removal of signs, Contractor shall provide the City written notice that all Project signs have been removed from the Site.

END OF SECTION



Figure 1 – Example Construction Phase Upper Placard and Lower Placard



Figure 2 – Example Post-Construction Phase Upper Placard and Lower Placard

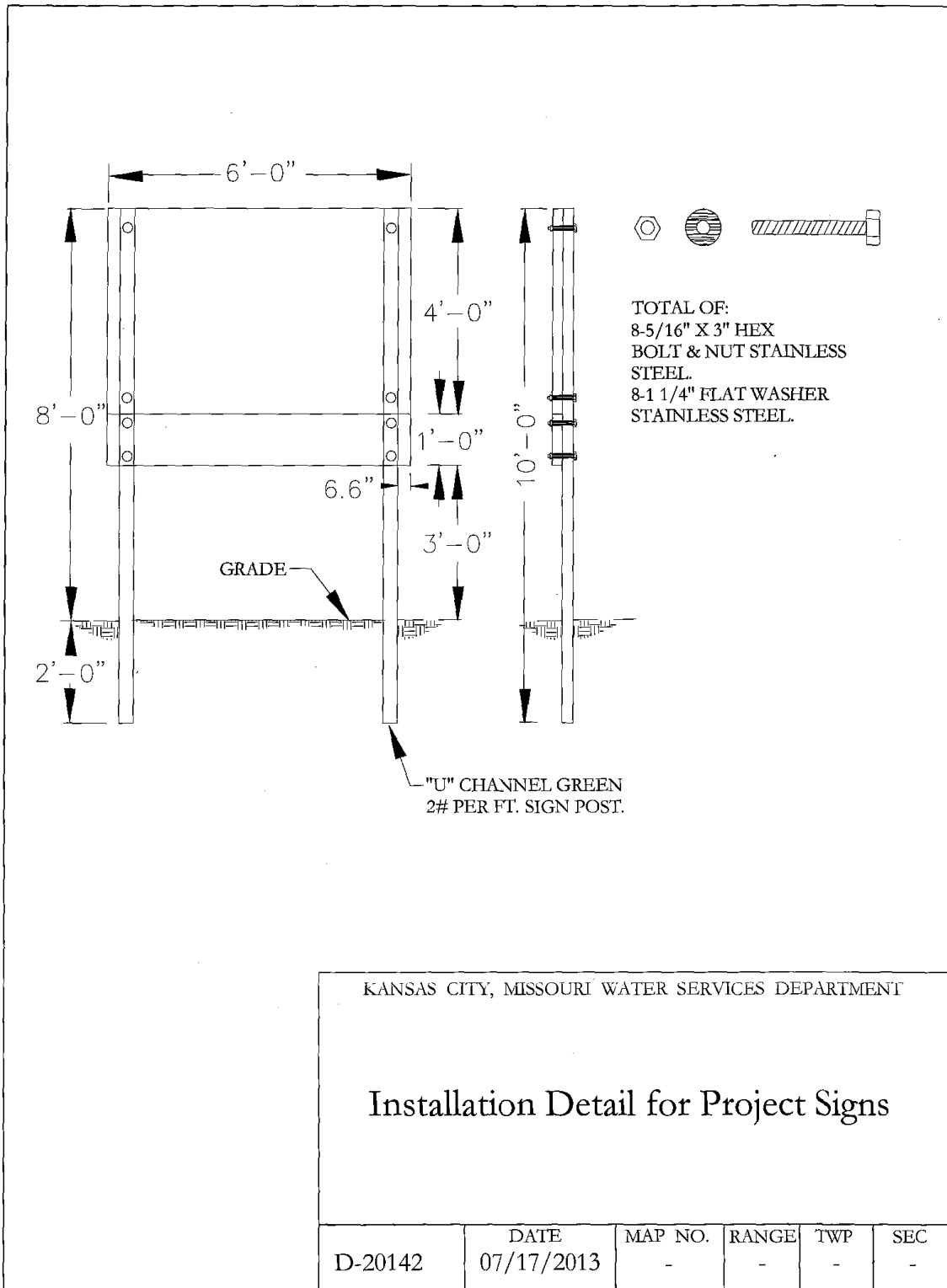


Figure 3 – Installation Detail for Project Signs

SECTION 01581 – PUBLIC COMMUNICATIONS

PART 1 - GENERAL

1.01 SUMMARY

- A. This section covers communication procedures between the Contractor and the general public affected by construction activities.
- B. All written communications between the Contractor and the public shall be subject to review and approval by the City.

1.02 RELATED SECTIONS

- 1. General Conditions of Contract Between Owner and Design-Builder

1.03 DEFINITIONS

- A. Affected Properties: Homeowners, businesses, tenants or other entities whose everyday activities could be affected by the Work.

1.04 INFORMATION PROVIDED BY CITY

- A. City will provide Contractor an electronic mailing list of affected property owners as needed for the Project.
- B. City may provide Contractor an electronic copy of approved communications (such as door hangers) to be distributed to affected properties.

1.05 SUBMITTALS

- A. Submit as specified in Section 01300 – Submittals.
- B. Notifications: Submit for review and approval all notifications developed by Contractor that are to be distributed affected properties.

1.06 PUBLIC MEETINGS

- A. Description: Contractor shall attend and participate in one public meeting. The Contractor's Project Manager shall attend and present to the public project details. These details shall include, but are not limited to, the following:
 - 1. Project schedule
 - 2. Project phasing
 - 3. Disruptions to the neighborhood
 - 4. Temporary restoration efforts
 - 5. Final restoration efforts
- B. Field contact information.
- C. City will facilitate the meeting and provide a location, date and time.
- D. See General Conditions of Contract Between Owner and Design-Builder for additional meeting requirements.

1.07 DOOR HANGERS AND OTHER PRINTED COMMUNICATIONS

- A. Description: Door hangers and other printed communications (fact sheets, post cards, signs, etc.) throughout construction shall be distributed to inform homes and businesses of disruptions.
- B. Template: City will provide templates for door hangers and other printed communications in an electronic format. See Figures 1 through 5 for an example door hanger.

- C. Template Modification: Contractor may need to annotate the printed door hangers with project specific information. This effort may include checking a box to describe the work and adding an applicable date and time.
- D. Review Submittal: Not required.
- E. Printing and Reproduction: The Contractor shall print door hangers and other communications.
- F. Distribution List: The list of affected property owners will be provided by the City.
- G. Mailing and Distribution: Contractor shall distribute the door hangers or other printed communications to the affected property owners. Door hangers are to be hand-delivered. Other printed communications will be delivered in a manner acceptable to the City.
- H. Costs: Costs to develop, reproduce, deliver or mail notifications shall be included in Contractor's bid price.

1.08 NOTIFICATION OF UTILITIES

- A. Notify utilities in accordance with General Conditions of Contract.

1.09 NOTICES TO PROPERTY OWNERS AND AUTHORITIES

- A. As provided in General Conditions of Contract between Owner and Design-Builder, the Contractor shall notify adjacent property owners and utilities when execution of the Work may affect them.
- B. Work Notice
 - 1. General notice to affected property owners in advance of the work. Notice is required for any work within and easement. Notice may be given for work within the City's right-of-way.
 - 2. Type of notification shall be a door hanger.
- C. Denial of Access
 - 1. Notice for when it is necessary to temporarily deny access to property, driveway, sidewalk, or other facility.
 - 2. Type of notification shall be a door hanger.
- D. Smoke Testing
 - 1. Notice for when the Project involves smoke testing.
 - 2. Type of notification shall be a door hanger.
- E. Utility Service Interruption
 - 1. Notice for when any utility service connection must be interrupted.
 - 2. Type of notification shall be a door hanger.
- F. Street Closures and Changes to Traffic Patterns
 - 1. Notices to utilities and other concerned agencies prior to cutting or closing streets or other traffic areas or excavating near underground utilities or pole lines.
 - 2. Type of notification will be written communication prepared and distributed by the Contractor.
- G. Schedule: Notices shall be received by the affected properties no less than two (2) and no more than seven (7) calendar days prior to the work, Denial of Access, Smoke Testing, Utility Service Interruption, Street Closures and Changes to Traffic Patterns, or other work that may require notification.

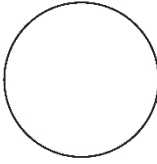
1.10 OTHER COMMUNICATIONS

- A. See Contract Documents for additional communication requirements not specifically included herein or otherwise required by the Contract Documents.

PART 2 - PRODUCTS
Not used.

PART 3 - EXECUTION
Not used.

END OF SECTION



**PROPERTY ACCESS
TEMPORARILY RESTRICTED**

A KC Water contractor is conducting important infrastructure work at or near your home or business that will require temporary closure of your driveway, sidewalk, or both.

Date(s) of closure: _____


From _____ to approximately _____

QUESTIONS:

Contractor supervisor: _____

Phone or text: _____

We greatly appreciate your patience and cooperation.
Thank you for your support as we continue to improve critical infrastructure in your neighborhood and throughout Kansas City.



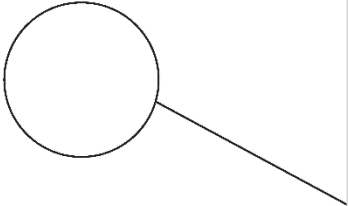
KCWATER
www.kcwaterservices.org/projects

KCW-XX-999-X (Rev. 06/18)

EXAMPLE

Obtain Template from City

Figure 1 – Denial of Access Door Hanger



PIPELINE SMOKE TESTING

A KC Water contractor will be testing pipes in your neighborhood that will include pipeline smoke test.

Date(s) of smoke testing: _____

From _____ to _____ primarily _____

The contractor will blow a non-toxic, non-staining, odorless smoke into sewer lines in order to identify breaks or defects. The smoke is white to gray in color. It poses no fire hazard, and is not harmful to pets or humans.


In the unlikely event smoke enters your structure, you can speed evaporation by opening windows or doors. Also, please notify on-site technicians or the supervisor.

QUESTIONS:

Contractor supervisor: _____

Phone or text: _____

We greatly appreciate your patience and cooperation.
Thank you for your support as we continue to improve critical infrastructure in your neighborhood and throughout Kansas City.



KCWATER
www.kcwaterservices.org/projects

KCW-XX-999-X (Rev. 06/18)

EXAMPLE

Obtain template from City

Figure 2 – Smoke Testing Door Hanger



TRAFFIC TEMPORARILY INTERRUPTED

A KC Water contractor working in your neighborhood must temporarily close streets or portions of streets near your home or business in order to complete important utility improvements or repairs.

Date(s) of traffic interruption: _____
 from _____ approximately _____

Please follow detours and lane changes, observe barriers and cones, and drive safely and patiently, especially near work zones.

QUESTIONS:

Contractor supervisor: _____
 Phone or text: _____

We greatly appreciate your patience and cooperation.
 Thank you for your support as we continue to improve critical infrastructure in your neighborhood and throughout Kansas City.



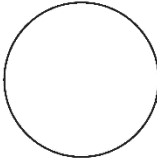
KCWATER
www.kcwaterservices.org/projects

KCW-XX-999-X (Rev. 06/18)

EXAMPLE

Obtain Template from City

Figure 3 -Traffic Interruption Door Hanger



**WASTEWATER SERVICE
TEMPORARILY INTERRUPTED**


A KC Water contractor working in your neighborhood must temporarily shut down wastewater service to your home or business in order to complete important utility improvements or repairs.

Date of shut down: _____
from _____ approximately _____

QUESTIONS:

Contractor supervisor: _____
Phone or text: _____

We greatly appreciate your patience and cooperation. Thank you for your support as we continue to improve critical infrastructure in your neighborhood and throughout Kansas City.

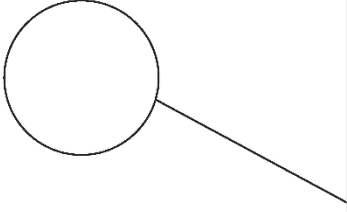
 **KCWATER**
www.kcwaterservices.org/projects

KCW-XX-999-X (Rev. 06/18)

EXAMPLE

Obtain Template from City

Figure 4 – Wastewater Service Interruption Door Hanger



**WATER SERVICE
TEMPORARILY INTERRUPTED**

A KC Water contractor working in your neighborhood must temporarily shut down water service to your home or business in order to complete important utility improvements or repairs.

Date of shut down: _____

from _____ **approximately** _____


The water main will be flushed and reset after the repair is completed. After water service is resumed, you may experience some cloudy or discolored water. If this occurs, open all taps and let them run for 10 or 15 minutes. Screen, aerators, or other filters should be removed, cleaned and left off while running the water.

QUESTIONS:

Contractor supervisor: _____

Phone or text: _____

We greatly appreciate your patience and cooperation. Thank you for your support as we continue to improve critical infrastructure in your neighborhood and throughout Kansas City.



KCWATER

www.kcwaterservices.org/projects

KCW-XX-999-X (Rev. 06/18)

EXAMPLE

Obtain Template from City

Figure 5 – Water Service Interruption Door Hanger

○

**UTILITY WORK
IN YOUR AREA**

A KC Water contractor working in your neighborhood soon will be conducting important construction work at or near your home or business.

Date(s) of work: _____

From _____ **to approximately** _____


Construction equipment may be used and may create noise and dusty conditions. Any disruption to lawns, landscaping, driveways or sidewalks will be repaired after this necessary work is completed.

QUESTIONS:

Contractor supervisor: _____

Phone or text: _____

We greatly appreciate your patience and cooperation.
Thank you for your support as we continue to improve critical infrastructure in your neighborhood and throughout Kansas City.

 **KCWATER**
www.kcwaterservices.org/projects

KCW-XX-999-X (Rev. 06/18)

EXAMPLE

Obtain Template from City

Figure 6 – Work Notice Door Hanger

SECTION 01600 – PRODUCT DELIVERY STORAGE AND HANDLING

PART 1 – GENERAL

1.01 SUMMARY

- A. Section includes: Product requirements; product selection; product options and substitutions; quality assurance; shipping, delivery, handling, and storage; and instructions for spare parts, maintenance products, and special tools.

1.02 REFERENCES

- A. American National Standards Institute (ANSI).
- B. NSF International (NSF):
 - 1. 61 - Drinking Water System Components - Health Effects.
 - 2. 372 - Drinking Water System Components – Lead Content.

1.03 RELATED SECTIONS

- A. Form F-1 – Project Design Criteria
- B. Section 01019 – Closeout Procedures.
- C. Section 01300 – Submittals.
- D. Section 01520 – Definitions and Acronyms
- E. Section 01630 – Substitution Request Form.
- F. Section 01757 – Commissioning.
- G. Division 9 Sections

1.04 DEFINITIONS

- A. Refer to Section 01420 – Definitions and Acronyms

1.05 SUBMITTALS

- A. As specified in Section 01300 - Submittals.
- B. Calculations/certifications in accordance with NSF 61 and 372 for materials in contact with drinking water.

1.06 GENERAL REQUIREMENTS

- A. Comply with Specifications and referenced standards as minimum requirements.
- B. Provide products by same manufacturer when products are of similar nature, unless otherwise specified.
- C. Provide like parts of duplicate units that are interchangeable.
- D. Provide equipment that has not been in service prior to delivery, except as required by tests.
- E. When necessary, modify manufacturer's standard product to conform to specified requirements or requirements indicated on the Drawings.

1.07 SUBSTITUTIONS

- A. Formal substitution request procedure:
 - 1. Submit a written formal substitution request to Engineer for each proposed substitution within 30 days of effective date of Contract.
 - 2. Engineer will return initial opinion and request for additional information within 30 days.

3. Engineer will notify Contractor in writing of decision to accept or reject the substitution request within 30 days of receiving required information.
- B. Formal substitution request contents:
1. Provide Substitution Request Form as specified in Section 01630 - Substitution Request Form.
 2. Manufacturer's literature including:
 - a. Manufacturer's name and address.
 - b. Product name.
 - c. Product description.
 - d. Reference standards.
 - e. Certified performance and test data.
 - f. Operation and maintenance data.
 3. Samples, if applicable.
 4. Shop drawings, if applicable.
 5. Reference projects where the product has been successfully used:
 - a. Name and address of project.
 - b. Year of installation.
 - c. Year placed in operation.
 - d. Name of product installed.
 - e. Point of contact: Name and phone number.
 6. Itemized comparison of the proposed substitution with product specified including a list of significant variations:
 - a. Design features.
 - b. Design dimensions.
 - c. Installation requirements.
 - d. Operations and maintenance requirements.
 7. Define impacts:
 - a. Impacts to construction schedule.
 - b. Impacts to other contracts.
 - c. Impacts to other work or products.
 - d. Impact to Contract Sum:
 - (1) Do not include costs under separate contracts.
 - (2) Do not include Engineer's costs for redesign or revision of Contract Documents.
 - (3) Required license fees or royalties.
 - e. Availability of maintenance services and sources of replacement materials.
 8. Contractor represents the following:
 - a. Contractor shall pay associated costs for the Engineer to evaluate the substitution.
 - b. Contractor bears the burden of proof of the equivalency of the proposed substitution.
 - c. Proposed substitution does not change the design intent and will have equal performance to the specified product.
 - d. Proposed substitution is equal or superior to the specified product.
 - e. Contractor will provide the warranties or bonds that would be provided on the specified product on the proposed substitution, unless Owner requires a Special Warranty.
 - f. Contractor will coordinate installation of accepted substitution into the Work and will be responsible for the costs to make changes as required to the Work.

- g. Contractor waives rights to claim additional costs caused by proposed substitution which may subsequently become apparent.
- C. Substitutions will not be considered for acceptance under the following conditions:
 - 1. No formal substitution request is made.
 - 2. The substitution is simply implied or indicated on shop drawings or product data submittals.
 - 3. The formal substitution request is submitted by a subcontractor or supplier.
- D. Substitution requests submitted after the deadline will not be considered unless the following evidence is submitted to the Engineer:
 - 1. Proof that the specified product is unavailable for reasons beyond the control of the Contractor.
 - a. Reasons may include manufacturing discontinued, bankruptcy, labor strikes, or acts of God.
 - b. Contractor placed or attempted to place orders for the specified products within 10 days after the effective date of the Agreement.
 - c. The formal substitution request is submitted to Engineer within 10 days of the Contractor discovering the specified product cannot be obtained.
- E. Engineer's decision on a substitution requests will be final and binding.
 - 1. Approved substitutions will be incorporated into the Contract Documents with a Change Order.
 - 2. Requests for time extensions and additional costs based on submission of, approval of, or rejection of substitutions will not be allowed.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Material requirements:
 - 1. Materials: Provide corrosion resistance suitable for project conditions as specified in Form F-1 – Project Design Criteria.
 - 2. Dissimilar metals: Separate contacting surfaces with dielectric material.
- B. Edge grinding:
 - 1. Sharp projections of cut or sheared edges of ferrous metals which are not to be welded shall be ground to a radius required to ensure satisfactory paint adherence.

2.02 PRODUCTS IN CONTACT WITH DRINKING WATER

- A. Materials in contact with drinking waters:
 - 1. Shall be in accordance with NSF 61 and NSF 372.
 - 2. Certification by an independent ANSI accredited third party, including, but not limited to, NSF International, as being lead free.

2.03 PRODUCT SELECTION

- A. When products are specified by standard or specification designations of technical societies, organizations, or associations only, provide products that meet or exceed reference standard and Specifications.
- B. When products are specified with names of manufacturers but no model numbers or catalog designations, provide:

1. Products by one of named manufacturers that meet or exceed Specifications.
 2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.
- C. When products are specified with names of manufacturers and model numbers or catalog designations, provide:
1. Products with model numbers or catalog designations by one of named manufacturers.
 2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.
- D. When products are specified with names of manufacturers, but with brand or trade names, model numbers, or catalog designations by one manufacturer only, provide:
1. Products specified by brand or trade name, model number, or catalog designation.
 2. Products by one of named manufacturers proven, in accordance with requirements for an "or equal", to meet or exceed quality, appearance and performance of specified brand or trade name, model number, or catalog designation.
 3. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.
- E. When Products are specified with only one manufacturer followed by "or Equal," provide:
1. Products meeting or exceeding Specifications by specified manufacturer.
 2. Engineer deemed "or equal" evidenced by an approved shop drawing or other written communication.

2.04 SHIPMENT

- A. Mandatory requirements prior to shipment of equipment:
1. Engineer approved shop drawings.
 2. Engineer approved Manufacturer's Certificate of Source Testing as specified in Section 01757 - Commissioning, when required by specifications.
 3. Draft operations and maintenance manuals, when required by specifications.
- B. Prepare products for shipment by:
1. Tagging or marking products to agree with delivery schedule or shop drawings.
 2. Including complete packing lists and bills of material with each shipment.
 3. Packaging products to facilitate handling and protection against damage during transit, handling, and storage.
 4. Securely attach special instructions for proper field handling, storage, and installation to each piece of equipment before packaging and shipment.
- C. Transport products by methods that avoid product damage.
- D. Deliver products in undamaged condition in manufacturer's unopened containers or packaging.

2.05 SPARE PARTS, MAINTENANCE PRODUCTS, AND SPECIAL TOOLS

- A. Provide spare parts and maintenance products as required by Specifications.
- B. Provide one set of special tools required to install or service the equipment.
- C. Box, tag, and clearly mark items.
- D. Contractor is responsible for spare parts, maintenance products, and special tools until acceptance by Owner.
- E. Store spare parts, maintenance products, and special tools in enclosed, weatherproof, and lighted facility during the construction period.
 1. Protect parts subject to deterioration, such as ferrous metal items and electrical components with appropriate lubricants, desiccants, or hermetic sealing.

- F. Provide spare parts and special tools inventory list, see Appendix A:
 - 1. Equipment tag number.
 - 2. Equipment manufacturer.
 - 3. Subassembly component, if appropriate.
 - 4. Quantity.
 - 5. Storage location.
- G. Store large items individually:
 - 1. Weight: Greater than 50 pounds.
 - 2. Size: Greater than 24 inches wide by 18 inches high by 36 inches long.
 - 3. Clearly labeled:
 - a. Equipment tag number.
 - b. Equipment manufacturer.
 - c. Subassembly component, if appropriate.
- H. Store in spare parts box smaller items:
 - 1. Weight: Less than 50 pounds.
 - 2. Size: Less than 24 inches wide by 18 inches high by 36 inches long.
 - 3. Clearly labeled:
 - a. Equipment tag number.
 - b. Equipment manufacturer.
 - c. Subassembly component, if appropriate.
- I. Spare parts and special tools box:
 - 1. Wooden box:
 - a. Size: 24 inches wide by 18 inches high by 36 inches long.
 - 2. Hinged wooden cover:
 - a. Strap type hinges.
 - b. Locking hasp.
 - c. Spare parts inventory list taped to underside of cover.
 - 3. Coating: As specified in Division 9 Specifications
 - 4. Clearly labeled:
 - a. The words “Spare Parts and/or Special Tools”.
 - b. Equipment tag number.
 - c. Equipment manufacturer.

PART 3 – EXECUTION

3.01 DELIVERY AND HANDLING

- A. Handle equipment in accordance with manufacturer's instructions.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- C. Upon delivery, promptly inspect shipments:
 - 1. Verify compliance with Contract Documents, correct quantities, and undamaged condition of products.
 - 2. Acceptance of shipment does not constitute final acceptance of equipment.

3.02 STORAGE AND PROTECTION

- A. Immediately store and protect products and materials until installed in Work.
- B. Store products with seals and legible labels intact.

- C. Maintain products within temperature and humidity ranges required or recommended by manufacturer.
- D. Protect painted surfaces against impact, abrasion, discoloration, and other damage.
 - 1. Repaint damaged painted surfaces.
- E. Exterior storage of fabricated products:
 - 1. Place on aboveground supports that allow for drainage.
 - 2. Cover products subject to deterioration with impervious sheet covering.
 - 3. Provide ventilation to prevent condensation under covering.
- F. Store moisture sensitive products in watertight enclosures.
- G. Furnish covered, weather-protected storage structures providing a clean, dry, noncorrosive environment for mechanical equipment, valves, architectural items, electrical and instrumentation equipment and special equipment to be incorporated into this project.
 - 1. Storage of equipment shall be in strict accordance with the “instructions for storage” of each equipment supplier and manufacturer including connection of heaters, placing of storage lubricants in equipment, etc.
 - 2. The Contractor shall furnish a copy of the manufacturer’s instructions for storage to the Engineer prior to storage of all equipment and materials.
 - 3. Pumps, motors, electrical equipment, and all equipment with antifriction or sleeve bearings shall be stored in weathertight structures maintained at a temperature above 60°F. Electrical equipment, controls, and insulation shall be protected against moisture and water damage. All space heaters furnished in equipment shall be connected and operated continuously.
- H. Unless otherwise instructed by or required by the equipment manufacturer:
 - 1. Equipment having moving parts, such as gears, bearings, and seals, shall be stored fully lubricated with oil, grease, etc.
 - 2. Equipment having moving parts shall be rotated a minimum of twice a month to ensure proper lubrication and to avoid metal to metal "welding".
- I. Store loose granular materials on solid surfaces in well-drained area.
 - 1. Prevent materials mixing with foreign matter.
 - 2. Provide access for inspection.
- J. Payment will not be made for equipment and materials improperly stored or stored without providing Engineer with the manufacturer's instructions for storage.
- K. Provide an Equipment Log including, as a minimum, the equipment identification, date stored, date of inspection/maintenance, date removed from storage, copy of manufacturer’s recommended storage guidelines, description of inspection/maintenance activities performed, and signature of party performing inspection/maintenance.

3.03 PROTECTION AFTER INSTALLATION

- A. Provide substantial coverings as necessary to protect installed products from damage from traffic and subsequent construction operations.
 - 1. Remove covering when no longer needed.
 - 2. Replace corroded, damaged, or deteriorated equipment and parts before acceptance of the project.
- B. Update Equipment Log on a monthly basis with description of maintenance activities performed in accordance with the manufacturer’s recommendation and industry standards and signature of party performing maintenance.

- C. Upon installation of the equipment, Contractor shall, at the discretion of Engineer, start the equipment at one-half load for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.
- D. Unless otherwise instructed by or required by the equipment manufacturer, lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment by Contractor at the time of acceptance.

3.04 QUALITY ASSURANCE

- A. Employ entities that meet or exceed specified qualifications to execute the Work.
- B. Verify project conditions are satisfactory before executing subsequent portions of the Work.

3.05 COMMISSIONING

- A. As specified in Section 01757 - Commissioning.

3.06 CLOSEOUT ACTIVITIES

- A. Owner may request advanced delivery of spare parts, maintenance products, and special tools.
 - 1. Deduct the delivered items from the inventory list and provide transmittal documentation.
- B. Immediately prior to the date of Substantial Completion, arrange to deliver spare parts, maintenance products, and special tools to Owner at a location on site chosen by the Owner.
 - 1. Provide itemized list of spare parts and special tools that matches the identification tag attached to each item.
 - 2. Owner and Engineer will review the inventory and the itemized list to confirm it is complete and in good condition prior to signing for acceptance.

3.07 ATTACHMENTS

- A. Appendix A - Spare Parts, Maintenance Products, and Special Tools Inventory List.

END OF SECTION

SECTION 01615 – EQUIPMENT IDENTIFICATION AND TAGGING

PART 1 - GENERAL

A. The following is a guide to the various types of tags used for KC Water (Wastewater Division) asset identification.

1.01 SUMMARY

B. This section describes tag structures KC Water uses to label an asset for different purposes. These tags include:

1. CMMS tags (Asset IDs)
 - a. These tags are used to identify assets in CITY's CMMS (Computerized Maintenance Management System).
 - b. CMMS is primarily used for maintenance scheduling and financial tracking of assets.
 - c. Not every asset will need an Asset ID, reference CITY's Tag Generator Spreadsheet for more details about which assets need this type of tag.
 - (1) CMMS tags for all new assets will be created using the CITY's Tag Generator Spreadsheet.
2. PLC Shortcuts
 - a. Shortcuts are used in the OIT (Operator Interface Terminal)/HMI (Human Machine Interface) to establish a path from the HMI to the PLC.
 - b. These tags are only used to identify/label PLCs.
 - c. See CITY SCADA Standards for more details.
3. P&ID Tags
 - a. These tags are used to identify equipment and instruments on P&IDs (Process and Instrumentation Drawings).
 - b. These tags are composed of a 3-5 digit equipment or instrument code followed by a 5 digit loop number.
 - c. See CITY P&ID tagging standards for more details.
4. PlantPax Tags
 - a. PlantPax Tags are used in the PLC program as object names for all standard PlantPax objects.
 - b. The tagging convention for these tags is based on ANSI/ISA Table 4.1 and also utilizes the loop numbers from the P&ID's
 - c. See SCADA Standards for more details.
5. NonPlantPax Tags
 - a. NonPlantPax tags are used for objects that are not in the standard PlantPax library of objects. This might include objects that a vendor has created or possibly objects that a local integrator might need to create for specialty equipment that doesn't already have an object type in the standard PlantPax library.
6. Other Tags/Names (See SCADA Standards for details)

- a. HMI Application/Display Names.
- b. OIT Application Names.
- c. Thin/Thick Client Names.
- d. ControlLogix PLC Program Filenames.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION



SUBSTITUTION REQUEST

Project Number _____

Project Title _____

To: _____

Authorization Number: _____

Re: _____

From: _____

Date: _____

Contract For: _____

Specification Title: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone No. _____

Trade Name: _____ Model No. _____

Installer: _____ Address: _____ Phone No. _____

History: New Product 2-5 years old 5-10 years old More than 10 years old

Differences between proposed substitution and specified product: _____

Point-by-point comparative data attached – REQUIRED

Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance, service, and availability of replacement parts, as applicable, are available.
- Proposed substitution will not affect or delay Progress Schedule, except as stated below.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances, except as stated below.
- Payment will be made for changes to building design, including architectural or engineering design, detailing, licenses, royalties, and construction costs caused by the requested substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be completed in all respects.

Reason for not providing specified item: _____

Similar Installation:

Project: _____ Design Professional: _____

Address: _____ Owner: _____

Date Installed: _____

Proposed substitution affects other parts of Work: No Yes; explain _____

Savings to Owner for accepting substitution: _____

Proposed substitution changes Contract Time: No Yes; add/deduct _____ days.

Supporting Data Attached:

Product Data Drawings Tests Reports Samples _____

Attachments: _____

Submitted by: _____

Signature: _____

Firm: _____

Address: _____

Telephone: _____ Fax: _____ E-Mail: _____

Additional Comments: Contractor Subcontractor Supplier Manufacturer DP _____

DESIGN PROFESSIONAL'S REVIEW AND ACTION

- Substitution approved – Make submittals in accordance with Specification Section 01300.
- Substitution approved as noted – Make submittals in accordance with Specification Section 01300.
- Substitution rejected – Use specified materials.
- Substitution Request received too late – Use specified materials.

Signed by: _____ Date: _____

- Distribution:
- Owner
 - Design Professional
 - Contractor
 - Consultant
 - Construction Manager
 - Other

SECTION 01664 - TRAINING

PART 1 – GENERAL

1.01 DESCRIPTION

- A. This section contains requirements for training the Owner’s personnel by the Manufacturer’s Representative in the proper operation and maintenance of the equipment and systems installed under this contract and other training required to operate the Works.
- B. Training outcomes: Owner’s operations, maintenance, and engineering staff have the information needed to safely operate, maintain, and repair the equipment/systems provided in the Contract Documents.

1.02 RELATED SECTIONS

- A. Section 01300 – Submittals.
- B. Section 01757 – Commissioning.

1.03 QUALITY ASSURANCE

- A. Where indicated in the Equipment Schedule and as required by the detailed specifications, the Manufacturer’s Representative shall provide on-the-job training of the Owner’s personnel. The training sessions shall be conducted by qualified, experienced, factory trained representatives of the various equipment manufacturers familiar with operation and maintenance manual information. Commissioning Manager may perform other training sessions as approved by the Owner’s Representative.
- B. Trainers shall be knowledgeable in the equipment/system for which they are training. Trainer’s qualifications shall be submitted in a form provided by the Owner and specifically demonstrating operational knowledge of the specific systems and components and treatment facility classroom and field training experience.

1.04 SUBMITTALS

- A. The following information shall be submitted to the Engineer and Owner in accordance with the provisions of the Submittal Procedures section (Section 01300).
- B. Lesson plans for each training session to be conducted by the manufacturer’s representatives. Lesson plans shall be submitted 45 days prior to the scheduled training. In addition, training manuals, handouts, visual aids, and other reference materials shall be included.
- C. Subject of each training session, instructor (s) and qualifications of individuals conducting the training, and tentative date and time of each training session. Owner has the right to request instructor substitution that are not appropriately qualified.
- D. Training schedule including respective manufacturer, estimated dates for installation completion and estimated training dates will be incorporated into the project schedule in the commissioning section consistent with direction provided by the Owner’s affected facility or division.
- E. Submit other audio-visual aids utilized during each training course.
- F. Provide two electronic copies and 3 hard copies organized in notebooks of the training course material 7 days prior to training.

PART 2 – PRODUCTS

2.01 GENERAL

- A. Where specified, the Contractor's or Design-Builder's Commissioning Manager shall conduct training sessions for the Owner's personnel to instruct staff on the proper operation, care, and maintenance of the equipment and systems installed under this contract.
- B. Training shall take place at the site of the work and under the conditions specified in the following paragraphs. Approved operation and maintenance manuals shall be available at least 30 days prior to the date schedule for the individual training session. Furnish a copy of each complete training package, to include operation and maintenance data for distribution to each trainee.
- C. Commissioning Manager shall meet with Engineer and Owner's designated training Manager to develop a list of personnel to be trained and to establish expected training outcomes and objectives 120 days prior to commissioning of equipment/system and schedule the training.
- D. Commissioning Manager shall conduct commissioning progress meetings throughout construction to plan, scope, coordinate, schedule future activities and resolve issues at least monthly. This meeting may be part of the weekly progress meetings.

2.02 LOCATION

- A. Training sessions shall take place at the site of the work or at the Water Services Department offices as determined by the Owner.

2.03 LESSON PLANS

- A. Lesson plans shall contain an outline of the material to be presented along with a description of the visual aids to be utilized during the sessions. Each plan shall contain time allocation for each subject and time spent on each form of training.
- B. Lesson plans shall contain the following minimum information:
 - 1. Title and objectives
 - 2. Recommended attendees (i.e. managers, engineers, operators, maintenance)
 - 3. Course description, outline of course content, and estimated class duration.
 - 4. Format (i.e. lecture, self-study, demonstration, hands-on)
 - 5. Instruction materials and equipment requirements.
 - 6. Resumes of instructors providing training.
 - 7. Provide performance-based learning objectives.
 - 8. State learning objectives in terms of what the trainees will be able to do at the end of the lesson.
 - 9. Define student conditions of performance and criteria utilizing learning objectives for evaluating instructional success.
 - 10. Provide necessary information for submission to MDNR for approval of training hours in compliance with certified operator regulations for certificate renewal.
 - 11. Correspondence that a submission to MDNR for training hours has been completed and approved.
 - 12. Provide maintenance instruction lessons plans to include mechanical, HVAC, instrumentation, and electrical aspects.
 - 13. Equipment operation:
 - a. Describe equipment process function and system theory.
 - b. Describe equipment fundamental operating principles and dynamics.
 - c. Identify equipment mechanical, electrical, and electronic components and features.
 - d. Identify support equipment associated with the operation of subject equipment.

- e. Detail the relationship of each piece of equipment or component to the subsystems, systems, and process.
 - f. Cite hazards associated with the operations, exposure to chemicals associated with the component, or the waste stream handled by the component.
 - g. Specify appropriate safety precautions, equipment, and procedures to eliminate, reduce, or overcome hazards.
14. Detailed component description:
- a. Define preventative maintenance (PM) inspection procedures required on equipment in operation and identify troubleshooting and potential issues as a result of the troubleshooting,
 - b. Identify applicable predictive maintenance (PdM) to the component or system. (infrared analyses, oil evaluation, vibration analyses, etc.)
 - c. Identify preventive maintenance tasks and frequencies and provide in a table.
 - d. Identify each component function and describe in detail.
 - e. Where applicable, group relative components into subsystems.
 - f. Identify and describe in detail equipment safety features, permissives and controls interlocks.
15. Define and provide training on recommended systematic troubleshooting procedures as they relate to specific craft problems and provide component specific troubleshooting checklists as they relate to specific craft problems.
16. One complete set of originals of the lesson plans, training manuals, handouts, visual aids and reference materials shall be the property of the Owner and shall be suitable bound for proper organization and easy reproduction. The Contractor shall furnish up to forty (40) copies of necessary training manuals, handouts, visual aids, and reference materials at least one week prior to each training session. Specific quantities will be identified during progress or other meetings.

2.04 FORMAT AND CONTENT

- A. Each training session shall be comprised of time spent both in the classroom and at the specific location of the subject equipment or system.
- B. Instructors shall apply adult education best practices, emphasizing learner participation and activity.
- C. Training delivery may include problem solving, question/answer, hands-on instruction, practice, evaluation/feedback tools, and lecture.
- D. Visual aids must support training objectives.
- E. Delivery time should be less than 30 percent of class time.
- F. Delivery time is a minimum of 1 hours and a maximum of 2 hours.
- G. Longer training sessions requires Owner approval.
- H. Refreshment and breaks within the Owner's customary schedule or as predetermined in advance of the training delivery.
- I. Estimated maximum class size will vary for class and field training sessions. This will be determined in advanced. Commissioning Manager and Owner will develop a headcount one (1) week prior to the class so the instructor can provide the correct number of aids and know the correct number of repeated sessions.
- J. Training Modules:
 - 1. Provide a training module for each equipment category.
 - 2. Divide each training module's instructional content into discrete lesson plans with a division between operations and maintenance training if directed by the Owner's Representative.

K. Training Aids:

1. Instructors are to utilize P&ID's and are encouraged to use audio-visual devices, models, charts, etc. to increase the transfer of knowledge.
2. Instructors shall provide such equipment (televisions, video recorder/player, computer, projectors, screens, easels, etc.), models, charts, etc. for each class.
3. Instructor is responsible for confirming with Engineer and Owner in advance of each class that the classroom will be appropriate for the types of audiovisual equipment to be utilized.

L. Familiarization:

1. Review catalog, parts lists, drawings, etc. which have been previously provided for the plan files and operation and maintenance manuals.
2. Check out the installation of the specific equipment items.
3. Demonstrate the unit and indicate how all parts of the specifications are met.
4. Answer questions.

M. Safety:

1. Using material previously provided, review safety references.
2. Discuss proper precautions around equipment.

N. Operation:

1. Using material previously provided, review reference literature.
2. Explain all models of operation (including emergency).
3. Check out Owner's personnel on proper use of the equipment.

O. Preventive Maintenance:

1. Using material previously provided, review preventative maintenance (PM) lists including:
 - a. Reference material.
 - b. Daily, weekly, monthly, quarterly, semiannual, and annual jobs.
2. Demonstrate procedures to perform PM jobs.
3. Show Owner's personnel what to look for as indicators of equipment problems.
4. Facilitate discussion with Owner's personnel as to which PMs to continue after the warranty period.

P. Corrective Maintenance:

1. List potential problems including troubleshooting recovery from adverse operating conditions.
2. Identify, describe, instruct and provide via the transmittal process any special tools required for maintenance.
3. Describe Recommended measuring instruments and procedures and provide instruction on interpreting alignment measurements as appropriate.
4. Describe recommended procedures to check/test equipment following a corrective maintenance (CM) repair.
5. Open equipment and demonstrate procedures, where practical.

Q. Parts:

1. Show how to use previously provided parts list and properly identify parts to be ordered.
2. Define and check spare parts on hand and identify minimum inventory levels.

R. Local Representatives:

1. Where to order parts: Name, address, telephone.
2. Service problems:
 - a. Who to call.
 - b. How to get emergency help.

S. Original Equipment Manufacturer (OEM) Operation and Maintenance (O&M) Manuals:

1. Review any other material submitted.
2. Update material as required.

2.05 VIDEO RECORDING

- A. The Contractor shall retain the services of a commercial videotaping service to record each training session. If trainer is required to read a script during videotaping, the trainer will have one video recorded session without personnel and the remaining sessions with personnel will be untaped. After taping, the material may be edited and supplemented with professionally produced graphics to provide a permanent record. The Contractor shall advise all manufacturers providing training sessions that the material may be videotaped and shall make available to the Owner's videotaping contractor such utility services and accommodations as may be required to facilitate the production of the video tape record. Video recording shall be integrated into electronic O&M by the Design-Builder or Contractor.
- B. Include classroom and field instruction with question and answering periods.
- C. Owner approval required for producer of video materials.
- D. Digital recording shall become the property of the Owner.
- E. Audio quality should not degrade during the recording of the field sessions due to background noise, space, distance, or other factors. Trainer will verify that audio quality after the first training session.
- F. Trainer shall record the first training session and verify it presents accurately.
- G. Video files shall be a file format and delivery medium as directed and approved by Owner.
- H. Electronic copies of the other training material shall be tagged per Owner Standards to be provided by the Owner by the Contractor or Design-Builder
- I. Provide 2 complete sets of video materials fully indexed and catalogued with printed labels stating session content and dates recorded or an indexed video file to each segment of the training.
- J. Contractor shall provide a written release from all claims to the recorded training material produced.

2.06 ATTENDANCE

- A. Trainer shall keep an attendance log of all attendees.
- B. Trainer shall have the trainees each sign an attendance form at the beginning and end of the training session.
- C. These records shall be provided to the appropriate Division Manager in which the training is being provided.

2.07 TRAINING SCHEDULE

- A. Draft Training Schedule for the entire project shall be submitted after the first item requiring training arriving on the site. When approved, the training schedule shall be integrated into the project schedule.
- B. List specified equipment and systems that require training services and show:
 1. Respective manufacturer
 2. Estimated dates for installation completion
 3. Estimated training dates
- C. Training is a prerequisite for putting equipment into operation. Staged or partial training may be approved by the Owner's Representative.
- D. Allow for separate training sessions for maintenance staff and operations staff. Owner will notify the trainer if it is desired to have separate sessions for maintenance and operations staff or have combined sessions.

- E. Allow for multiple session for Operations training:
 - 1. Provide a minimum of three training sessions to accommodate different shifts. One will be for each shift: day, evening, and night on at least two days, or as determined appropriate to meet the Owner's requirements.
 - 2. Adjust schedule to ensure training of appropriate personnel as deemed necessary by Owner, and to allow full participation by manufacturers' representatives. Adjust schedule for interruptions in operability of equipment,
 - 3. Coordinate with section 01320 "Construction Progress Documentation," and Section 01757, "Commissioning."
- F. Contractor shall provide a draft training schedule 30 days after the notice to proceed.
- G. Schedule Owner's staff training within the constraints of their workloads. Those who will participate in this training have existing full-time work assignments, and training is an additional assigned work task, therefore, scheduling is imperative. Owner staff work schedules are variable for operations staff, as treatment facilities are typically operated on an around- the-clock basis.
- H. Training sessions will be finalized two weeks prior to the training.
- I. Training sessions that are rescheduled after a finalized date will be rescheduled at least two weeks out.
- J. Commissioning Manager is responsible for preparing agendas and meeting minutes.

PART 3 – EXECUTION

3.01 TRAINING

- A. Training shall be conducted in conjunction with the operational testing and commissioning periods. Classes shall be scheduled such that classroom sessions are interspersed with the instruction in logical sequence. The Contractor shall arrange to have the training conducted on consecutive days if approved by the Owner's Representative. Concurrent classes shall not be allowed.
- B. Instructors shall apply adult education best practices, emphasizing learner participation and activity.
- C. Unless otherwise agreed by the Owner, classes shall be repeated twice for a morning session, afternoon session, and a night session in order to have all three operations shifts trained. Adjust training schedule to ensure training of appropriate personnel deemed necessary by Owner, and to allow full participation by manufactures' representatives. Adjust schedule for interruptions in operability of equipment. Coordinate training efforts with Section 01320 Construction Progress Documentation and Section 01757 Commissioning.
- D. Approved operation and maintenance manuals for the special equipment shall be provided to the Owner prior to the start of the training. Videotaping shall take place concurrently with the training sessions.
- E. Pre-startup Training shall be coordinated with Owner's operating personnel and Manufacturers' representatives, and with submission of Operation and Maintenance manuals. Pre-startup Training shall be completed at least 14 calendar days prior to beginning of system startup.
- F. Post-startup Training, if required in specifications, shall be furnished and coordinated with Owner's operating personnel by the respective manufacturers' representatives.
- G. Trainees will keep training materials and documentation after the session.
- H. Operations and maintenance manuals as specified in technical sections:
 - 1. Provide a minimum of 2 copies of final Engineer-approved operations and maintenance manuals for use during the classroom instruction.

2. Owner reserves the right to delay training for a particular equipment item if the operations and maintenance manuals for that equipment are incomplete, inaccurate, or otherwise not in a format or stage of development for use by the Owner's staff.
 3. No contract extensions or extra costs will be allowed for training delays due to operations and maintenance manual submittal delays.
- I. Provide Supplemental documentation handouts to support instruction.
 - J. The following services shall be provided for each item of equipment or system. Additional services shall be provided when specifically required in individual specification sections.
 1. As a minimum, classroom training for operations personnel will include:
 - a. Use of electronic media and drawings.
 - b. Discussion of the equipment's specific location in the plant and operational overview.
 - c. Purpose and plant function of the equipment.
 - d. A working knowledge of the operating theory of the equipment.
 - e. Start-up, shutdown, normal operation, emergency operating procedures, including discussion on system integration and electrical interlocks, if any.
 - f. Identify and discuss safety items and procedures.
 - g. Routine preventive maintenance, including specific details on lubrication and maintenance of corrosion protection of the equipment and ancillary components.
 - h. Operator detection, without test instruments, of specific trouble symptoms.
 - i. Required equipment exercise procedures and intervals.
 - j. Routine disassembly and assembly of equipment if applicable (as judged by the Owner on a case-by-case basis) for purposes such as operator inspection of equipment.
 2. As a minimum, hands-on equipment training for operations personnel will include:
 - a. Identify location of equipment and review the purpose.
 - b. Identifying piping and flow options.
 - c. Identifying valves and their purpose.
 - d. Identifying instrumentation:
 - (1) Location of primary element.
 - (2) Location of instrument readout.
 - (3) Discuss purpose, basic operation, and information interpretation.
 - e. Discuss, demonstrate, and perform standard operating procedures and round checks.
 - f. Discuss and perform the preventive maintenance activities.
 - g. Discuss and perform startup and shutdown procedures including alternative strategies.
 - h. Perform the required equipment exercise procedures.
 - i. Perform routine disassembly and assembly of equipment if applicable.
 - j. Identify and review safety items and perform safety procedures, if feasible.
 3. Classroom equipment training for the maintenance and repair personnel will include:
 - a. Theory of operation.
 - b. Description and function of equipment.
 - c. Startup and shutdown procedures.
 - d. Normal and major repair procedures.
 - e. Equipment inspection and troubleshooting procedures including the use of applicable instruments and the "pass" and "no pass" instrument readings.
 - f. Routine and long-term calibration procedures.

- g. Safety procedures.
 - h. Preventive maintenance such as lubrication, normal maintenance such as belts, seals, and bearing replacement; and up to major repairs such as replacement of major equipment part (s) with the use of special tools, bridge cranes, welding jigs, etc.
4. Hands-on Equipment training for maintenance and repair personnel shall include:
- a. Locate and identify equipment components.
 - b. Review the equipment function and theory of operation.
 - c. Review normal repair procedures including corrective maintenance.
 - d. Perform startup and shutdown procedures.
 - e. Review and perform safety procedures.
 - f. Perform Owner approved practice maintenance and repair job(s), including mechanical and electrical adjustments, calibration, and troubleshooting equipment problems.
5. Distribute Training Evaluation Form following each training session.
- a. Training Evaluation Form is included in Section 01757 –Commissioning.
 - b. Return completed Training Evaluation Forms to Owner’s designated training coordinator immediately after session is completed.
 - c. Revise training sessions judged “Unsatisfactory” by a majority of attendees.
 - d. Conduct training sessions again until a satisfactory rating is achieved at no additional cost to Owner.
6. Post Training Session
- a. Training Course Material: Due 14 days after class completion.
 - b. Video Recording tagged and other materials tagged.
 - c. Class Attendance Sheet and trainee acknowledgment that they were trained and able to run the equipment.
 - d. Training Agenda, Lesson Plan, presentation, handouts
 - e. Other audio-visual aids utilized during each training course.
 - f. Provide material for all sessions of the class in a single transmittal.
 - g. Format: 2 electronic copies and 3 hard copies organized in notebooks.
- K. Closeout Documentation
- 1. Provide Training Documentation including submission to MDNR for operator training credit. Trainer will be required to submit any additional information required by MDNR.
 - 2. Provide training certification and records of training acceptance by MDNR.

End of Section

Form F-1. Project Design Criteria
 Project Number 81000984/1638
 Project Title Blue River Screen House Project

Criterion	Fixed (F) / Indicative (I) / Preferred (P)	Proposed Value	Unit	Manufacturer and Model in Base Bid	Identify deviation from and location of supporting justification in Technical Proposal
Site Design Data					
Building Code & References	F	ASCE 7-16, AISC 360, AISC 341			
Site Elevation, Above Mean Sea Level	F	744	ft		
Wind Design Criteria					
Basic Factored Wind Speed, Risk Category III	F	120	mph		
Exposure Category	F	C			
Importance Factor (Wind Loads), I	F	N/A			
Building Enclosure Classification	F	Enclosed			
Snow/Ice Design Data					
Ground Snow Load, P _g	F	20	psf		
Importance Factor (Snow Loads), I	F	1.1			
Exposure Factor (C _e)	F	1			
Thermal Factor	F	1			
Nominal Ice Thickness, I	F	1	in		
Concurrent Wind Speed, V _c	F	40	mph		
Importance Factor (ice-loads - ice thickness), II	F	1.25			
Importance Factor (ice-loads - concurrent wind), Iw	F	1			
Seismic Design Data					
Design Short Period Spectral Response Acceleration, S _{DS}	F	0.102	g		
Component Importance Factor, I _c	F	Per ASCE 7 Chapter 13 ¹⁰⁷⁷			
Seismic Design Category	F	B			
Outdoor Climatic Design Data					
Winter	F	5.9	"F DB at ASHRAE 0.4%		
Summer (DB)	F	101.6	"F DB at ASHRAE 99.6%		
Summer (MCDDB)	F	75.74	"F MCDWB at ASHRAE 99.6%		
Daily Summer Mean Range (MCDBR)	F	51.8	"F		
Mean of Annual Extremes (Maximum)	F	101.4	"F DB		
Mean of Annual Extremes (Minimum)	F	0.68	"F DB		
Rainfall	F	3.6	in/hr (100-yr, 1 hour storm)		
Indoor Climatic Design Data - Process & Equipment Area					
Unless Otherwise Noted - Summer	F	10 above ambient	"F		
Unless Otherwise Noted - Winter	F	55	"F		
Corridors - Summer	F	10 above ambient	"F		
Corridors - Winter	F	55	"F		
Electrical, Control, and Mechanical (HVAC Equipment) rooms - Summer	F	85	"F		
Electrical, Control, and Mechanical (HVAC Equipment) rooms - Winter	F	55	"F		
Indoor Climatic Design Data - Non-Process Areas					
Electric Offices, Conference Rooms, Vestibules, Kitchen, Restrooms - Summer	F	75	"F		
Electric Offices, Conference Rooms, Vestibules, Kitchen, Restrooms - Winter	F	70	"F		
Control Rooms, Wet Analysis Rooms - Summer	F	75	"F		
Control Rooms, Wet Analysis Rooms - Winter	F	70	"F		
PLC, Instrument Shop, Instrument Storage, Electrical/Communication Room - Summer	F	75	"F		
PLC, Instrument Shop, Instrument Storage, Electrical/Communication Room - Winter	F	70	"F		
Mechanical (HVAC equipment) Room - Summer	F	75	"F		
Mechanical (HVAC equipment) Room - Winter	F	70	"F		
Conditioned Parts Storage Room - Summer	F	75	"F		
Conditioned Parts Storage Room - Winter	F	70	"F		
Maintenance Bays, Oil & Tool Storage Laundry, Janitors Closets - Summer	F	10 above ambient	"F		
Maintenance Bays, Oil & Tool Storage Laundry Janitors Closet - Winter	F	55	"F		
Existing Screen House Parameters					
Number of Building Channels	F	6	-		
Number of Channels in Normal Operation	I	6	-		
Number of Multi-Stroke Screens	F	3	-		
Channel Width	F	8'-0"	ft-in		
Channel Depth	F	7'-0"	ft-in		
Volume - Building Shell	F	160,200	ft ³		
Elevation - Bottom of Invert	F	728'-10"	ft-in		
Elevation - Top Of Basement Floor	F	734'-10"	ft-in		
Elevation - Top Of Operating Floor	F	744'-0"	ft-in		
Invert Floor Thickness	F	2'-0"	ft-in		
Basement Floor Thickness	F	1'-0"	ft-in		
Elevation - Roof	F	764'-0"	ft-in		
Process Design Parameters					
Average Flow	F	40-50	mgd		
Peak Wet Weather Flow	F	322	mgd		
Number of Active Channels during Average Flow	I	1	-		
Number of Active Channels during Peak Flow	I	3 + 1 Backup ¹⁰⁷⁸	-		
Minimum Velocity through Channel	I	1.3	ft/sec		
Maximum Velocity through Channel	I	1.8	ft/sec		
Minimum Surface Water Elevation (from Bottom of Channel Invert)	I	0'-6"	ft-in		
Maximum Surface Water Elevation (from Bottom of Channel Invert)	I	7'-0"	ft-in		
Screening Disposal Height (from Top of Operating Floor)	I	4'-0"	ft-in		
Screen Angle of Installation	I	(Determination by Design-Builder)	-		
Screen Maximum Headloss @ Maximum Flow	I	3	ft		
Screen Spacing	I	3/4 - 1	in.		
HVAC Design Parameters					
Minimum Air Changes Per Hour (Operating Floor)	F	12	ACH		
Number of Makeup Air Units (MAUs)	I	1	-		
Number of Power Ventilators (EVs)	I	TBD	-		
Maximum H2S Concentration (Operating Floor)	F	10	ppm		
Maximum H2S Concentration (Basement)	F	20	ppm		
Electrical Design Parameters					
Enclosure Type (Indoor)	F	NEMA 7	-		
Enclosure Type (Outdoor)	F	NEMA 7	-		
All other Electrical Requirements	¹⁰⁷⁹	(Match Basis of Design Report / Blue River Wastewater Treatment Plant Biosolids Facility)			
Sitework					
Fences	I	Section 02821 - Fences and Gates	-		
Slide Gates	I	Section 02821 - Fences and Gates	-		
Swing Gates	I	Section 02821 - Fences and Gates	-		
Concrete Restoration & Cleaning	I	Section 03900 - Concrete Restoration & Cleaning	-		
Building					
Concrete	I	Section 03000 - Concrete	-		
Concrete - Cast-in-Place ¹⁰⁷⁷	¹⁰⁷⁷	Section 03000 - Cast-in-Place Concrete ¹⁰⁷⁷	-		
Concrete - Formwork	I	Section 03100 - Concrete Forms & Accessories	-		
Concrete - Reinforcement	I	Section 03200 - Concrete Reinforcements	-		
Concrete - Grouting	I	Section 03600 - Grout	-		
Concrete - Epoxies	I	Section 03630 - Epoxies	-		
Concrete - Sealant	I	Section 07930 - Joint Sealant	-		
Concrete - Exterior Coatings	I	Section 07100 - Dampproofing and Waterproofing	-		
Concrete - Interior Coatings	I	Section 09961 - Concrete Coating	-		
Steel - Structural	I	Section 05120 - Structural Steel Framing	-		
Steel - Coatings	I	Section 09970 - Steel Coatings	-		
Building Grounding	I	Section 16060 - Grounding and Bonding	-		
Curbs ¹⁰⁷⁷	¹⁰⁷⁷	Section 02720 - Curbs, Gutters, Sidewalks, and Driveways ¹⁰⁷⁷	-		
Gutters ¹⁰⁷⁷	¹⁰⁷⁷	Section 02720 - Curbs, Gutters, Sidewalks, and Driveways ¹⁰⁷⁷	-		
Sidewalks ¹⁰⁷⁷	¹⁰⁷⁷	Section 02720 - Curbs, Gutters, Sidewalks, and Driveways ¹⁰⁷⁷	-		
Driveways ¹⁰⁷⁷	¹⁰⁷⁷	Section 02720 - Curbs, Gutters, Sidewalks, and Driveways ¹⁰⁷⁷	-		
Walls - Premanufactured ¹⁰⁷⁷	¹⁰⁷⁷	Section 03420 - Metal Wall Panels ¹⁰⁷⁷	-		
Walls - Above Grade - Concrete Masonry Units	I	Section 04220 - Concrete Masonry Units	-		
Walls - Sealant	I	Section 07930 - Joint Sealants	-		
Roof Deck	I	Section 05212 - Steel Roof Decking	-		
Roof Board Insulation	I	(Blue River Roofing BODR) Section 05220 - Above-Deck Insulation ¹⁰⁷⁷	-		
Roof Flashing	I	(Blue River Roofing BODR) Section 05220 - Above-Deck Flashing and Trim ¹⁰⁷⁷	-		
Roofing	I	(Blue River Roofing BODR) Section 05220 - Modified Bituminous Roofing ¹⁰⁷⁷	-		
Roof - Skylights	I	Section 08632 - Aluminum Floor Plates	-		

Criterion	Fixed (F) / Indicative (I) / Preferred (IP)	Proposed Value	Unit	Manufacturer and Model in Base Bid	Identify deviation from and location of supporting justification in Technical Proposal
Doors	I	Section 08220 - FRP Doors and Frames	-		
Windows	I	Section 08520 - Aluminum Windows	-		
Floor Plates	I	Section 05542 - Aluminum Floor Plates	-		
Lighting System	I	Section 16500 - Lighting System	-		
Handrails	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Guardrails	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Safety Gates	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Ladders	I	Section 05515 - Aluminum Ladders and Accessories	-		
HVAC					
Makeup Air Units (MAUs)	I	Section 15721 - Makeup Air Units	-		
Exhaust Fans	I	Section 15761 - HVAC Power Ventilators	-		
Ducts, Duct Hanger and Supports, Duct Accessories	I	(Blue River Ductwork BODR) Section 15810 - Ducts, Duct Hanger and Supports, Duct-Accessories ⁶⁰⁷	-		
Air Inlets & Outlets	I	Section 15850 - Air Inlets and Outlets	-		
Testing, Adjusting, and Balancing for HVAC	I	Section 15950 - Testing, Adjusting and Balancing for HVAC	-		
Equipment					
Identification Devices	I	Section 10400 - Identification Devices	-		
Slide Gates	I	Section 11285 - Slide Gates	-		
Electric Actuators for Process Valves and Gates ^{607, 608}	IP ^{604, 607}	(Electrical BODR and sized to accommodate Slide Gate selection) Section 16231.6 - Electric Actuators for Process Valves and Gates ^{607, 608} / Auma ^{604, 607}	-		
Electric Actuators for Process Valves and Gates	I	(Electrical BODR and sized to accommodate Slide Gate selection) Section 16231.6 - Electric Actuators for Process Valves and Gates ⁶⁰⁷	-		
Multi-Rake Screens ⁶⁰⁷	IP ⁶⁰⁴	Section 11334 - Multi-Rake Screens - Mfr.: Dupont ⁶⁰⁴	-		
Multi-Rake Screens	I	Section 11334 - Multi-Rake Screens	-		
Belt Conveyor ⁶⁰⁷	IP ⁶⁰⁷	(Section submitted by Design/Builder) Section 2455.3 - Cleated Belt Conveyor ⁶⁰⁷	-		
Shaftless Screw Conveyor	I	Section 14556 - Shaftless Screw Conveyor	-		
Motors	I	(Electrical BODR) Section 4100.0 - Low-Voltage Motors/Drives for 400-Horsepower ⁶⁰⁴	-		
Pipe & Fittings					
Process Pipe & Fittings	I	Section 15200.15005 - ANSI 150 Stainless Steel Pipe & Fittings	-		
Non-Potable water Pipe & Fittings	I	Section 15200.75PVC - PVC Pipe & Fittings	-		
Service Water Pipe & Fittings ⁶⁰⁷	IP ⁶⁰⁷	(Section to be submitted by Design/Builder) Section 15200.100CPVC - CPVC Pipe & Fittings ⁶⁰⁷	-		
Fuel Gas Pipe & Fittings	I	Section 15200.150CS - ANSI 150 Carbon Steel Pipe & Fittings	-		
Sanitary Drain Pipe & Fittings	I	Section 15200.15001 - Ductile Iron Pipe & Fittings	-		
Instrumentation & Controls					
I&C - Control Descriptions	I	Section 13500 - Instrumentation and Control Systems	-		
Instrumentation and Controls	I	Section 13500 - Instrumentation & Controls for Process Systems	-		
Programmable Logic Controls	I	Section 13310 - Programmable Logic Controllers	-		
Level Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Pressure Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Temperature Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Flow Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
I&C - Control Descriptions	I	Section 13500 - Instrumentation and Control Systems	-		
Major Procurement Items					
Forebay Slide Gates	I	Qty. 4 ⁶⁰⁷ (Applicable Section(s): 11285, Blue River - Electrical BODR) Note: One for each active Channel feeding a Bar Screen ⁶⁰⁷	-		
Afterbay Slide Gates ⁶⁰⁷	I ⁶⁰⁷	Qty. 4 (Applicable Section(s): 11285, Blue River - Electrical BODR) ⁶⁰⁷ Note: One for each pipe feeding Blue River Screen House ⁶⁰⁷	-		
Concrete channel isolation	I	Qty. 6 (Applicable Section(s): 03000, 03100, 03200, 03630)	-		
Multi-Rake Screens	IP ⁶⁰⁷	Qty. 4 (Applicable Section(s): 11334, Blue River - Electrical BODR)	-		
Shaftless Screw ⁶⁰⁷ Conveyor	I	Qty. 1 (Applicable Section(s): 14556 (Blue River - Electrical BODR))	-		
Metal-Framed Skylight	I	Qty. 4 (Applicable Section(s): 08630)	-		
Makeup Air Unit	I	Qty. 1 (Applicable Section(s): 15721)	-		



ADDENDUM NUMBER 8

Project Number 81000984

Project Title Blue River Screen House Improvements

ISSUE DATE: **November 21, 2022**

Shortlisted Respondents are hereby notified that the Proposal and Contract Documents for the above project, for which Proposals are to be received on **November 22, 2022**, are amended as follows:

The Bid date for this Project stated in Document **Request for Proposals for Design-Build Services Contract For Project No. 81000984 – Contract Number 1638 Blue River Screen House Project** shall be changed to: 2:00 PM on **December 6, 2022**.

Information to Proposers The following is provided to Proposers for information only:

1. Exhibit 7.1 – Insurance Requirements
2. Panel C – 120V Distribution Panel Schedule Photo

Q43.	Please provide information in regards to the interview process. <ul style="list-style-type: none">- Location- Selection Committee Members- What are City's expectations of the interview format?
A43.	Interviews are not anticipated at this time. If interviews are conducted, the interview will be on-site located at 4800 East 63rd Street. This project is a Water Services Department Selection. If there is an interview, it will be requested by City to discuss technical clarifications. Shortlisted Respondents shall not share any pricing information during interviews.
Q44.	Document Section 01110 – Summary of Work , Subparagraph 1.06 Will the City be paying for these services? Are the Purchase Orders to be included in the bid price? If so, will the City provide IDIQ contractor information such that their pricing can be incorporated into the Bid.
A44.	The City will issue the Purchase Orders directly to the IDIQ contractors identified in the Subparagraph. The cost does not need to be included in the Bid.
Q45.	With the significant addendum to review, we need to request an extension. Considering the upcoming Thanksgiving holiday, a 1 week extension would only provide 3 extra business days. The Garney & CDM team respectfully requests a 2 week extension of the

	proposal date to Tuesday, December 6 th . Will the City extend the proposal submission date to accommodate the City holidays and the recent release of Addendum 7 containing thirty (30) added/modified sections.
A45.	Refer to Bidding Requirement Item 1 subparagraph A specified herein.
Q46.	Document Section 01110 – Summary of Work, Subparagraph 1.06 Since City offered to utilize existing IDIQ construction contracts for portions of work, can the MBE/WBE goals be reduced?
A46.	CREO goals have been established for the project. Design-Builder is not required to utilize City’s IDIQ contractor for any scope on this project. Design-Builder shall clearly indicate what scopes of work are included in their bid and what scopes of work will be designed by design-builder and constructed by City’s IDIQ contractor.
Q47.	Document Section 01110 – Summary of Work, Subparagraph 1.06 Since City offered to utilize existing IDIQ construction contracts for portions of work, does the City have any idea to address: <ul style="list-style-type: none"> - Have ideas for Additional risk Design-Builder is taking on? - Design-Builder quality/inspection/performance scheduling issues with third-party IDIQ contractors - Can these requirements be removed? - Can these requirements be made optional?
A47.	See Addendum 8 A46 above. Any schedule risk of the work being complete by City’s IDIQ contractor is a risk owned by the City.
Q48.	Does the City intend to provide guidance or position on how it will address escalation? If not, please indicate before the bid date.
A48.	City does not intend to add any additional material escalation contract language. Design-Builder may request a meeting with City to discuss escalation.
Q49.	Does any upcoming Addendum provide an updated Professional, Specialized or Technical Services Contract (Proposal Development Agreement)?
A49.	Refer to Bidding Requirement Item 1 Subparagraph B specified herein.
Q50.	Confirm the insurance requirements in the contract are the same or different as those stipulated in Attachment C?
A50.	Refer to the attached Exhibit 7.1 – Insurance Requirements.
Q51.	Is the Proposal Development Agreement included with the proposal, 48-hour paperwork, or cost proposal.
A51.	Submit with the technical proposal.
Q52.	In the draft contract for Design-Build Services, what are the amounts the City intends to enforce for Delay Liquidated Damages under Article 3.5 for Acceptance and Final

	Completion?
A52.	\$2000 per calendar day for Substantial Completion and \$500 per calendar day for Final Completion per the Preproposal conference.
Q53.	In the draft contract for Design-Build Services, Article 7.1.1, references Exhibit 7.1. Are the requirements the same as the original Insurance Requirements
A53.	Refer to the attached Exhibit 7.1 – Insurance Requirements.
Q54.	In the draft contract for Design-Build Services, the percent to self-perform is blank, what is the minimum amount required?
A54.	Design-Builder shall self-perform a minimum of 35% as indicated in the Request for Proposal. Refer to the deletion and replacement below.
Q55.	The warranty period does not appear to be listed in the contract. What is the duration of the warranty period?
A55.	Two (2) years following the acceptance date per the General Conditions of the Contract Between Owner and Design-Builder.
Q56.	The 48 hour period for providing CREO documents shall begin to run as of this date and time. What is the date and time.
A56.	48 hours after the bid opening.
Q57.	There is a Section 00490 - Pre-contract bidder's certification. Does this turn in with the proposal, 48-hour paperwork, or cost proposal?
A57.	Cost Proposal

Bidding Requirements

1. Delete and replace the following section(s):
 - a. Delete Document **Request for Proposals Paragraph 3. Submittal Date**, Page 2 and replace with the following Document **Request for Proposals Paragraph 3. Submittal Date**, Page 2

3. Submittal Date. Sealed Proposals are due by December 6, 2022 ~~November 22, 2022~~ at 2:00PM local time. Proposals shall be sent to Derrick Smith, Contract Administrator, Procurement Services, General Services Department, 414 East 12th Street, City Hall 1st Floor-RM 102W, Kansas City, MO 64106. Respondents should submit six (6) paper documents (one original and five [5] copies) as well as one electronic version of the **Technical Proposal** on a USB flash drive (in searchable PDF format). **One (1)** paper document (one original) of the **Cost Proposal**, as well as one electronic version of the **Cost Proposal** on a USB flash drive (in searchable PDF format), must be submitted in a single, sealed envelope or package separate from the Respondent's Technical Proposal.

- b. Delete Document **Request for Proposals Section 3. Procurement Process Subsection 3.2 Procurement Schedule**, Bulleted Items 6-9, Page 10 and replace with the following Document **Request for Proposals Section 3. Procurement Process Subsection 3.2 Procurement Schedule**, Bulleted Items 6-9, Page 10

• Deadline for Receipt of Written Questions	October 26, 2022
• Issuance of Final Addendum	November 1, 2022
• Proposal (Technical and Cost) Submission	November 22, 2022
• Interviews (Provisional)	Week of Dec. 6, 2022
• Public Bid Opening Date	Dec. 13, 2022
• Notice of Intent to Contract	Dec. 20, 2022

• Deadline for Receipt of Written Questions	November 22, 2022
• Issuance of Final Addendum	November 29, 2022
• Proposal (Technical and Cost) Submission	Dec. 6, 2022
• Interviews (Provisional)	Week of Dec. 12, 2022
• Public Bid Opening Date	Jan. 10, 2022
• Notice of Intent to Contract	Jan. 11, 2022

- c. Delete Document **Request for Proposals Section 4. Proposal Submission Requirements Subsection 4.3.3 Part 1 – Project Plans/Management Approach**, Subparagraph **Self-Performance and Subcontracting**, Page 23 and replace with the following Document **Request for Proposals Section 4. Proposal Submission Requirements Subsection 4.3.3 Part 1 – Project Plans/Management Approach**, Subparagraph **Self-Performance and Subcontracting**, Page 23

Self-Performance and Subcontracting. The selected Design-Builder shall perform with its own organization not less than thirty-five (35%) ~~forty percent (40%)~~ ~~fifty percent (50%)~~ of the total contract price. The dollar value included in this percentage performed by the Design-Builder shall include the value of labor, materials and equipment directly performed or procured by the Design-Builder and shall not include the value of work performed or provided by subcontractors.

- d. Delete Document **Attachment H: Proposal Development Agreement** and replace with the following Document **Attachment H: Proposal Development Agreement**.

NOTE: Shortlisted Respondents must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

**REQUEST FOR PROPOSALS
FOR DESIGN-BUILD SERVICES CONTRACT
FOR PROJECT NO. 81000984 - CONTRACT NUMBER 1638
BLUE RIVER SCREEN HOUSE PROJECT
WATER SERVICES DEPARTMENT
CITY OF KANSAS CITY, MISSOURI**

1. **Purpose.** This is a Request for Proposals (“RFP”) issued by the City of Kansas City, Missouri (“City” or “Owner”) acting through its Water Services Department (WSD) for Design-Build services including design, construction, startup, and extended commissioning for the Blue River Screen House Facility Project (Project).

The City will use Fixed-Price Design-Build (FPDB) contracting method to deliver the Project, and is utilizing a two-step procurement process for selecting the entity that will provide best value as the Design-Builder for the Project. This RFP represents the second step of the procurement process and establishes the process for soliciting and evaluating Technical and Cost Proposals (Proposal) from those entities shortlisted as part of the Statement of Qualifications (SOQ) process. Only those Respondents identified in Paragraph 2 below are invited to submit a Proposal in response to the RFP. The City will review and evaluate Proposals in accordance with this RFP and select the Design-Builder.

The execution of a Contract will be subject to the terms and conditions of the RFP. This RFP is not a tender or an offer. Respondents must be thoroughly familiar with the scope of work and performance requirements discussed in this RFP. The City may reject any Proposal that fails to demonstrate such familiarity. In no event will the City be liable for any costs incurred by any Respondent or any other party in developing or submitting a Proposal, except as described in Section 3.10, below.

The Proposals must be submitted in accordance with the requirements set forth in this document.

2. **Definition of Request for Proposals.** This RFP is an invitation by the City to Design-Build Professionals soliciting Proposals from the following entities ("Shortlisted Respondents", "Respondents", or "Bidders"), listed in alphabetical order:

- Garney-CDM Smith
- Goodwin-Black & Veatch
- Radmacher-Olsson

Selected Respondents were shortlisted based on the qualifications of the Project Team that were submitted in their SOQs and are invited to submit their proposal for performing the services specified in this RFP.

Selection will be based upon the judgment of the City in obtaining a Design-Builder Professional that will be in the best interests of the City. Respondent’s submittal of a proposal in response to this RFP does not create any right in or expectation to a contract with the City.

3. **Submittal Date.** Sealed Proposals are due by ~~December 6, 2022 at 2:00PM~~ ~~November 22, 2022 at 2:00PM~~ ~~November 9, 2022 at 2:00PM~~^{AD4 AD6 AD8} local time. Proposals shall be sent to Derrick Smith, Contract Administrator, Procurement Services, General Services Department, 414 East 12th Street, City Hall 1st Floor-RM 102W, Kansas City, MO 64106. Respondents should submit six (6) paper documents (one original and five [5] copies) as well as one electronic version of the **Technical Proposal** on a USB flash drive (in searchable PDF format). **One (1)** paper document (one original) of the **Cost Proposal**, as well as one electronic version of the **Cost Proposal** on a USB flash drive (in searchable PDF format), must be submitted in a single, sealed envelope or package separate from the Respondent's Technical Proposal.

Both Technical and Cost Proposals must be submitted in separate, sealed envelope or box and shall not be opened until after the due date. Each Technical and Cost Proposal document package shall be plainly labeled with the words "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984" and "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984," respectively, along with Proposer name and identification. The City reserves the right at any time to change or extend the due date and time for any reason.

Each Respondent assumes full responsibility for the timely delivery of its Proposals at the required location. Proposals received after the Submittal Date may be deemed non-responsive and be excluded from consideration. A delivery acknowledgement will be issued upon receipt of the Proposal package and will be provided to the Respondent via e-mail by the City's Project Manager.

Only written responses will be considered. All materials submitted will become part of the response, and may be incorporated into any subsequent contract(s) between the City and the selected Respondent.

4. **RFP Package.** The RFP package for this project contains the following:

- Section 1: Project Overview
- Section 2: Fixed-Price Design-Build Services
- Section 3: Procurement Process
- Section 4: Proposal Submission Requirements
- Section 5: Final Proposal Evaluation and Selection
- Section 6: Conditions for Respondents

Attachments:

- Attachment A: Definition of Terms
- Attachment B: Scope of Design-Build Services
- Attachment C: Draft Contract for Design-Build Services
- Attachment D: Project Background Documents (under separate cover)
- Attachment E: Project Technical Requirements (under separate cover)
- Attachment F: Technical Proposal Forms
 - (1) Form F-1. Project Design Criteria Checklist
 - (2) Form F-X (number to be provided by Respondent). Equipment Cut Sheet

Attachment G: Cost Proposal Forms

- (1) DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
- (2) 00430 Bid Bond
- (3) Form 01290.02 Schedule of Values

Attachment H: Submission Forms including Civil Rights and Equal Opportunity Department (CREO) Documents ~~(To be submitted within 48 hours of Public Bid Opening, in accordance with Section 5.5.1)~~^{AD7}

- (1) HRD Form 06: Design-Builder Contract Instructions
- ~~(2) HRD Form 8A: Contractor Utilization Plan/Request for Waiver~~^{AD7}
- ~~(3) HRD Form 10: Timetable for MBE/WBE Utilization~~^{AD7}
- ~~(4) HRD Form 11: Request for Modification or Substitution~~^{AD7}
- ~~(5) 00450.01 Letter of Intent to Subcontract~~^{AD7}
- (2) 00450 CREO KC Form 8: Contractor Utilization Plan/Request for Waiver^{AD7}
- (3) 00450.01 CREO KC Letter of Intent to Subcontract^{AD7}
- (4) 00460 CREO KC Form 10 Timetable for MBE/WBE Utilization^{AD7}
- (5) 00470 CREO KC Form 11 Request for Modification Or Substitution^{AD7}
- (6) 00515.01 Employee Eligibility Verification Affidavit
- (7) 01290.14 Contractor Affidavit for Final Payment
- (8) 01290.15 Subcontractor Affidavit for Final Payment
- (9) ~~HRD Employee Identification Report Form~~^{AD7}
- (10) ~~HRD Affidavit of Training Program~~^{AD7}
- (9) CREO KC Employee Identification Report Form^{AD7}
- (10) CREO KC Affidavit of Training Program^{AD7}
- (11) Best Faith Efforts, if MBE/WBE goals are not met.
- (12) Proposal Development Stipend Agreement Form

5. **Questions.** Forward all questions by email to both the following Project Manager and Procurement Manager. Questions received after the Deadline for Receipt of Written Questions (Section 3.2 Procurement Schedule) may not be answered. Interpretations or clarifications considered necessary by the Project Manager in response to such questions will be issued by Addenda to all Respondents. Oral or other interpretations or clarifications shall be without legal effect, even if made during formal meetings.

Isaac Garlington, Project Manager
4800 East 63rd Street,
Kansas City, MO 64130
Phone: (816) 513-0436
E-mail: isaac.garlington@kcmo.org

Derrick Smith, Procurement Manager
Procurement Services, General Services Department
414 East 12th Street, City Hall 1st Floor-RM 102W
Kansas City, MO 64106
(816) 513-0807 Phone
(816) 513-2812 Fax
Email: derrick.smith@kcmo.org



For persons with disabilities needing reasonable accommodations please contact the City's ADA Specialist at 816-513-6589.

SECTION 1: PROJECT OVERVIEW

1.1 Project Background

The Blue River WWTP is a 120 million gallons per day (mgd) municipal wastewater treatment facility that discharges treated effluent into the Missouri River.

Certain project background documents are being made available to the Respondents, as referenced in Attachments D (Project Background Documents) and E (Project Technical Requirements), for the purpose of preparing Proposals. The City is providing these documents only for the purpose of obtaining Proposals for the Project and does not confer a license or grant permission for any other use. Documents referenced in Attachment D (Project Background Documents) and Attachment E (Project Technical Requirements) will only be made available in electronic format.

Due to criticality of adequate screening, and the desire to allocate risk to one entity, the City decided there is benefit in utilizing a Design-Build method for the Project and a Fixed-Price Design-Build (FPDB) method was selected. The FPDB method outlined in this RFP was chosen to allow WSD staff involvement in the design process for the Project while leveraging the schedule, collaboration, and other advantages that result from use of a design-build process.

Ongoing coordination services and meetings with WSD will be required.

Because the City has specific technical requirements, preferences, and standards regarding some elements of the facilities design, as well as the desire to control how and where risk will be assigned as part of this Project, preliminary project design parameters are provided in Attachment E (Project Technical Requirements) and further described in Section 1.2.1. Project Technical Requirements.

1.2 Project Scope

This RFP is to provide Design-Builder Services for design, construction, and commissioning the following scope of work as defined in the Project Technical Requirements (Attachment E), within the City's Budget and Scopes Rank Ordered as follows:

Rank Order

- 1) Multi-Rake Screens and Conveyors
- 2) Channel Separation System
- 3) Grit Equalization across Channels
- 4) Actuated Slide Gates
[Rerouting of Birmingham/Westside Sludge Line^{AD4}](#)
- 5) Power Upgrades
- 6) Heating, Ventilation, and Air Conditioning (HVAC)

For full scope of services, refer to Section 01110 – Summary of Work

Under the FPDB method, the Design-Builder's scope of work for the Project will be performed in two (2) phases under a single Contract for Design-Build Services between the City and Design-

Builder. These phases (described in Attachment B (Scope of Design-Build Services)) may run concurrently and are generally described as follows:

- **Design Phase** services performed under the Contract for Design-Build Services include completing the entirety of the Project’s final design and pre-construction activities.
- **Construction Phase** services performed under the Contract for Design-Build Services include: performing construction; performing post-construction tasks, such as commissioning and initial performance testing; providing a "Smart BIM", as specified by the City; and performing warranty and other work required.

1.2.1 Project Technical Requirements

The Project Technical Requirements, as provided in Attachment E (Project Technical Requirements), are considered Contract Documents and define the basis of project design and definition as developed to-date for this RFP. Technical Proposals must incorporate all Project Technical Requirements. Attachment E (Project Technical Requirements) includes the native files for the Respondents to use in developing Proposals. Project Technical Requirements are included within:

- Basis of Design Report
- Preliminary Drawings
- Technical Specifications

The Project Technical Requirements describe the “Representative Project.” Respondents may deviate from the Representative Project (“Respondent’s Proposed Modified Project”), if justified and approved by the City. **All Technical Proposals and Cost Proposals must be based on either the Representative Project or the approved Proposed Modified Project.** The Project Technical Requirements (Attachment E) are available on a USB flash drive or eBuilder for Shortlisted Respondents.

The Project Technical Requirements identify both **Fixed Design Criteria, Indicative Design Criteria, and Preferred Indicative Design Criteria** for the Representative Project. Fixed Design Criteria must be adhered to and followed by the Respondent. However, the City would like to promote innovation and encourage best value; therefore, the City will consider technical alternatives that are better than or equal to the Indicative Design Criteria. Proposed variances from Indicative Design Criteria must be included within and submitted as part of the Technical Submittal (see Section 4). Recommended variances will be discussed between the City and the Respondent, and the City will determine if the variation is “approved” or “not approved.” Respondent recommendations (both “approved” and “not approved” variances) for Indicative Design Criteria and Preferred Indicative Design Criteria will be considered proprietary and will be kept confidential. The Respondent must also document the recommended technical alternatives to the Indicative Design Criteria in its Technical Proposal.

1.3 City's Objectives

The City's objectives for delivery of the Project are as follows:

- **Quality:** Provide treatment facilities and equipment that will be sustainable and will reliably produce required quantities of Class A biosolids in full compliance with federal and state regulations and contractual standards for the full range of the sludge conditions set forth in this RFP.
- **Cost:** Minimize capital cost with consideration of optimizing life-cycle cost.
- **Schedule:** Achieve the scheduled completion dates for design, construction and performance testing of the Project.
- **Risk:** Achieve an optimal balance of risk allocation between the City and the Design-Builder. In general, the party best suited to manage the risk owns the risk
- **Safety:** Implement an effective safety program incorporating best industry practices.
- **Operations and Maintenance (O&M):** Optimize operating and maintenance requirements so that the facility is capable of reliably and continuously operating in a cost-effective manner over the long-term. Develop and deliver, in conjunction with City and WSD management, a program that provides effective class room and hands on training for WSD staff to transition to full-time operation and maintenance of new facilities, electronic O&M manuals, and Standard Operating Procedures.
- **Accountability:** Provide for Design-Builder assumption of single point of accountability for performance of all services under the Contract for Design-Builder Services.
- **Smooth Transition:** Smooth transition of design deliverables (i.e. as-builts, building information models [BIM]), electronic O&M Manuals, etc. from the Design-Builder to the City for use in the City's O&M systems, such as maintenance management and asset management. Smooth transition of facility operations following commissioning activities between the Design-Builder and the City.
- **Collaboration:** Provide for coordinated design development with City input in a manner that preserves Design-Builder's sole responsibility for the achievement of Project performance objectives while meeting City objectives associated with cost, quality, aesthetics, and long-term operability.
- **Sustainability:** Per Section 1.6, all solutions identified to improve the quality of life of facility personnel, reduce labor usage, reduce material usage, and reduce waste created after construction is completed.

By selecting the FPDB delivery method for the Project, the City is committed to working in close collaboration with the Design-Builder.

1.4 Project Funding

The cost for design and construction of the Project is currently estimated at **\$5 million**. This budget does not include the City’s other Project costs, such as professional advisory services, site investigations, environmental studies, certain governmental approvals, taxes, and other related costs.

The Project may be financed through a combination of City municipal revenue bonds and cash.

1.5 Project Schedule

The Project schedule is anticipated as follows:

- Design-Builder Notice-to-Proceed February 2023
- Facility Commissioning August 2024
- Substantial Completion September 2024
- Final Completion November 2024

1.6 Sustainability

The City has adopted an overall policy supporting a greater use of “green solutions” or enhanced sustainability measures that consider environmental quality, social equity and economic vitality. In order to minimize waste, enhance efficiencies, and achieve multiple benefits and project synergies, all City projects must identify opportunities for sustainability improvements and implement those improvements when financially reasonable and operationally practical.

The Envision™ rating system is used by WSD to promote sustainability in a variety of infrastructure projects and to encourage sustainable approaches as an important part of project design. Envision™ will also be used to evaluate and grade the sustainability of Project components as they are developed.

City also desires for all City of Kansas City, MO services to be carbon neutral by the year, 2030.

SECTION 2: FIXED-PRICE DESIGN-BUILD SERVICES

2.1 General

The services to be undertaken by the Design-Builder include all Work defined in the Contract, including all Design Professional Services, Construction Services, and other obligations to be performed by Design/Builder under the Contract Documents, including without limitation project management, supervision, training, testing, permitting, commissioning, and all other services and deliverables required by Contractor to achieve Final Acceptance of the Project in accordance with the Contract Documents.

Design-Builder services are as noted in Section 1 and more fully described in Attachment B (Scope of Design-Builder Services).

2.2 Roles and Responsibilities

City: The City will cooperate with the Design-Builder and will fulfill its responsibilities in a timely manner to facilitate the Design-Builder's timely and efficient performance of services. The City's responsibilities include:

- Review submissions and provide comments to Design-Builder in a timely manner.
- Furnish existing studies and provide complete, accurate, and reliable data and information regarding the Project, including record drawings, preliminary studies, environmental impact assessments, Preliminary Design BIM models, Site plans, etc.
- Provide information and provide (or engage Design-Builder to perform) additional studies that may be necessary to complete the Project.
- Provide adequate funding.
- Provide access to the Project site and any necessary easements.
- Obtain the governmental approvals and permits the City is responsible for and assist Design-Builder in obtaining governmental approvals and permits Design-Builder is responsible for.
- Provide necessary data and inputs, characteristics and ranges (e.g., wastewater influent or biosolids) for Project start-up and performance testing.

Design-Builder: The Design-Builder will cooperate with the City and will provide in a timely manner the services, as described in Section 2.1, necessary to complete the general Project scope specified in Attachment B (Scope of Design-Build Services).

The roles and responsibilities of the City and the Design-Builder are more fully described Attachments B (Scope of Design-Build Services) and C (Draft Contract for Design-Build Services) in the RFP.

SECTION 3: PROCUREMENT PROCESS

3.1 Communications and City Contact

On behalf of the City, **Derrick Smith, Procurement Services Department** will act as the Procurement Manager and as the sole point of contact (City Contact) and administrator for the RFP process. All communications shall be submitted in writing by email, sent to the procurement manager, carbon copy the Project Manager, and shall specifically reference this RFP. All questions or comments should be directed to the Procurement Manager as identified under Paragraph 5 of this RFP. All communications and questions regarding the Project shall only be made through the City Contact with the exception of City-certified Disadvantaged Business Enterprises, Minority Business Enterprises, and Women Business Enterprises (D/M/WBE) and of Respondents contacting the Civil Rights and Equal Opportunity Department to assist in meeting MBE/WBE goals. D/M/WBEs may contact WSD, General Services, and CREO staff directly regarding the Project.

No oral communication from the City Contact or any other individual is binding. Oral or written contact with other City staff, WSD staff, the Owner's Advisor, or any public official specific to the Project during the RFP/Design-Builder Selection process is prohibited. A violation of this provision may result in disqualification of the Respondent from the RFP/Design-Builder Selection process.

3.2 Procurement Schedule

The procurement process includes several confidential meetings which are discussed in further detail in Section 3.4 Confidential Meetings. The approximate procurement schedule is as follows:

- Issuance of RFP September 2, 2022
- Confidential Meetings (2) Sept. 7, 2022 – Oct. 26, 2022
- Site visits (2)^{AD4} Through October 21, 2022^{AD4}
- Deadline for Receipt of Written Questions November 22, 2022^{AD8}
~~October 26, 2022^{AD8}~~
- Issuance of Final Addendum November 29, 2022^{AD8}
~~November 1, 2022^{AD8}~~
- Proposal (Technical and Cost) Submission Dec. 6, 2022^{AD8}
~~November 22, 9^{AD6}, 2022^{AD8}~~
- Interviews (Provisional) Week of Dec. 12, 2022^{AD8}
~~Week of Dec. 6 Nov. 15^{AD6}, 2022^{AD8}~~
- Public Bid Opening Date Jan 10, 2022^{AD8}

~~Dec. 13, Nov. 22, 2022~~^{AD6, 2022}^{AD8}

- Notice of Intent to Contract

Jan. 11, 2022^{AD8}

~~Dec. 20, Dec. 28, 2022~~^{AD6 AD8}

3.3 Confidential Meetings

Following the issuance of the RFP, the Owner intends to conduct **two (2)** confidential individual meetings with each Respondent during various times of the RFP Period as listed in Section 3.2 Procurement Schedule and as described in the following Sections 3.4.1 through 3.4.3.

All information discussed in these meetings will remain confidential with the exception of clarifications to the RFP made by the City, which will be issued by addenda. The City anticipates that the confidential meetings will be held at **4800 East 63rd Street, Kansas City, MO, 64130** or Blue River located at **7300 Hawthorne Road, Kansas City, MO 64120**. The City will advise each Respondent of its proposed meeting time for Confidential Meeting #1 no later than one week prior to meeting and Confidential Meeting #2 no later than two weeks prior to meeting. The City may hold further confidential meetings at its sole discretion upon notice to the Respondents.

The meetings are intended to provide additional information about the Project, the RFP, Project Technical Requirements, Preliminary Design Contract Documents, technical questions/clarifications, scope of services, and the Draft Contract. The City's commitment to confidentiality is subject to applicable law. The City reserves the right to determine whether any element or feature of the preliminary technical concepts is objectionable or non-objectionable for any reason. The RFP will be amended as necessary to preclude the use of any elements or features determined to be objectionable by the City. The meetings will be conducted to allow:

- a) Respondents to present the concepts to the City and convey to the City the value and benefit of the Respondent's approach to meeting the City's Project requirements as defined in the RFP;
- b) The City to understand each Respondent's technical approach/concepts and to review the approach/concepts for compliance with the City's Project requirements as defined in this RFP;
- c) The City to evaluate any alternative technologies and variances, and to inform Respondents if any are found to be objectionable;
- d) Clarification of the City's Project Technical Requirements through addenda to the RFP; and
- e) Respondents to comment on the RFP, including the Draft Contract for Design-Build Services, and the City to clarify the Draft Contract for Design-Build Services after consideration of Respondent comments.

The City plans to conduct such informational meetings in a responsive manner, affording comparable opportunities for discussion to each Respondent.

Except as expressly provided otherwise in this RFP, the confidential meetings are subject to the following rules:

- a) The City will not discuss with any Respondent any information submitted as part of this procurement other than its own;
- b) Respondents shall not seek to obtain commitments from the City in the meetings or otherwise seek to obtain an unfair competitive advantage over any other Respondent;
- c) No aspect of these meetings is intended to provide any Respondent with access to information that is not similarly available to other Respondents. Accordingly, material information about the Project or procurement that the City reveals or discusses in response to questions raised in a confidential meeting will be revealed to the other Respondents unless the City, in its sole discretion, determines that disclosure (i) would (a) impair the confidentiality of information submitted as part of this procurement or (b) reveal a Respondent's confidential business strategies; (ii) is not necessary in order to address an error in the RFP Documents, (iii) is not necessary for purposes of fairness and transparency; and (iv) is not required by the Public Records Act;
- d) The content or discussions that occur during confidential meetings will not be considered in Proposal evaluations; and
- e) A non-disclosure agreement will be signed by each meeting attendee, including City staff and others attending on the City's behalf, prior to the start of each confidential meeting.

During confidential meetings, Respondents may ask questions, and the City may provide responses. Responses provided by the City during meetings may not be relied upon unless such questions are submitted in writing and the City provides written responses by an addendum to this RFP.

3.4.1 Confidential Meeting #1 (Mandatory)

Confidential Meeting #1 will occur as scheduled in Section 3.2, after the issuance of the RFP with the purpose of reviewing with the Respondent's the RFP, procurement process, and RFP documents. The Respondent may discuss technical ideas with the City during this meeting. The City Contacts will initiate scheduling the optional meeting with Respondents upon issuance of the RFP.

The duration for this meeting will be up to two (2) hours and attendance from the Respondent's team shall be limited to two (2) hours and attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions.

3.4.2 Confidential Meeting #2 (Mandatory)

Confidential Meeting #2 will occur no earlier than twenty-one (21) days before the Proposal Submission date with the purpose of discussing technical ideas provided as well as the Draft Contract for Design-Build Services. This meeting may also include representatives from the City's Legal Department and the duration is expected to be four (4) to eight (8) hours depending on Respondent's agenda. Respondent shall send agenda to City Contacts one week prior to meeting.

Attendance from the Respondent's team shall be limited to Key Personnel as identified in Respondent's SOQ and/or proposed replacements/additions. Attendance may also include the Respondent's legal representative or counsel for discussions related to the Draft Contract for Design-Build Services. This meeting will be scheduled by City at least two (2) weeks in advance.

Any proposed variances from the Indicative Design Criteria or Preferred Indicative Criteria must be discussed during this meeting. If the City does not approve a Respondent's proposal for a variation from Indicative Criteria, it will inform the Respondent by e-mail within two (2) weeks after Confidential Meeting #1.

3.4 Interviews

The City may conduct an interview/oral presentation with each Respondent after proposals are submitted. The interviews may consist of an oral presentation by the Respondent, as well as a questions and answers portion administered by the City. An agenda for the interview/oral presentation will be sent to each Respondent prior to the interview.

The purpose of the interview is to enable each Respondent to: (a) demonstrate Proposal clarity of expression and thoroughness; (b) demonstrate a strong understanding of Project issues; (c) articulate its thoughts and ideas in a logical and factual manner; (d) demonstrate communication between team members and impressions of ability to work cohesively; (e) confirm Respondent's key personnel commitments; (f) provide direct, clear, thorough and insightful answers to questions; and (g) clarify the City's understanding of the proposal and what is covered by it.

3.5 Withdrawal from Proposing

A Respondent may withdraw from submitting a Proposal by providing a written request, duly executed by an authorized representative, and delivered to the City Contact at any time prior to the Proposal Submittal Due Date. Individuals making the withdrawal will be required to provide evidence of authorization to represent the Respondent. After the Proposal Submittal Due Date, Proposals shall not be withdrawn or modified except to the extent agreed to by the City. If a Respondent withdraws from submitting a Proposal, a Stipend from the City will not be paid to that Respondent.

3.6 Validity of Proposal

The offer represented by each Proposal will remain in full force and effect after the Proposal Submittal Due Date and cannot be withdrawn for a period of **ninety (90) ~~180~~^{AD4}** days unless:

- The City has cancelled the RFP;
- The City has awarded the Contract to another Respondent and Contract execution has occurred; or
- The City, in its sole discretion, allows a Respondent to withdraw its Proposal prior to such deadline.

The City and the Respondent may mutually agree, in writing, to extend the validity of a Proposal beyond the validity period. If a Respondent agrees to extend the validity of its Proposal beyond the validity period, the Proposal Security (see Section 3.7 Proposal Bid Security) shall also be extended and/or replaced with compliant Proposal Security.

3.7 Proposal Bid Security

The Cost Proposal shall include security for the Respondent's obligations under the Proposal in the amount of 5% of Base Bid which shall be in the form of a Bid Bond (on Form 00430 Bid Bond provided in Attachment G, Cost Proposal Forms), Cashier's Check, Letter of Credit, Certificate of Deposit or other instrument approved in advance by the City. Prior to submittal of the Cost Proposal the City Treasurer must approve both the financial institution and text of a Letter of Credit. A Cashier's Check or a Certificate of Deposit shall be payable to the City Treasurer. The proposal bid bond must be valid until at least the end of the Proposal validity period in Section 3.6.

By submitting its Proposal, each Respondent understands and agrees that the City shall be entitled to draw on the proposal bid security in its entirety and Respondent if:

- Respondent withdraws, repudiates or otherwise indicates in writing that it will not meet any commitments made in the Proposal, except as specifically permitted under this RFP;
- Respondent is selected for negotiations under Section 5 of this RFP and fails to negotiate with the City in good faith;
- Respondent refuses or is unable to execute and deliver the Contract, evidence of insurance, payment and performance bonds and any other documents required by the City as a condition to award.

By submitting a Proposal, Respondent is agreeing to correct any mistakes on a proposal security submission when requested by the City. When such a mistake occurs and a Respondent fails or refuses to correct the mistake or execute the Contract when requested by the City, any proposal security shall be forfeited to the City and the Respondent shall also be subject to debarment and damages.

3.8 Addenda

This RFP is subject to revision after the date of issuance via written addenda until the Issuance of Final Addendum date in Section 3.2 Procurement Schedule . The City may extend the Submittal Due Date (and any dates in the Procurement Schedule) via addendum at any time. A copy of all such written addenda will be posted at the Kansas City, Missouri Plan Room, <http://www.kcmoplanroom.org>. All addenda will be posted at this location. Any document or plan may be viewed or downloaded from this location.

The following documents will be made available for download: (1) the RFP (including all Attachments) and (2) addenda to the RFP. It is each Respondent's responsibility to obtain all RFP addenda prior to submitting its Proposal.

If the Respondent has any doubt as to the true meaning of any part of this RFP, or if any discrepancies in or omissions from this RFP are discovered by Respondent, a written request for an interpretation or correction may be submitted to the City Contact (see Section 3.1) for response. The Respondent submitting the request will be responsible for delivery no later than the Deadline for Receipt of Written Questions. The City will not be responsible for any other explanation or interpretations of the documents.

It is the responsibility of all Respondents to ascertain whether any addenda have been issued before the Submittal Due Date by checking the Kansas City, Missouri Plan Room. If an Addendum is issued, Respondent must acknowledge receipt of Addendum on the DB 00410 Design-Build Bid Form submitted with the Cost Proposal (see Section 4.3.11 Cost Proposal).

3.9 Inclusion of Proposal in the Contract

Portions of the successful Respondent's Proposal will be used to complete various Contract provisions and Exhibits and will therefore become part of the Contract. All other information is for evaluation purposes only and will not become part of the Contract.

3.10 Reimbursement for Proposal Submitted

For those Respondents that submit a responsive Proposal and are not awarded the Contract, the City will reimburse each unsuccessful Respondent for Proposal preparation costs with a not-to-exceed value of \$45,000. The City will have no further obligation for cost reimbursement. All work performed by a Respondent pursuant to submitting a Proposal, shall be considered works for hire and shall become the property of the City without restriction or limitation on the City's use. Payment of reimbursement shall be made within sixty (60) days after receipt of invoice from Respondent for reimbursement. The Respondent's invoice should include documentation that supports the actual costs incurred for approval of goods and services, providing the Notice of Intent to Award for this project's FPDB Contract has been issued to the successful Respondent. **The Respondent shall complete the Proposal Development Stipend Agreement Form included in Attachment H (Submission Forms) as acknowledgement that the Respondent will accept the reimbursement and that the Respondent agrees with the terms and conditions associated with the reimbursement. If the Respondent chooses not to accept reimbursement, then Respondent shall provide a copy of the Proposal Development Stipend Agreement Form, unsigned, accompanied with a brief statement that the Respondent chooses not to accept Reimbursement.** The completed Proposal Development Stipend Agreement Form shall serve as the legal agreement between the City and Respondent as it specifically relates to the reimbursement.

The stipend shall be paid to the Respondent(s) following the council approval of the ordinance of the Construction contract with the selected Design Builder. Design-Builders are encouraged to become City vendor prior to proposal submission for the Project. Upon such payment, the City

shall acquire from the Respondent perpetual, nonexclusive, royalty-free licenses to allow the City to use the design, or any part thereof, any ideas and/or information contained in the Proposal and to use such design, or any part thereof, any ideas and/or information in this Project or in connection with other projects. In order to receive a stipend, a Respondent must obtain a Vendor Number from the City. Respondents can obtain the necessary forms for obtaining a Vendor Number by calling (816) 513-1836.

3.11 Site Access Period

The City will provide Respondents scheduled access, during periods shown in Section 3.2, to Project site located at the Blue River WWTP by appointment. Each Respondent shall contact the City Contact to schedule a date and time to tour the Facilities. The City will provide up to two (2) hours of site access for each Respondent. City staff will accompany the Respondent in touring the Facilities, however, staff will not be allowed to answer procurement or Proposal-related questions. Site access will be granted approximately one (1) week after the Request for Proposal is provided.

Respondents visiting the Project site shall be responsible for their own safety including equipment and safety procedures. No information conveyed by the City to Respondent resulting from these site tours shall act to modify the RFP unless such modifications are made by Addendum.

SECTION 4: PROPOSAL SUBMISSION REQUIREMENTS

4.1 Submittal Due Date

Refer to Paragraph 3 above for submittal location and due date.

4.2 Submission Format

Except as expressly provided in this Section, the Technical Proposal must not exceed **twenty-five (25)** total narrative pages (most or all 8½ x 11 inch with 1-inch or greater margins), excluding the transmittal letter, index or table of contents, front and back covers, title pages/separation tabs, and appendices. A maximum of **five (5)** of the total pages may be 11 x 17-inch z-fold format. Eleven (11) point font or larger must be used in Parts 1 and 2 of the Technical Proposal. The Technical Proposal shall be typed or printed double-sided to the extent possible, with each double-sided page counting as two pages, on recycled and recyclable paper, and shall be continuously numbered. Each Technical Proposal Part and Appendix shall be labeled with title headers.

The Technical Proposal submission envelope or box shall include Respondent's name and address and shall be labeled "TECHNICAL PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

The Cost Proposal submission envelope or box shall include the completed Cost Proposal submission forms in Attachment G (Cost Proposal Forms) and any supporting documentation requested in this RFP. Cost Proposal must be accompanied by Proposal bid security in accordance with Section 3.8 Proposal Bid Security.

The Cost Proposal envelope shall include Respondent's name and address and shall be labeled "COST PROPOSAL FOR BLUE RIVER SCREEN HOUSE PROJECT – PROJECT NO. 81000984".

Drawings shall be half-size versions (11" x 17") of ANSI 22" x 34" sheets. The set shall include a cover sheet and index of all drawings included in the set. Drawings are excluded from the page limit of the Technical Proposal.

4.3 Submission Content

4.3.1 General Outline

The **Technical Proposal** must include the following in the order listed:

- Transmittal Letter
- Part 1 – Project Plans/Management Approach
 - Project Team/SOQ Confirmation

- Design-Build Coordination and Management
- Quality Control and Management
- Safety Plan
- Permitting
- Self-Performance and Subcontracting
- Part 2 – Technical Proposal
 - Project Understanding
 - Technical Narratives
 - Including variances from Indicative Design Criteria
 - Technical Drawings (reference Appendix B)
 - Equipment Information (reference Appendix C)
- Part 3 – Construction Schedule, Planning and Sequencing (reference Appendix D)
- Part 4 – MBE/WBE Utilization
- Appendix A – Forms for Affirmation and Compliance (not included in page count)
 - Copies of Missouri Construction and Engineering Licenses for Lead Contractor, Design Manager, and Engineer of Record
 - Bonding Capacity
 - Declaration of Insurance
 - Form 00515.01 Employee Eligibility Verification Affidavit
- Appendix B – Design Drawings (not included in page count)
- Appendix C – Equipment Forms (not included in page count)
- Appendix D – Project Schedule (not included in page count)

The content requirements set forth in this RFP represent the minimum content requirements for the Technical Proposal. It is the Respondent's responsibility to present all relevant information and

other materials in its Technical Proposal. The Technical Proposal, however, should not contain standard marketing or other general materials. It is the Respondent's responsibility to modify such materials so that only directly relevant information is included in the Technical Proposal.

Per Section 2-1585, City Code of Ordinances, the Technical Proposal may not contain any reference to the cost of the Project.

The **Cost Proposal** must include the following:

- Cost Proposal
 - DB 00410 Design-Build Bid Form/Affidavit of Intended Utilization
 - 00430 Bid Bond
 - 00450 CREO KC Form 8: Contractor Utilization Plan/Request for Waiver^{AD7}
 - 00450.01 CREO KC Letter of Intent to Subcontract^{AD7}
 - 00460 CREO KC Form 10 Timetable for MBE/WBE Utilization^{AD7}
 - 00470 CREO KC Form 11 Request for Modification Or Substitution^{AD7}
 - 00515.01 Employee Eligibility Verification Affidavit^{AD7}
 - 00485.04 CREO KC Employee Identification Report Form^{AD7}
 - CREO KC Affidavit of Training Program^{AD7}

4.3.2 *Transmittal Letter*

Each Respondent must provide a Transmittal Letter following the Proposal cover that formally conveys the Proposal to the City. The letter must be signed by an authorized representative of the Respondent who is empowered to sign such material and to commit the Respondent to the obligations contained in the Proposal. If Respondent is a corporation or an LLC, an authorized officer shall sign his/her name and indicate his/her title beneath the full corporate name. If Respondent is a joint venture, an authorized representative for each member of the joint venture shall sign the letter, and specifically state that, if the joint venture is selected as the Design-Builder entity, each member will be jointly and severally liable to the City for the obligations arising out of the contract between the joint venture and the City.

The Transmittal Letter may include any information deemed relevant to the Respondent, but must include the following:

1. An identification of the Respondent's Point of Contact, including name, address, phone number, and email address, and must specify who would be the Design-Builder's signatory to any contract documents executed with the City.
2. An Executive Summary of the Proposal, with no references whatsoever to the Cost Proposal.
3. A declaration of the Respondent's intent, if selected, to enter into a contract with the City for the Project in accordance with the terms of this RFP;
4. An affirmation that all professional and business registrations and licenses required for the Project have been obtained or will be obtained prior to award of the Contract for Design-Build Services. This includes, but is not limited to the registrations/licenses for the members of the Respondent's team that are professional engineers and will be the Engineer-of-Record for the Project;
5. A statement of the Respondent's intent to provide Performance and Payment Bonds and all insurance required under the Contract for Design-Build Services, respectively by the date of award of the Contract.
6. An affirmation that the representations made in the Proposal will remain in force and effect for ~~ninety (90) one hundred and eighty (180)~~^{AD4} days from the Proposal Submission Due Date.
7. An affirmation that the Respondent has completed and included in either Appendix A (Forms for Affirmation of Compliance), Appendix C (Equipment Forms), or in Part 5 – Cost Proposal all required submission forms provided in Attachment F (Technical Proposal Forms), Attachment G (Cost Proposal Forms), and Attachment H (Submission Forms including CREO Documents).

The Transmittal Letter shall be limited to three (3), 8 ½ x 11 inch pages.

4.3.3 Part 1 – Project Plans/Management Approach

The Respondent shall use Part 1 of the Technical Proposal to demonstrate their approach for managing the Project from Design Phase through Extended Commissioning Phase. It is not expected that the Respondent will include specific and developed plans, but should concisely demonstrate how the project will be executed with regards to project management, controls, quality, safety, permitting, and self-performing/subcontracting. The approaches should discuss who will manage the plan, how it will be assured/ensured, and provide a summary of the plan including discussion on how they comply with the City's practices.

Project Team/SOQ Confirmation. The purpose of this subsection of the Proposal is for the Respondent to confirm that the Project team submitted in its SOQ has not changed; or to provide information and an explanation regarding any changes to its Project Team differing from that submitted in its SOQ. Any changes to the Respondent's Project Team from the SOQ are subject to acceptance or rejection by the City, at its sole discretion. If the Respondent's Project Team has not changed from the SOQ, the Respondent shall include the following statement in this section of its Proposal:

“ _____ (Name of Respondent's Team or Organization) confirms that all qualifications and experience information, including the members and composition of our Project

Team, provided in our Statement of Qualifications previously submitted to the City for the Blue River Screen House Facility Project has not changed, and is valid, true, and accurate."

No changes of the primary member organizations that comprise the Project Team (Lead Designer and Lead Contractor) are allowed, and no changes to the Key Personnel as represented in the Respondent's SOQ are allowed. If extenuating circumstances require a change to any of the primary member organizations or Key Personnel, the Respondent shall provide an explanation for the change and present qualifications and experience information for the new team member(s) for the City to evaluate. The City reserves the right to reject as non-responsive the Proposal of a Respondent that changes primary member organizations or Key Personnel from that indicated in the SOQ.

Respondent shall identify the Lead Operations Coordinator, an additional role in Key Personnel, in this section and provide the information required below in the following section for this additional Key Personnel and verify proposed Staffing in RFQ.

Change in Key Personnel. Respondent shall identify any Key Personnel, as defined in Section 01420 found in RFP Attachment A, that have changed from what was previously provided in the Respondent's SOQ. The City expects Key Personnel named in this Proposal to remain on the Project Team for the duration of the Project unless changes are beyond the Respondents control and approved by the City.

For any additions or changes that have occurred to the Respondent's Project Team, the Respondent shall provide the following information relative to the assignments and qualifications of the Respondent's team:

- For any new personnel, provide sufficient reasoning and detail for the City to understand how such personnel would enhance the Respondent's ability to deliver the Project and to provide value to the City.
- Proposal Appendix A (Forms for Affirmation of Compliance) should include resumes (see RFQ for resume format and requirements), copies of licenses or registrations, and project references for any additional or new personnel that the Respondent proposes as part of its Project Team that were not identified in the SOQ.

Design-Build Coordination and Management Plan. The Respondent shall demonstrate that: (a) its coordination and management approach during design and construction includes specific measures to control budget, documentation, and schedule; and (b) it will implement policies and procedures to facilitate communication and input from members of the Project Team and City. At a minimum, Respondent shall:

- Describe the roles and responsibilities of the Project Team members, and how the Project Team is going to function to benefit the Project. Include an organization chart of the Project Team to illustrate its functionality, team reporting structure, etc.

- Describe the Respondent's concepts for managing the design, construction, and commissioning phases of the Project and how the Respondent intends to control budget, documentation, and schedule.
- Describe how the Respondent intends to control and coordinate the flow of information between design and construction teams, and how the Respondent plans to interface with the City and permitting agencies.
- Describe the communications methods for facilitating City review during all phases of the Project, including but not be limited to meetings, progress reports, submission of BIM updates, and document management tools.
- Describe Respondent's design process, including procedures for equipment selection, constructability reviews by the Lead Contractor, obtaining City input and Lead Designer's involvement in oversight of construction. Describe where the design team will be geographically located and how operations team members will be involved in design and construction. Describe how Respondent will leverage Project Team's experience and expertise, including Lead Operations Coordinator, that is specifically applicable to this Project, including expertise related to Headworks Operations.
- Describe the Respondents approach to involving City staff in the operations and maintenance of the facilities during the Construction and Extended Commissioning Phases, the training of City staff, and other activities to efficiently transfer operations and maintenance responsibilities to the City following the completion of the Extended Commissioning Phase. Describe Respondent's approach for development of standard operating procedures (SOPs), maintenance verification systems, and how the Respondent will work with the City's existing computerized maintenance management system.

Quality Control and Management. Respondent shall demonstrate: (a) clear and comprehensive quality assurance and control procedures during both design and construction; and extended commissioning (b) the availability and proposed utilization of established quality management procedures previously implemented on other similar projects. At a minimum, Respondent shall:

- Describe the Respondent's quality control and management methods, policies, and procedures during design. This shall include a description of Respondent's approach for monitoring and managing the quality of its work from initiation to completion of the Project, including but not limited to checking of all calculations, discipline design checklists, interdisciplinary design checklists, and standardized comment forms that document all check comments and responses for each design submittal. Use of the Revit-based BIM is required for design purposes.
- Provide a summary of quality control procedures to be utilized during construction, which includes but is not limited to materials testing for concrete and soils at a minimum, and independent special inspections.

- Define 5 key issues and challenges in both the design and construction of the Project. Describe how to mitigate potential negative impacts (i.e., risk mitigation strategy) of each key issue and any unique approaches or strengths the Respondent may have relative to the issues and challenges. Describe Respondent's contingency plans for various performance issues that might be encountered on the Project.
- Discuss any innovative ideas and approaches to completing the design and construction of the Project. Demonstrate the Respondent's ingenuity through design concepts, construction materials, and construction methods to achieve the most efficient and long-lasting treatment facility.
- Discuss any prominent concerns with the Respondent's capacity to meet the Project's schedule and budget and how the Respondent will manage budget and schedule requirements. The Respondent may provide situations and examples where its approach to managing the schedule and budget has been successful, but may not include any specific cost information in the Technical Proposal.
- Describe how the Respondent will approach start-up and commissioning including the key tasks the Respondent would recommend for achieving compliance with the Project requirements. Identify concerns and challenges with commissioning and how Respondent's team will address the risks. Respondent shall present an approach to start-up and commissioning with the key tasks the Respondent would recommend. Identify future start-up and commissioning plans that will be developed and approved by the Owner and indicate when they will be developed and submitted.
- ~~Describe how the Respondent shall describe its ability and approach to providing Extended Commissioning Phase services for an initial one-year period with optional one-year extension. Respondent shall provide a description of its staffing plan and organization chart; and its approach to assisting the City in the necessary operations and maintenance activities. The Respondent is expected to conform to City standard operating procedures in completing its operations and maintenance duties.~~^{AD4}

Technical Approach Narratives. Proposer shall provide a Technical Approach Narrative that clearly describes its specific technical approach to the Project with respect to the Project Areas and major Project elements as listed below. The intent of the technical approach narratives is to identify areas of compliance with the Fixed Design Criteria, as defined in the Project Technical Requirements, identify the Respondent's approach for the Indicative Design Criteria, and to provide justification for the approved design criteria variances as proposed in the Interim Deliverable submittal.

The organization of the Technical Approach Narrative shall follow the organization and content of the Project Design Criteria:

Performance Requirements
Project Site and Existing Facilities

Hydraulic Model Design Criteria

Discipline Design Criteria:

- A – Architectural
- C – Civil
- E - Electrical
- F - Fire Protection
- IC - Instrumentation and Controls
- M - Mechanical
- P – Plumbing
- S - Structural

Within major Project elements describe the approach to each of the following technical aspects:

1. Design criteria used and comparison to Project Technical Requirements (Fixed and Indicative Design Criteria). Indicate approach for the Fixed Design Criteria and any deviations from the Indicative Design Criteria using Form F-1 Project Design Criteria.
2. Operational strategies for unit process and equipment.
3. Construction sequence narrative including identifying shut-downs and temporary facilities (electricity, water, conveyance or others).
4. List required standard operating procedures and operating manuals to be provided.

Drawings. Respondent shall include drawings in Appendix B (Design Drawings) to illustrate and document its proposed technical design approach for the Representative Project (or approved Proposed Modified Project) and to complement the technical narrative. Reference shall be made to drawings within the major element narratives.

~~It is anticipated that the Respondent will use the provided electronic BIM Model and Preliminary Drawings, as provided in Attachment E (Project Technical Requirements), as the basis for their design of the Representative Project (or approved Proposed Modified Project).~~^{AD3}

It is anticipated that the Respondent will use the existing drawings, as provided in Attachment D (Project Background Documents), the specifications in Attachment E (Project Technical Requirements), and the project design criteria in Attachment F (Technical Proposal Forms) as the basis for their Representative Project (or approved Proposed Modified Project).^{AD3}

~~Organization. Drawings shall be organized first by area and then by discipline matching the organization of the Preliminary Drawings as provided in Attachment E (Project Technical Requirements)~~^{AD3}

Organization. Drawings shall be organized first by area and then by discipline matching the organization of the disciplines listed herein (General, Civil, Building Demolition, Architecture, Structural, Mechanical (Process), Mechanical (Plumbing), HVAC, Electrical, Instrumentation and Controls)^{AD3}

Content. Naming convention shall be consistent with the drawing list provided as part of the Project Technical Requirements. At a minimum, the following drawings shall be prepared and

submitted by the Shortlisted Respondent, with the drawings being 11" x 17" size, indicate north on layouts, and use 1/4" or 1/8" scale (facility and layout drawings):

General

- Cover sheet
- Index of Drawings
- Legend, abbreviations and general notes
- Hydraulic Profile (preliminary) - include hydraulic grade elevations (NAVD and NGVD) for maximum, minimum and design flows
- ~~Process Flow Diagram (PFD) — indicate major equipment, tanks and channels, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs.~~^{AD6}

Civil

- Existing conditions and demolition plan
- Site Plans showing concept location of ~~existing and proposed major structures, roads, and utilities. utilities and grading — At a minimum, show the layout of the project site including property limits, existing features, proposed features, proposed and existing utilities as applicable, site drainage features, and access roads. The project site and project feature locations should be tied to the project site datum.~~^{AD6}
- Outside yard piping plan with major process piping and or site channels (≥ 24 in)
- Contract limits and construction access and parking

Building Demolition

- Plan drawings illustrating the demolition requirements for existing assets.

Architecture

- Life safety plan and code analysis
- Floor plans
- Building elevations (Optional)^{AD6}
- ~~3D views of buildings~~^{AD6}

Structural

- ~~Foundation plans~~^{AD6}
- ~~Floor plans~~^{AD6}
- Basic Building plans and sections
- ~~Basic tanks/channels plans and sections~~^{AD6}

Mechanical (Process)

- Plans and sections of each facility identifying existing and proposed equipment and piping ~~located and shown~~^{AD6}
 - Show proposed layout of spaces or separate buildings as well as dimensions for major equipment such as gates, screens, control panels, conveyors and major piping. ~~that includes pump space, other mechanical spaces, maintenance space, storage space as well as major dimensions for pump equipment, flow control gates,~~

~~isolation gates, major piping, isolation valves, access corridors, maintenance areas, and other appurtenant facilities included in Respondent's proposed design concept~~

- ~~○ Show proposed locations for doors, overhead doors~~^{AD6}
- ~~Plans and sections of each equipment asset and piping located and shown~~^{AD6}
- ~~Layout of major interconnecting process piping between structures~~^{AD6}
- ~~Show elevations and piping elevations (≥ 6 in)~~^{AD6}
- ~~Show outline of control panels for large equipment (e.g., mechanical screens) that are installed within 15 feet of the building.~~^{AD6}

Mechanical (Plumbing)

- Show water piping, trench drains, and associated piping (≥ 6 in)

HVAC

- Floor plan with equipment and duct runs ~~and control panels~~^{AD6}
- ~~Heating Flow Diagram (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)~~^{AD6}
- ~~Ventilation Flow Diagram process areas (major equipment, major piping complete with valves, control elements, pipe size and pipe material. PFDs formatted to be used as P&IDs)~~^{AD6}

Electrical

- Overall building-wide single line diagram
- Basic layout of power supply and distribution routing
- ~~Site Plan~~^{AD6}
- Basic floor plan of electrical rooms and elevations
- ~~Show proposed power distribution wiring, and instrumentation and communication wiring~~^{AD6}
- ~~Show proposed layout of spaces that includes electrical space, control space and communications space~~^{AD6}

Instrumentation and Controls:

- Process P&IDs (all treatment process - major equipment, valves, gates, piping and instrumentation only; names and tags per Project Technical Requirements)
- ~~Screen house SCADA system architecture diagram~~
 - ~~Show how the Screen House will integrate into the Plant SCADA system architecture~~^{AD6}
 - ~~Plant-wide SCADA system architecture diagram~~^{AD6}
 - ~~Basic floor plans showing proposed control panels with names and equipment tags~~^{AD6}

Equipment Cut Sheets. Respondent shall complete equipment cut sheets provided in Attachment F (Technical Proposal Forms) for the following major equipment, and include the completed forms within Appendix C Equipment Forms in its Technical Proposal:

1. Slide Gates
2. Multi-Rake Screens ~~and Conveyors~~^{AD6}
3. HVAC System

~~4. Major Building Appurtenances (Doors, Windows, Skylights)^{AD6}~~

5. Electrical Gear (including switchgear, variable frequency drives, and motor control centers)
6. Other Major Equipment and Ancillary Systems

4.3.5 Part 3 – Construction Schedule, Planning and Sequencing

Provide a summary version of the Respondent's proposed project schedule. Summarized schedule will include the Respondents proposed dates for achieving the Design, Construction, and **Startup and Commissioning** ~~Extended Commissioning^{AD4}~~ milestones - these proposed dates will be included within the Agreement executed by the City and successful Respondent.

Respondents shall: (a) describe construction sequencing of major Project elements and how sequencing may affect the critical path; (b) discuss any concerns with the capacity to meet the Project's schedule and how the Respondent will manage the schedule. Respondent shall describe how they would approach site logistics and limitations during construction, such as construction staging areas, etc.

Respondent shall develop a detailed Project Schedule and provided within Appendix D (Construction Schedule) of its Proposal. The detailed Project Schedule shall be a preliminary resource-loaded CPM construction schedule without any reference to cost, prepared using Microsoft Project 2007 or later format. Include no more than three hundred (300) individual activities, for identifying tasks, durations, and key milestones during the design, construction, and commissioning phases. Show milestones for key decision points, milestones, shutdown periods, OCCP and permit review periods for WSD and AHJs, approvals, purchasing and testing dates associated with Schedule based upon the City's anticipated award date. Include time for permit or regulatory approval processes required prior and during construction. Include schedule for start-up and commissioning period and performance verification testing.

4.3.6 Part 4 – MBE/WBE Utilization

City desires that Minority Business Enterprises (MBE) and Women's Business Enterprises (WBE) have a maximum opportunity to participate in the performance of City contracts. The goals for this specific Project are 14% MBE participation and 14% WBE participation. The Respondent shall identify any MBE/WBE subconsultants or subcontractors that are part of the Respondent's Project Team.

The City's CREO Forms and CREO Instructions for Construction Projects are incorporated into this RFP and the Contract Documents. The MBE/WBE Directory is available on the City's website at www.kcmo.org. Please call the Civil Rights and Equal Opportunity Department at (816) 513-1836 for assistance.

Waiver of MBE/WBE Requirements. The City Council may waive any and all MBE/WBE requirements imposed by any Bidding Document or the MBE/WBE Ordinance and Contract with the lowest and best Bidder if the City Council determines a waiver is in the best interests of the City.

Workforce Program Requirements. City desires that minorities and women have a maximum opportunity to practice their trades on city construction projects. The minimum company-wide goals are a ten percent (10%) minority workforce and two percent (2%) women workforce. The City's HRD Forms and HRD Instructions for Construction Projects are incorporated into this RFP and the Contract Documents.

4.3.7 Appendix A - Forms for Affirmation of Compliance

Include in Appendix A of the Proposal the completed forms provided in RFP Attachment H (Submission Forms including HRD Documents).

In accordance with Section 4.3.3 of this RFP, for any new Key Personnel that the Respondent intends to use that are not identified in its SOQ and for the Lead Operations Coordinator, Respondent shall provide resumes for such individuals within Appendix A. Provide certifications and licenses for the Lead Operations Coordinator and any new Key Personnel (if applicable), and otherwise required by Section 4.3.3.

4.3.8 Appendix B – Design Drawings

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix B all design drawings necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.9 Appendix C – Equipment Forms

In accordance with Section 4.3.4 of this RFP, Respondent shall provide in Appendix C all equipment forms necessary to support the Representative Project (or approved Proposed Modified Project).

4.3.10 Appendix D – Project Schedule

In accordance with Section 4.3.5 of this RFP, Respondent shall provide in Appendix D a detailed-level schedule for the Project. The schedule shall identify critical path, proposed early work packages, and projected float.

4.3.11 Part 5 - Cost Proposal

A Proposal submitted in response to this RFP must contain a Cost Proposal that fully conforms with and satisfies the format and content requirements described herein, and sets forth the Respondent's proposed Fixed Price Design-Build to perform the Design-Build Contract services. In evaluating the Cost Proposal, the City will apply the price evaluation criteria set forth in Section 5 of this RFP. Accordingly, Respondents are required to complete and submit all forms provided in Attachment G (Cost Proposal Forms) and include in their Cost Proposal all other information necessary to permit the City to perform informed evaluation.

DB 00410 Design-Build Bid Form. This form must be completed in its entirety and submitted with the Cost Proposal. Respondent shall provide a price for Design Services and Construction

Services, the sum of which comprises the “Base Bid.” The Base Bid is the Cost of Work for the Representative Project (or approved Proposed Modified Project), including allowances as described below. Variations or deviations from the Representative Project that do not have City approval shall be excluded.

Additionally, Respondent shall provide as supplemental to the Cost Proposal the Vendor’s Proposals for the below-listed equipment as listed in Form F.1, clearly indicating what is included in the scope.

- Forebay Slide Gates
- Multi-Rake Screens
- Shaftless Screw Conveyor

Scoring of the Cost Proposal will be based on the Base Bid.

THE COST PROPOSAL SHALL BE SUBMITTED, IN A SEPARATE SEALED ENVELOPE OR PACKAGE CLEARLY MARKED “COST PROPOSAL.”

ALL PRICE AND COST INFORMATION SHALL BE INCLUDED ONLY IN THE COST PROPOSAL. NO PRICE INFORMATION SHALL BE INCLUDED IN THE OTHER PARTS OF THE PROPOSAL (INCLUDING THE TRANSMITTAL LETTER AND APPENDICES). IF ANY PRICE INFORMATION IS INCLUDED IN THE OTHER PARTS OF THE PROPOSAL, THE ENTIRE PROPOSAL MAY BE REJECTED.

SECTION 5: FINAL PROPOSAL EVALUATION AND SELECTION

5.1 Selection Committee

The City will appoint a committee (“Selection Committee”) consisting of no more than five (5) members, which will include staff designated by the WSD Director per Ordinance No. 190622, as deemed necessary, with the expertise appropriate for the evaluation of all technical aspects of the Project. Copies of Proposals will be distributed to the Selection Committee members who will rely on the contents for scoring purposes. The Selection Committee will review the Proposals, excluding the Cost Proposal.

5.2 General Evaluation Procedure

The submission of a Proposal by Respondents shall constitute acknowledgement of acceptance of all terms and conditions set forth in this RFP unless otherwise expressly stated herein. All Proposals must be submitted in writing and must include all required documents including forms, appendices, and other information requested in this RFP.

All Technical Proposals and documents, and meetings related thereto, shall be considered to be "closed records" and "closed meetings," respectively, as defined in Chapter 610, RSMo (the "Missouri Sunshine Law") and therefore protected from disclosure until the Public Bid Opening Date (Section 3.2).

In general, the procedure for evaluation of Proposals and selecting a Design-Builder will consist of the following:

- Selection Committee will open Technical Proposals.
- Selection Committee will review the Technical Proposals (with assistance provided by outside advisors if desired by City) to determine if Responsiveness Requirements and Mandatory (Pass/Fail) Requirements are met.
- City staff may conduct interviews for any or all submitted Proposals.
- Selection Committee will score Technical Proposals based on evaluation criteria described in Section 5.4.
- For those Proposals that meet the Responsiveness Requirements and Mandatory (Pass/Fail) Requirements, the Cost Proposal will be opened publicly as described in Section 5.5.1 Public Bid Opening.
- The ranking of Respondents and the Successful Shortlisted Respondent will be publicly posted on the City’s Plan Room Website which will begin the five (5) day appeal period.
- After the five (5) day appeal period has expired and no appeals have been recorded, contract negotiations will begin with the Successful Shortlisted Respondent.

- Award of the Contract for Design-Build Services will be made only after the successful negotiation of the Contract and the City. Council's ordinance adopting the Contract for Design-Build Services takes effect.

During the Proposal evaluation process, written questions or requests for clarifications may be submitted to one or more Respondents regarding its Proposal or related matters. Failure to respond in a timely manner to any such questions or requests may be grounds for elimination of the Respondent from further consideration. Respondent is responsible for the accuracy of its Proposals. Discrepancies between words and figures will be resolved in favor of the words.

5.3 Responsiveness Requirements

Each Proposal will be reviewed to determine whether it is responsive to the RFP. Respondents must comply with all terms and conditions of this RFP, including, without limitation, the requirement to provide all documentation requested in this RFP. Failure to comply with the requirements of this RFP may result in a Proposal being rejected as non-responsive. Each Proposal shall be reviewed for responsiveness in accordance with the following conditions:

1. Timely submittal (refer to Section 4.1 of RFP for the Submittal Due Date).
2. Compliance with submittal requirements in accordance with Section 4 of RFP, including submittal of all information and documentation required in Section 4.

If a Respondent fails to satisfy these conditions, the Proposal may be deemed non-responsive by the City and not considered for further review.

At its sole discretion at any time, however, the City Manager or his delegate may waive any requirements imposed by this solicitation or by any City regulation when failure to grant the waiver will result in an increased cost to the City and the requirement waived would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City Council at any time may waive any requirements imposed in this solicitation by the City's Code of Ordinances when it finds failure to grant the waiver will result in an increased cost to the City and the waived requirement would be waived for all Respondents for this solicitation and it is in the best interest of the City to grant the waiver. The City reserves the right to waive any irregularities and/or formalities as deemed appropriate.

The City Council may waive any and all D/M/WBE requirements imposed by any SOQ or Proposal document or the MBE/WBE Ordinance and award the Contract to the most qualified Design-Builder if the City Council determines a waiver is in the best interests of the City.

5.4 Evaluation Criteria

The City will evaluate and rank the responsive Proposals by applying the weighted evaluation criteria set forth below to determine the Successful Respondent. The total number of points that will be used in evaluating all of the factors for a Proposal is 200, allocated as illustrated in the following table:

Criterion	Maximum Score Possible (Points)
Part 1. Project Plans/Management Approach	30
Part 2. Technical Approach	60
Part 3. Construction Schedule, Planning and Sequencing	10
Part 4. MBE/WBE Utilization	Pass/Fail
Cost Proposal	100
Total Possible Score	200

The highest Technical Proposal will be awarded 100 points. Points will be added to each of the other Technical Proposals corresponding to the 100 points and the original points earned by that Proposal. For example:

Technical Proposal	Number of Points	Score
Highest	94	100 pts.
2nd Highest	87 (94-87=7)	93 pts. (100-7 points)
3rd Highest	84 (94-84=10)	90 pts. (100-10 points)

5.5 Cost Proposal Evaluation

The Cost Proposal with the lowest bid price will be awarded 100 points. City's Budget is \$5,000,000.00. The City's limit for department selection for a design-build project is \$6,000,000.^{AD4}

One (1) point will be deducted from each of the other Cost Proposals for each percentage that the Base Bid exceeds the lowest Base Bid using the following formula:

$$\left(1 - \frac{\text{Proposer's Bid} - \text{Lowest Bid}}{\text{Lowest Bid}}\right) \times 100$$

5.5.1 Public Bid Opening

Cost Proposals will be opened publicly on at 2:00 PM on the Public Bid Opening Date (Section 3.2). The City will publicly announce the scores earned by each Technical Proposal, and then will publicly open and read aloud the corresponding Cost Proposal. Cost Proposal scores will be calculated and added to previously determined Proposal scores. Proposals and corresponding Respondents will be ranked based upon the Proposal scores.

~~The 48-hour period for providing CREO documents (e.g., HRD Form 8, Contractor Utilization Plan/Request for Waiver) shall begin to run as of this date and time.~~^{AD7}

CREO documents (e.g., HRD Form 8, Contractor Utilization Plan/Request for Waiver) shall be submitted at this time in the Cost Proposal.^{AD7}

5.6 Final Selection

The lowest and best Bid is that Proposal with the highest combined points for the Technical Proposal and Cost Proposal, and that has been determined by the City to be responsive. Respondent agrees that all representations made in its SOQ, its Technical Proposal, and its Cost Proposal shall continue to be binding on Respondent if it is the successful Respondent on the Project, and that this RFP, the RFQ, Respondent's Technical Proposal, Respondent's Cost Proposal, and Respondent's SOQ shall be deemed incorporated into any Contract issued to Respondent for the Project.

After the evaluation process is complete, the City will notify Respondents of the rankings. The top-ranked Respondent will be selected to serve as the Design-Builder and to begin negotiations with the City for the Contract for Design-Build Services award. If negotiations with the top-ranked Respondent are not successful, the City will select the next-ranked Respondent for award and negotiate the final terms of the Contract.

SECTION 6: CONDITIONS FOR RESPONDENTS

6.1 City Policies and Ordinances

The City will administer the RFP process under competitive proposal policies. The following is a summary of some of the policies and ordinance packages to be followed and completed as part of the RFP process. The City encourages and expects Proposers to pursue subcontracting, mentoring, joint venturing, teaming and partnering opportunities with the types of firms described in this Section in the ordinary course of its teaming/business strategies for all aspects of the Project. Additional policies and ordinances otherwise not specifically listed below may also apply at time of the Proposal.

- Code of Ordinances, Sections 3-501 through 3-525, also known as the “Workforce Program.”

6.2 Prohibited Activities by Former City Employees and Officials

Section 2-2044 of the City’s Code prohibits former elected City officials and former executive or administrative employees of the City from trying to influence a decision of the City on behalf of an employer or client for one year after that former employee or official leaves the City’s employ. By submitting an RFP, the Design-Builder affirms that Design-Builder and its team members and employees are in compliance with the requirements of Section 2-2044. Failure to comply with the requirements of Section 2-1018 may cause the SOQ and Proposal to be rejected.

6.3 Change in RFP, Contract and Additional Work

The City reserves the right to add to, delete, modify or enlarge this RFP, including any specifications and/or statement of work, the proposed contract, the terms and conditions, and any subsequently executed contract. The City reserves the right to award additional contracts for related work or subsequent Project phases to the selected Design-Builder.

6.4 Late Proposals

Proposals and modifications of proposals received after the exact hour and date specified for receipt will not be considered unless: (1) they are sent via the U.S. Postal Service, common carrier or contract carrier, by a delivery method that guarantees the proposal will be delivered to the City prior to the submission deadline; or (2) if submitted by mail, common carrier or contract carrier it is determined by the City that the late receipt was due solely to an error by the US Postal Service, common carrier or contract carrier; or (3) the Proposal is timely delivered to the City but is at a different City location than that specified in this RFP; or (4) the City extends the time after the deadline for a force majeure event that could potentially affect any or all Respondents meeting the deadline.

6.5 Interviews, Discussions and Negotiations with Design-Builders

The Respondent's Proposals, including any proposed personnel and any other required proposal documents may be subject to negotiation by the City at any time. The City may interview none, one, some or all of the Respondents that submit Proposals. Proposals may be evaluated and award made with or without, discussions and/or negotiations with the Respondent. The City reserves the right to request additional information from any or all Respondents. Negotiations by the City will not be deemed a counter offer or a rejection of any original SOQ or Proposal.

6.6 Rejection of Proposals

If the City rejects all Proposals, the City may re-solicit Proposals only from those Respondents who submitted a Proposal pursuant to this RFP and/or use an expedited Bid submission schedule with or without re-advertising or issuing any other public notice when the City determines, in its sole discretion, that the delay due to the normal solicitation procedures would not be in the City's best interests.

6.7 Disclosure of Proprietary Information

A Respondent may restrict the disclosure of scientific and technological innovations in which it has a proprietary interest, or other information that is protected from public disclosure by law, which is contained in any portion of its Proposal by:

- a. Marking each page of each such document in at least 16-point font with the words "Proprietary Information"; and
- b. Printing each page of such document on a different color paper than the paper on which the remainder of the Proposal is printed; and
- c. Segregating each page of each such portion of its Technical Proposal in a sealed envelope/package, which shall prominently display, on the outside, the words "Proprietary Information" in at least 16-point font, along with the name and address of the Respondent; and
- d. After either the Public Bid Opening Date or the rejection of all Proposals, if a request is made under the Missouri Sunshine Law for access to portion(s) of a Respondent's Technical Proposal that has been marked "Proprietary Information," as provided above, the City will notify that Respondent of the request, and it shall be the burden of that Respondent to establish that such documents are exempt from disclosure under the law.

6.8 Contract Information Management System

The selected Design-Builder shall be required to use City's Internet web based Contract Information Management System/Project Management Communications Tool provided by City and protocols included in that software during the term of this Contract. The selected Design-Builder shall submit user applications to City's provided Contract Information Management

System for all personnel, subcontractors or suppliers as applicable. The City will use e-Builder (by Trimble) for document control and workflows.

6.9 Affirmative Action

It is the policy of the City that any person or entity entering into a contract with the City, will employ applicants and treat employees equally without regard to their race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age. The City's Affirmative Action ordinance requires that any person or entity who employs fifty (50) or more persons and is awarded a contract from the City totaling more than \$300,000.00 must:

- Execute and submit an affidavit, in a form prescribed by the City, warranting that the contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the contract.
- Submit, in print or electronic format, a copy of the contractor's current certificate of compliance to the City's CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years. If, and only if, contractor does not possess a current certification of compliance, contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years.
- Require any subcontractor awarded a subcontract exceeding \$300,000.00 to affirm that subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.
- Obtain from any subcontractor awarded a subcontract exceeding \$300,000.00 a copy of the subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, subcontractor does not possess a current certificate of compliance, contractor shall obtain a copy of the subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.
- If you have any questions regarding the City's Affirmative Action requirements, please contact CREO at (816) 513-1836 or visit the City's website at www.kcmo.org.

6.10 American with Disabilities Act (ADA) Standards

It is the policy of the City and required by law that any new or renovated facility meet the scoping and technical requirements of the 2010 ADA Standards for newly designed and constructed or altered local government facilities, public accommodations, and facilities. The selected Design-Builder shall design the project so it conforms to the 2010 ADA Standards, as applicable and as amended from time to time, and is readily accessible to and usable by individuals with disabilities.

The City will make available to the selected Design-Builder the City's ADA Compliance Manager, who can facilitate interaction with advocates in the disability community.

6.11 Design-Builder Conflict of Interest

A conflict of interest situation may disqualify an organization. If the Design-Builder believes there may be a conflict of interest, it must list the organizations and the names of entities or persons associated with the Design-Builder who may have a conflict of interest, or appearance of a conflict of interest, with the City.

Details of the potential conflict of interest must also be included. Names of entities associated with the Design-Builder who may have a conflict of interest with any activity of this Project should be included in the Proposal. Provide details and reasons. Design-Builders are subject to disqualification on the basis of conflict of interest as determined by the City.

6.12 Additional Information

The City reserves the right, in its sole discretion, to request additional information or documents from any or all Respondents, including supplements or corrections to the Proposals.

6.13 City's Buy American and Missouri Preference Policies

It is the policy of the City that any manufactured goods or commodities used or supplied in the performance of any City contract or any subcontract thereto shall be manufactured or produced in the United States whenever possible. When Bids offer quality, price, conformity with specifications, term of delivery and other conditions imposed in the specifications that are equal, the City shall select the Bid that uses manufactured goods or commodities that are manufactured or produced in the United States. The City shall give preference to all commodities manufactured, produced, or grown within the State of Missouri and to all firms, corporations, or individuals doing business as Missouri firms, corporations or individuals, when quality is equal or better and delivered price is the same or less. It is the bidder's responsibility to claim these preferences.

6.14 Tax Clearance

Respondent will be required to furnish to Owner sufficient proof from City's Commissioner of Revenue, verifying that Respondent is in compliance with the license and tax ordinances administered by City's Revenue Division as a precondition to Owner making its first payment under any Contract over \$50,000.00. Respondent will also be required to obtain proof of City tax compliance from all of its Subcontractors prior to the Subcontractors performing any Work.

6.15 Prevailing Wage Requirements

The successful Respondent shall pay the prevailing hourly rate of wages as determined by the Missouri Annual Wage Order and/or Federal Wage Determination set forth in the Project Manual. In case of a conflict between Missouri and Federal wage rates, the higher rate shall apply.

6.16 Indemnification – City of Kansas City

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the City and any of its agencies, officials, officers, or employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable, including negligent acts or omissions of the City, its agencies, officials, officers, or employees. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

6.17 Indemnification – State of Missouri

The contract documents contains a requirement that Contractor shall indemnify, defend and hold harmless the Missouri Highways and Transportation Commission (MHTC) and the Missouri Department of Transportation (MoDOT) and their respective employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of or resulting from any acts or omissions in connection with the contract, caused in whole or in part by Contractor, its employees, agents, or Subcontractors, or caused by others for whom Contractor is liable. The contract requires Contractor to obtain specified limits of insurance to insure the indemnity obligation. Contractor has the opportunity to recover the cost of the required insurance in the Contract Price by including the cost of that insurance in the Bid amount.

Exhibit 7.1
Insurance Requirements

A. Design-Builder's Insurance Coverages

Design-Builder shall obtain and maintain the following insurance coverages during the performance of the Work. Policy coverage limits may be achieved through a combination of insurance policies (e.g., primary and/or excess). Owner and all additional insureds identified in Section 5.9(i)1) of the General Conditions of Contract shall be included as additional insureds on a primary, non-contributory basis for the coverages set forth in Paragraphs 2, 3, 4, and 7 below.

Any self-insured retention by Contractor must be submitted in writing for approval by City.

All insurance coverage must be written by companies that have an A.M. Best rating of "A-V" or better and are licensed or approved by the State of Missouri to do business in Missouri.

1. **Workers' Compensation and Employer's Liability Insurance** with statutory workers' compensation (Coverage A) limits and employer's liability (Coverage B) limits of at least \$1 million bodily injury by accident, each accident, and \$1 million bodily injury by disease, each employee. Coverage will be extended, if needed, to cover any claims under the United States Longshore and Harbor Workers' Compensation Act (33 U.S.C. §§ 901-950) and the Jones Act (46 U.S.C. §30104).

2. **Commercial General Liability Insurance** including coverage for premises and operations, independent contractors, personal injury, product and completed operations, explosion, collapse and underground, and broad form contractual liability of limits of at least \$2 million per occurrence and \$4 million annual aggregate applicable on a per project basis. Completed operations coverage shall continue to be carried for a period of at least five (5) years after Acceptance.

3. **Automobile Liability Insurance** with a limit of at least \$2 million combined single limit for bodily injury and property damage covering all owned (if any), non-owned, hired, or borrowed vehicles on site or off.

4. **Umbrella/Excess Liability Insurance** in excess of the underlying limits noted above for employer's liability, commercial general liability, and automobile liability in the amount of \$2 million per occurrence and in the aggregate.

5. **Builder's Risk Insurance** on an "all risks" completed value basis, including permanent and temporary works, site preparation, and foundations. Covered causes of loss shall include, but not be limited to, fire, explosion, collapse, earth movement (including subsidence, sinkhole and collapse), flood, windstorm, theft, collapse, terrorism and vandalism. The Builder's Risk insurance must be project-specific and will cover Owner, Design-Builder and all DB-Related Entities prior to Acceptance, with a limit equal to the full value of the Contract Price. Further, the policy shall include extensions of coverage with minimum sub-limits as follows: (a) at least \$500 thousand for off-site storage and transit; (b) at least \$1 million for debris removal and demolition; and (c) at least \$500 thousand for increased costs of construction, expediting expenses, soft costs (including Owner's continuing project administration expenses), professional fees and loss adjustment expenses. The policy also will include replacement cost coverage for buildings, structures, materials, supplies, equipment, machinery, and fixtures that are or will be part of the Project. Coverage will include, but not be limited to, the following (provided that commercially reasonable sub-limits will be accepted where typical): right to partial occupancy; London

Engineering Group (LEG) 3 type or equivalent coverage for design error, faulty workmanship, and/or faulty materials, testing, and change in ordinance or law. Builder's Risk Insurance must be in place before the commencement of construction activities. Design-Builder shall submit to Owner on or before the Agreement Date: (a) a letter of certification from Design-Builder or Design-Builder's insurance broker confirming that Builder's Risk Insurance compliant with the requirements contained herein will be placed prior to the commencement of construction; and (b) a specimen Builder's Risk Insurance policy with all appropriate attachments, sub-limits, etc.

6. **Contractor's Equipment** to include "all-risk" insurance covering all risk of physical damage to equipment to be used at the Site by Design-Builder and any DB-Related Party, whether leased, rented, borrowed, or used at the Site, unless covered under the Builder's Risk Insurance policy described above. Such coverage shall have minimum limits equal to the replacement cost of such equipment unless Owner approves lower minimum limits.

7. **Contractor's Pollution Liability Insurance** on a project-specific basis to indemnify for bodily injury, property damage, cleanup/remediation costs or other amounts which Design-Builder or any DB-Related Party is legally obligated to pay arising out of the Work, any transit and/or disposal at non-owned disposal sites. Such insurance will have minimum limits of \$5 million any one claim and in the aggregate and will remain in full force and effect for the period of the Work and a five (5)-year extended reporting period after Acceptance.

8. **Professional Liability Insurance** covering acts, errors, or omissions arising in connection with the Work, for not less than \$2 million any one claim and in the aggregate. This insurance shall on a "claims-made" basis and have an extended reporting or discovery "tail" period, or be renewed for a period, of not less than 10 years after the Acceptance Date. It shall also have a retroactive date effective before the commencement of any design, and shall not include any exclusionary language relating to joint ventures or partnerships or both.

B. Insurance to be Maintained by Design Consultants and Subcontractors

Design-Builder will cause all of its Design Consultants and Subcontractors to obtain and maintain the same insurance coverages as the Design Builder; or be responsible for maintaining such coverages on behalf of each party.

Owner' Owner's Advisor, and all additional insureds identified in General Conditions of Contract shall be included as additional insureds on a primary, non-contributory basis for General Liability Insurance, Automobile Liability Insurance, and Umbrella/Excess Liability Insurance. Professional Liability Insurance with the same policy requirements of the Design-Builder.

Whereas, the Design-Builder has subcontracted design work, Design Consultant(s) shall include Professional Liability Insurance with the same policy requirements of the Design-Builder.

Whereas, the Design-Builder has subcontracted construction, Subcontractor(s) shall include pollution insurance with the same policy limits and requirements of the Design-Builder and Builder's Risk insurance with a limit equal to the full value of the Subcontractor Agreement between the Design-Builder and Subcontractor(s).

Should Design-Builder implement a contractor-controlled insurance program (CCIP) providing compliant insurance for all participants with regard to on-site activities, all Construction Subcontractors enrolled in the CCIP shall still be responsible for procuring and maintaining automobile liability insurance and the other insurance coverages noted above with regard to off-site work. Owner and all additional insureds identified in General Conditions of Contract shall be included as additional insureds on a primary, non-contributory basis for the applicable insurance coverages set forth identified herein.

PANEL C

MAIN BUS AMPS 100 A
 MAIN BREAKER 150 A
 VOLTAGE 208Y/120 V
 PHASES/WIRES 3 PH / 4 W

AIC: 10,000 A
 SECTIONS: 1-42 SPACE
 MOUNTING: SURFACE
 LOCATION: SCREEN HOUSE DOCK ENTRY

MAIN LUGS ONLY
 EQUIPMENT GROUND BUS

CIRCUIT DESCRIPTION	POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION
LT, RECEPT., TELE BOOTH & EXT. W.P. RECEPT	1	20	1		20	1	EXT. LTING AFTERBAY EL 766' MCC-5 (3) CONTACTOR
WEST DOOR	1	20	3		20	1	EXT. LTING FOREBAY EL 768' MCC-5 (3) CONTACTOR
CONV. RECEPT, STORAGE AREA CLOCK	1	20	5		20	1	CONV. RECEPT, BATT. CHARGER FOR EM. LT.
CONV. RECEPT EQ. RM, TOILET, & DRINKING FOUNTAIN	1	20	7		20	1	CONV. RECEPT EQ RM & JANITOR
CONV. RECEPT BSMNT	1	20	9	10	20	1	CONV. RECEPT BSMNT
CONV. RECEPT, BATT. CHARGER FOR EM. LT. BSMT	1	20	11	12	20	1	LTING BSMNT STORAGE - EMER. LIGHTS ON PILLAR
LTING HEAT & VENT RM.	1	20	13	14	20	1	CONV RECEPT HEAT & VENT RM
CONV. RECEPT WASH & DOCK AREA	1	20	15	16	20	1	
Garage Bay	1	20	17	18	20	1	LTING BASEMENT STORAGE
	1	20	19	20	20	1	Level Transducer
	1	20	21	22	20	1	Heat trace
SUMP PUMP	1	20	23	24	20	1	SUBSTATION LTING
PARSHALL FLUME LTING MCC-5 (3) CONTACTOR	1	20	25	26	20	1	
	1	20	27	28	20	1	STEAM GENERATOR
INTERIOR SCREEN HOUSE LTING - Truck Bay	1	20	29	30	20	1	PARSHALL FLUME LTING, CONV RECEPT & AUTO SAMPLER
FOREBAY W.P. CONV. OUTLETS	1	20	31	32	20	1	CIRCULATING WATER PUMP
	1	20	33	34	20	1	AFTERBAY W.P. CONV. OUTLETS
	1	20	35	36	20	1	
125/250V RECEPTACLE (near Bar Screen #1)	2		37	38	30	1	Heater MCC 5
			39	40		2	
		50	41	42	30		

55
 26
 510X
 10

CONTROL BOX
 ↓
 EMER. LIGHTS
 ALSO 400 WKT
 LED LIGHT

PROFESSIONAL, SPECIALIZED OR TECHNICAL SERVICES CONTRACT
PROJECT/CONTRACT NOS. 81000984/167X – BLUE RIVER SCREEN HOUSE
WATER SERVICES DEPARTMENT

THIS CONTRACT is between KANSAS CITY, MISSOURI, a constitutionally chartered municipal corporation (“City”), and _____ (“Contractor”). City and Contractor agree as follows:

PART I

SPECIAL TERMS AND CONDITIONS

Sec. 1. Compensation.

- A. The amount the City will pay Contractor under this contract will not exceed \$45,000.00. Contractor will be paid on the following basis:
1. Contractor has prepared responsive Technical and Cost Proposals in accordance with requirements of the Request for Proposals (RFP) for Design-Build Services for the Blue River Screen House Project (Project).
 2. Contractor is one of the entities shortlisted to submit Proposals to provide Design-Build Services for the Project and submitted to the City a Technical and Cost Proposal in response to the RFP issued by the City.
 3. Contractor agrees that if it becomes eligible for reimbursement, the work performed will be considered work for hire and shall, upon payment of the reimbursement amount, become the property of the City without restriction or limitation on its use. If Contractor is eligible for reimbursement, it shall not copyright any of the material developed under this Agreement.
 4. Services performed by Contractor under this Agreement including expenses incurred by Contractor.
 5. City shall pay Contractor compensation amounting to actual salary of personnel for time charges directly to the project, times and approved multiplier. The multiplier to be used is 3.04.
- B. Contractor will bill the City, in a form acceptable to the City, on the following basis: one time.
- C. It shall be a condition precedent to payment of any invoice from Contractor that Contractor is in compliance with, and not in breach or default of, all terms, covenants and conditions of this Contract. If damages are sustained by City as a result of breach or default by Contractor, City may withhold payment(s) to Contractor for the purpose of set off until such time as the exact amount of damages due City from Contractor may be determined.
- D. No request for payment will be processed unless the request is in proper form, correctly computed, and is approved as payable under the terms of this Contract.
- E. City is not liable for any obligation incurred by Contractor except as approved under the provisions of this Contract.

Sec. 2. Responsibilities of Contractor. Contractor shall perform the following Scope of Services:

- A. As indicated in the Request for Proposals for Design-Build Services Contract for Project No. 81000984 – Contract Number 1638 Blue River Screen House Project.

Sec. 3. Notices. All notices required by this Agreement shall be in writing to the following:

City:

Water Services Department:
Wes Minder, Director
4800 E. 63rd Street, Kansas City, MO 64130
Phone: 816-513-0504
E-mail address: Wes.Minder@kcmo.org

Contractor:

Contractor's Legal Name: _____
Contact: _____
Address: _____
Phone: (____) _____ - _____
E-mail address: _____

All notices are effective a) when delivered in person, b) upon confirmation of receipt when transmitted by facsimile transmission or by electronic mail, c) upon receipt after dispatch by registered or certified mail, postage prepaid, d) on the next business day if transmitted by overnight courier (with confirmation of delivery), or e) three business days after the date of mailing, whichever is earlier.

Sec. 4. Merger. This Contract consists of Part I, Special Terms and Conditions and any Attachments and any documents incorporated by reference; and Part II, Standard Terms and Conditions. This Contract, including any Attachments and incorporated documents, constitutes the entire agreement between City and Contractor with respect to this subject matter.

Sec. 5. Conflict Between Contract Parts. In the event of any conflict or ambiguity between the Special Terms and Conditions of Part I and the Standard Terms and Conditions of Part II of this Contract, Part I will be controlling.

Sec. 6. Term of Contract. This Contract shall begin on the date of issuance of the Blue River Screen House RFP and shall end on the date of execution of the City's Contract for Design-Build Services for the Project. The Director is authorized to enter into an amendment to extend the term of this Contract and time of performance for this Contract.

Sec. 7. Attachments to Part I. The following documents are Attachments to Part I of this Contract and are attached hereto and incorporated herein by this reference:

- A. Professional, Specialized, or Technical Services Contract Part II

Sec. 8. Subcontracting. Contractor agrees that it will only subcontract with the subcontractor(s) it has listed on "**Subcontractor List Non-Construction.**"

Sec. 9. Contract Information Management System. Contractor shall comply with City's Contract Information Management System requirements. Contractor shall use City's Internet web-based Contract Information Management System/Project Management Communications

Tool provided by City and protocols included in that software during the term of this Contract. Contractor shall maintain user applications to City's provided system for all personnel, subcontractors or suppliers as applicable.

Sec. 10. Intellectual Property Rights. Contractor agrees, on its behalf and on behalf of its employees and agents, that it will promptly communicate and disclose to City all computer programs, documentation, software and other copyrightable works ("copyrightable works") conceived, reduced to practice or made by Contractor or its agents, whether solely or jointly with others, during the term of this Contract resulting from or related to any work Contractor or its agents may do on behalf of City or at its request. All inventions and copyrightable works that Contractor is obligated to disclose shall be and remain entirely the property of City. It is agreed that all inventions and copyrightable works are works made for hire and shall be the exclusive property of City. Contractor hereby assigns to City any rights it may have in such copyrightable works. Contractor shall cooperate with City in obtaining any copyrights or patents.

Sec. 13. Effectiveness; Date. This contract will become effective when the City's Director of Finance has signed it. The date this contract is signed by the City's Director of Finance will be deemed the date of this contract.

Each party is signing this contract on the date stated opposite the party's signature.

THIS CONTRACT CONTAINS INDEMNIFICATION PROVISIONS

CONTRACTOR

I hereby certify that I have authority to execute
this document on behalf of Contractor

Date: _____

By: _____

Name: _____

Title: _____

KANSAS CITY, MISSOURI

Date: _____

By: _____

Name: _____

Title: _____

Approved as to form:

Assistant City Attorney

I hereby certify that there is a balance, otherwise unencumbered, to the credit of the appropriation to which the foregoing expenditure is to be charged, and a cash balance, otherwise unencumbered, in the treasury, to the credit of the fund from which payment is to be made, each sufficient to meet the obligation hereby incurred.

Director of Finance

Date

PART II

STANDARD TERMS AND CONDITIONS

Sec. 1. Indemnification: Definitions

A. For purposes of this Section 1 only, the following terms shall have the meanings listed:

a. **Claims** means all claims, damages, liability, losses, costs and expenses, court costs and reasonable attorneys' fees, including attorneys' fees incurred by the City in the enforcement of this indemnity obligation.

b. **Contractor's Agents** means Contractor's officers, employees, subconsultants, subcontractors, successors, assigns, invitees, and other agents.

c. **City** means City and its agents, officials, officers and employees.

B. Contractor's obligations under this Paragraph with respect to indemnification for acts or omissions, including negligence, of City, shall be limited to the coverage and limits of insurance that Contractor is required to procure and maintain under this Contract. Contractor affirms that it has had the opportunity to recover the costs of the liability insurance required in this Contract in its contract price.

C. Contractor shall defend, indemnify and hold harmless City from and against all claims arising out of or resulting from all acts or omissions in connection with this Contract caused in whole or in part by Contractor or Contractor's Agents, regardless of whether or not caused in part by any act or omission, including negligence, of City. Contractor is not obligated under this Section to indemnify City for the sole negligence of City.

D. Nothing in this section shall apply to indemnification for professional negligence which is specified in a separate provision of this Contract.

E. In no event shall the language in this Section constitute or be construed as a waiver or limitation of the City's

rights or defenses with regard to sovereign immunity, governmental immunity, or other official immunities and protections as provided by the federal and state constitutions or by law.

Sec. 2. Indemnification for Professional Negligence.

If this contract is for professional services, Contractor shall indemnify, and hold harmless City and any of its agencies, officials, officers, or employees from and against all claims, damages, liability, losses, costs, and expenses, including reasonable attorneys' fees, arising out of any negligent acts or omissions in connection with this Contract, caused by Contractor, its employees, agents, subcontractors, or caused by others for whom Contractor is liable, in the performance of professional services under this Contract. Contractor is not obligated under this section to indemnify City for the negligent acts of City or any of its agencies, officials, officers, or employees.

Sec. 3. Independent Contractor.

Contractor is an independent contractor and is not City's agent. Contractor has no authority to take any action or execute any documents on behalf of City.

Sec. 4. Insurance.

A. Contractor shall procure and maintain in effect throughout the duration of this Contract insurance coverage not less than the types and amounts specified in this section. In the event that additional insurance, not specified herein, is required during the term of this Contract, Contractor shall supply such insurance at City's cost. Policies containing a Self-Insured Retention are unacceptable to City unless City approves in writing the Contractor's Self-Insured Retention.

1. Commercial General Liability Insurance: with limits of \$1,000,000 per occurrence and \$2,000,000 aggregate, written on an "occurrence" basis. The policy shall be written or endorsed to include the following provisions:

- a. Severability of Interests Coverage applying to Additional Insureds
- b. Per Project Aggregate Liability Limit or, where not available, the aggregate limit shall be \$2,000,000.
- c. No Contractual Liability Limitation Endorsement.
- d. Additional Insured Endorsement, ISO form CG20 10, or its equivalent.

2. If applicable, Workers' Compensation Insurance, as required by statute, including Employers Liability with limits of:

Workers' Compensation Statutory Employers Liability \$100,000 accident with limits of:

- \$500,000 disease-policy limit
- \$100,000 disease-each employee

3. Commercial Automobile Liability Insurance: with a limit of \$1,000,000 written on an "occurrence" basis, covering owned, hired, and non-owned automobiles. If the Contractor owns vehicles, coverage shall be provided on an "any auto" basis. If the Contractor does not own any vehicles, coverage shall be provided on a "hired autos" and "nonowned autos" basis. The insurance will be written on a Commercial Business Auto form, or an acceptable equivalent, and will protect against claims arising out of the operation of motor vehicles, as to acts done in connection with the Agreement, by Contractor.

4. If applicable, Professional Liability Insurance with limits per claim and annual aggregate of \$1,000,000.

B. The Commercial General Liability Insurance specified above shall provide that City and its agencies, officials, officers, and employees, while acting within the scope of their authority, will be named as additional insureds for the services performed under this Contract. Contractor shall provide to City at execution of this Contract a certificate of insurance showing all required endorsements and additional insureds. The certificates of insurance will contain a provision stating that should any of the policies described in the certificate be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

C. All insurance coverage must be written by companies that have an A.M. Best's rating of Professional Service Contract Part II 061218

"A-V" or better, and are licensed or approved by the State of Missouri to do business in Missouri.

D. Contractor's failure to maintain the required insurance coverage will not relieve Contractor of its contractual obligation to indemnify the City pursuant to Sections 1 and 2. If the coverage afforded is cancelled or changed or its renewal is refused, Contractor shall give at least thirty (30) days prior written notice to City. In the event of Contractor's failure to maintain the required insurance in effect, City may order Contractor to immediately stop work, and upon ten (10) days notice and an opportunity to cure, may pursue its remedies for breach of this Contract as provided for herein and by law.

E. In no event shall the language in this Section constitute or be construed as a waiver or limitation of the City's rights or defenses with regard to sovereign immunity, governmental immunity, or other official immunities and protections as provided by the federal and state constitutions or by law.

Sec. 5. Governing Law.

This Contract shall be construed and governed in accordance with the laws of the State of Missouri without giving effect to Missouri's choice of law provisions. The City and Contractor: (1) submit to the jurisdiction of the state and federal courts located in Jackson County, Missouri; (2) waive any and all objections to jurisdiction and venue; and (3) will not raise forum *non conveniens* as an objection to the location of any litigation.

Sec. 6. Compliance with Laws.

Contractor shall comply with all federal, state and local laws, ordinances and regulations applicable to the work and this contract.

Sec. 7. Termination for Convenience.

A. City may, at any time upon ten (10) days notice to Contractor specifying the effective date of termination, terminate this Contract, in whole or in part. If this Contract is terminated by City, City shall be liable only for payment for services rendered before the effective date of termination. Contractor shall prepare an accounting of the services performed and

money spent by Contractor up to the effective date of termination and shall return to City any remaining sums within thirty (30) days of such date.

B. If this Contract is terminated prior to Contractor's completion of services, all work or materials prepared or obtained by Contractor pursuant to this contract shall become City's property.

C. If this Contract is terminated prior to Contractor's completion of the services to be performed hereunder, Contractor shall return to City any sums paid in advance by City for services that would otherwise have had to be rendered between the effective date of termination and the original ending date of the Contract. Contractor shall prepare an accounting of the services performed and money spent by Contractor up to the effective date of termination and shall return to City any remaining sums within thirty (30) days of such date.

Sec. 8. Default and Remedies.

If Contractor shall be in default or breach of any provision of this Contract, City may terminate this contract, suspend City's performance, withhold payment or invoke any other legal or equitable remedy after giving Contractor notice and opportunity to correct such default or breach.

Sec. 9. Waiver.

Waiver by City of any term, covenant, or condition hereof shall not operate as a waiver of any subsequent breach of the same or of any other term, covenant or condition. No term, covenant, or condition of this Contract can be waived except by written consent of City, and forbearance or indulgence by City in any regard whatsoever shall not constitute a waiver of same to be performed by Contractor to which the same may apply and, until complete performance by Contractor of the term, covenant or condition, City shall be entitled to invoke any remedy available to it under this Contract or by law despite any such forbearance or indulgence.

Sec. 10. Modification.

Unless stated otherwise in this Contract, no provision of this Contract may be waived,

modified or amended except in writing signed by City.

Sec. 11. Headings; Construction of Contract.

The headings of each section of this Contract are for reference only. Unless the context of this Contract clearly requires otherwise, all terms and words used herein, regardless of the number and gender in which used, shall be construed to include any other number, singular or plural, or any other gender, masculine, feminine or neuter, the same as if such words had been fully and properly written in that number or gender.

Sec. 12. Severability of Provisions.

Except as specifically provided in this Contract, all of the provisions of this Contract shall be severable. In the event that any provision of this Contract is found by a court of competent jurisdiction to be unconstitutional or unlawful, the remaining provisions of this Contract shall be valid unless the court finds that the valid provisions of this Contract are so essentially and inseparably connected with and so dependent upon the invalid provision(s) that it cannot be presumed that the parties to this Contract could have included the valid provisions without the invalid provision(s); or unless the court finds that the valid provisions, standing alone, are incapable of being performed in accordance with the intentions of the parties.

Sec. 13. Records.

A. For purposes of this section:

1. "City" shall mean the City Auditor, the City's Internal Auditor, the city's Director of Civil Rights and Equal Opportunity Department, the City Manager, the City department administering this Contract and their delegates and agents.

2. "Record" shall mean any document, book, paper, photograph, map, sound recordings or other material, regardless of physical form or characteristics, made or received in connection with this Contract and all Contract amendments and renewals.

B. Contractor shall maintain and retain all Records for a term of five (5) years that shall begin after the expiration or termination of this Contract and all Contract amendments. City shall have a right to examine or audit all Records and Contractor shall provide access to City of all Records upon ten (10) days written notice from the City.

C. The books, documents and records of Contractor in connection with this Contract shall be made available to the City Auditor, the City's Internal Auditor, the City's Director of Civil Rights and Equal Opportunity Department and the City department administering this Contract within ten (10) days after the written request is made.

Sec. 14. Affirmative Action.

If this Contract exceeds \$300,000.00 and Contractor employs fifty (50) or more people, Contractor shall comply with City's Affirmative Action requirements in accordance with the provisions of Chapter 3 of City's Code, the rules and regulations relating to those sections, and any additions or amendments thereto; in executing any Contract subject to said provisions, Contractor warrants that it has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the Contract. Contractor shall not discriminate against any employee or applicant for employment because of race, color, sex, religion, national origin or ancestry, disability, sexual orientation, gender identity or age in a manner prohibited by Chapter 3 of City's Code. Contractor shall:

1. Execute and submit the City of Kansas City, Missouri CREO Affirmative Action Program Affidavit warranting that the Contractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the Contract.

2. Submit, in print or electronic format, a copy of Contractor's current certificate of compliance to the City's Civil Rights and Equal Opportunity (CREO) prior to receiving the first payment under the Contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years. If, and only if, Contractor does not possess a current certification of compliance, Contractor shall submit, in print or electronic format, a copy of its affirmative action program to CREO prior to receiving the first payment under the

Contract, unless a copy has already been submitted to CREO at any point within the previous two calendar years.

3. Require any Subcontractor awarded a subcontract exceeding \$300,000.00 to affirm that Subcontractor has an affirmative action program in place and will maintain the affirmative action program in place for the duration of the subcontract.

4. Obtain from any Subcontractor awarded a subcontract exceeding \$300,000.00 a copy of the Subcontractor's current certificate of compliance and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed. If, and only if, Subcontractor does not possess a current certificate of compliance, Contractor shall obtain a copy of the Subcontractor's affirmative action program and tender a copy of the same, in print or electronic format, to CREO within thirty (30) days from the date the subcontract is executed.

City has the right to take action as directed by City's CREO Department to enforce this provision. If Contractor fails, refuses or neglects to comply with the provisions of Chapter 3 of City's Code, then such failure shall be deemed a total breach of this Contract and this Contract may be terminated, canceled or suspended, in whole or in part, and Contractor may be declared ineligible for any further contracts funded by City for a period of one (1) year. This is a material term of this Contract.

Sec. 15. Tax Compliance.

Contractor shall provide proof of compliance with the City's tax ordinances administered by the City's Commissioner of Revenue as a precondition to the City making the first payment under this contract or any contract renewal when the total contract amount exceeds \$160,000.00. If contractor performs work on a contract that is for a term longer than one (1) year, the contractor also shall submit to the City proof of compliance with the City's tax ordinances administered by the City's Commissioner of Revenue as a condition

precedent to the City making final payment under the contract.

Sec. 16. Assignability and Subcontracting

(a) Assignability. Contractor shall not assign or transfer any part or all of Contractor's obligation or interest in this Contract without prior written approval of City. If Contractor shall assign or transfer any of its obligations or interests under this Contract without the City's prior written approval, it shall constitute a material breach of this Contract. This provision shall not prohibit contractor from subcontracting as otherwise provided for herein.

(b) Subcontracting. Contractor shall not subcontract any part or all of Contractor's obligations or interests in this Contract unless the subcontractor has been identified in a format required by City. If Contractor shall subcontract any part of Contractor's obligations or interests under this Contract without having identified the subcontractor, it shall constitute a material breach of this Contract. The utilization of subcontractors shall not relieve Contractor of any of its responsibilities under the Contract, and Contractor shall remain responsible to City for the negligent acts, errors, omissions or neglect of any subcontractor and of such subcontractor's officers, agents and employees. City shall have the right to reject, at any point during the term of this Contract, any subcontractor identified by Contractor, and to require that any subcontractor cease working under this Contract. City's right shall be exercisable in its sole and subjective discretion. City shall not be obligated to pay or be liable for payment of any monies which may be due to any subcontractor. Contractor shall include in any subcontract a requirement that the subcontractor comply with all requirements of this Contract in performing Contractor's services hereunder.

Sec. 17. Conflicts of Interest.

Contractor certifies that no officer or employee of City has, or will have, a direct or indirect financial or personal interest in this Contract, and that no officer or employee of City, or member of such officer's or employee's immediate family, either has negotiated, or has

or will have an arrangement, concerning employment to perform services on behalf of Contractor in this Contract.

Sec. 18. Buy American Preference.

It is the policy of the City that any manufactured goods or commodities used or supplied in the performance of any City contract or any subcontract thereto shall be manufactured or produced in the United States whenever possible.

Sec. 19. Professional Services – Conflict of Interest Certification.

If this Contract is for professional services other than for medical doctors or appraisers, Contractor certifies that Contractor is not an expert witness for any party in litigation against the City at the time of the issuance of this Contract.

Sec. 20. Attorney Services – Conflict of Interest Certification.

If this Contract is for professional attorney services, Contractor certifies that Contractor and any of its individual attorneys, do not represent any party in litigation against the City at the time of the issuance of this Contract. Contractor's certification shall not apply to: representation in municipal court; attorneys employed by a not-for-profit legal services corporation; litigation where the City is named as a nominal party; litigation that has been filed with the agreement of the City and the party represented by the attorney; or where the City Council has otherwise waived this requirement. Nothing set forth in this section shall be deemed to supersede the Rules of Professional Conduct for Attorneys.

Sec. 21. Employee Eligibility Verification

If this Contract exceeds five thousand dollars(\$5,000.00), Contractor shall execute and submit an affidavit, in a form prescribed by City, affirming that Contractor does not knowingly employ any person in connection with the contracted services who does not have the legal right or authorization under federal law to work in the United States as defined in 8 U. S. C. § 1324a(h)(3). Contractor shall attach to the affidavit documentation

sufficient to establish Contractor's enrollment and participation in an electronic verification of work program operated by the United States Department of Homeland Security (E-Verify) or an equivalent federal work authorization program operated by the United States Department of Homeland Security to verify information of newly hired employees, under the Immigration Reform and Control Act of 1986. Contractor may obtain additional information about E-Verify and enroll at www.dhs.gov/xprevprot/programs/gc_118522_1678150.shtm. For those Contractors enrolled in E-Verify, the first and last pages of the E-Verify Memorandum of Understanding that Contractor will obtain upon successfully enrolling in the program shall constitute sufficient documentation for purposes of complying with this Section. Contractor shall submit the affidavit and attachments to the City prior to execution of the Contract, or at any point during the term of the Contract if requested by City.

Sec. 22. Quality Services Assurance Act. If this Contract exceeds \$160,000.00, Contractor certifies Contractor will pay all employees who will work on this Contract in the city limits of Kansas City, Missouri at least \$13.75 per hour in compliance with the CITY's Quality Services Assurance Act, Section 3-66, Code of Ordinances or City has granted Contractor an exemption.

Sec. 23. Anti-Discrimination Against Israel. If this Contract exceeds \$100,000.00 and Contractor employs at least ten employees, pursuant to Section 34.600, RSMo., by executing this Contract, Contractor certifies it is not currently engaged in and shall not, for the duration of this contract, engage in a boycott of goods or services from the State of Israel; companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel; or persons or entities doing business in the State of Israel.



ADDENDUM NUMBER 9

Project Number 81000984/C1638

Project Title Blue River Screen House Improvements

ISSUE DATE: **December 1, 2022**

Shortlisted Respondents are hereby notified that the Proposal and Contract Documents for the above project, for which Proposals are to be received on **December 6, 2022**, are amended as follows:

Information to Proposers The following is provided to Proposers for information only:

1. Form F-1 - Project Design Criteria.xlsx (native file)

Document may have information added to the native file by Shortlisted Respondents. Any existing information in the native file shall remain and shall not be removed by Design-Builders.

Fixed criteria values shall not be changed. Indicative and preferred indicative criteria values may be updated by Design-Builders as long as the technical proposal indicates changes and/or exceptions taken.

Q58.	Section 01480 – Water Tightness The Channel Separation may require walls to be constructed in the Mezzanine level. Will the existing channels require water tightness testing? That may be a challenge and be quite costly to pass the test considering all the existing concrete will have to be tested along with the new wall construction?
A58.	Water Tightness testing is applicable for all newly constructed walls. Design-Builder shall coordinate with operations regarding shutdown of a single screen. Water tightness testing may be done before removal of existing screen, during screen removal, or after new screens are installed as long as new concrete construction has met the 28-day strength requirements. Design-Builder may consider closing of slide gates, forebay/afterbay chamber isolation, bulkheads, or other means of isolation for the water tightness test. Section 09961 – Concrete Coatings to new concrete surfaces applied would be considered “Containment structure lined” in Section 01480. City is responsible for any leaks in existing concrete that were not identified and repaired prior to the leakage test. City anticipates any leaks in new concrete to be visual during the test. Design-Builder may also utilize non-potable water and dye during leakage test.

NOTE: Shortlisted Respondents must acknowledge receipt of this Addendum by listing the number and date, where provided, on the Bid Form - Document 00410.

Criterion	Fixed (F) / Indicative (I) / Preferred (IP)	Proposed Value	Unit	Manufacturer and Model in Base Bid	Identify deviation from and location of supporting justification in Technical Proposal
Roof Flashing	I	Blue River Roofing B0700 - See Electrical Flashing and Trim ⁴⁰⁷	-		
Roofing	I	Blue River Roofing B0700 - See Section 05100 - Metal Roofing and Ceiling ⁴⁰⁷	-		
Roof - Skylights	I	Section 08632 - Aluminum Floor Plates	-		
Doors	I	Section 08220 - FRP Doors and Frames	-		
Windows	I	Section 08200 - Aluminum Windows	-		
Floor Plates	I	Section 05542 - Aluminum Floor Plates	-		
Lighting System	I	Section 16500 - Lighting System	-		
Handrails	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Guardrails	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Safety Gates	I	Section 05522 - Aluminum Handrails and Guardrails and Safety Gates	-		
Ladders	I	Section 05215 - Aluminum Ladders and Accessories	-		
HVAC					
Makeup Air Units (MAU)	I	Section 15721 - Makeup Air Units	-		
Exhaust Fans	I	Section 15761 - HVAC Power Ventilators	-		
Ducts, Duct Hanger and Supports, Duct Accessories	I	Blue River Ductwork B0100 - See Section 05000 - Sheet Metal Work and Equipment ⁴⁰⁷	-		
Air Inlets & Outlets	I	Section 15850 - Air Inlets and Outlets	-		
Testing, Adjusting, and Balancing for HVAC	I	Section 15950 - Testing, Adjusting and Balancing for HVAC	-		
Equipment					
Identification Devices	I	Section 10400 - Identification Devices	-		
Slide Gates	I	Section 11285 - Slide Gates	-		
Electric Actuators for Process Valves and Gates ^{404 407}	IP ^{404 407}	(Electrical BODR and sized to accommodate Slide Gate selection) Section 14222.8 - Electric Actuators for Process Valves and Gates - Mfr. - Auma ⁴⁰⁷	-		
Electric Actuators for Process Valves and Gates	I	(Electrical BODR and sized to accommodate Slide Gate selection) Section 14222.8 - Electric Actuators for Process Valves and Gates ⁴⁰⁷	-		
Multi-Rake Screens ⁴⁰⁴	IP ⁴⁰⁴	Section 11334 - Multi-Rake Screens - Mfr. - Duperron ⁴⁰⁴	-		
Multi-Rake Screens	I	Section 11334 - Multi-Rake Screens	-		
Roll Conveyors ⁴⁰⁷	IP ⁴⁰⁷	(Section submitted by Design Partner) Section 14556 - Roll Conveyors ⁴⁰⁷	-		
Shaftless Screw Conveyor	I	Section 14556 - Shaftless Screw Conveyor	-		
Motors	I	(Electrical BODR) Section 44424 - Low Voltage Motors Up to 500 Horsepower ⁴⁰⁷	-		
Pipe & Fittings					
Process Pipe & Fittings	I	Section 15200.15005 - ANSI 150 Stainless Steel Pipe & Fittings	-		
Non-Potable water Pipe & Fittings	I	Section 15200.75PVC - PVC Pipe & Fittings	-		
Service Water Pipe & Fittings ⁴⁰⁷	IP ⁴⁰⁷	(Section to be submitted by Design Partner) Section 15200.15005 - ANSI 150 Pipe & Fittings ⁴⁰⁷	-		
Fuel Gas Pipe & Fittings	I	Section 15200.15005 - ANSI 150 Carbon Steel Pipe & Fittings	-		
Sanitary Drain Pipe & Fittings	I	Section 15200.15000 - Ductile Iron Pipe & Fittings	-		
Instrumentation & Controls					
I&C - Control Descriptions	I	Section 13500 - Instrumentation and Control Systems	-		
Instrumentation and Controls	I	Section 13500 - Instrumentation & Controls for Process Systems	-		
Programmable Logic Controls	I	Section 13530 - Programmable Logic Controllers	-		
Level Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Pressure Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Temperature Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
Flow Instruments	I	Section 13315 - Process Instrumentation & Controls	-		
I&C - Control Descriptions	I	Section 13500 - Instrumentation and Control Systems	-		
Major Procurement Items					
Forebay Slide Gates	I	Qty. 4 ⁴⁰⁷ (Applicable Section(s): 11285, Blue River - Electrical BODR) Note: One for each active Channel feeding a Bar Screens ⁴⁰⁷	-		
Alterbay Slide Gates ⁴⁰⁷	IP ⁴⁰⁷	Qty. 4 (Applicable Section(s): 11285, Blue River - Electrical BODR) ⁴⁰⁷ Note: One for each pipe feeding Blue River Screen House ⁴⁰⁷	-		
Concrete channel Isolation	I	Qty. 4 (Applicable Section(s): 03000, 03100, 03200, 03630)	-		
Multi-Rake Screens	IP ⁴⁰⁷	Qty. 4 (Applicable Section(s): 11334, Blue River - Electrical BODR)	-		
Shaftless Screw ⁴⁰⁷ Conveyor	I	Qty. 1 (Applicable Section(s): 14556 or Section provided by DR, Blue River - Electrical BODR)	-		
Metal-Framed Skylight	I	Qty. 4 (Applicable Section(s): 08630)	-		
Makeup Air Unit	I	Qty. 1 (Applicable Section(s): 15721)	-		



ADDENDUM NUMBER 10

Project Number 81000984/C1638

Project Title Blue River Screen House Improvements

ISSUE DATE: **December 16, 2022**

Shortlisted Respondents are hereby notified that the Proposal and Contract Documents for the above project, for which Proposals received on **December 6, 2022**, are amended as follows:

The Public Bid Opening date for this Project stated in Document **Request for Proposals for Design-Build Services Contract For Project No. 81000984 – Contract Number 1638 Blue River Screen House Project** shall be changed to: 2:00 PM on **December 20, 2022**.

Microsoft Teams meeting

Join on your computer, mobile app or room device

[Click here to join the meeting](#)

Meeting ID: 217 716 294 391

Passcode: 6ksFAK

[Download Teams](#) | [Join on the web](#)

Or call in (audio only)

[+1 872-212-5076,,107623930#](#) United States, Chicago

Phone Conference ID: 107 623 930#

[Find a local number](#) | [Reset PIN](#)

[Learn More](#) | [Meeting options](#)