

**DESIGN PROFESSIONAL SERVICES
AMENDMENT NO. 2**

**PROJECT NO. 62200528 – LANDSIDE PAVEMENT DESIGN
KANSAS CITY INTERNATIONAL AIRPORT**

AVIATION DEPARTMENT

This amendment is between KANSAS CITY, MISSOURI, a constitutionally chartered municipal corporation (City), Crawford, Murphy & Tilly (Design Professional). The parties amend the Agreement entered into on August 3, 2020, as follows:

Sec. 1. Sections Amended. The Agreement is amended as follows:

A. Sec. 2, Paragraph A, Scope of Services, delete the following section:

6. Economy Lot B Rehabilitation Construction Phase Services

B. Sec. 2, Paragraph A, Scope of Services, add the following sections:

10. Landside Structural Rehabilitation: Dam & Weir

A. Landside Structural Rehabilitation Dam & Weir Overview

1. This supplement to the original contract executed on January 28, 2021 is to provide engineering to conduct a dam safety inspection for the Berlin Reservoir basin to include inspection of the dam landform, spillway, stilling basin and drain systems.
2. Based on the recent dam safety inspection report, we understand the embankment is constructed of earthen fill. The structure is currently classified as a Class 1 (High Hazard) dam by the Missouri Department of Natural Resources. The embankment is approximately 47-foot-high based on plan elevations between the top of dam at 960.5 feet and the bottom of the service spillway floor slab at 913.0 feet. The length of the embankment is approximately 1,200-feet-long. A concrete "service" spillway with a 36-foot-wide weir crest. Vertical side walls vary from 18 feet tall at the crest to 20 feet tall near the outlet. The dam also includes a tile drain seepage collection system which outfalls near the spillway. The outlet works to control release when the reservoir level is below the service spillway crest consists of a valve well and outlet pipe which discharges to Todd Creek. There is no auxiliary spillway for the Berlin Reservoir Dam.

B. Scope of Services

1. Project Management

- a. This task includes formulating an inspection safety plan, schedule, QA/QC plan for report, along with project management tasks for this supplement. To prepare for the inspection, HDR will review available background information on the spillway, stilling basin, and drainage systems. The goal of this task is to develop an understanding of the original design criteria, construction, installation procedures, operating criteria, maintenance activities, and past performance and repairs of the structure. With this information, HDR will prepare a detailed inspection and Safety Plan for the structure, including field inspection forms. The following is a list of information being requested from the Kansas City Aviation Department (as available) for the Berlin Reservoir Outfall Structure:

- 1) As-Built drawings of the spillway and adjacent structures
 - 2) Operation procedures
 - 3) Historical inspection reports
 - 4) Records of maintenance history or modifications made since construction
 - 5) Original construction photos, if available
 - 6) Design criteria and calculations, if available
 - 7) Installation and construction specifications, if available
 - 8) Geology reports, if available
 - 9) Drone footage, if available
- b. Prior to the field inspections, HDR shall submit an Inspection and Safety Plan for the Kansas City Aviation Department review and comment. Included in the Inspection and Safety Plan will be the following:
- 1) Inspection team members and roles
 - 2) Specific inspection schedule
 - 3) On-site support needed from the Kansas City Aviation Department
 - 4) Site-specific Field Inspection Sheets
 - 5) HDR Health and Safety procedures for rope access
 - 6) Activity Hazard Analysis/Job Hazard Analysis
 - 7) Injury and Illness Prevention Plan
 - 8) Testing methods, procedures, and equipment
- c. Deliverables:
- 1) Inspection Plan: Berlin Reservoir Embankment & Outfall Structure (1 electronic copy)
2. Field Inspection
- a. HDR proposes a one-day site investigation by three staff for the purpose of assessing the condition of the dam, spillway slab, walls, drain system, and bridge. The inspection team will consist of a minimum of one senior hydraulics engineer, one Society of Professional Rope Access Technicians (SPRAT) certified climbing engineer and on SPRAT certified level III Supervising engineer capable of rigging and rescue support. The SPRAT inspectors will come from Denver, CO and the senior hydraulics engineer will come from Springfield, MO. HDR will inspect the steeper portions of the spillway using climbing techniques, described in SPRAT's Code of Safe Practices for Rope Access Inspection. The Kansas City Aviation Department project personnel will need to be on-site during the inspections to provide lock-out/tag-out support, communications, and access as requested. Unsafe conditions, existing or imminent, encountered on the structure will be immediately brought to the attention of the Aviation Department representative present.
3. Embankment Inspection

- a. HDR will conduct a visual inspection of the upstream slope, crest downstream slope, downstream toe and abutment areas of the embankment. The inspection will be performed to observe and photograph the condition of the dam embankment, identify changes with respect to previously documented conditions, and to identify and document deficiencies at the embankment. If not previously developed for the dam, a temporary in-field stationing system for the embankment crest centerline will be developed for observation and documentation purposes. This effort will not include the development of new monuments or a permanent stationing system. Identified unsafe conditions, existing or imminent, encountered on the structure will be immediately brought to the attention of the Kansas City Aviation Department.
4. Spillway Inspection
- a. To the extent allowable by field conditions and safety considerations, the scope of the site investigation includes:
 - 1) Developing an in-field stationing and numbering system for the spillway for current and future monitoring purposes.
 - 2) Conduct a visual and hammer sounding investigation of the observed cracking, spalling, and deterioration on spillway and stilling basin, with the intent of identifying the general extent of areas to be repaired. At the termination of the spillway the foundation will be visually assessed for damage or possible head cutting. Areas of identified deficiencies in need of repair will be marked on the spillway during the inspection. The repair areas identified will be ranked based on priority (with respect to repair importance and timing).
 - 3) Mapping of crack, spalls, exposed rebar, displacements, delamination, or cavitation.
 - 4) Assessment of the conditions of joints, including potential for flow through the joints, and condition of joint filler material and waterstops (if observable/applicable).
 - 5) Measurement of joint gaps and joint offsets.
 - 6) Conduct a visual and hammer sounding investigation of the interior portions of the chute walls (if applicable), and exposed exterior portion of the chute walls (if applicable) from the ogee or hydraulic control section to the termination of the spillway. A visual inspection along the outside of the spillway walls where the walls are free standing will also be inspected. Inspectors will identify and measure tilt, plumbness, bulging, or warping of the walls and slab panels if present.
 - 7) A visual inspection of the drain system. This is meant to provide the Kansas City Airport Authority with the current condition of the underdrain system along with information on the access manholes.
 - b. It is assumed that the spillway will be dry and free of algae buildup. Significant algae buildup or flowing water will hinder the inspection and lower the probability of defect detection. It is further assumed the stilling basin will need to be drained during the inspection. The inspection team will attempt this during the inspection with rented equipment.

- c. For visual inspections the inspection team is not responsible for defects that are not readily discernible by external visual inspection through reasonable efforts. This scope does not include follow-up site visits for visual monitoring of the spillway.

5. Inspection Report

- a. HDR will prepare a report documenting the inspection observations. The report will include labeled photographs documenting the findings of the inspection and copies of drawings or other attachments necessary to support the report. A draft report will be submitted to the Aviation Department for review and comment prior to preparation of the final report. The report shall include the following information:
 - 1) Executive summary that clearly states the observed conditions of the dam, spillway, stilling basin, and drain systems, and identifies actual or potential deficiencies. Summary will provide a breakdown for each element of the inspection.
 - 2) Detailed description of the means and methods used for inspection including equipment used for visual and drain inspections, method of tracking position on the spillway, equipment used for measurements, and data artifacts or limitations which may be associated with each method.
 - 3) The description should include the name and classification of persons involved in the inspection, including applicable certifications or professional licenses.
 - 4) Detailed descriptions, photographs, and drawings illustrating the location and type of specific occurrences of distress or deficiencies identified by the inspection and descriptions of the distress or deficiencies noted for use in the rehabilitation. Drawings provided by the Kansas City Aviation Department may be utilized for this purpose.
 - 5) A defect map of the spillway chute and its walls indicating areas of needed repair and/or potential concerns.
 - 6) Recommendations for future inspections, monitoring, changes in maintenance practices, changes in operation, or repairs.
 - 7) Engineer's opinion of probable repair cost based on industry experience. Recent bids and unit prices in the region will be utilized as the basis of the estimate without material, labor, profit, overhead and insurance markup considerations. HDR has no control of the bidding environment and cost of materials and labor at the time of bid and makes no warranties or guarantees regarding that bids will be at or below the Engineer's Opinion of Probable Construction Cost.

6. Deliverables

- a. Draft Inspection Report: Berlin Reservoir Outfall Structure (1 electronic copy)
- b. Final Inspection Report: Berlin Reservoir Outfall Structure (1 electronic copy)

7. Terms and Conditions for Floodplain Dams and Levee Professional Services

- a. Activities associated with this scope of work will agree with the HDR Engineering, Inc. Terms and Conditions for Floodplain, Dams and Levee Professional Services.

8. Quality Control and Quality Assurance

- a. Deliverables for the project will be QC'd by a Senior Engineer familiar with deliverable requirements for KCAD, KCMO and USACE Standards. The Project Manager will confirm QC comments have been resolved and the HDR Quality process followed and documented.

9. Project Management

- a. The scope includes project management time for project set up and monthly monitoring of budget and schedule for this supplement. Invoices will be prepared and submitted each month. The scope of services assumes a 2-month total schedule from Notice to Proceed of this supplement.

10. Submittals and Schedule

- a. Assumed Notice to Proceed – 8/3/21
- b. Draft Inspection Report estimated deliver date – 10/8/21
- c. Field Inspection Report estimated deliver date – 11/5/21

11. On-Call Landside Line-Item Program

A. On-Call Landside Line-Item Program Overview

1. This contract will consist of design, bidding, and construction phase services for the development of an On-Call Landside Line-Item program at Kansas City International Airport.

B. On-Call Landside Line-Item Program Design Phase Services

1. The intent of the On-Call Landside Line-Item Program Design Phase is to provide the Kansas City Aviation Department a set of Contract Documents including Project Manual and Plan Sheets for bidding purposes for a Landside On-Call Program at Kansas City International Airport. The following is a summary of the major design phase components to be included as part of the design:

a. Kickoff and Site Investigation

- 1) Conduct Design Kickoff/Stakeholder Meeting (including preparation & distribution of meeting agenda and minutes)
- 2) Site Visit & Evaluations of critical areas to include surface investigation, documentation and categorization of visible pavement distresses

b. General Project Items

- 1) Design Submittals will be delivered to KCAD at 90% and 100% milestones
- 2) 90% Submittal shall include 90% Plans, 90% Technical Specifications, 90% Engineer's Opinion of Probable Cost and 90% Design Memo
- 3) Conduct 90% Design Review meeting (including preparation & distribution of meeting agenda and minutes)
- 4) 100% Submittal shall include sealed IFB Plans, IFB Front-End and Technical Specifications, Final Engineer's Opinion

c. Site Work

- 1) The plan set will generally include the following components:

- a) Cover Sheet
 - b) Index to Sheets/Summary of Quantities
 - c) General Conditions/Site Notes
 - d) Scope of Work/General Project Areas
 - e) Typical Sections and Details
 - f) HMA Pavement Repair Standard Details
 - g) Erosion Control Details
 - h) Miscellaneous Details
- C. On-Call Landside Line-Item Program Bidding Phase Services
- 1. Specific tasks for the On-Call Landside Line-Item Program Bidding Phase include the following:
 - a. Attend the Pre-Bid Meeting and record Minutes
 - b. Respond to contractor questions, requests for information and requests for clarification as necessary pertaining to the Construction Plans and Contract Document/Technical Specifications during the Bidding Phase
 - c. Prepare and distribute contract Addenda as necessary
 - d. Review contractor's qualifications and make recommendation of contract award to Sponsor
- D. On-Call Landside Line-Item Program Estimated Schedule
- 1. Assumed NTP – 8/3/21
 - 2. Advertise – August 2021
- E. On-Call Landside Line-Item Program Design Submittals
- 1. Number of Copies
 - a. The Consultant will submit deliverables to the Kansas City Aviation Department in the number of copies indicated below and in the format specified for each of the project elements.
 - 1) 90% Submittal
 - a) 90% Technical Specifications – Electronic Copies (Word & PDF)
 - b) 90% Plans Set – 6 half-size copies, PDF copy
 - c) 90% Design Memo – 6 copies, PDF copy
 - 2) 100% Submittal
 - a) Final Project Manual (signed and sealed) – Electronic Copies (Word & PDF)
 - b) Final Plan Sheets (signed and sealed) – 6 half-size copies, PDF copy
 - c) Final Design Memo – 6 copies, PDF copy
- F. On-Call Landside Line-Item Program Construction Phase Service

1. The intent of the On-Call Landside Line-Item Program Construction Phase is to provide the Kansas City Aviation Department assistance during the construction phase by organizing and attending a pre-construction meeting, reviewing contractor shop drawing submittals, managing contractor change order and pay applications, and acting as an available resource to respond to Owner or Contractor RFI's as necessary, and conducting site visits when requested. Upon conclusion of the project, CMT will collect redlined drawings from contractor to draft into deliverable record drawings. The following is a summary of the major construction phase components to be included as part of the project:
 - a. Kickoff.
 - 1) Conduct preconstruction conference, including agenda and minutes
 - b. Contract Administration
 - 1) Review Shop Drawings, Material Certifications
 - 2) Review Pay Applications (Est. 6 pay apps)
 - 3) Change Order Preparation (Est. 6 Change Orders)
 - c. Construction Phase Assistance
 - 1) Respond to RFI's (Assume 6 task orders, 2 RFI's each)
 - 2) Conduct Site Visits (Assume 6 task orders, 2 visits each)
 - d. Project Closeout
 - 1) Draft contractor-provided redlines, prepare & submit record drawings

12. Rehabilitate London and Madrid: Additional Construction Phase Services

A. Additional Construction Phase Services

1. The original contract included Construction Phase Services for the Rehabilitate London and Madrid project but was developed based on estimates prepared prior to the initiation of the design phase. Originally a 42 calendar day construction phase was anticipated with 1 resident observer on-site full time throughout the length of the project (HG to staff 21 days, CMT to staff 21 days for the total of 42 calendar days). Upon completion of the design and bidding phases, the construction phase is now scheduled to be 84 calendar days and due to the nature of the work, it is expected that two resident observers will need to be on-site full-time for the duration of the project. This Task 6 serves as an extension of the scope of work originally proposed.

B. Provide additional construction administration as follows:

1. Provide additional construction observation services, including preparation of weekly reports and other reports as required by the City to document the prosecution and progress of the Project. Resident Engineer, or assistant to the resident engineer to be on site during construction – for the additional 42 calendar days.
2. Conduct weekly construction progress meetings throughout the additional duration of the project.
3. Conduct additional construction materials testing (TSi) per standards and frequencies required by technical specifications throughout the additional duration of the project.

- 4. Respond to Contractor RFI's and field issues throughout the additional duration of the project.
- 5. Prepare contractor pay estimates for reimbursement of funds throughout the additional duration of the project.
- 6. Prepare change orders and supplemental agreements necessary f throughout the additional duration of the project.

Sec. 2. Sections not Amended. All other sections of the Agreement shall remain in full force and effect.

Sec. 3. Authorization. If the amount of the original Agreement plus the amount of any amendments to the original Agreement total over \$400,000.00, then this amendment requires City Council or Park Board authorization. Notwithstanding the foregoing, City Council or Park Board authorization is not required if (1) the total amount of the original Agreement plus the amount of any amendments to the original Agreement are within ten percent (10%) of the maximum amount authorized by the City Council or the Park Board or (2) a previous ordinance or Resolution authorized amendments without further City Council or Park approval.

Sec. 4. Effectiveness Date. This amendment will become effective when the City's Director of Finance has signed it. The date this amendment is signed by the City's Director of Finance will be deemed the date of this amendment.

Each party is signing this amendment on the date stated opposite that party's signature.

Date: 8/8/21

DESIGN PROFESSIONAL

I hereby certify that I have authority to execute this document on behalf of Design Professional

By: [Signature]

Title: Vice President

8/12/2021

Date: _____

KANSAS CITY, MISSOURI

By: Patrick Klein

Title: Director of Aviation

Approved as to form:

DocuSigned by:
Nelson Munoz
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Assistant City Attorney