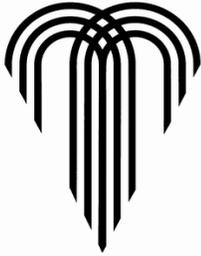


CITY OF FOUNTAINS
HEART OF THE NATION



KANSAS CITY
MISSOURI

CHANGE ORDER

Project Number 62210547

Project Title Overhaul Base Apron Rehabilitation - Phase II

Change Order No: 1 Date of Issuance: 10-Oct-22

Ordinance No: 220503 Ordinance Effective Date: 6/26/2022

Contract Notice To Proceed Date: 7/11/2022

To CONTRACTOR: **IDEKER, INC.**

The Contract is changed as follows:

Incorporate Substitution Request No. for use of P-156 in lieu of P-155.

Incorporate Substitution Request No. for use of P-219 in lieu of P-209.

Incorporate RFP No. 1 for concrete encasement of the existing Fiber Optic Line.

Incorporate RFP No. 2 for Additional Turf Area.

This Change Order constitutes compensation in full on behalf of the Contractor and its subcontractors and suppliers for all costs, including impact costs and extended general conditions, and markups directly and indirectly attributable to the Work changes ordered herein, for all delays related thereto and for performance of the changes within the time stated. Contractor hereby releases all claims for delay, interruption, extended general conditions, impact and cumulative impact claims for this Work.

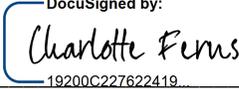
x See Attached Documents: Substitution Request - P156, Substitution Request P-219, RDP No. 1, RFP No. 2.

Not valid until signed by the Director of Finance.

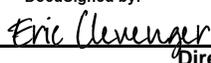
The original Contract Price was	<u>\$4,730,592.00</u>
Net change by previously authorized Change Orders	<u>\$0.00</u>
The Contract Price prior to this Change Order was	<u>\$4,730,592.00</u>
The Contract Price will be (<input type="checkbox"/> increased by) (<input checked="" type="checkbox"/> decreased by) (<input type="checkbox"/> unchanged)	<u>(\$2,709.85)</u>
The new Contract Price including this Change Order will be	<u>\$4,727,882.15</u>
The Contract Time will be (<input checked="" type="checkbox"/> increased by) (<input type="checkbox"/> decreased by) (<input type="checkbox"/> unchanged)	<u>4 calendar days</u>
The date of Substantial Completion as of the date of this Change Order therefore is	<u>1-Nov-22</u>
The date of Final Completion as of the date of this Change Order therefore is	<u>1-Dec-22</u>

Project No. & Title: KCAD No. 62210547 Overhaul Base Apron Rehabilitation - Phase II
 Change Order No. 1

DESIGN PROFESSIONAL: Burns & McDonnell	By:  Title:	Date: 10-11-2022
CONTRACTOR: Ideker, Inc.	By: Cody Phillips  Title: Vice President	Date: 10-10-2022
CITY: Kansas City, Missouri	By  47CA99056B744A0... Title: Director of Aviation	Date: 10/18/2022

Approved as to form: _____

 19200C227622419...
Assistant City Attorney

I certify there is a balance otherwise unencumbered to the credit of the appropriation to which the above amount is chargeable, 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 above obligation.

Director of Finance

 18F59B5A8EE444E...

10/24/2022

 Date

Distribution: CITY CONTRACTOR DESIGN PROFESSIONAL

REMINDER: CONTRACTOR is responsible for considering the effect this Change Order may have on its ability to meet or exceed the D/M/WBE participation amounts in its Contractor Utilization Plan (CUP) as amended by any previously approved Request for Modification/Substitution. If CONTRACTOR will not be able to achieve the approved participation amounts in performing the work included within this Change Order, or if CONTRACTOR needs to retain the services of additional D/M/WBEs not previously listed in its CUP, CONTRACTOR is advised to submit a Request for Modification/Substitution.

CHANGE ORDER

SEQUENCE NO.: 1
 COUNTY: Platte
 AIRPORT: Kansas City International Airport
 PROJECT NO.: KCAD No. 62210547/ AIP 3-29-0040-088-2022

TO IDEKER, INC. CONTRACTOR

YOU ARE HEREBY DIRECTED TO MAKE THE FOLLOWING CHANGES FROM THE CONTRACT

1. DESCRIPTION AND REASON FOR CHANGE: (ATTACH SUPPLEMENTAL SHEETS IF REQUIRED)									
Modify multiple contract items to as-constructed quantities. Incorporate P-156 Substitution Request, P-219 Substitution Request, RFP No. 1 and RFP No. 2 into contract (Substitution Requests and RFP's attached).									
2. ESTIMATE OF COST OF WORK AFFECTED BY THIS CHANGE ORDER.									
(A) CONTRACT LINE NO.	(B) FAA ITEM NO.	(C) ITEM DESCRIPTION	(D) UNITS PREVIOUSLY PROVIDED FOR	(E) UNITS TO BE CONSTRUCTED	(F) UNITS OVERRUN, UNDERRUN, CONTINGENT	U N I T S	(G) CONTRACT OR AGREED UNIT PRICE	(H) AMOUNT OF OVERRUN OR PLUS CONTINGENT	(I) AMOUNT OF UNDERRUN OR MINUS CONTINGENT
1	C-100	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP) (2% LIMIT)	1.00	1.00		LS	22,600.00		
2	C-102-1	INSTALL, MAINTAIN AND REMOVE SILT FENCE	2,600.00	2,600.00		LF	2.60		
3	C-102-2	INSTALL, MAINTAIN AND REMOVE INLET SEDIMENT TRAP	6.00	6.00		EA	255.00		
4	C-105-1	MOBILIZATION (10% LIMIT)	1.00	1.00		LS	385,000.00		
5	C-105-2	TRAFFIC CONTROL (3% LIMIT)	1.00	1.00		LS	120,000.00		
6	P-101-1	FULL DEPTH ASPHALT PAVEMENT REMOVAL	64,275.00	64,275.00		SY	7.40		
7	P-101-2	TAXILANE SHOULDER ASPHALT PAVEMENT REMOVAL	5,825.00	5,825.00		SY	4.00		
8	P-101-5.1-4	SURFACE ASPHALT PAVEMENT MILLING (3"±)	4,875.00	4,875.00		SY	4.50		
9	P-101-5.1-5	REMOVE CONCRETE VAULT SLAB	12.00	12.00		EA	900.00		
10	P-101-5.1-6	FULL DEPTH PAVEMENT SAWCUT	6,475.00	6,475.00		LF	3.80		
11	P-101-5.1-7	CONCRETE SPALL REPAIR	300.00	300.00		SF	96.00		
12	P-101-5.1-8	INSTALL MONITORING WELL STEEL PROTECTIVE COVER	11.00	11.00		EA	1,000.00		
13	P-101-5.1-9	UTILITY INVESTIGATION	1.00	1.00		LS	10,000.00		
14	P-101-5.1-10	REMOVE TAXILANE EDGE MARKER	15.00	15.00		EA	103.00		
15	P-101-5.1-11	L-853 REFLECTIVE TAXILANE EDGE MARKER	25.00	25.00		EA	297.00		
16	P-101-5.1-12	L-858 REFLECTIVE AIRFIELD LOCATION SIGN	1.00	1.00		LS	6,320.00		
17	P-101-5.1-13	INSTALL 3" TEMPORARY BITUMINOUS WEDGE	700.00	700.00		LF	32.50		
18	P-152-1	UNCLASSIFIED EXCAVATION	8,100.00	10,929.00	2,829.00	CY	28.75	\$81,333.75	
19	P-152-2	UNSUITABLE EXCAVATION	1,200.00	1,200.00		CY	44.00		
20	P-155-8-1	LIME-TREATED SUBGRADE (9")	26,400.00		26,400.00	SY	7.00		\$184,800.00
21	P-155-8-2	LIME	545.00		545.00	TON	190.00		\$103,550.00
22	P-209-5.1	CRUSHED AGGREGATE BASE COURSE (14") - FOR HMA VEHICLE PAVEMENT	25,925.00		25,925.00	SY	31.50		\$816,637.50
23	P-209-5.2	CRUSHED AGGREGATE BASE COURSE (6") - FOR CONCRETE VEHICLE PAVEMENT	2,410.00		2,410.00	SY	23.50		\$56,635.00
24	P-209-5.3	CRUSHED AGGREGATE BASE COURSE (6") - FOR TAXILANE C5 SHOULDER	470.00		470.00	SY	16.00		\$7,520.00
25	P-403-8.1	ASPHALT SURFACE COURSE (5")	7,300.00	7,300.00		TON	143.50		
26	P-403-8.2	ASPHALT SURFACE COURSE (8") - FOR TAXILANE C5 SHOULDER	225.00	225.00		TON	209.00		
27	P-403-8.3	ASPHALT SURFACE COURSE OVERLAY (3"±)	725.00	725.00		TON	175.00		
28	P-602-5.1	EMULSIFIED ASPHALT PRIME COAT	7,750.00	7,750.00		GAL	4.60		
29	P-602-5.1	EMULSIFIED ASPHALT TACK COAT	3,100.00	3,100.00		GAL	5.00		
30	P-605-5.1	COLD-APPLIED JOINT SEAL	4,300.00	4,300.00		LF	4.50		
31	P-605-5.2	HOT-APPLIED JOINT SEAL	3,000.00	3,000.00		LF	1.70		
32	P-610-6.1	8" PCC VEHICLE PAVEMENT (ALL REINFORCED)	2,450.00	2,450.00		SY	104.00		
33	P-610-6.2	CONCRETE VAULT SLAB (8" WITH REINFORCEMENT)	12.00	12.00		EA	1,090.00		
34	P-620-5.1	SURFACE PREPARATION FOR PAVEMENT MARKINGS	11,200.00	11,200.00		SF	2.50		
35	P-620-5.2	REFLECTORIZED PAVEMENT MARKING (YELLOW)	3,600.00	3,600.00		SF	2.50		
36	P-620-5.3	NONREFLECTORIZED PAVEMENT MARKING (WHITE)	4,000.00	4,000.00		SF	1.50		
37	P-620-5.4	NONREFLECTORIZED PAVEMENT MARKING (BLACK)	3,600.00	3,600.00		SF	1.50		
38	P-620-5.5	MARKING OF CONCRETE VAULT SLAB (NONREFLECTORIZED RED AND YELLOW)	12.00	12.00		EA	1,000.00		
39	P-620-5.6	PAVEMENT MARKING REMOVAL	1,350.00	1,350.00		SF	2.50		
40	D-701-1	REINFORCED CONCRETE PIPE (24")	728.00	810.00	82.00	LF	124.00	\$10,168.00	
41	D-705-1	PERFORATED PIPE FOR PAVEMENT UNDERDRAIN [WITH PIPE SOCK] (6")	1,750.00	1,750.00		LF	42.50		
42	D-705-2	NON-PERFORATED PIPE FOR PAVEMENT UNDERDRAIN (6")	510.00	510.00		LF	42.50		
43	D-705-3	UNDERDRAIN CLEANOUT	8.00	8.00		EA	2,100.00		
44	D-705-4	CONNECT TO EXISTING STORM INLET/PIPE	4.00	4.00		EA	1,000.00		
45	D-751-1	AIRCRAFT RATED STORM JUNCTION BOX (INSTALLED OVER EXISTING 48" PIPE)	1.00	1.00		EA	81,500.00		
46	D-751-2	AIRCRAFT RATED STORM INLET	2.00	3.00	1.00	EA	26,000.00	\$26,000.00	
47	T-901-5-1	SEEDING	9.00	9.00		ACRE	2,000.00		
48	T-904-5-1	SODDING	5,000.00	5,000.00		SY	6.00		
49	T-905-5-1	2" TOPSOILING (CONTRACTOR PROCURED FROM OFFSITE)	48,200.00	48,200.00		SY	1.45		
50	T-908-5-1	MULCHING	9.00	9.00		ACRE	950.00		
CO-1-1	P-101-5.1-14	INTERIM GRADING AND SITE DEWATERING	0.00	1.00	1.00	LS	\$17,000.00	\$17,000.00	
CO-1-2	P-156-8.1	CEMENT TREATED SUBGRADE (9")	0.00	26,400.00	26,400.00	SY	\$7.00	\$184,800.00	
CO-1-3	P-156-8.2	CEMENT	0.00	251.00	251.00	TON	\$190.00	\$47,690.00	
CO-1-4	P-219-5.1	RECYCLED CONCRETE AGGREGATE BASE COURSE (14") - FOR HMA VEHICLE PAVEMENT	0.00	25,925.00	25,925.00	SY	\$27.92	\$723,826.00	
CO-1-5	P-219-5.2	RECYCLED CONCRETE AGGREGATE BASE COURSE (6") - FOR CONCRETE VEHICLE PAVEMENT	0.00	2,410.00	2,410.00	SY	\$20.83	\$50,200.30	
CO-1-6	P-219-5.3	RECYCLED CONCRETE AGGREGATE BASE COURSE (6") - FOR TAXILANE C5 SHOULDER	0.00	470.00	470.00	SY	\$14.18	\$6,664.60	
CO-1-7	L-110-5.1	INSTALL CONCRETE (P-610) DUCT BANK AROUND EXISTING FIBER OPTIC CONDUIT	0.00	150.00	150.00	LF	\$125.00	\$18,750.00	
TOTALS								\$1,166,432.65	\$1,169,142.50
3. SETTLEMENT FOR COST OF THE ABOVE CHANGE TO BE MADE AT CONTRACT UNIT PRICES, EXCEPT AS NOTED Unit prices for Substitution Requests and added work in RFP No. 1 & RFP No. 2.									
1. CONTRACT AMOUNT				\$4,730,592.00	4. COMMENTS: See attached for explanation of changes.				
2. OVERRUN THIS ORDER (H-I)			(\$2,709.85)						
3. TOTAL OVERRUN PREVIOUS			\$0.00						
4. TOTAL OVERRUN TO DATE (2+3)				(\$2,709.85)					
5. TOTAL (1+4)				\$4,727,882.15					

CITY OF FOUNTAINS
HEART OF THE NATIONKANSAS CITY
MISSOURI

CHANGE ORDER NUMBER 1

Explanation of Changes

Project Number KCAD No. 62210547/ AIP 3-29-0040-088-2022

Project Title Overhaul Base Apron Rehabilitation – Phase II

Date 10/10/2022

Change Order No. 1 issued to incorporate the attached P-156 Substitution Request, P-219 Substitution Request, RFP No. 1 and RFP No. 2.

- Item 18 – P-152-1 – Unclassified Excavation: Quantity increased from 8,100 SY to 10,929 SY resulting in a cost increase of \$81,333.75. Description of this item is included in RFP No 2 (attached). This quantity is increased for the RFP No. 2 Additional Turf Area.
- Item 20 – P-155-8-1 – Lime-Treated Subgrade (9"): Quantity decreased from 26,400 SY to 0 SY based on the Substitution Request (attached) to install P-156 Cement Treated Subgrade in lieu of P-155 Lime.
- Item 21 – P-155-8-2 – Lime: Quantity decreased from 545 TON to 0 TON based on the Substitution Request (attached) to install P-156 Cement Treated Subgrade in lieu of P-155 Lime.
- Item 22 – P-209-5.1 – Crushed Aggregate Base Course (14") – For HMA Vehicle Pavement: Quantity decreased from 25,925 SY to 0 SY based on the Substitution Request (attached) to install P-219 Recycled Concrete Aggregate Base Course (14") – For HMA Vehicle Pavement in lieu of P-209. Crushed Aggregate Base Course.
- Item 23 – P-209-5.2 – Crushed Aggregate Base Course (6") – For Concrete Vehicle Pavement: Quantity decreased from 2,410 SY to 0 SY based on the Substitution Request (attached) to install P-219 Recycled Concrete Aggregate Base Course (6") – For Concrete Vehicle Pavement in lieu of P-209. Crushed Aggregate Base Course.
- Item 24 - P-209-5.3 – Crushed Aggregate Base Course (6") – For Taxilane C5 Shoulder: Quantity decreased from 470 SY to 0 SY based on the Substitution Request (attached) to install P-219 Recycled Concrete Aggregate Base Course (6") – For Taxilane C5 Shoulder in lieu of P-209. Crushed Aggregate Base Course.
- Item 40 – D-701-1 - Reinforced Concrete Pipe (24"): Quantity increased from 728 LF to 810 LF resulting in a cost increase of \$10,168.00. Description of this item is included in RFP No 2 (attached). This quantity is increased for the RFP No. 2 Additional Turf Area.
- Item 46 – D-751-1 - Aircraft Rated Storm Junction Box (Installed Over Existing 48" Pipe): Quantity increased from 2 EA to 3 EA resulting in a cost increase of \$26,000.00. Description of this item is included in RFP No 2 (attached). This quantity is increased for the RFP No. 2 Additional Turf Area.
- Item CO-1-1 – P-101-5.1-14 Interim Grading and Site Dewatering: Quantity increased from 0 LS to 1 LS resulting in a cost increase of \$17,000.00. Description of this item is included in RFP No. 2 (attached). This pay item has been added as per RFP No. 2 Additional Turf Area.
- Item CO-1-2 – P-156-8.1 – Cement Treated Subgrade (9"): Quantity increased from 0 SY to 26,400 SY based on the P-156 Substitution Request (attached).
- Item CO-1-3 – P-156-8.2 – Cement: Quantity increased from 0 TON to 251 TON based on the P-156 Substitution Request (attached) and the reduction in paved area as per RFP No. 2 Additional Turf Area.
- Item CO-1-4 - P-219-5.1 - Recycled Concrete Aggregate Base Course (14") – For HMA Vehicle Pavement: Quantity increased from 0 SY to 25,925 SY based on the P-219 Substitution Request (attached). The unit price for this new item is \$27.92/SY. The total cost savings of all three (3) P-219 pay items is approximately \$100,000 based on the original plan quantity.
- Item CO-1-5 - P-219-5.2 - Recycled Concrete Aggregate Base Course (6") – For Concrete Vehicle Pavement: Quantity increased from 0 SY to 2,410 SY based on the P-219 Substitution Request (attached). The unit price for this new item is \$20.83/SY.

- Item CO-1-6 - P-219-5.3 - Recycled Concrete Aggregate Base Course (6") – For Taxilane C5 Shoulder: Quantity increased from 0 SY to 470 SY based on the P-219 Substitution Request (attached). The unit price for this new item is \$14.18/SY.
- Item CO-1-7 – L-110-5.1 - Install Concrete (P-610) Duct Bank Around Existing Fiber Optic Conduit: Quantity increased from 0 LF to 150 LF resulting in a cost increase of \$18,750.00. Description of this item is included in RFP No. 1 (attached). This pay item has been added as per RFP No. 1 Fiber Concrete Encasement.

CITY OF FOUNTAINS
HEART OF THE NATION



KANSAS CITY
MISSOURI

SUBSTITUTION REQUEST

Project Number: 62210547

Project Title: Overhaul Base Apron Rehabilitation – Phase II

To: Ryan Lorton

Authorization Number: _____

Re: BMCD

From: _____

Date: _____

Contract For: _____

Specification Title: P-155 Lime Treated Subgrade

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: P-156 Cement Treated Subgrade

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: Ideker is proposing to switch to cement treated subgrade ILO lime treated subgrade for the reason that the lime supplier in the Kansas City market can not guarantee us supply in accordance with the current project schedule.

Similar Installation:

Project: RWY 1L-19 / Package 7A Concrete Paving

Design Professional: HNTB & Garver

Address: RWY 1L-19R KCI

Owner: KCAD

New Single Terminal Construction

Date Installed: _____

Proposed substitution affects other parts of Work: No Yes; explain _____

Savings to Owner for accepting substitution: \$30,000.00

Proposed substitution changes Contract Time: No Yes; add/deduct _____ days.

Supporting Data Attached:

Product Data Drawings Tests Reports Samples _____

Attachments: Attached is the current P-156 specification that is being used on both the Runway project and the New single terminal construction project. Between the 2 projects over 700,000 square yards of cement treated subgrade will have been installed when both projects are complete.

Submitted by: Cody Phillips

Signature: _____

Firm: Ideker, Inc.

Address: _____

Telephone: _____ Fax: _____ E-Mail: cody@ideker.net

Additional Comments: Contractor Subcontractor Supplier Manufacturer DP _____

DESIGN PROFESSIONAL'S REVIEW AND ACTION

- Substitution approved – Make submittals in accordance with Specification Section 013300.
- Substitution approved as noted – Make submittals in accordance with Specification Section 013300.
- Substitution rejected – Use specified materials.
- Substitution Request received too late – Use specified materials.

Signed by:  Date: 8/17/2022

- Distribution:
- City
 - Design Professional
 - Contractor
 - Consultant
 - Construction Manager
 - Other

ITEM P-156 CEMENT TREATED SUBGRADE

DESCRIPTION

156-1.1 This item shall consist of constructing one or more courses of a mixture of soil, stabilizer, and water in accordance with this specification, and in conformity with the lines, grades, thickness, and typical cross-sections shown on the plans.

MATERIALS

156-2.1 Cement. Cement shall conform to the requirements of ASTM C150, Type I, IA, II, or IIA or ASTM C595, Type IS, IL, IP, or IS(A).

156-2.2 Water. Water used in mixing or curing shall be from potable water sources. Other sources shall be tested in accordance with ASTM C1602 prior to use.

156-2.3 Soil. The soil for this work shall consist of on-site materials free of roots, sod, weeds, and stones larger than 2-1/2 inches and have a sulfate content of less than 0.3%.

COMPOSITION

156-3.1 Soil-cement mixture. Cement shall be added at an application rate of 3 percent of dry unit weight of soil for the depth of 9" of subgrade treatment as shown on the plans.

156-3.2 Tolerances. At final compaction, the cement and water content for each course of subgrade treatment shall conform to the following tolerances:

Tolerances

Material/Properties	Target	Tolerance	Specifications
Cement	3%	0 to +1%	% Total Dry Materials
Moisture Content	Optimum +2%	0 to +1%	ASTM D1557

WEATHER LIMITATIONS

156-4.1 Weather limitation. Do not construct subgrade when weather conditions detrimentally affect the quality of the materials. Do not apply cement unless the air temperature is at least 40°F and rising. Do not apply cement to soils that are frozen or contain frost. Do not apply cement when conditions are too windy to allow even distribution of the cement to the subgrade. If the air temperature falls below 35°F, protect completed treated areas against freezing. Remove and replace any damaged portion of the completed treated area with new material in accordance with this specification.

EQUIPMENT

156-5.1 Equipment. All equipment necessary to grade, scarify, spread, mix and compact the material shall be provided. The Resident Project Representative (RPR) must approve the Contractor's proposed equipment prior to the start of the treatment.

CONSTRUCTION METHODS

156-6.1 General. This specification is to construct a subgrade consisting of a uniform cement mixture which shall be free from loose or segregated areas. The subgrade shall be of uniform density and moisture content, well mixed for its full depth and have a smooth surface suitable for placing subsequent courses. The Contractor shall be responsible for meeting the above requirements.

Prior to any treatment, the subgrade shall be constructed as specified in Item P-152, Excavation, Subgrade and Embankment, and shaped to conform to the typical sections, lines, and grades as shown on the plans.

The mixing machine must give visible indication at all times that it is cutting, pulverizing and mixing the material uniformly to the proper depth over the full width of the cut.

156-6.2 Application. Cement shall be uniformly spread only over an area where the initial mixing operations and compaction can be completed during the same workday. The cement shall not be applied when wind conditions are detrimental to proper application. A motor grader shall not be used to spread the lime. Adequate moisture shall be added to the cement/soil mixture to maintain the proper moisture content. Materials shall be handled, stored, and applied in accordance with all federal, state, and local requirements.

156-6.3 Mixing Procedure. The full depth of the treated subgrade shall be mixed with equipment as approved by the RPR. Cement shall not be left exposed for more than one (1) hour after distribution. Mixing and pulverization shall continue until the soil cement mixture contains no clods greater than 1-1/2 inches in size. Final moisture content of the mix shall be determined by the Contractor immediately prior to compaction in accordance with ASTM D2216 or ASTM D4959.

156-6.4 Control Strip. The first half-day of construction shall be considered the control strip. The Contractor shall demonstrate, in the presence of the RPR, that the materials, equipment, and construction processes meet the requirements of the specification. The sequence and manner of rolling necessary to obtain specified density requirements shall be determined. Control strips that do not meet specification requirements shall be reworked, re-compacted, or removed and replaced at the Contractor's expense. Full operations shall not continue until the control strip has been accepted by the RPR. Upon acceptance of the control strip by the RPR, the Contractor shall use the same equipment, materials, and construction methods for the remainder of construction, unless adjustments made by the Contractor are approved in advance by the RPR.

156-6.5 Treatment Application and Depth Checks. The amount of cement applied shall be monitored by the Contractor to assure that no less than the amount of cement required by the mix design is applied. The depth of stabilization shall be measured by the Contractor no less than 2 tests per day of material placed; test shall be witnessed by the RPR. Measurements shall be made in test holes excavated to show the full depth of mixing.

156-6.6 Compaction. The moisture content shall be within the tolerance as specified in paragraph 156-3.2. The field density of the compacted mixture shall be at least 90% of the maximum density as specified in paragraph 156-6.10. Compaction of the soil/cement mixture shall begin within 30 minutes after mixing the cement into the subgrade. All compaction operations shall be completed within 2 hours from the start of mixing.

Perform in-place density test immediately after completion of compaction to determine degree of compaction. If the material fails to meet the density requirements, compaction shall continue or the material shall be removed and replaced. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

156-6.7 Finishing and curing. After the final lift or course of treated subgrade has been compacted, it shall be brought to the required lines and grades in accordance with the typical sections. Finished portions of treated subgrade shall be protected to prevent equipment from marring, permanently deforming, or damaging completed work.

Not later than 24 hours after completion of final finishing, the surface shall be cured by application of an curing compound or other moisture retention methods as approved by the RPR.

Sufficient protection from freezing shall be provided for at least 7 days after its construction or as approved by the RPR.

156-6.8 Maintenance. The Contractor shall maintain the entire treated subgrade in good condition from the start of work until all the work has been completed, cured, and accepted by the RPR. When material has been exposed to excessive rain, snow, or freeze-thaw conditions, prior to placement of additional material, the Contractor shall verify that materials still meets all specification requirements. The cost shall be incidental to this item.

156-6.9 Surface tolerance. In those areas on which a subbase or base course is to be placed, the surface shall be tested for smoothness and accuracy of grade and crown. Any portion lacking the required smoothness or failing in accuracy of grade or crown shall be scarified to a depth of at least 3 inches , reshaped and re-compacted to grade until the required smoothness and accuracy are obtained and approved by the RPR. The Contractor shall perform all final smoothness and grade checks in the presence of the RPR. Any deviation in surface tolerances shall be corrected by the Contractor at the Contractor's expense.

a. Smoothness. The finished surface shall not vary more than +/- 1/2 inch when tested with a 12-foot straightedge applied parallel with and at right angles to the centerline. The straightedge shall be moved continuously forward at half the length of the 12-foot straightedge for the full length of each line on a 50-foot grid.

b. Grade. The grade and crown shall be measured on a 50-foot grid and shall be within +/-0.05 feet of the specified grade.

156-6.10 Acceptance sampling and testing. Aggregate base course shall be accepted for density and thickness on an area basis. Testing frequency shall be a minimum of one (1) compaction and thickness test per 1000 square yards of stabilized subgrade, but not less than four (4) tests per day of production. Sampling locations will be determined on a random basis per ASTM D3665.

a. Density. All testing shall be done by the RPR.

The field density of the compacted mixture shall be at least 90% of the maximum density as determined by ASTM D1557. The in-place field density shall be determined in accordance with ASTM D1556 or ASTM D6938, Procedure A, direct transmission method. The in-place moisture content shall be determined in accordance with ASTM D2216. If the material fails to meet the density requirements, compaction shall continue or the material shall be removed and replaced. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

b. Thickness. The thickness of the base course shall be within +0 and -1/2 inch of the specified thickness as determined by depth tests taken by the Contractor in the presence of the RPR for each area. Where the thickness is deficient by more than 1/2-inch , the material shall be removed to full depth and replaced, at Contractor's expense.

METHOD OF MEASUREMENT

156-7.1 The amount of cement treated subgrade shall be based on the number of square yards complete and accepted.

BASIS OF PAYMENT

156-8.1 Payment for placement shall be made at the contract unit price per square yard (m) for the cement treated subgrade for the thickness specified. The price shall be full compensation for all preparation, delivering, placing and mixing these materials, and all labor, equipment, tools and incidentals necessary to complete this item.

Payment will be made under:

Item P 156-1	Cement treated subgrade - per square yard
--------------	---

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM C150	Standard Specification for Portland Cement
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D558	Standard Test Methods for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2,700 kN-m/m ³))
ASTM D1663	Standard Test Methods for Compressive Strength of Molded Soil-Cement Cylinders
ASTM D2216	Test Methods for Laboratory Determination of Water (Moisture) Soil and Rock by Mass
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit and Plasticity Index of Soils
ASTM D4959	Standard Test Method for Determination of Water Content of Soil by Direct Heating
ASTM D6938	Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

END OF ITEM P-156



SUBSTITUTION REQUEST

Project Number: 62210547

Project Title: Overhaul Base Apron Rehabilitation – Phase II

To: DKS >ada`
4? 56
Re: _____

Authorization Number: _____
From: _____
Date: _____
Contract For: _____

Specification Title: BZS"+
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: BZS#+
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: ? S` V`X`W`U`e`f`Z`e`d`M`U`W`
I`a`U`M`V`U`g`a`h`d`M`S`Y`G`M`S`W`

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: 6gW`a`Z`Y`Z`W`S`V`X`d`S`Y`d`W`S`e`l`f`Z`W`5?`A`S`d`M`l`:`W`M`W`Z`S`e`T`W`W`
g`S`T`W`a`e`W`d`W`b`a`V`g`U`f`a``a`X`B`Z`S`"+`X`d`f`Z`l`e`b`d`a`W`f`z`:`W`M`W`l`c`g`l`d`W`i`l`f`Z`e`g`b`b`l`W`e`S`V`f`Z`W`U`g`V``a`f`_`S`l`V`S`
S`k`Y`S`S`f`W`X`d`B`Z`S`"+`X`d`f`Z`l`e`e`S`e`a``V`g`W`a`U`g`d`W`f`i`a`d``a`S`V`e`z`:`W`M`W`l`S`e`g`S`T`W`a`l`e`g`V`S`b`g`d`Z`S`e`W`d`W`X`d`f`Z`l`e`
S`W`S`g`f`l`i`V`Z`S`V`S``W`M`g`f`W`U`a`f`d`S`U`z`A`g`d`S`W`S`e`g`b`b`l`W`S`e`a`Z`S`V`S``l``W`d`W`Z`S`f`Z`S`e`l``l`f`W`b`d`a`V`g`U`f`a``z`

Similar Installation:
Project: Package 7A Concrete Paving Design Professional: Garver
Address: New Single Terminal Construction Owner: KCAD
Date Installed: 2021 through 2023

Proposed substitution affects other parts of Work: No Yes; explain _____

Savings to Owner for accepting substitution: \$100,000.00

Proposed substitution changes Contract Time: No Yes; add/deduct _____ days.

Supporting Data Attached:

Product Data Drawings Tests Reports Samples _____

Attachments: Attached is the current P-219 Specification as well as field gradations.

Submitted by: Cody Phillips

Signature: _____

Firm: Ideker, Inc.

Address: _____

Telephone: _____ Fax: _____ E-Mail: cody@ideker.net

Additional Comments: Contractor Subcontractor Supplier Manufacturer DP _____

DESIGN PROFESSIONAL'S REVIEW AND ACTION

- Substitution approved – Make submittals in accordance with Specification Section 013300.
- Substitution approved as noted – Make submittals in accordance with Specification Section 013300. **See Note below.**
- Substitution rejected – Use specified materials.
- Substitution Request received too late – Use specified materials.

Signed by:  Date: 8/17/2022

- Distribution:
- City
 - Design Professional
 - Contractor
 - Consultant
 - Construction Manager
 - Other

Note:

Gradation of Recycled Concrete Aggregate Base Sieve Size No. 200 shall be revised to 0-10. (See markup on attachment.)

SECTION 20**ITEM P-219****RECYCLED CONCRETE AGGREGATE BASE COURSE****DESCRIPTION**

219-1.1 This item consists of a base course composed of recycled concrete aggregate, crushed to meet a particular gradation, constructed on a prepared course per these specifications and in conformity to the dimensions and typical cross-sections shown on the plans.

MATERIALS

219-2.1 Aggregate. Recycled concrete aggregate shall consist of Portland cement concrete (PCC) or other concrete containing pozzolanic binder material. The recycled concrete material shall be free of reinforcing steel and expansion material. Asphalt concrete overlays shall be removed from the PCC surface prior to pavement removal and crushing. Any full-slab asphalt concrete panels (used as a replacement for a removed PCC slab) shall also be removed. An incidental amount of recycled asphalt concrete pavement and other foreign material may be present in the recycled concrete aggregate.

Recycled concrete aggregate base course shall consist of at least 90%, by weight, Portland cement concrete, with the remaining 10% consisting of the following materials:

Wood	0.1% maximum
Brick, mica, schist, or other friable materials	4% maximum
Asphalt concrete	10% maximum

Virgin aggregates may be added to meet the 90% minimum PCC requirement.

The percentage of wood, brick, mica, schist, other friable materials, and asphalt concrete shall be determined by weighing that material retained on the No. 4 sieve, and dividing by the total weight of recycled concrete aggregate material retained on the No. 4 sieve.

The fine aggregate shall be produced by crushing stone, gravel, slag, or recycled concrete that meet the requirements for wear and soundness specified for coarse aggregate. Fine aggregate may be added to produce the correct gradation.

The amount of flat and elongated particles in recycled concrete aggregate shall not exceed 20% for the fraction retained on the 1/2 inch (12 mm) sieve nor 20% for the fraction passing the 1/2 inch (12 mm) sieve when tested per ASTM D4791. A flat particle is one having a width to thickness ratio greater than 3; an elongated particle is one having a length to width ratio greater than 3.

The percentage of wear shall not be greater than 45% when tested per ASTM C131. The sodium sulfate soundness test (ASTM C88) requirement is waived for recycled concrete aggregate.

The fraction passing the No. 40 (0.42-mm) sieve shall have a liquid limit no greater than 25 and a plasticity index of not more than four (4) when tested per ASTM D4318. The fine aggregate shall have a minimum sand equivalent value of 35 when tested per ASTM D2419.

a. Sampling and testing. Recycled concrete aggregate samples for preliminary testing shall be furnished by the Contractor prior to the start of base construction. All tests for initial aggregate submittals necessary to determine compliance with the specification requirements will be made by the **Contractor**.

Samples of recycled concrete aggregate shall be furnished by the Contractor at the start of production and at intervals during production. The sampling points and intervals will be designated by the Engineer. The samples will be the basis of approval of specific lots of recycled concrete aggregate for the quality requirements.

Samples of recycled concrete aggregate to check gradation shall be taken at least once daily. Sampling shall be per ASTM D75, and testing shall be per ASTM C136 and ASTM C117.

b. Gradation requirements. The gradation (job mix) of the final mixture shall fall within the design range indicated in the following table, when tested per ASTM C117 and ASTM C136. The final gradation shall be continuously graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on an adjacent sieve or vice versa.

Requirements for Gradation Of Recycled Concrete Aggregate Base

Sieve Size	Percentage by Weight Passing Sieves	Job Mix Tolerances Percent
2 inch (50 mm)	100	--
1-1/2 inch (38 mm)	95 - 100	±5
1 inch (25 mm)	70 - 95	±8
3/4 inch (19 mm)	55 - 85	±8
No. 4 (4.75 mm)	30 - 60	±8
No. 30 (0.60 mm)	12 - 30	±5
No. 200 (0.075 mm)	0 - 5 0-10	±3

The job mix tolerances in the table shall be applied to the job mix gradation to establish a job control gradation band. The full tolerance still will apply if application of the tolerances results in a job control gradation band outside the design range.

EQUIPMENT

219-3.1 General. All equipment necessary to mix, transport, place, compact, and finish the recycled concrete aggregate base course shall be furnished by the Contractor. The Contractor shall provide written certification to the Engineer that all equipment meets the requirements for this section. The equipment shall be inspected by the Engineer at the job site prior to the start of construction operations.

219-3.2 Mixing equipment. Base course shall be thoroughly mixed in a plant suitable for recycled concrete aggregate. The mixer shall be a batch or continuous-flow type equipped with a calibrated metering and feeding device that introduce the aggregate and water into the mixer in specified quantities. If necessary, a screening device shall be installed to remove oversized material greater than 2 inches (50 mm) from the recycled concrete aggregate feed.

The Engineer shall have access to the plant at all times for inspection of the plant's equipment and operation and for sampling the mixed recycled concrete aggregate materials.

219-3.3 Hauling equipment. The mixed recycled concrete aggregate base course shall be transported from the plant to the job site in hauling equipment having beds that are smooth, clean, and tight. Truck bed covers shall be provided and used to protect the mixed recycled concrete aggregate base course from rain during transport.

219-3.4 Placing equipment. Recycled concrete aggregate shall be placed using a mechanical spreader or machine capable of receiving, spreading, and shaping the material into a uniform layer or lift without segregation. The placing equipment shall be equipped with a strike off plate that can be adjusted to the layer thickness. **The placing equipment shall have two end gates or cut off plates, so that the recycled concrete aggregate may be spread up to a lane width.**

219-3.5 Compaction equipment. Recycled concrete aggregate base course shall be compacted using one or a combination of the following pieces of equipment: steel-wheeled roller; vibratory roller; pneumatic-tire roller; and/or hand-operated power tampers (for areas inaccessible to rollers).

219-3.6 Finishing equipment. Trimming of the compacted recycled concrete aggregate to meet surface requirements shall be accomplished using a self-propelled grader or trimming machine, with a mold board cutting edge of 12 feet (3.7 m) minimum width automatically controlled by sensors in conjunction with an independent grade control from a taut stringline. Stringline will be required on both sides of the sensor controls for all lanes.

CONSTRUCTION METHODS

219-4.1 Weather limitations. Construction is allowed only when the atmospheric temperature is at or above 35°F (2°C). When the temperature falls below 35°F (2°C), the Contractor shall protect all completed areas against detrimental effects of freezing. The Contractor shall repair any areas damaged by freezing, rainfall, or other weather conditions.

219-4.2 Preparing underlying course. The underlying course shall be checked by the Engineer before placing and spreading operations are started. Any ruts or soft yielding places caused by improper drainage conditions, hauling, or any other cause shall be corrected at the Contractor's expense before the base course is placed there. Material shall not be placed on frozen material.

To protect the existing layers and to ensure proper drainage, the spreading of the recycled concrete aggregate base course shall begin along the centerline of the pavement on a crowned section or on the greatest contour elevation of a pavement with a variable uniform cross slope.

219-4.3 Grade control. Grade control between the edges of the recycled concrete aggregate base course lanes shall be accomplished by grade stakes, steel pins, or forms placed in lanes parallel to the centerline and at intervals of 50 feet (15 m) or less on the longitudinal grade and 25 feet (7.5 m) or less on the transverse grade.

219-4.4 Mixing. The recycled concrete shall be uniformly blended during crushing operations and mixed with water in a mixing plant suitable for recycled concrete aggregate. The plant shall blend and mix the materials to meet the specifications and to secure the proper moisture content for compaction.

219-4.5 Placing. The recycled concrete aggregate base material shall be placed on the moistened subgrade or base in layers of uniform thickness with an approved mechanical spreader.

The maximum depth of a compacted layer shall be 6 inches (150 mm). If the total depth of the compacted material is more than 6 inches (150 mm), it shall be constructed in two or more layers. In multi-layer construction, the material shall be placed in approximately equal-depth layers.

The previously constructed layer shall be cleaned of loose and foreign material prior to placing the next layer. The surface of the compacted material shall be kept moist until covered with the next layer.

Adjustments in placing procedures or equipment shall be made to obtain grades, to minimize segregation grading, to adjust the water content, and to ensure an acceptable recycled concrete aggregate base course.

219-4.6 Compaction. Immediately after completion of the spreading operations, the recycled concrete aggregate shall be compacted. The number, type, and weight of rollers shall be sufficient to compact the material to the required density.

Each layer of the recycled concrete aggregate base course shall be compacted to the required density using the compaction equipment. The moisture content of the material during placing operations shall be within $\pm 1\text{-}1/2$ percentage points of the optimum moisture content as determined by ASTM D698.

The compaction shall continue until each layer has reached compaction that is at least 100% of the laboratory maximum density through the full depth of the layer. The Contractor shall make adjustments in compacting or finishing techniques to obtain true grades, to minimize segregation and degradation, to reduce or increase water content and to ensure a satisfactory base course. Any unsatisfactory materials shall be removed and replaced with satisfactory material or reworked, to meet the requirements of this specification.

219-4.7 Acceptance sampling and testing for density. The Engineer shall perform all density tests. Recycled concrete aggregate shall be accepted for density on a lot basis. A lot will consist of one day's production where it does not exceed 2,400 square yards (2000 sq m) per lift. A lot will consist of one-half day's production, where a day's production is between 2,400 and 4,800 square yards (2000 and 4000 sq m) per lift.

Each lot shall be divided into two equal sublots. One density test shall be made for each subplot and shall consist of the average of two random locations for density determination. Sampling locations will be determined by the Engineer on a random basis per ASTM D3665.

Each lot will be accepted for gradation when it falls within the limits and tolerances shown in the table above when tested per ASTM C117 and ASTM C131. If the proper gradation is not attained the gradation test will be repeated. If the re-test does not indicate gradations within the limits of the table above, the entire lot shall be rejected and replaced by the Contractor at the Contractor's expense.

Each lot will be accepted for density when the field density is at least 100% of the maximum density of laboratory specimens prepared from samples of the base course material. The specimens shall be compacted and tested per ASTM D698. The in-place field density shall be determined per ASTM D6938. **The field density shall be determined in accordance with ASTM D6938 using Procedure A, the direct transmission method and the machines shall be calibrated in accordance with per ASTM**

D6938. When using the nuclear method, ASTM D4643 shall be used to determine the moisture content of the material. If the specified density is not attained, the entire lot shall be reworked and two additional random tests made. This procedure shall be followed until the specified density is reached.

219-4.8 Finishing. The surface of the recycled concrete aggregate base course shall be finished by equipment designed for this purpose.

Adding a thin layer of material to the top of the base course to meet grade shall not be allowed. If the elevation of the layer is 1/2 inch (12 mm) or more below grade, the layer shall be scarified to a depth of at least 3 inches (75 mm), new material added, and the layer shall be recompact. If the finished surface is above plan grade, it shall be cut back to grade and rerolled. The grade shall be measured on a maximum 25-foot (7.5-m) grid (longitudinal and transverse). Thickness results shall be furnished to the Engineer daily for acceptance determination.

Should the surface become rough, corrugated, uneven in texture, or traffic marked prior to completion, the unsatisfactory portion shall be scarified, and recompact or replaced at the Contractor's expense.

219-4.9 Surface tolerances. The finished surface shall not vary more than 3/8 inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with or at right angles to the centerline. The Contractor shall correct any deviation in excess of this amount, at the Contractor's expense.

219-4.10 Thickness control. The completed thickness of the base course shall be within 1/2 inch (12 mm) of the design thickness. Four thickness determinations shall be made for each lot of material placed. Each lot shall be divided into four equal sublots and one test shall be made for each subplot. Sampling locations will be determined per ASTM D3665. Where the thickness is y more than 1/2 inch (12 mm) deficient, the Contractor, at his or her expense, shall correct the areas by excavating to the required depth and replacing with new material. Additional test holes may be required to identify the limits of deficient areas.

219-4.11 Traffic. Equipment used in construction may be routed over completed portions of the base course, provided there is no damage to the base course. The equipment shall be routed evenly over the full width of the base course to avoid rutting or uneven compaction.

219-4.12 Maintenance. The base course shall be maintained until the base course is completed and accepted. Maintenance will include immediate repairs to any defects and shall be repeated as often as necessary to keep the completed work intact. The Contractor, at his or her expense, will rework any area of the recycled concrete aggregate base course that is damaged.

METHOD OF MEASUREMENT

219-5.1 The quantity of recycled concrete aggregate base or subbase course will be determined by measurement of the number of square yards of material actually constructed and accepted as complying with the plans and specifications.

BASIS OF PAYMENT

219-6.1 Payment shall be made at the contract unit price per square yard for recycled concrete aggregate base or subbase course. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools, and incidentals necessary to complete the item.

Payment will be made under:

Aggregate Base Course (6")	--Per Square Yard
Aggregate Subbase Course (6")	--Per Square Yard

TESTING REQUIREMENTS

ASTM C29	Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C88	Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM D75	Standard Practice for Sampling Aggregates
ASTM C117	Standard Test Method for Materials Finer than 75 μm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C131	Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C136	Standard Test Method for Sieve or Screen Analysis of Fine and Coarse Aggregate
ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft ³ (600 kN-m/m ³))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method
ASTM D1557	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft ³ (2700 kN-m/m ³))
ASTM D2167	Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber-Balloon Method
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4643	Standard Test Method for Determination of Water (Moisture) Content of Soil by Microwave Oven Heating
ASTM D4718	Standard Practice for Correction of Unit Weight and Water Content for Soils Containing Oversize Particles
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D6938	Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

END OF ITEM P-219

Ideker, Inc.

Gradation Report

Quarry		Initial wt	5710.6	Date	5/7/2022
Ledge		Dry wt	5379.4	Time	Test 200
Product	P 219	% Moisture	6.16	Weather	
Type Samp	Stockpile	Wash wt	5048.2		
Technician	K.Johnson	% Passing	6.16		

Sieve	Wt Ret	% Ret	% Pass	Specs
2"	0.0	0.0	100.0	100
1 3/4"		0.0	100.0	
1 1/2"		0.0	100.0	95-100
1 1/4"		0.0	100.0	
1"	462.6	8.6	91.4	70-95
3/4"	1146.9	21.3	78.7	55-85
1/2"	2205.8	41.0	59.0	
3/8"	2729.3	50.7	49.3	
#4	3686.8	68.5	31.5	30-60
#8	4157.0	77.3	22.7	
#16	4450.7	82.7	17.3	
#30	4584.6	85.2	14.8	12-30
#50		0.0	100.0	
#100		0.0	100.0	
#200	5011.6	93.2	6.8	0-10
Pan	5048.1			

Comments:



9/6/2022

Mr. Cody Phillips
Vice President
Ideker, Inc.
4614 S. 40th Street
St. Joseph, Missouri 64507

Re: RFP No. 1 Fiber Concrete Encasement
Overhaul Base Apron Rehabilitation – Phase II
KCAD Project No. 62210547

Mr. Phillips:

Ideker's response to RFP No. 1 Fiber Concrete Encasement that provided an *Install Concrete (P-610) Duct Bank Around Existing Fiber Optic Conduit* unit price of \$125/LF and an extension of \$18,750.00 based on the estimated quantity of 150 LF is approved. In addition, an additional 4 calendar days will be added to the Phase 2 – Work Area D Calendar Days.

Please proceed with this work as described in RFP No. 1.

Regards,

A handwritten signature in blue ink that reads "Ryan B. Lorton". The signature is written in a cursive style with a horizontal line extending from the end.

Ryan B. Lorton, PE
Project Manager

Enclosure
-Ideker Response to RFP No. 1

cc: Mike Waller, KCAD Project Manager
Patrick Barnes, Burns & McDonnell

CITY OF FOUNTAINS
HEART OF THE NATION

REQUEST FOR PROPOSAL

Project Number 62210547Project Title Overhaul Base Apron Rehabilitation – Phase IITo Contractor Ideker, Inc.KANSAS CITY
MISSOURIFrom: Burns & McDonnell RFP No 1 Issue Date: 9/1/22

Please submit an itemized proposal for changes in the Contract Price and Contract Times for proposed modifications to the Contract Documents described herein. Submit proposal within five (5) days, or notify the Owner in writing of the date on which you anticipate submitting your proposal.

This is NOT a Change Order, a Work Change Directive or a direction to proceed with the work described in the proposed modifications.

Description: A portion of the existing fiber optic lines (288-pair & 72-pair) are in an existing conduit between the handhole west of Taxilane C5 to the west edge of the Overhaul Base Facility. The proposed pavement sections of concrete (8" P-610 on 6" P-219) and asphalt (5" P-403 on 14" P-219 on 9" P-156) are directly above this existing conduit.

To protect this existing conduit containing the fiber optic lines, the existing conduit will be encased in concrete (P-610) as shown on revised Drawing C26 Site Plan – 2 of 5 attached to this Request for Proposal. The existing conduit shall be encased with a minimum of 3" of P-610 concrete surrounding the conduit.

Prior to reinforcing the existing conduit with concrete (P-610), the Contractor shall confirm the existing elevations of the conduit under the proposed pavement sections to a distance of 150' west of the west edge of the Overhaul Base Facility. The proposed 9" of C-156 Cement Treated Subgrade within the asphalt section will be eliminated at the location of the proposed concrete encased duct.

Please provide a per linear foot (LF) price to construct the concrete encasement around the existing fiber optic conduit as shown on revised Drawing C26 Site Plan – 2 of 5 including all labor, materials, equipment and incidentals necessary to construct the concrete encasement. Contractor shall protect the conduit for the full length across the project site including protecting the conduit when constructing the P-219 recycled concrete aggregate base course above the concrete encased duct.

Please provide a proposal for the following work that is not currently in the contract:

PAY ITEM NO.	DESCRIPTION OF WORK	UNITS	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
L=110-5.1	INSTALL CONCRETE (P-610) DUCT BANK AROUND EXISTING FIBER OPTIC CONDUIT	LF	150	\$125.00	\$18,750.00
New Pay Items Subtotal:					\$18,750.00

RFP No. 1 Total:	\$18,750.00
-------------------------	-------------

Attachments: Revised Drawing C26

Prepared by Design Professional

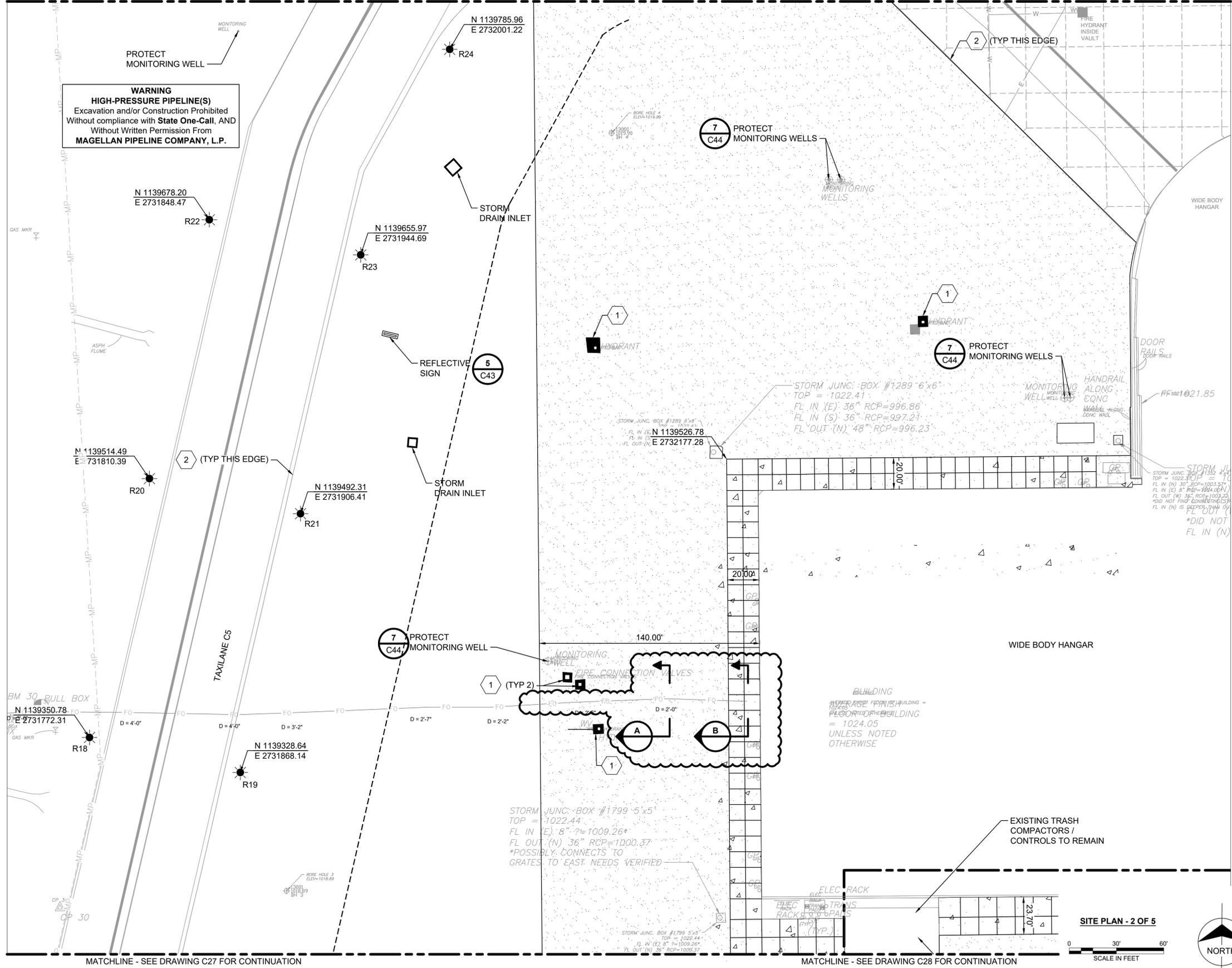
Cody Phillips 09-06-2022

Prepared by Construction Manager

REQUESTED by OWNER'S Representative

Distribution: Owner
 Contractor
 Construction Manager
 Design Professional
 Consultant _____
 Other _____

MATCHLINE - SEE DRAWING C25 FOR CONTINUATION



LEGEND:

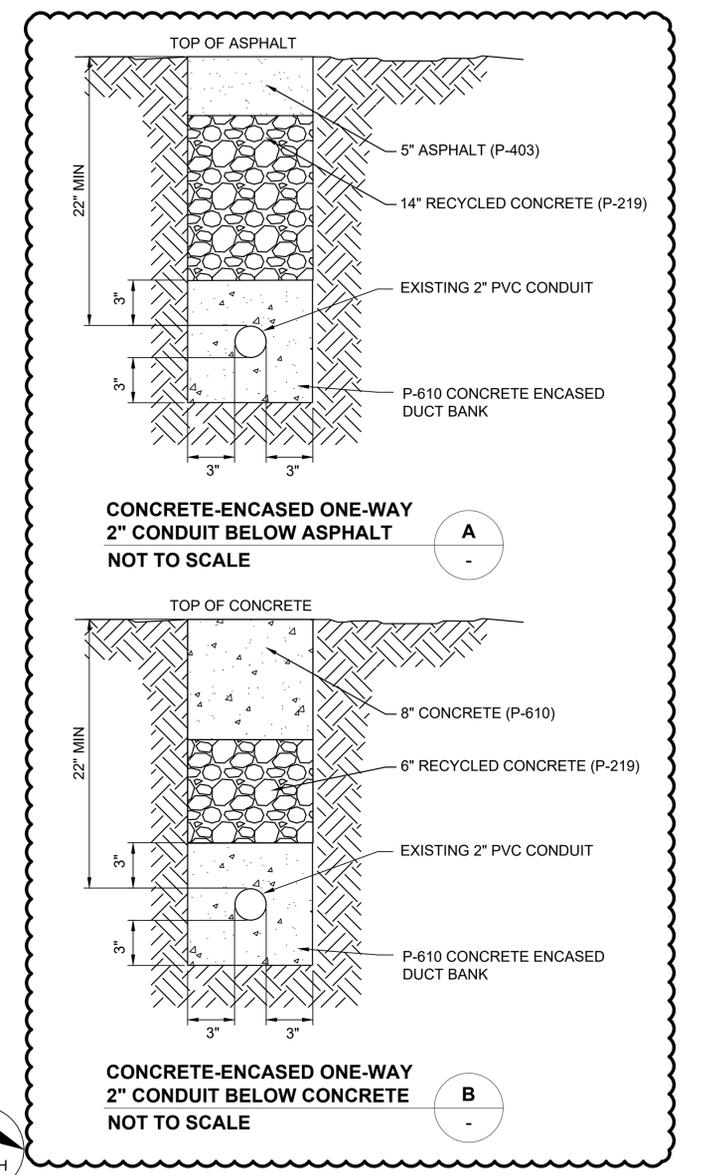
- HMA VEHICLE PAVEMENT (Symbol: 5/C41)
- CONCRETE PAVEMENT (Symbol: 2/C41)
- TAXILANE OBJECT FREE AREA (Symbol: Dashed line)
- MAGELLAN PIPELINE (SEE WARNING MESSAGE) (Symbol: -MP-)
- TAXILANE EDGE REFLECTOR (Symbol: 4/C43)

NOTES:

- SEE SHEET C24 FOR GENERAL SITE NOTES.
- SEE DEMOLITION PLANS FOR INFORMATION REGARDING PROTECTING/SAW CUTTING AROUND EXISTING STRUCTURES/FEATURES TO REMAIN IN PLACE.

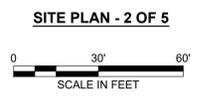
KEYED NOTES:

- CONSTRUCT CONCRETE VAULT SLAB PER DETAIL 3 ON DRAWING C41
- REFER TO DETAIL 4 ON DRAWING 41 FOR PAVEMENT REPLACEMENT AT PROJECT LIMITS



MATCHLINE - SEE DRAWING C27 FOR CONTINUATION

MATCHLINE - SEE DRAWING C28 FOR CONTINUATION



No.	Revision	Date
	ISSUED FOR CONSTRUCTION	07-13-2022
0	ISSUED FOR BID	04-01-2022

CITY OF KANSAS CITY, MISSOURI
AVIATION DEPARTMENT

KCI

BURNS MEDONNELL
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSE NO. 000165

SK Design Group, Inc.
 4600 College Boulevard,
 Suite 100
 Overland Park, Kansas 66211
 Phone: 913-451-1818
 Fax: 913-451-7599

**OVERHAUL BASE
 APRON REHABILITATION
 PHASE II**

SITE PLAN - 2 OF 5

design	MCG	CAD File: 2-62200517C19.DWG	Aviation Project No.	62210547
drawn	SML	dwg date	04-01-21	dwg. no. C26 27 of 45

RYAN B. LORTON
 CIVIL ENGINEER
 MO # 2004017211



9/26/2022

Mr. Cody Phillips
Vice President
Ideker, Inc.
4614 S. 40th Street
St. Joseph, Missouri 64507

Re: RFP No. 2 Additional Turf Area
Overhaul Base Apron Rehabilitation – Phase II
KCAD Project No. 62210547

Mr. Phillips:

Ideker's response to RFP No. 2 Additional Turf Area that provided an *Interim Grading and Site Dewatering* unit price of \$17,000/LS and an extension of \$17,000.00 is approved. Also as discussed, please continue to be diligent in achieving the project established DBE goal.

Please proceed with this work as described in RFP No. 2.

Regards,

A handwritten signature in blue ink that reads "Ryan B. Lorton".

Ryan B. Lorton, PE
Project Manager

Enclosure
-Ideker Response to RFP No. 2

cc: Mike Waller, KCAD Project Manager
Patrick Barnes, Burns & McDonnell

CITY OF FOUNTAINS
HEART OF THE NATION

REQUEST FOR PROPOSAL

Project Number 62210547Project Title Overhaul Base Apron Rehabilitation – Phase IITo Contractor Ideker, Inc.KANSAS CITY
MISSOURIFrom: Burns & McDonnellRFP No 2Issue Date: 9/14/22

Please submit an itemized proposal for changes in the Contract Price and Contract Times for proposed modifications to the Contract Documents described herein. Submit proposal within five (5) days, or notify the Owner in writing of the date on which you anticipate submitting your proposal.

This is NOT a Change Order, a Work Change Directive or a direction to proceed with the work described in the proposed modifications.

Description: Additional turf area in lieu of the construction of the asphalt vehicular pavement section (5" P-403 on 14" P-219 on 9" P-156). This Request for a Proposal includes an underrun and overrun of existing as-bid items as well as a new pay item as identified below. The Earthwork Summary Table that was provided in Addendum No. 2 has been updated based on this additional new turf area.

Please provide a new lump sum (LS) price to address the transition period between the regrading of this area until the drainage components (pipes and drainage structures) are installed to drain this area including all labor, materials, equipment and incidentals necessary to prevent the runoff of water/silt from this area across Taxilane C5.

Please see updated Earthwork Summary Table (Previously Provided in Addendum No. 2)

EARTHWORK SUMMARY TABLE

PHASE	P-152 UNCLASSIFIED EXCAVATION	FILL	TOPSOIL	EXCESS HAUL OFF
	CY	CY	CY	CY
1	8,424	4,318	2,648	6,754
2	2,505	0	0	2,505
TOTAL:	10,929	4,318	2,648	9,259

***ALL VALUES IN EARTHWORK SUMMARY TABLE ARE UNADJUSTED**

Approximate Underruns/Overruns with as-bid unit prices for this project are as follows.

SPEC ITEM NO.	DESCRIPTION OF WORK	UNITS	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
P-152	UNCLASSIFIED EXCAVATION	CY	2,829	\$28.75	\$81,333.75
P-155	LIME-TREATED SUBGRADE (9")	SY	(1,900)	\$7.00	(\$13,300.00)
P-155	LIME	TON	(40)	\$190.00	(\$7,600.00)
P-209	CRUSHED AGGREGATE BASE COURSE (14") - FOR HMA VEHICLE PAVEMENT	SY	(5,170)	\$31.50	(\$162,855)
P-403	ASPHALT SURFACE COURSE (5")	TON	(1,500)	\$143.50	(\$215,250)
D-701	REINFORCED CONCRETE PAVEMENT (24")	LF	82	\$124.00	\$10,168.00
D-705	PERFORATED PIPE FOR PAVEMENT UNDERDRAIN [WITH PIPE SOCK] (6")	LF	196	\$42.50	\$8,330.00
D-705	NON-PERFORATED PIPE FOR PAVEMENT UNDERDRAIN (6")	LF	33	\$42.50	\$1,402.50
D-705	UNDERDRAIN CLEANOUT	EA	1	\$2,100.00	\$2,100.00
D-705	CONNECT TO EXISTING STORM INLET/PIPE	EA	1	\$1,000.00	\$1,000.00
D-751	AIRCRAFT RATED STORM INLET	EA	1	\$26,000.00	\$26,000.00
T-904	SODDING	SY	470	\$6.00	\$2,820.00
T-905	2" TOPSOILING	SY	5,170	\$1.45	\$7,496.50
Existing Pay Items Approximate Subtotal (final quantities will be based on field measurements):					(\$258,354.25)

Please provide a proposal for the following work that is not currently in the contract:

PAY ITEM NO.	DESCRIPTION OF WORK	UNITS	ESTIMATED QUANTITY	UNIT COST	TOTAL COST
P-101	INTERIM GRADING AND SITE DEWATERING	LS	1	\$ 17,000.00	\$ 17,000.00
New Pay Items Subtotal:					\$17,000.00

RFP No. 2 Total:	(\$241,354.25)
-------------------------	----------------

Attachments: Revised Drawings C24, C25, C26, C30, C31, C36, C40

Francis B. Lorton

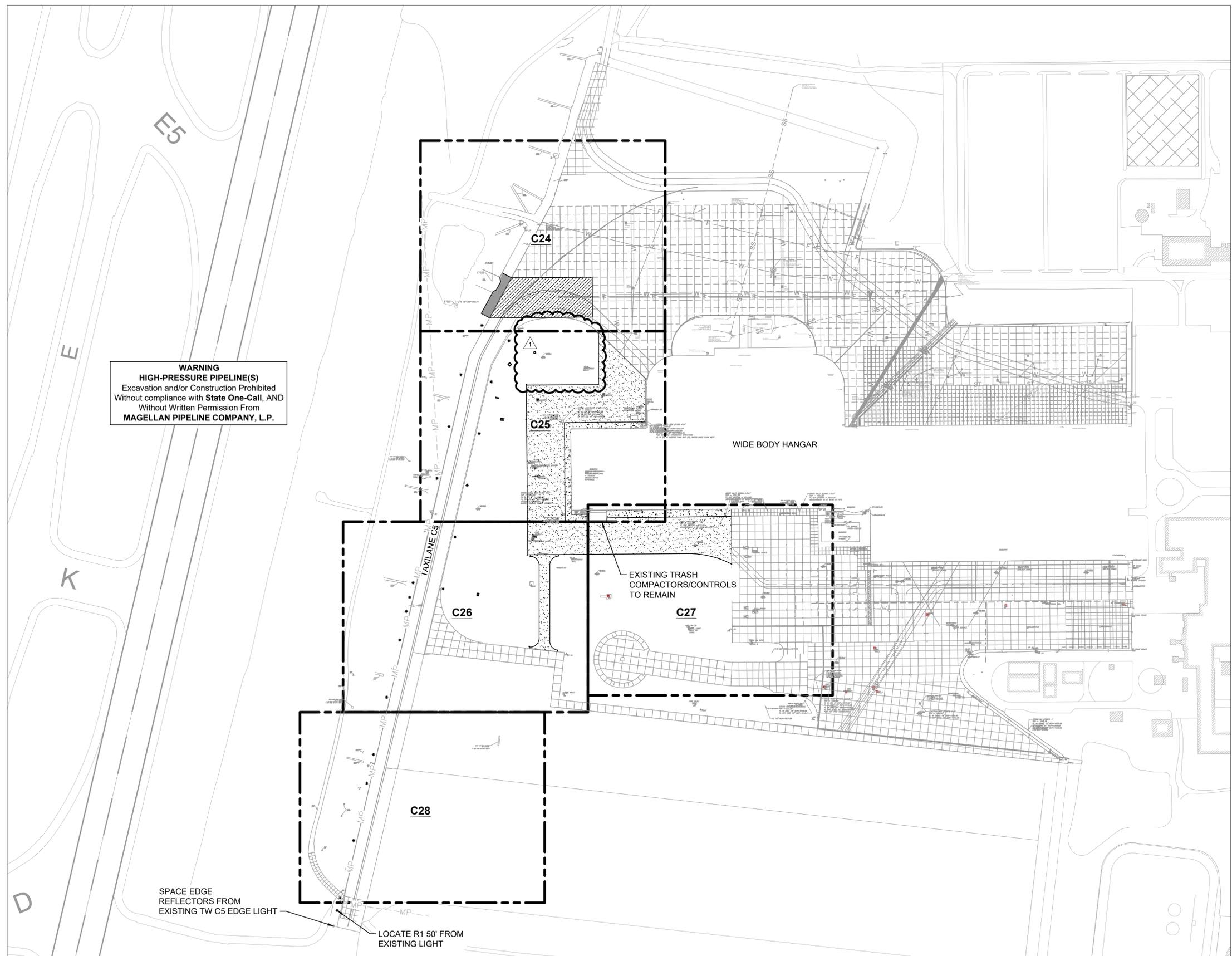
Cody Phillips 9-16-2022

Prepared by Design Professional

Prepared by Construction Manager

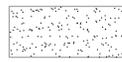
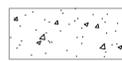
REQUESTED by OWNER'S Representative

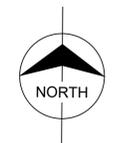
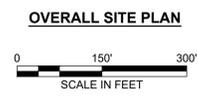
- Distribution:
- Owner
 - Contractor
 - Construction Manager
 - Design Professional
 - Consultant _____
 - Other _____



- GENERAL SITE NOTES:**
1. CONTRACTOR SHALL PROTECT ALL UTILITIES AND UTILITY STRUCTURES TO REMAIN THROUGHOUT THE DURATION OF CONSTRUCTION. ANY DAMAGE CAUSED TO AIRFIELD LIGHTING OR NAVAIDS BY THE CONTRACTOR SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
 2. CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY LOCATION COORDINATION PRIOR TO THE START OF CONSTRUCTION.
 3. CONTRACTOR SHALL MATCH ELEVATIONS OF UTILITY STRUCTURES TO REMAIN WITHOUT CREATING LOW SPOTS IN FINAL GRADE.
 4. LIMITS OF PAVING SHALL MATCH THE LIMITS OF REMOVAL UNLESS OTHERWISE SPECIFIED.
 5. PARTIAL DEPTH CONCRETE SPALL REPAIRS SHALL BE COMPLETED PER DETAIL 7 ON DRAWING C45 AT LOCATIONS IDENTIFIED BY THE RPR.
 6. ALL PCC/HMA CONSTRUCTION JOINTS SHALL BE SEALED PER DETAIL 2 ON DRAWING C43.

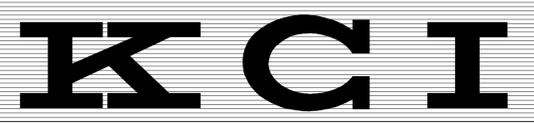
LEGEND:

-  8" HMA SHOULDER PAVEMENT 6
C41
-  5" HMA VEHICLE PAVEMENT 5
C41
-  8" REINFORCED CONCRETE PAVEMENT 2
C41
-  ± 3" HMA SURFACE OVERLAY
-  TAXILANE EDGE REFLECTOR 5
C43
-  ---MP--- MAGELLAN PIPELINE (SEE WARNING MESSAGE)



No.	Revision	Date
1	REQUEST FOR PROPOSAL NO. 2 ISSUED FOR CONSTRUCTION	09-13-2022 07-13-2022
0	ISSUED FOR BID	04-01-2022

CITY OF KANSAS CITY, MISSOURI
AVIATION DEPARTMENT



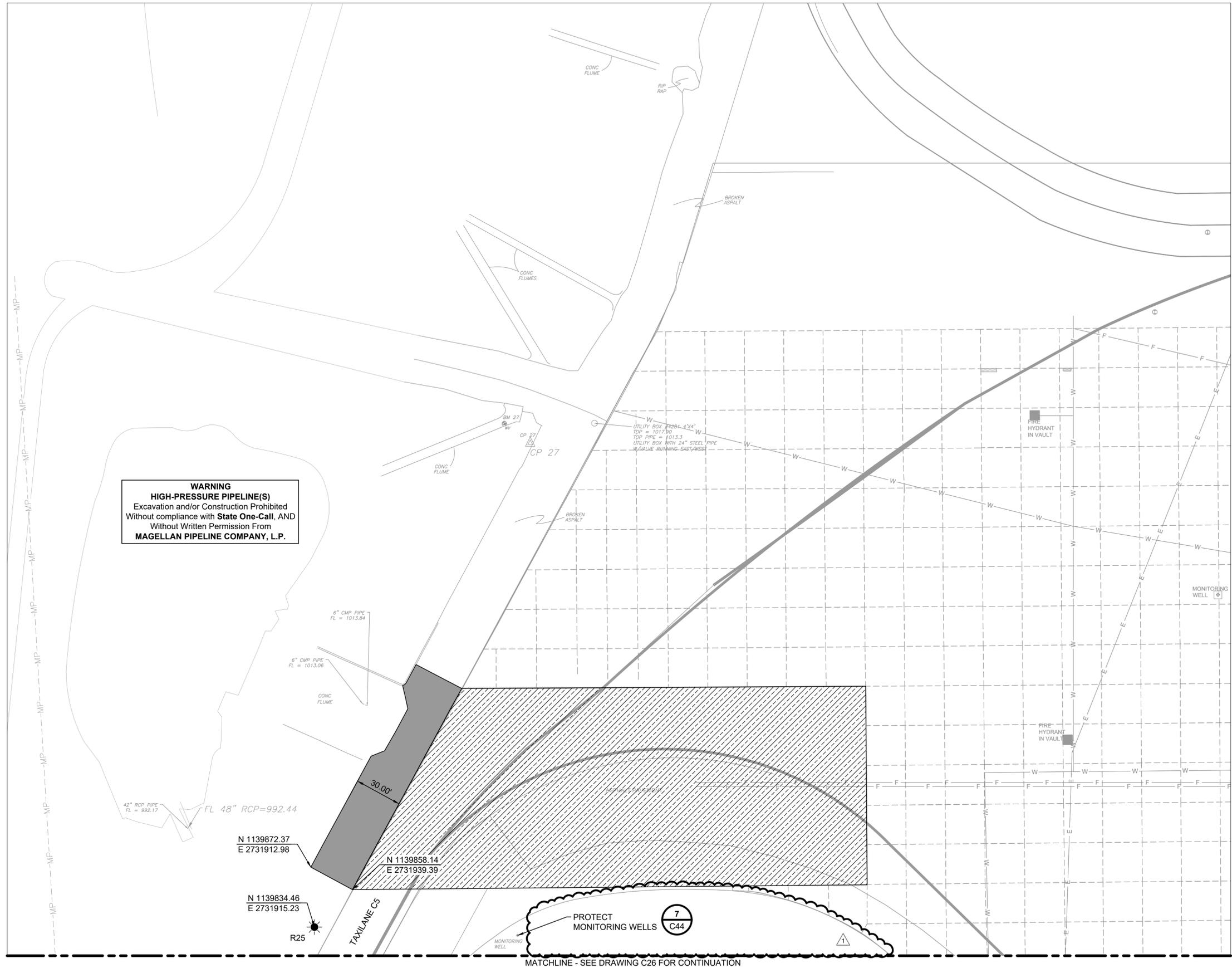
BURNS MEDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

SK
SK Design Group, Inc.
4600 College Boulevard,
Suite 100
Overland Park, Kansas 66211
Phone: 913-451-1818
Fax: 913-451-7599



OVERHAUL BASE
APRON REHABILITATION
PHASE II

OVERALL SITE PLAN	
design MCG	CAD File: 2-62200517C18.DWG
drawn SML	dwg date 04-01-21
Aviation Project No. 62210547	dwg. no. C24 25 of 45

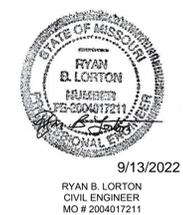
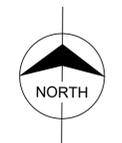
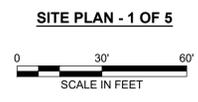


WARNING
HIGH-PRESSURE PIPELINE(S)
Excavation and/or Construction Prohibited
Without compliance with **State One-Call**, AND
Without Written Permission From
MAGELLAN PIPELINE COMPANY, L.P.

- LEGEND:**
- HMA SHOULDER PAVEMENT 6
C41
 - HMA VEHICLE PAVEMENT 5
C41
 - CONCRETE PAVEMENT 2
C41
 - ± 3" HMA SURFACE OVERLAY 3
 - TAXILANE OBJECT FREE AREA
 - MAGELLAN PIPELINE (SEE WARNING MESSAGE)
 - TAXILANE EDGE REFLECTOR 4
C43

- NOTES:**
1. SEE SHEET C24 FOR GENERAL SITE NOTES.
 2. SEE DEMOLITION PLANS FOR INFORMATION REGARDING PROTECTING/SAW CUTTING AROUND EXISTING STRUCTURES/FEATURES TO REMAIN IN PLACE.

- KEYED NOTES:**
- 1 CONSTRUCT CONCRETE VAULT SLAB PER DETAIL 3 ON DRAWING C41
 - 2 REFER TO DETAIL 4 ON DRAWING C41 FOR PAVEMENT REPLACEMENT AT PROJECT LIMITS
 - 3 OVERLAY AREA WITH 2"-3" OF HMA TO CORRECT DRAINAGE. REFER TO GRADING PLANS.



9/13/2022

No.	Revision	Date
1	REQUEST FOR PROPOSAL NO. 2	09-13-2022
	ISSUED FOR CONSTRUCTION	07-13-2022
0	ISSUED FOR BID	04-01-2022

CITY OF KANSAS CITY, MISSOURI
AVIATION DEPARTMENT

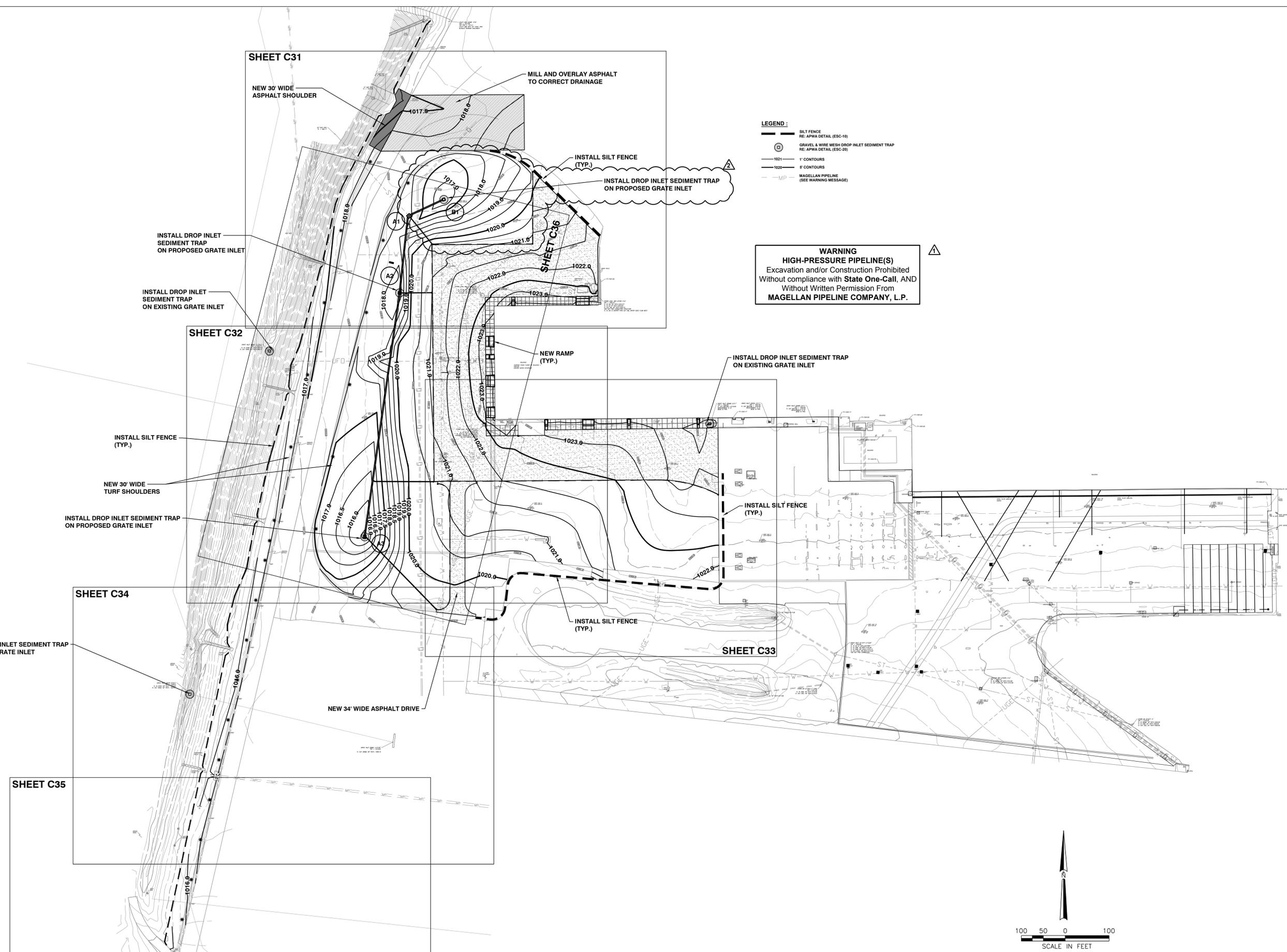
BURNS MEDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSEE NO. 000165

SK
SK Design Group, Inc.
4400 College Boulevard,
Suite 100
Overland Park, Kansas 66211
Phone: 913-451-1818
Fax: 913-451-7599



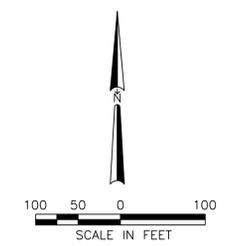
OVERHAUL BASE
APRON REHABILITATION
PHASE II

SITE PLAN - 1 OF 5	
design MCG	CAD File: 2-62200517C19.DWG
drawn SML	Aviation Project No. 62210547
dwg date 04-01-21	dwg. no. C25 26 of 45



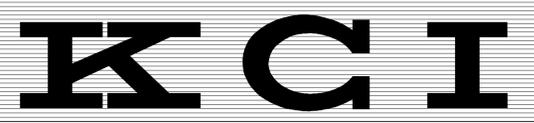
LEGEND :
 - SILT FENCE
 RE: APWA DETAIL (ESC-10)
 - GRAVEL & WIRE MESH DROP INLET SEDIMENT TRAP
 RE: APWA DETAIL (ESC-20)
 - 1021 - 1' CONTOURS
 - 1020 - 5' CONTOURS
 - MP - MAGELLAN PIPELINE
 (SEE WARNING MESSAGE)

WARNING
HIGH-PRESSURE PIPELINE(S)
 Excavation and/or Construction Prohibited
 Without compliance with **State One-Call**, AND
 Without Written Permission From
MAGELLAN PIPELINE COMPANY, L.P.



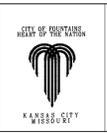
No.	Revision	Date
1	REQUEST FOR PROPOSAL NO. 2	09-13-2022
2	ISSUED FOR CONSTRUCTION	07-13-2022
3	ADDENDUM NO. 2	04-22-2022
0	ISSUED FOR BID	04-01-2022

CITY OF KANSAS CITY, MISSOURI
AVIATION DEPARTMENT



BURNS MEDONNELL
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSE NO. 000165

SK
 SK Design Group, Inc.
 4600 College Boulevard,
 Suite 100
 Overland Park, Kansas 66211
 Phone: 913-451-1818
 Fax: 913-451-7599



**OVERHAUL BASE
 APRON REHABILITATION
 PHASE II**

OVERALL GRADING, DRAINAGE & EROSION CONTROL PLAN			
design	SM	CAD File:	Aviation Project No. 62210547
drawn	DGL	dwg date	02-18-2022
dwg. no.	C30		31 of 45

WARNING
HIGH-PRESSURE PIPELINE(S)
 Excavation and/or Construction Prohibited
 Without compliance with **State One-Call**, AND
 Without Written Permission From
MAGELLAN PIPELINE COMPANY, L.P.

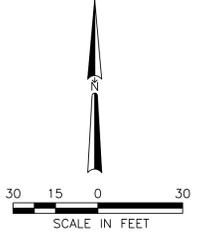
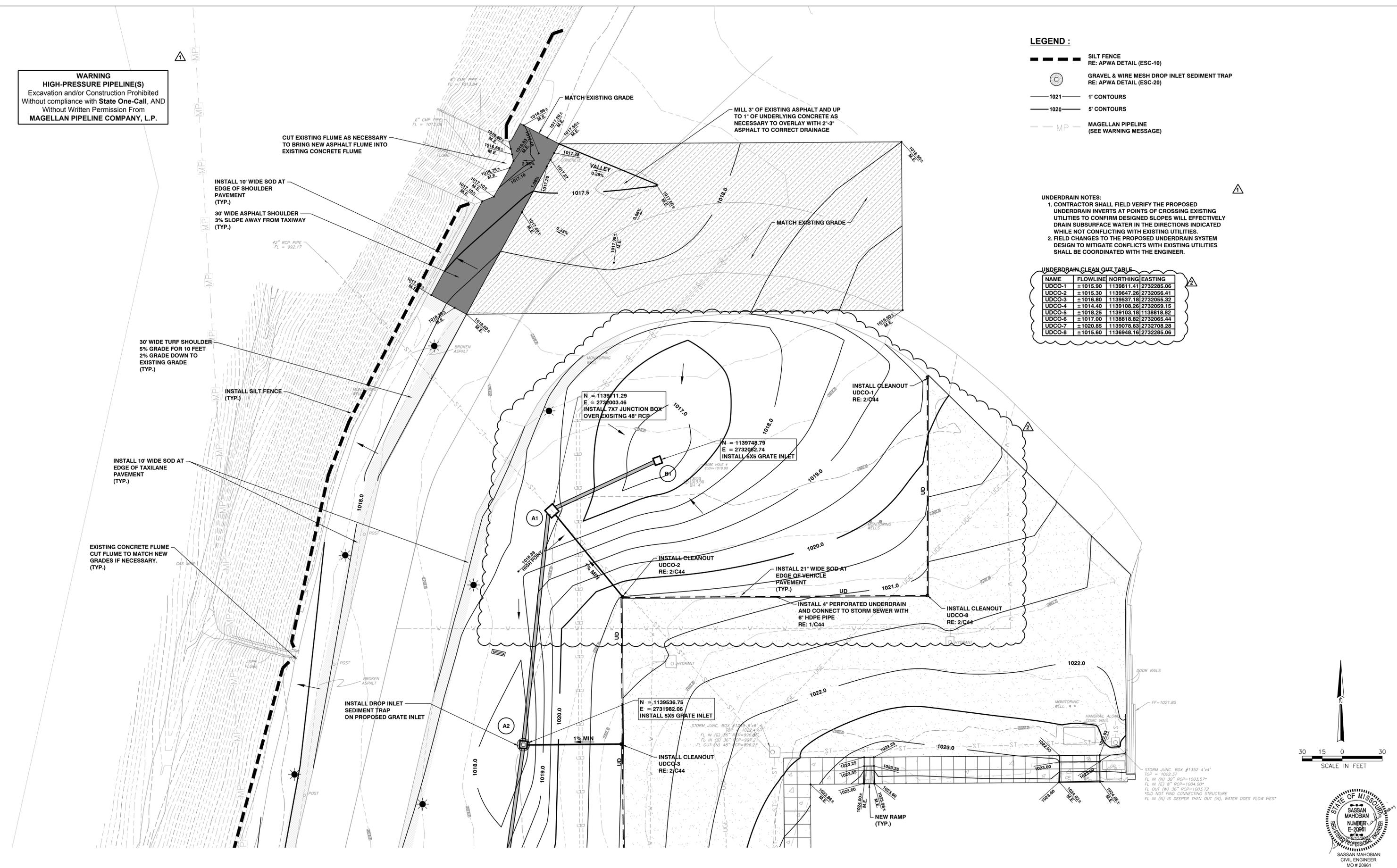
- LEGEND :**
- SILT FENCE
RE: APWA DETAIL (ESC-10)
 - GRAVEL & WIRE MESH DROP INLET SEDIMENT TRAP
RE: APWA DETAIL (ESC-20)
 - 1021 — 1' CONTOURS
 - 1020 — 5' CONTOURS
 - - - MP - - - MAGELLAN PIPELINE
(SEE WARNING MESSAGE)

UNDERDRAIN NOTES:

- CONTRACTOR SHALL FIELD VERIFY THE PROPOSED UNDERDRAIN INVERTS AT POINTS OF CROSSING EXISTING UTILITIES TO CONFIRM DESIGNED SLOPES WILL EFFECTIVELY DRAIN SUBSURFACE WATER IN THE DIRECTIONS INDICATED WHILE NOT CONFLICTING WITH EXISTING UTILITIES.
- FIELD CHANGES TO THE PROPOSED UNDERDRAIN SYSTEM DESIGN TO MITIGATE CONFLICTS WITH EXISTING UTILITIES SHALL BE COORDINATED WITH THE ENGINEER.

UNDERDRAIN CLEAN OUT TABLE

NAME	FLOWLINE	NORTHING	EASTING
UDCO-1	± 1015.90	1139811.41	2732285.06
UDCO-2	± 1015.30	1139647.28	2732055.41
UDCO-3	± 1016.80	1139537.18	2732055.32
UDCO-4	± 1014.40	1139108.26	2732059.15
UDCO-5	± 1018.25	1139103.18	1138818.82
UDCO-6	± 1017.00	1138818.82	2732065.44
UDCO-7	± 1020.85	1139078.63	2732708.28
UDCO-8	± 1015.60	1136948.16	2732285.06



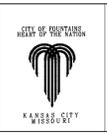
No.	Revision	Date
1	REQUEST FOR PROPOSAL NO. 2	09-13-2022
2	ISSUED FOR CONSTRUCTION	07-13-2022
3	ADDENDUM NO. 2	04-22-2022
4	ISSUED FOR BID	04-01-2022

CITY OF KANSAS CITY, MISSOURI
AVIATION DEPARTMENT



BURNS MEDONNELL
 9400 WARD PARKWAY
 KANSAS CITY, MO 64114
 816-333-9400
 LICENSE NO. 000165

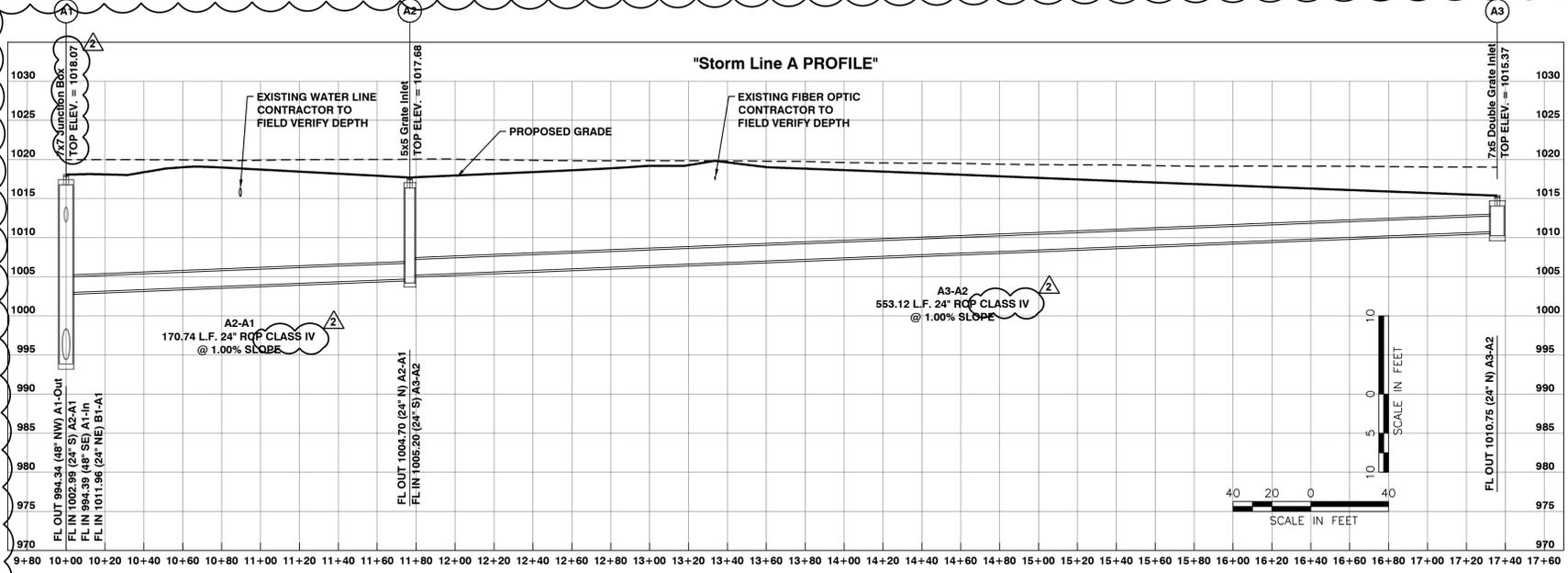
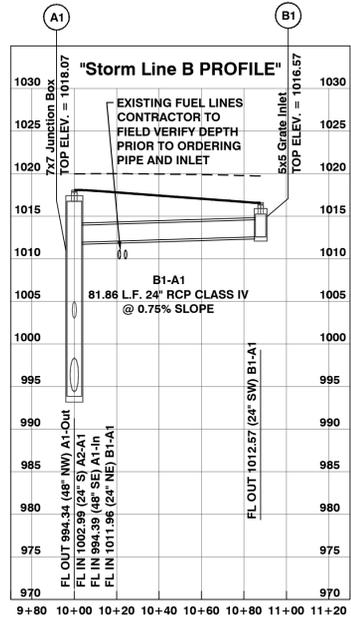
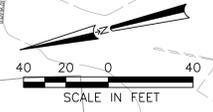
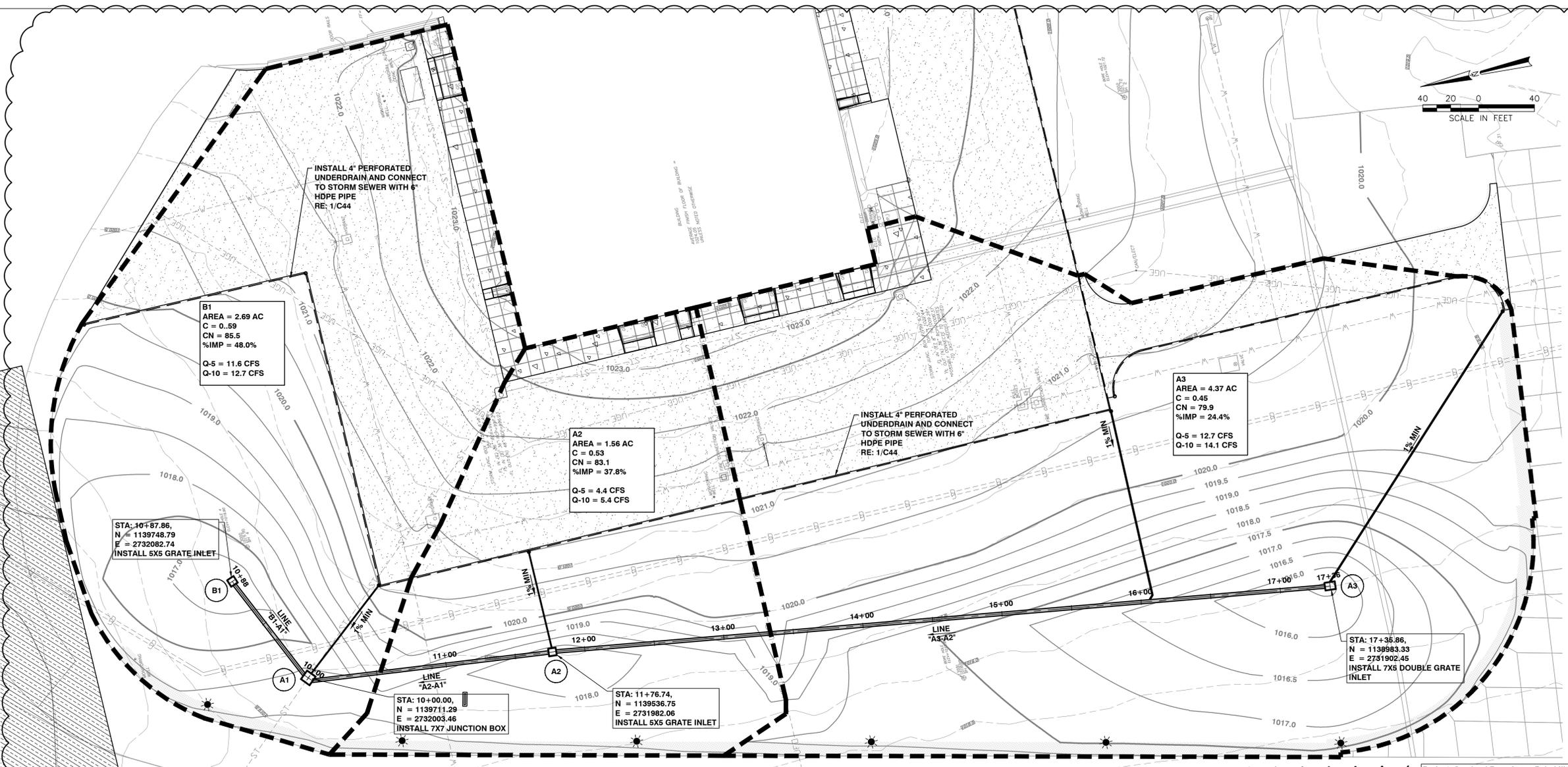
SK
 SK Design Group, Inc.
 4600 College Boulevard,
 Suite 100
 Overland Park, Kansas 66211
 Phone: 913-451-1818
 Fax: 913-451-7599



OVERHAUL BASE
APRON REHABILITATION
PHASE II

ENLARGED GRADING, DRAINAGE & EROSION CONTROL PLAN - 1 OF 5

design	SM	CAD File:	Aviation Project No.	62210547
drawn	DGL	dwg date	02-18-2022	dwg. no. C31 32 of 45



Project: Overhaul Base Apron Rehabilitation Phase II
Date: Sept 12th, 2022
Job #: 20-118
Description: SITE STORM SEWER
Return Period: 5
Antecedent Precipitation: 1

Q=CIAK

Line	Cumulative Area (acres)	Cumulative C	Tc Cumulative (min)	I - 5 (in/hr)	Q - 5 (cfs)	Pipe Dia (inches)	Pipe n	Grade %	Capacity (cfs)	Velocity (ft/sec)
A3-A2	4.37	0.45	5.0	6.5	12.7	24	0.013	1.00	22.7	7.2
A2-A1	5.93	0.47	6.3	6.1	17.1	24	0.013	1.00	22.7	7.2
B1-A1	2.69	0.59	5.0	7.3	11.6	24	0.013	0.75	19.6	6.3

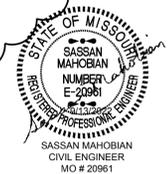
Project: Overhaul Base Apron Rehabilitation Phase II
Date: Sept 12th, 2022
Job #: 20-118
Description: SITE STORM SEWER
Return Period: 10
Antecedent Precipitation: 1

Q=CIAK

Line	Cumulative Area (acres)	Cumulative C	Tc Cumulative (min)	I - 10 (in/hr)	Q - 10 (cfs)	Pipe Dia (inches)	Pipe n	Grade %	Capacity (cfs)	Velocity (ft/sec)
A3-A2	4.37	0.44	5.0	7.4	14.1	24	0.013	1.00	22.7	7.2
A2-A1	5.93	0.47	6.3	7.0	19.5	24	0.013	1.00	22.7	7.2
B1-A1	2.69	0.59	5.0	8.0	12.7	24	0.013	0.75	19.6	6.3

Inlet Capacity

Inlet	C _s	Area of Opening (sf)	Gravity (ft/sec ²)	Head (4") (ft)	Capacity (cfs)	80% Capacity (cfs)
A3	0.67	5.8	32.2	0.33	17.91	14.33
A2	0.67	2.7	32.2	0.33	8.34	6.67
B1	0.67	2.7	32.2	0.33	8.34	6.67



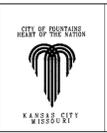
No.	Revision	Date
2	REQUEST FOR PROPOSAL NO. 2	09-13-2022
	ISSUED FOR CONSTRUCTION	07-13-2022
0	ISSUED FOR BID	04-01-2022

CITY OF KANSAS CITY, MISSOURI
AVIATION DEPARTMENT

KCI

BURNS MEDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSE NO. 000165

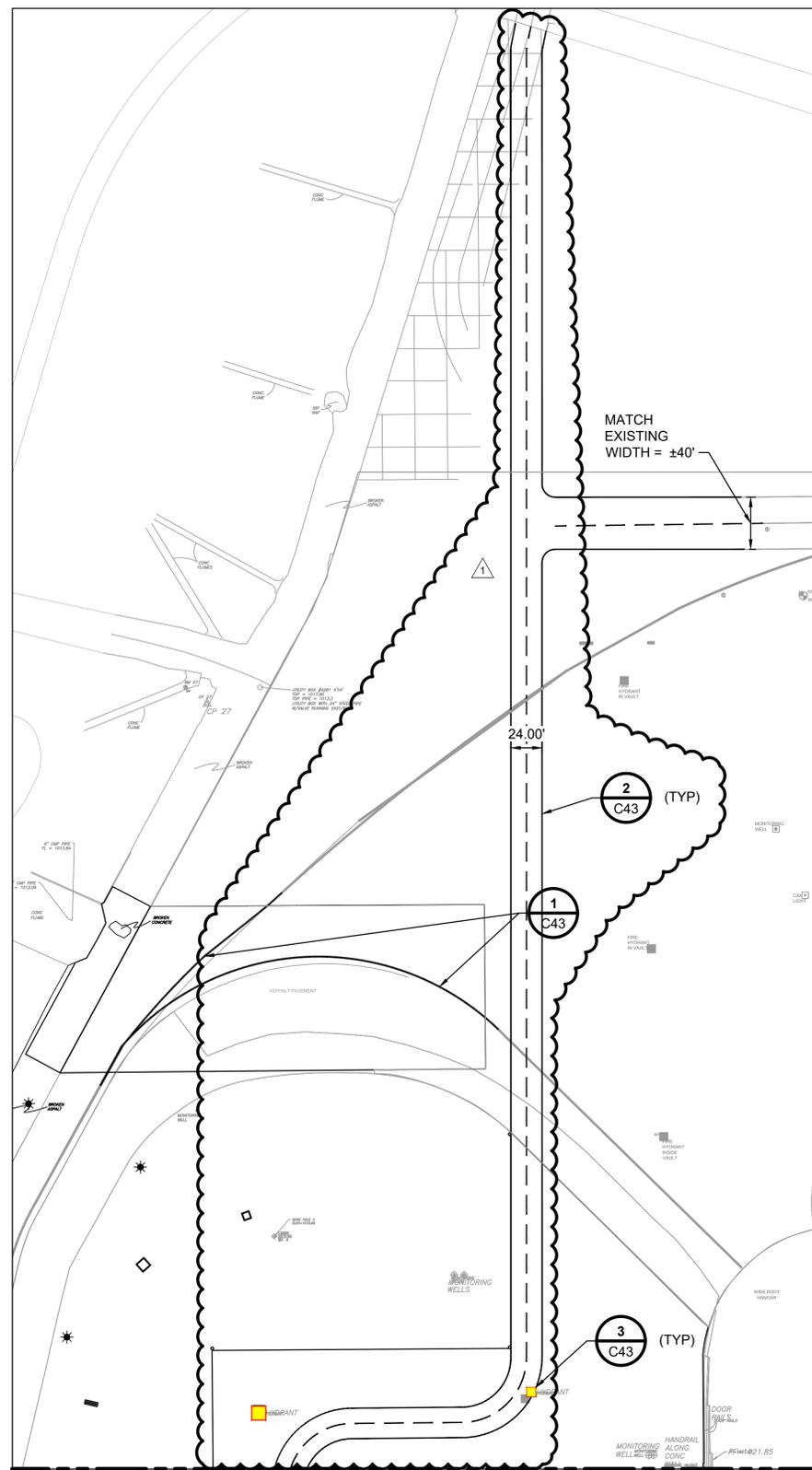
SK Design Group, Inc.
4600 College Boulevard,
Suite 100
Overland Park, Kansas 66211
Phone: 913-451-1818
Fax: 913-451-7599



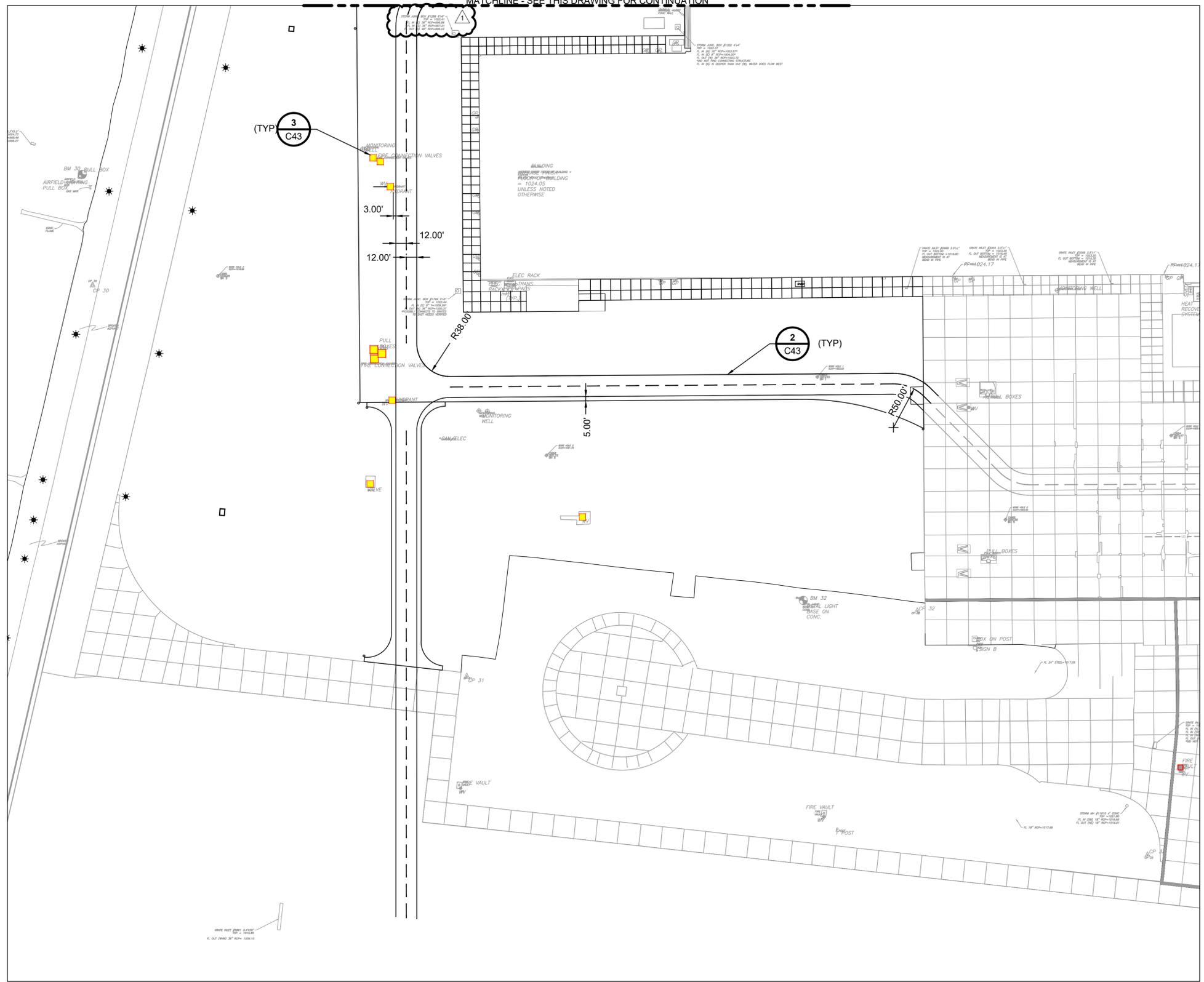
OVERHAUL BASE
APRON REHABILITATION
PHASE II

STORM DRAIN PROFILE

design	SM	CAD File:	Aviation Project No.	62210547
drawn	DGL	dwg date	02-18-2022	dwg. no. C36
				37 of 45



MATCHLINE - SEE THIS DRAWING FOR CONTINUATION



PAVEMENT MARKING PLAN



GENERAL PAVEMENT MARKING NOTES:

- SEE DRAWING C43 FOR GENERAL PAVEMENT MARKING NOTES.



9/13/2022

RYAN B. LORTON
CIVIL ENGINEER
MO # 2004017211

No.	Revision	Date
1	REQUEST FOR PROPOSAL NO. 2 ISSUED FOR CONSTRUCTION	09-13-2022 07-13-2022
0	ISSUED FOR BID	04-01-2022

CITY OF KANSAS CITY, MISSOURI
AVIATION DEPARTMENT



BURNS MEDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
LICENSE NO. 000165

SK
SK Design Group, Inc.
4400 College Boulevard,
Suite 100
Overland Park, Kansas 66211
Phone: 913-451-1818
Fax: 913-451-7599



OVERHAUL BASE
APRON REHABILITATION
PHASE II

PAVEMENT MARKING PLAN

design	MCG	CAD File: 2-62200517C40.DWG	Aviation Project No.	62210547
drawn	SML	dwg date	04-01-21	dwg. no. C40 41 of 45