NEVADA MUNICIPAL AIRPORT (NVD)
NEVADA, MISSOURI

MoDOT Project No. 21-082A-3 / AIR 216-082A-1

Base Bid
Reconstruct Runway 13-31 and Apron Connecting Taxiway

Add Alternate
Install Underdrains

ADDENDUM NO. 1

April 19, 2022

TO ALL PROSPECTIVE BIDDERS:

A. You are hereby notified of the following amendments to the Construction Plans for the subject project. Revised versions of the referenced Plan Sheets are included with this addendum for reference.

1. Sheet No. 2 General Layout. General Note 13 has been revised to provide direct information of whom to contact for water access at the project site, as well as contact information, and general access location.

   Revised Sheet No. 2 General Layout is included with this addendum for reference.

2. Sheet No. 4 Construction Safety and Phasing Plan. Provided clarification that Phase 2 shall be completed within the allotted eighty (80) calendar days and shall run concurrently with Phase 3.

   Revised Sheet No. 4 Construction Safety and Phasing Plan is included with this addendum for reference.

3. Sheet No. 5 Construction Safety and Phasing Plan. Provided clarification that Phase 3 shall be completed in thirty (30) consecutive calendar days or less and shall run concurrently with Phase 2.

   Revised Sheet No. 5 Construction Safety and Phasing Plan is included with this addendum for reference.

4. Sheet No. 8 Typical Sections. Typical Section Note 2 has been revised to state that the Contractor shall use enough cement or lime kiln dust to sufficiently lower the Plasticity Index to less than 15.

   Revised Sheet No. 8 Typical Sections is included with this addendum for reference.

B. You are hereby notified of the following amendments to the Contract Documents/Specifications for the subject project.

1. Section 1, Notice to Bidders. The Award of Contract section has been revised to reference a bid evaluation period not to exceed one-hundred twenty (120) calendar days from the date of the bid opening. The Contract Time section has been revised to clarify that Phase 2 shall be completed within the allotted eighty (80) calendar days and shall run concurrently with Phase 3. Additionally, Phase 3 shall be completed in thirty (30) consecutive calendar days or less and shall run concurrently with Phase 2.

   Revised Section 1 Notice to Bidders is included with this addendum for reference.

2. Section 3, General Provisions. Section 30-01, Evaluation of Proposals, has been revised to reference a bid evaluation period not to exceed one-hundred twenty (120) calendar days from the date of the bid opening. Section 80-08, Failure to Complete on Time, has been revised to reflect the contract performance time as previously described.

   Revised Section 3, General Provisions is not included with this addendum.

3. Section 14, Item P-157, Cement or Lime Kiln Dust Treated Subgrade. Section 157-3.1, Soil-Kiln Dust Mixture, The kiln dust shall be added at an application to sufficiently lower the Plasticity Index to less than 15. This change has also been made to the Tolerances table within Section 157-3.2, Tolerances.

   Revised Section 14, Item P-157, Cement or Lime Kiln Dust Treated Subgrade is included with this addendum for reference.

4. Section 20, Item P-403 CRM, Asphalt Mix Pavement Surface Course. The Asphalt Binder PG Plus Test Requirements table has been removed from Section 403-2.3. Section 403-3.3, Job Mix Formula (JMF), has been revised to include preparation and compaction of samples via the gyratory compactor in accordance with ASTM D6925. Submitted JMF by the Contractor no longer has to provide Asphalt Pavement Analyzer (APA) results. Table 1, Asphalt Design Criteria, references the two previously mentioned test methods for the number of blows / gyrations. Section 403-6.1.c.(2), Testing, has been revised to include the ASTM D6925 method.

   Revised Section 20, Item P-403 CRM, Asphalt Mix Pavement Surface Course is included in its entirety with this addendum for reference.

5. Proposal Form. Condition e under the Acknowledgements by Bidder section has been revised to reference a bid evaluation period not to exceed one-hundred twenty (120) calendar days from the date of the bid opening. Condition g under the Acknowledgements by Bidder section has been revised to reflect the contract performance time as previously described.

   Complete revised Proposal Form is included with this addendum for reference.

C. You are hereby notified of the following amendments to the Official Bid Form for the subject project. The Official Bid Form, specifically Bidder acknowledgement conditions e and g, has been revised as previously described. **Revised Official Bid Form Pages 3 and 4 are included with this addendum and shall be used for submitting a bid.**

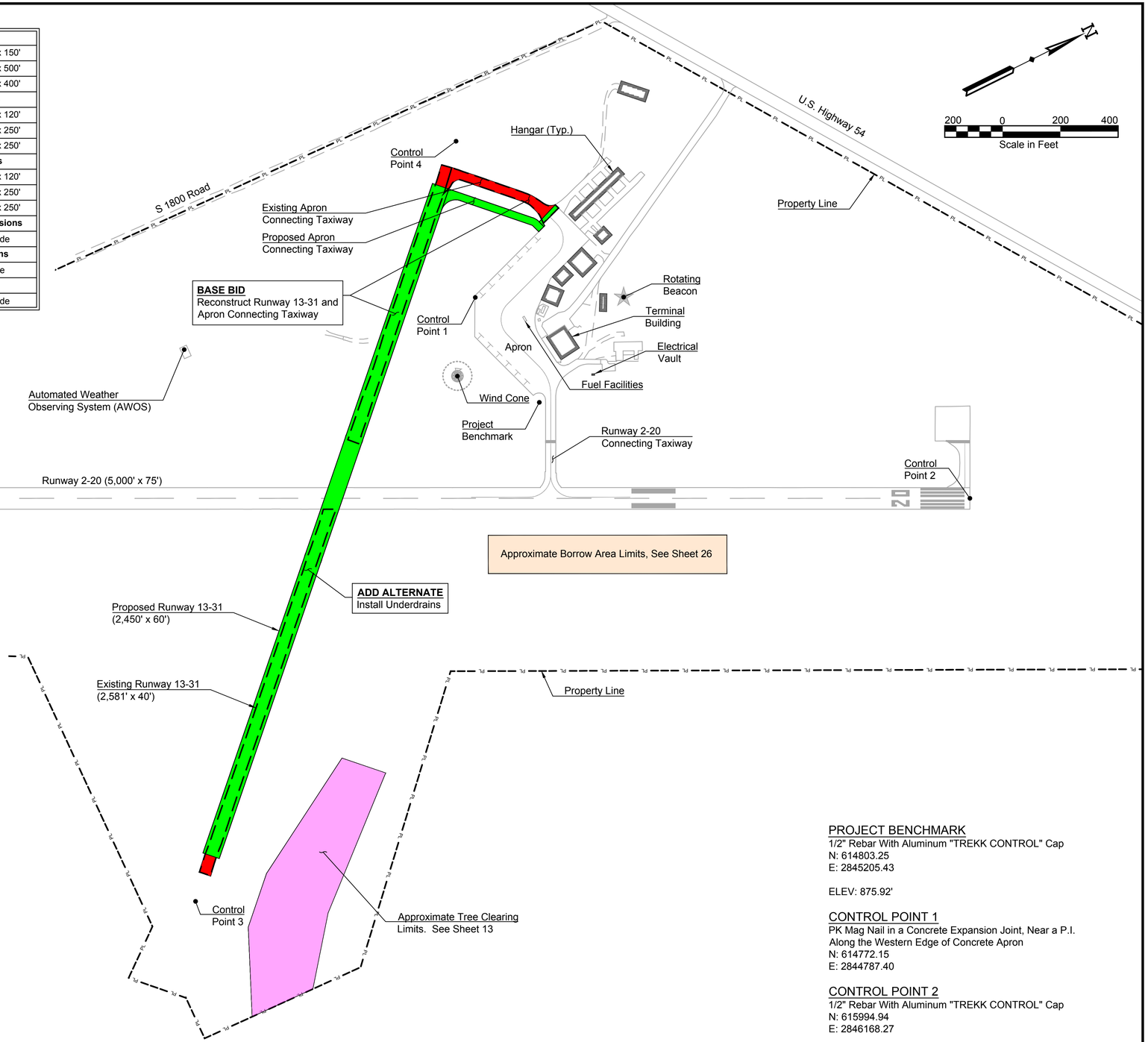
D. A copy of the pre-bid conference meeting minutes and attendees list is included with this addendum.

E. All bidders must acknowledge receipt of this addendum in the space provided on page PF-4 of the Proposal Forms within the original Official Bid Form. Failure to acknowledge receipt of an addendum may be cause for rejection of the bid.

LEGEND

- Existing Runway 13-31 and Apron Connecting Taxiway (To Be Removed)
- Proposed Runway 13-31 and Apron Connecting Taxiway (To Be Constructed)
- Approximate Borrow Area Limits (See Sheet 26)
- Approximate Tree Clearing Limits (See Sheet 13)

Runway 2-20 Safety Dimensions	
Runway Safety Area (RSA):	5,600' x 150'
Runway Object Free Area (R-OFA):	5,600' x 500'
Runway Obstacle Free Zone (R-OFZ):	5,400' x 400'
Existing Runway 13-31 Safety Dimensions	
Runway Safety Area (RSA):	3,061' x 120'
Runway Object Free Area (R-OFA):	3,061' x 250'
Runway Obstacle Free Zone (R-OFZ):	2,981' x 250'
Proposed Runway 13-31 Safety Dimensions	
Runway Safety Area (RSA):	2,930' x 120'
Runway Object Free Area (R-OFA):	2,930' x 250'
Runway Obstacle Free Zone (R-OFZ):	2,850' x 250'
Runway 2-20 Connecting Taxiway Safety Dimensions	
Taxiway Object Free Area (T-OFA):	131' Wide
Apron Connecting Taxiway Safety Dimensions	
Taxiway Object Free Area (T-OFA):	89' Wide
Apron Taxilane Safety Dimensions	
Taxilane Object Free Area (T-OFA):	115' Wide



GENERAL NOTES

1. The existing features shown on these Plans are those noted in the field and those taken from record drawings. This does not guarantee that all features are shown on the Plans. There will be no additional payment to the Contractor due to variations in size, quantity or location of existing features.
2. Extreme caution shall be used when working near existing light fixtures, underground electrical ducts, underground electrical cable and any other existing airport fixtures that are to remain. Should damage occur to any of these items, they will be replaced at the Contractor's expense to the satisfaction of the Resident Project Representative (RPR).
3. The Contractor shall be responsible for locating any underground utilities prior to beginning construction. Contact Missouri One Call System 1-800-DIG-RITE (1-800-344-7483) or Dial 811. The Contractor shall be responsible for locating all airport owned utilities not marked by the marking service.
4. Except for paving equipment, only rubber-tired vehicles under 36,000 lbs GVWR will be allowed on airport pavement surfaces without prior Engineer approval.
5. The Contractor shall be responsible for repairing any areas or Airport Facilities damaged by construction vehicles. Repairs shall be adequate to return the damaged area to a condition equal to or better than the condition prior to construction.
6. The Contractor shall be responsible for the restoration and seeding of the access road, haul road, or any other areas where damage has occurred due to construction activities. No direct payment will be made for these items. Seeding and mulching shall be done in accordance with items T-901: Seeding and T-908: Mulching, of the Project Specifications. Seeding and mulching shall be done as needed to restore the area to a condition equal to that prior to the start of construction. All of the Contractor's equipment and materials shall be removed from the Air Operations Area (AOA) prior to reopening the airport.
7. Waste materials resulting from this Project shall be disposed of off Airport Property unless shown otherwise on these Plans.
8. The Contractor will be required to repair any damage to public and airport haul roads caused by the Contractor's trucks and equipment during the construction of the project. Repairs shall be adequate to return the roads to a condition equal to or better than the condition prior to damage. All repair work shall be at the Contractor's expense. The public roads and all airfield pavements to be crossed or driven on shall be video-recorded by the Contractor in the presence of the RPR prior to construction in order to document their existing condition.
9. Any time an existing runway, taxiway or apron pavement is traversed or crossed, the Contractor shall provide protection to the pavement edges. The Contractor will be required to sweep and maintain the pavement as directed by the RPR.
10. The Contractor shall notify the Airport of any changes on the approved Safety Plan and CSPP Report at least 72 hours in advance of planned activity for approval and concurrence from the FAA.
11. The Contractor shall provide the Airport with the contact information of the Supervisor on site.
12. Contractor shall monitor Common Traffic Advisory Frequency (CTAF) 122.80 at all times during construction and shall respond to any instructions from the RPR and/or Airport Personnel immediately.
13. The Contractor shall be responsible for obtaining water, as required for completion of the project, and shall coordinate with **Consolidated Public Water Supply District #1 of Vernon County, Missouri (3414 E. Austin Boulevard, Nevada, MO 64772) (417) 667-8512** provider for pricing, obtaining a water meter, and determining a location for water access. The cost of this work shall be considered subsidiary to other contract items. There is water access located within the Terminal Area near the airport access road. (1)
14. If the Add Alternate is awarded, the Contractor shall install the Runway 13-31 and Apron Connecting Taxiway underdrain system as shown on the Plans.

PROJECT BENCHMARK

1/2" Rebar With Aluminum "TREKK CONTROL" Cap
N: 614803.25
E: 2845205.43

ELEV: 875.92'

CONTROL POINT 1

PK Mag Nail in a Concrete Expansion Joint, Near a P.I. Along the Western Edge of Concrete Apron
N: 614772.15
E: 2844787.40

CONTROL POINT 2

1/2" Rebar With Aluminum "TREKK CONTROL" Cap
N: 615994.94
E: 2846168.27

CONTROL POINT 3

1/2" Rebar, 24" Long With a Yellow "CONTROL POINT" Cap Flush With Ground
N: 612971.36
E: 2846227.20

CONTROL POINT 4

1/2" Rebar, 24" Long With a Yellow "CONTROL POINT" Cap Flush With Ground
N: 614951.13
E: 2844270.39

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STATE OF MISSOURI
IAN WRIGHT
NUMBER PE-2002025585
4/19/22
PROFESSIONAL ENGINEER

CITY OF NEVADA, MISSOURI
NEVADA MUNICIPAL AIRPORT (NVD)
NEVADA, MISSOURI

PROJECT NO.	17191 TO2
DRAWN BY / DATE	IJW 01/15/2022
CHECKED BY / DATE	REM 01/06/2022
DESIGNED BY / DATE	IJW 01/15/2022
REVISIONS	DATE
90% SUBMITTAL	02/25/2022
ISSUE FOR BID	03/29/2022
ADDENDUM NO. 1	04/19/2022

GENERAL LAYOUT

2

LEGEND

- Contractor's Haul Route
- Low Profile Barricade (Symbol Does Not Denote the Number of Barricades Required)
- Closed Runway Marking (Owner Furnished)
- Contractor's Staging Area
- Construction Limits
- Contractor Furnished Flagger Personnel
- Existing Runway 13-31 and Apron Connecting Taxiway (To Be Removed)
- Proposed Runway 13-31 and Apron Connecting Taxiway (To Be Constructed)

Runway 2-20 Safety Dimensions	
Runway Safety Area (RSA):	5,600' x 150'
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Runway Obstacle Free Zone (R-OFZ):	5,400' x 400'
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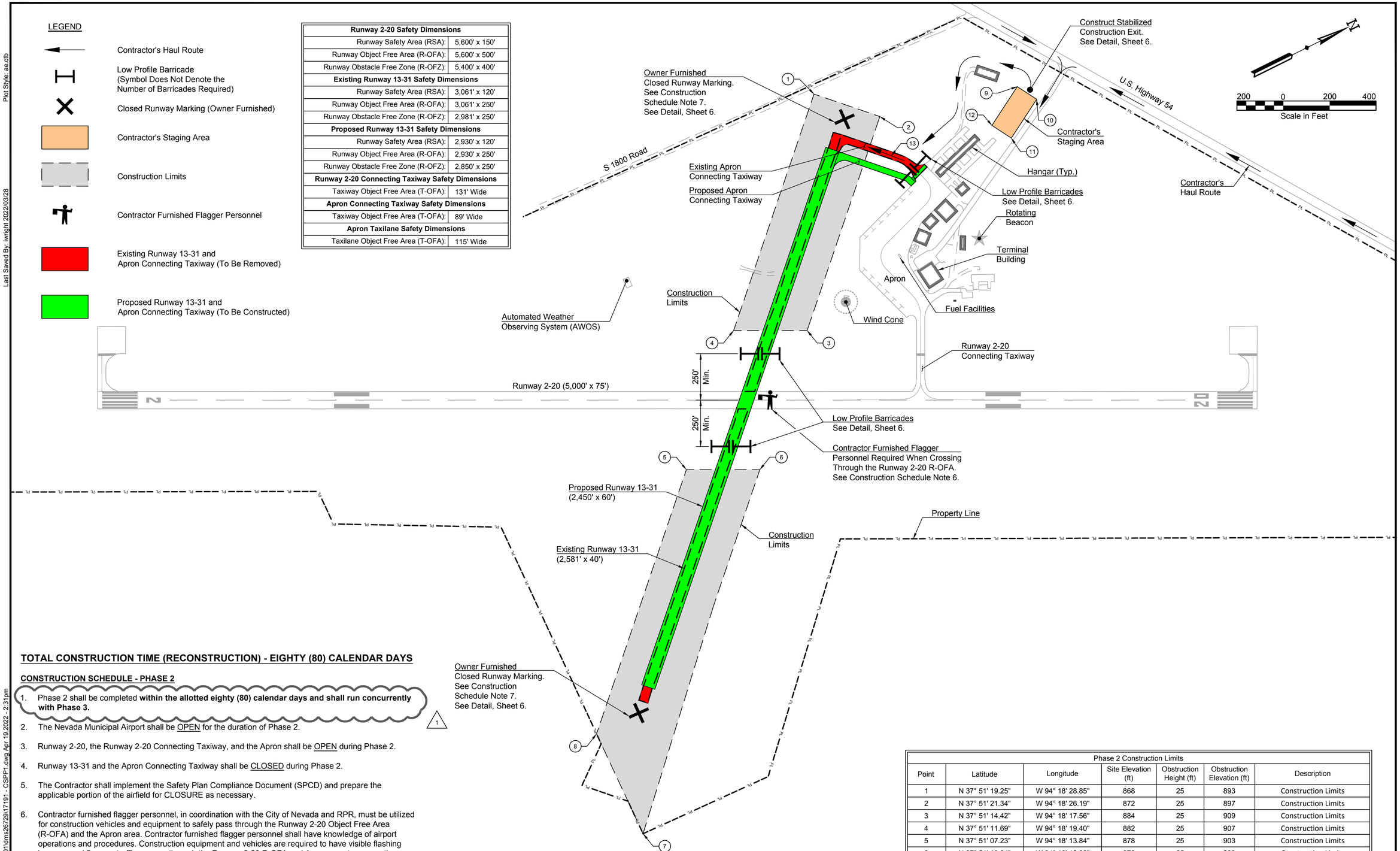
Apron Connecting Taxiway Safety Dimensions	
Taxiway Object Free Area (T-OFA):	89' Wide
Apron Taxilane Safety Dimensions	
Taxilane Object Free Area (T-OFA):	115' Wide



TOTAL CONSTRUCTION TIME (RECONSTRUCTION) - EIGHTY (80) CALENDAR DAYS

CONSTRUCTION SCHEDULE - PHASE 2

1. Phase 2 shall be completed **within the allotted eighty (80) calendar days and shall run concurrently with Phase 3.**
2. The Nevada Municipal Airport shall be OPEN for the duration of Phase 2.
3. Runway 2-20, the Runway 2-20 Connecting Taxiway, and the Apron shall be OPEN during Phase 2.
4. Runway 13-31 and the Apron Connecting Taxiway shall be CLOSED during Phase 2.
5. The Contractor shall implement the Safety Plan Compliance Document (SPCD) and prepare the applicable portion of the airfield for CLOSURE as necessary.
6. Contractor furnished flagger personnel, in coordination with the City of Nevada and RPR, must be utilized for construction vehicles and equipment to safely pass through the Runway 2-20 Object Free Area (R-OFA) and the Apron area. Contractor furnished flagger personnel shall have knowledge of airport operations and procedures. Construction equipment and vehicles are required to have visible flashing beacons and flags as traffic crosses through the Runway 2-20 R-OFA and Apron area to access the construction limits.
7. Closed Runway Markings shall be placed off the ends of Runway 13-31 as to not disturb construction activities. Place low profile barricades as shown on the Plans.
8. The following construction work shall be completed:
   - Complete all pavement removal and associated demolition work.
   - Complete all grading and compaction.
   - Install drainage pipes and end sections.
   - Install underdrains (ADD ALTERNATE)
   - Complete all runway and taxiway paving operations including subgrade modification, base rock construction, and asphalt paving.

Phase 2 Construction Limits						
Point	Latitude	Longitude	Site Elevation (ft)	Obstruction Height (ft)	Obstruction Elevation (ft)	Description
1	N 37° 51' 19.25"	W 94° 18' 28.85"	868	25	893	Construction Limits
2	N 37° 51' 21.34"	W 94° 18' 26.19"	872	25	897	Construction Limits
3	N 37° 51' 14.42"	W 94° 18' 17.56"	884	25	909	Construction Limits
4	N 37° 51' 11.69"	W 94° 18' 19.40"	882	25	907	Construction Limits
5	N 37° 51' 07.23"	W 94° 18' 13.84"	878	25	903	Construction Limits
6	N 37° 51' 10.04"	W 94° 18' 12.08"	878	25	903	Construction Limits
7	N 37° 50' 58.66"	W 94° 17' 57.37"	872	25	897	Construction Limits
8	N 37° 50' 58.78"	W 94° 18' 03.29"	874	25	899	Construction Limits
9	N 37° 51' 27.15"	W 94° 18' 24.33"	867	25	892	Contractor's Staging Area
10	N 37° 51' 27.65"	W 94° 18' 23.26"	867	25	892	Contractor's Staging Area
11	N 37° 51' 25.94"	W 94° 18' 22.00"	867	25	892	Contractor's Staging Area
12	N 37° 51' 25.44"	W 94° 18' 23.07"	867	25	892	Contractor's Staging Area
13	N 37° 51' 21.03"	W 94° 18' 24.03"	871	25	896	Contractor's Haul Route

Note: Site Elevations for Points 1 - 16 are from Google Earth.

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CONSTRUCTION SAFETY AND PHASING PLAN

4

LEGEND

- Contractor's Haul Route
- Low Profile Barricade (Symbol Does Not Denote the Number of Barricades Required)
- Closed Runway Marking (Owner Furnished)
- Contractor's Staging Area
- Construction Limits
- Contractor Furnished Flagger Personnel
- Existing Runway 13-31 and Apron Connecting Taxiway (To Be Removed)
- Proposed Runway 13-31 and Apron Connecting Taxiway (To Be Constructed)

Runway 2-20 Safety Dimensions	
Runway Safety Area (RSA):	5,600' x 150'
Runway Object Free Area (R-OFA):	5,600' x 500'
Runway Obstacle Free Zone (R-OFZ):	5,400' x 400'
Existing Runway 13-31 Safety Dimensions	
Runway Safety Area (RSA):	3,061' x 120'
Runway Object Free Area (R-OFA):	3,061' x 250'
Runway Obstacle Free Zone (R-OFZ):	2,981' x 250'
Proposed Runway 13-31 Safety Dimensions	
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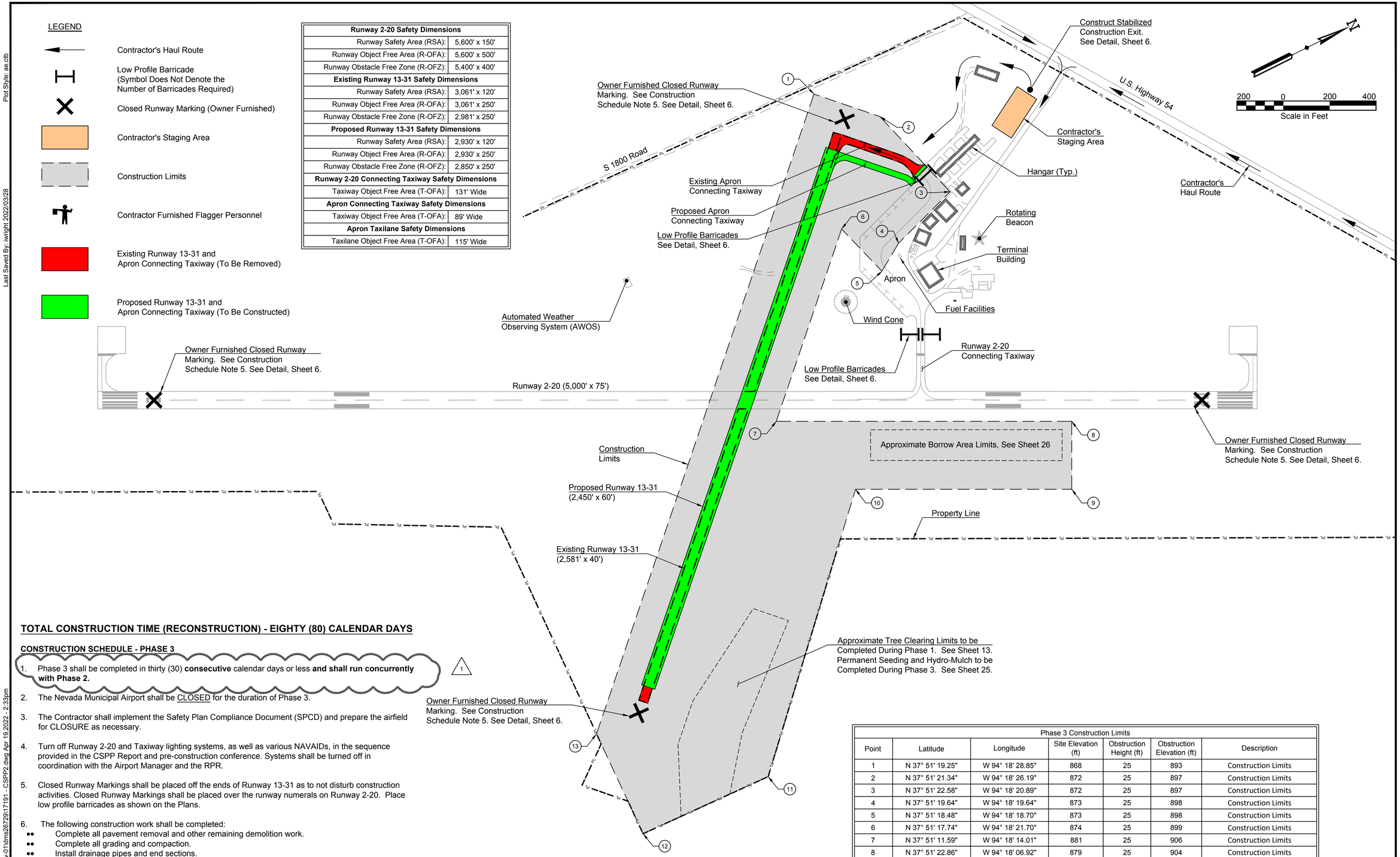
Taxilane Object Free Area (T-OFA):	115' Wide



TOTAL CONSTRUCTION TIME (RECONSTRUCTION) - EIGHTY (80) CALENDAR DAYS

CONSTRUCTION SCHEDULE - PHASE 3

1. Phase 3 shall be completed in thirty (30) **consecutive** calendar days or less **and shall run concurrently with Phase 2.**
2. The Nevada Municipal Airport shall be CLOSED for the duration of Phase 3.
3. The Contractor shall implement the Safety Plan Compliance Document (SPCD) and prepare the airfield for CLOSURE as necessary.
4. Turn off Runway 2-20 and Taxiway lighting systems, as well as various NAVAIDs, in the sequence provided in the CSPP Report and pre-construction conference. Systems shall be turned off in coordination with the Airport Manager and the RPR.
5. Closed Runway Markings shall be placed off the ends of Runway 13-31 as to not disturb construction activities. Closed Runway Markings shall be placed over the runway numerals on Runway 2-20. Place low profile barricades as shown on the Plans.
6. The following construction work shall be completed:
   - Complete all pavement removal and other remaining demolition work.
   - Complete all grading and compaction.
   - Install drainage pipes and end sections.
   - Install underdrains (ADD ALTERNATE)
   - Complete all runway and taxiway paving operations including subgrade modification, base rock construction, and asphalt paving.
   - Apply pavement markings.
   - Complete seeding, mulching, and erosion control.
7. At the conclusion of construction, the Contractor shall prepare the pavement for reopening per the Construction Safety and Phasing Plan (CSPP) Report. The Contractor shall remove all Closed Runway Markings and Low Profile Barricades. The Contractor shall ensure a 1.5" edge drop from the edge of pavement to the ground along disturbed pavement edges. Prior to opening airport pavement, ensure all FOD has been removed from paved surfaces and all equipment, materials, and personnel are removed from the work area.

Phase 3 Construction Limits						
Point	Latitude	Longitude	Site Elevation (ft)	Obstruction Height (ft)	Obstruction Elevation (ft)	Description
1	N 37° 51' 19.25"	W 94° 18' 28.85"	868	25	893	Construction Limits
2	N 37° 51' 21.34"	W 94° 18' 26.19"	872	25	897	Construction Limits
3	N 37° 51' 22.58"	W 94° 18' 20.89"	872	25	897	Construction Limits
4	N 37° 51' 19.64"	W 94° 18' 19.64"	873	25	898	Construction Limits
5	N 37° 51' 18.48"	W 94° 18' 18.70"	873	25	898	Construction Limits
6	N 37° 51' 17.74"	W 94° 18' 21.70"	874	25	899	Construction Limits
7	N 37° 51' 11.59"	W 94° 18' 14.01"	881	25	906	Construction Limits
8	N 37° 51' 22.86"	W 94° 18' 06.92"	879	25	904	Construction Limits
9	N 37° 51' 21.57"	W 94° 18' 03.65"	882	25	907	Construction Limits
10	N 37° 51' 13.32"	W 94° 18' 08.84"	878	25	903	Construction Limits
11	N 37° 51' 04.52"	W 94° 17' 57.11"	873	25	898	Construction Limits
12	N 37° 50' 58.66"	W 94° 17' 57.37"	872	25	897	Construction Limits
13	N 37° 50' 58.78"	W 94° 18' 03.29"	874	25	899	Construction Limits

Note: Site Elevations for Points 1 - 13 are from Google Earth. Since the Airport is Closed, the Contractor's Staging Area and Haul Route Will Not be Analyzed.

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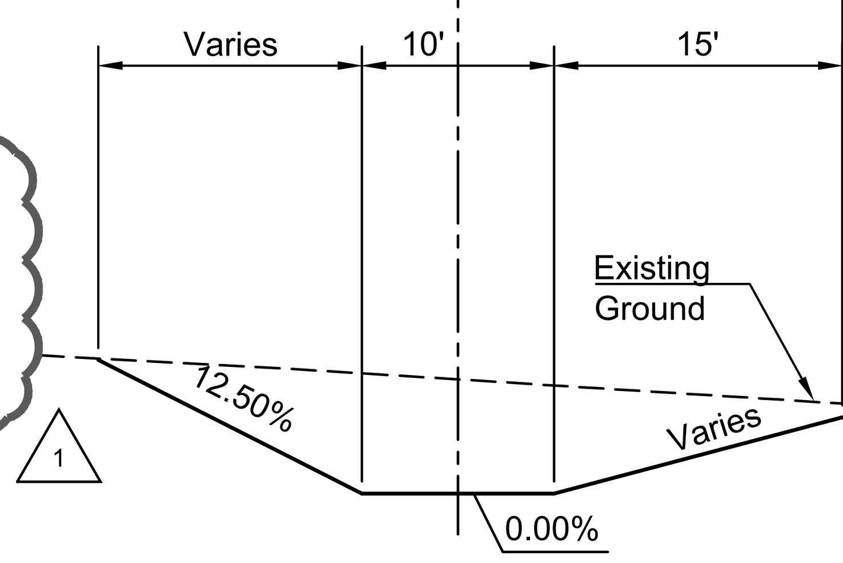
CONSTRUCTION SAFETY AND PHASING PLAN

5

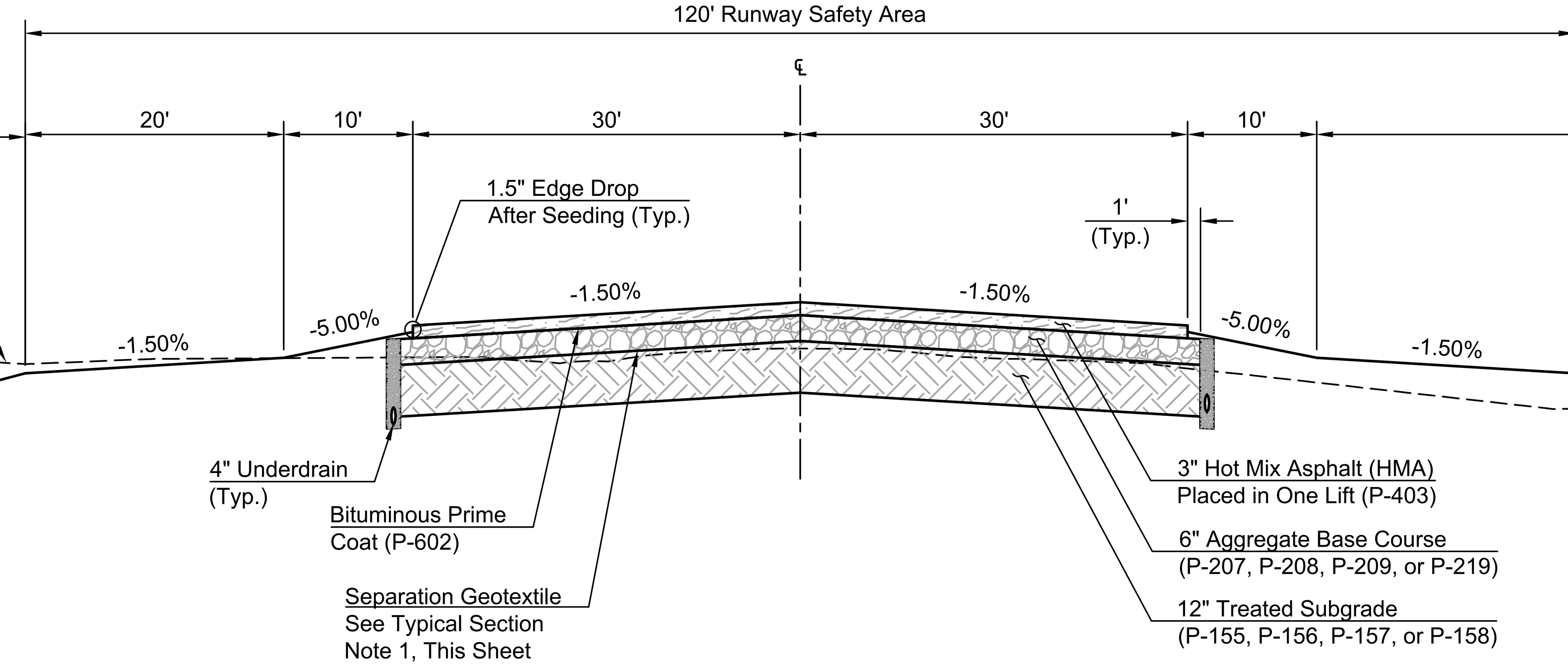
SHEET 5 OF 51

TYPICAL SECTION NOTES:

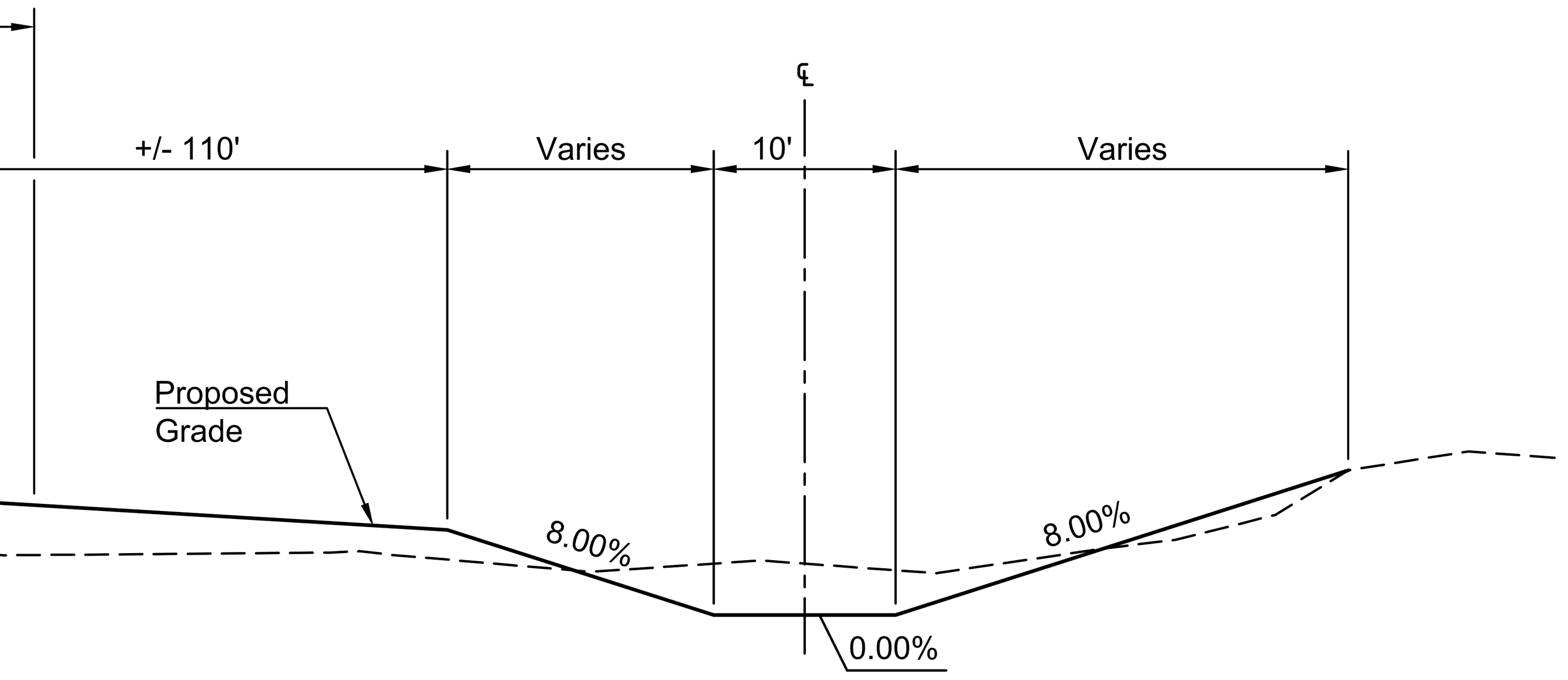
1. Separation Geotextile shall be Class 2, 0.02 sec-1permittivity per ASTM D4491. Apparent opening size per ASTM D4751 with 0.60 mm maximum average roll value. Separation Geotextile is required for P-208, P-209, or P-219. Materials and Labor shall be considered subsidiary to the construction of the proposed base course. Separation Geotextile is not required for P-207.
2. If the Contractor intends to use Cement or Lime Kiln Dust (P-157), material shall be added at an application rate to sufficiently lower the Liquid Limit to less than 30, the Plasticity Index to less than ***15***, and increase the CBR to greater than or equal to 10. (1)
3. The existing asphalt pavement and underlying aggregate base course material was tested in the laboratory during the design phase by the Engineer and determined to be in compliance with the material requirements included in FAA Specification P-207. See Geotechnical Report, included within the Project Manual, for details. If the Contractor elects to utilize the existing asphalt pavement and aggregate base course in accordance with P-207, an adequate amount of chemical stabilizing agent shall be incorporated in order to achieve a minimum CBR value of 10. Refer to Table 2 within the Geotechnical Report to assist in determining the chemical additive percentage relative to the intended CBR.
4. Install Item TREC, "Erosion Control Blanket (Type 2C)" adjacent to new runway and taxiway pavement extending 16' from the edge of pavement. See Grading Plan.



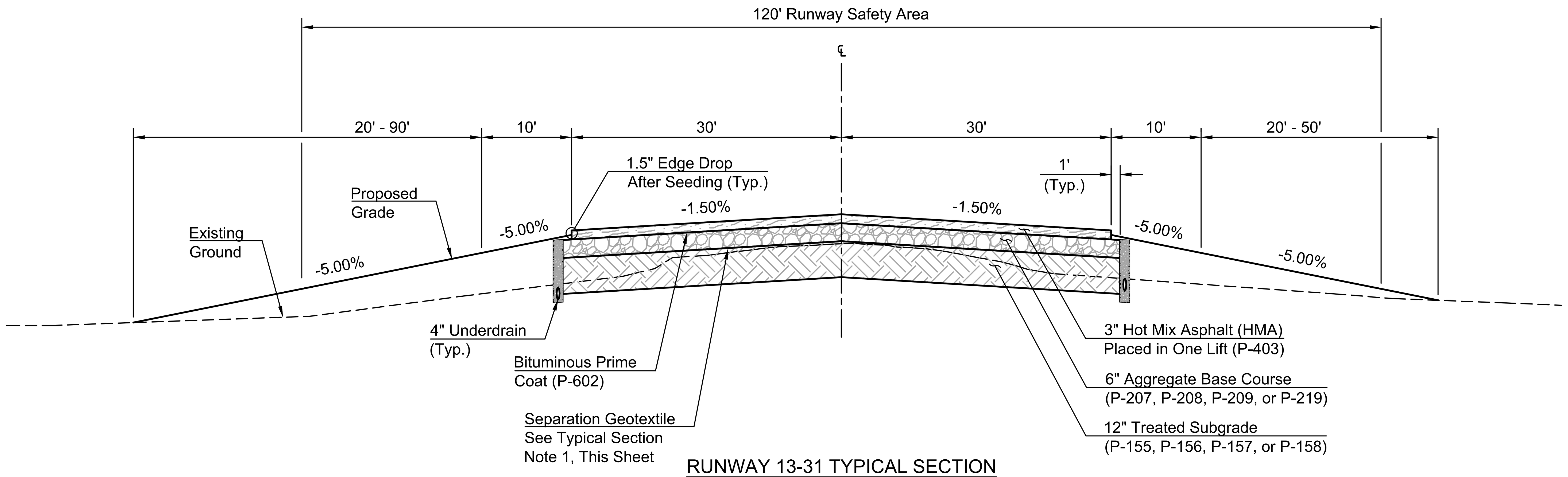
LEFT DITCH TYPICAL SECTION
Sta. 205+87.50 to Sta. 214+75.00
Not to Scale



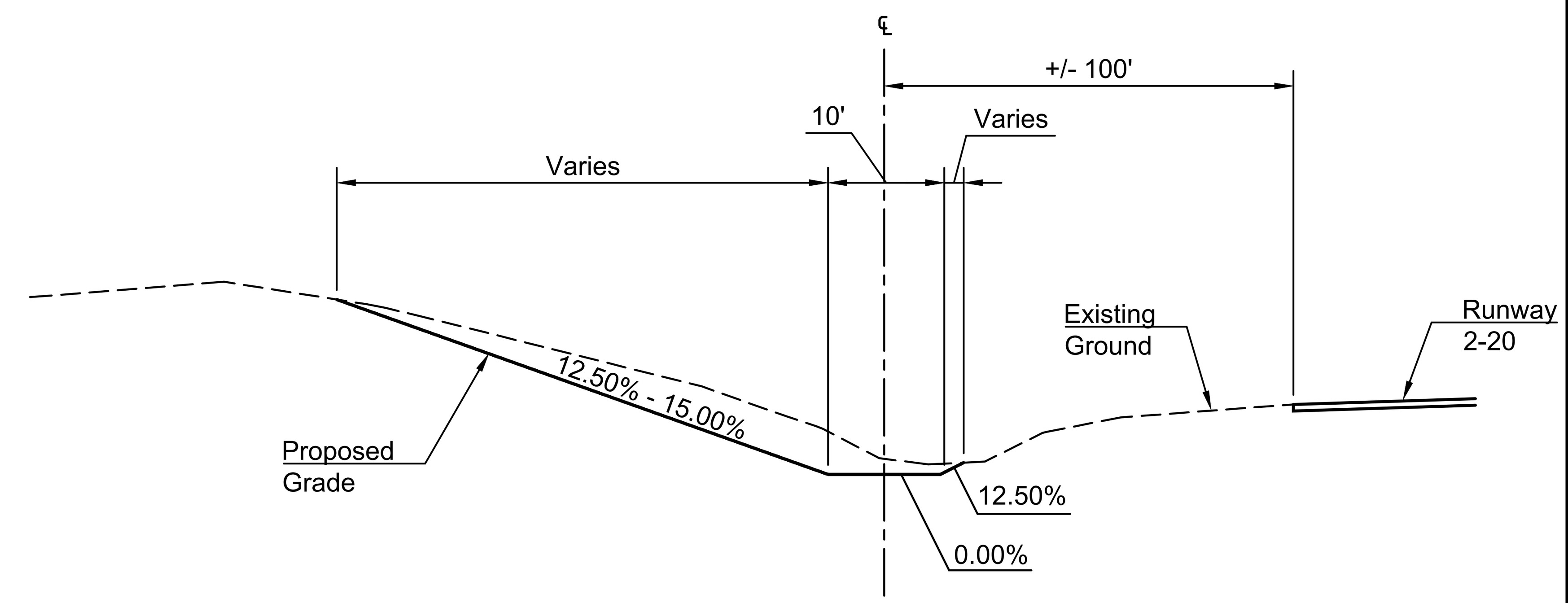
RUNWAY 13-31 TYPICAL SECTION
Sta. 5+00.00 to Sta. 16+02.64
Not to Scale



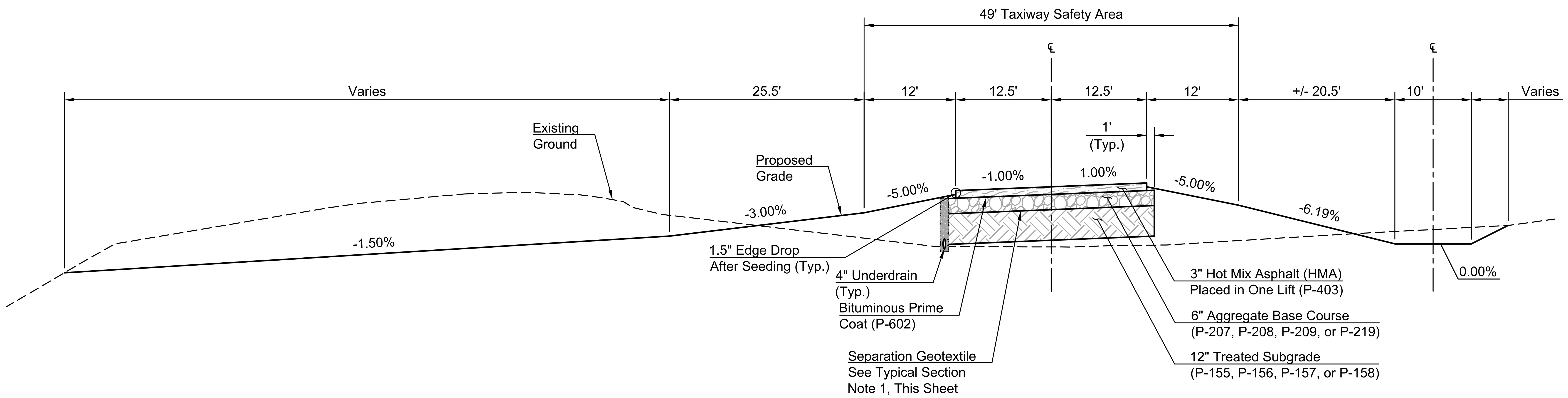
RIGHT DITCH TYPICAL SECTION
Sta. 300+23.14 to Sta. 306+77.74
Not to Scale



RUNWAY 13-31 TYPICAL SECTION
Sta. 16+81.76 to Sta. 29+50.00
Not to Scale



BORROW AREA DITCH TYPICAL SECTION
Sta. 600+50.00 to Sta. 608+50.00
Not to Scale



APRON CONNECTING TAXIWAY TYPICAL SECTION
Sta. 100+30.00 to Sta. 103+80.93
Not to Scale

RUNWAY 13-31 LEFT DITCH TYPICAL SECTION
Sta. 202+95.19 to Sta. 205+87.50
Not to Scale

RUNWAY TRANSVERSE SLOPE NOTES:

1. Left transverse slope transitions from -1.50% between Sta. 14+54.46 and Sta.16+02.64.
2. Right transverse slope transitions from -1.50% between Sta. 15+00.00 and Sta. 16+02.64.
3. Left transverse slope transitions to -1.50% between Sta. 16+81.76 and Sta. 17+50.00.
4. Right transverse slope transitions to -1.50% between Sta. 16+81.76 and Sta. 18+00.00.

TAXIWAY TRANSVERSE SLOPE NOTES:

1. Left transverse slope transitions to -1.00% between Sta. 100+30.00 and Sta. 100+75.00.
2. Right transverse slope transitions to 1.00% between Sta. 100+30.00 and Sta. 100+75.00.
3. Left transverse slope transitions from -1.00% between Sta. 103+50.00 and Sta. 103+80.92.
4. Right transverse slope transitions from 1.00% between Sta. 103+50.00 and Sta. 103+80.92.

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CITY OF NEVADA, MISSOURI
NEVADA MUNICIPAL AIRPORT (NVD)
NEVADA, MISSOURI

PROJECT NO.	17191 TO2
DRAWN BY IJW	DATE 01/15/2022
CHECKED BY BRE	DATE 02/14/2022
DESIGNED BY IJW	DATE 01/15/2022
REVISIONS	DATE
90% SUBMITTAL	02/25/2022
ISSUE FOR BID	03/29/2022
ADDENDUM NO. 1	04/19/2022

TYPICAL SECTIONS

8

SECTION 1
NOTICE TO BIDDERS

CITY OF NEVADA, MISSOURI
NEVADA MUNICIPAL AIRPORT (NVD)
State Block Grant Project No. **21-082A-3 / AIR 216-082A-1**

Sealed bids subject to the conditions and provisions presented herein will be received until **11:00 AM (CDT), Thursday, April 28th, 2022,** and then publicly opened and read at **Nevada City Hall, 110 S. Ash Street, Nevada, MO 64772**, for furnishing all labor, materials, equipment and performing all work necessary to

BASE BID
Reconstruct Runway 13-31 and Apron Connecting Taxiway

ADD ALTERNATE
Install Underdrains

Copies of the bid documents including project drawings and technical specifications are on file and may be inspected at:

Nevada Municipal Airport
18098 E. U.S. 54 Highway
Nevada, MO 64772

Lochner
16105 W. 113th Street, Suite 107
Lenexa, KS 66219

Drawings, specifications, official bid form, and other related contract information may be ordered online at www.drexeltech.com or by contacting Drexel Technologies, Inc. at 10840 W. 86th Street, Lenexa, KS 66214, phone (913) 371-4430, fax (913) 371-7128. Checks shall be made payable to "Drexel Technologies" and mailing costs are the responsibility of the purchaser. Drawings, specifications, official bid form, any addenda and a plan holders list are available at www.drexeltech.com by clicking on "Enter Plan Room".

A prebid conference for this project will be held at **11:00 AM (CDT), Wednesday, April 13th, 2022** at the **Nevada Municipal Airport Terminal Building, 18098 E. U.S. 54 Highway, Nevada, Missouri 64772**. Following the prebid conference, prospective bidders will have the opportunity to tour the project site. This is the only time prospective bidders will have to tour the project site.

Contract Work Items. This project will involve the following work items and estimated quantities. Prospective bidders are hereby advised that the quantities indicated herein are approximate and are subject to change.

ITEM NO.	SPEC.	ITEM DESCRIPTION	QTY.	UNIT
MODOT PROJECT NO. 21-082A-3 / AIR 216-082A-1				
BASE BID **RECONSTRUCT RUNWAY 13-31 AND APRON CONNECTING TAXIWAY**				
1	C-100	Contractor Quality Control Program (CQCP)	1	L.S.
2	C-102	Erosion Control Barrier (Silt Fence)	1,600	L.F.
3	C-102	Erosion Control Barrier (Straw Wattle)	265	L.F.
4	C-102	Stabilized Construction Exit	1	L.S.
5	C-105	Mobilization (NTE 10% of Total Bid Amount)	1	L.S.
6	TEMP	Temporary Marking, Lighting, and Barricades	1	L.S.
7	P-101	Saw Cut	226	L.F.
8	P-101	Remove Existing Asphalt Pavement and Aggregate Base	11,324	S.Y.
9	P-101	Remove Existing Concrete Pavement and Aggregate Base	854	S.Y.
10	P-101	Remove Existing Drainage Pipe, Underdrain Pipe, and Area Inlet	1	L.S.

ITEM NO.	SPEC.	ITEM DESCRIPTION	QTY.	UNIT
10	P-151	Clear Trees and Brush	4.5	Acre
11	P-152	Embankment In Place	9,450	C.Y.
12	P-152	Unsuitable Subgrade Removal and Replacement	950	C.Y.
13	P-155, P-156, P-157, or P-158	Treated Subgrade (12")	17,603	S.Y.
14	P-207, P-208, P-209, or P-219	Aggregate Base Course (6")	17,603	S.Y.
15	P-403	Asphalt Surface Course (3")	2,850	Ton
16	P-602	Emulsified Asphalt Prime Coat	5,094	Gal.
17	P-620	Surface Preparation, Pavement Marking Removal	784	S.F.
18	P-620	Temporary Non-Reflectorized Pavement Marking (White)	3,197	S.F.
19	P-620	Temporary Non-Reflectorized Pavement Marking (Yellow)	838	S.F.
20	P-620	Permanent Reflectorized Pavement Marking (White)	3,197	S.F.
21	P-620	Permanent Reflectorized Pavement Marking (Yellow)	838	S.F.
22	P-620	Permanent Non-Reflectorized Pavement Marking (Black)	3,192	S.F.
23	D-701	24" Storm Pipe	548	L.F.
24	D-701	24" End Section	5	Each
25	D-705	Non-Perforated Outlet Pipe (Sch. 40) (4")	70	L.F.
26	D-705	Connect Underdrain to Storm Pipe	1	Each
27	D-751	Area Inlet (4' x 4')	1	Each
28	TREC	Erosion Control Blanket (Type 2C)	33,903	S.Y.
29	PTM	Permanent Transition Mat	160	S.F.
30	T-901	Temporary Seeding	20.8	Acre
31	T-901	Permanent Seeding	20.8	Acre
32	T-905	Placement of Topsoil (Obtained on Site)	1	L.S.
33	T-908	Hydro-Mulch	13.8	Acre

ITEM NO.	SPEC.	ITEM DESCRIPTION	QTY.	UNIT
MODOT PROJECT NO. 21-082A-3 / AIR 216-082A-1				
ADD ALTERNATE **INSTALL UNDERDRAINS**				
1	D-705	Perforated Underdrain (4")	4,935	L.F.
2	D-705	Non-Perforated Outlet Pipe (Sch. 40) (4")	201	L.F.
3	D-705	Non-Perforated Outlet Pipe (Sch. 80) (4")	63	L.F.
4	D-705	Underdrain Cleanout Riser	10	Each
5	D-705	Splash Pad	2	Each
6	D-705	Connect Underdrain to Storm Pipe	2	Each

Contract Time. The owner has established a contract performance time of **twenty-one (21) calendar days from the date of Notice to Proceed No. 1 for the removal of trees and brush during Phase 1**. The owner has established a contract performance time of **eighty (80) calendar days from the date of Notice-to-Proceed No. 2 for the reconstruction of Runway 13-31. Phase 2 shall be completed within the allotted eighty (80) calendar days and shall run concurrently with Phase 3. Phase 3 shall be completed within thirty (30) consecutive calendar days and shall run concurrently with Phase 2.** ***(Revised per Addendum No. 1)*** All project work shall be substantially completed within the stated timeframe. **Shifting of contract time between Phases 2 and 3 will not be permitted**. This project is subject to liquidated damages as prescribed in the project manual.

Bid Security. No bid will be considered unless accompanied by a certified check or cashier's check on any bank or trust company insured by the Federal Deposit Insurance Corporation, payable to **City of Nevada**, for not less than five (5) percent of the total amount of the bid, or by a bid bond secured by an approved surety or sureties, payable to the owner, for not less than five (5) percent of the total amount of the bid.

Bonding Requirements. The successful bidder will be required to furnish separate performance and payment bonds each in an amount equal to 100% of the contract price at the time of contract execution.

Award of Contract. All proposals submitted in accordance with the instructions presented herein will be subject to evaluation. Bids may be held by the **City of Nevada** for a period not to exceed ***one-hundred twenty (120) calendar days (Revised per Addendum No. 1)*** from the date of the bid opening for the purpose of conducting the bid evaluation.

Award of contract will be based on the lowest aggregate sum proposal submitted from those bidders that are confirmed as being responsive and responsible for the following scenarios:

Base Bid

Base Bid + Add Alternate

The owner reserves the right to select any one of the combinations of the base bid(s) and alternate bid(s), which in the judgment of the owner, best serves the owner's interest. The right is reserved, as the **City of Nevada** may require, to reject any bid and all bids.

Award of contract is contingent upon the owner receiving Federal-funding assistance under the State Block Grant Program.

Notice-To-Proceed
It is the intent of the Owner to issue the Notice-To-Proceed (NTP) as soon as practical after the Award of Contract. The anticipated early NTP No. 1 date for tree and brush clearing during Phase 1 is **November 1st, 2022** and the late NTP No. 1 date for tree and brush clearing during Phase 1 is **November 14th, 2022**. The anticipated early NTP No. 2 date for Runway 13-31 reconstruction during Phases 2 and 3 is **April 2023** and the anticipated late NTP No. 2 for Runway 13-31 reconstruction during Phases 2 and 3 is **July 2023**.

Federal Provisions. This project is subject to the following Federal provisions, statutes and regulations;

Equal Employment Opportunity - Executive Order 11246 and 41 CFR Part 60: The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth within the supplementary provisions. The successful Bidder shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin.

Goals for Minority and Female Participation – Executive Order 11246 and 41 CFR Part 60:

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth within the supplementary provisions.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Timetables
Goals for minority participation for each trade: **2.3% (Vernon County)**

Goals for female participation in each trade: 6.9%

These goals are applicable to all of the contractor's construction work (whether or not it is Federal or federally-assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor is also subject to the goals for both its federally involved and non-federally involved construction.

The contractor's compliance with the Executive Order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs (OFCCP) within 10 working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the subcontract is to be performed.

1. As used in this notice and in the contract resulting from this solicitation, the "covered area" is **City of Nevada, Vernon County, Missouri.**

Certification of Nonsegregated Facilities – 41 CFR Part 60: A certification of Nonsegregated Facilities must be submitted prior to the award of a federally-assisted construction contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause.

Contractors receiving federally assisted construction contract awards exceeding $10,000, which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause. The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

Disadvantaged Business Enterprise – 49 CFR Part 26: The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this contract. It is the policy of MoDOT and the city to practice nondiscrimination based on race, color, sex or national origin in the award or performance of this contract. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Awards of this contract will be conditioned upon satisfying the requirements of this section. These requirements apply to all bidders, including those who qualify as a DBE. A DBE contract goal of **8.0** percent has been established for this contract. The *non-DBE* bidder shall subcontract **8.0** percent of the dollar value of the base bid(s), excluding any additive alternates, to disadvantaged business enterprises (DBE) or make good faith efforts to meet the DBE contract goal. *The bidder and any subcontractor, who qualifies as a DBE who subcontracts work to another non-DBE firm, must subtract the amount of the non-DBE contract from the total DBE work counted toward the goal, as defined in 49 CFR Part 26.55*.

The apparent successful competitor will be required to submit the following information: (1) the names and addresses of DBE firms that will participate in the contract; (2) a description of the work that each DBE firm will perform; (3) the dollar amount of the participation of each DBE firm participating; (4) written documentation (signed contract proposal) of the bidders commitment to use a DBE subcontractor whose participation it submits to meet the contract goal; and (5) if the contract goal is not met, evidence of good faith efforts, as described *in 49 CFR Part 26*.

The apparent successful competitor must provide written confirmation of participation from each of the DBE firms listed in their commitment with the proposal documents as a condition of bid responsiveness.

Davis-Bacon Act, as amended – 29 CFR Part 5: The Contractor is required to comply with wage and labor provisions and to pay minimum wages in accordance with the current schedule of wage rates established by the United States Department of Labor included in the supplementary provisions.

In addition, the contractor will also be required to comply with the wage and labor requirements and pay minimum wages in accordance with the schedule of wage rates established by the Missouri Division of Labor Standards included in the Supplementary Provisions.

The highest rate between the two (Federal and State) for each job classification shall be considered the prevailing wage.

Debarment, Suspension, Ineligibility and Voluntary Exclusion – 49 CFR Part 29: The bidder certifies, by submission of a proposal or acceptance of a contract, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. Individuals or companies listed in the General Services Administration's "Excluded Parties Listing System" will not be considered for award of contract.

Foreign Trade Restriction – 49 CFR Part 30: The Bidder and Bidder's subcontractors, by submission of an offer and/or execution of a contract, is required to certify that it:

a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);

b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;

c. has not procured any product nor subcontracted for the supply of any product for use on the project that is produced in a foreign country on said list.

Buy American Certificate – Aviation Safety and Capacity Act of 1990: This contract is subject to the "Buy American Preferences" of the Aviation Safety and Capacity Act of 1990. Prospective Bidders are required to certify that steel and manufactured products have been produced in the United States and to clearly identify those items produced or manufactured outside of the United States.

Airport Job Special Provision: "Notice to all potential bidders on federally funded airport construction projects: As mandated by Executive Order 12818, issued by President George Bush on October 23, 1992, a Job Special Provision will be inserted into and made part of every contract for federally funded airport construction projects, awarded from this or future notices of lettings."

Additional Provisions:
Modification to the project documents may only be made by written addendum by the Owner or Owner's authorized Representative.

The proposal must be made on the official bid forms provided separate from the bound project manual. Bidders must supply all required information prior to the time of bid opening.

SECTION 14

ITEM P-157

CEMENT OR LIME KILN DUST TREATED SUBGRADE

DESCRIPTION

157-1.1 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

157-2.1 Cement kiln dust (CKD). Cement kiln dust shall contain a minimum of 40% CaO, a maximum of 6% SO_3, and be capable of providing the soil modification specified for this project. Sources shall be identified and approved in advance of stabilization operations.

Cement kiln dust shall be stored and handled in closed waterproof containers until immediately before distribution. Cement kiln dust exposed to moisture prior to mixing with soils shall be discarded.

Lime Kiln Dust (LKD). LKD used for stabilization shall meet the following chemical and physical requirements:

LKD Properties

Total Calcium & Magnesium Oxides (non-volatile basis) minimum	**60%**
Available Calcium Hydroxide (ASTM C25) plus total MgO content to be equivalent to $CaOH_2$; minimum	30%
Free Water (as received); maximum	4%
Loss on Ignition (as received, carbon dioxide plus moisture, combined and free); maximum	40%

Lime kiln dust shall be stored and handled in closed waterproof containers until immediately before distribution. Lime kiln dust exposed to moisture prior to mixing with soils shall be discarded.

157-2.2 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.

157-2.3 Soil. The soil shall consist of on-site materials and shall be free of roots, sod, weeds, and stones larger than 2-1/2 inches (60 mm) with a sulfate content of less than 0.3%.

COMPOSITION

157-3.1 Soil-Kiln Dust Mixture. Kiln dust shall be added at an application rate **to sufficient to lower the Liquid Limit to less than 30, the Plasticity Index to less than *15 (Revised per Addendum No. 1)*, and the CBR ≥ 10.** ~~percent dry unit weight of soil~~. Payment will be based on the amount of kiln dust required to obtain the minimum soil properties specified.

157-3.2 Tolerances. At final compaction, the kiln dust and water content for each course of subgrade treatment shall conform to the following tolerances:

Tolerances

Material/Properties	Target	Tolerance	Specifications
Kiln Dust	**TBD**%	0 to +2%	% Total Dry Materials
Moisture Content	Optimum	0% to 4%	ASTM D558
Plastic Index	***< 15****	None	ASTM D4318

**** Revised per Addendum No. 1***

WEATHER LIMITATIONS

157-4.1 Weather limitation. Do not construct subgrade when weather conditions detrimentally affect the quality of the materials. Do not apply kiln dust unless the air temperature is at least 40°F (4°C) and rising. Do not apply kiln dust to soils that are frozen or contain frost. Do not apply kiln dust when conditions are too windy to allow even distribution of the kiln dust to the subgrade. If the air temperature falls below 35°F (2°C), protect completed kiln dust-treated areas by approved methods against the detrimental effects of freezing. Remove and replace any damaged portion of the completed soil-kiln dust treated area in accordance with this specification.

EQUIPMENT

157-5.1 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

157-6.1 General. This specification is to construct a subgrade consisting of a uniform kiln dust/soil 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 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.

157-6.2 Application. Kiln dust shall be uniformly spread only over an area where the initial mixing operations and compaction can be completed during the same workday. The kiln dust shall not be applied when wind conditions are detrimental to proper application. Adequate moisture shall be added to the kiln dust-soil mixture to maintain the proper moisture content. Materials shall be handled, stored, and applied in accordance with all federal, state, and local requirements.

157-6.3 Mixing Procedure. The full depth of the treated subgrade shall be mixed with equipment as approved by the RPR. Kiln dust shall not be left exposed for more than one (1) hour after distribution. Mixing shall continue until the mixture contains no clods greater than 1-1/2 inches (38 mm) 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. **Not more than 60 minutes shall elapse between start of moist mixing and start of compaction of CKD treated layer. 1 to 4 hours shall be allowed between start of moist mixing and start of compaction for LKD treated layer to ensure complete hydration prior to compaction.**

157-6.4 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.

157-6.5 Treatment Application and Depth Checks. The amount of kiln dust applied shall be monitored by the Contractor to assure that no less than the amount of kiln dust as specified in paragraph 157-3.1 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.

157-6.6 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 **95%** of the maximum density as specified in paragraph 157-6.10. 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 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.

157-6.7 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 **being kept continuously moist for a period of 7 days with a fog-type water spray**.

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

157-6.8 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.

157-6.9 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 (75 mm), 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 +/- ½ inch (12 mm) when tested with a 12-foot (3.7-m) 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 (3.7-m) straightedge for the full length of each line on a 50-foot (15-m) grid.

b. Grade. The grade and crown shall be measured on a 50-foot (15-m) grid and shall be within +/- 0.05 feet (15 mm) of the specified grade.

157- 6.10 Acceptance sampling and testing. Treated subgrade 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 **1,000 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. The **RPR shall perform all density tests.**

Each area shall be accepted for density when the field density is at least **95%** of the maximum density of laboratory specimens compacted and tested per ASTM **D698**. The in-place moisture content shall be determined in accordance with ASTM D4959. The in-place field density shall be determined per **ASTM D6938 using Procedure A, the direct transmission method, and ASTM D6938 shall be used to determine the moisture content of the material. The machine shall be calibrated in accordance with ASTM D6938**. Perform in-place density test immediately after completion of compaction to determine 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.

b. Thickness. The thickness of the base course shall be within +0 and -1/2 inch (12 mm) 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 (12 mm), the Contractor shall correct such areas at no additional cost by scarifying to a depth of at least 3 inches (75 mm), adding new material of proper gradation, and the material shall be blended and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

METHOD OF MEASUREMENT

157-7.1 The amount of cement or lime kiln dust treated subgrade shall be based on the number of square yards complete and accepted at the depth shown on the plans.

BASIS OF PAYMENT

157-8.1 Payment shall be made at the contract unit price per square yard for the cement or lime kiln dust treated subgrade for the thickness specified. The price shall be full compensation for furnishing all material, including cement or lime kiln dust, and 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:

Treated Subgrade (12”) - - 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 C558	Standard Test Methods for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
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 D1883	Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils
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-157

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SECTION 20

ITEM P-403 CRM

ASPHALT MIX PAVEMENT SURFACE COURSE

DESCRIPTION

403-1.1 This item shall consist of pavement courses composed of mineral aggregate and asphalt binder mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and shall conform to the lines, grades, thicknesses, and typical cross-sections shown on the plans. Each course shall be constructed to the depth, typical section, and elevation required by the plans and shall be rolled, finished, and approved before the placement of the next course.

MATERIALS

403-2.1 Aggregate. Aggregates shall consist of crushed stone, crushed gravel, crushed slag, screenings, natural sand and mineral filler, as required. The aggregates should have no known history of detrimental pavement staining due to ferrous sulfides, such as pyrite. Coarse aggregate is the material retained on the No. 4 (4.75 mm) sieve. Fine aggregate is the material passing the No. 4 (4.75 mm) sieve.

a. Coarse aggregate. Coarse aggregate shall consist of sound, tough, durable particles, free from films of matter that would prevent thorough coating and bonding with the asphalt material and free from organic matter and other deleterious substances. Coarse aggregate material requirements are given in the table below.

Coarse Aggregate Material Requirements

Material Test	Requirement	Standard
Resistance to Degradation	Loss: 40% maximum for surface, asphalt binder, and leveling course Loss: 50% maximum for base course	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate **or** Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Percentage of Fractured Particles	For pavements designed for aircraft gross weights of 60,000 pounds (27200 kg) or more: Minimum 75% by weight of particles with at least two fractured faces and 85% with at least one fractured face[1]	ASTM D5821
	For pavements designed for aircraft gross weights less than 60,000 pounds (27200 kg): Minimum 50% by weight of particles with at least two fractured faces and 65% with at least one fractured face[1]	
Flat, Elongated, or Flat and Elongated Particles	8% maximum, by weight, of flat, elongated, or flat and elongated particles with a value of 5:1 [2]	ASTM D4791
Bulk density of slag[3]	Weigh not less than 70 pounds per cubic foot (1.12 Mg/cubic meter)	ASTM C29.

[1] The area of each face shall be equal to at least 75% of the smallest mid-sectional area of the piece. When two fractured faces are contiguous, the angle between the planes of fractures shall be at least 30 degrees to count as two fractured faces.

[2] A flat particle is one having a ratio of width to thickness greater than five (5); an elongated particle is one having a ratio of length to width greater than five (5).

[3] Only required if slag is specified.

b. Fine aggregate. Fine aggregate shall consist of clean, sound, tough, durable, angular shaped particles produced by crushing stone, slag, or gravel and shall be free from coatings of clay, silt, or other objectionable matter. Natural (non-manufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. Fine aggregate material requirements are listed in the table below.

Fine Aggregate Material Requirements

Material Test	Requirement	Standard
Liquid limit	25 maximum	ASTM D4318
Plasticity Index	4 maximum	ASTM D4318
Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate	Loss after 5 cycles: 10% maximum using Sodium sulfate - or - 15% maximum using magnesium sulfate	ASTM C88
Clay lumps and friable particles	1.0% maximum	ASTM C142
Sand equivalent	**45 minimum**	ASTM D2419
Natural Sand	**0 to 15%** maximum by weight of total aggregate	ASTM D1073

c. Sampling. ASTM D75 shall be used in sampling coarse and fine aggregate, and ASTM C183 shall be used in sampling mineral filler.

403-2.2 Mineral filler. Mineral filler (baghouse fines) may be added in addition to material naturally present in the aggregate. Mineral filler shall meet the requirements of ASTM D242.

Mineral filler Requirements

Material Test	Requirement	Standard
Plasticity Index	4 maximum	ASTM D4318

403-2.3 Asphalt binder. Asphalt binder shall conform to ASTM D6373 Performance Grade (PG) **64-22**.

~~**Asphalt Binder PG Plus Test Requirements**~~ ***(Deleted per Addendum No. 1)***

~~**Material Test**~~	~~**Requirement**~~	~~**Standard**~~
~~**Elastic Recovery**~~	~~**75% minimum**~~	~~**ASTM D6084**~~

403-2.4 Anti-stripping agent. Any anti-stripping agent or additive (anti-strip) shall be heat stable and shall not change the asphalt binder grade beyond specifications. Anti-strip shall be an approved material of the Department of Transportation of the State in which the project is located.

403-2.5 Bond Breaker. Not Used

COMPOSITION

403-3.1 Composition of mixture. The asphalt plant mix shall be composed of a mixture of well-graded aggregate, filler and anti-strip agent if required, and asphalt binder. The several aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

403-3.2 Job mix formula (JMF) laboratory. The laboratory used to develop the JMF shall possess a current certificate of accreditation, listing D3666 from a national accrediting authority and all test methods required for developing the JMF, and listed on the accrediting authority's website. A copy of the

laboratory's current accreditation and accredited test methods shall be submitted to the RPR prior to start of construction.

403-3.3 Job mix formula (JMF). No asphalt mixture shall be placed until an acceptable mix design has been submitted to the RPR for review and accepted in writing. The RPR's review shall not relieve the Contractor of the responsibility to select and proportion the materials to comply with this section.

When the project requires asphalt mixtures of differing aggregate gradations and/or binders, a separate JMF shall be submitted for each mix. Add anti-stripping agent to meet tensile strength requirements.

The JMF shall be prepared by an accredited laboratory that meets the requirements of paragraph 403-3.2. The asphalt mixture shall be designed using procedures contained in Asphalt Institute MS-2 Mix Design Manual, 7th Edition. **Samples shall be prepared and compacted using a Marshall compactor in accordance with ASTM D6926** ***or gyratory compactor in accordance with ASTM D6925. (Added per Addendum No. 1)***

Should a change in sources of materials be made, a new JMF must be submitted to the RPR for review and accepted in writing before the new material is used. After the initial production JMF has been approved by the RPR and a new or modified JMF is required for whatever reason, the subsequent cost of the new or modified JMF, including a new control strip when required by the RPR, will be borne by the Contractor.

The RPR may request samples at any time for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

The JMF shall be submitted in writing by the Contractor at least **30** days prior to the start of paving operations. The JMF shall be developed within the same construction season using aggregates proposed for project use.

The submitted JMF shall be dated, and stamped or sealed by the responsible professional Engineer of the laboratory and shall include the following items as a minimum:

- Manufacturer's Certificate of Analysis (COA) for the asphalt binder used in the JMF in accordance with paragraph 403-2.3. Certificate of asphalt performance grade is with modifier already added, if used and must indicate compliance with ASTM D6373. For plant modified asphalt binder, certified test report indicating grade certification of modified asphalt binder.
- Manufacturer's Certificate of Analysis (COA) for the anti-stripping agent if used in the JMF in accordance with paragraph 403-2.4.
- Certified material test reports for the course and fine aggregate and mineral filler in accordance with paragraphs 403-2.1 and 403-2.2.
- Percent passing each sieve size for individual gradation of each aggregate cold feed and/or hot bin; percent by weight of each cold feed and/or hot bin used; and the total combined gradation in the JMF.
- Specific Gravity and absorption of each course and fine aggregate.
- Percent natural sand.
- Percent fractured faces.
- Percent by weight of flat particles**,** elongated particles, and flat and elongated particles (and criteria).
- Percent of asphalt.
- Number of blows or gyrations.

- Laboratory mixing and compaction temperatures.
- Supplier recommended mixing and compaction temperatures.
- Plot of the combined gradation on the 0.45 power gradation curve.
- Graphical plots of air voids, voids in the mineral aggregate (VMA), and unit weight versus asphalt content. To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.
- Tensile Strength Ratio (TSR).
- Type and amount of Anti-strip agent when used.
- ~~Asphalt Pavement Analyzer (APA) results.~~ ***(Deleted per Addendum No. 1)***
- Date the JMF was developed. Mix designs that are not dated or which are from a prior construction season shall not be accepted.

Table 1. Asphalt Design Criteria

Test Property	Value	Test Method
Number of blows/gyrations	**50**	***ASTM D6926 / ASTM D6925 (Added per Addendum No. 1)***
Air voids (%)	3.5	ASTM D3203
Percent voids in mineral aggregate (VMA), minimum	See Table 2	ASTM D6995
TSR[1]	not less than **80** at a saturation of 70-80%	ASTM D4867

[1] Test specimens for TSR shall be compacted at 7 ± 1.0 % air voids. In areas subject to freeze-thaw, use freeze-thaw conditioning in lieu of moisture conditioning per ASTM D4867.

[2] AASHTO T340 at 100 psi hose pressure at 64°C test temperature may be used in the interim. If this method is used the required Value shall be less than 5 mm @ 8000 passes

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 2 when tested in accordance with ASTM C136 and ASTM C117.

The gradations in Table 2 represent the limits that shall determine the suitability of aggregate for use from the sources of supply, be well graded from coarse to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa.

Table 2. Aggregate - Asphalt Pavements

Sieve Size	Percentage by Weight Passing Sieve
1 inch (25.0 mm)	**100**
3/4 inch (19.0 mm)	**90-100**
1/2 inch (12.5 mm)	**68-88**
3/8 inch (9.5 mm)	**60-82**
No. 4 (4.75 mm)	**45-67**
No. 8 (2.36 mm)	**32-54**
No. 16 (1.18 mm)	**22-44**
No. 30 (600 µm)	**15-35**
No. 50 (300 µm)	**9-25**
No. 100 (150 µm)	**6-18**
No. 200 (75 µm)	**3-6**
Voids in Mineral Aggregate (VMA)[1]	**14**
Asphalt Percent:	
Stone or gravel	**4.5-7.0**
Slag	**5.0-7.5**
Recommended Minimum Construction Lift Thickness	**3 inch**

[1]To achieve minimum VMA during production, the mix design needs to account for material breakdown during production.

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute MS-2 Mix Design Manual, 7th Edition.

403-3.4 Reclaimed Asphalt Pavement (RAP). RAP shall not be used.

403-3.5 Control strip. **A control strip is not required.**

CONSTRUCTION METHODS

403-4.1 Weather limitations. The asphalt shall not be placed upon a wet surface or when the surface temperature of the underlying course is less than specified in Table 4. The temperature requirements may be waived by the RPR, if requested; however, all other requirements including compaction shall be met.

Table 4. Surface Temperature Limitations of Underlying Course

Mat Thickness	Base Temperature (Minimum)	
	Degrees F	**Degrees C**
3 inches (7.5 cm) or greater	40	4
Greater than 2 inches (50 mm)	45	7

Mat Thickness	Base Temperature (Minimum)	
	Degrees F	Degrees C
but less than 3 inches (7.5 cm)		

403-4.2 Asphalt plant. Plants used for the preparation of asphalt shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M156 including the following items:

a. Inspection of plant. The RPR, or RPR's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment; inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

b. Storage bins and surge bins. The asphalt mixture stored in storage and/or surge bins shall meet the same requirements as asphalt mixture loaded directly into trucks. Asphalt mixture shall not be stored in storage and/or surge bins for a period greater than twelve (12) hours. If the RPR determines there is an excessive heat loss, segregation or oxidation of the asphalt mixture due to temporary storage, temporary storage shall not be allowed.

403-4.3 Aggregate stockpile management. Aggregate stockpiles shall be constructed in such a manner that prevents segregation and intermixing of deleterious materials. Aggregates from different sources shall be stockpiled, weighed and batched separately at the concrete batch plant. Aggregates that have become segregated or mixed with earth or foreign material shall not be used.

A continuous supply of materials shall be provided to the work to ensure continuous placement.

403-4.4 Hauling equipment. Trucks used for hauling asphalt shall have tight, clean, and smooth metal beds. To prevent the asphalt from sticking to the truck beds, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other material approved by the RPR. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

403-4.4.1 Material transfer vehicle (MTV). A material transfer vehicle is not required.

403-4.5 Asphalt pavers. Asphalt pavers shall be self-propelled with an activated heated screed, capable of spreading and finishing courses of asphalt that will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface. The asphalt paver shall be equipped with a control system capable of automatically maintaining the specified screed grade and elevation.

If the spreading and finishing equipment in use leaves tracks or indented areas, or produces other blemishes in the pavement that are not satisfactorily corrected by the scheduled operations, the use of such equipment shall be discontinued.

The paver shall be capable of paving to a minimum width specified in paragraph 401-4.11.

403-4.6 Rollers. The number, type, and weight of rollers shall be sufficient to compact the asphalt to the required density while it is still in a workable condition without crushing of the aggregate, depressions or other damage to the pavement surface. Rollers shall be in good condition, capable of operating at slow speeds to avoid displacement of the asphalt. All rollers shall be specifically designed and suitable for compacting asphalt concrete and shall be properly used. Rollers that impair the stability of any layer of a pavement structure or underlying soils shall not be used.

403-4.6.1 Density device. The Contractor shall have on site a density gauge during all paving operations in order to assist in the determination of the optimum rolling pattern, type of roller and frequencies, as well as to monitor the effect of the rolling operations during production paving. The Contractor shall also supply a qualified technician during all paving operations to calibrate the density gauge and obtain accurate density readings for all new asphalt. These densities shall be supplied to the RPR upon request at any time during construction. No separate payment will be made for supplying the density gauge and technician.

403-4.7 Preparation of asphalt binder. The asphalt binder shall be heated in a manner that will avoid local overheating and provide a continuous supply of the asphalt material to the mixer at a uniform temperature. The temperature of the unmodified asphalt binder delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325°F (160°C) when added to the aggregate. The temperature of modified asphalt binder shall be no more than 350°F (175°C) when added to the aggregate.

403-4.8 Preparation of mineral aggregate. The aggregate for the asphalt shall be heated and dried. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350°F (175°C) when the asphalt binder is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

403-4.9 Preparation of asphalt mixture. The aggregates and the asphalt binder shall be weighed or metered and introduced into the mixer in the amount specified by the JMF. The combined materials shall be mixed until the aggregate obtains a uniform coating of asphalt binder and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95% of coated particles. For continuous mix plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all asphalt upon discharge shall not exceed 0.5%.

403-4.10 Application of Prime and Tack Coat. Immediately before placing the asphalt mixture, the underlying course shall be cleaned of all dust and debris.

A prime coat in accordance with Item P-602 shall be applied to aggregate base prior to placing the asphalt mixture.

A tack coat shall be applied in accordance with Item P-603 to all vertical and horizontal asphalt and concrete surfaces prior to placement of the first and each subsequent lift of asphalt mixture.

403-4.11 Laydown plan, transporting, placing, and finishing. Prior to the placement of the asphalt, the Contractor shall prepare a laydown plan with the sequence of paving lanes and width to minimize the number of cold joints; the location of any temporary ramps; laydown temperature; and estimated time of completion for each portion of the work (milling, paving, rolling, cooling, etc.). The laydown plan and any modifications shall be approved by the RPR.

Deliveries shall be scheduled so that placing and compacting of asphalt is uniform with minimum stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified, and allowed to cool to approximately ambient temperature. The Contractor, at their expense, shall be responsible for repair of any damage to the pavement caused by hauling operations.

Contractor shall survey each lift of asphalt surface course and certify to RPR that every lot of each lift meets the grade tolerances of paragraph 401-6.2e before the next lift can be placed.

Edges of existing asphalt pavement abutting the new work shall be saw cut and the cut off material and laitance removed. Apply a tack coat in accordance with P-603 before new asphalt material is placed against it.

The speed of the paver shall be regulated to eliminate pulling and tearing of the asphalt mat. Placement of the asphalt mix shall begin along the centerline of a crowned section or on the high side of areas with a one way slope unless shown otherwise on the laydown plan as accepted by the RPR. The asphalt mix shall be placed in consecutive adjacent lanes having a minimum width of **10** feet (m) except where edge lanes require less width to complete the area. Additional screed sections attached to widen the paver to meet the minimum lane width requirements must include additional auger sections to move the asphalt mixture uniformly along the screed extension.

The longitudinal joint in one course shall offset the longitudinal joint in the course immediately below by at least 1 foot (30 cm); however, the joint in the surface top course shall be at the centerline of crowned pavements. Transverse joints in one course shall be offset by at least 10 feet (3 m) from transverse joints in the previous course. Transverse joints in adjacent lanes shall be offset a minimum of 10 feet (3 m).On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the asphalt may be spread and luted by hand tools.

The RPR may at any time, reject any batch of asphalt, on the truck or placed in the mat, which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or overheated asphalt mixture. Such rejection may be based on only visual inspection or temperature measurements. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the RPR, and if it can be demonstrated in the laboratory, in the presence of the RPR, that such material was erroneously rejected, payment will be made for the material at the contract unit price.

Areas of segregation in the surface course, as determined by the RPR, shall be removed and replaced at the Contractor's expense. The area shall be removed by saw cutting and milling a minimum of the construction lift thickness as specified in paragraph 401-3.3, Table 2 for the approved mix design. The area to be removed and replaced shall be a minimum width of the paver and a minimum of 10 feet (3 m) long.

403-4.12 Compaction of asphalt mixture. After placing, the asphalt mixture shall be thoroughly and uniformly compacted by self-propelled rollers. The surface shall be compacted as soon as possible when the asphalt has attained sufficient stability so that the rolling does not cause undue displacement, cracking or shoving. The sequence of rolling operations and the type of rollers used shall be at the discretion of the Contractor. The speed of the roller shall, at all times, be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any surface defects and/or displacement occurring as a result of the roller, or from any other cause, shall be corrected at the Contractor's expense.

Sufficient rollers shall be furnished to handle the output of the plant. Rolling shall continue until the surface is of uniform texture, true to grade and cross-section, and the required field density is obtained. To prevent adhesion of the asphalt to the roller, the wheels shall be equipped with a scraper and kept moistened with water as necessary.

In areas not accessible to the roller, the mixture shall be thoroughly compacted with approved power tampers.

Any asphalt that becomes loose and broken, mixed with dirt, contains check-cracking, or in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at the Contractor's expense. Skin patching shall not be allowed**.**

403-4.13 Joints. The formation of all joints shall be made in such a manner as to ensure a continuous bond between the courses and obtain the required density. All joints shall have the same texture as other sections of the course and meet the requirements for smoothness and grade.

The roller shall not pass over the unprotected end of the freshly laid asphalt except when necessary to form a transverse joint. When necessary to form a transverse joint, it shall be made by means of placing a bulkhead or by tapering the course. The tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face prior to placing the adjacent lane. In both methods, all contact surfaces shall be coated with an asphalt tack coat before placing any fresh asphalt against the joint.

Longitudinal joints which are have been left exposed for more than four (4) hours; the surface temperature has cooled to less than 175°F (80°C); or are irregular, damaged, uncompacted or otherwise defective shall be cut back with a cutting wheel or pavement saw a maximum of 3 inches (75 mm) to expose a clean, sound, uniform vertical surface for the full depth of the course. All cutback material and any laitance produced from cutting joints shall be removed from the project. An asphalt tack coat or other product approved by the RPR shall be applied to the clean, dry joint prior to placing any additional fresh asphalt against the joint. The cost of this work shall be considered incidental to the cost of the asphalt.

403-4.14 Saw-cut grooving. Saw-cut grooving is not required.

403-4.15 Diamond grinding. Diamond grinding shall be completed prior to pavement grooving. Diamond grinding shall be accomplished by sawing with saw blades impregnated with industrial diamond abrasive.

Diamond grinding shall be performed with a machine designed specifically for diamond grinding capable of cutting a path at least 3 feet (0.9 m) wide. The saw blades shall be 1/8-inch (3-mm) wide with a minimum of 55 to 60 blades per 12 inches (300 mm) of cutting head width; grooves between 0.090 and 0.130 inches (2 and 3.5 mm) wide; and peaks and ridges approximately 1/32 inch (1 mm) higher than the bottom of the grinding cut. The actual number of blades will be determined by the Contractor and depend on the hardness of the aggregate. Equipment or grinding procedures that causes ravels, aggregate fractures, spalls or disturbance to the pavement will not be permitted.

Grinding will be tapered in all directions to provide smooth transitions to areas not requiring grinding. The slurry resulting from the grinding operation shall be continuously removed and the pavement left in a clean condition. The Contractor shall apply a surface treatment per P-608 to all areas that have been subject to grinding.

403-4.16 Nighttime Paving Requirements. The Contractor shall provide adequate lighting during any nighttime construction. A lighting plan shall be submitted by the Contractor and approved by the RPR prior to the start of any nighttime work. All work shall be in accordance with the approved CSPP and lighting plan.

CONTRACTOR QUALITY CONTROL (CQC)

403-5.1 General. The Contractor shall develop a CQCP in accordance with Item C-100. No partial payment will be made for materials that are subject to specific QC requirements without an approved CQCP.

403-5.2 Contractor quality control (QC) facilities. The Contractor shall provide or contract for testing facilities in accordance with Item C-100. The RPR shall be permitted unrestricted access to inspect the Contractor's QC facilities and witness QC activities. The RPR will advise the Contractor in writing of any noted deficiencies concerning the QC facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

403-5.3 Quality Control (QC) testing. The Contractor shall perform all QC tests necessary to control the production and construction processes applicable to these specifications **and as set forth in the approved CQCP. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, temperatures, aggregate moisture, field compaction, and surface smoothness. A QC Testing Plan shall be developed as part of the CQCP.**

a. Asphalt content. A minimum of two tests shall be performed per day in accordance with ASTM D6307 or ASTM D2172 for determination of asphalt content. When using ASTM D6307, the correction factor shall be determined as part of the first test performed at the beginning of plant production; and as part of every tenth test performed thereafter. The asphalt content for the day will be determined by averaging the test results.

b. Gradation. Aggregate gradations shall be determined a minimum of twice per lot from mechanical analysis of extracted aggregate in accordance with ASTM D5444 and ASTM C136, and ASTM C117.

c. Moisture content of aggregate. The moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C566.

d. Moisture content of asphalt. The moisture content of the asphalt shall be determined once per lot in accordance with AASHTO T329 or ASTM D1461.

e. Temperatures. Temperatures shall be checked, at least four times per lot, at necessary locations to determine the temperatures of the dryer, the asphalt binder in the storage tank, the asphalt at the plant, and the asphalt at the job site.

f. In-place density monitoring. The Contractor shall conduct any necessary testing to ensure that the specified density is being achieved. A nuclear gauge may be used to monitor the pavement density in accordance with ASTM D2950.

g. Smoothness for Contractor Quality Control.

The Contractor shall perform smoothness testing in transverse and longitudinal directions daily to verify that the construction processes are producing pavement with variances less than ¼ inch in 12 feet, identifying areas that may pond water which could lead to hydroplaning of aircraft. If the smoothness criteria is not met, appropriate changes and corrections to the construction process shall be made by the Contractor before construction continues

The Contractor may use a 12-foot (3.7 m) straightedge, a rolling inclinometer meeting the requirements of ASTM E2133 or rolling external reference device that can simulate a 12-foot (3.7 m) straightedge approved by the RPR. Straight-edge testing shall start with one-half the length of the straightedge at the edge of pavement section being tested and then moved ahead one-half the length of the straightedge for each successive measurement. Testing shall be continuous across all joints. The surface irregularity shall be determined by placing the freestanding (unleveled) straightedge on the pavement surface and allowing it to rest upon the two highest spots covered by its length, and measuring the maximum gap between the straightedge and the pavement surface in the area between the two high points. If the rolling inclinometer or external reference device is used, the data may be evaluated using the FAA profile program, ProFAA, or FHWA ProVal, using the 12-foot straightedge simulation function.

Smoothness readings shall not be made across grade changes or cross slope transitions. The transition between new and existing pavement shall be evaluated separately for conformance with the plans.

(1) Transverse measurements. Transverse measurements shall be taken for each day's production placed. Transverse measurements will be taken perpendicular to the pavement centerline each 50 feet (15 m) or more often as determined by the RPR. The joint between lanes shall be tested separately to facilitate smoothness between lanes.

(2) Longitudinal measurements. Longitudinal measurements shall be taken for each day's production placed. Longitudinal tests will be parallel to the centerline of paving; at the center of paving lanes when widths of paving lanes are less than 20 feet (6 m); and at the third points of paving lanes when widths of paving lanes are 20 ft (6 m) or greater. When placement abuts previously placed material the first measurement shall start with one half the length of the straight edge on the previously placed material.

Deviations on the final surface course in either the transverse or longitudinal direction that will trap water greater than 1/4 inch (6 mm) shall be corrected with diamond grinding per paragraph 403-4.15 or by removing and replacing the surface course to full depth. Grinding shall be tapered in all directions to provide smooth transitions to areas not requiring grinding. All areas in which diamond grinding has been performed shall be subject to the final pavement thickness tolerances specified in paragraph 401-6.1d(3) Areas that have been ground shall be sealed with a surface treatment in accordance with Item P-608. To avoid the surface treatment creating any conflict with runway or taxiway markings, it may be necessary to seal a larger area.

Control charts shall be kept to show area of each day's placement and the percentage of corrective grinding required. Corrections to production and placement shall be initiated when corrective grinding is required. If the Contractor's machines and/or methods produce significant areas that need corrective actions in excess of 10 percent of a day's production, production shall be stopped until corrective measures are implemented by the Contractor.

h. Grade. Grade shall be evaluated daily to allow adjustments to paving operations when grade measurements do not meet specifications. As a minimum, grade shall be evaluated prior to the placement of the first lift and then prior to and after placement of the surface lift.

Measurements will be taken at appropriate gradelines (as a minimum at center and edges of paving lane) and longitudinal spacing as shown on cross-sections and plans. The final surface of the pavement will not vary from the gradeline elevations and cross-sections shown on the plans by more than 1/2 inch (12 mm) vertically **and 0.1 feet laterally**. The documentation will be provided by the Contractor to the RPR **by the end of the following working day**.

Areas with humps or depressions that exceed grade or smoothness criteria and that retain water on the surface must be ground off provided the course thickness after grinding is not more than 1/2 inch (12 mm) less than the thickness specified on the plans. Grinding shall be in accordance with paragraph 403-4.15.

The Contractor shall repair low areas or areas that cannot be corrected by grinding by removal of deficient areas to the depth of the final course plus ½ inch and replacing with new material. Skin patching is not allowed.

403-5.4 Sampling. When directed by the RPR, the Contractor shall sample and test any material that appears inconsistent with similar material being sampled, unless such material is voluntarily removed and replaced or deficiencies corrected by the Contractor. All sampling shall be in accordance with standard procedures specified.

403-5.5 Control charts. The Contractor shall maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation, asphalt content, and VMA. The VMA for each day shall be calculated and monitored by the QC laboratory.

Control charts shall be posted in a location satisfactory to the RPR and kept current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter, and the Contractor's test results. The Contractor shall use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If the Contractor's projected data during

production indicates a problem and the Contractor is not taking satisfactory corrective action, the RPR may suspend production or acceptance of the material.

a. Individual measurements. Control charts for individual measurements shall be established to maintain process control within tolerance for aggregate gradation, asphalt content, and VMA. The control charts shall use the JMF target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

Control Chart Limits for Individual Measurements

Sieve	Action Limit	Suspension Limit
3/4 inch (19.0 mm)	±6%	±9%
1/2 inch (12.5 mm)	±6%	±9%
3/8 inch (9.5 mm)	±6%	±9%
No. 4 (4.75 mm)	±6%	±9%
No. 16 (1.18 mm)	±5%	±7.5%
No. 50 (300 µm)	±3%	±4.5%
No. 200 (75 µm)	±2%	±3%
Asphalt Content	±0.45%	±0.70%
Minimum VMA	-0.5%	-1.0%

b. Range. Control charts for range shall be established to control process variability for the test parameters and Suspension Limits listed below. The range shall be computed for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

Control Chart Limits Based on Range
(n = 2)

Sieve	Suspension Limit
1/2 inch (12.5 mm)	11%
3/8 inch (9.5 mm)	11%
No. 4 (4.75 mm)	11%
No. 16 (1.18 mm)	9%
No. 50 (300 µm)	6%
No. 200 (75 µm)	3.5%
Asphalt Content	0.8%

c. Corrective action. The CQCP shall indicate that appropriate action shall be taken when the process is believed to be out of tolerance. The Plan shall contain sets of rules to gauge when a process is out of control and detail what action will be taken to bring the process into control. As a minimum, a process shall be deemed out of control and production stopped and corrective action taken, if:

(1) One point falls outside the Suspension Limit line for individual measurements or range; or

(2) Two points in a row fall outside the Action Limit line for individual measurements.

403-5.6 Quality control (QC) reports. The Contractor shall maintain records and shall submit reports of QC activities daily**, in accordance with the CQCP described in Item C-100.**

MATERIAL ACCEPTANCE

403-6.1. Quality Assurance Acceptance sampling and testing. Unless otherwise specified, all acceptance sampling and testing necessary to determine conformance with the requirements specified in this section will be performed by the RPR at no cost to the Contractor except that coring as required in this section shall be completed and paid for by the Contractor.

a. Quality Assurance (QA) testing laboratory. The QA testing laboratory performing these acceptance tests will be accredited in accordance with ASTM D3666. The QA laboratory accreditation will be current and listed on the accrediting authority's website. All test methods required for acceptance sampling and testing will be listed on the lab accreditation.

b. Lot Size. A standard lot will be equal to one day's production divided into approximately equal sublots of between 400 to 600 tons. When only one or two sublots are produced in a day's production, the sublots will be combined with the production lot from the previous or next day.

Where more than one plant is simultaneously producing asphalt for the job, the lot sizes will apply separately for each plant.

c. Asphalt air voids. Plant-produced asphalt will be tested for air voids on a sublot basis.

(1) Sampling. Material from each sublot shall be sampled in accordance with ASTM D3665. Samples shall be taken from material deposited into trucks at the plant or at the job site in accordance with ASTM D979. The sample of asphalt may be put in a covered metal tin and placed in an oven for **not less than 30 minutes nor more than 60 minutes** to maintain the material at or above the compaction temperature as specified in the JMF.

(2) Testing. Air voids will be determined for each sublot in accordance with ASTM D3203 for a set of three compacted specimens prepared in accordance with **ASTM D6926** ***or ASTM D6925. (Revised per Addendum No. 1)***

d. In-place asphalt mat and joint density. Each sublot will be tested for in-place mat and joint density as a percentage of the theoretical maximum density (TMD).

(1) Sampling. The **Contractor** will cut minimum 5 inches (125 mm) diameter samples in accordance with ASTM D5361. The Contractor shall furnish all tools, labor, and materials for cleaning, and filling the cored pavement. Laitance produced by the coring operation shall be removed immediately after coring, and core holes shall be filled within one day after sampling in a manner acceptable to the RPR.

(2) Bond. Each lift of asphalt shall be bonded to the underlying layer. If cores reveal that the surface is not bonded, additional cores shall be taken as directed by the RPR to determine the extent of unbonded areas. Unbonded areas shall be removed by milling and replaced at no additional cost as directed by the RPR.

(3) Thickness. Thickness of each lift of surface course will be evaluated by the RPR for compliance to the requirements shown on the plans after any necessary corrections for grade. Measurements of thickness will be made using the cores extracted for each sublot for density measurement. The maximum allowable deficiency at any point will not be more than 1/4 inch (6 mm) less than the thickness indicated for the lift. Average thickness of lift, or combined lifts, will not be less than the indicated thickness. Where the thickness tolerances are not met, the lot or sublot shall be corrected by the Contractor at his expense by removing the deficient area and replacing with new pavement. The

Contractor, at his expense, may take additional cores as approved by the RPR to circumscribe the deficient area.

(4) Mat density. One core shall be taken from each sublot. Core locations will be determined by the RPR in accordance with ASTM D3665. Cores for mat density shall not be taken closer than one foot (30 cm) from a transverse or longitudinal joint. The bulk specific gravity of each cored sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each sublot sample by the TMD for that sublot.

(5) Joint density. One core centered over the longitudinal joint shall be taken for each sublot which contains a longitudinal joint. Core locations will be determined by the RPR in accordance with ASTM D3665. The bulk specific gravity of each core sample will be determined in accordance with ASTM D2726. The percent compaction (density) of each sample will be determined by dividing the bulk specific gravity of each joint density sample by the average TMD for the lot. The TMD used to determine the joint density at joints formed between lots will be the lower of the average TMD values from the adjacent lots.

403-6.2 Acceptance criteria.

a. General. Acceptance will be based on the implementation of the Contractor Quality Control Program (CQCP) and the following characteristics of the asphalt and completed pavements: air voids, mat density, joint density, grade **and Profilograph smoothness.**

b. Air voids. Acceptance of each lot of plant produced material for air voids will be based upon the average air void from the sublots. If the average air voids of the lot are equal to or greater than 2% and equal to or less than 5%, then the lot will be acceptable. If the average is below 2% or greater than 5%, the lot shall be removed and replaced at the Contractor's expense.

c. Mat density. Acceptance of each lot of plant produced material for mat density will be based on the average of all of the densities taken from the sublots. If the average mat density of the lot so established equals or exceeds 94%, the lot will be acceptable. If the average mat density of the lot is below 94%, the lot shall be removed and replaced at the Contractor's expense.

d. Joint density. Acceptance of each lot of plant produced asphalt for joint density will be based on the average of all of the joint densities taken from the sublots. If the average joint density of the lot so established equals or exceeds 92%, the lot will be acceptable. If the average joint density of the lot is less than 92%, the Contractor shall stop production and evaluate the method of compacting joints. Production may resume once the reason for poor compaction has been determined and appropriate measures have been taken to ensure proper compaction.

e. Grade. The final finished surface of the pavement of the completed project shall be surveyed to verify that the grade elevations and cross-sections shown on the plans do not deviate more than 1/2 inch (12 mm) vertically **or 0.1 feet laterally**.

Cross-sections of the pavement shall be taken at a minimum **50-foot** longitudinal spacing and at all longitudinal grade breaks. Minimum cross-section grade points shall include grade at centerline, **± 10 feet of centerline**, and edge of **runway and taxiway** pavement.

The survey and documentation shall be stamped and signed by a licensed surveyor. Payment for sublots that do not meet grade for over 25% of the sublot shall not be more than 95%.

f. Profilograph roughness for QA Acceptance. The final profilograph shall be the full length of the project to facilitate testing of roughness between lots. The Contractor, in the presence of the RPR shall perform a profilograph roughness test on the completed project with a profilograph meeting the requirements of ASTM E1274 or a Class I inertial profiler meeting ASTM E950. Data and results shall be provided within 48 hrs of profilograph roughness tests.

The pavement shall have an average profile index less than 15 inches per mile per 1/10 mile. The equipment shall utilize electronic recording and automatic computerized reduction of data to indicate "must grind" bumps and the Profile Index for the pavement using a 0.2-inch (5 mm) blanking band. The bump template must span one inch (25 mm) with an offset of 0.4 inches (10 mm). The profilograph must be calibrated prior to use and operated by a factory or State DOT approved, trained operator. Profilograms shall be recorded on a longitudinal scale of one inch (25 mm) equals 25 feet (7.5 m) and a vertical scale of one inch (25 mm) equals one inch (25 mm). Profilograph shall be performed one foot right and left of project centerline and 15 feet (4.5 m) right and left of project centerline. Any areas that indicate "must grind" shall be corrected with diamond grinding per paragraph 401-4.15 or by removing and replacing full depth of surface course. as directed by the RPR. Where corrections are necessary, a second profilograph run shall be performed to verify that the corrections produced an average profile index of 15 inches per mile per 1/10 mile or less.

403-6.3 Resampling Pavement for Mat Density.

a. General. Resampling of a lot of pavement will only be allowed for mat density and then, only if the Contractor requests same in writing, within 48 hours after receiving the written test results from the RPR. A retest will consist of all the sampling and testing procedures contained in paragraphs 403-6.1. Only one resampling per lot will be permitted.

(1) A redefined mat density will be calculated for the resampled lot. The number of tests used to calculate the redefined mat density will include the initial tests made for that lot plus the retests.

(2) The cost for resampling and retesting shall be borne by the Contractor.

b. Payment for resampled lots. The redefined mat density for a resampled lot will be used to evaluate the acceptance of that lot in accordance with paragraph 403-6.2.

c. Outliers. Check for outliers in accordance with ASTM E178, at a significance level of 5%. Outliers will be discarded and density determined using the remaining test values.

METHOD OF MEASUREMENT

403-7.1 Measurement. Plant mix asphalt mix pavement shall be measured by the number of tons (kg) of asphalt pavement used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.

BASIS OF PAYMENT

403-8.1 Payment. Payment for a lot of asphalt mixture meeting all acceptance criteria as specified in paragraph 403-6.2 shall be made at the contract unit price per ton (kg) for asphalt. The price shall be compensation for furnishing all materials, for all preparation, mixing, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Asphalt Surface Course (3") **- - Per Ton**

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 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 C117	Standard Test Method for Materials Finer than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C127	Standard Test Method for Density, Relative Density (Specific Gravity), and Absorption of Coarse Aggregate
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 Aggregates
ASTM C142	Standard Test Method for Clay Lumps and Friable Particles in Aggregates
ASTM C183	Standard Practice for Sampling and the Amount of Testing of Hydraulic Cement
ASTM C566	Standard Test Method for Total Evaporable Moisture Content of Aggregate by Drying
ASTM D75	Standard Practice for Sampling Aggregates
ASTM D242	Standard Specification for Mineral Filler for Bituminous Paving Mixtures
ASTM D946	Standard Specification for Penetration-Graded Asphalt Cement for Use in Pavement Construction
ASTM D979	Standard Practice for Sampling Bituminous Paving Mixtures
ASTM D1073	Standard Specification for Fine Aggregate for Bituminous Paving Mixtures
ASTM D1074	Standard Test Method for Compressive Strength of Bituminous Mixtures
ASTM D1461	Standard Test Method for Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D2041	Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D2172	Standard Test Method for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2489	Standard Practice for Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D2726	Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures

ASTM D2950	Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D3203	Standard Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D3381	Standard Specification for Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D4125	Standard Test Methods for Asphalt Content of Bituminous mixtures by the Nuclear Method
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4552	Standard Practice for Classifying Hot-Mix Recycling Agents
ASTM D4791	Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D4867	Standard Test Method for Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D5444	Standard Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D5581	Standard Test Method for Resistance to Plastic Flow of Bituminous Mixtures Using Marshall Apparatus (6 inch-Diameter Specimen)
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate
ASTM D6307	Standard Test Method for Asphalt Content of Hot-Mix Asphalt by Ignition Method
ASTM D6373	Standard Specification for Performance Graded Asphalt Binder
ASTM D6752	Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method
ASTM D6925	Standard Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt (HMA) Specimens by Means of the SuperPave Gyratory Compactor
ASTM D6926	Standard Practice for Preparation of Bituminous Specimens Using Marshall Apparatus
ASTM D6927	Standard Test Method for Marshall Stability and Flow of Bituminous Mixtures
ASTM D6995	Standard Test Method for Determining Field VMA based on the Maximum Specific Gravity of the Mix (Gmm)
ASTM E11	Standard Specification for Woven Wire Test Sieve Cloth and Test Sieves
ASTM E178	Standard Practice for Dealing with Outlying Observations

ASTM E2133	Standard Test Method for Using a Rolling Inclinometer to Measure Longitudinal and Transverse Profiles of a Traveled Surface

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M156	Standard Specification for Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
AASHTO T329	Standard Method of Test for Moisture Content of Hot Mix Asphalt (HMA) by Oven Method
AASHTO T 340	Standard Method of Test for Determining the Rutting Susceptibility of Hot Mix Asphalt (APA) Using the Asphalt Pavement Analyzer (APA)

Asphalt Institute (AI)

MS-2	Mix Design Manual, 7th Edition
MS-26	Asphalt Binder Handbook AI State Binder Specification Database

FAA Orders

5300.1	Modifications to Agency Airport Design, Construction, and Equipment Standards

Federal Highway Administration (FHWA)

Long Term Pavement Performance Binder program

Software

FAARFIELD

END OF ITEM P-403

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PROPOSAL FORM
CITY OF NEVADA, MISSOURI
NEVADA MUNICIPAL AIRPORT (NVD)
State Block Grant Project No. **21-082A-3 / AIR 216-082A-1**

TO: City Manager, City of Nevada, Missouri

The undersigned, in compliance with the request for bids for construction of the following Project:

BASE BID
Reconstruct Runway 13-31 and Apron Connecting Taxiway

ADD ALTERNATE
Install Underdrains

hereby proposes to furnish all labor, permits, material, machinery, tools, supplies and equipment to faithfully perform all work required for construction of the Project in accordance with the project manual, project drawings and issued Addenda within the specified time of performance for the following prices:

BID ITEM	FAA or MoDOT SPEC.	ITEM DESCRIPTION	APPROX. QTY. AND UNITS	UNIT PRICE		EXTENSION	
				DOLLARS	CTS	DOLLARS	CTS
BASE BID **RECONSTRUCT RUNWAY 13-31 AND APRON CONNECTING TAXIWAY**							
1	C-100	Contractor Quality Control Program (CQCP)	1 L.S.				
2	C-102	Erosion Control Barrier (Silt Fence)	1,600 L.F.				
3	C-102	Erosion Control Barrier (Straw Wattle)	265 L.F.				
4	C-102	Stabilized Construction Exit	1 L.S.				
5	C-105	Mobilization (NTE 10% of Total Bid Amount)	1 L.S.				
6	TEMP	Temporary Marking, Lighting, and Barricades	1 L.S.				
7	P-101	Saw Cut	226 L.F.				
8	P-101	Remove Existing Asphalt Pavement and Aggregate Base	11,324 S.Y.				
9	P-101	Remove Existing Concrete Pavement and Aggregate Base	854 S.Y.				
10	P-101	Remove Existing Drainage Pipe, Underdrain Pipe, and Area Inlet	1 L.S.				
11	P-151	Clear Trees and Brush	4.5 Acre				
12	P-152	Embankment In Place	9,450 C.Y.				
13	P-152	Unsuitable Subgrade Removal and Replacement	950 C.Y.				
14	P-155, P-156, P-157, or P-158	Treated Subgrade (12")	17,603 S.Y.				
15	P-207, P-208, P-209, or P-219	Aggregate Base Course (6")	17,603 S.Y.				
16	P-403	Asphalt Surface Course (3")	2,850 Ton				

BID ITEM	FAA or MoDOT SPEC.	ITEM DESCRIPTION	APPROX. QTY. AND UNITS	UNIT PRICE		EXTENSION	
				DOLLARS	CTS	DOLLARS	CTS
16	P-602	Emulsified Asphalt Prime Coat	5,094 Gal.				
17	P-620	Surface Preparation, Pavement Marking Removal	784 S.F.				
18	P-620	Temporary Non-Reflectorized Pavement Marking (White)	3,197 S.F.				
19	P-620	Temporary Non-Reflectorized Pavement Marking (Yellow)	838 S.F.				
20	P-620	Permanent Reflectorized Pavement Marking (White)	3,197 S.F.				
21	P-620	Permanent Reflectorized Pavement Marking (Yellow)	838 S.F.				
22	P-620	Permanent Non-Reflectorized Pavement Marking (Black)	3,192 S.F.				
23	D-701	24" Storm Pipe	548 L.F.				
24	D-701	24" End Section	5 Each				
25	D-705	Non-Perforated Outlet Pipe (Sch. 40) (4")	70 L.F.				
26	D-705	Connect Underdrain to Storm Pipe	1 Each				
27	D-751	Area Inlet (4' x 4')	1 Each				
28	TREC	Erosion Control Blanket (Type 2C)	33,903 S.Y.				
29	PTM	Permanent Transition Mat	160 S.F.				
30	T-901	Temporary Seeding	20.8 Acre				
31	T-901	Permanent Seeding	20.8 Acre				
32	T-905	Placement of Topsoil (Obtained on Site)	1 L.S.				
33	T-908	Hydro-Mulch	13.8 Acre				
BASE BID TOTAL							

BID ITEM	FAA or MoDOT SPEC.	ITEM DESCRIPTION	APPROX. QTY. AND UNITS	UNIT PRICE		EXTENSION	
				DOLLARS	CTS	DOLLARS	CTS
ADD ALTERNATE INSTALL UNDERDRAINS							
1	D-705	Perforated Underdrain (4")	4,935 L.F.				
2	D-705	Non-Perforated Outlet Pipe (Sch. 40) (4")	201 L.F.				
3	D-705	Non-Perforated Outlet Pipe (Sch. 80) (4")	63 L.F.				
4	D-705	Underdrain Cleanout Riser	10 Each				
5	D-705	Splash Pad	2 Each				
6	D-705	Connect Underdrain to Storm Pipe	2 Each				
ADD ALTERNATE TOTAL							

BASE BID TOTAL		

BASE BID + ADD ALTERNATE TOTAL		

ACKNOWLEDGEMENTS BY BIDDER

a. By submittal of a proposal, the BIDDER acknowledges and accepts that the quantities established by the OWNER are an approximate estimate of the quantities required to fully complete the Project and that the estimated quantities are principally intended to serve as a basis for evaluation of bids. The BIDDER further acknowledges and accepts that payment under this contract will be made only for actual quantities and that quantities will vary in accordance with the General Provisions subsection entitled "Alteration of Work and Quantities".

b. The BIDDER acknowledges and accepts that the Bid Documents are comprised of the documents identified within the General Provisions. The BIDDER further acknowledges that each the individual documents that comprise the Bid Documents are complementary to one another and together establishes the complete terms, conditions and obligations of the successful BIDDER.

c. As evidence of good faith in submitting this proposal, the undersigned encloses a bid guaranty in the form of a certified check, cashier's check or bid bond in the amount of 5% of the bid price. The BIDDER acknowledges and accepts that refusal or failure to accept award and execute a contract within the terms and conditions established herein will result in forfeiture of the bid guaranty to the owner as a liquidated damage.

d. The BIDDER acknowledges and accepts the OWNER'S right to reject any or all bids.

e. The BIDDER acknowledges and accepts the OWNER'S right to hold all Proposals for purposes of review and evaluation and not issue a notice of award for a period not to exceed ***one-hundred twenty (120) (Revised per Addendum No. 1)*** calendar days from the stated date for receipt of bids.

f. The undersigned agrees that upon written notice of award of contract, he or she will execute the contract within thirty (30) days of the notice of award, and furthermore, and provide executed payment and performance bonds within fifteen (15) days from the date of contract execution. The undersigned accepts that failure to execute the contract and provide the required bonds within the stated timeframe shall result in forfeiture of the bid guaranty to the owner as a liquidated damage.

g. Time of Performance: By submittal of this proposal, the undersigned acknowledges and agrees to commence work within ten (10) calendar days of the date specified in the written "Notice to Proceed" as issued by the OWNER. The undersigned further agrees to complete the project, as established by the owner, within **twenty-one (21) calendar days from the date of Notice to Proceed No. 1 for the removal of trees and brush during Phase 1**. The owner has established a contract performance time of **eighty (80) calendar days from the date of Notice-to-Proceed No. 2 for the reconstruction of Runway 13-31. Phase 2 shall be completed within the allotted eighty (80) calendar days and shall run concurrently with Phase 3. Phase 3 shall be completed within thirty (30) consecutive calendar days and shall run concurrently with Phase 2.** ***(Revised per Addendum No. 1)*** All project work shall be substantially completed within the stated timeframe. **Shifting of contract time between Phases 2 and 3 will not be permitted**. This project is subject to liquidated damages as prescribed in the project manual.

h. The undersigned acknowledges and accepts that for each and every Calendar day the project remains incomplete beyond the contract time of performance, the Contractor shall pay the non-penal amount of **one thousand five hundred dollars ($1,500)** per Calendar day as a liquidated damage to the OWNER.

i. The undersigned prime contractor, if not a MoDOT certified DBE, hereby assures that they will subcontract **8.0** percent of the dollar value of the prime contract, **exclusive of the add alternate**, to DBE firms or make good faith efforts to meet the DBE contract goal. In addition, the prime contractor will include the DBE clauses (see Supplementary Provision No. 6 of the Federal and State Provisions) required by the DBE Program adopted by MoDOT and the Sponsor in all contracts and subcontracts relating to this project. The undersigned will complete the DBE Participation information included herein when a DBE goal has been established, including a demonstration of good faith efforts if the DBE goal is not met. If the undersigned prime contractor is a MoDOT certified DBE firm, then the prime contractor must perform at least thirty percent (30%) of the total contract value work with its own forces, and will receive DBE credit for all work which the prime contractor and any other MoDOT certified DBE firm performs directly.

j. The BIDDER, by submission of a proposal, acknowledges that award of this contract is subject to the provisions of the Davis-Bacon Act and the Missouri Prevailing Wage Law. The BIDDER accepts the requirement to pay prevailing wages for each classification and type of worker as established in the attached wage rate determinations as issued by the United States Department of Labor and the Missouri Division of Labor Standards. The BIDDER further acknowledges and accepts their requirement to incorporate the provision to pay the established prevailing wages in every subcontract agreement entered into by the Bidder under this project. The highest rate between the two (Federal and State) for each job classification shall be considered the prevailing wage.

k. Compliance Reports (41 CFR Part 60-1.7): Within 30 days after award of this contract, the Contractor/Subcontractor shall file a compliance report (Standard Form 100) if s/he has not submitted a complete compliance report within 12 months preceding the date of award. This report is required if the Contractor/Subcontractor meets all of the following conditions:

1. Contractors/Subcontractors are not exempt based on 41 CFR 60-1,5.
2. Has 50 or more employees.
3. Is a prime contractor or first tier subcontractor.
4. There is a contract, subcontract, or purchase order amounting to $50,000 or more

l. The undersigned acknowledges receipt of the following addenda:

Addendum No. _____, dated _____ Date Received _____

Addendum No. _____, dated _____ Date Received _____

Addendum No. _____, dated _____ Date Received _____

REPRESENTATIONS BY BIDDER

By submittal of a proposal (bid), the BIDDER represents the following:

a. The BIDDER has read and thoroughly examined the bid documents, including all authorized addenda.
b. The BIDDER has a complete understanding of the terms and conditions required for the satisfactory performance of project work.
c. The BIDDER has fully informed themselves of the project site, the project site conditions and the surrounding area.
d. The BIDDER has familiarized themselves with the requirements of working on an operating airport and understands the conditions that may in any manner affect cost, progress or performance of the work.
e. The BIDDER has correlated their observations with that of the project documents.
f. The BIDDER has found no errors, conflicts, ambiguities or omissions in the project documents, except as previously submitted in writing to the owner that would affect cost, progress or performance of the work.
g. The BIDDER is familiar with all applicable Federal, State and local laws, rules and regulations pertaining to execution of the contract and the project work.
h. The BIDDER has complied with all requirements of these instructions and the associated project documents.

CERTIFICATIONS BY BIDDER

a. The undersigned hereby declares and certifies that the only parties interested in this proposal are named herein and that this proposal is made without collusion with any other person, firm or corporation. The undersigned further certifies that no member, officer or agent of OWNER'S has direct or indirect financial interest in this proposal.

b. Trade Restriction Certification (49 U.S.C. § 50104, 49 CFR Part 30)
The submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror:

1. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (U.S.T.R.);

2. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the U.S.T.R.; and

3. has not entered into any subcontract for any product to be used on the project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

The Offeror/Contractor must provide immediate written notice to the Owner if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

1. who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R. or

2. whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such U.S.T.R. list or

3. who incorporates in the public works project any product of a foreign country on such U.S.T.R. list.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by U.S.T.R., unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration (FAA) may direct through the Owner cancellation of the contract or subcontract for default at no cost to the Owner or the FAA.

c. Certification of Offeror/Bidder Regarding Debarment (2 CFR Part 180 (Subpart C), 2 CFR Part 1200, DOT Order 4200.5)

By submitting a bid/proposal under this solicitation, the Bidder or Offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

d. Certification of Lower Tier Contractors Regarding Debarment (2 CFR Part 180 (Subpart C), 2 CFR Part 1200, DOT Order 4200.5)

The successful Bidder, by administering each lower tier subcontract that exceeds $25,000 as a "covered transaction", must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

1. Checking the System for Award Management at website: http://www.sam.gov;
2. Collecting a certification statement similar to the Certificate of Offeror/Bidder Regarding Debarment and Suspension, above;
3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the FAA and/or MoDOT later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA and/or MoDOT may pursue any available remedies, including suspension and debarment of the non-compliant participant.

f. Certification Regarding Lobbying (31 U.S.C. § 1352, 2 CFR § 200 Appendix II(J), 49 CFR Part 20, Appendix A)

The Bidder or Offer certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employer of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, sub-grants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, United States Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for such failure.

g. Buy American Certification: (Title 49 U.S.C. § 50101)
The bidder agrees to comply with 49 U.S.C. § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP-funded projects are produced in the United States, unless the FAA has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued List.

A bidder or offeror must submit the appropriate Buy America certification included herein with their bid or offer. The Owner will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

Type of Certification is based on Type of Project:

There are two types of Buy American certifications.

- For projects for a facility, the Certificate of Compliance Based on Total Facility (Terminal or Building Project) must be submitted.

- For all other projects, the Certificate of Compliance Based on Equipment and Materials Used on the Project (Non-building construction projects such as runway or roadway construction; or equipment acquisition projects) must be submitted.

Certificate of Buy American Compliance for Total Facility
(Buildings such as Terminal, SRE, ARFF, etc.)

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with its proposal. The bidder or offeror must indicate how it intends to comply with 49 USC § 50101 by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e. not both) by inserting a checkmark (√) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 USC § 50101 by:

a) Only installing steel and manufactured products produced in the United States; or
b) Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing U.S. domestic products.
3. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

☐ Bidder or offeror hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

1. To submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that support the type of waiver being requested.
2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination that may result in rejection of the proposal.
3. To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
4. To furnish U.S. domestic product for any waiver request that the FAA rejects.
5. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver – The cost of components and subcomponents produced in the United States is more than 60% of the cost of all components and subcomponents of the "facility". The required documentation for a Type 3 waiver is:

a) Listing of all manufactured products that are not comprised of 100% U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly and installation at project location.
c) Percentage of non-domestic component and subcomponent cost as compared to total "facility" component and subcomponent costs, excluding labor costs associated with final assembly and installation at project location.

Type 4 Waiver – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a Type 4 waiver is:

a) Detailed cost information for total project using U.S. domestic product.

b) Detailed cost information for total project using non-domestic product.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

_____	_____
Date	Signature
_____	_____
Company Name	Title

Certificate of Buy American Compliance for Manufactured Products
(Non-building construction projects, equipment acquisition projects)

As a matter of bid responsiveness, the bidder or offeror must complete, sign, date, and submit this certification statement with their proposal. The bidder or offeror must indicate how they intend to comply with 49 USC § 50101 by selecting one of the following certification statements. These statements are mutually exclusive. Bidder must select one or the other (i.e. not both) by inserting a checkmark (√) or the letter "X".

☐ Bidder or offeror hereby certifies that it will comply with 49 USC 50101 by:

a) Only installing steel and manufactured products produced in the United States;
b) Installing manufactured products for which the FAA has issued a waiver as indicated by inclusion on the current FAA Nationwide Buy American Waivers Issued listing; or
c) Installing products listed as an Excepted Article, Material or Supply in Federal Acquisition Regulation Subpart 25.108.

By selecting this certification statement, the bidder or offeror agrees:

1. To provide to the Owner evidence that documents the source and origin of the steel and manufactured product.
2. To faithfully comply with providing U.S. domestic product.
3. To furnish U.S. domestic product for any waiver request that the FAA rejects.
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

☐ Bidder or offeror hereby certifies it cannot comply with the 100% Buy American Preferences of 49 USC § 50101(a) but may qualify for either a Type 3 or Type 4 waiver under 49 USC § 50101(b). By selecting this certification statement, the apparent bidder or offeror with the apparent low bid agrees:

1. To submit to the Owner within 15 calendar days of the bid opening, a formal waiver request and required documentation that support the type of waiver being requested.
2. That failure to submit the required documentation within the specified timeframe is cause for a non-responsive determination which may result in rejection of the proposal.
3. To faithfully comply with providing U.S. domestic products at or above the approved U.S. domestic content percentage as approved by the FAA.
4. To refrain from seeking a waiver request after establishment of the contract, unless extenuating circumstances emerge that the FAA determines justified.

Required Documentation

Type 3 Waiver – The cost of the item components and subcomponents produced in the United States is more than 60% of the cost of all components and subcomponents of the "item". The required documentation for a Type 3 waiver is:

a) Listing of all product components and subcomponents that are not comprised of 100% U.S. domestic content (excludes products listed on the FAA Nationwide Buy American Waivers Issued listing and products excluded by Federal Acquisition Regulation Subpart 25.108; products of unknown origin must be considered as non-domestic products in their entirety).
b) Cost of non-domestic components and subcomponents, excluding labor costs associated with final assembly at place of manufacture.
c) Percentage of non-domestic component and subcomponent cost as compared to total "item" component and subcomponent costs, excluding labor costs associated with final assembly and at place of manufacture.

Type 4 Waiver – Total cost of project using U.S. domestic source product exceeds the total project cost using non-domestic product by 25%. The required documentation for a Type 4 waiver is:

d) Detailed cost information for total project using U.S. domestic product.
e) Detailed cost information for total project using non-domestic product.

False Statements: Per 49 USC § 47126, this certification concerns a matter within the jurisdiction of the Federal Aviation Administration and the making of a false, fictitious or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code.

_____	_____
Date	Signature
_____	_____
Company Name	Title

h. Compliance with the Work Authorization Law (as required by Section 285.530, Revised Statues of Missouri)

For all contracts where the total bid amount is in excess of $50,000 (local match in excess of $5,000), the Bidder, by submission of an offer and by signing the Worker Eligibility Verification Affidavit for All Contract Agreements in Excess of $50,000, certifies that it:

1. does not knowingly employ any person who is an unauthorized alien in connection with the contracted services;

2. has enrolled and actively participates in a federal work authorization program;

A general contractor or subcontractor of any tier shall not be liable under sections 285.525 to 285.550 when such general contractor or subcontractor contracts with its direct subcontractor who violates subsection 1 of this section, if the contract binding the contractor and subcontractor affirmatively states that the direct subcontractor is not knowingly in violation of subsection 1 of this section and shall not henceforth be in such violation and the contractor or subcontractor receives a sworn affidavit under the penalty of perjury attesting to the fact that the direct subcontractor's employees are lawfully present in the United States.

WORKER ELIGIBILITY VERIFICATION AFFIDAVIT FOR ALL CONTRACT AGREEMENTS IN EXCESS OF $50,000 (Local match in excess of $5,000)

(for joint ventures, a separate affidavit is required for each business entity)

STATE OF _____)
) ss
COUNTY OF _____)

On this _____ day of _____, 20_____, before me appeared _____, personally known to me or proved to me on the basis of satisfactory evidence to be a person whose name is subscribed to this affidavit, who being by me duly sworn, deposed as follows:

My name is _____, and I am of sound mind, capable of making this affidavit, and personally certify the facts herein stated, as required by Section 285.530, RSMo, to enter into any contract agreement with the state or any of its political subdivisions to perform any job, task, employment, labor, personal services, or any other activity for which compensation is provided, expected, or due, including but not limited to all activities conducted by business entities:

I am the _____ (title) of _____ (business name), and I am duly authorized, directed, and/or empowered to act officially and properly on behalf of this business entity.

I hereby affirm and warrant that the aforementioned business entity is enrolled in a federal work authorization program operated by the United States Department of Homeland Security, and the aforementioned business entity shall participate in said program to verify information (employment eligibility) of newly hired employees working in connection to work under the within contract agreement. I have attached documentation to this affidavit to evidence enrollment/participation by the aforementioned business entity in a federal work authorization program, as required by Section 285.530, RSMo.

In addition, I hereby affirm and warrant that the aforementioned business entity does not and shall not knowingly employ, in connection to work under the within contract agreement, any alien who does not have the legal right or authorization under federal law to work in the United States, as defined in 8 U.S.C. § 1324a(h)(3).

I am aware and recognize that, unless certain contract and affidavit conditions are satisfied pursuant to Section 285.530, RSMo, the aforementioned business entity may be held liable under Sections 285.525 through 285.550, RSMo, for subcontractors that knowingly employ or continue to employ any unauthorized alien to work within the state of Missouri.

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

_____
(Affiant Signature)

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

_____
(Notary Public)

My commission expires:

[Documentation of enrollment/participation in a federal work authorization program is attached. Acceptable enrollment and participation documentation consists of the following two pages of the E-Verify Memorandum of Understanding: (1) A valid, completed copy of the first page identifying the business entity; and (2) A valid copy of the signature page completed and signed by the business entity, the Social Security Administration, and the Department of Homeland Security – Verification Division.]

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION

The information shown in this section must be completed when a DBE contract goal has been established. The percentage must equal or exceed the DBE contract goal. If the percentage is below the contract goal, then the bidder must submit complete written documentation of good faith efforts taken to meet the DBE contract goal.

a. The undersigned submits the following list of DBEs to be used in accomplishing the work of this contract. The work, supplies or services, applicable value and percent of total federal contract each DBE is to perform or furnish is as follows:

b. Joint venture with a DBE. The undersigned submits the following list of bid items the DBE prime is responsible for and any items that will be subcontracted out are noted with an asterisk or a similar notation. The work, applicable value and percentage of total federal contract the DBE prime is responsible for are as follows:

(A) DBE Name and Address	(B) Bid Item Number(s) Or Work Performed	(C) Dollar Value of DBE Work **	(D) Percent Applicable to DBE Goal (100%, 60%)	(E) Dollar Amount Applicable to DBE Goal (C x D)	(F) Percent of Total Contract (C / Total Contract Amount)
TOTAL DBE PARTICIPATION				$	%

**Cannot exceed contract amount for given item of work.
Trucking services credited at 100% if the DBE owns the trucks or is leasing from a DBE firm
Merchant wholesalers (supply) are credited at 60%.
Brokered services will only receive credit for fees.

(Please reproduce the above sheet if additional space is needed.)

THIS EXECUTED PROPOSAL FORM MUST BE SUBMITTED IN THE ORIGINAL BOUND PROJECT MANUAL.

SIGNATURE OF BIDDER

The undersigned states that the correct LEGAL NAME AND ADDRESS of (1) the individual bidder, (2) each partner or joint venturer (whether individuals or corporations, and whether doing business under a fictitious name), or (3) the corporation (with the state in which it is incorporated) are shown below; that (if not signing with the intention to bind themselves to become responsible and sole bidder) they are the agent of, and they are signing and executing this (as indicated in the proper spaces below) as the bid of a

( ) sole individual ( ) partnership ( ) joint venture

( ) corporation, incorporated under the laws of state of _____.

Executed by bidder this _____ day of _____ 20_____.

Name of individual, all partners or joint venturers:	Address of each:
_____	_____
_____	_____
_____	_____
doing business under the name of:	Address of principal place of business in Missouri:
_____ (If using a fictitious name, show this name above in addition to legal names)	_____
_____ (If a corporation, show its name above)	_____
ATTEST: (SEAL)	
_____ (Signature) Secretary	_____ (Signature) (Title)
_____ Please print name	_____ Please print name

NOTE: If bidder is doing business under a fictitious name, the bid shall be executed in the legal name of the individual partners, joint ventures, or corporation, with the legal address shown, and registration of fictitious name filed with the secretary of state, as required by sections 417.200 to 417.230 RSMo. If the bidder is a corporation not organized under the laws of Missouri, it shall procure a certificate of authority to do business in Missouri, as required by section 351.572 et seq RSMo

(Revised per Addendum No. 1)

BID ITEM	FAA or MoDOT SPEC.	ITEM DESCRIPTION	APPROX. QTY. AND UNITS	UNIT PRICE		EXTENSION	
				DOLLARS	CTS	DOLLARS	CTS
ADD ALTERNATE INSTALL UNDERDRAINS							
1	D-705	Perforated Underdrain (4")	4,935 L.F.				
2	D-705	Non-Perforated Outlet Pipe (Sch. 40) (4")	201 L.F.				
3	D-705	Non-Perforated Outlet Pipe (Sch. 80) (4")	63 L.F.				
4	D-705	Underdrain Cleanout Riser	10 Each				
5	D-705	Splash Pad	2 Each				
6	D-705	Connect Underdrain to Storm Pipe	2 Each				
ADD ALTERNATE TOTAL							

BASE BID TOTAL		

BASE BID + ADD ALTERNATE TOTAL		

ACKNOWLEDGEMENTS BY BIDDER

a. By submittal of a proposal, the BIDDER acknowledges and accepts that the quantities established by the OWNER are an approximate estimate of the quantities required to fully complete the Project and that the estimated quantities are principally intended to serve as a basis for evaluation of bids. The BIDDER further acknowledges and accepts that payment under this contract will be made only for actual quantities and that quantities will vary in accordance with the General Provisions subsection entitled "Alteration of Work and Quantities".

b. The BIDDER acknowledges and accepts that the Bid Documents are comprised of the documents identified within the General Provisions. The BIDDER further acknowledges that each the individual documents that comprise the Bid Documents are complementary to one another and together establishes the complete terms, conditions and obligations of the successful BIDDER.

c. As evidence of good faith in submitting this proposal, the undersigned encloses a bid guaranty in the form of a certified check, cashier's check or bid bond in the amount of 5% of the bid price. The BIDDER acknowledges and accepts that refusal or failure to accept award and execute a contract within the terms and conditions established herein will result in forfeiture of the bid guaranty to the owner as a liquidated damage.

d. The BIDDER acknowledges and accepts the OWNER'S right to reject any or all bids.

e. The BIDDER acknowledges and accepts the OWNER'S right to hold all Proposals for purposes of review and evaluation and not issue a notice of award for a period not to exceed ***one-hundred twenty (120) (Revised per Addendum No. 1)*** calendar days from the stated date for receipt of bids.

f. The undersigned agrees that upon written notice of award of contract, he or she will execute the contract within thirty (30) days of the notice of award, and furthermore, and provide executed payment and performance bonds within fifteen (15) days from the date of contract execution. The undersigned accepts that failure to execute the contract and provide the required bonds within the stated timeframe shall result in forfeiture of the bid guaranty to the owner as a liquidated damage.

g. Time of Performance: By submittal of this proposal, the undersigned acknowledges and agrees to commence work within ten (10) calendar days of the date specified in the written "Notice to Proceed" as issued by the OWNER. The undersigned further agrees to complete the project, as established by the owner, within **twenty-one (21) calendar days from the date of Notice to Proceed No. 1 for the removal of trees and brush during Phase 1**. The owner has established a contract performance time of **eighty (80) calendar days from the date of Notice-to-Proceed No. 2 for the reconstruction of Runway 13-31. Phase 2 shall be completed within the allotted eighty (80) calendar days and shall run concurrently with Phase 3. Phase 3 shall be completed within thirty (30) consecutive calendar days and shall run concurrently with Phase 2.** ***(Revised per Addendum No. 1)*** All project work shall be substantially completed within the stated timeframe. **Shifting of contract time between Phases 2 and 3 will not be permitted**. This project is subject to liquidated damages as prescribed in the project manual.

h. The undersigned acknowledges and accepts that for each and every Calendar day the project remains incomplete beyond the contract time of performance, the Contractor shall pay the non-penal amount of **one thousand five hundred dollars ($1,500)** per Calendar day as a liquidated damage to the OWNER.

i. The undersigned prime contractor, if not a MoDOT certified DBE, hereby assures that they will subcontract **8.0** percent of the dollar value of the prime contract, **exclusive of the add alternate**, to DBE firms or make good faith efforts to meet the DBE contract goal. In addition, the prime contractor will include the DBE clauses (see Supplementary Provision No. 6 of the Federal and State Provisions) required by the DBE Program adopted by MoDOT and the Sponsor in all contracts and subcontracts relating to this project. The undersigned will complete the DBE Participation information included herein when a DBE goal has been established, including a demonstration of good faith efforts if the DBE goal is not met. If the undersigned prime contractor is a MoDOT certified DBE firm, then the prime contractor must perform at least thirty percent (30%) of the total contract value work with its own forces, and will receive DBE credit for all work which the prime contractor and any other MoDOT certified DBE firm performs directly.

j. The BIDDER, by submission of a proposal, acknowledges that award of this contract is subject to the provisions of the Davis-Bacon Act and the Missouri Prevailing Wage Law. The BIDDER accepts the requirement to pay prevailing wages for each classification and type of worker as established in the attached wage rate determinations as issued by the United States Department of Labor and the Missouri Division of Labor Standards. The BIDDER further acknowledges and accepts their requirement to incorporate the provision to pay the established prevailing wages in every subcontract agreement entered into by the Bidder under this project. The highest rate between the two (Federal and State) for each job classification shall be considered the prevailing wage.

k. Compliance Reports (41 CFR Part 60-1.7): Within 30 days after award of this contract, the Contractor/Subcontractor shall file a compliance report (Standard Form 100) if s/he has not submitted a complete compliance report within 12 months preceding the date of award. This report is required if the Contractor/Subcontractor meets all of the following conditions:

1. Contractors/Subcontractors are not exempt based on 41 CFR 60-1,5.
2. Has 50 or more employees.
3. Is a prime contractor or first tier subcontractor.
4. There is a contract, subcontract, or purchase order amounting to $50,000 or more

l. The undersigned acknowledges receipt of the following addenda:

Addendum No. _____, dated _____ Date Received _____

Addendum No. _____, dated _____ Date Received _____

Addendum No. _____, dated _____ Date Received _____

NEVADA MUNICIPAL AIRPORT (NVD)
NEVADA, MISSOURI

BASE BID
Reconstruct Runway 13-31 and Apron Connecting Taxiway

ADD ALTERNATE
Install Underdrains

MoDOT Project No. 21-082A-3 / AIR 216-082A-1
LOCHNER JOB NO. 000017191_TO2

PRE-BID CONFERENCE MEETING MINUTES
Wednesday, April 13th, 2022, at 11:00 A.M. (CDT)

I. Introduction of Attendees:

II. Bidding Process:

A. Time and Location:

1. Proposals will be received until **11:00 A.M. (CDT) on Thursday, April 28th, 2022,** and then publicly opened and read at:

   Nevada City Hall
   110 S. Ash Street
   Nevada, MO 64772

   Bids received after this time will not be considered.

2. Bids may be held by the City of Nevada for a period not to exceed one-hundred twenty (120) calendar days from the date of the bid opening. **Award of contract is contingent upon the City of Nevada receiving funding assistance from the Federal Aviation Administration (FAA) and the Missouri Department of Transportation (MoDOT).**

3. The intentions are to execute contracts after receiving concurrence in award from MoDOT. The intent of the Owner is to issue the Notice-To-Proceed (NTP) as soon as practical after the Award of Contract. The anticipated early NTP No. 1 date for tree and brush clearing during Phase 1 is November 1st, 2022, and the late NTP No. 1 date for tree and brush clearing during Phase 1 is November 14th, 2022. The anticipated NTP No. 2 date for Runway 13-31 reconstruction during Phases 2 and 3 is April 2023 and the anticipated late NTP No. 2 date is July 2023.

4. Envelopes containing bids must be sealed and addressed as shown on Page 2-1 in the Instructions To Bidders of the Contract Documents/Specifications. Bids shall be addressed to the attention of the City Clerk.

B. Contract Provision:

1. Mandatory contract provisions are identified in Section 3 and Section 4 of the Contract Documents.

2. The DBE goal for this project, as described on Page 1-4, is to subcontract 8.00% of the dollar value of the prime contract to DBEs. It is the responsibility of the non-DBE bidder to subcontract 8.00% of the dollar value of the base bid, excluding the add alternate, to Disadvantaged Business Enterprises (DBE) or make good faith efforts to meet this DBE contract goal. **If the DBE goal is not met, there needs to be substantial documentation of good faith effort (as described on pages 1-4 through 1-5) in attempts to attain the DBE goal.** The DBE Forms are located within the Official Bid Form.

3. Sixty percent (60%) of the cost of materials or supplies purchased from a DBE regular dealer may be counted. If the materials or supplies are obtained from a DBE manufacturer, 100% of the cost may be counted toward the goal.

4. The Contractor is required to provide a 10-hour OSHA construction safety program for all employees who will be on-site at the Project as provided on Pages 4-20 and 4-21 of the Project Manual.

5. The Contractor and all Subcontractors will be required to pay minimum wage rates as established by the United States Department of Labor. Minimum wage requirements are identified on the current wage rates included at the end of Section 4. Both Federal and State wage rates are included. If there is a discrepancy between the two published wage rates, the higher of the two will be used as the requirement.

6. Proposers shall provide a statement of qualifications with their proposal of past similar work, a financial statement, and a list of equipment along with year and overall condition. In lieu of the financial statement, Contractors may provide evidence that they are pre-qualified with MoDOT for similar work and are on the current MoDOT bidders list.

7. As part of your proposal, you are required to complete the Worker Eligibility Verification Affidavit on Page P-11. Note also that you are required to submit with your proposal a completed copy of the first page and a valid copy of the signature page of your E-Verify Memorandum of Understanding.

8. Prior to procurement and upon the successful bidder's request, the City of Nevada will provide the successful bidder a state tax exempt certification.

9. As noted in General Provisions Section 80-01, Subletting of Contract, the Contractor shall provide copies of all subcontracts to the Engineer prior to the subcontractor being utilized on project.

10. The Contractor and his/her Subcontractors will be required to provide certificates of insurance for at least the minimum amounts specified in the Special Provisions.

11. The Prime Contractor shall perform, with their organization, an amount of work equal to at least 25% of the total contract cost per Section 80-01 Subletting of Contract of the General Provisions.

12. During construction, the first pay estimate shall be processed when necessary. All subsequent pay estimates will only be processed once the Prime Contractor has submitted lien releases from their subcontractors. This will be discussed in further detail during the preconstruction conference.

C. Contract Proposal Forms:

1. Proposals must be submitted on the "OFFICIAL BID FORM" which is separate from the Contract Documents/Specifications (Pages 1 through 13) and provided by Drexel Technologies for the submittal of bid.

2. When completing the Proposal Form, the unit price needs to be written in numerical form in the column under the header "Unit Price" and the extension (quantity x unit price) needs to be written in numerical form. All bidders submitting proposals mut acknowledge receipt of all addendums issued in the space provided in the Proposal and Page PF-4. Pages PF-8 through PF-13 needs to be completed and signed. If for some reason any of the pages of the Proposal Form are changed by addendum, replace the page that was revised in your submittal.

3. The bidder shall submit all required DBE information, as contained on the DBE form located on Page PF-12 of the Official Bid Form with their Bid.

4. The successful bidder will be required to submit evidence of when and by whom each DBE was last certified after the bid opening.

5. This contract is subject to the "Buy American Preferences" of the Aviation Safety and Capacity Act of 1990. Prospective Bidders are required to certify that steel and manufactured products have been produced in the United States per the certification statement included in the Official Bid Form, Pages PF-9 and PF-10.

6. A Bid Bond guarantee will be required with each bid as a certified check or a bid bond in the amount of five (5) percent of the total amount of the bid, made payable to the City of Nevada. Include the Bid Bond with the Official Bid Form in the sealed envelope.

7. The successful bidder will be required to execute the Contract Agreement, the Performance Bond, and the Payment Bond. The bonds will be in the amount of 100% of the contract price.

8. Please note that per Section 5, Item C-105, Mobilization of the Project Manual, the unit price for Mobilization shall be limited to 10% of the total original project cost for the Base Bid plus Add Alternate.

III. Project Description:

A. This project consists of:

BASE BID
Reconstruct Runway 13-31 and Apron Connecting Taxiway

ADD ALTERNATE
Install Underdrains

B. The contract period for construction is twenty-one (21) calendar days from the date of Notice-to-Proceed No. 1 for the removal of trees and brush during Phase 1. The contract period for construction is eighty (80) calendar days from the date of Notice-to-Proceed No. 2 for the reconstruction of Runway 13-31. Phase 2 shall last fifty (50) calendar days and Phase 3 shall last thirty (30) calendar days. Shifting of contract time between Phases 2 and 3 will not be permitted.

C. Liquidated damages are set at **$1,500.00** per calendar day. Delays due to weather and other factors out of the control of the Contractor **that are above and beyond a typical season** may be requested in writing as a reason for contract period extension. The request should be made as soon as the Contractor is aware of an issue with the construction period. The Contractor shall also make every attempt to make up any lost days by working extended periods during the day and/or weekends.

D. All bidders should carefully review the Construction Safety and Phasing Plan (CSPP) Report which includes the safety and phasing notes and details on Plan Sheet Nos. 3 - 6 as well as FAA AC 150/5370-2G which is included in the Appendix section of the Project Manual. Low Profile Barricades and runway closure markers (provided by the Owner) shall be placed as shown on Plan Sheet Nos. 3 - 5 prior to the start of any work. **The Contractor shall submit a Safety Plan Compliance Document (SPCD) detailing how they will comply with the Construction Safety and Phasing Plan. This SPCD must be approved by the Engineer prior to the issuance of the notice to proceed.**

E. This project has been structured into three (3) construction phases with two (2) separate Notice-to-Proceed dates. Phase 1 spans twenty-one (21) calendar days and features tree and brush removal. All airfield pavement shall be open during Phase 1. Phase 2 shall last a maximum of fifty (50) calendar days and requires Runway 13-31 to be closed. Airport operators may operate on Runway 2-20 during Phase 2. Phase 3 shall last a maximum of thirty (30) calendars days and requires the airport to be closed as construction activity will take place within the Runway 2-20 / Runway 13-31 intersection. Shifting of contract time between Phases 2 and 3 will not be permitted.

F. During Phase 2, a Contractor furnished flagger is required when crossing through the Runway 2-20 Object Free Area (250' either side of the Runway 2-20 centerline). The Contractor furnished flagger shall have knowledge of airport operations and procedures. Construction equipment and vehicles are required to have a visible flashing beacon and flag as traffic crosses through the Object Free Area.

G. Contractor's access roads, haul roads, and staging areas are shown on Plan Sheet Nos. 3 - 5. Access to the project will be from U.S. Highway 54 to the Contractor's Staging Area. Note that during Phases 2 and 3, the Contractor is required to construct a Stabilized Construction Exit. Material and labor required to complete and maintain the stabilized construction exit shall be paid for under Pay Item "Stabilized Construction Exit". A detail for the Stabilized Construction Exit is shown on Plan Sheet No. 6.

H. The Contractor shall be responsible for obtaining water, as required for completion of the project, and shall coordinate with local water provider for pricing, obtaining a water meter, and determining a location for water access. The cost of this work shall be considered subsidiary to other contract items. Connections and associated costs shall be coordinated with the Consolidated Public Water Supply District #1 of Vernon County, Missouri. (3414 E. Austin Boulevard, Nevada, MO 64772) (417) 667-8512.

I. Waste materials resulting from this Project shall be disposed of off Airport property per General Note No. 7, on Plan Sheet No. 2.

J. The Contractor shall notify the Airport Manager and the Engineer or the on-site representative at least two (2) weeks prior to the start of construction so that the Airport Manager can issue all NOTAM's to Flight Service with regards to the construction at the airport.

K. The Contractor shall notify the Airport Manager and the Engineer or RPR at least two (2) weeks prior to the commencement of Phase 2 and Phase 3 of the project, so that the Airport Manager can inform all tenants of the proposed airport closure.

L. Lochner will provide Construction Observation and acceptance testing throughout the project. The Contractor shall provide Quality Control Measures as outlined in the Contract Documents/Specifications, specifically Section 100 of the General Provisions.

M. All contractor and subcontractor personnel intending to operate a vehicle on airport property for this project will be required to complete an initial safety briefing during orientation, including requirements for operating a motor vehicle within the Airport Operations Area (AOA).

N. Existing underground utilities are located within the limits of the project. Any damage to these utilities shall be repaired by the Contractor at no additional cost to the Owner.

O. All areas disturbed during construction shall be seeded and mulched in accordance with T-901 and T-908 of the Project Specifications. Bid Items "Temporary Seeding", "Permanent Seeding", and "Hydro-Mulch" are included within the proposal section.

P. A contractor furnished Engineer's Field Office is not required.

IV. Demolition

A. Tree clearing and brush removal operations shall be performed during Phase 1. This is anticipated to occur during the winter months of November and December and shall be performed in a manner that minimizes disturbance to the existing ground. Grubbing of stumps and roots will not be permitted. At the completion of clearing activities, the Contractor shall restore all disturbed ground and spread material capable of sustaining growth of grass. See Notes 8 and 9 on Demolition Plan Sheet No. 13.

B. The Contractor has the option of utilizing the existing asphalt pavement and granular base material as the proposed Runway 13-31 base course in accordance with Specification Item P-207 "In-Place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course". This material was tested in the laboratory during the design phase and determined to be in compliance with the material specification requirements.

C. All demolition and unused waste material, including any excess unused asphalt pavement and underlying granular base course, resulting from this project shall be disposed of off Airport Property per General Note 7 on Plan Sheet No. 2.

D. The Contractor shall be cautious of the existing Runway 2-20 underdrain system, lighting circuit, PAPI circuit, and water main line that is to remain. The underdrain systems, circuits and water main line, with caution notes, are located on the Plan Sheets.

E. Removal of existing markings on pavement to remain shall be accomplished by rotary grinding, water blasting, or other methods approved by the Engineer minimizing damage to the pavement surface. Heavy weight equipment will not be allowed on the existing pavement.

V. Grading and Paving Construction:

A. The Contractor is responsible for implementation of the Stormwater Pollution Prevention Plan (SWPPP) contained in the Appendix of the Project Manual. Plan Sheet Nos 23 - 25 detail the erosion control measures necessary for the Project.

B. The borrow area, as shown on Plan Sheet No. 26, is available for the Contractor's use in reconstructing Runway 13-31 and the apron connecting taxiway. The Contractor is responsible for determining the amount of material required from the borrow area.

C. The proposed typical pavement section for Runway 13-31 and the Apron Connecting Taxiway consists of:

- Hot Mix Asphalt (3") (P-403)
- Aggregate Base Course (6") (P-207, P-208, P-209, or P-219)
- Treated Subgrade (12") (P-155, P-156, P-157, or P-158)

D. The rate of application, listed in each respective spec's section for Lime (P-155), Cement (P-156), Cement or Lime Kiln Dust (LKD) (P-157), or Fly Ash (P-158) are the suggested values. The Contractor shall apply a sufficient amount of material to lower the Plasticity Index to less than 15 and increase the CBR to greater than or equal to 10.

E. The Contractor shall apply a sufficient amount of stabilizing agent to the mixture of asphalt millings and aggregate base course materials as specified in Item P-207 "In-Place Full Depth Reclamation (FDR) Recycled Asphalt Aggregate Base Course", in order to achieve a minimum CBR value of 10. During the design phase, laboratory tests were completed at a 15/85 blend of millings and base course with 2% cement and 10% fly ash - CBR values of 35 and 32 were achieved, respectively. Refer to the Geotechnical Report in the Appendix of the Project Manual for details and results.

F. Separation Geotextile is required for base course specifications P-208, P-209, and P-219. Materials and Labor shall be considered subsidiary to the construction of the proposed base course. Separation Geotextile is not required for P-207. See Note 1 on Plan Sheet No. 8.

G. If GPS controlled equipment is used to construct the subgrade, the Contractor shall have the area surveyed and approved by the Engineer prior to placement of base course.

H. Type 2C erosion control blanket shall be installed as shown on the plans. Topsoil shall be spread to minimum of 4". Seeding shall be completed per specification item T-901.

VI. Drainage Improvements

A. Several drainage ditches will be newly constructed or improved along Runway 13-31, the apron connecting taxiway, and the apron. See the grading plan for details regarding required erosion control measures.

B. If the Add Alternate is awarded, underdrains will be installed on either side of Runway 13-31 and along the west side of the apron connecting taxiway. See Plan Sheet Nos. 14 – 17.

VII. Pavement Marking Application

A. The contractor shall apply markings to Runway 13-31, the apron connecting taxiway, and to a portion of the apron as shown on the plans. See Pavement Marking Plan Sheet Nos. 29 and 30.

VIII. Construction Cost Range

A. The construction cost range for this project is $900k - $1.3 million.

IX. Proposed Addendum

A. Section 157-3.1 and 157-3.2 of Specification "Cement and Lime Kiln Dust Treated Subgrade" on Pages 14-1 and 14-2 of the Project Specifications will be modified to update reference that kiln dust shall be added at a rate to sufficiently lower the Plasticity Index to less than 15.

B. Typical Section Note No. 2 on the typical sections sheet (Plan Sheet No. 8) will be modified to update reference that if the contractor intends to use Cement or Lime Kiln Dust (P-157), material shall be added at a rate to sufficiently lower the Plasticity Index to less than 15.

C. Minutes to today's pre-bid conference will be included with Addendum No. 1

D. The timeframe that the City of Nevada may hold bids from the date of the bid opening is increasing from ninety (90) calendar days to one-hundred twenty (120) calendar days.

E. Clarification regarding the total allowable calendar days for work associated with Phase 2 and Phase 3. Phases 2 and 3 shall not exceed eighty (80) calendar days and Phase 3 shall not exceed thirty (30) consecutive calendar days. Phases 2 and 3 may run concurrently (i.e. While also working within the Runway 13-31 / Runway 2-20 intersection, you may also work outside of the Runway 13-31 / Runway 2-20 intersection during Phase 3).

X. Open Discussion, Site Tour, and Related Notes

A. Questions were raised regarding the P-403 specification, specifically the elastic recovery requirement, the marshall compaction vs. gyratory compaction method, as well as the Asphalt Pavement Analyzer (APA) test method. These items will be addressed within Addendum No. 1.

B. Phase 3 cannot exceed thirty (30) consecutive calendar days due to the airport being closed. Phases 2 and 3 cannot exceed eighty (80) calendar days.

C. Currently there is brush and timber that was previously removed from the adjacent property and piled up next to the proposed tree clearing area. This specific brush and timber will be disposed of by the Owner prior to the issuance of Notice to Proceed No. 1.

D. Determination of tree trunk diameter for proper removal methods will be based on measurement taken 5 feet above the ground. (i.e. At 5 feet above the ground, if the tree trunk diameter is 24 inches or greater, the tree shall be ground to a depth of 12 inches below grade to prevent future growth. At 5 feet above the ground, if the tree trunk diameter is less than 24 inches, the tree shall be cut flush with the original ground surface and treated with a tree and stump herbicide.)

E. Any wood chips resulting from stump grinding operations are allowed to remain on site but must be spread out as necessary to accommodate typical seeding operations. (i.e. no deep piles of chips will be allowed to remain)

NEVADA MUNICIPAL AIRPORT (NVD)
NEVADA, MISSOURI

Base Bid
Reconstruct Runway 13-31 and Apron Connecting Taxiway

Add Alternate
Install Underdrains

MoDOT Project No. 21-082A-3
LOCHNER JOB NO. 000017191_TO2

ATTENDEES LIST FOR PRE-BID CONFERENCE
Wednesday, April 13, 2022 at 11:00 a.m. (CDT)

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