



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
16 STATE HOUSE STATION  
AUGUSTA, MAINE 04333-0016

Janet T. Mills  
GOVERNOR

Bruce A. Van Note  
COMMISSIONER

April 27, 2021  
Subject: Reconstruction, Marking,  
Lighting & Signing of Taxiways  
State WIN: 020655.03  
Location: **Augusta**  
**Amendment No. 2**

Dear Sir/Ms.:

For your information and review:

The sign in sheet generated at the non-mandatory pre-bid meeting held April 21, 2021 is attached and available for Contractor review.

Please make the following changes to the Bid Documents:

In the Bid Book:

**ADD** the attached "Table of Contents", 3 pages.

**ADD** on page 11, Notice to Contractors, "**The basis of award will be Section 1 Only. Sections 1, 2 & 3 must be bid.**" Make this change in pen and ink.

**REMOVE** from Amendment No. 1, Proposal Schedule of Items, 5 pages, dated 4/14/2021, and **REPLACE** with the attached, revised Proposal Schedule of Items, 6 pages, dated 4/26/2021.

**REMOVE** pages 18 – 25, CONTRACT AGREEMENT, OFFER & AWARD, 2 copies, 4 pages each, and **REPLACE** with the attached, revised CONTRACT AGREEMENT, OFFER & AWARD, 2 copies, 4 pages each.

**REMOVE** pages SGP-3 to SGP-7, SP-2 Supplemental General Provisions, 5 Pages, and **REPLACE** with the attached, revised Supplemental General Provisions, 5 pages, marked Addendum No. 2.

**ADD** pages 77 to 128, SP-7 Geotechnical Information, 52 Pages, marked Addendum No. 2.

**ADD** pages 1 to 62, Construction Safety and Phasing Plan Narrative, 62 Pages, marked Addendum No. 2.

**REMOVE** pages C-102-1 to C-102-4, C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control, 4 pages, and **REPLACE** with the attached, revised C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control, 4 pages, marked Addendum No. 2.

**REMOVE** pages C-105-1 to C-105-2, M-105 Mobilization, 2 pages, and **REPLACE** with the attached, M-105 Mobilization, 2 pages, marked Addendum No. 2.

**REMOVE** pages M-001-1 to M-001-22, M-001 Summary of work and Special Work Requirements, 6 pages, and **REPLACE** with the attached, M-001 Summary of work and Special Work Requirements, 6 pages, marked Addendum No. 2.

**DELETE** pages P-151-1 to P-151-2, P-151 Clearing and Grubbing,

**REMOVE** pages P-207-1 to P-207-6, P-207 In-Place Full Depth Reclamation (FDR), 6 pages, and **REPLACE** with the attached, revised P-207 In-Place Full Depth Reclamation (FDR), 8 pages, marked Addendum No. 2.

**REMOVE** pages P-620-1 to P-620-6, P-620 Runway and Taxiway Markings, 6 pages, and **REPLACE** with the attached, revised P-620 Runway and Taxiway Markings, 6 pages, marked Addendum No. 2.

**REMOVE** pages D-701-8 to D-701-10, D-701 Pipes for Storm Drains and Culverts, 3 pages, and **REPLACE** with the attached, revised D-701 Pipes for Storm Drains and Culverts, 3 pages, marked Addendum No. 2.

**REMOVE** page D-751-5, D-751 Manholes, Catch Basins, Inlets, and Inspection Holes, 1 page, and **REPLACE** with the attached, D-751 Manholes, Catch Basins, Inlets, and Inspection Holes, 1 page, marked Addendum No. 2.

**REMOVE** pages L-108-13 to L-108-14, L-108 Underground Power Cables for Airports, 2 pages, and **REPLACE** with the attached, revised L-108 Underground Power Cables for Airports, 2 pages, marked Addendum No. 2.

**REMOVE** pages L-109-8 to L-109-10, L-109 Airport Transformer Vault and Vault Equipment, 3 pages, and **REPLACE** with the attached, revised L-109 Airport Transformer Vault and Vault Equipment, 3 pages, marked Addendum No. 2.

**REMOVE** pages L-110-1 to L-110-10, L-110 Airport Underground Electrical Duct Banks and Conduits, 10 pages, and **REPLACE** with the attached, revised L-110 Airport Underground Electrical Duct Banks and Conduits, 10 pages, marked Addendum No. 2.

**REMOVE** pages L-115-1 to L-115-8, L-115 Electrical Manholes and Junction Structures, 8 pages, and **REPLACE** with the attached, revised L-115 Electrical Manholes and Junction Structures, 8 pages, marked Addendum No. 2.

**REMOVE** pages L-125-1 to L-125-2, L-125 Installation of Airport Lighting Systems, 2 pages, and **REPLACE** with the attached, revised L-125 Installation of Airport Lighting Systems, 2 pages, marked Addendum No. 2.

In the Plan Set:

**REMOVE** SHEET NUMBER 1 of 30, GENERAL NOTES, dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 1 of 30, GENERAL NOTES, dated 4/23/2021.

**REMOVE** SHEET NUMBER 2 of 30, ITEM LIST AND QUANTITY NOTES, dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 2 of 30, ITEM LIST AND QUANTITY NOTES, dated 4/23/2021.

**REMOVE** SHEET NUMBER 3 of 30, CONSTRUCTION SAFETY AND PHASING PLAN OVERVIEW, dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 3 of 30, CONSTRUCTION SAFETY AND PHASING PLAN OVERVIEW, dated 4/23/2021.

**REMOVE** SHEET NUMBER 4 of 30, CONSTRUCTION SAFETY AND PHASING PLAN, dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 4 of 30, CONSTRUCTION SAFETY AND PHASING PLAN, dated 4/23/2021.

**REMOVE** SHEET NUMBER 5 of 30, CONSTRUCTION SAFETY AND PHASING PLAN DETAILS (1 OF 2), dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 5 of 30, CONSTRUCTION SAFETY AND PHASING PLAN DETAILS (1 OF 2), dated 4/23/2021.

**REMOVE** SHEET NUMBER 6 of 30, CONSTRUCTION SAFETY AND PHASING PLAN DETAILS (2 OF 2), dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 6 of 30, CONSTRUCTION SAFETY AND PHASING PLAN DETAILS (2 OF 2), dated 4/23/2021.

**REMOVE** SHEET NUMBER 7 of 30, DEMOLITION PLAN (1 OF 4) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 7 of 30, DEMOLITION PLAN (1 OF 4) dated 4/23/2021.

**REMOVE** SHEET NUMBER 8 of 30, DEMOLITION PLAN (2 OF 4) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 8 of 30, DEMOLITION PLAN (2 OF 4) dated 4/23/2021.

**REMOVE** SHEET NUMBER 9 of 30, DEMOLITION PLAN (3 OF 4) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 9 of 30, DEMOLITION PLAN (3 OF 4) dated 4/23/2021.

**REMOVE** SHEET NUMBER 10 of 30, DEMOLITION PLAN (4 OF 4) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 10 of 30, DEMOLITION PLAN (4 OF 4) dated 4/23/2021.

**REMOVE** SHEET NUMBER 11 of 30, GEOMETRY LAYOUT AND MARKING PLAN (1 OF 4) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 11 of 30, GEOMETRY LAYOUT AND MARKING PLAN (1 OF 4) dated 4/23/2021.

**REMOVE** SHEET NUMBER 12 of 30, GEOMETRY LAYOUT AND MARKING PLAN (2 OF 4) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 12 of 30, GEOMETRY LAYOUT AND MARKING PLAN (2 OF 4) dated 4/23/2021.

**REMOVE** SHEET NUMBER 13 of 30, GEOMETRY LAYOUT AND MARKING PLAN (3 OF 4) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 13 of 30, GEOMETRY LAYOUT AND MARKING PLAN (3 OF 4) dated 4/23/2021.

**REMOVE** SHEET NUMBER 14 of 30, GEOMETRY LAYOUT AND MARKING PLAN (4 OF 4) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 14 of 30, GEOMETRY LAYOUT AND MARKING PLAN (4 OF 4) dated 4/23/2021.

**REMOVE** SHEET NUMBER 15 of 30, TYPICAL SECTION AND PAVEMENT DETAILS dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 15 of 30, TYPICAL SECTION AND PAVEMENT DETAILS dated 4/23/2021.

**REMOVE** SHEET NUMBER 16 of 30, MARKING DETAILS dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 16 of 30, MARKING DETAILS dated 4/23/2021.

**REMOVE** SHEET NUMBER 17 of 30, PROFILE TAXIWAY "C" (1 OF 2) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 17 of 30, PROFILE TAXIWAY "C" (1 OF 2) dated 4/23/2021.

**REMOVE** SHEET NUMBER 18 of 30, PROFILE TAXIWAY "C" (2 OF 2) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 18 of 30, PROFILE TAXIWAY "C" (2 OF 2) dated 4/23/2021.

**REMOVE** SHEET NUMBER 19 of 30, PROFILE TAXIWAY "E" (1 OF 2) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 19 of 30, PROFILE TAXIWAY "E" (1 OF 2) dated 4/23/2021.

**REMOVE** SHEET NUMBER 20 of 30, PROFILE TAXIWAY "E" (2 OF 2) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 20 of 30, PROFILE TAXIWAY "E" (2 OF 2) dated 4/23/2021.

**REMOVE** SHEET NUMBER 21 of 30, GRADING DRAINAGE AND EROSION CONTROL PLAN (1 OF 3) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 21 of 30, GRADING DRAINAGE AND EROSION CONTROL PLAN (1 OF 3) dated 4/23/2021.

**REMOVE** SHEET NUMBER 22 of 30, GRADING DRAINAGE AND EROSION CONTROL PLAN (2 OF 3) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 22 of 30, GRADING DRAINAGE AND EROSION CONTROL PLAN (2 OF 3) dated 4/23/2021.

**REMOVE** SHEET NUMBER 23 of 30, GRADING DRAINAGE AND EROSION CONTROL PLAN (3 OF 3) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 23 of 30, GRADING DRAINAGE AND EROSION CONTROL PLAN (3 OF 3) dated 4/23/2021.

**REMOVE** SHEET NUMBER 24 of 30, DRAINAGE AND EROSION CONTROL DETAILS (1 OF 3) dated 4/12/2021, and **REPLACE** with the attached, revised SHEET NUMBER 24 of 30, DRAINAGE AND EROSION CONTROL DETAILS (1 OF 3) dated 4/23/2021.

**REMOVE SHEET NUMBER 25 of 30, DRAINAGE AND EROSION CONTROL DETAILS (2 OF 3) dated 4/12/2021, and REPLACE with the attached, revised SHEET NUMBER 25 of 30, DRAINAGE AND EROSION CONTROL DETAILS (2 OF 3) dated 4/23/2021.**

**REMOVE SHEET NUMBER 26 of 30, DRAINAGE AND EROSION CONTROL DETAILS (3 OF 3) dated 4/12/2021, and REPLACE with the attached, revised SHEET NUMBER 26 of 30, DRAINAGE AND EROSION CONTROL DETAILS (3 OF 3) dated 4/23/2021.**

**REMOVE SHEET NUMBER 27 of 30, ELECTRICAL PLAN (3 OF 5) dated 4/12/2021, and REPLACE with the attached, revised SHEET NUMBER 27 of 30, ELECTRICAL PLAN (3 OF 5) dated 4/23/2021.**

**REMOVE SHEET NUMBER 28 of 30, ELECTRICAL PLAN (5 OF 5) dated 4/12/2021, and REPLACE with the attached, revised SHEET NUMBER 28 of 30, ELECTRICAL PLAN (5 OF 5) dated 4/23/2021.**

**REMOVE SHEET NUMBER 29 of 30, ELECTRICAL DETAILS (1 OF 2) dated 4/12/2021, and REPLACE with the attached, revised SHEET NUMBER 29 of 30, ELECTRICAL DETAILS (1 OF 2) dated 4/23/2021.**

**REMOVE SHEET NUMBER 30 of 30, ELECTRICAL DETAILS (2 OF 2) dated 4/12/2021, and REPLACE with the attached, revised SHEET NUMBER 30 of 30, ELECTRICAL DETAILS (2 OF 2) dated 4/23/2021.**

The following questions have been received:

**Question:** Will the Airport be providing lighted Runway Closure markings?

**Response:** Yes, the airport will provide two lighted runway closure markings. The airport will also be providing four (4) fabric closure markings. The Contractor shall set up, operator, maintain and return in good working order.

**Question:** Will the airport be providing low-profile barricades? How many?

**Response:** Yes, the airport will provide 34 low profile barricades and 69 lights. The Contractor shall supply batteries, set up, operator, maintain and return in good working order.

Consider these changes and information prior to submitting your bid on April 28, 2021.

Sincerely,



George M. A. Macdougall P.E.  
Contracts & Specifications Engineer



# PRE-BID SIGN-IN SHEET

**Sponsor:** Augusta State Airport  
State of Maine – Maine Department of Transportation

**Project:** Reconstruction, Marking, Lighting and Signing A Portion of Taxiway 'C' (Approx. 1,200 X 35 LF);  
Reconstruction, Marking, Lighting and Signing A Portion of Taxiway 'E' (Approx. 545 X 35 LF);  
Reconstruct the Non-Movement Area Of The Terminal Apron (Approx. 1595 SY);  
Reconstruction, Marking, Lighting and Signing Tw 'C' Bypass Taxiway (Approx. 1,800 SY);

MaineDOT WIN 020655.03  
MJ NO. 18300.01

**Regarding:** PRE-BID MEETING

**Date/Location:** April 21, 2021 @ 11:00am, Augusta Terminal/ARFF Building

NAME	REPRESENTING	PHONE #	EMAIL
Matthew O'Brien, PE	McFarland Johnson - PM	(603) 931-3923	mobrien@mjinc.com
Tim LeSiege, PE	MaineDOT Project Manager	(207) 215-7459	Tim.lesiege@maine.gov
M. KE THIBODEAU Peter Coullacoe	SARGENT Airport	(207) 827-4435	DPRERLE@SARGENT.US

**AUGUSTA STATE AIRPORT  
CITY OF AUGUSTA, STATE OF MAINE  
RECONSTRUCT, MARK, LIGHT AND SIGN TAXIWAYS C/E  
SPECIFICATION OUTLINE; BID DOCUMENTS**

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**AUGUSTA STATE AIRPORT  
CITY OF AUGUSTA, STATE OF MAINE  
RECONSTRUCT, MARK, LIGHT AND SIGN TAXIWAYS C/E  
SPECIFICATION OUTLINE; BID DOCUMENTS**

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**AUGUSTA STATE AIRPORT  
CITY OF AUGUSTA, STATE OF MAINE  
RECONSTRUCT, MARK, LIGHT AND SIGN TAXIWAYS C/E  
SPECIFICATION OUTLINE; BID DOCUMENTS**

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Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 020655.03

Project(s): 020655.03

SECTION: 1 FAA ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0010	C-100 CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	LUMP SUM		LUMP SUM	_____	_____
0020	C-102-5.1a TEMPORARY SEEDING AND MULCHING	1,500.000 SY	_____	_____	_____	_____
0030	C-102-5.1b INSTALLATION AND REMOVAL OF INLET PROTECTION	21.000 EA	_____	_____	_____	_____
0040	C-102-5.1c STABILIZED CONSTRUCTION ENTRANCE	1.000 EA	_____	_____	_____	_____
0050	C-102-5.1e INSTALLATION AND REMOVAL OF WATTLES	1,700.000 LF	_____	_____	_____	_____
0060	C-102-5.1f EROSION CONTROL MATTING	4,000.000 SY	_____	_____	_____	_____
0070	C-105 MOBILIZATION (Limited to 5%)	LUMP SUM		LUMP SUM	_____	_____
0080	D-700-1 DRAINAGE SYSTEM REPAIRS	LUMP SUM		LUMP SUM	_____	_____
0090	D-700-2 INLET ADJUSTMENT	2.000 EA	_____	_____	_____	_____
0100	D-700-3 FRAME AND GRATE	2.000 EA	_____	_____	_____	_____
0110	D-701-5.1 12" REINFORCED CONCRETE PIPE	160.000 LF	_____	_____	_____	_____

## Maine Department of Transportation

## Proposal Schedule of Items

Proposal ID: 020655.03

Project(s): 020655.03

SECTION: 1 FAA ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0120	D-705-5.1 6" UNDERDRAIN PIPE COMPLETE, INCLUDING POROUS BACKFILL AND FILTER FABRIC	3,650.000 LF	_____	 _____	_____	 _____
0130	D-751-5.4 INSPECTION HOLE	15.000 EA	_____	 _____	_____	 _____
0150	L-108-5.2 NO. 8 AWG, 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	7,400.000 LF	_____	 _____	_____	 _____
0160	L-108-5.3 NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH, INCLUDING CONNECTIONS/TERMINATIONS	4,900.000 LF	_____	 _____	_____	 _____
0170	L-109-7.2 INSTALLATION OF AIRPORT TRANSFORMER VAULT EQUIPMENT IN PLACE	LUMP SUM		 LUMP SUM	_____	 _____
0180	L-110-5.1 NON-ENCASED ELECTRICAL DUCT BANK, 1-WAY 2 INCH	4,600.000 LF	_____	 _____	_____	 _____
0190	L-110-5.2 CONCRETE ENCASED ELECTRICAL DUCT BANK, 4-WAY 4 INCH	300.000 LF	_____	 _____	_____	 _____
0200	L-110-5.3 CONCRETE ENCASED ELECTRICAL DUCT BANK, 4-WAY 4 INCH, 48" MINIMUM COVERAGE	40.000 LF	_____	 _____	_____	 _____
0210	L-115-5.2 ELECTRICAL JUNCTION STRUCTURE 4'X4'	7.000 EA	_____	 _____	_____	 _____

## Maine Department of Transportation

## Proposal Schedule of Items

Proposal ID: 020655.03

Project(s): 020655.03

SECTION: 1                      FAA ITEMS

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0220	L-115-5.3 EXISTING ELECTRICAL MANHOLE/JUNCTION STRUCTURE ELEVATION ADJUSTMENT	6.000 EA	_____	 _____	_____	 _____
0230	L-125-5.1 L-861 BASE MOUNTED LED ELEVATED TAXIWAY EDGE LIGHT	92.000 EA	_____	 _____	_____	 _____
0260	L-125-5.4 AIRFIELD GUIDANCE SIGN ON FOUNDATION - 1 MOD	1.000 EA	_____	 _____	_____	 _____
0270	L-125-5.5 AIRFIELD GUIDANCE SIGN ON FOUNDATION - 3 MOD	9.000 EA	_____	 _____	_____	 _____
0280	M-120-1 MAINTENANCE AND PROTECTION OF TRAFFIC	LUMP SUM		 LUMP SUM	_____	 _____
0290	M-150-1 PROJECT SURVEY AND STAKEOUT	LUMP SUM		 LUMP SUM	_____	 _____
0300	P-101-5.6 COLD MILLING	900.000 SY	_____	 _____	_____	 _____
0310	P-101-5.7 REMOVAL OF PIPE AND OTHER BURIED STRUCTURES	LUMP SUM		 LUMP SUM	_____	 _____
0320	P-152-4.1a UNCLASSIFIED EXCAVATION	2,331.000 CY	_____	 _____	_____	 _____
0340	P-152-4.1c MUCK EXCAVATION	250.000 CY	_____	 _____	_____	 _____
0350	P-207-5.1 IN-PLACE FULL DEPTH RECYCLED (FDR) ASPHALT AGGREGATE BASE COURSE	12,100.000 SY	_____	 _____	_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 020655.03

Project(s): 020655.03

SECTION: 1                      FAA ITEMS

Alt Set ID:                              Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0370	P-207-5.2 CORRECTIVE AGGREGATE MATERIAL	1,900.000 T	_____	 _____	_____	 _____
0390	P-401-8.1 ASPHALT SURFACE COURSE	3,600.000 T	_____	 _____	_____	 _____
0410	P-603-5.1 EMULSIFIED ASPHALT TACK COAT	1,300.000 G	_____	 _____	_____	 _____
0430	P-605-5.1 JOINT SEALANT FOR PAVEMENTS	1,400.000 LF	_____	 _____	_____	 _____
0440	P-620-5.1a SURFACE PREPERATION (MARKING REMOVAL)	1,400.000 SF	_____	 _____	_____	 _____
0450	P-620-5.2b SURFACE PAVEMENT MARKINGS	7,500.000 SF	_____	 _____	_____	 _____
0470	P-620-5.3c REFLECTIVE MEDIA	450.000 LB	_____	 _____	_____	 _____
0480	T-901-5.1 SEEDING	116.000 1KSF	_____	 _____	_____	 _____
0490	T-905-5.1 TOPSOIL (OBTAINED ON SITE)	750.000 CY	_____	 _____	_____	 _____
0500	T-905-5.2 TOPSOIL (OBTAINED OFF SITE)	750.000 CY	_____	 _____	_____	 _____
0510	T-908-5.1 MULCHING	13,500.000 SY	_____	 _____	_____	 _____
Section: 1			Total:		_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 020655.03

Project(s): 020655.03

SECTION: 2

STATE FUNDED ITEMS - ALT 1

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0240	L-125-5.1 L-861 BASE MOUNTED LED ELEVATED TAXIWAY EDGE LIGHT	6.000 EA	_____	 _____	_____	 _____
0330	P-152-4.1a UNCLASSIFIED EXCAVATION	50.000 CY	_____	 _____	_____	 _____
0360	P-207-5.1 IN-PLACE FULL DEPTH RECYCLED (FDR) ASPHALT AGGREGATE BASE COURSE	1,800.000 SY	_____	 _____	_____	 _____
0380	P-207-5.2 CORRECTIVE AGGREGATE MATERIAL	300.000 T	_____	 _____	_____	 _____
0400	P-401-8.1 ASPHALT SURFACE COURSE	600.000 T	_____	 _____	_____	 _____
0420	P-603-5.1 EMULSIFIED ASPHALT TACK COAT	200.000 G	_____	 _____	_____	 _____
0460	P-620-5.2b SURFACE PAVEMENT MARKINGS	1,100.000 SF	_____	 _____	_____	 _____
	Section: 2		Total:		_____	 _____

Maine Department of Transportation

Proposal Schedule of Items

Proposal ID: 020655.03

Project(s): 020655.03

SECTION: 3

STATE FUNDED ITEMS - ALT 2

Alt Set ID:

Alt Mbr ID:

Contractor: \_\_\_\_\_

Proposal Line Number	Item ID Description	Approximate Quantity and Units	Unit Price		Bid Amount	
			Dollars	Cents	Dollars	Cents
0140	L-108-5.1 TRENCHING FOR DIRECT BURIED CABLE, 18" MINIMUM DEPTH	4,600.000 LF	_____	 _____	_____	 _____
0250	L-125-5.2 L-861 STAKE MOUNTED LED ELEVATED TAXIWAY EDGE LIGHT	64.000 EA	_____	 _____	_____	 _____
Section: 3			Total:		_____	 _____
			Total Bid:		_____	 _____

## **CONTRACT AGREEMENT, OFFER & AWARD**

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

\_\_\_\_\_ a corporation or other legal entity organized under the laws of the State of \_\_\_\_\_, with its principal place of business located at \_\_\_\_\_

The Department and the Contractor, in consideration of the mutual promises set forth in this Agreement (the "Contract"), hereby agree as follows:

### **A. The Work.**

The Contractor agrees to complete all Work as specified or indicated in the Contract including Extra Work in conformity with the Contract, **WIN. 020655.03** for **Reconstruction, Markings, Lighting, and Signing** in the city of **Augusta**, County of **Kennebec** Maine. The Work includes construction, maintenance during construction, warranty as provided in the Contract, and other incidental work.

The Contractor shall be responsible for furnishing all supervision, labor, equipment, tools supplies, permanent materials and temporary materials required to perform the Work including construction quality control including inspection, testing and documentation, all required documentation at the conclusion of the project, warranting its work and performing all other work indicated in the Contract.

The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

### **B. Time.**

The Contractor agrees to complete all Work, except warranty work, on or before **June 10, 2023**. Further, the Department may deduct from moneys otherwise due the Contractor, not as a penalty, but as Liquidated Damages in accordance with Sections 107.7 and 107.8 of the *State of Maine Department of Transportation Standard Specifications, March 2020 Edition* and related Special Provisions.

**C. Price.**

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is

**Section 1** \_\_\_\_\_

\_\_\_\_\_  
\$ \_\_\_\_\_

**Section 2** \_\_\_\_\_

\_\_\_\_\_  
\$ \_\_\_\_\_

**Section 3** \_\_\_\_\_

\_\_\_\_\_  
\$ \_\_\_\_\_

Performance Bond and Payment Bond each being 100% of the amount of this Contract.

**D. Contract.**

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

**E. Certifications.**

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the FAA Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

**WIN. 020655.03- Reconstruction, Markings, Lighting, and Signing - in the city of Augusta**

State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items.”

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached “Schedule of Items” in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached “Schedule of Items,” which may be ordered by the Resident, and to accept as full compensation the amount determined upon a “Force Account” basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 150 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

\_\_\_\_\_

Date

\_\_\_\_\_  
\_\_\_\_\_  
(Signature of Legally Authorized Representative  
of the Contractor)

\_\_\_\_\_

Witness

\_\_\_\_\_  
\_\_\_\_\_  
(Name and Title Printed)

**G. Award.**

Your offer is hereby accepted for (see checked boxes):

Section 1

Section 2

Section 3

**Contract Amount:** \_\_\_\_\_

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_

Date

\_\_\_\_\_  
By: Bruce A. Van Note, Commissioner

\_\_\_\_\_

Witness

## **CONTRACT AGREEMENT, OFFER & AWARD**

AGREEMENT made on the date last signed below, by and between the State of Maine, acting through and by its Department of Transportation (Department), an agency of state government with its principal administrative offices located at Child Street, Augusta, Maine, with a mailing address at 16 State House Station, Augusta, Maine 04333-0016, and

\_\_\_\_\_ a corporation or other legal entity organized under the laws of the State of \_\_\_\_\_, with its principal place of business located at \_\_\_\_\_

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The Department shall have the right to alter the nature and extent of the Work as provided in the Contract; payment to be made as provided in the same.

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**C. Price.**

The quantities given in the Schedule of Items of the Bid Package will be used as the basis for determining the original Contract amount and for determining the amounts of the required Performance Surety Bond and Payment Surety Bond, and that the amount of this offer is

**Section 1** \_\_\_\_\_  
\_\_\_\_\_  
\$ \_\_\_\_\_

**Section 2** \_\_\_\_\_  
\_\_\_\_\_  
\$ \_\_\_\_\_

**Section 3** \_\_\_\_\_  
\_\_\_\_\_  
\$ \_\_\_\_\_

Performance Bond and Payment Bond each being 100% of the amount of this Contract.

**D. Contract.**

This Contract, which may be amended, modified, or supplemented in writing only, consists of the Contract documents as defined in the Plans, *Standard Specifications, March 2020 Edition, Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds. It is agreed and understood that this Contract will be governed by the documents listed above.

**E. Certifications.**

By signing below, the Contractor hereby certifies that to the best of the Contractor's knowledge and belief:

1. All of the statements, representations, covenants, and/or certifications required or set forth in the Bid and the Bid Documents, including those in the FAA Contract Provisions Supplement, and the Contract are still complete and accurate as of the date of this Agreement.
2. The Contractor knows of no legal, contractual, or financial impediment to entering into this Contract.
3. The person signing below is legally authorized by the Contractor to sign this Contract on behalf of the Contractor and to legally bind the Contractor to the terms of the Contract.

**F. Offer.**

The undersigned, having carefully examined the site of work, the Plans, *Standard Specifications March 2020 Edition*, *Standard Details March 2020 Edition* as updated through advertisement, Supplemental Specifications, Special Provisions, Contract Agreement; and Contract Bonds contained herein for construction of:

**WIN. 020655.03- Reconstruction, Markings, Lighting, and Signing - in the city of Augusta**

State of Maine, on which bids will be received until the time specified in the “Notice to Contractors” do(es) hereby bid and offer to enter into this contract to supply all the materials, tools, equipment and labor to construct the whole of the Work in strict accordance with the terms and conditions of this Contract at the unit prices in the attached “Schedule of Items.”

The Offeror agrees to perform the work required at the price specified above and in accordance with the bids provided in the attached “Schedule of Items” in strict accordance with the terms of this solicitation, and to provide the appropriate insurance and bonds if this offer is accepted by the Government in writing.

As Offeror also agrees:

First: To do any extra work, not covered by the attached “Schedule of Items,” which may be ordered by the Resident, and to accept as full compensation the amount determined upon a “Force Account” basis as provided in the *Standard Specifications, March 2020 Edition*, and as addressed in the contract documents.

Second: That the bid bond at 5% of the bid amount or the official bank check, cashier’s check, certificate of deposit or U. S. Postal Money Order in the amount given in the “Notice to Contractors”, payable to the Treasurer of the State of Maine and accompanying this bid, shall be forfeited, as liquidated damages, if in case this bid is accepted, and the undersigned shall fail to abide by the terms and conditions of the offer and fail to furnish satisfactory insurance and Contract bonds under the conditions stipulated in the Specifications within 15 days of notice of intent to award the contract.

Third: To begin the Work as stated in Section 107.2 of the *Standard Specifications March 2020 Edition* and complete the Work within the time limits given in the Special Provisions of this Contract.

Fourth: The Contractor will be bound to the Disadvantaged Business Enterprise (DBE) Requirements contained in the attached Notice (Additional Instructions to Bidders) and submit a completed Contractor’s Disadvantaged Business Enterprise Utilization Plan with their bid.

Fifth: That this offer shall remain open for 150 calendar days after the date of opening of bids.

Sixth: The Bidder hereby certifies, to the best of its knowledge and belief that: the Bidder has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of competitive bidding in connection with its bid, and its subsequent contract with the Department.

IN WITNESS WHEREOF, the Contractor, for itself, its successors and assigns, hereby execute two duplicate originals of this Agreement and thereby binds itself to all covenants, terms, and obligations contained in the Contract Documents.

CONTRACTOR

\_\_\_\_\_

Date

\_\_\_\_\_  
\_\_\_\_\_  
(Signature of Legally Authorized Representative  
of the Contractor)

\_\_\_\_\_

Witness

\_\_\_\_\_  
\_\_\_\_\_  
(Name and Title Printed)

**G. Award.**

Your offer is hereby accepted for (see checked boxes):

**Section 1**

**Section 2**

**Section 3**

**Contract Amount:** \_\_\_\_\_

This award consummates the Contract, and the documents referenced herein.

MAINE DEPARTMENT OF TRANSPORTATION

\_\_\_\_\_

Date

\_\_\_\_\_  
By: Bruce A. Van Note, Commissioner

\_\_\_\_\_

Witness

## SUPPLEMENTAL GENERAL PROVISIONS

The Contractor shall propose the actual sequencing of the work in all work areas subject to the conditions indicated below and conditions specified within the CSPP. If requested, the Contractor shall make necessary changes in the sequencing in order to facilitate Airport operation and safety. All work shall be completed within the specified contract time.

Contractor calendar days as specified in Section 9 for all Work Areas need not be sequential. The coordination and scheduling of work within each work area shall be coordinated with Airport Management and the Engineer.

The contract work time for each work area is not intended to be sequential. The contractor may sequence that time, with coordination with the Airport and the Engineer as required as long as that time falls within the total contract time.

- 11. PROJECT DURATION.** Upon execution of the Contract, the Sponsor will issue a written "Notice to Proceed" which will specify an effective date for the Contractor to begin work at the site. All work under this Contract must be completed within Total Contract Time of **Sixty (60) calendar days** of the date specified in the "Notice to Proceed." In addition, work within the designated work areas shall be completed within the following:

- **Refer to Construction Safety and Phasing Plan CSPP.**

It shall be understood that it is the Contractor's responsibility to schedule and request stoppages in contract time for each respective work area. Further, it is understood that if it is determined to be in the best interest of the Owner and the Airport, the request for a Contract time stoppage can and will be denied. During a Contract time stoppage, no work may commence in that work area until a request is made to resume work and Contract time. If work is performed without an official restart of the Contract time it is agreed that the work performed is at the Contractor's expense and is not eligible for measurement of payment. This project is assumed to have no Contract time stoppage between Phases.

It shall be clearly understood that the Contract time is contractual, and if the time is exceeded, liquidated damages will be assessed. Requests for additional Contract time will only be granted for the following reasons:

- 1) Additional work is authorized by change order.
  - 2) Delays or postponements of critical path work per the approved construction schedule are requested by the Owner.
  - 3) Material delivery delays, which are documented and are beyond the Contractor's control. Material delivery delays, which are not documented, and not accounted for or identified in the Contractor's schedule, will not be considered a valid justification to extend the Contract time.
- 12. LIQUIDATED DAMAGES.** If the work remains incomplete after the times specified in the Project Duration Section above for the Total Contract Time or the Contract Time for a Work Area, the Contractor agrees to pay the Owner as liquidated damages the following:

## SUPPLEMENTAL GENERAL PROVISIONS

- See MaineDOT Standard Specifications, Section 107, Paragraph 107.7.2 for Liquidated Damages Per Diem amounts.

- 13. ADDITIONAL RESIDENT ENGINEER SERVICES.** The Owner has established a Resident Engineering budget based on the work hours made available to the Contractor. If the Contractor's work schedule exceeds the Total Contract Time for the project, the Contractor agrees to pay the Owner the additional cost for the Resident Engineer in excess of the budgeted hours. The weekly Resident Engineering budget is sixteen (16) hours per week. The cost to the Contractor shall be based on the Resident Engineer's actual billing rate plus expenses and fifteen percent (15%) profit in effect at the time the services were provided. For budgeting purposes, an hourly rate of \$140.00/hour is recommended. It shall be understood that these charges are in addition to any other damage claims available to the Owner (Liquidated Damages, Breach of Contract, etc., as described within the Contract Documents).
- 14. MONTHLY DBE REPORTING.** The Contractor shall submit monthly Disadvantaged Business Enterprise (DBE) reports. The Contractor shall use Form MJ-216 as included within this Specification. The report shall be submitted regardless of if any DBE participation took place during the period indicated. In general, Form MJ-216 is to be submitted with the Contractor's Periodic Cost Estimate, but the form must be submitted monthly even if no Periodic Cost Estimates are submitted.

The Contractor shall continually monitor their DBE participation on the Project. If it appears that the actual DBE participation will be lower than indicated in the Contractor's DBE Letter of Intent, the Contractor shall promptly provide written notification, and indicate just reason for the change. The Contractor shall further provide additional Good Faith Effort documentation that effort was made to replace this DBE participation as outlined in the Special Provisions.

Monthly DBE reports will be required prior to the acceptance of any Periodic Cost Estimate (PCE). Retainage for the Project will not be released until all Project monthly DBE reporting documentation has been submitted to and approved by the Engineer.

**15. COORDINATION OF CONTRACT DOCUMENTS.**

- (a) General. The various sections of the Contract Documents are essential parts of the Contract; a requirement occurring in one is as binding as though occurring in all. The Contract Documents are complementary and intended to describe and provide for a complete work product. In case of discrepancy, precedence of the Contract Documents will be determined in the following order:

Contract Document Precedence

1. Project Permits. In the event of a conflict between permit requirements, the more protective or stringent shall take precedence as determined by the Engineer.
2. Contract
3. Contract Provision Guidelines for Obligated Sponsors and Airport Improvement Program Projects

## SUPPLEMENTAL GENERAL PROVISIONS

4. Notice to Contractors
5. Special Provisions – Supplemental General Provisions
6. Other Special Provisions documents.
7. FAA – Technical Specifications
8. FAA – General Provisions
9. MaineDOT– Standard Specifications
10. Contract Plans
  - a. Calculated Dimensions
  - b. Scaled Dimensions
11. Cited Standards for Materials or Testing
12. Cited FAA Advisory Circulars and Orders
13. Any Other Specifications Adopted by Reference

Addendum items take on the precedence of the item they are revising or the section into which they are added.

- (b) No Advantage from Errors or Omissions in Contract Documents. Neither the Contractor nor the Owner shall take advantage or be afforded any benefit as the result of apparent error(s) or omission(s) in the Contract Documents. If either party discovers error(s) or omission(s), it shall immediately notify the other. Failure of a bidder to notify the Owner or apparent error(s) or omission(s) in the Contract Documents during the bid process may result in their bid being determined to be non-responsive.
  - (c) Corrections to Contract Documents. The Engineer will make corrections and interpretations deemed necessary and appropriate to fulfill the intent of the Contract Documents. When there is an apparent absence or mention of a detail or an apparent omission of a detailed description in the Contract Documents, the detail or description shall be interpreted/understood/determined using the best general engineering and construction practice.
  - (d) Effect of Other Specifications/Standards. Other specifications (e.g. ASTM, NDS, CRSI, ACI) cited by reference shall become effective only if the work or material covered by them is not included in the Contract Documents. Specifications so referenced shall be the latest revision in effect on the date of advertisement for bids.
- 16. BID VALID PERIOD.** No bids may be withdrawn by the Bidder prior to the timeframe listed in Contract, Agreement, Offer and Award (150 calendar days).

## **SUPPLEMENTAL GENERAL PROVISIONS**

**17. SPECIALTY ITEMS.** The following items are considered “Specialty Items” in this project:

**a. None anticipated.**

**18. GENERAL SURETY REQUIREMENTS:**

The Proposal Surety shall be as specified in the Invitation to Bid; only the Bid Bond as bound within these documents or a Cashier's Check is acceptable. Upon request of the bidder, the Owner may choose to accept the AIA Bid Bond form. Each separate Proposal shall be accompanied by a Cashier's Check or Proposal Bond on the form provided herein in the amount of Five Percent (5 %) of the total amount bid, made payable to the Owner. If a Proposal Bond is provided in lieu of a Cashier's Check, it must be accompanied by a Surety's Bond Affidavit indicating that the person signing the bond on behalf of the Surety has full legal authority to do so.

If a Surety Bond is provided, the Surety Company issuing the bond shall be listed on the current United States Department of the Treasury “Department of the Treasury’s listing of approved Sureties (Department Circular 570)” as authorized to do business in the State of Maine. Bids submitted without Bid Security will be rejected as nonresponsive.

100% Contract Payment and 100% Performance Bonds shall be as specified in Section 30-05 of the General Provisions, and must be accompanied by a Surety's Bond Affidavit indicating that the person signing the bond on behalf of the Surety has full legal authority to do so. The Surety Company issuing the bond shall be listed on the current United States Department of the Treasury “Department of the Treasury’s listing of approved Sureties (Department Circular 570)” as authorized to do business in the State of Maine. These Bonds are required from the Contractor guaranteeing that the Contract, including the various guarantee periods thereunder, will be faithfully performed and that Contractor will promptly make payment to all persons supplying them labor, materials, supplies, and services used directly or indirectly by the Contractor in the prosecution of the work provided for in the Contract.

If, at any time after the execution of the Contract and the Contract Bonds, as above required, the Owner deems the Surety or Sureties upon such Bond or Bonds is unsatisfactory, or if, for any reasons, such Bond or Bonds cease(s) to be adequate to cover the performance of the work or prompt payment as above specified, Contractor shall, at its expense and within 15 days written notice from the Owner to do so, furnish additional Bond or Bonds in such form and amount and with such Surety and Sureties as shall be satisfactory to the Owner. In such event, no further payment to the Contractor shall be deemed due under the Agreement until such new or additional bond or bonds are furnished in a manner and form satisfactory to the Owner.

The Bidder to whom the Contract is awarded must deposit with the Owner at the date of substantial completion of the Contract a Maintenance Surety Bond in a sum equal to 15 percent of the adjusted Contract amount at completion of work, guaranteeing against defective workmanship and materials for a period of one year from the date of substantial completion. The bond shall be in the form acceptable to the Owner and the Surety Company issuing the bond shall be listed on the current United States Department of the Treasury “Department of the Treasury’s listing of approved Sureties (Department Circular 570)” as authorized to do business in the State of Maine. The Contractor shall be responsible for

## **SUPPLEMENTAL GENERAL PROVISIONS**

obtaining and maintaining the Bond in force from the date of substantial completion until the expiration of the one year maintenance period.

**19. RETAINAGE.** The Retainage Percentage for this project, as defined in General Provisions, shall be 10% (ten Percent).

**20. Not Used**

**21. Not Used**

**22. Not Used**

**23. Not Used**

**24. Not Used**

**25. Not Used**

# **CONSTRUCTION SAFETY AND PHASING PLAN**

For

**RECONSTRUCTION, MARKING, LIGHTING AND SIGNING A PORTION  
OF TAXIWAY 'C' (APPROX. 1,200 x 35 LF);  
RECONSTRUCTION, MARKING, LIGHTING AND SIGNING A PORTION  
OF TAXIWAY 'E' (APPROX. 545 x 35 LF);  
RECONSTRUCT THE NON-MOVEMENT AREA OF THE TERMINAL  
APRON (APPROX. 1,595 SY)  
RECONSTRUCTION, MARKING, LIGHTING AND SIGNING TW "C"  
BYPASS TAXIWAY (APPROX. 1,800 SY)**

AIP No. 3-23-0003-XXX-2021

McFarland Johnson Project No. 18300.01

**AUGUSTA STATE AIRPORT (AUG)**  
CITY OF AUGUSTA, KENNEBEC COUNTY, MAINE

Prepared for the  
**STATE OF MAINE DEPARTMENT OF TRANSPORTATION**  
**(MaineDOT)**

**April 2021**

Prepared by



**McFarland Johnson**

53 Regional Drive  
Concord, NH 03301  
Phone: 603-225-2978

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**AIRPORT DESCRIPTION / AIRCRAFT OPERATIONS**

Augusta State Airport (AUG) is a public General Aviation (GA) airport located in Kennebec County, Maine. It is owned by the State of Maine, and operated by the City of Augusta. AUG is classified as a Runway Design Code (RDC) B-I.

The airport has one paved main Runway, 17-35, and a paved crosswind Runway, 8-26.

Runway 17-35 dimensions are 5,001 feet long by 100 feet wide.

**Runway 17:**

Precision  
ILS  
4-Light PAPI  
MALSR

**Runway 35:**

Non-Precision  
4-Light PAPI  
REILs

Runway 8-26 dimensions are 2,703 feet long by 75 feet wide.

**Runway 8:**

Non-Precision

**Runway 26:**

Visual

**PROJECT DESCRIPTION**

This project consists of the Reconstruction, Marking, Lighting and Signing of a portion of Taxiway C, a portion of Taxiway E, a portion of the Terminal Apron, and the Taxiway C Bypass Taxiway at Augusta State Airport. Taxiway C is the parallel Taxiway to Runway 17-35, Taxiway E is the parallel Taxiway to Runway 8-26. This project also includes the replacement of two of the constant current regulators in the existing Airfield Electrical Vault.

**Referenced Publication**

The following Sections are intended to address the requirements set forth in the latest revision of FAA Advisory Circular 150/5370-2G "Operational Safety on Airports during Construction". The outline provided below corresponds with the subject outline as specified in Chapter 2, Section 2.4 of the referenced Advisory Circular.

**1 COORDINATION**

This section includes descriptions of coordination efforts to date and proposed future coordination.

**1.1 Coordination to Date:**

- A. A Pre-Design Meeting was held on August 6, 2020 to discuss the design alternatives and deliverables.

Attendees included:

- a. Augusta State Airport (AUG)
- b. State of Maine Department of Transportation (MaineDOT)
- c. Federal Aviation Administration (FAA)
- d. McFarland Johnson (MJ)

- B. A 60% Preliminary Design Meeting was held on March 12, 2021 to discuss the design to date.

Attendees included:

- a. Augusta State Airport (AUG)
- b. State of Maine Department of Transportation (MaineDOT)
- c. Federal Aviation Administration (FAA)
- d. McFarland Johnson (MJ)

- C. Pre-Bid Meeting: A pre-bid meeting was held on April 21, 2021 to provide information to prospective bidders about the scope and details of this project. An overview of operations and safety during construction was presented so that bidders will have an understanding of their role in the process, should they be awarded the project.

Attendees included:

- a. AUG
- b. MaineDOT
- c. MJ (Engineer)
- d. FAA
- e. Sargent Corporation

**1.2 Proposed Future Coordination:**

The following coordination on operations and safety during construction will occur during the bidding and construction phases of the project:

- A. Pre-Construction Meeting: (Time to be Determined) A pre-construction meeting will be held to discuss operations and safety and construction related issues with the selected Contractor. The meeting will be held after the Notice of Award, but before the Notice to Proceed. The meeting will be split into two sections, with one being general construction and contract related issues and one being operations and safety during construction issues. Attendees for the operations and safety during construction section of the pre-construction meeting will include:

- a. AUG
- b. MaineDOT

- c. FAA Project Manager
- d. Contractor Field Superintendent (and others as determined by the Contractor)
- e. MJ Project Manager (Engineer)
- f. MJ Resident Engineer (Engineer)

As part of the operations and safety during construction section of the meeting, the entire Construction Safety and Phasing Plan (CSPP) plan will be reviewed. The Contractor's requirement to prepare and submit a Safety Plan Compliance Document (SPCD) will be discussed. The Contractor shall have ready and submit a project schedule outlining activities and closures along with the start date and duration of each work area and a critical path for the contract. The contractor shall submit to the engineer the schedule a minimum of two (2) days prior to the meeting.

- A. SPCD Submission and Acceptance: Prior to the issuance of a Notice to Proceed by the Airport, the Contractor must submit an SPCD. This document must be revised as needed and accepted by the Engineer prior to the commencement of work.
- B. Construction Meetings: During construction of the project, periodic meetings will be held to coordinate the ongoing work. These meetings are typically held weekly but may be less frequent. Construction operations and safety will be a standing agenda item at these meetings.

See **Section 9 - Notifications of Construction Activities** for coordination of facility closures and cautions and Notice to Airman (NOTAM) issuance procedures.

See **Section 10 – Inspection Requirements** for daily coordination requirements during construction and for coordination before reopening closed facilities.

The contractor shall provide the engineer a two-week look ahead each week during construction regardless of any scheduled construction meetings each week of for any anticipated closures or next areas of work. The contractor shall submit to the engineer two-week look ahead agenda to be a part of a meeting's agenda a minimum of two (2) days prior to the meeting for review. The contractor shall hold a 'tailgate' informal meeting each day with any subcontractors working that day to go over safety and compliance to the SPCD. These 'tailgate' meetings shall be in the presence of the engineer and will be used as a regularly check in on the compliance to the SPCD and any other operational adjustments needed to improve safety or compliance to the SPCD, this informal meeting also acts as a confirmation

for the anticipated work areas and closures previously indicated by the two-week look ahead for that day.

### **1.3 Coordination with other Projects:**

A. Coordination may be required for the construction activities. However, any proposed substantive changes to the scope, location, impact, or duration of the work for this project due to coordination with other unanticipated work will be reviewed by MJ (Engineers), AUG, MaineDOT, and Airport Maintenance. Coordination with other projects may necessitate a modification to this CSPP and the SPCD. Any CSPP or SPCD modifications will need to be coordinated with the appropriate parties referenced above.

## **2 PHASING**

The work under this project has been broken down into Five (5) work areas. Refer to Sheets 9 through 10 "Construction Safety & Phasing Plan" in Appendix A for approximate work area limits. Total Contract Time will be restricted to Sixty (60) consecutive calendar days beginning in Fall 2021 or Spring 2022. Work hours are listed in Specification M-001.

Total contract time for Work Area 1a will be restricted to Ten (10) calendar days within the total contract time of 60 days in spring of 2022.

Total contract time for Work Area 1b will be restricted to Sixty (60) consecutive calendar days.

Total contract time for Work Area 2 will be restricted to Sixty (60) consecutive calendar days.

Total contract time for Work Area 3 will be restricted to Sixty (60) consecutive calendar days.

Total contract time for Work Area 4 will be restricted to Ten (10) calendar days (night periods) during Nighttime hours of 7:30pm to 6:30am within the total contract time of 60 days. Work requiring large equipment shall be conducted at night. Construction operations for handwork, and small paint carts will be allowed during normal work hours within the 60-day period under "Prior Permission Required" (PPR) as long as the contractor can demonstrate pull back procedures do not create unsafe conditions.

WORK AREA RESTRICTIONS		
WORK AREAS	WORK AREA LIMITATIONS	SIMULTANEOUS WORK AREAS
WORK AREA 1a	2	1b / 3 / 4
WORK AREA 1b	N/A	1a / 2 / 3 / 4
WORK AREA 2	1a / 4	1b / 3
WORK AREA 3	N/A	1a / 1b / 2 / 4
WORK AREA 4	2	1a / 1b / 3

## 2.1 Work Area 1a:

The limits of work for Work Area 1a are shown on Sheets 9 and 10 "Construction Safety & Phasing Plan" located in Appendix A.

### A. Areas CLOSED or Restricted to aircraft operations.

1. Work Area 1a – Entire Duration
  - a. Taxiway B will remain closed during Work Area 1a work.
  - b. A Portion of Taxiway C will remain closed during Work Area 1a work.
  - c. Work Area 1a cannot be completed concurrently with Work Areas 2.
  - d. Runway 8-26 closed for takeoff/landing (taxi only).

B. **Duration of closure and restrictions:** 10 calendar days within the total contract time of 60 days.

C. **Taxi routes.** Taxiway B and a portion of Taxiway C will remain closed during Work Area 1a work.

D. **Airport Rescue & Fire Fighting (ARFF) access routes.** No ARFF facility on the premise, Gate 3 – Fire Gate, to remain unobstructed at all times. Contractor shall maintain vehicle access across Terminal Apron at all times that is suitable for Emergency Fire & Rescue Vehicles.

E. **Construction Staging Area.** The majority of the contractor construction staging area will be outside of the AOA, however small staging areas will be located on and around the Terminal Apron. All the construction staging areas will be on airport property see Sheet 9 for location.

F. **Construction Access and Haul Routes.** Will be as noted on Sheets 9 and 10.

G. **Impact to NAVAIDS.** None

H. **Lighting and Marking Changes.** Taxiway B and a portion of Taxiway C Edge Lights will be disabled.

I. **Signage.** Signage directing aircraft towards closed Taxiway B or Taxiway C portion will be covered.

J. **Available Runway Length.** Runway 8-26 (taxi only) and Runway 17-35 will remain unaffected.

K. **Declared Distances.** No changes.

L. **Required hazard marking and lighting.** Temporary Low Profile Barricades will be placed along closed areas within the AOA.

M. **Lead Time for Required Notifications.** The contractor shall submit a schedule at the pre-construction meeting, a weekly 2-week look ahead, and daily communications confirming closures. At a minimum, the required notifications will be during the weekly Construction Progress meeting for the next week and approved by the Engineer and AUG Operations.

N. **Work Area 1a Phasing:**

1. Work Area 1a shall not have simultaneous work with Work Areas 2.
2. Work Area 1a shall simultaneously be worked on with Work Areas 1B, 3 and 4.

Work in Work Area 1a includes:

- Install Safety Equipment and Barricades for area closure and mobilize on site
- Install Erosion Control measures
- Sawcut Pavement, Mill and Remove excess material
- Install Bituminous Concrete Pavement
- Saw and Seal Joints
- Install Topsoil and Seeding
- Install Pavement Markings

**2.2 Work Area 1b:**

The limits of work for Work Area 1b are shown on Sheets 9 and 10 "Construction Safety & Phasing Plan" located in Appendix A.

A. **Areas CLOSED or Restricted to aircraft operations.**

1. Work Area 1b – Entire Duration
  - a. A Portion of Taxiway C will remain closed during Work Area 1b work.
  - b. Runway 8-26 closed for takeoff/landing (taxi only).

B. **Duration of closure and restrictions:** 60 Consecutive Calendar Days.

C. **Taxi routes.** A Portion of Taxiway C will remain closed during Work Area 1b work.

D. **Airport Rescue & Fire Fighting (ARFF) access routes.** No ARFF facility on the premise, Gate 3 – Fire Gate, to remain unobstructed at all times. Contractor shall maintain vehicle access across Terminal Apron at all times that is suitable for Emergency Fire & Rescue Vehicles.

E. **Construction Staging Area.** The construction staging area will be outside of the AOA, but still on airport property see Sheet 9 for location.

F. **Construction Access and Haul Routes.** Will be as noted on Sheets 9 and 10.

G. **Impact to NAVAIDS.** Runway 8-26 RNAV (GPS) notamed N/A

H. **Lighting and Marking Changes.** A portion of Taxiway C Edge Lights will be disabled.

I. **Signage.** Signage directing aircraft towards closed Taxiway C portion will be covered.

J. **Available Runway Length.** Runway 8-26 (taxi only) and Runway 17-35 will remain unaffected.

K. **Declared Distances.** No changes.

L. **Required hazard marking and lighting.** Temporary Low-Profile Barricades will be placed along closed areas.

M. **Lead Time for Required Notifications.** The contractor shall submit a schedule at the pre-construction meeting, a weekly 2-week look ahead, and daily communications confirming

closures. At a minimum, the required notifications will be during the weekly Construction Progress meeting for the next week and approved by the Engineer and AUG Operations.

**N. Work Area 1b Phasing:**

1. Work Area 1b shall simultaneously worked on with all other Work Areas.

Work in Work Area 1b includes:

- Install Safety Equipment and Barricades for area closure and mobilize on site
- Install Erosion Control measures
- Sawcut Pavement, Reclaim existing pavement into new gravel base
- Add Supplemental Stone and Reclaim into new base material
- Install Underdrain, Catch Basins, Culverts, and adjust Frames and Grates
- Install new Lighting Conduit, Duct Banks, Cabling, Fixtures and Signs
- Compact and Fine Grade new gravel base
- Install Bituminous Concrete Pavement
- Saw and Seal Joints
- Install Topsoil and Seeding
- Install Pavement Markings

**2.3 Work Area 2:**

The limits of work for Work Area 2 are shown on Sheets 9 and 10 "Construction Safety & Phasing Plan" located in Appendix A.

**A. Areas CLOSED or Restricted to aircraft operations.**

1. Work Area 2 – Entire Duration
  - a. Runway 8-26 will remain closed during Work Area 2 work.
  - b. A Portion of Taxiway C will remain closed during Work Area 2 work.
  - c. Work Area 2 cannot be completed concurrently with Work Areas 1a & 4.

**B. Duration of closure and restrictions:** 60 Consecutive Calendar Days

**C. Taxi routes.** Runway 8-26 and a portion of Taxiway C will remain closed during Work Area 2 work.

**D. Airport Rescue & Fire Fighting (ARFF) access routes.** No ARFF facility on the premise, Gate 3 – Fire Gate, to remain unobstructed at all times. Contractor shall maintain vehicle access across Terminal Apron at all times that is suitable for Emergency Fire & Rescue Vehicles.

**E. Construction Staging Area.** The majority of the contractor construction staging area will be outside of the AOA, however small staging areas will be located on and around the Terminal Apron. All the construction staging areas will be on airport property see Sheet 9 for location.

**F. Construction Access and Haul Routes.** Will be as noted on Sheets 9 and 10.

**G. Impact to NAVAIDS.** Runway 8-26 RNAV (GPS) notamed N/A

**H. Lighting and Marking Changes.** Runway 8-26 and a portion of Taxiway C Edge Lights will be disabled.

**I. Signage.** Signage directing aircraft towards closed Runway 8-26 or Taxiway C portion will be covered.

- J. **Available Runway Length.** Runway 17-35 will not be affected. Runway 8-26 will remain closed during Work Area 2, and only open to taxi only during work areas 1a, 1b, and 3. Runway 8-26 shall be reopened for takeoff and landing during closure of Runway 17-35 associated with Work Area 4.
- K. **Declared Distances.** No changes.
- L. **Required hazard marking and lighting.** Temporary Low-Profile Barricades will be placed along closed areas within the AOA. Lighted Runway Closure X's will be placed on Runway 8-26 Numerals.
- M. **Lead Time for Required Notifications.** The contractor shall submit a schedule at the pre-construction meeting, a weekly 2-week look ahead, and daily communications confirming closures. At a minimum, the required notifications will be during the weekly Construction Progress meeting for the next week and approved by the Engineer and AUG Operations.
- N. **Work Area 2 Phasing:**
1. Work Area 2 shall not have simultaneous work with Work Areas 1a and 4.
  2. Work Area 2 shall simultaneously be worked on with Work Areas 1b & 3.

Work in Work Area 2 includes:

- Install Safety Equipment, Barricades and Closure X's for area closure and mobilize on site
- Install Erosion Control measures
- Sawcut Pavement, Reclaim existing pavement into new gravel base
- Add Supplemental Stone and Reclaim into new base material
- Install Underdrain, Catch Basins, Culverts, and adjust Frames and Grates
- Install new Lighting Conduit, Duct Banks, Cabling, Fixtures and Signs
- Compact and Fine Grade new gravel base
- Install Bituminous Concrete Pavement
- Saw and Seal Joints
- Install Topsoil and Seeding
- Install Pavement Markings

**2.4 Work Area 3:**

The limits of work for Work Area 3 are shown on Sheets 9 and 10 "Construction Safety & Phasing Plan" located in Appendix A.

**A. Areas CLOSED or Restricted to aircraft operations.**

1. Work Area 3 – Entire Duration
  - a. A portion of Taxiway C and a portion of Taxiway E will remain closed during Work Area 3 work.
  - b. Terminal Apron will remain closed to Aircraft traffic during Work Area 3 work.
  - c. Runway 8-26 closed for takeoff/landing (taxi only).

**B. Duration of closure and restrictions:** 60 Consecutive Calendar Days

**C. Taxi routes.** A portion of Taxiway C and a portion of Taxiway E will remain closed during Work Area 3 work.

**D. Airport Rescue & Fire Fighting (ARFF) access routes.** No ARFF facility on the premise, Gate 3 – Fire Gate, to remain unobstructed at all times. Contractor shall maintain vehicle

access across Terminal Apron at all times that is suitable for Emergency Fire & Rescue Vehicles.

- E. **Construction Staging Area.** The construction staging area will be outside of the AOA, but still on airport property see Sheet 9 for location.
- F. **Construction Access and Haul Routes.** Will be as noted on Sheets 9 and 10.
- G. **Impact to NAVAIDS.** Runway 8-26 RNAV (GPS) notamed N/A
- H. **Lighting and Marking Changes.** A portion of Taxiway C and a portion of Taxiway E Edge Lights will be disabled.
- I. **Signage.** Signage directing aircraft towards closed Taxiway C portion or Taxiway E portion will be covered.
- J. **Available Runway Length.** Runway 8-26 (taxi only) and Runway 17-35 will remain unaffected.
- K. **Declared Distances.** No changes.
- L. **Required hazard marking and lighting.** Temporary Low-Profile Barricades will be placed along closed areas within the AOA.
- M. **Lead Time for Required Notifications.** The contractor shall submit a schedule at the pre-construction meeting, a weekly 2-week look ahead, and daily communications confirming closures. At a minimum, the required notifications will be during the weekly Construction Progress meeting for the next week and approved by the Engineer and AUG Operations.
- N. **Work Area 3 Phasing:**
  - 1. Work Area 3 shall simultaneously be worked on with all other Work Areas.

Work in Work Area 3 includes:

- Install Safety Equipment and Barricades for area closure and mobilize on site
- Install Erosion Control measures
- Sawcut Pavement, Reclaim existing pavement into new gravel base
- Add Supplemental Stone and Reclaim into new base material
- Install Underdrain, Catch Basins, Culverts, and adjust Frames and Grates
- Install new Lighting Conduit, Duct Banks, Cabling, Fixtures and Signs
- Compact and Fine Grade new gravel base
- Install Bituminous Concrete Pavement
- Saw and Seal Joints
- Install Topsoil and Seeding
- Install Pavement Markings

**2.5 Work Area 4:**

The limits of work for Work Area 4 are shown on Sheets 9 and 10 "Construction Safety & Phasing Plan" located in Appendix A.

**A. Areas CLOSED or Restricted to aircraft operations.**

- 1. Work Area 4 – Entire Duration
  - a. Runway 17-35 will remain closed during Work Area 4 work during night work periods.
  - b. A portion of Taxiway C will remain closed during Work Area 4 work.
  - c. A portion of Taxiway E will remain closed during Work Area 4 work.

- d. Work Area 4 cannot be completed concurrently with Work Areas 2.
- B. **Duration of closure and restrictions:** 10 calendar days (night periods) within the total contract time of 60 days.
- C. **Taxi routes.** Runway 17-35, a portion of Taxiway C and a portion of Taxiway E will remain closed during Work Area 4 work.
- D. **Airport Rescue & Fire Fighting (ARFF) access routes.** No ARFF facility on the premise, Gate 3 – Fire Gate, to remain unobstructed at all times. Contractor shall maintain vehicle access across Terminal Apron at all times that is suitable for Emergency Fire & Rescue Vehicles.
- E. **Construction Staging Area.** The construction staging area will be outside of the AOA, but still on airport property see Sheet 9 for location.
- F. **Construction Access and Haul Routes.** Will be as noted on Sheets 9 and 10.
- G. **Impact to NAVAIDS.** RW35 & RW17 RNAV (GPS) – notamed N/A, Runway 17 ILS/Localizer – disabled. RW 35 VOR – notamed N/A
- H. **Lighting and Marking Changes.** Runway 17-35, a portion of Taxiway C and a portion of Taxiway E Edge Lights will be disabled.
- I. **Signage.** Signage directing aircraft towards closed Runway 17-35, Taxiway C portion or Taxiway E portion will be covered.
- J. **Available Runway Length.** Runway 8-26 will be required to be opened for takeoff and landings. Runway 17-35 will remain closed during Work Area 4.
- K. **Declared Distances.** No changes.
- L. **Required hazard marking and lighting.** Temporary Low-Profile barricades will be placed along closed areas within the AOA. Lighted Runway Closure X's will be placed on Runway 17-35 Numerals.
- M. **Lead Time for Required Notifications.** Night closures require 45-day notice to FAA. The contractor shall submit a schedule at the pre-construction meeting, a weekly 2-week look ahead, and daily communications confirming closures. At a minimum, the required notifications will be during the weekly Construction Progress meeting for the next week and approved by the Engineer and AUG Operations.
- N. **Work Area 4 Phasing:**
1. Work Area 4 shall not have simultaneous work with Work Areas 2.
  2. Work Area 4 shall simultaneously be worked on with Work Areas 1a, 1b & 3.
  3. Work Area 4 may be performed under "Prior Permission Required" conditions for small marking carts, and handwork.

Work in Work Area 4 includes:

- Install Safety Equipment and Barricades for area closure and mobilize on site
- Install Erosion Control measures
- Sawcut Pavement, Reclaim existing pavement into new gravel base
- Add Supplemental Stone and Reclaim into new base material
- Install Underdrain, Catch Basins, Culverts, and adjust Frames and Grates
- Install new Lighting Conduit, Duct Banks, Cabling, Fixtures and Signs
- Compact and Fine Grade new gravel base
- Install Bituminous Concrete Pavement

- Saw and Seal Joints
- Install Topsoil and Seeding
- Install Pavement Markings

### **3 AREAS AND OPERATIONS AFFECTED BY THE CONSTRUCTION ACTIVITY**

The affected areas and operations for this project is limited to Runway 17-35, Runway 8-26, Taxiway B, Taxiway C, Taxiway E and Terminal Apron. Work will be performed “Airside” within the Airport Operations Area (AOA). “Airside” work is proposed within the AOA Movement Area and will require coordination and advanced notification in accordance with **Section 1 - Coordination**. As noted above in **Section 2 – Phasing**, the phasing of the work will require a closure for work being performed within the Runway Safety Area (RSA) & Taxiway Safety Area (TSA) related to the reconstruction of portions of Taxiways C and E. The phasing of the work allows for minimal impact to Airport Operations. All Work Areas shall be secured, including; contractor capacity to plate active trenches during work hours with a steel traffic plate, inactive trenches outside of work hours shall be secured with steel traffic plates to the satisfaction of the engineer, and meeting CFR 1542 requirements for Airport Security. Secured Work Areas allow for emergency and operations vehicles to navigate through the construction area for normal and emergency operations during the project.

Refer to **Section 11** Underground Utilities for underground utilities impacted by the construction.

Contained within the table below are anticipated operational impacts to Augusta State Airport during the course of the project. Contractor is required to coordinate with Airport Operations prior to impacting operations on the airport.

PHASE	<b>Work Area 1a: Taxiway C, South of TW B from Edge of TW B to TW B TOFA</b>	
<b>SCOPE OF WORK</b>	Reconstruction of a portion of Taxiway C – Ten (10) calendar days for Work Area 1a, within total contract time of Sixty (60) calendar days	
<b>OPERATIONAL REQUIREMENTS</b>	<b>Normal (Existing)</b>	<b>Work Area 1a (Anticipated)</b>
<b>RW 17-35 RDC</b>	B-I	NO CHANGE
<b>RW 17 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	NO CHANGE
<b>RW 17 NAVAIDs</b>	ILS; LOC; RNAV(GPS)	NO CHANGE
<b>RW 17 VISAIDs</b>	PAPI-4; MALSR;	NO CHANGE
<b>RW 35 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	NO CHANGE
<b>RW 35 NAVAIDs</b>	VOR; RNAV(GPS)	NO CHANGE
<b>RW 35 VISAIDs</b>	PAPI-4; REILs;	NO CHANGE
<b>RW 8-26 RDC</b>	A-I Small Aircraft	NO CHANGE
<b>RW 8 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	<b>Opened for Taxi Only</b>
<b>RW 8 NAVAIDs</b>	RNAV(GPS)	<b>NOTAMED N/A</b>
<b>RW 8 VISAIDs</b>	NONE	NO CHANGE
<b>RW 26 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	<b>Opened for Taxi Only</b>
<b>RW 26 NAVAIDs</b>	VISUAL	NO CHANGE
<b>RW 26 VISAIDs</b>	NONE	NONE
<b>Taxiway B Design Group</b>	ADG: I TDG: II	CLOSED
<b>Taxiway C Design Group</b>	ADG: I TDG: II	PARTIALLY CLOSED
<b>Taxiway E Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>Taxiway F Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>TERMINAL APRON</b>	ADG: I TDG: II	NO CHANGE
<b>ACTC (hours open)</b>	NO ATCT – UNICOM 123.0	NO CHANGE
<b>ARFF Index</b>	NO On-site ARFF	NO CHANGE
<b>Special Conditions</b>	NONE	NONE

<b>PHASE</b>	<b>Work Area 1b: Taxiway C, between TW B TOFA &amp; RW 8-26 Holdshort</b>	
<b>SCOPE OF WORK</b>	Reconstruction of a portion of Taxiway C – Sixty (60) consecutive calendar days for Work Area 1b, within total contract time of Sixty (60) calendar days	
<b>OPERATIONAL REQUIREMENTS</b>	<b>Normal (Existing)</b>	<b>Work Area 1b (Anticipated)</b>
<b>RW 17-35 RDC</b>	B-I	NO CHANGE
<b>RW 17 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	NO CHANGE
<b>RW 17 NAVAIDs</b>	ILS; LOC; RNAV(GPS)	NO CHANGE
<b>RW 17 VISAIDs</b>	PAPI-4; MALSR;	NO CHANGE
<b>RW 35 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	NO CHANGE
<b>RW 35 NAVAIDs</b>	VOR; RNAV(GPS)	NO CHANGE
<b>RW 35 VISAIDs</b>	PAPI-4; REILS;	NO CHANGE
<b>RW 8-26 RDC</b>	A-I Small Aircraft	NO CHANGE
<b>RW 8 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	<b>Opened for Taxi Only</b>
<b>RW 8 NAVAIDs</b>	RNAV(GPS)	<b>NOTAMED N/A</b>
<b>RW 8 VISAIDs</b>	NONE	NO CHANGE
<b>RW 26 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	<b>Opened for Taxi Only</b>
<b>RW 26 NAVAIDs</b>	VISUAL	NO CHANGE
<b>RW 26 VISAIDs</b>	NONE	NONE
<b>Taxiway B Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>Taxiway C Design Group</b>	ADG: I TDG: II	PARTIALLY CLOSED
<b>Taxiway E Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>Taxiway F Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>TERMINAL APRON</b>	ADG: I TDG: II	NO CHANGE
<b>ACTC (hours open)</b>	NO ATCT – UNICOM 123.0	NO CHANGE
<b>ARFF Index</b>	NO On-site ARFF	NO CHANGE
<b>Special Conditions</b>	NONE	NONE

<b>PHASE</b>	<b>Work Area 2: Taxiway C, North of RW 8-26 from edge of RW to far side of Holdline and Taxiway C, South of RW 8-26 from edge of RW to far side of Holdline and portions of RW 8-26</b>	
<b>SCOPE OF WORK</b>	Reconstruction of a portion of Taxiway C – Sixty (60) consecutive calendar days for Work Area 2, within total contract time of Sixty (60) calendar days	
<b>OPERATIONAL REQUIREMENTS</b>	<b>Normal (Existing)</b>	<b>Work Area 2 (Anticipated)</b>
<b>RW 17-35 RDC</b>	B-I	NO CHANGE
<b>RW 17 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	NO CHANGE
<b>RW 17 NAVAIDs</b>	ILS; LOC; RNAV(GPS)	NO CHANGE
<b>RW 17 VISAIDs</b>	PAPI-4; MALSR;	NO CHANGE
<b>RW 35 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	NO CHANGE
<b>RW 35 NAVAIDs</b>	VOR; RNAV(GPS)	NO CHANGE
<b>RW 35 VISAIDs</b>	PAPI-4; REILs;	NO CHANGE
<b>RW 8-26 RDC</b>	A-I Small Aircraft	RUNWAY CLOSED
<b>RW 8 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	RUNWAY CLOSED
<b>RW 8 NAVAIDs</b>	RNAV(GPS)	NOTAMED N/A
<b>RW 8 VISAIDs</b>	NONE	NO CHANGE
<b>RW 26 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	RUNWAY CLOSED
<b>RW 26 NAVAIDs</b>	VISUAL	RUNWAY CLOSED
<b>RW 26 VISAIDs</b>	NONE	RUNWAY CLOSED
<b>Taxiway B Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>Taxiway C Design Group</b>	ADG: I TDG: II	PARTIALLY CLOSED
<b>Taxiway E Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>Taxiway F Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>TERMINAL APRON</b>	ADG: I TDG: II	NO CHANGE
<b>ACTC (hours open)</b>	NO ATCT – UNICOM 123.0	NO CHANGE
<b>ARFF Index</b>	NO On-site ARFF	NO CHANGE
<b>Special Conditions</b>	NONE	NONE

<b>PHASE</b>	<b>Work Area 3: Taxiway C; South of RW 8-26, Holdline to RW 35 End and Taxiway E; East of RW 17-35, Holdline to FBO Ramp and portion of Terminal Apron</b>	
<b>SCOPE OF WORK</b>	Reconstruction of portions of Taxiway C, Taxiway E and Terminal Apron – Sixty (60) consecutive calendar days for Work Area 3, within total contract time of Sixty (60) calendar days	
<b>OPERATIONAL REQUIREMENTS</b>	<b>Normal (Existing)</b>	<b>Work Area 3 (Anticipated)</b>
<b>RW 17-35 RDC</b>	B-I	NO CHANGE
<b>RW 17 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	NO CHANGE
<b>RW 17 NAVAIDS</b>	ILS; LOC; RNAV(GPS)	NO CHANGE
<b>RW 17 VISAIDS</b>	PAPI-4; MALSR;	NO CHANGE
<b>RW 35 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	NO CHANGE
<b>RW 35 NAVAIDS</b>	VOR; RNAV(GPS)	NO CHANGE
<b>RW 35 VISAIDS</b>	PAPI-4; REILS;	NO CHANGE
<b>RW 8-26 RDC</b>	A-I Small Aircraft	NO CHANGE
<b>RW 8 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	<b>Opened for Taxi Only</b>
<b>RW 8 NAVAIDS</b>	RNAV(GPS)	<b>NOTAMED N/A</b>
<b>RW 8 VISAIDS</b>	NONE	NO CHANGE
<b>RW 26 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	<b>Opened for Taxi Only</b>
<b>RW 26 NAVAIDS</b>	VISUAL	NO CHANGE
<b>RW 26 VISAIDS</b>	NONE	NONE
<b>Taxiway B Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>Taxiway C Design Group</b>	ADG: I TDG: II	PARTIALLY CLOSED
<b>Taxiway E Design Group</b>	ADG: I TDG: II	PARTIALLY CLOSED
<b>Taxiway F Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>TERMINAL APRON</b>	ADG: I TDG: II	PARTIALLY CLOSED
<b>ACTC (hours open)</b>	NO ATCT – UNICOM 123.0	NO CHANGE
<b>ARFF Index</b>	NO On-site ARFF	NO CHANGE

<b>Special Conditions</b>	NONE	Work Area 3 will restrict Cape Air Operations to Terminal Apron, coordination will be required with Airport and Cape Air Operator to minimize impacts Contractor shall maintain vehicle access across Terminal Apron and through Work Area 3 suitable for Emergency Fire & Rescue Vehicles and a 15 Passenger Van
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<b>PHASE</b>	<b>Work Area 4: Taxiway C and Taxiway E West of Runway 17-35 Holdlines, and minor infield work within RW 17-35 ROFZ</b>	
<b>SCOPE OF WORK</b>	Reconstruction of portions of Taxiway C and Taxiway E – Ten (10) calendar days (night periods) for Work Area 4, within total contract time of Sixty (60) calendar days	
<b>OPERATIONAL REQUIREMENTS</b>	<b>Normal (Existing)</b>	<b>Phase 4 (Anticipated)</b>
<b>RW 17-35 RDC</b>	B-I	RUNWAY CLOSED
<b>RW 17 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	RUNWAY CLOSED
<b>RW 17 NAVAIDs</b>	ILS; LOC; RNAV(GPS)	DISABLED
<b>RW 17 VISAIDs</b>	PAPI-4; MALSR;	DISABLED
<b>RW 35 Declared Distances</b>	TORA: 5,001 & TODA: 5,001 ASDA 5,001 & LDA: 5,001	RUNWAY CLOSED
<b>RW 35 NAVAIDs</b>	VOR; RNAV(GPS)	NOTAMED N/A
<b>RW 35 VISAIDs</b>	PAPI-4; REILs;	DISABLED
<b>RW 8-26 RDC</b>	A-I Small Aircraft	NO CHANGE
<b>RW 8 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	NO CHANGE
<b>RW 8 NAVAIDs</b>	RNAV(GPS)	NO CHANGE
<b>RW 8 VISAIDs</b>	NONE	NO CHANGE
<b>RW 26 Declared Distances</b>	TORA: 2,703 & TODA: 2,703 ASDA 2,703 & LDA: 2,703	NO CHANGE
<b>RW 26 NAVAIDs</b>	VISUAL	NO CHANGE
<b>RW 26 VISAIDs</b>	NONE	NO CHANGE
<b>Taxiway B Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>Taxiway C Design Group</b>	ADG: I TDG: II	PARTIALLY CLOSED
<b>Taxiway E Design Group</b>	ADG: I TDG: II	PARTIALLY CLOSED
<b>Taxiway F Design Group</b>	ADG: I TDG: II	NO CHANGE
<b>TERMINAL APRON</b>	ADG: I TDG: II	NO CHANGE
<b>ACTC (hours open)</b>	NO ATCT – UNICOM 123.0	NO CHANGE
<b>ARFF Index</b>	NO On-site ARFF	NO CHANGE
<b>Special Conditions</b>	NONE	Night closures require 45 day notice to FAA. Work Area 4 may be performed under “Prior Permission Required” conditions for hand work.

A. **Identification of affected areas.** See Appendix A *Construction Safety and Phasing Plans* for graphical identification of areas affected by Construction Operations. Of particular concern are the following:

1. Closing, or partial closing, of Runways, Taxiways and Aprons: Partial closure of portions of the Runways and Taxiways throughout this project are due to Construction activities and movement of aircraft and ground vehicles.
2. Closing of Aircraft Rescue and Fire Fighting (ARFF) access routes: Access into, through, and/or around the project work area by ARFF vehicles will NOT be affected.
3. Closing of access routes used by airport and airline support vehicles: Access into, through, and/or around the project work area by service vehicles will NOT be impacted due to Work Area phasing.
4. Interruption of utilities, including water supplies for firefighting: No utility impacts.
5. Approach/departure surfaces affected by heights of objects: No impacts.
6. Trenching – The contractor shall have the capacity to plate active work areas in the case of an emergency during work hours with steel traffic plates. The contractor shall plate or close all trenches before leaving at the end of the day by steel traffic plates maintaining emergency access throughout the work areas.
7. Construction areas:
  - a. These areas include: the project work area, storage/stockpile areas, staging areas, and Contractor haul routes near active airfield surfaces. These areas are identified graphically in attached exhibits.

B. **Mitigation of effects.** This CSPP has established specific requirements and operational procedures necessary to maintain the safety and efficiency of airport operations during the construction of this project. All coordination pertaining to airport operations during construction will go through the Engineer and the Airport Operations. Any required NOTAM's to be issued will be sent through the Engineer and issued by Airport Operations. **See Section 9** for coordination of facility closures and Notice to Airman (NOTAM) issuance procedures.

**Temporary Changes to Airport Operations:**

The affected Runways and Taxiways identified in the previous section for reduced access or identified as being closed entirely to aircraft traffic, will be barricaded by the use low profile barricades, lighted barricades placed as shown in the exhibits provided in Appendix A. In addition, required NOTAM's will be issued on the various temporary changes to aircraft access through the affected areas.

**Detours for ARFF and other airport vehicles:**

The project work site will remain open to all ARFF vehicles in emergency situations. The Contractor is required to maintain access in and around the project work area for all emergency vehicles. Contractor will effectively communicate proper routing of this traffic to all supervisory personnel involved in the construction project.

**Maintenance of essential utilities:**

Special attention will be given to preventing unscheduled interruption of utility services and facilities. When an underground cable or utility is damaged due to the Contractor's negligence the Contractor will immediately repair the affected cable or utility at his/her own expense. Refer to **Section 11 Underground Utilities** for information with regard to location of underground utilities.

**Temporary Changes to air traffic control procedures:**

Changes to air traffic control procedures must be coordinated with Airport Operations.

#### **4 PROTECTION OF NAVAIDS**

Prior to construction, the Contractor will walk the job site with the Engineer, Airport Operations and FAA to identify the FAA-Owned NAVAIDs near the construction site. The FAA NAVAIDs are listed above in **Section 3 - Areas and Operations Affected by the Construction Activity**.

FAA will identify, locate, and mark out the associated underground utilities for the Contractor FAA-owned NAVAIDs identified to be within the work zone. The Contractor shall maintain the underground utility markings and protect the FAA-owned NAVAID facilities from disturbance, including any underground utilities.

#### **5 CONTRACTOR ACCESS**

##### **5.1 Location of Stockpiled Construction Materials and Stored Equipment**

Stockpiled materials and equipment storage are not permitted within the Runway Object Free Area/ Taxiway Object Free Area (ROFA/TOFA) or Obstacle Free Zone (OFZ) of an operational runway or taxiway. All equipment when not in use shall be removed from the AOA for storage. Contractor's stockpiled material shall be constrained in a manner to prevent movement resulting from either aircraft jet blast or wind conditions in excess of ten miles per hour. In addition, Contractor's responsibilities for stockpiled material includes the prevention of FOD from moving onto the airfield pavements or polluting watercourses. It shall be stated that stockpiling material in the OFA, which is not permitted on this project, requires a submittal of a 7450-1 form and justification provided to the appropriate FAA Airports Regional or District Office for approval.

Stockpiled material will not be permitted within the protected areas of the Runways or allowed to penetrate into any of the protected airspace.

Temporary stockpiles may be located at the Contractor's staging area or other locations within the work zone which do not encroach on any protected operational areas as approved by the Engineer. For anticipated stockpile location see Sheet 9 "Construction Safety & Phasing Plan" located in Appendix A.

## **5.2 Vehicle and Pedestrian Operations**

Vehicle and pedestrian access routes for airport construction projects must be controlled to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA. Airport Operations will coordinate requirements for vehicle operations with the affected airport tenants, contractors, and the FAA manager. Specific vehicle and pedestrian requirements for this project are as follows:

**A. Driving on the Airfield:** The contractor will be required to explicitly follow the directions of the approved escort while driving in the Airport Operations Area (AOA). The AOA is defined as the area inside of the defined perimeter fencing surrounding the Airport. Additionally, the contractor must follow the directions of Augusta State Airport personnel. All movement of vehicles, outside of designated work areas must be approved by the escort or other approved personnel. Rules of Vehicle Operations are as follows:

1. Prior to entry on the Airfield, vehicles shall be inspected by the driver. All dirt or debris shall be removed from the tires that can be tracked into the Airfield. Each operator must possess a valid license for operation of the particular vehicle and may be required to furnish the license for access to the AOA.
2. Motor vehicle must not be operated in a reckless and/or negligent manner, a manner that may endanger other person or property, and/or in excess of 20 miles per hour unless the posted speed limit is less.
3. Aircraft always have the right-of-way. Vehicles and equipment shall always pass behind aircraft.
4. All appropriate signaling devices must be used at all times and obey all traffic signs, markings, and lanes.
5. Each operator must not be under the influence of drugs or alcohol.
6. No cell phone use is allowed while any vehicle operator or equipment is in use unless the call is hands free.
7. No texting is allowed while operating any vehicle or equipment.

8. Escorts are required to drive from one work area to another when crossing an active pavement areas, all vehicles in escort must obey all commands by the escorts and remain in close proximity for communication. At no point is an escorted vehicle to lose line of sight with their escorts while moving between Work Areas.
9. All vehicles must have the required and proper license plates and inspection stickers.
10. All vehicles must have working headlights and taillights which are required to be used from one hour prior to dusk and one hour after sunrise, as required by AUG Operations, times of low visibility, and/or during Instrument Flight Rules (IFR) conditions.

**B. Conclusion of Work Daily:** The contractor cannot leave the site until the work area has been inspected and accepted by the Resident Engineer and Airport Operations for safety compliance.

**C. Escorts:** The Contractor will be required to provide all escorts. Escorts shall have a Two-Way Radio capable of communicating with CTAF/UNICOM, a cell phone, the phone numbers of the vehicles being escorted, and the Emergency Contact List in Appendix B. The escorts will receive training from Augusta Airport Operations. No more than six (6) vehicles can be under the supervision of a single escort. All vehicles under the supervision of an escort must be in direct visual communication with the escort. It shall be the Contractor's responsibility to hire, have trained and have approved additional escorts if needed for this project.

1. Crew supervisors, if not escorts themselves, shall have the same training and are required to have with themselves at all time a Two-Way Radio capable of communicating with CTAF/UNICOM, a cell phone, and the Emergency Contact List in Appendix B. See Contractor Responsibilities, Section F. A crew supervisor shall have authority and responsibility for crews working under this project to adhere to the SPCD.

**D. Haul Routes:** All construction vehicles and personnel will be restricted to the immediate work areas specified by the contract for this project. These areas include the haul routes into the work area, and the designated Contractor staging area as shown on Sheets 9 & 10 "Construction Safety & Phasing Plan" located in Appendix A. It is anticipated access to Work Areas will be achieved by escorts. Use of alternate haul routes or staging areas by the

Contractor will not be permitted without prior notification and approval by the Airport Operations.

1. Access or haul routes used by Contractor vehicles must be clearly marked to prevent inadvertent entry to areas open to airport operations. Construction traffic must remain on the designated haul routes, never straying from the approved paths.
2. Maintenance and upkeep of the haul routes are the responsibility of the Contractor. Dust must be removed from any haul route pavement by mechanical sweeping. Application of water on dirt or gravel haul routes must be provided as often as necessary. Haul roads in any airport traffic areas must be especially monitored for dust and debris to prevent any potential Foreign Object Debris (FOD) situations.
3. The Contractor is responsible for any damage caused by construction traffic on the haul routes, regardless of whether in an approved or un-approved traffic area. Following construction completion, the Contractor will grade, reseed, clean or otherwise restore the haul route areas to clean, turfed or paved condition. Special attention must be given to ensure that if construction traffic is to share or cross any ARFF routes that ARFF right of way is not impeded at any time, and that construction traffic on haul roads do not interfere with NAVAIDs or approach surfaces of operational runways.
4. Contractor equipment parking and staging areas have been identified as the Contractor Staging Area and are shown on Sheet 9 "Construction Safety & Phasing Plan" located in Appendix A.
5. Contractor employee parking will be at the staging area identified on Sheet 9 "Construction Safety and Phasing Plan" located in Appendix A. No contractor worker parking will be allowed within the AOA.

E. **Controlled Airport Access:** No badging is required at AUG. No person shall enter the AOA or any other restricted area without an escort. For this project, there will be visual boundaries installed for each phase, unless otherwise directed by AUG Operations. Visual boundaries shall be the low-profile barricades supplemented by traffic cones if necessary or directed by the Engineer or Airport, the barricades and traffic cones will be provided by the contractor. The contractor will be required to assist AUG Operations in the placement and removal of all barricades or other visual boundaries. Only vehicles essential in completing the work will be allowed access to the AOA. The Contractor will maintain a daily log of all personnel entering and leaving the site. The contractor shall provide personnel to become badged by AUG and escort.

F. **Marking and Lighting of Vehicles:** Vehicles operating within the AOA shall have markings and lighting in accordance with the latest revision of AC 150/5210-5D "Painting, Marking and Lighting of Vehicles used on the Airport" which include: the Company Identification on both sides of the vehicle, a 3'x3' flag with minimum 1'x1' international orange and white squares clearly above the vehicle or a flashing amber light. A flashing amber light is required at night.

Airport Operations will be responsible for:

- Monitor CTAF/UNICOM frequency 123.0 using a radio.
- Communicate using cellular phones to the Contractor and Resident Engineer

The Contractor will be responsible for:

- Manage any AOA-Movement Area construction area and during any hauling between work zone areas and/or stockpile locations
- Monitor CTAF/UNICOM frequency 123.0 using a radio.
- Communicate using cellular phones to Airport Operations and Resident Engineer

## 6 WILDLIFE MANAGEMENT

The Contractor will be diligent in the management of Foreign Object Debris (FOD) and trash in order to prevent attractions for wildlife. Additionally, the Contractor will ensure that the Airport's permanent perimeter fences within and near the work areas are secured at all times, and especially at the end of each work day. The Contractor will be conscientious about potential of wildlife potentially breaching the Airport perimeter fence during the work day. Contractor personnel must be aware of and avoid construction activities that can create wildlife hazards on airports.

- Trash. Food scraps from construction personnel must be properly disposed.
- Standing water
- Seed mixture

The Contractor will not be responsible for wildlife management for this project. The Contractor will contact Airport Operations with any issues concerning wildlife management. Airport Operations will be responsible for handling any breach of wildlife onto the AOA.

## **7 FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT**

Special care and measures will be taken to prevent Foreign Object Debris / Damage (FOD) when working in an airport environment. The Contractor will be held responsible for implementing an approved FOD Management Plan as a part of the SPCD. The FOD Management Plan will have procedures for prevention, regular cleanup, and containment of construction material and debris. The Contractor will ensure all vehicles related to the construction project using paved surfaces in the AOA will be free of any debris that could create a FOD hazard. Special attention will be given to the trenching operations. All taxiways, aprons, and runways must remain clean. Waste containers with attached lids will be required on construction sites.

Special attention should be given to securing lightweight construction material (concrete insulating blankets, tarps, insulation, etc.). Specific securing procedures and/or chain link enclosures may be required.

The Contractor will utilize sweepers (as required by the General Conditions of the Contract Documents) and water trucks on an as needed basis and as directed by the Engineer to control dust and foreign object debris control. The Contractor will sweep all affected areas at the end of each work day and as required throughout the work day.

## **8 HAZARDOUS MATERIAL (HAZMAT) MANAGEMENT**

Contractors operating construction vehicles and equipment on the Airport must be prepared to expeditiously contain and clean-up spills resulting from fuel, hydraulic fluid, or other chemical fluid leaks. Transport and handling of other hazardous materials on an airport also requires special procedures. To that end, the Contractor is required to develop and implement spill prevention and response procedures for vehicle operations. The Contractor will incorporate these procedures into the SPCD. This includes maintenance of appropriate MSDS data and appropriate prevention and response equipment on-site.

Although hazardous materials are not anticipated on this project, the Contractor will be required to submit procedures as part of the SPCD, which details how their company manages and handles hazardous materials, for circumstances which may occur on this project.

The Contractor will not be bringing hazardous materials onto the Airport property unless it is a regulated material necessary for the completion of the project. All precautions will be undertaken by the Contractor for the safe handling and management of hazardous materials.

## 9 NOTIFICATION OF CONSTRUCTION ACTIVITIES

The following is information and procedures for immediate notification of airport users and the FAA of any conditions adversely affecting the operational safety of the airport.

- A. FAA requires 45-day notice for closure of Runway 17-35
- B. Refer to the attached contact/list of responsible representatives in Appendix B.
- C. **Notices to Airmen (NOTAM).** Only the Airport Operations may initiate or cancel NOTAMs on Airport conditions; and is the only entity that can close or open a runway or taxiway. The Airport operator must coordinate the issuance, maintenance, and cancellation of NOTAMs about Airport conditions resulting from construction with tenants and the local air traffic facility (control tower, approach control, or air traffic control center), and must provide information on closed or hazardous conditions on airport movement areas to the FAA Flight Service Station (FSS) so it can issue a NOTAM. The Airport operator must file and maintain a list of authorized representatives with the FSS. Only the FAA may issue or cancel NOTAMs on shutdown or irregular operation of FAA-owned facilities. Any person having reason to believe that a NOTAM is missing, incomplete, or inaccurate must notify the airport operator.
- D. Any NOTAMs for planned airfield closures for this project must be coordinated through the Airport Operations. Reference to **Sections 1-4** Phasing for planned closure and cautions for this project, which require issuance of a NOTAM.
- E. **Emergency notification procedures.** In the event of an emergency, the Contractor will be required to contact emergency services by **calling 911.**
- F. In the event of an aircraft emergency, severe weather conditions, or any issue as determined by the Airport Operations which may affect aircraft operations, the Contractor's personnel and/or equipment may be required to immediately vacate the area(s) affected. Points of contact for the various parties involved with the project will be identified and shared at the pre-construction meeting among the various parties. Specific emergency notification procedures will be incorporated into the Contractor's SPCD.
- G. Procedures and methods for addressing any planned or emergency response actions on the airfield concerning this project will be established by the contractor and implemented prior to the start of construction.

H. Coordination with ARFF will be required if any deactivation of water lines or fire hydrants, equipment block emergency access routes, or hazardous material is brought onto the airfield. No ARFF coordination is anticipated from the activities of construction for the project. Contractor shall plate trenches with steel traffic plates maintaining accessibility to all facilities throughout construction.

I. **Notification to the FAA.**

1. **Part 77.** Any person proposing construction or alteration of objects that affect navigable airspace, as defined in 14 CFR Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e. cranes, graders, other equipment) on Airports. FAA Form 7460-1, Notice of Proposed Construction or Alteration, shall be used for this purpose and submitted to FAA via the Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) website.
2. **Part 157.** It is not anticipated that Part 157 notifications will be required for this project. With some exceptions on other projects, Title 14 CFR Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports, requires that the Airport operator notify the FAA in writing whenever a non-Federally funded project involves the construction of a new airport; the construction, realigning, altering, activating, or abandoning of a runway, landing strip, or associated taxiway; or the deactivation or abandoning of an entire airport. Notification involves submitting FAA Form 7480-1, Notice of Landing Area Proposal, to the nearest FAA Airports Regional or District Office.
3. **NAVAIDS.** For emergency (short-notice) notification about impacts to FAA-owned NAVAIDS, contact Airport Operations.
  - a. FAA-owned. Construction operations which require a shutdown of FAA-owned NAVAIDS, the Airport operator must notify the appropriated FAA ATO Service Area Planning and Requirements (P&R) Group a minimum of 45-days prior to implementing an event that causes impacts to NAVAIDS. (Impacts to FAA equipment covered by a Reimbursable Agreement (RA) do not have to be reported by the Airport operator). Coordinate work for an FAA-owned NAVAID shutdown with the local FAA ATO/Technical Operations office, including any necessary reimbursable agreements and flight checks. Detail procedures that address unanticipated utility outages and cable cuts that could impact FAA

NAVAIDs. In addition, provide seven (7) days notice to schedule the actual shutdown.

4. **7460-1 Notice of Proposed Construction or Alteration.** It is not anticipated that any equipment used during construction will exceed the defined Part 77 departure/approach surfaces due to work on the apron. However, the work is located within the Airport AOA and as such this CSPP will be submitted to the FAA according to the OE/AA website.

## **10 INSPECTION REQUIREMENTS**

At the conclusion of each work day, the Contractor will ensure that all debris is properly cleared and excavations are properly backfilled or protected prior to contacting Airport Operations, through the Resident Engineer, to inspect the work area and all haul routes prior to the Contractor leaving the site for the day. The Contractor will also complete the Daily Safety Inspection Checklist shown in Appendix C of this CSPP and keep a copy on-site during Construction.

At the conclusion of the project, a final inspection will be conducted with the Contractor, Resident Engineer, Augusta Airport Operations, MaineDOT and the FAA. The Contractor will rectify any deficiencies for site security and safety prior to acceptance of the project.

## **11 UNDERGROUND UTILITIES**

Municipal utilities (such as water, sewer and drainage) are not to be impacted as part of this project. The Contractor is responsible for locating all underground utilities before any excavation begins for the project, including but not limited to paying for a private utility location service. The Contract Documents identify the location of estimated electrical/communication conduits and duct banks and drainage lines located within the work zones based off as built information and field visit observations. This information shall be considered schematic by nature and not equivalent to the detail of survey information.

See **Section 4 – Protection of NAVAIDS**, for FAA-owned NAVAID facilities.

The Contractor will locate and/or arrange for the location of all the underground utilities within the work zone. Full coordination between FAA, Airport Operations, Resident Engineer, and construction personnel will be exercised to ensure that all Airport power and control cables are fully protected prior to any excavation. Locations of cabling and other underground utilities will be marked prior to beginning excavation.

## 12 PENALTIES

Airport maintains a ZERO TOLERANCE POLICY against security and safety violations. All violators will be subject to: (1) stop all work on the project upon the plan being violated until the violation has been corrected, and (2) removal of the individual from the AOA.

## 13 SPECIAL CONDITIONS

The Contractor will receive notification from Airport Operations when special conditions require the construction site to be vacated as outlined in **Section 9 – Notification of Construction Activities**. In any event, extreme care should be exercised should construction personnel identify any ARFF or other public safety vehicle moving toward the Runway with emergency lights displayed. This will generally mean that an emergency situation is imminent.

Airport Operations, at their discretion, may suspend work at any point during construction if there are any occasions that may impact the integrity of safety at the Airport.

## 14 RUNWAY AND TAXIWAY VISUAL AIDS

General: The Contractor will ensure that, in areas where aircraft will be operating, it is clearly and visibly separated from construction areas. Airport Operations and the Engineer, throughout the duration of the construction project, will verify that these areas remain clearly marked and visible at all times and that markings, lighting, and signs remain in place and operational. Airport markings, lighting, and signs must be clearly visible to pilots, and must not be misleading, confusing or deceptive. All devices must be secured in place to prevent movement by propwash, wing vortices, or other wind currents and will be constructed of materials that would minimize damage to an aircraft in the event of inadvertent contact. All temporary lighting, signage or barriers located within the RSA or TSA must be frangible.

Markings: Markings shall be in accordance with latest revision of FAA Advisory Circular 150/5340-1M, "Standards for Airport Markings" as required by the construction.

### Closed Runways and Taxiways:

- A. Permanently Closed Runways: Not applicable to this project.
- B. Temporarily Closed Runways: Runway 17-35 & Runway 8-26.
- C. Partially Closed Runways and Displaced Thresholds: Not applicable to this project.
- D. Temporarily Closed Taxiways: Partial or complete closure of Taxiways B, C & E.
- E. Temporarily Closed Airport: Not applicable to this project.

F. Lighting and Visual NAVAIDS: Visual Aids, lights and signs will be disabled during closures by acceptable means of covering, or disconnecting if affected by the project.

Airfield Signs: Signs directing air traffic onto any closed pavements will be covered.

### **15 MARKING AND SIGNS FOR ACCESS ROUTES**

Haul routes in the field will be marked, as required, with the use of eighteen inch (18") traffic cones and signs meeting the requirements of the Manual of Uniform Traffic Control Devices (MUTCD).

### **16 HAZARD MARKING AND LIGHTING**

General: Hazard marking and lighting is required throughout the construction period to prevent pilots from entering areas closed to aircraft, and also to prevent construction personnel from entering any areas open to aircraft. Areas affected by construction that are normally open to aircraft, vehicles, or airport personnel will be clearly delineated by prominent, comprehensible warning indicators. Hazard marking and lighting will also be used to identify localized construction operations, such as open manholes, areas under repair, stockpiled material, waste areas and areas subject to jet blast.

Prior to the commencement of construction activities, the Contractor will clearly identify the allowable limits of work. This area will account for less obvious construction-related hazards and include markings to identify the following, at a minimum:

- FAA, airport and National Weather Service facilities cables and power lines
- Airport surfaces, such as RSA, OFA, and OFZ
- Other sensitive areas

#### Equipment

Channelizer Barricades. Contractor to provide low-profile barricades to delineate closed airfield movement areas. The low-profile barricades will be high visibility orange with reflective white bands, or white with orange reflective bands. For nighttime closures, low-profile barricades will have red flashing lights. The maximum height for low-profile barricades will be eighteen inches (18"), exclusive of lights. Low-profile barricades will be weighted to protect against inadvertent movement from wind currents and prop or jet wash. Material used to weight the barricades will be securely attached to prevent FOD. The interval between channelizer cones will be no greater than four feet (4'), while the low-profile barricades will be interconnected together creating a continuous barricade.

Lights: Lights must be red. Low Profile Barricades will be equipped with two (2) lights (red in color), either steady burning or flashing. Lights must meet the luminescence requirements of the FAA. Lights will be operated between sunset and sunrise, as well as during periods of low visibility when the Airport is open for operations. Lights shall have a spacing at not greater than ten feet (10') apart. Lights may be operated by photocell; however, the Contractor may need to manually turn lights on during the day when visibility is low.

Maintenance: The Contractor will maintain lighted channelizer barricades. The Contractor will provide a person on call, twenty-four (24) hours each day for emergency maintenance of low-profile barricades. Lights and placement of all types of barricades will be checked at least once each day by the Contractor during working days and Airport Operations during non-working days.

Closure Markers: Contractor to deploy Augusta Airport owned Lighted and Fabric Runway Closure Marker X's as noted on the plans. Runway closure Markers shall be placed on Runway numerals of Runway to be marked as closed.

## **17 PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS**

Open trenches exceeding 3 inches in depth and 5 inches in width are not permitted within the limits of safety areas of operational runways or taxiways.

No work will be performed within any runway or taxiway safety area without a closure. No equipment, stored materials, and stockpiled material will be allowed to penetrate active approach surfaces at any time.

Low profile barricades will restrict construction vehicles and personnel to the designated work site. See Appendix A-Construction Phasing Plans for barricade location.

## **18 OTHER LIMITATIONS**

As noted in **Section 13 – Special Conditions**, construction operations may be suspended at the discretion of Airport Operations. Situations that may cause suspensions of operations include, but are not limited to, safety or security concerns.

In addition, the Contractor will be subject to the following additional limitations during construction:

- A. No tall equipment (cranes, concrete pumps, and so on) unless a 7460-determination letter is issued for such equipment.
- B. No open flames, flare pots or torches will be permitted without the prior approval of the Airport.
- C. No blasting will be permitted.

## APPENDIX A - CONSTRUCTION PHASING PLANS

<u>Sheet No.</u>	<u>Sheet Name</u>
9	CONSTRUCTION SAFETY AND PHASING PLAN OVERVIEW
10	CONSTRUCTION SAFETY AND PHASING PLAN
11	CONSTRUCTION SAFETY & PHASING PLAN DETAILS (1 OF 2)
12	CONSTRUCTION SAFETY & PHASING PLAN DETAILS (2 OF 2)

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Plans\CSPP 200 Overview.dgn

WORK AREA IA - STA. 600-26 TO STA. 600-97

- DESCRIPTION OF WORK - WORK AREA IA
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, MILL AND REMOVE EXISTING PAVEMENT
  - COMPACT EXISTING BASE GRAVEL
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

- OPERATIONAL IMPACTS - WORK AREA IA
  - RUNWAY 17-35 - OPEN
  - RUNWAY 8-26 - OPEN
  - RUNWAY 35 GPS - ACTIVE
  - RUNWAY 17-35 LOCALIZER - ACTIVE
  - RUNWAY 17-4-PAPI - ACTIVE
  - RUNWAY 35 4-PAPI - ACTIVE
  - RUNWAY 35 REIL - ACTIVE
  - RUNWAY 35 VOR - ACTIVE
  - RUNWAY 17 MALSR - ACTIVE
  - TAXIWAY C - PARTIALLY CLOSED
  - LOW PROFILE BARRICADES
  - MARKING REMOVAL
  - COVER LIGHTS AND LIGHTED SIGNS
  - TAXIWAY CI - OPEN
  - TAXIWAY B - CLOSED
  - TAXIWAY E - OPEN
  - TAXIWAY F - OPEN
  - GATE 4 - GATE GUARD REQUIRED
  - CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
  - WORK AREA IA CANNOT BE CONCURRENT WITH WORK AREAS 2 & 4

WORK AREA 4 - STA. 203-70 TO STA. 205-20

- DESCRIPTION OF WORK - WORK AREA 4
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, RECLAIM EXISTING PAVEMENT INTO NEW GRAVEL BASE
  - ADD SUPPLEMENTAL STONE AND RECLAIM INTO NEW BASE MATERIAL
  - INSTALL NEW LIGHTING CONDUIT, DUCT BANKS, CABLING, FIXTURES AND SIGNS
  - INSTALL UNDERDRAIN, CATCH BASINS, CULVERTS, AND ADJUST FRAMES AND GRATES
  - COMPACT AND FINE GRADE NEW GRAVEL BASE
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

- OPERATIONAL IMPACTS - WORK AREA 4
  - RUNWAY 17-35 - CLOSED
  - LOW PROFILE BARRICADES
  - LIGHTED X'S
  - RUNWAY 8-26 - OPEN
  - RUNWAY 35 GPS - INACTIVE
  - RUNWAY 17-35 LOCALIZER - INACTIVE
  - RUNWAY 17-4-PAPI - INACTIVE
  - RUNWAY 35 4-PAPI - INACTIVE
  - RUNWAY 35 REIL - INACTIVE
  - RUNWAY 35 VOR - INACTIVE
  - RUNWAY 17 MALSR - INACTIVE
  - TAXIWAY C - OPEN
  - TAXIWAY B - OPEN
  - TAXIWAY E - PARTIALLY CLOSED
  - TAXIWAY F - OPEN
  - GATE 4 - GATE GUARD REQUIRED
  - CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
  - TERMINAL APRON - VEHICLE ACCESS ONLY
  - WORK AREA 4 SHALL BE PERFORMED UNDER "PRIOR PERMISSION" REQUIRED CONDITIONS OR OVERNIGHT ONLY. NIGHT CLOSURES REQUIRE 30 DAY NOTICE TO FAA
  - WORK AREA 4 CANNOT BE CONCURRENT WITH WORK AREAS 1A & 2

WORK AREA IB - STA. 600-97 TO STA. 604-29

- DESCRIPTION OF WORK - WORK AREA IB
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, RECLAIM EXISTING PAVEMENT INTO NEW GRAVEL BASE
  - ADD SUPPLEMENTAL STONE AND RECLAIM INTO NEW BASE MATERIAL
  - INSTALL UNDERDRAIN, CATCH BASINS, CULVERTS, AND ADJUST FRAMES AND GRATES
  - INSTALL NEW LIGHTING CONDUIT, DUCT BANKS, CABLING, FIXTURES AND SIGNS
  - COMPACT AND FINE GRADE NEW GRAVEL BASE
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

- OPERATIONAL IMPACTS - WORK AREA IB
  - RUNWAY 17-35 - OPEN
  - RUNWAY 8-26 - OPEN
  - RUNWAY 35 GPS - ACTIVE
  - RUNWAY 17-35 LOCALIZER - ACTIVE
  - RUNWAY 17-4-PAPI - ACTIVE
  - RUNWAY 35 4-PAPI - ACTIVE
  - RUNWAY 35 REIL - ACTIVE
  - RUNWAY 35 VOR - ACTIVE
  - RUNWAY 17 MALSR - ACTIVE
  - TAXIWAY C - PARTIALLY CLOSED
  - LOW PROFILE BARRICADES
  - MARKING REMOVAL
  - COVER LIGHTS AND LIGHTED SIGNS
  - TAXIWAY CI - OPEN
  - TAXIWAY B - OPEN
  - TAXIWAY E - OPEN
  - TAXIWAY F - OPEN
  - GATE 4 - GATE GUARD REQUIRED
  - CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
  - TERMINAL APRON - VEHICLE ACCESS ONLY
  - WORK AREA IB SHALL BE COMPLETED CONCURRENTLY WITH OTHER PHASES

- STANDARD HOURS
  - DAYTIME BETWEEN 7:00 AM AND 5:00 PM MONDAY THROUGH FRIDAY
  - NIGHTTIME BETWEEN 7:30 PM AND 6:30 AM MONDAY THROUGH FRIDAY
  - NIGHTTIME MAY BE PERMITTED UPON PRIOR WRITTEN APPROVAL FROM THE ENGINEER AND AUGUSTA STATE AIRPORT
  - WEEKEND WORK MAY BE PERMITTED UPON PRIOR WRITTEN APPROVAL FROM THE ENGINEER AND AUGUSTA STATE AIRPORT

WORK AREA 2 - STA. 604-29 TO STA. 605-28 AND STA. 605-91 TO STA. 606-79

- DESCRIPTION OF WORK - WORK AREA 2
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, RECLAIM EXISTING PAVEMENT INTO NEW GRAVEL BASE
  - ADD SUPPLEMENTAL STONE AND RECLAIM INTO NEW BASE MATERIAL
  - INSTALL UNDERDRAIN, CATCH BASINS, CULVERTS, AND ADJUST FRAMES AND GRATES
  - INSTALL NEW LIGHTING CONDUIT, DUCT BANKS, CABLING, FIXTURES AND SIGNS
  - COMPACT AND FINE GRADE NEW GRAVEL BASE
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

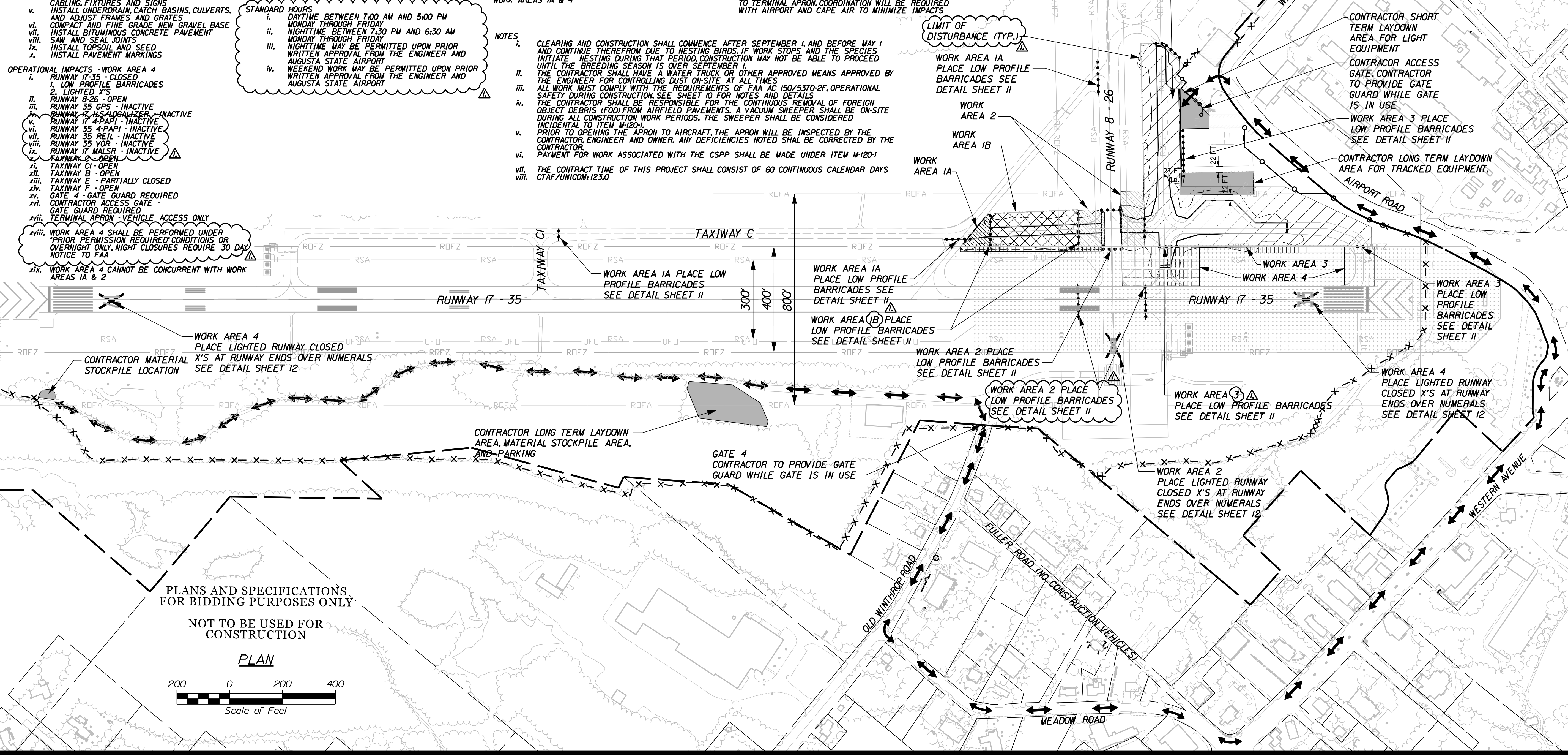
- OPERATIONAL IMPACTS - WORK AREA 2
  - RUNWAY 17-35 - OPEN
  - RUNWAY 8-26 - CLOSED
  - LOW PROFILE BARRICADES
  - LIGHTED X'S
  - RUNWAY 35 GPS - ACTIVE
  - RUNWAY 17-35 LOCALIZER - ACTIVE
  - RUNWAY 17-4-PAPI - ACTIVE
  - RUNWAY 35 4-PAPI - ACTIVE
  - RUNWAY 35 REIL - ACTIVE
  - RUNWAY 35 VOR - ACTIVE
  - RUNWAY 17 MALSR - ACTIVE
  - TAXIWAY C - PARTIALLY CLOSED
  - LOW PROFILE BARRICADES
  - MARKING REMOVAL
  - COVER LIGHTS AND LIGHTED SIGNS
  - TAXIWAY CI - OPEN
  - TAXIWAY B - OPEN
  - TAXIWAY E - OPEN
  - TAXIWAY F - OPEN
  - GATE 4 - GATE GUARD REQUIRED
  - CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
  - TERMINAL APRON - VEHICLE ACCESS ONLY
  - WORK AREA 2 CANNOT BE CONCURRENT WITH WORK AREAS 1A & 4

- NOTES
  - CLEARING AND CONSTRUCTION SHALL COMMENCE AFTER SEPTEMBER 1, AND BEFORE MAY 1 AND CONTINUE THEREFROM DUE TO NESTING BIRDS. IF WORK STOPS AND THE SPECIES INITIATE NESTING DURING THAT PERIOD, CONSTRUCTION MAY NOT BE ABLE TO PROCEED UNTIL THE BREEDING SEASON IS OVER SEPTEMBER 1.
  - THE CONTRACTOR SHALL HAVE A WATER TRUCK OR OTHER APPROVED MEANS APPROVED BY THE ENGINEER FOR CONTROLLING DUST ON-SITE AT ALL TIMES.
  - ALL WORK MUST COMPLY WITH THE REQUIREMENTS OF FAA AC 150/5370-2F, OPERATIONAL SAFETY DURING CONSTRUCTION. SEE SHEET 1 FOR NOTES AND DETAILS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS REMOVAL OF FOREIGN OBJECT DEBRIS (FOD) FROM AIRFIELD PAVEMENTS. A VACUUM SWEEPER SHALL BE ON-SITE DURING ALL CONSTRUCTION WORK PERIODS. THE SWEEPER SHALL BE CONSIDERED INCIDENTAL TO ITEM M-120-1.
  - PRIOR TO OPENING THE APRON TO AIRCRAFT, THE APRON WILL BE INSPECTED BY THE CONTRACTOR, ENGINEER AND OWNER. ANY DEFICIENCIES NOTED SHALL BE CORRECTED BY THE CONTRACTOR.
  - PAYMENT FOR WORK ASSOCIATED WITH THE CSPP SHALL BE MADE UNDER ITEM M-120-1.
  - THE CONTRACT TIME OF THIS PROJECT SHALL CONSIST OF 60 CONTINUOUS CALENDAR DAYS CTAF/UNICOM: 123.0

WORK AREA 3 - STA. 606-79 TO STA. 613-96 AND STA. 205-20 TO STA. 212-84

- DESCRIPTION OF WORK - WORK AREA 3
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, RECLAIM EXISTING PAVEMENT INTO NEW GRAVEL BASE
  - ADD SUPPLEMENTAL STONE AND RECLAIM INTO NEW BASE MATERIAL
  - INSTALL UNDERDRAIN, CATCH BASINS, CULVERTS, AND ADJUST FRAMES AND GRATES
  - INSTALL NEW LIGHTING CONDUIT, DUCT BANKS, CABLING, FIXTURES AND SIGNS
  - COMPACT AND FINE GRADE NEW GRAVEL BASE
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

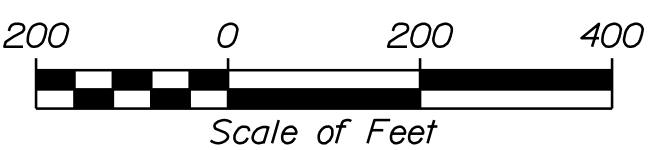
- OPERATIONAL IMPACTS - WORK AREA 3
  - RUNWAY 17-35 - OPEN
  - RUNWAY 8-26 - OPEN
  - RUNWAY 35 GPS - ACTIVE
  - RUNWAY 17-35 LOCALIZER - ACTIVE
  - RUNWAY 17-4-PAPI - ACTIVE
  - RUNWAY 35 4-PAPI - ACTIVE
  - RUNWAY 35 REIL - ACTIVE
  - RUNWAY 35 VOR - ACTIVE
  - RUNWAY 17 MALSR - ACTIVE
  - TAXIWAY C - PARTIALLY CLOSED
  - LOW PROFILE BARRICADES
  - COVER LIGHTS AND LIGHTED SIGNS
  - TAXIWAY B - OPEN
  - TAXIWAY E - PARTIALLY CLOSED
  - TAXIWAY F - OPEN
  - GATE 4 - GATE GUARD REQUIRED
  - CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
  - TERMINAL APRON - VEHICLE ACCESS ONLY
  - WORK AREA 3 SHALL BE COMPLETED CONCURRENTLY WITH OTHER PHASES
  - CONTRACTOR SHALL MAINTAIN VEHICLE ACCESS ACROSS TERMINAL APRON AT ALL TIMES THAT IS SUITABLE FOR EMERGENCY FIRE & RESCUE VEHICLES
  - WORK AREA 3 WILL RESTRICT CAPE AIR OPERATIONS TO TERMINAL APRON. COORDINATION WILL BE REQUIRED WITH AIRPORT AND CAPE AIR TO MINIMIZE IMPACTS



PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION

PLAN



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
FAA AIP: 3-23-0003-XXX-2021  
WIN 020655.03  
AVIATION PLANS



PROJ. MANAGER: M. O'BRIEN  
DATE: 04-12-2021  
SIGNATURE: M. O'BRIEN  
P.E. NUMBER: 12842

DESIGN DETAIL	DATE	BY	T. LESIGEE
CHECKED/REVIEWED	M. O'BRIEN		
DESIGN DETAIL	R. LUCHINI	12842	
DESIGN DETAIL	R. LUCHINI	04-23-21	
REVISIONS	APPENDIX 2	R. LUCHINI	04-12-2021
REVISIONS			
REVISIONS			
REVISIONS			
FIELD CHANGES			

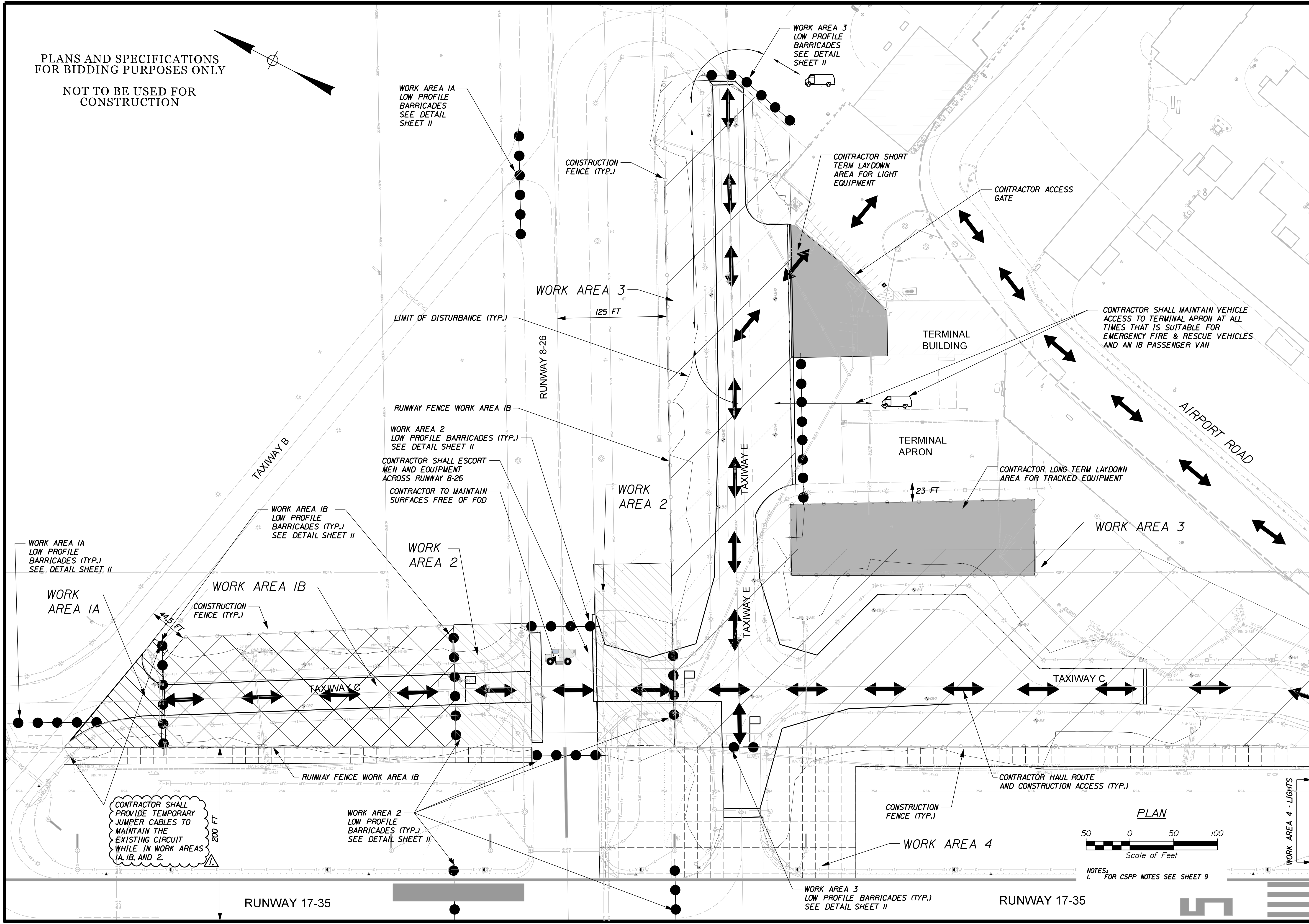
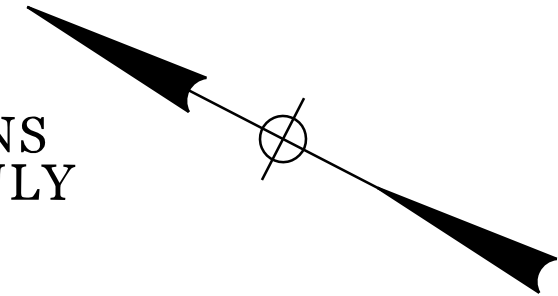
AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA  
CONSTRUCTION SAFETY AND PHASING PLAN OVERVIEW

SHEET NUMBER

9

OF 62

PLANS AND SPECIFICATIONS  
FOR BIDDING PURPOSES ONLY  
NOT TO BE USED FOR  
CONSTRUCTION



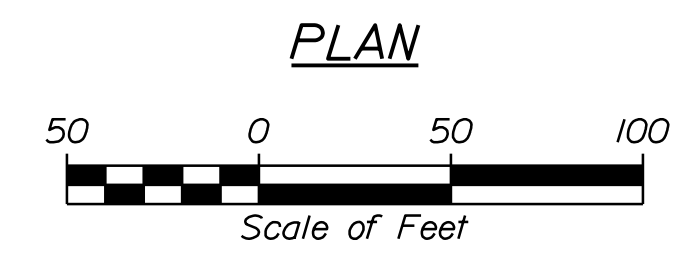
Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Plans\CSPSP 50 Overview.dgn

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		FAA AIP: 3-23-0003-XXX-2021	
AVIATION PLANS WIN 020655.03			
PROJ. MANAGER	DATE	BY	DATE
T. LESIGE		M. O'BRIEN	
DESIGN DETAILED		CHECKED/REVIEWED	
M. O'BRIEN		R. LUCHINI	
DESIGNS DETAILED		DESIGNS DETAILED	
R. LUCHINI		APPENDIX 2	
REVISIONS 1		P.E. NUMBER	
REVISIONS 2		04-23-21	
REVISIONS 3		DATE	
REVISIONS 4			
FIELD CHANGES			
<b>AUGUSTA STATE AIRPORT</b> <b>BID DOCUMENTS</b> <b>KENNEBEC COUNTY</b> <b>AUGUSTA</b> <b>CONSTRUCTION SAFETY AND</b> <b>PHASING PLAN</b>			
SHEET NUMBER		10	
		OF 62	



NOTES:  
1. FOR CSPP NOTES SEE SHEET 9

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Sheet Files\CSP-Details\_1.dgn

CONSTRUCTION SAFETY AND PHASING NOTES:

1. THE CONTRACTOR SHALL SUBMIT A WRITTEN SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) TO THE ENGINEER, MAINEDOT, AND FAA FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION AND BEFORE ANY CONSTRUCTION IS ALLOWED TO BE PERFORMED...

- IDENTIFICATION AND QUALIFICATIONS OF DEDICATED SAFETY & SECURITY POINT OF CONTACT
WORK SCHEDULING, COORDINATION, AND NOTIFICATION PROCEDURES OF CONSTRUCTION ACTIVITIES.
AIRFIELD COMMUNICATIONS AND 24-HOUR EMERGENCY NOTIFICATION PROCEDURES.

2. THESE SAFETY AND PHASING PLANS HAVE BEEN APPROVED BY AUG AIRPORT OPERATIONS, COMBINING, MODIFYING, OR ALTERNATING PHASES/SUBPHASES WITHOUT APPROVAL OF AUG AIRPORT OPERATIONS THROUGH THE ENGINEER WILL NOT BE ALLOWED...

3. ALL OF THE CONTRACTOR'S AND SUBCONTRACTOR'S EMPLOYEES SHALL HAVE A 'TAILGATE' SAFETY MEETING EVERY SHIFT CHANGE OR START OF EACH DAY PRIOR TO ANY WORK WITH THE ENGINEER AND AUG OPERATIONS TO REVIEW THE DAY'S WORK AND SAFETY PROCEDURES...

4. THE CONTRACTOR SHALL PROVIDE A COMPETENT SAFETY PERSON (WHO ALSO COULD BE THE SUPERINTENDENT OR OTHER SUPERVISORY PERSON) FAMILIAR WITH AIRPORT SAFETY TO MONITOR CONSTRUCTION ACTIVITIES...

5. THE CONTRACTOR SHALL PROVIDE A POINT OF CONTACT TO THE OWNER AND ENGINEER WHO CAN BE CONTACTED AT ANY TIME THROUGHOUT THE COURSE OF THE CONTRACT...

6. UPON RECEIPT OF APPROVAL FOR A CLOSURE AND BEFORE EQUIPMENT ENTERS THE AIRFIELD AND CONSTRUCTION COMMENCES, THE WORK AREA SHALL BE SECURED...

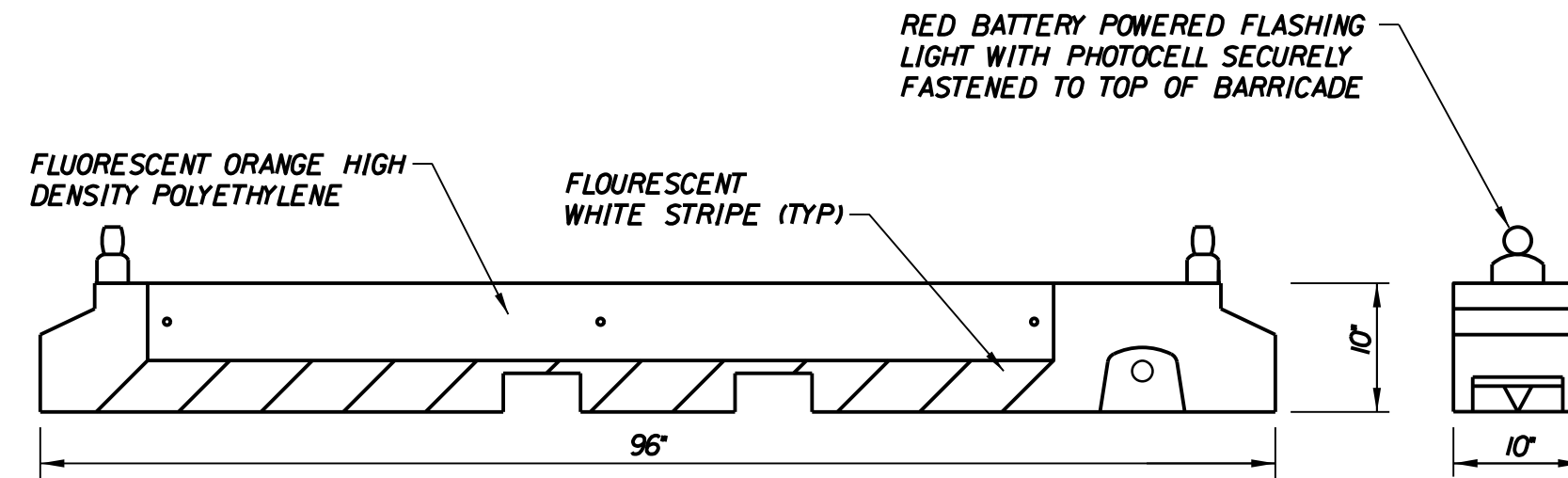
7. CONSTRUCTION SIGNS (I.E. "CONSTRUCTION TRAFFIC" WITH ARROWS, "NO UNAUTHORIZED VEHICLES BEYOND THIS POINT" OR OTHER STANDARD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICE (MUTCD) SIGNS) SHALL BE LOCATED AT THE WORK AREA EGRESS/INGRESS POINTS...

8. THE CONTRACTOR SHALL ENSURE THAT NO PAVEMENT LIPS, PAVEMENT EDGES, SIGN FOUNDATIONS, STRUCTURES OR OTHER APPURTENANCES EXCEED 3 INCHES WITHIN ACTIVE AIRCRAFT OPERATIONAL AREAS.

9. TEMPORARY TAXIWAY CLOSURES AND/OR RUNWAY CLOSURES IN ACCORDANCE WITH THE CSPP ARE SUBJECT TO WIND/WEATHER AVAILABILITY AND ARE SUBJECT TO A RECALL TIME TO BE DETERMINED BY AUG OPERATIONS.

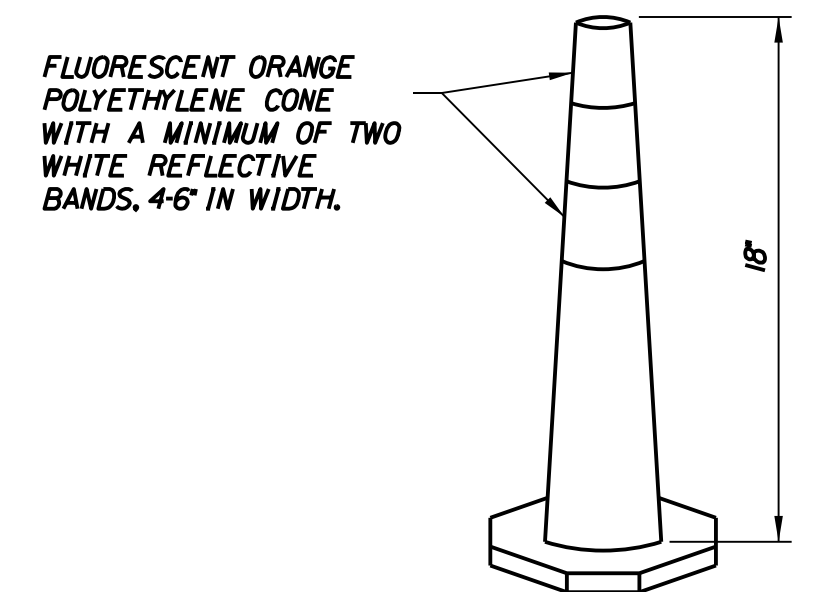
10. NO TAXIWAY CAUTIONS WILL BE ALLOWED FOR THIS PROJECT, HOWEVER IF WORKING UNDER A TAXIWAY CAUTION ALLOWED BY AN APPROVED CSPP, ALL ADJACENT PAVEMENTS WILL BE AVAILABLE FOR AN UNLIMITED NUMBER OF AIRCRAFT OPERATIONS...

11. AS NOTED PREVIOUSLY WITHIN THESE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROVIDE AT LEAST THREE (3) RADIO ESCORT VEHICLES WITH A AUG APPROVED LICENSED DRIVER TO AND FROM THE WORK AREAS WHEN INSIDE THE AIRPORT OPERATIONS AREA (AOA) AT ALL TIMES...



- BARRICADE NOTES:
1. BARRICADES SHALL BE MULTI-BARRIER SAFETY BARRICADES WITH REFLECTIVE STRIPING.
2. BARRIERS SHALL BE PLACED END TO END TO CREATE A CONTINUOUS BARRICADE.
3. CONTRACTOR SHALL ENSURE THAT BARRICADES USED ON THE PROJECT ARE ADEQUATELY WEIGHTED WITH WATER BALLAST TO WITHSTAND HIGH WINDS AND/OR JET BLAST...

WATER BALLASTED LIGHTED SAFETY BARRICADE (INCIDENTAL TO ITEM M-120-1) NOT TO SCALE



- TRAFFIC CONE NOTES:
1. TRAFFIC CONES SHALL BE SPACED AT 25' ON CENTER ON EITHER SIDE OF HAUL ROAD.
2. CONTRACTOR SHALL MAKE FREQUENT INSPECTION OF THE TRAFFIC CONES AND SHALL RELOCATE ANY CONES THAT ARE MISALIGNED.
3. TRAFFIC CONES SHALL BE ADEQUATELY SECURED TO WITHSTAND HIGH WINDS AND/OR JET BLAST.

HAUL ROAD TRAFFIC CONE (INCIDENTAL TO ITEM M-120-1) NOT TO SCALE

AVIATION BARRICADE NOTES:

- ENGINEER AND AUG OPERATIONS WILL HAVE FINAL DETERMINATION WHERE EACH TYPE OF BARRICADE (LOW PROFILE, CHANNELIZER CONES, TRAFFIC CONES, ETC.) SHALL BE PLACED.
BARRICADES SHALL BE ONE OF THE BARRICADES SHOWN ON THIS SHEET OR APPROVED EQUAL.
ALL BARRICADES SHALL MEET REQUIREMENTS OF FAA ADVISORY CIRCULAR 150/5370-2F OR (CURRENT EDITION), "OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION".

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
FAA AIP: 3-23-0003-XXX-2021
WIN 020655.03
AVIATION PLANS



MATTHEW T. OBRIEN
SIGNATURE
12842
P.E. NUMBER
04-12-2021
DATE

Table with columns: PROJ. MANAGER, DESIGN-DETAILED, CHECKED-REVIEWED, DESIGN-DETAILED, DESIGN-DETAILED, REVISIONS 1, REVISIONS 2, REVISIONS 3, REVISIONS 4, FIELD CHANGES. Includes names like T. LESIEGE, M. OBRIEN, R. LUCHINI and dates like 04-23-21.

AUGUSTA STATE AIRPORT BID DOCUMENTS
AUGUSTA KENNEBEC COUNTY
CONSTRUCTION SAFETY AND PHASING PLAN DETAILS (1 OF 2)

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION

SHEET NUMBER

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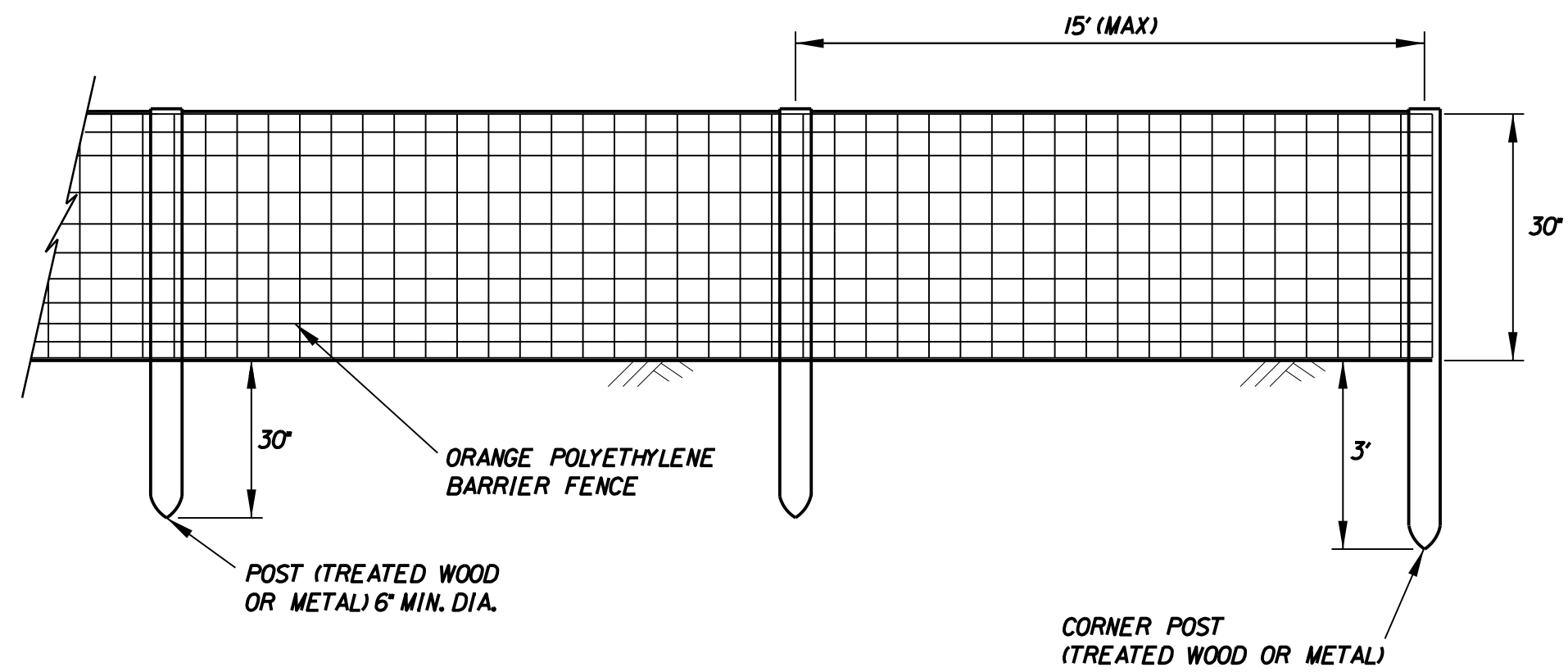
OF 62

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Sheet Files\CSPP\_Details\_2.dgn



**NOTES:**

1. CONTRACTOR SHALL PLACE FENCE IN THE LOCATIONS SHOWN ON THE PLANS.
2. CONTRACTOR SHALL INSPECT FENCE ON A DAILY BASIS AND SHALL REPAIR/REPLACE ANY DAMAGED SECTIONS AS REQUIRED OR ADBE.

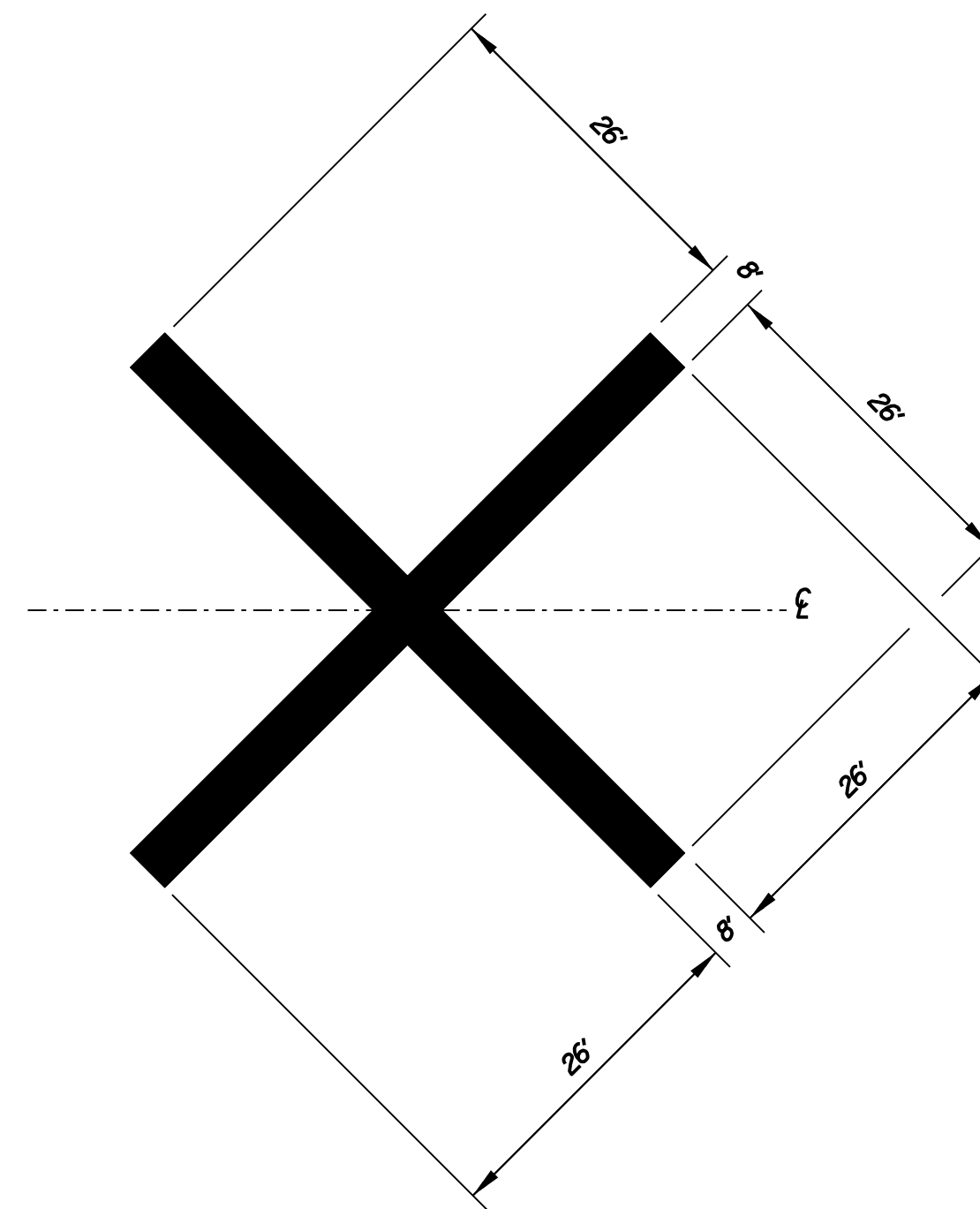
**CONSTRUCTION BARRIER FENCE DETAIL**

NOT TO SCALE  
(INCIDENTAL TO ITEM M-120-1)

**RUNWAY CLOSURE MARKER NOTES:**

1. RUNWAY CLOSURE MARKER IS TO BE A TOWABLE UNIT WHICH CAN BE QUICKLY AND EFFICIENTLY SET UP AND REMOVED FROM THE RUNWAY. THE RUNWAY CLOSURE MARKER SHALL MEET THE REQUIREMENTS OF FAA AC 150/5345-55A (LATEST REVISION).
2. RUNWAY CLOSURE MARKER MUST BE ABLE TO WITHSTAND A MINIMUM WIND SPEED OF 40 M.P.H. WITHOUT ADVERSELY AFFECTING AIMING OR OPERATION.
3. RUNWAY CLOSURE MARKER WILL CONSIST OF 21 90-WATT PAR 38 CLEAR INCANDESCENT LAMPS OR LAMPS WHICH ARE CAPABLE OF TRANSMITTING AVIATION WHITE LIGHT PER SAE-AS25050, ARRANGED IN THE SHAPE OF THE LETTER "X" WITH ARMS CROSSED AT AN ANGLE APPROPRIATE TO MAKE THE "X" DISCERNIBLE TO APPROACHING AIRCRAFT. THE "X" FRAME CONTAINING THE LIGHTS IS TO BE PAINTED NO. 13538 AVIATION YELLOW, PER FED-STD-595, ON ALL SIDES TO ENSURE VISIBILITY.
4. LIGHT FIXTURES MOUNTED IN "X" FRAME MUST INDIVIDUALLY BE CAPABLE OF PROVIDING THE FOLLOWING MINIMUM INTENSITIES:  
  
DAYTIME EFFECTIVE INTENSITY OF 70,000 CANDELA (cd) AT THE BEAM CENTER, 34,000 cd AT 10 DEGREES RADIUS, AND 13,000 cd AT 15 DEGREES RADIUS.  
NIGHTTIME EFFECTIVE INTENSITY OF 2,000 (cd) AT THE BEAM CENTER, 970 cd AT 10 DEGREES RADIUS, AND 370 cd AT 15 DEGREES RADIUS.
5. LIGHT FIXTURES MOUNTED IN "X" FRAME MUST HAVE ALL LIGHT BULBS, SOCKETS, WIRING AND CONNECTIONS ENCLOSED IN WEATHER RESISTANT HOUSINGS.
6. LIGHT FIXTURES MOUNTED IN "X" FRAME ARE TO BE IN A FLASHING MODE CONTROLLED BY A SOLID STATE FLASHER. FLASHER IS TO BE EQUIPPED WITH A FAIL SAFE ALLOWING LIGHTS TO REMAIN ON CONTINUOUS SHOULD FLASHER UNIT FAIL. FLASH INTERVAL TIME WILL BE: DAYTIME OPERATION - 2.5 SECONDS ON, 2.5 SECONDS OFF  
NIGHTTIME OPERATION - 2.5 SECONDS ON, 2.5 SECONDS OFF
7. UNIT MUST BE EQUIPPED WITH A PHOTO CELL WHICH WILL REDUCE THE OUTPUT VOLTAGE TO 65 VOLTS DURING NIGHTTIME OPERATION.
8. THE RUNWAY CLOSURE MARKER MUST BE EQUIPPED FOR A CONNECTION TO 120V AC POWER SOURCE TO ALLOW FOR BACK-UP POWER SOURCE CAPABILITY OR ON-SITE POWER SUPPLY IF AVAILABLE. RUNWAY CLOSURE MARKER IS TO BE ENERGIZED BY A PORTABLE DIESEL ENGINE POWER SUPPLY WITH AN ADEQUATE FUEL CAPACITY TO SUPPLY POWER TO THE UNIT AT FULL LOAD FOR A MINIMUM OF 120 HOURS OF CONTINUOUS OPERATION.
9. RUNWAY CLOSURE MARKER IS TO BE EQUIPPED WITH 2 LIGHTS MOUNTED ON THE BACK SIDE OF THE TOP LEGS OF THE "X" FRAME. LIGHTS ARE TO BE WIRED SUCH THAT THEY REMAIN CONTINUOUSLY ON DURING CLOSURE MARKER OPERATION AS AN INDICATION OF POWER BEING SUPPLIED TO THE UNIT.
10. UNIT IS TO BE EQUIPPED WITH SOLAR POWERED SAFETY BEACON MOUNTED IN A LOCATION VISIBLE TO ATCT OR AIRPORT PERSONNEL. BEACON IS TO BE WIRED SUCH THAT IT WILL BE ACTIVATED IN THE EVENT OF TOTAL POWER LOSS AND HAVE SUFFICIENT POWER TO OPERATE FOR A MINIMUM OF 140 HOURS DAY OR NIGHT.
11. RUNWAY CLOSURE MARKER AS MANUFACTURED BY SHERWIN INDUSTRIES, INC. OR APPROVED EQUAL.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE, MOVING AND FUELING.

13. ALL RUNWAY CLOSURES REQUIRE RUNWAY CLOSURE MARKER X'S DAYTIME CLOSURES CAN UTILIZE LIGHTED AND FABRIC RUNWAY CLOSURE MARKERS AND NIGHTTIME CLOSURES CAN ONLY UTILIZE LIGHTED RUNWAY CLOSURE MARKERS.



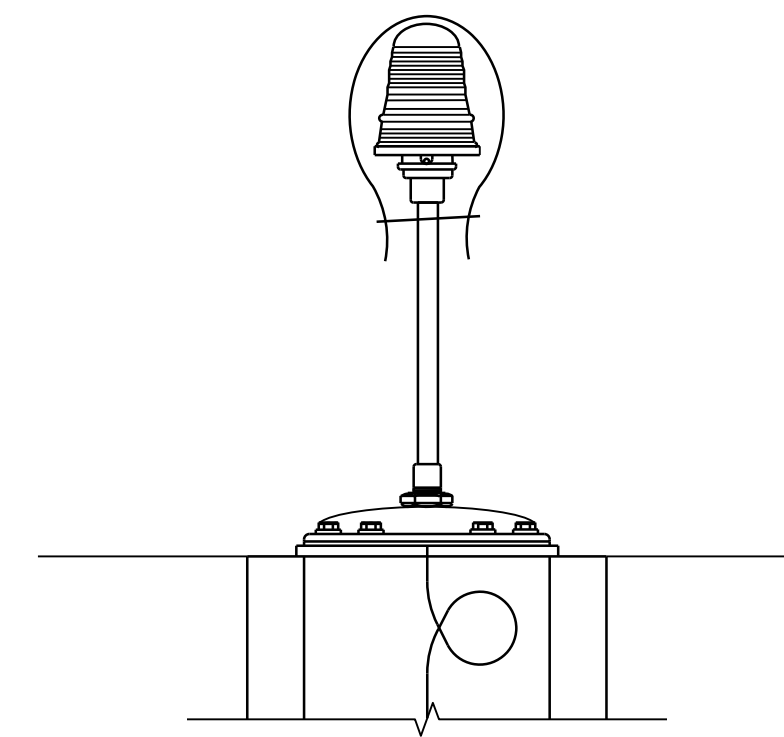
**FABRIC RUNWAY CLOSED MARKER DETAIL**

NOT TO SCALE  
(INCIDENTAL TO ITEM M-120-1)

**NOTES:**

1. THE CONTRACTOR SHALL PROVIDE TWO (2) FABRIC RUNWAY CLOSURE MARKERS PER THE CONTRACT SPECIFICATIONS. MARKERS SHALL BE BY:  
  
NEUBERT AERO CORP., 14141  
46TH STREET N, SUITE 1206  
CLEARWATER, FL  
(WWW.AIRPORTNAC.COM) OR  
APPROVED EQUAL.
2. CLOSURE MARKER SHALL BE AVIATION YELLOW WITH A BLACK 6" BORDER.
3. CLOSURE MARKER SHALL BE PLACED OVER THE RUNWAY DESIGNATION NUMERALS UNLESS OTHERWISE DIRECTED BY THE ENGINEER/OWNER.

4. THE AIRPORT HAS 2 FABRIC RUNWAY CLOSED MARKERS AVAILABLE TO THE CONTRACTOR FOR USE DURING THIS PROJECT. ANY AIRPORT OWNED FABRIC RUNWAY CLOSED MARKERS USED BY THE CONTRACTOR SHALL BE MAINTAINED AND RETURNED TO THE AIRPORT IN WORKING ORDER, AT THE SAME CONDITION OR BETTER PRIOR TO USE. THE AIRPORT DOES NOT GUARANTEE THE CONDITION OF THE FABRIC RUNWAY CLOSED MARKERS AVAILABLE FOR USE ON THE PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE FABRIC RUNWAY CLOSED MARKERS USED ON THE PROJECT MEET THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

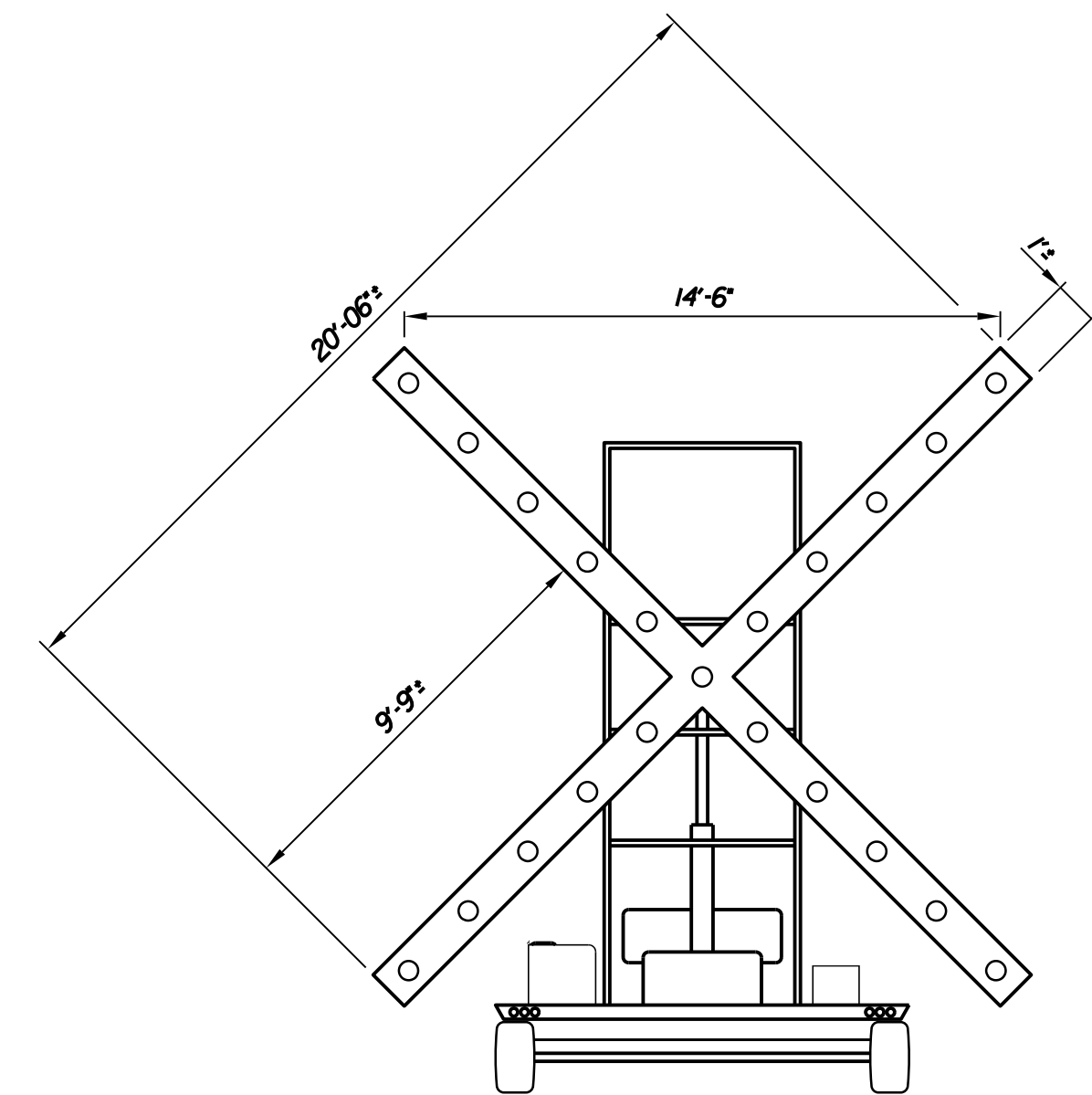


**NOTE:**

1. TAXIWAY LIGHTING CIRCUIT SHALL BE DISABLED IN ADDITION TO COVERING BLUE GLOBES.
2. ALTERNATE MEANS MAY BE APPROVED BY THE ENGINEER.

**EDGE LIGHT COVER DETAIL**

NOT TO SCALE  
(INCIDENTAL TO ITEM M-120-1)



**LIGHTED RUNWAY CLOSURE MARKER**

NOT TO SCALE  
(INCIDENTAL TO ITEM M-120-1)

**NOTES:**

1. THE CONTRACTOR SHALL PROVIDE TWO (2) LIGHTED RUNWAY CLOSURE MARKERS PER THE CONTRACT SPECIFICATIONS. MARKERS SHALL BE BY:

SHERWIN INDUSTRIAL INC.  
(WWW.SHERWININDUSTRIES.COM) OR  
APPROVED EQUAL

2. THE AIRPORT HAS 2 LIGHTED RUNWAY CLOSURE MARKERS AVAILABLE TO THE CONTRACTOR FOR USE IN DURING THIS PROJECT. ANY AIRPORT OWNED LIGHTED RUNWAY CLOSURE MARKERS USED BY THE CONTRACTOR SHALL BE MAINTAINED AND RETURNED TO THE AIRPORT IN WORKING ORDER, AT THE SAME CONDITION OR BETTER PRIOR TO USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER MAINTENANCE OF THE LIGHTED RUNWAY CLOSURE MARKERS INCLUDING ANY OIL CHANGES AND REPLACED BULBS AS NEEDED.

PLANS AND SPECIFICATIONS FOR  
BIDDING PURPOSES ONLY

NOT TO BE USED FOR  
CONSTRUCTION

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

FAA AIP: 3-23-0003-XXX-2021

AVIATION PLANS  
WIN 020655.03



DATE: 04-12-2021  
 P.E. NUMBER: 12842  
 SIGNATURE: MATTHEW T. O'BRIEN

PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
T. LESBIE	M. O'BRIEN	R. LUCHINI	R. LUCHINI	APPENDIX 2					
BY	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE

AUGUSTA STATE AIRPORT  
 BID DOCUMENTS  
 KENNEBEC COUNTY  
 AUGUSTA  
 CONSTRUCTION SAFETY AND  
 PHASING PLAN DETAILS (2 OF 2)

SHEET NUMBER

12

OF 62

**APPENDIX B – CONTACT LIST**

## Project Contact List (Emergency and Standard)

PROJECT NAME: *Augusta State Airport - Taxiway C and Taxiway E Reconstruction*  
 BID *TBD*

**FIRST RESPONDERS:**  
**MEDICAL** **911**  
**FIRE** **911** **OPERATIONS** **xxx-xxx-xxxx**

**STANDARD CONTACTS:** **RADIO CONTACTS**  
**Augusta State Airport** **UNICOM 123.00**

NAME	DEPT.	FUNCTION	MOBILE	OFFICE	HOME	EMAIL
<b>John Guimond</b>		Airport Manager		207-626-2306		<a href="mailto:john.guimond@augustamaine.gov">john.guimond@augustamaine.gov</a>
<b>Peter R. Couillard</b>		Maint. Supervisor	207-242-1240	207-626-2308		<a href="mailto:peter.couillard@augustamaine.gov">peter.couillard@augustamaine.gov</a>
<b>Timothy E. LeSiege</b>		MaineDOT	207-215-7459	207-624-3249		<a href="mailto:tim.lesiege@maine.gov">tim.lesiege@maine.gov</a>

**CONTRACTORS/SUBCONTRACTORS**

NAME	COMPANY	MOBILE	OFFICE	HOME	EMAIL
TBD	TBD	TBD	TBD	TBD	TBD

**DESIGNER - RESIDENT ENGINEER - OWNER REPRESENTATIVE**

NAME	COMPANY	MOBILE	OFFICE	HOME	EMAIL
Robert Luchini	McFarland Johnson	603-545-8976	978-692-0522		<a href="mailto:rluchini@mjinc.com">rluchini@mjinc.com</a>
Matthew T. O'Brien	McFarland Johnson	207-233-9125	603-225-2978		<a href="mailto:mobrien@mjinc.com">mobrien@mjinc.com</a>

**APPENDIX C - SAFETY AND PHASING PLAN CHECKLIST**

**APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST**

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

**Table C-1. CSPP Checklist**

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>General Considerations</b>					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>	X			
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>	X			
Scheduling of the construction phases is properly addressed.	<u>2.6</u>	X			
Any formal agreements are established.	<u>2.5.3</u>			X	
<b>Areas and Operations Affected by Construction Activity</b>					
Drawings showing affected areas are included.	<u>2.7.1</u>	X			
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>	X			
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>			X	
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>		X		
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>			X	
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>	X			
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>	X			
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>			X	
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>	X			
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>			X	
<b>NAVAIDs</b>					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>			X	
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	<u>2.8</u>	X			
Protection of NAVAID facilities is addressed.	<u>2.8</u>	X			
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>			X	
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>	X			
<b>Contractor Access</b>					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>	X			
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>	X			
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>			X	
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>	X			
Construction site parking is addressed.	<u>2.9.2.1</u>	X			
Construction equipment parking is addressed.	<u>2.9.2.2</u>	X			
Access and haul roads are addressed.	<u>2.9.2.3</u>	X			
A requirement for marking and lighting of vehicles to comply with <i>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</i> , is included.	<u>2.9.2.4</u>	X			
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>	X			
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>	X			
Two-way radio communications procedures are described.	<u>2.9.2.9</u>	X			
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>	X			
<b>Wildlife Management</b>					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>Foreign Object Debris Management</b>					
The airport operator's FOD management procedures are addressed.	<u>2.11</u>	X			
<b>Hazardous Materials Management</b>					
The airport operator's hazardous materials management procedures are addressed.	<u>2.12</u>	X			
<b>Notification of Construction Activities</b>					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>	X			
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>	X			
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>	X			
A list of ATCT managers on duty is included.	<u>2.13.1</u>			X	
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>	X			
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>	X			
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>	X			
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>			X	
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>	X			
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>			X	
<b>Inspection Requirements</b>					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1, 2.14.2</u>	X			
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>	X			
<b>Underground Utilities</b>					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>	X			
<b>Penalties</b>					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>	X			
<b>Special Conditions</b>					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>	X			
<b>Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs</b>					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>	X			
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>	X			
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>			X	
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>	X			
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>	X			
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>	X			
<b>Marking and Signs For Access Routes</b>					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>	X			
<b>Hazard Marking and Lighting</b>					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>	X			
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>	X			
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>	X			
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>	X			
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>	X			
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>	X			
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>	X			
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>	X			
Markings for temporary closures are specified.	<u>2.20.2.5</u>	X			
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>Work Zone Lighting for Nighttime Construction</b>					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>	X			
<b>Protection of Runway and Taxiway Safety Areas</b>					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1,</u> <u>2.22.3.1</u>	X			
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2,</u> <u>2.22.3.2</u>			X	
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>	X			
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>	X			
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>	X			
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>	X			
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>	X			
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>	X			
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>	X			
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>	X			
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>	X			
<b>Other Limitations on Construction</b>					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>	X			
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>	X			

**APPENDIX D - DAILY SAFETY INSPECTION CHECKLIST**

**APPENDIX C. SAFETY AND PHASING PLAN CHECKLIST**

This appendix is keyed to Chapter 2. In the electronic version of this AC, clicking on the paragraph designation in the Reference column will access the applicable paragraph. There may be instances where the CSPP requires provisions that are not covered by the list in this appendix.

This checklist is intended as an aid, not a required submittal.

**Table C-1. CSPP Checklist**

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>General Considerations</b>					
Requirements for predesign, prebid, and preconstruction conferences to introduce the subject of airport operational safety during construction are specified.	<u>2.5</u>	X			
Operational safety is a standing agenda item for construction progress meetings.	<u>2.5</u>	X			
Scheduling of the construction phases is properly addressed.	<u>2.6</u>	X			
Any formal agreements are established.	<u>2.5.3</u>			X	
<b>Areas and Operations Affected by Construction Activity</b>					
Drawings showing affected areas are included.	<u>2.7.1</u>	X			
Closed or partially closed runways, taxiways, and aprons are depicted on drawings.	<u>2.7.1.1</u>	X			
Access routes used by ARFF vehicles affected by the project are addressed.	<u>2.7.1.2</u>			X	
Access routes used by airport and airline support vehicles affected by the project are addressed.	<u>2.7.1.3</u>		X		
Underground utilities, including water supplies for firefighting and drainage.	<u>2.7.1.4</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Approach/departure surfaces affected by heights of temporary objects are addressed.	<u>2.7.1.5</u>			X	
Construction areas, storage areas, and access routes near runways, taxiways, aprons, or helipads are properly depicted on drawings.	<u>2.7.1</u>	X			
Temporary changes to taxi operations are addressed.	<u>2.7.2.1</u>	X			
Detours for ARFF and other airport vehicles are identified.	<u>2.7.2.2</u>			X	
Maintenance of essential utilities and underground infrastructure is addressed.	<u>2.7.2.3</u>	X			
Temporary changes to air traffic control procedures are addressed.	<u>2.7.2.4</u>			X	
<b>NAVAIDs</b>					
Critical areas for NAVAIDs are depicted on drawings.	<u>2.8</u>			X	
Effects of construction activity on the performance of NAVAIDS, including unanticipated power outages, are addressed.	<u>2.8</u>	X			
Protection of NAVAID facilities is addressed.	<u>2.8</u>	X			
The required distance and direction from each NAVAID to any construction activity is depicted on drawings.	<u>2.8</u>			X	
Procedures for coordination with FAA ATO/Technical Operations, including identification of points of contact, are included.	<u>2.8, 2.13.1, 2.13.5.3.1, 2.18.1</u>	X			
<b>Contractor Access</b>					
The CSPP addresses areas to which contractor will have access and how	<u>2.9</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
the areas will be accessed.					
The application of 49 CFR Part 1542 Airport Security, where appropriate, is addressed.	<u>2.9</u>	X			
The location of stockpiled construction materials is depicted on drawings.	<u>2.9.1</u>	X			
The requirement for stockpiles in the ROFA to be approved by FAA is included.	<u>2.9.1</u>			X	
Requirements for proper stockpiling of materials are included.	<u>2.9.1</u>	X			
Construction site parking is addressed.	<u>2.9.2.1</u>	X			
Construction equipment parking is addressed.	<u>2.9.2.2</u>	X			
Access and haul roads are addressed.	<u>2.9.2.3</u>	X			
A requirement for marking and lighting of vehicles to comply with <i>AC 150/5210-5, Painting, Marking and Lighting of Vehicles Used on an Airport</i> , is included.	<u>2.9.2.4</u>	X			
Proper vehicle operations, including requirements for escorts, are described.	<u>2.9.2.5, 2.9.2.6</u>	X			
Training requirements for vehicle drivers are addressed.	<u>2.9.2.7</u>	X			
Two-way radio communications procedures are described.	<u>2.9.2.9</u>	X			
Maintenance of the secured area of the airport is addressed.	<u>2.9.2.10</u>	X			
<b>Wildlife Management</b>					
The airport operator's wildlife management procedures are addressed.	<u>2.10</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>Foreign Object Debris Management</b>					
The airport operator's FOD management procedures are addressed.	<u>2.11</u>	X			
<b>Hazardous Materials Management</b>					
The airport operator's hazardous materials management procedures are addressed.	<u>2.12</u>	X			
<b>Notification of Construction Activities</b>					
Procedures for the immediate notification of airport user and local FAA of any conditions adversely affecting the operational safety of the airport are detailed.	<u>2.13</u>	X			
Maintenance of a list by the airport operator of the responsible representatives/points of contact for all involved parties and procedures for contacting them 24 hours a day, seven days a week is specified.	<u>2.13.1</u>	X			
A list of local ATO/Technical Operations personnel is included.	<u>2.13.1</u>	X			
A list of ATCT managers on duty is included.	<u>2.13.1</u>			X	
A list of authorized representatives to the OCC is included.	<u>2.13.2</u>	X			
Procedures for coordinating, issuing, maintaining and cancelling by the airport operator of NOTAMS about airport conditions resulting from construction are included.	<u>2.8, 2.13.2, 2.18.3.3.9</u>	X			
Provision of information on closed or hazardous conditions on airport movement areas by the airport operator to the OCC is specified.	<u>2.13.2</u>	X			
Emergency notification procedures for medical, fire fighting, and police	<u>2.13.3</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
response are addressed.					
Coordination with ARFF personnel for non-emergency issues is addressed.	<u>2.13.4</u>			X	
Notification to the FAA under 14 CFR parts 77 and 157 is addressed.	<u>2.13.5</u>	X			
Reimbursable agreements for flight checks and/or design and construction for FAA owned NAVAIDs are addressed.	<u>2.13.5.3.2</u>			X	
<b>Inspection Requirements</b>					
Daily and interim inspections by both the airport operator and contractor are specified.	<u>2.14.1, 2.14.2</u>	X			
Final inspections at certificated airports are specified when required.	<u>2.14.3</u>	X			
<b>Underground Utilities</b>					
Procedures for protecting existing underground facilities in excavation areas are described.	<u>2.15</u>	X			
<b>Penalties</b>					
Penalty provisions for noncompliance with airport rules and regulations and the safety plans are detailed.	<u>2.16</u>	X			
<b>Special Conditions</b>					
Any special conditions that affect the operation of the airport or require the activation of any special procedures are addressed.	<u>2.17</u>	X			
<b>Runway and Taxiway Visual Aids - Marking, Lighting, Signs, and Visual NAVAIDs</b>					
The proper securing of temporary airport markings, lighting, signs, and visual NAVAIDs is addressed.	<u>2.18.1</u>	X			
Frangibility of airport markings, lighting, signs, and visual NAVAIDs is specified.	<u>2.18.1, 2.18.3, 2.18.4.2, 2.20.2.4</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
The requirement for markings to be in compliance with <u>AC 150/5340-1</u> , <i>Standards for Airport Markings</i> , is specified.	<u>2.18.2</u>	X			
Detailed specifications for materials and methods for temporary markings are provided.	<u>2.18.2</u>			X	
The requirement for lighting to conform to <u>AC 150/5340-30</u> , <i>Design and Installation Details for Airport Visual Aids</i> ; <u>AC 150/5345-50</u> , <i>Specification for Portable Runway and Taxiway Lights</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.3</u>	X			
The use of a lighted X is specified where appropriate.	<u>2.18.2.1.2</u> , <u>2.18.3.2</u>	X			
The requirement for signs to conform to <u>AC 150/5345-44</u> , <i>Specification for Runway and Taxiway Signs</i> ; <u>AC 150/5340-18</u> , <i>Standards for Airport Sign Systems</i> ; and <u>AC 150/5345-53</u> , <i>Airport Lighting Certification Program</i> , is specified.	<u>2.18.4</u>	X			
<b>Marking and Signs For Access Routes</b>					
The CSPP specifies that pavement markings and signs intended for construction personnel should conform to <u>AC 150/5340-18</u> and, to the extent practicable, with the MUTCD and/or State highway specifications.	<u>2.18.4.2</u>	X			
<b>Hazard Marking and Lighting</b>					
Prominent, comprehensible warning indicators for any area affected by construction that is normally accessible to aircraft, personnel, or vehicles are specified.	<u>2.20.1</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
Hazard marking and lighting are specified to identify open manholes, small areas under repair, stockpiled material, and waste areas.	<u>2.20.1</u>	X			
The CSPP considers less obvious construction-related hazards.	<u>2.20.1</u>	X			
Equipment that poses the least danger to aircraft but is sturdy enough to remain in place when subjected to typical winds, prop wash and jet blast is specified.	<u>2.20.2.1</u>	X			
The spacing of barricades is specified such that a breach is physically prevented barring a deliberate act.	<u>2.20.2.1</u>	X			
Red lights meeting the luminance requirements of the State Highway Department are specified.	<u>2.20.2.2</u>	X			
Barricades, temporary markers, and other objects placed and left in areas adjacent to any open runway, taxiway, taxi lane, or apron are specified to be as low as possible to the ground, and no more than 18 inch high.	<u>2.20.2.3</u>	X			
Barricades are specified to indicate construction locations in which no part of an aircraft may enter.	<u>2.20.2.3</u>	X			
Highly reflective barriers with lights are specified to barricade taxiways leading to closed runways.	<u>2.20.2.5</u>	X			
Markings for temporary closures are specified.	<u>2.20.2.5</u>	X			
The provision of a contractor's representative on call 24 hours a day for emergency maintenance of airport hazard lighting and barricades is specified.	<u>2.20.2.7</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
<b>Work Zone Lighting for Nighttime Construction</b>					
If work is to be conducted at night, the CSPP identifies construction lighting units and their general locations and aiming in relationship to the ATCT and active runways and taxiways.	<u>2.21</u>	X			
<b>Protection of Runway and Taxiway Safety Areas</b>					
The CSPP clearly states that no construction may occur within a safety area while the associated runway or taxiway is open for aircraft operations.	<u>2.22.1.1,</u> <u>2.22.3.1</u>	X			
The CSPP specifies that the airport operator coordinates the adjustment of RSA or TSA dimensions with the ATCT and the appropriate FAA Airports Regional or District Office and issues a local NOTAM.	<u>2.22.1.2,</u> <u>2.22.3.2</u>			X	
Procedures for ensuring adequate distance for protection from blasting operations, if required by operational considerations, are detailed.	<u>2.22.3.3</u>	X			
The CSPP specifies that open trenches or excavations are not permitted within a safety area while the associated runway or taxiway is open, subject to approved exceptions.	<u>2.22.1.4</u>	X			
Appropriate covering of excavations in the RSA or TSA that cannot be backfilled before the associated runway or taxiway is open is detailed.	<u>2.22.1.4</u>	X			
The CSPP includes provisions for prominent marking of open trenches and excavations at the construction site.	<u>2.22.1.4</u>	X			
Grading and soil erosion control to maintain RSA/TSA standards are	<u>2.22.3.5</u>	X			

Coordination	Reference	Addressed?			Remarks
		Yes	No	NA	
addressed.					
The CSPP specifies that equipment is to be removed from the ROFA when not in use.	<u>2.22.2</u>	X			
The CSPP clearly states that no construction may occur within a taxiway safety area while the taxiway is open for aircraft operations.	<u>2.22.3</u>	X			
Appropriate details are specified for any construction work to be accomplished in a taxiway object free area.	<u>2.22.4</u>	X			
Measures to ensure that personnel, material, and/or equipment do not penetrate the OFZ or threshold siting surfaces while the runway is open for aircraft operations are included.	<u>2.22.4.3.6</u>	X			
Provisions for protection of runway approach/departure areas and clearways are included.	<u>2.22.6</u>	X			
<b>Other Limitations on Construction</b>					
The CSPP prohibits the use of open flame welding or torches unless adequate fire safety precautions are provided and the airport operator has approved their use.	<u>2.23.1.2</u>	X			
The CSPP prohibits the use of electrical blasting caps on or within 1,000 ft (300 m) of the airport property.	<u>2.23.1.3</u>	X			

**APPENDIX E – SAFETY PLAN COMPLIANCE DOCUMENT**

APPENDIX E

SAFETY PLAN COMPLIANCE DOCUMENT (SPCD)

This document **MUST** be submitted and approved prior to the Notice to Proceed being issued.

Name of Contractor: \_\_\_\_\_

Project Name: **Reconstruct, Mark, Light, and Sign Parallel Taxiway 'A' (Approx. 5,600 x 35 SF) (Base Bid); Construct Airport Electrical Vault (Alt. #1) Waterville-Robert LaFleur Airport, Waterville, ME**

Please check appropriate box for each of sections. If the Construction Phasing and Safety Plan will be followed without exception for any given topic, the "No Supplemental Information" box may be checked. If not, provide supplemental information components and comment as applicable (add attachments as needed). Any comments below will be discussed and require approval of the Airport prior to issuance of a Notice to Proceed.

(1) **Coordination.** Discuss details of proposed safety meetings with the airport operator and with contractor and subcontractor employees.

No Supplemental Information                       Supplemental Information as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(2) **Phasing.** Discuss proposed construction schedule elements:

No Supplemental Information                       Supplemental Information as follows:

(a) Planned duration of each phase:

*Provide anticipated duration for each work phase via attachment.* \_\_\_\_\_

(b) Daily start and finish of construction, including "night only" construction:

*Provide anticipated daily start/finish for each phase via attachment.* \_\_\_\_\_

(c) Duration of construction activities during:

(i) Normal runway operations \_\_\_\_\_

(ii) Closed runway operations \_\_\_\_\_

(iii) Modified runway "Aircraft Reference Code" usage \_\_\_\_\_

(3) **Areas and operations affected by the construction activity.** Areas and operations are identified in the CSPP.

No Supplemental Information                       Supplemental Information as follows:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(4) Protection of NAVAIDs.** Discuss specific methods proposed to protect operating NAVAIDs.

**No Supplemental Information**                       **Supplemental Information as follows:**

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**(5) Contractor access.** Provide the following:

**No Supplemental Information**                       **Supplemental Information as follows:**

(a) Details on how the contractor will maintain the integrity of the airport security fence (gate guards, daily log of construction personnel, and other):

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(b) Listing of individuals requiring driver training (for certificated airports and as requested). \_\_\_\_\_

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(c) Radio communications.

(i) Types of radios and backup capabilities. \_\_\_\_\_

(ii) Who will be monitoring radios. \_\_\_\_\_

(iii) Whom to contact if the ATCT cannot reach the contractor's designated person by radio. \_\_\_\_\_

(d) Details on how the contractor will escort material delivery vehicles. \_\_\_\_\_

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**(6) Wildlife management.** Discuss the following:

**No Supplemental Information**                       **Supplemental Information as follows:**

(a) Methods and procedures to prevent wildlife attraction \_\_\_\_\_

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(b) Wildlife reporting procedures \_\_\_\_\_

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**(7) Foreign Object Debris (FOD) management.** Discuss equipment and methods for control of FOD, including construction debris and dust.

**No Supplemental Information**                       **Supplemental Information as follows:**

*Provide anticipated equipment and methods via attachment.* \_\_\_\_\_

**(8) Hazardous material (HAZMAT) management.** Discuss equipment and methods for responding to hazardous spills.

**No Supplemental Information**                       **Supplemental Information as follows:**

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**(9) Notification of construction activities.** Provide the following:

**No Supplemental Information**                       **Supplemental Information as follows:**

(a) Contractor points of contact \_\_\_\_\_

(b) Contractor emergency contact \_\_\_\_\_

(c) Listing of tall or other requested equipment proposed for use on the airport and the timeframe for submitting 7460-1 forms not previously submitted by the airport operator \_\_\_\_\_

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**(10) Inspection requirements.** Discuss daily (or more frequent) inspections and special inspection procedures.

**No Supplemental Information**                       **Supplemental Information as follows:**

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**(11) Underground utilities.** Discuss proposed methods of identifying and protecting underground utilities.

**No Supplemental Information**                       **Supplemental Information as follows:**

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**(12) Penalties.** Penalties are identified in the CSPP.

**No Supplemental Information**                       **Supplemental Information as follows:**

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**(13) Special conditions.** Discuss proposed actions for each special condition identified in the CSPP as required.

**No Supplemental Information**                       **Supplemental Information as follows:**

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**(14) Runway and taxiway visual aids.** Including marking, lighting, signs, and visual NAVAIDs. Discuss proposed visual aids including the following:

(a) Equipment and methods for covering signage and airfield lights \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(b) Equipment and methods for temporary closure markings (paint, fabric, other) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(c) Types of temporary Visual Guidance Slope Indicators (VGSI) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(15) Marking and signs for access routes.** Discuss proposed methods of demarcating access routes for vehicle drivers.

**No Supplemental Information**                       **Supplemental Information as follows:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(16) Hazard marking and lighting.** Discuss proposed equipment and methods for identifying excavation areas.

**No Supplemental Information**                       **Supplemental Information as follows:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(17) Protection of runway and taxiway safety areas.** Including object free areas, obstacle free zones, and approach/departure surfaces. Discuss proposed methods of identifying, demarcating, and protecting airport surfaces including:

**No Supplemental Information**                       **Supplemental Information as follows:**

(a) Equipment and methods for maintaining Taxiway Safety Area standards \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(b) Equipment and methods for separation of construction operations from aircraft operations, including details of barricades \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**Contractor's Certification and Acknowledgement**

I have read the Project Construction Safety and Phasing Plan (CSPP) for the above referenced project, which has been approved by FAA on \_\_\_\_\_, 20\_\_\_\_, and certify the Contractor and its subcontractors will abide by it as written, unless any additions and changes are approved by the Manchester-Boston Regional Airport in writing. This Safety Plan Compliance Document (SPCD) will conform to the CSPP and will provide additional safety information for the Project.

\_\_\_\_\_  
CONTRACTOR

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name and Title

\_\_\_\_\_  
Date



19 April 2021

Matthew T. O'Brien, P.E.  
McFarland Johnson, Inc.  
53 Regional Drive  
Concord, NH 03301

Subject: Geotechnical Engineering Evaluation  
Reconstruct Taxiway E  
Augusta State Airport  
Augusta, Maine  
RWG&A Project No. 1569-013

Dear Mr. O'Brien:

In accordance with McFarland Johnson, Inc.'s (MJ) request and authorization, R.W. Gillespie & Associates, Inc. (RWG&A) has completed a subsurface exploration and laboratory testing program for the subject project. The services were completed in general accordance with RWG&A Proposal No. P-10763.GI dated 22 March 2021. The scope of services, as performed, included the following:

1. Drilled, logged, and sampled six (6) test borings in pavement designated CB-9 through CB-14 and three (3) soil borings in turf areas designated B-6, B-7, and B-8. The exploration locations and designations were selected by MJ. Asphaltic pavement was cored at the explorations located in pavement.
2. Completed three (3) field California Bearing Ratio (CBR) tests in boreholes B-6, B-7 and B-8 at a depth of about 42 inches below ground surface. Recovered composite bulk samples from each field CBR test location for use in laboratory moisture density relationship and CBR testing.
3. Completed sieve analyses of twelve (12) soil samples and sieve analysis, moisture-density relationship tests, and laboratory CBR tests on three (3) composite bulk soil samples.
4. Prepared this summary of the services together with the final exploration logs.

The approximate project location is shown on Figure 1, *Locus Map*. The approximate exploration locations are shown on Figure 2, *Exploration Location Plan*. The exploration locations were selected and marked in the field by MJ prior to conducting the explorations.

The test borings were drilled on 05 April 2021 by New England Boring Contractors, Inc. of Derry, New Hampshire using a truck-mounted drill rig. Borings were conducted using hollow-stem augers with split-barrel samples generally taken at 2 to 5-foot intervals. Test boring activities were coordinated and monitored by RWG&A personnel who prepared the exploration logs.

The soils were described in the field in general accordance with *ASTM D2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)* and re-described based on the results of laboratory testing. Logs of the test borings prepared by RWG&A are provided in Appendix A.

Asphaltic pavement was cored with a 4-inch diameter core bit at borings located in paved areas. The cores were returned to RWG&A's laboratory and photographed; photographs are provided in Appendix B of this report. Topsoil thickness was measured at each boring in turf and is indicated on the exploration logs.

The field CBR tests were performed in accordance with *ASTM D 4429-09a Standard Test Method for CBR (California Bearing Ratio) of Soils in Place*. The field CBR tests were conducted at a depth of 42 inches below ground surface and were accomplished by sampling to the planned test depth with a 3-inch diameter split-spoon sampler, manually compacting materials at the test depth, and using the truck-rig frame to mount the field CBR equipment and resist the test loads.

Laboratory testing was performed on soil samples recovered from the exploration program to assist in description of the soils and estimation of engineering properties. Tests were conducted at the RWG&A soil and materials testing laboratory in Biddeford, Maine, which is accredited by the American Association of State Highway and Transportation Officials (AASHTO) for the tests performed. All tests were performed in general accordance with the following methods and procedures:

- *ASTM D2216, Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass.*
- *ASTM D6913/6913M – 17, Standard Test Methods for Particle-Size Distribution (Gradation) of Soils Using Sieve Analysis*
- *ASTM D1140, Standard Test Method for Amount of Material in Soils Finer Than the No. 200 (75- $\mu$ m) Sieve by Washing.*
- *ASTM D1557 – 12e1, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>))*
- *ASTM D1883, Standard Test Method for California Bearing Ratio (CBR) of Laboratory-Compacted Soils.*

Laboratory results have been summarized in tabular form. Exploration logs and individual laboratory results are also presented in the appendices. A summary of the data is as follows:

TABLE I.	Summary of Sieve Analyses
TABLE II.	Summary of Field CBR Values
TABLE III.	Summary of Laboratory CBR Values
APPENDIX A.	Exploration Logs
APPENDIX B.	Asphaltic Pavement Core Photographs
APPENDIX C.	Sieve Test Results

APPENDIX D. Field CBR Test Results  
APPENDIX E. Laboratory CBR Test Results  
APPENDIX F. Moisture-Density Relationship Test Results

### **TAXIWAY A**

The following summarizes subsurface conditions encountered. Please refer to the exploration logs in Appendix A for descriptions of subsurface conditions encountered at specific locations.

Asphalt: Asphalt was cored prior to drilling the test borings located in pavement. The measured asphalt pavement thickness ranged from about 3.75 to 4 inches.

Topsoil: Topsoil and organic material was observed in the test borings drilled in infield turf areas. The measured topsoil and organic material thickness ranged from about 3 to 4 inches.

Subsurface Soil Conditions: Beneath the asphaltic pavement and/or topsoil, soils generally consisted of fill over naturally deposited sand with varying amounts of silt and gravel extending to boring termination depth. The fill soils generally consisted of sand with varying amounts of silt and gravel (USCS classifications: GP-GM, SP-SM, and SM) and extended to naturally deposited soils at depths of about 1 to about 5 feet below ground surface.

The naturally deposited soil generally consisted of medium dense to very dense sand or silt with varying amounts of silt and gravel (USCS classifications: GM, SP-SM, SM, and ML) which have medium to high frost susceptibility.

Groundwater: Free water was not observed within the vertical reach of these explorations at the time of drilling. The absence of free water data on the exploration logs implies no groundwater data is available but does not necessarily mean that groundwater will not be encountered at these locations within the vertical reaches of the explorations in the future. Groundwater levels at the site will fluctuate due to season, temperature, rainfall and construction activity in the area; therefore, water levels during and following construction will vary from those observed in the explorations.

California Bearing Ratio: Laboratory CBR tests were conducted on composite bulk samples recovered from 3 to 5 feet below ground surface in the test borings. CBR values ranged 48.2 to 97.1 for soils compacted between 97.7 percent and 98.4 percent of the maximum dry density, as determined by *ASTM D1557*. Field CBRs were conducted at a depth of about 42 inches below ground surface. The field CBR test results ranged from 4.2 to 32.7. The variance in results for the field CBRs could be attributed to variation in soil type, relative density, and/or soil disturbance.

It is anticipated that the reconstruction of the taxiway would either be a full-depth reconstruction or a limited depth rehabilitation. RWG&A determined the recommended subgrade CBR value for pavement section design be in general accordance with FAA document *AC 15015320-6F, Airport Pavement Design and Evaluation*. RWG&A recommends a design CBR value of 3.5 should be used if pavement rehabilitation is the selected method of reconstruction based on the field CBR data. With full-depth reconstruction, the pavement section subgrade would be compacted and proof-rolled under the observation of a qualified inspector prior to pavement

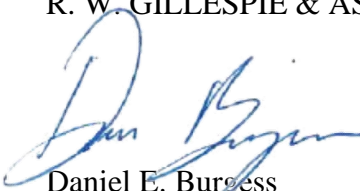
section construction and identified soft areas would be excavated and replaced. RWG&A recommends a design CBR value of 57 for full-depth reconstruction which is based on the subgrade being compacted to a minimum of 95% of the maximum dry density as determined by ASTM D-1557.

Reuse of On-site Soils: RWG&A evaluated the suitability of the existing pavement section base materials for reuse as Federal Airport Administration (FAA) Item P-154 Subbase Course and FAA Item P-209 Base Course. RWG&A's evaluations were based on the results of the laboratory tests performed on recovered base course materials and is considered suitable for planning purposes only. The results of the laboratory gradation testing indicate the in-place base course materials do not meet FAA Item P-154 or Item P-209 without modification. RWG&A evaluations indicate that a 0.5:1 mix of existing base to Maine Department of Transportation Item 703.31 might yield a blend that meets FAA Item P-154. Additionally, a 1.3:1 mix of existing base to Maine Department of Transportation Item 703.31 might yield a blend that meets FAA Item P-209. Test sections should be blended and tested during construction to verify the blends meets the intended gradation.

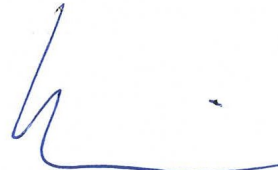
**CLOSURE**

We trust the foregoing meets McFarland Johnson, Inc.'s present needs, and if you have any questions, please contact us.

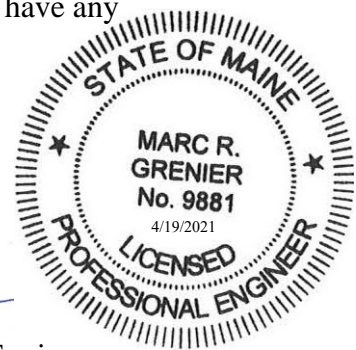
Sincerely,  
R. W. GILLESPIE & ASSOCIATES, INC.



Daniel E. Burgess  
Geotechnical Engineer



Marc R. Grenier, P.E.  
Senior Geotechnical Engineer



DEB/MRG:md

Attachments:

- Table I, Summary of Sieve Analyses
- Table II, Summary of Field CBR Values
- Table III, Summary of Laboratory CBR Values
- Figure 1, Locus Map
- Figure 2, Exploration Location Plan
- APPENDIX A. Exploration Logs
- APPENDIX B. Asphaltic Pavement Core Photographs
- APPENDIX C. Sieve Test Results
- APPENDIX D. Field California Bearing Ratio Test Results
- APPENDIX E. Laboratory California Bearing Ratio Test Results
- APPENDIX F. Moisture-Density Relationship Test Results

**TABLE I**  
 Summary of Sieve Analyses  
 Reconstruct Taxiway E, Augusta State Airport  
 Augusta, Maine

Sieve Analysis															
Boring/ Sample Number	Depth of Sample, ft	Percent Passing Screen or Sieve Size												% Finer than 0.02 mm	USCS
		2"	1"	3/4"	1/2"	3/8"	4	10	20	40	80	140	200		
B-6/ Bulk	3-5	83.1	60.6	53.6	46.2	43.7	38.5	33.4	28.1	23.4	18.5	16.2	14.7	--	GM
B-7/ Bulk	3-5	92.3	82.0	76.7	67.9	62.8	52.8	43.3	34.6	27.8	21.2	17.4	14.9	--	GM
B-8/ Bulk	3-5	97.5	93.1	87.8	78.8	72.7	59.1	48.1	40.1	34.2	27.2	22.8	19.9	--	GM
CB-9/ S-2	1-3	100	100	73.1	45.8	43.3	36.6	29.1	22.9	18.9	14.7	11.9	9.9	--	GP-GM
CB-9/ S-4	5-7	100	100	90.2	86.3	82.0	78.4	73.5	68.9	65.0	59.3	55.2	51.8	--	ML
CB-10/ S-1	0.3-2.3	100	100	100	83.5	76.3	68.7	59.7	48.1	32.1	16.8	12.3	10.2	--	SP-SM
CB-10/ S-4	7-9	100	100	80.2	63.7	56.7	46.1	35.4	26.9	21.8	17.3	14.4	12.2	--	GM
CB-11, S-2	2.3-4.3	100	100	90.4	81.9	79.3	70.9	54.8	40.4	32.1	25.0	20.6	16.7	--	SM
CB-11/ S-3	5-7	100	100	82.1	79.0	71.6	60.0	43.4	31.5	25.7	20.1	15.8	12.5	--	SM
CB-12/ S-1	0.3-2.3	100	100	100	92.5	92.5	88.3	77.8	59.2	40.0	24.9	19.8	17.2	--	SM
CB-12/ S-4	7-9	100	100	88.1	79.4	73.3	56.0	41.7	29.3	23.2	18.6	15.2	12.6	--	GM
CB-13/ S-2	2.3-4.3	100	86.4	86.4	86.4	85.4	82.3	74.0	57.7	40.5	26.5	21.8	19.2	--	SM
CB-13/ S-3	5-7	100	100	80.6	73.7	67.1	56.0	45.9	35.5	28.2	21.7	17.4	14.4	--	GM
CB-14/ S-1	0.3-2.3	100	100	85.0	78.0	77.3	69.8	55.2	40.7	28.5	18.5	14.6	12.6	--	SM
CB-14/ S-4	7-9	100	100	89.0	75.7	72.3	58.6	44.6	30.6	22.6	16.7	13.4	11.0	--	SP-SM



**TABLE II**  
**Summary of Field CBR Values**

Project: Reconstruct Taxiway E, Augusta State Airport

RWG&A Project No: 1569-013

Client: McFarland Johnson, Inc.

Location: Augusta, Maine

Date: April 2021

<b>Boring Location</b>	<b>Depth (in)</b>	<b>CBR Value at 0.1 Inches of Penetration</b>
B-6	42	4.2
B-7	42	6.6
B-8	42	32.7



TABLE III

**Summary of Laboratory CBR Values**

Project: Reconstruct Taxiway E, Augusta State Airport

RWG&A Project No: 1569-013

Client: McFarland Johnson, Inc.

Location: Augusta, Maine

Date: April 2021

<b>Boring Location</b>	<b>Sample Depth (feet)</b>	<b>Percent Max. Dry Density/ CBR Value</b>
B-6	3-5	98.4%/ 48.2
B-7	3-5	98.1%/ 93.5
B-8	3-5	97.7%/ 97.1

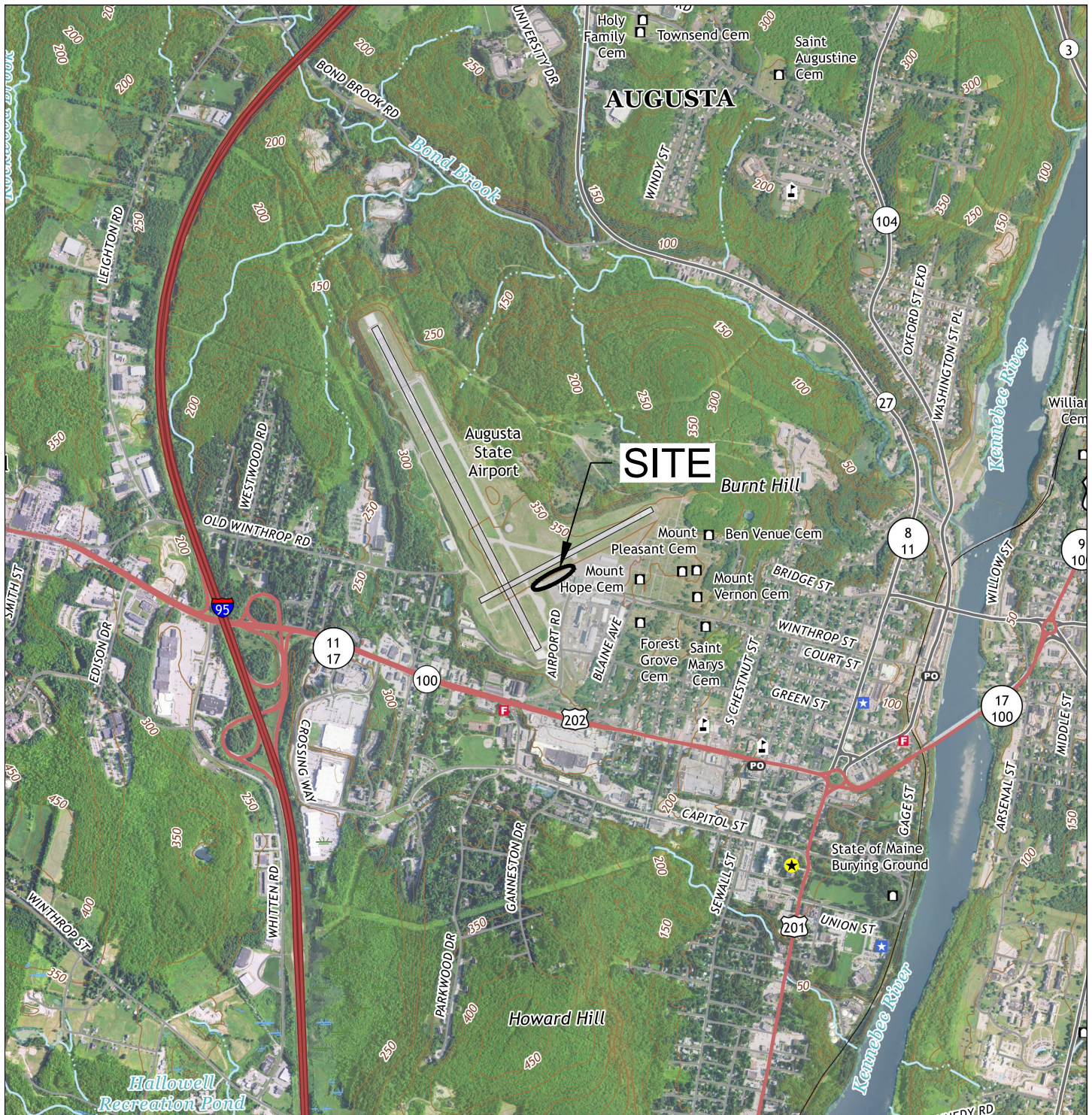
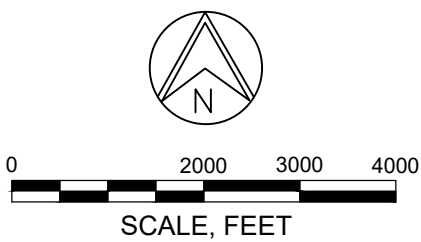


FIGURE 1  
 LOCUS MAP  
 GEOTECHNICAL EVALUATION  
 RECONSTRUCT TAXIWAY E  
 AUGUSTA STATE AIRPORT  
 AUGUSTA, MAINE



APRIL 2021

PROJECT NO. 1569-013

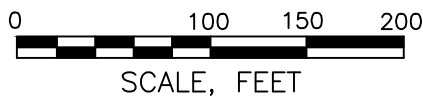
SOURCE:  
 USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE OF  
 AUGUSTA, ME, DATED 2018.

**R.W. Gillespie  
 & Associates**  
 Geotechnical Engineering • Materials Testing Services  
 Environmental Consulting • [www.rwgillespie.com](http://www.rwgillespie.com)



**LEGEND:**

 B-6 APPROXIMATE LOCATION OF SOIL BORING DRILLED 05 APRIL 2021.



SOURCE:  
© GOOGLE EARTH 2018 IMAGE.

**FIGURE 2**  
**EXPLORATION LOCATION PLAN**  
**GEOTECHNICAL EVALUATION RECONSTRUCT**  
**TAXIWAY E AUGUSTA STATE AIRPORT**  
**AUGUSTA, MAINE**

APRIL 2021

PROJECT NO. 1569-013



**APPENDIX A**  
**EXPLORATION LOGS**

Geotechnical Engineering Evaluation  
Reconstruct Taxiway E  
Augusta State Airport  
Augusta, Maine

RWG&A, Inc. soil descriptions are based on the following criteria. Descriptive terminology is used to denote the grain size and percentage of each component. The soil descriptions are based on visual-manual classification procedures, Standard Penetration Test results, and the results of laboratory testing on selected soil samples, where available. The Unified Soil Classification Group Symbol will be indicated in capital letters.

**COMPONENT DEFINITIONS BY GRADATION SIEVE LIMITS**

Materials	Definitions	Fractions	Upper	Lower
Boulders	Material too large to pass through an opening 12 in. square.			
Cobbles	Material passing through a 12 in. opening and retained on the 3 in. sieve.			
Gravel	Material passing the 3 in. sieve and retained on 1/4" (No. 4 sieve).	Coarse Fine	3 in. 3/4 in.	3/4 in. 1/4 in.
Sand	Material passing the No. 4 sieve and retained on the No. 200 sieve.	Coarse Medium Fine	No. 4 (1/4") No. 10 (1/8") No. 40 (1/32")	No. 10 (1/8") No. 40 (1/32") No. 200
Silt	Material passing the No. 200 sieve which is usually non-plastic in character and exhibits little or no strength when air dried.		No. 200	
Clay	Material passing the No. 200 sieve which can also be made to exhibit plasticity within a certain range of moisture contents and which exhibits considerable strength when air dried.		No. 200	

**SOIL DESCRIPTION**

**General**

Soils are described as to the Unified Soil Classification Systems Group Symbol, density or consistency, color, grain size distribution and other pertinent properties such as plasticity and dry strength. The RWG&A order of descriptors is as follows:

1. USCS Group Name and Symbol, or Fill
2. Density or Consistency
3. Moisture
4. Grain Size & Constituent percentages
5. Other pertinent descriptors
6. Color

**DESCRIPTIVE TERMINOLOGY DENOTING COMPONENT PROPORTIONS**

<u>Descriptive Terms</u>	<u>Range of Proportions</u>
Noun (major component)	≥50%
Adjective (secondary component)	20 - 50%
Some (third component)	25 - 45%
Little (second or third component)	15 - 25%
Few (second or third component)	5 - 15%
Trace	0 - 5%
With	Amount of component not determined. Used as a conjunction only. Does not indicate component percentile

**OTHER DESCRIPTIVE TERMS**

Where appropriate, geological classifications are also used (Glacial Till, etc.)

**TYPICAL DESCRIPTIONS**

SAND WITH SILT (SP-SM): Medium dense, moist, coarse to medium sand, few silt, brown.  
 FILL; Loose, dry, fine sand, some gravel and silt, with brick and concrete fragments, dark brown.  
 SILTY CLAY (CL); Very stiff, moist, silty clay, olive-brown.

<u>DENSITY OR CONSISTENCY OF SOILS</u>		
<u>COHESIVE SOILS</u>		
<u>Consistency of Cohesive Soils</u>	<u>Standard Penetration Test (Blows Per Foot) (N)</u>	<u>Undrained Shear Strength (TSF)</u>
Very Soft	0 - 2	Below 0.13 (250 psf)
Soft	2 - 4	0.13 to 0.25 (to 500 psf)
Medium	4 - 8	0.25 to 0.5 (to 1,000 psf)
Stiff	8 - 15	0.5 to 1.0 (to 2,000 psf)
Very Stiff	15 - 30	1.0 to 2.0 (to 4,000 psf)
Hard	Over 30	over 2.0 (over 4,000 psf)
Consistency of cohesive soils is based upon field vane shear, torvane, or pocket penetrometer, or laboratory vane shear or Unconsolidated-Undrained Triaxial Compression tests. Consistency of cohesive soils is based upon the Standard Penetration test when no other data is available.		
<u>COHESIONLESS SOILS</u>		
<u>Density of Cohesionless Soils</u>	<u>Standard Penetration Test (Blows per Foot) (in)</u>	
Very Loose	0 - 4	
Loose	4 - 10	
Medium Dense	10 - 30	
Dense	30 - 50	
Very Dense	over 50	
<u>PENETRATION RESISTANCE</u>		
STANDARD PENETRATION TEST (ASTM D1586) - a 2.0-inch diameter, 1-3/8 inch inside diameter split barrel sample is driven into soil by means of a 140-pound weight falling freely through a vertical distance of 30 inches. The total number of blows required for penetration from 6 to 18 inches is the Standard Penetration Resistance (N).		
<u>COBBLES AND BOULDERS</u>		
The percentage of cobbles and boulders is estimated visually where possible.		
<u>Descriptive Term</u>	<u>Estimated Percentage</u>	
Very Few	0 - 10%	
Few	10 - 25%	
Common	25 - 40%	
Numerous	40 - 50%	
If the percentage cannot be determined, as in a typical test boring, then use "with" to indicate the presence of cobbles and/or boulders. (i.e., gravelly sand with cobbles and boulders).		
<u>FILLS</u>		
The following terminology is used to denote size range of man-made materials within fill deposits:		
<u>Size Range</u>	<u>Comparative Soil Terms</u>	
<No. 200 Sieve	Silt - size	
No. 200 to 1/4 in.	Sand - size	
1/4 in. to 3 in.	Gravel - size	
3 in. to 12 in.	Cobble - size	
>12 in.	Boulder - size	
<u>SUPPLEMENTAL SOIL DESCRIPTION TERMINOLOGY</u>		
<u>Term</u>	<u>Example</u>	
Seam	Typically 1/16 to 1/2 inch thick	1/4 inch sand seams
Layer	Greater than 1/2 inch thick	2-inch sand layers
Occasional	One or less per foot of thickness	
Frequent	More than one per foot of thickness	
Interbedded	Alternating soil layers of different composition	
Varved	Alternating thin seams of silt and clay	
Mottled	Variations in color	



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: Backfill with cuttings  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFCO STRATASTAR 908022  
 Driller Rep.: Ken Smith  
 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	TOPSOIL AND ORGANIC MATERIAL (3 inches).	GRAB				
		S-2	FILL; Sand with silt, moist, medium to fine sand, coarse to fine subround gravel, little silt, dark brown.	6	12 21 24 40	45		
			SILTY GRAVEL WITH SAND (GM); Moist, medium dense to dense, little to some coarse to fine gravel, coarse to fine sand, few silt, brown.					
5		S-3		15	3 15 11	26		
		S-4		12	19 21 19 20 30	39		
10			Bottom of Exploration at 9'; Not refusal.					
15								
20								
25								
30								

Notes: Bulk CBR sample obtained form 3' to 5' below ground surface.



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: Backfill with cuttings  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFCO STRATASTAR 908022  
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 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	TOPSOIL AND ORGANIC MATERIAL (3 inches).	GRAB				
		S-2	FILL; Sand with silt, moist, medium to fine sand, coarse to fine subround gravel, little silt, dark brown.	12	16 15 27 26	42		
		S-3	SILTY GRAVEL WITH SAND (GM); Moist, medium dense to dense, little coarse to fine gravel, coarse to fine sand, few silt, brown.	5	5 9	24		
		S-4		1	15 17 16 25 16 21	41		
10			Bottom of Exploration at 9'; Not refusal.					

Notes: Bulk CBR sample obtained form 3' to 5' below ground surface.



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: Backfill with cuttings  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFCO STRATASTAR 908022  
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 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	TOPSOIL AND ORGANIC MATERIAL (4 inches).	GRAB				
		S-2	FILL; Sand with silt, moist, medium to fine sand, coarse to fine subround gravel, little silt, dark brown.	1	21 50/2"	100+		
5		S-3	SILTY GRAVEL WITH SAND (GM); Moist, medium dense to dense, little to some coarse to fine gravel, coarse to fine sand, little silt, brown.	10	12 17 25	42		
		S-4		8	26 35 25 51 43	76		
10			Bottom of Exploration at 9'; Not refusal.					

Notes: Bulk CBR sample obtained form 3' to 5' below ground surface.



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: See Note.  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFCO STRATASTAR 908022  
 Driller Rep.: Ken Smith  
 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	TOPSOIL AND ORGANIC MATERIAL (4 inches).	GRAB				
		S-2	FILL; Gravel with silt and sand, moist, coarse to fine gravel, coarse to fine sand, few silt, brown.	8	21 32 19	51	4.9	MC GS
		S-3	SANDY SILT WITH GRAVEL (ML); Moist, loose, silt, medium to fine sand, few coarse to fine gravel, light brown.	10	21 24 20	38		
5		S-4		10	18 14 3	6	27.7	MC GS
		S-5	Bottom of Exploration at 9'; Not refusal.	2	3 3 3 3 3	6		
10						3 3 3		
15								
20								
25								
30								

Notes: Boreholes were backfilled with auger cuttings and compacted using a hand tamper to the bottom of the existing pavement. Cold patch mix was placed to match existing paved surface.



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: See Note.  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFECO STRATASTAR 908022  
 Driller Rep.: Ken Smith  
 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	ASPHALTIC PAVEMENT (4 inches).	18	12	60	5.2	MC GS
		S-2	FILL; Sand with silt and gravel, moist, coarse to fine sand, fine gravel, few silt, brown.	20	26 34 42 48 74 77			
5		S-3	SILTY GRAVEL WITH SAND (GM); Moist, little to some coarse to fine gravel, coarse to fine sand, few silt, light brown.	12	70 21	91	5.0	MC GS
		S-4		15	41 50 25 21 19 22 45			
10			Bottom of Exploration at 9'; Not refusal.					

Notes: Boreholes were backfilled with auger cuttings and compacted using a hand tamper to the bottom of the existing pavement. Cold patch mix was placed to match existing paved surface.



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: See Note.  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFECO STRATASTAR 908022  
 Driller Rep.: Ken Smith  
 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	ASPHALTIC PAVEMENT (3.75 inches).	15	13	42		
		S-2	FILL; Silty sand with gravel, moist, coarse to fine sand, few to little coarse to fine gravel, little silt, brown.	10	16 26 61	61	6.3	MC GS
5		S-3	SILTY SAND WITH GRAVEL(SM); Moist, coarse to fine sand, little coarse to fine gravel, few silt, light brown.	10	30 31 29	14	7.5	MC GS
		S-4		8	5 7 7	36		
10			Bottom of Exploration at 9'; Not refusal.		10 14 20 16 15			

Notes: Boreholes were backfilled with auger cuttings and compacted using a hand tamper to the bottom of the existing pavement. Cold patch mix was placed to match existing paved surface.



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: See Note.  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFCO STRATASTAR 908022  
 Driller Rep.: Ken Smith  
 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	ASPHALTIC PAVEMENT (4 inches).	20	12	38	11.4	MC GS
			FILL; Silty sand, moist, coarse to fine sand, few fine gravel, little silt, brown.		13			
		S-2	FILL; Sand with silt, moist, medium to fine sand, little silt, brown.	24	25	89		
					36			
5		S-3	SILTY GRAVEL WITH SAND (GM); Moist, few to some coarse to fine gravel, coarse to fine sand, few silt, light brown.	15	47	85		
					42			
		S-4		18	53	71	6.4	MC GS
					27			
10			Bottom of Exploration at 9'; Not refusal.		27			
					30			
					36			
					35			
					31			

Notes: Boreholes were backfilled with auger cuttings and compacted using a hand tamper to the bottom of the existing pavement. Cold patch mix was placed to match existing paved surface.



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: See Note.  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFECO STRATASTAR 908022  
 Driller Rep.: Ken Smith  
 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	ASPHALTIC PAVEMENT (4 inches).	18	17	39		
		S-2	FILL; Silty sand with gravel, moist, coarse to fine sand, trace to few coarse to fine gravel, little silt, brown.	24	19 20 37 70	87	7.5	MC GS
5		S-3	SILTY GRAVEL WITH SAND (GM); Moist, little coarse to fine gravel, coarse to fine sand, few silt, light brown.	12	48 70 53	100+	6.0	MC GS
		S-4		18	54 60 30 38 38 21 27	59		
10			Bottom of Exploration at 9'; Not refusal.					
15								
20								
25								
30								

Notes: Boreholes were backfilled with auger cuttings and compacted using a hand tamper to the bottom of the existing pavement. Cold patch mix was placed to match existing paved surface.



Project Name: Reconstruct Taxiway E  
 RWG&A Project No. 1569-013  
 Location: Augusta, Maine  
 Client: McFarland Johnson  
 RWG&A Representative: Dan Burgess  
 Boring Location: See Exploration Location  
 Boring Abandonment Method: See Note.  
 Observed Water Depth: Not Obs.

Drilling Co.: New England Boring Contractors  
 Drill Rig: GEFECO STRATASTAR 908022  
 Driller Rep.: Ken Smith  
 Date Started: 04/05/2021  
 Date Completed: 04/05/2021  
 Surface Elevation:  
 Drilling Method: HSA  
 Casing Type: N/A

DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	ASPHALTIC PAVEMENT (4 inches).	15	15	41	8.7	MC GS
		S-2	FILL; Silty sand with gravel, moist, coarse to fine sand, little coarse to fine gravel, few silt, brown.	18	15 26 27 36 41 37	78		
5		S-3	SAND WITH SILT AND GRAVEL (SP-SM); Moist, coarse to fine sand, few to some coarse to fine gravel, few silt, light brown.	12	25 21	45		
		S-4		8	22 23 23 77 31 33 60	64	5.4	MC GS
10			Bottom of Exploration at 9'; Not refusal.					

Notes: Boreholes were backfilled with auger cuttings and compacted using a hand tamper to the bottom of the existing pavement. Cold patch mix was placed to match existing paved surface.

**APPENDIX B**

**ASPHALTIC PAVEMENT CORE PHOTOGRAPHS**

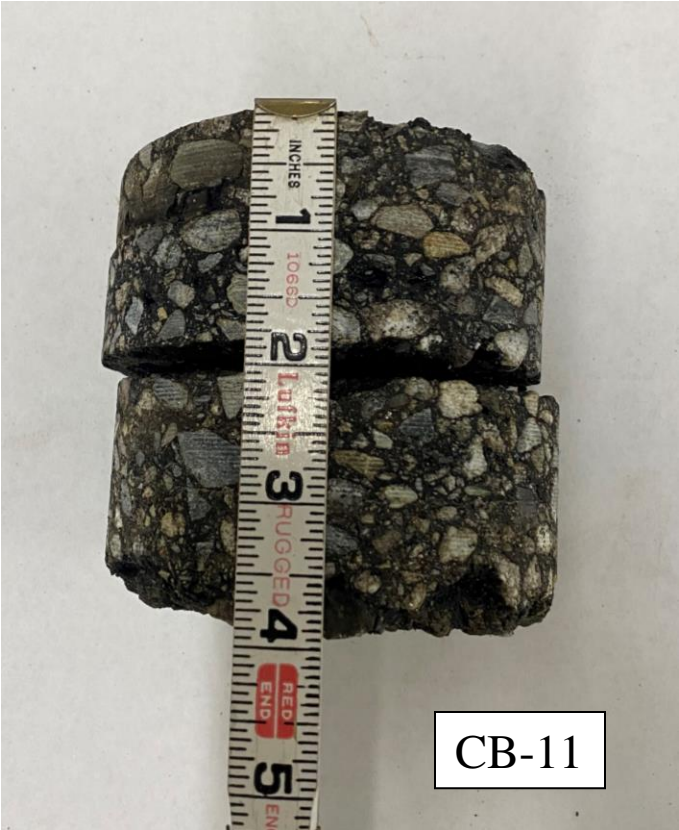
Geotechnical Engineering Evaluation  
Reconstruct Taxiway E  
Augusta State Airport  
Augusta, Maine



CB-9



CB-10



CB-11



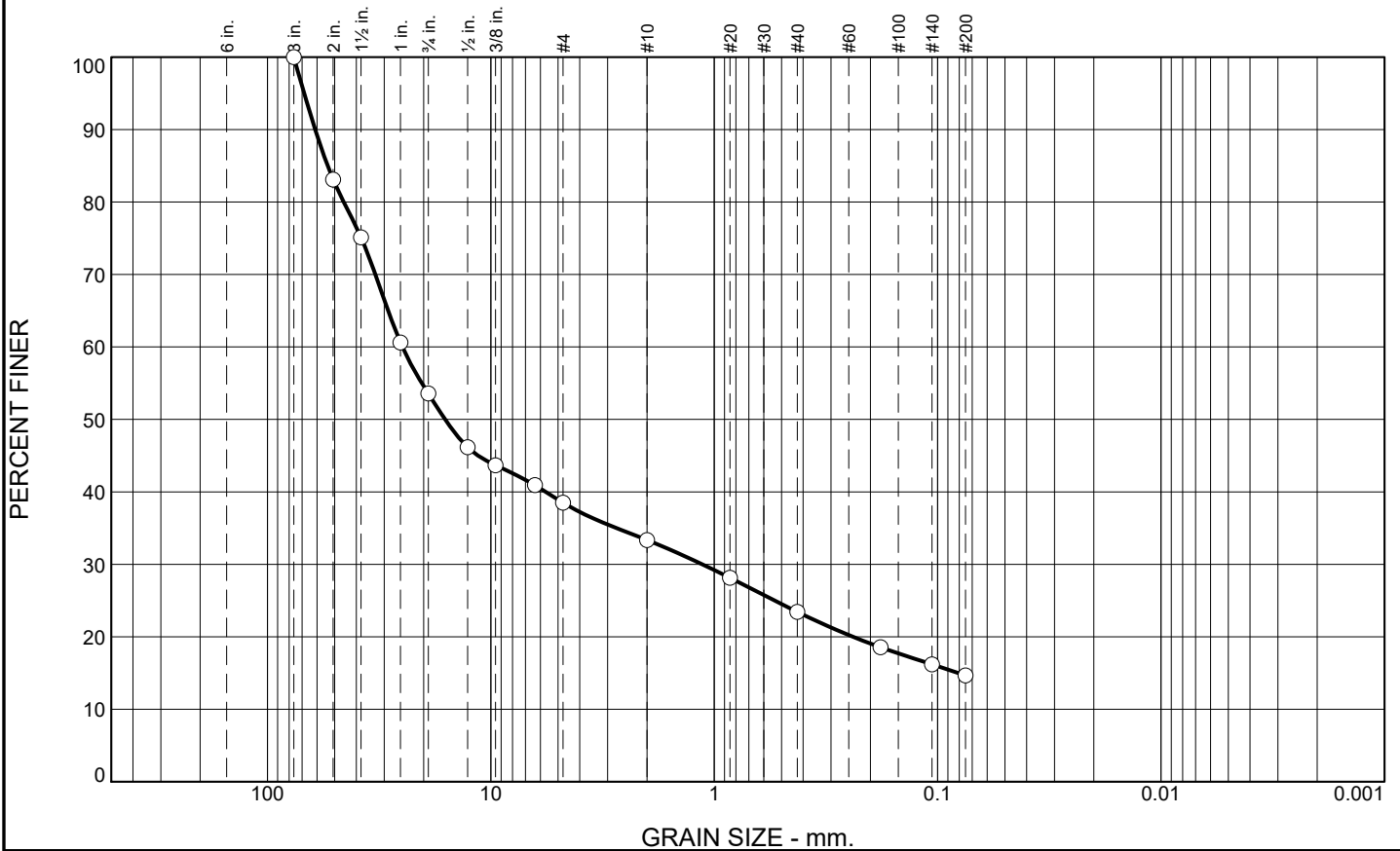
CB-12



**APPENDIX C**  
**SIEVE TEST RESULTS**

Geotechnical Engineering Evaluation  
Reconstruct Taxiway E  
Augusta State Airport  
Augusta, Maine

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	46.4	15.1	5.1	10.0	8.7	14.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100.0		
2"	83.1		
1 1/2"	75.1		
1"	60.6		
3/4"	53.6		
1/2"	46.2		
3/8"	43.7		
1/4"	40.9		
#4	38.5		
#10	33.4		
#20	28.1		
#40	23.4		
#80	18.5		
#140	16.2		
#200	14.7		

**Soil Description**  
silty gravel with sand

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 61.0758      D<sub>85</sub>= 53.7390      D<sub>60</sub>= 24.8905  
 D<sub>50</sub>= 16.0113      D<sub>30</sub>= 1.1304      D<sub>15</sub>= 0.0809  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= GM                      AASHTO= A-1-a

**Remarks**  
 Moisture Content: 21.5%

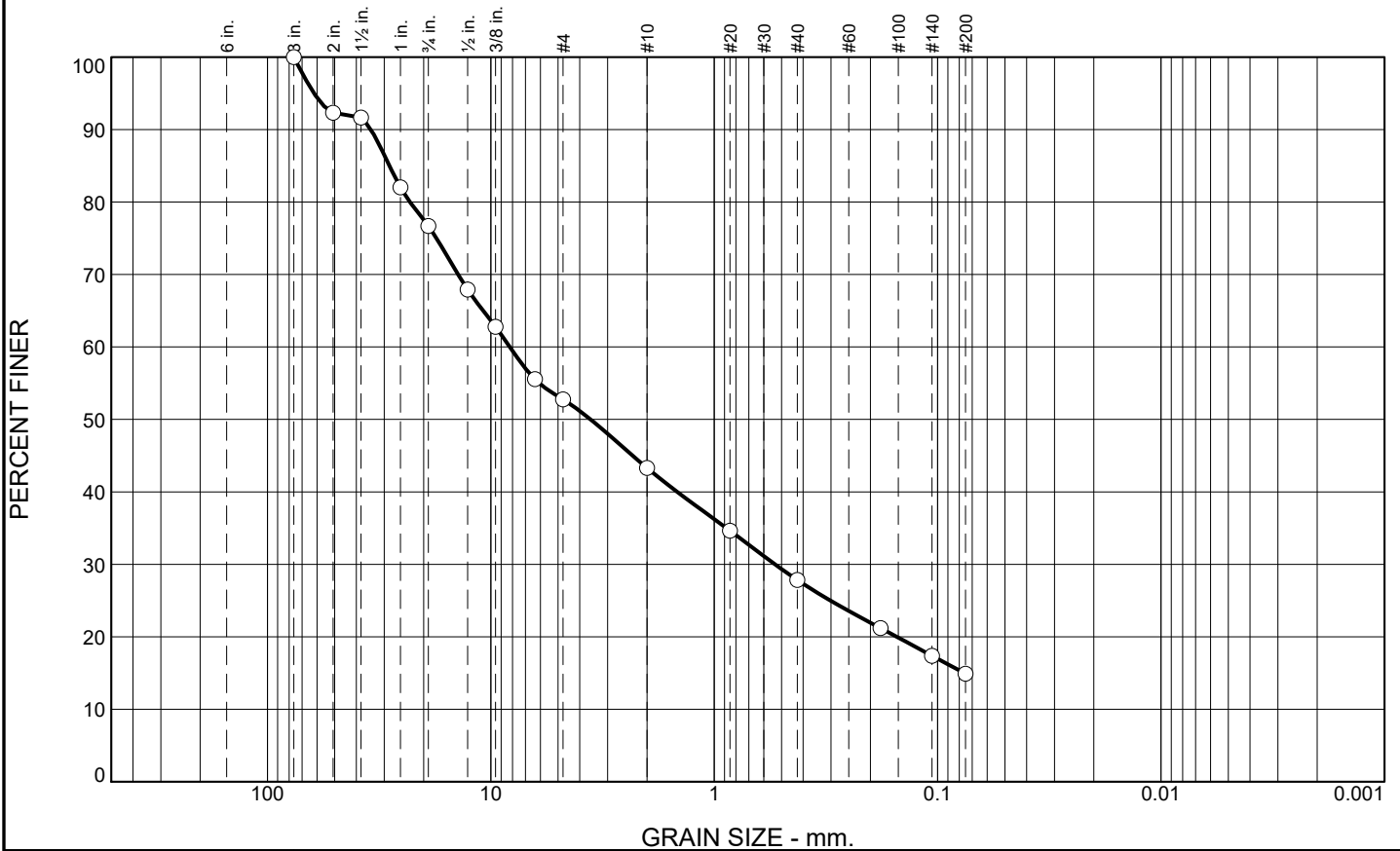
\* (no specification provided)

Location: B-6                      Sample Number: Bulk                      Depth: 3-5'                      Date: 04-13-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013 <b>Lab</b> 16469-01
---	--

Tested By: JCR/JMT                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	23.3	23.9	9.5	15.5	12.9	14.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100.0		
2"	92.3		
1 1/2"	91.7		
1"	82.0		
3/4"	76.7		
1/2"	67.9		
3/8"	62.8		
1/4"	55.5		
#4	52.8		
#10	43.3		
#20	34.6		
#40	27.8		
#80	21.2		
#140	17.4		
#200	14.9		

**Soil Description**

silty gravel with sand

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>90</sub>= 34.4134      D<sub>85</sub>= 28.4431      D<sub>60</sub>= 8.2319  
D<sub>50</sub>= 3.5811      D<sub>30</sub>= 0.5347      D<sub>15</sub>= 0.0760  
D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**

USCS= GM                      AASHTO= A-1-a

**Remarks**

Moisture Content: 6.4%

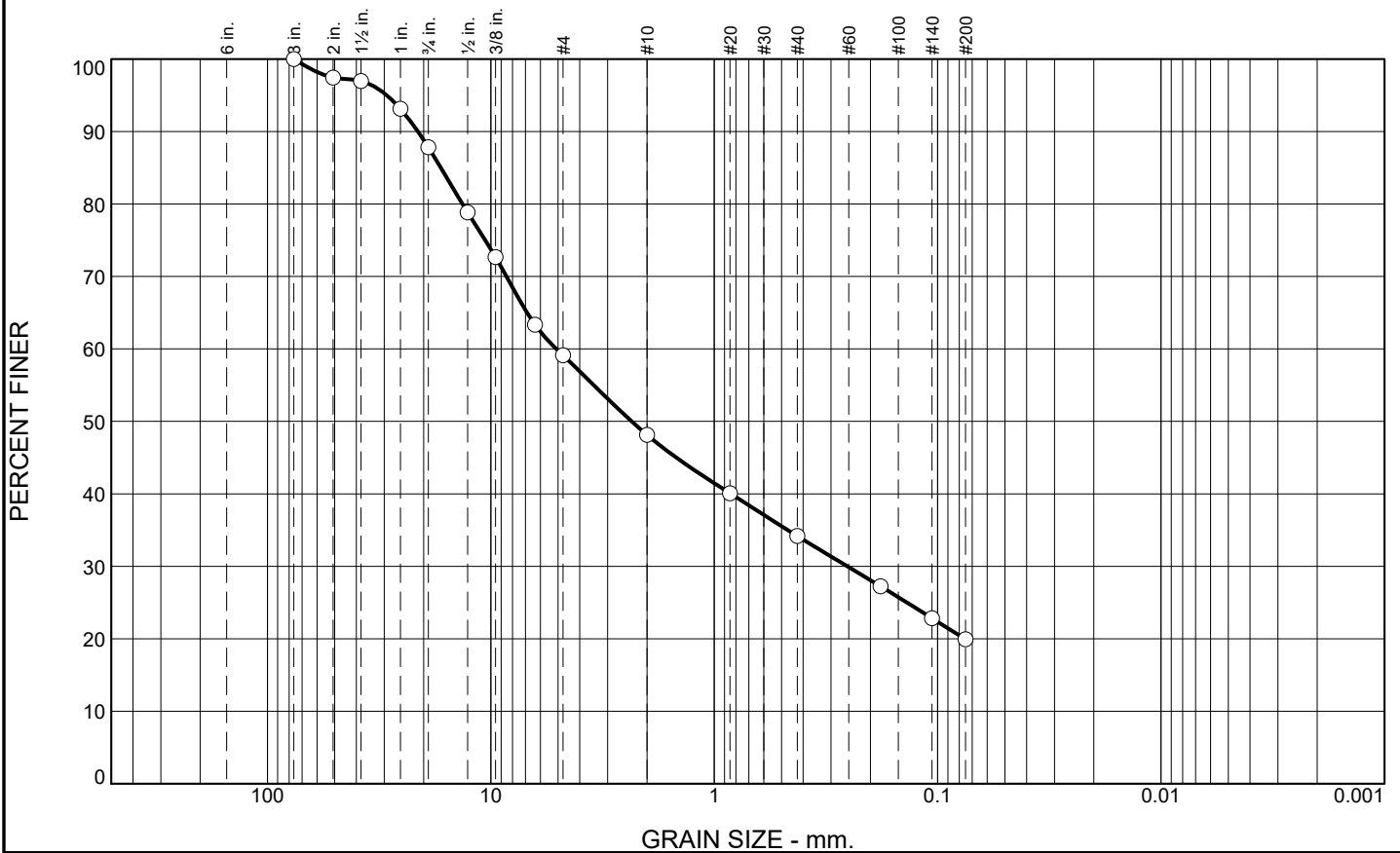
\* (no specification provided)

**Location:** B-7                      **Depth:** 3-5'                      **Date:** 04-13-2021  
**Sample Number:** Bulk

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-02	

**Tested By:** JMT/CAG                      **Checked By:** MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	12.2	28.7	11.0	13.9	14.3	19.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3"	100.0		
2"	97.5		
1 1/2"	97.0		
1"	93.1		
3/4"	87.8		
1/2"	78.8		
3/8"	72.7		
1/4"	63.4		
#4	59.1		
#10	48.1		
#20	40.1		
#40	34.2		
#80	27.2		
#140	22.8		
#200	19.9		

**Soil Description**

silty gravel with sand

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>90</sub>= 21.2025      D<sub>85</sub>= 16.7287      D<sub>60</sub>= 5.0875  
D<sub>50</sub>= 2.3430      D<sub>30</sub>= 0.2537      D<sub>15</sub>=  
D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**

USCS= GM                      AASHTO= A-1-b

**Remarks**

Moisture Content: 11.3%

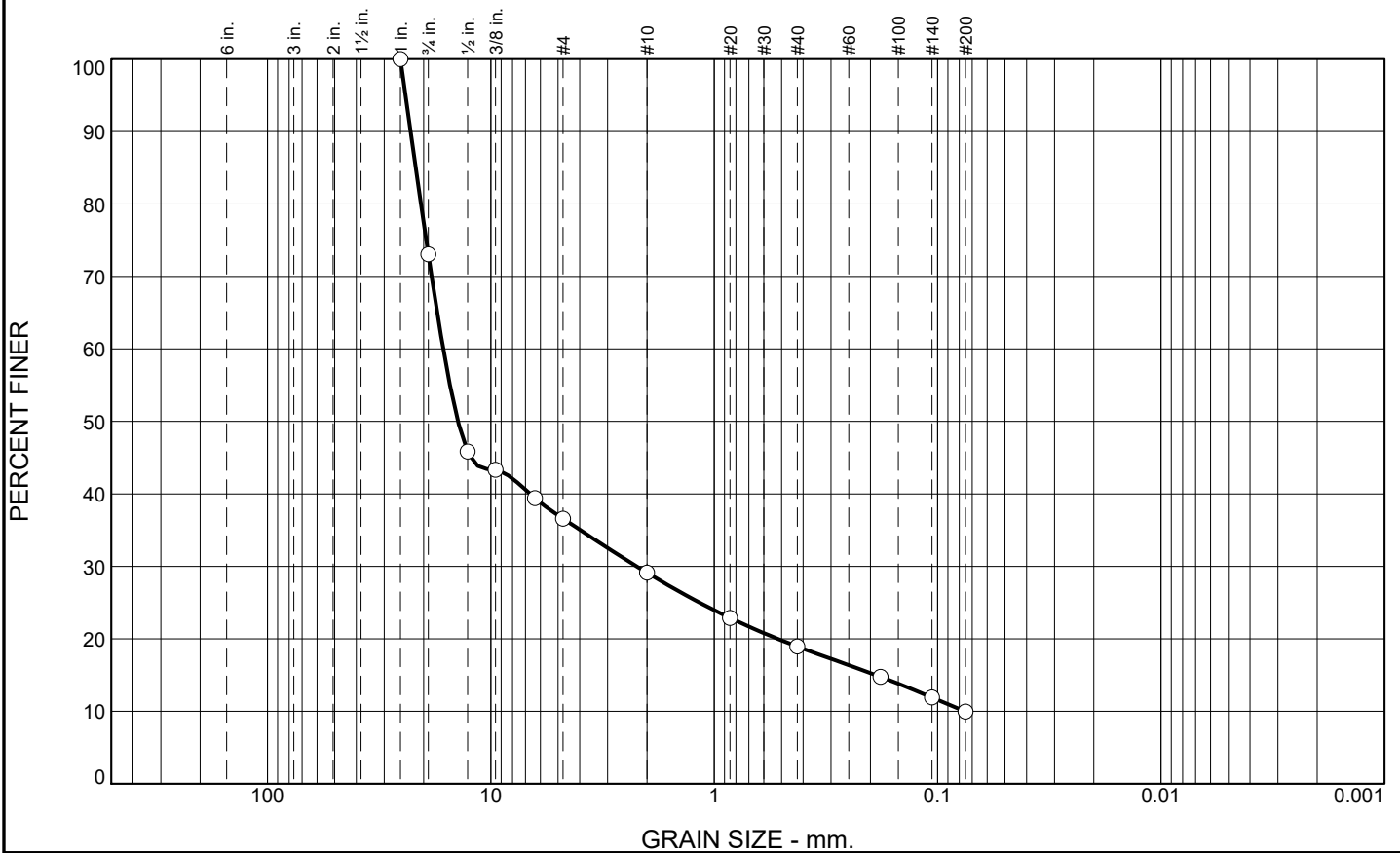
\* (no specification provided)

Location: B-8                      Sample Number: Bulk                      Depth: 3-5'                      Date: 04-13-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-03	

Tested By: JCR/CAG                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	26.9	36.5	7.5	10.2	9.0	9.9	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	73.1		
1/2"	45.8		
3/8"	43.3		
1/4"	39.4		
#4	36.6		
#10	29.1		
#20	22.9		
#40	18.9		
#80	14.7		
#140	11.9		
#200	9.9		

**Soil Description**  
poorly graded gravel with silt and sand

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 22.8707      D<sub>85</sub>= 21.6903      D<sub>60</sub>= 16.3217  
 D<sub>50</sub>= 14.0250      D<sub>30</sub>= 2.2262      D<sub>15</sub>= 0.1894  
 D<sub>10</sub>= 0.0757      C<sub>u</sub>= 215.47      C<sub>c</sub>= 4.01

**Classification**  
 USCS= GP-GM                      AASHTO= A-1-a

**Remarks**  
 Moisture Content: 4.9%

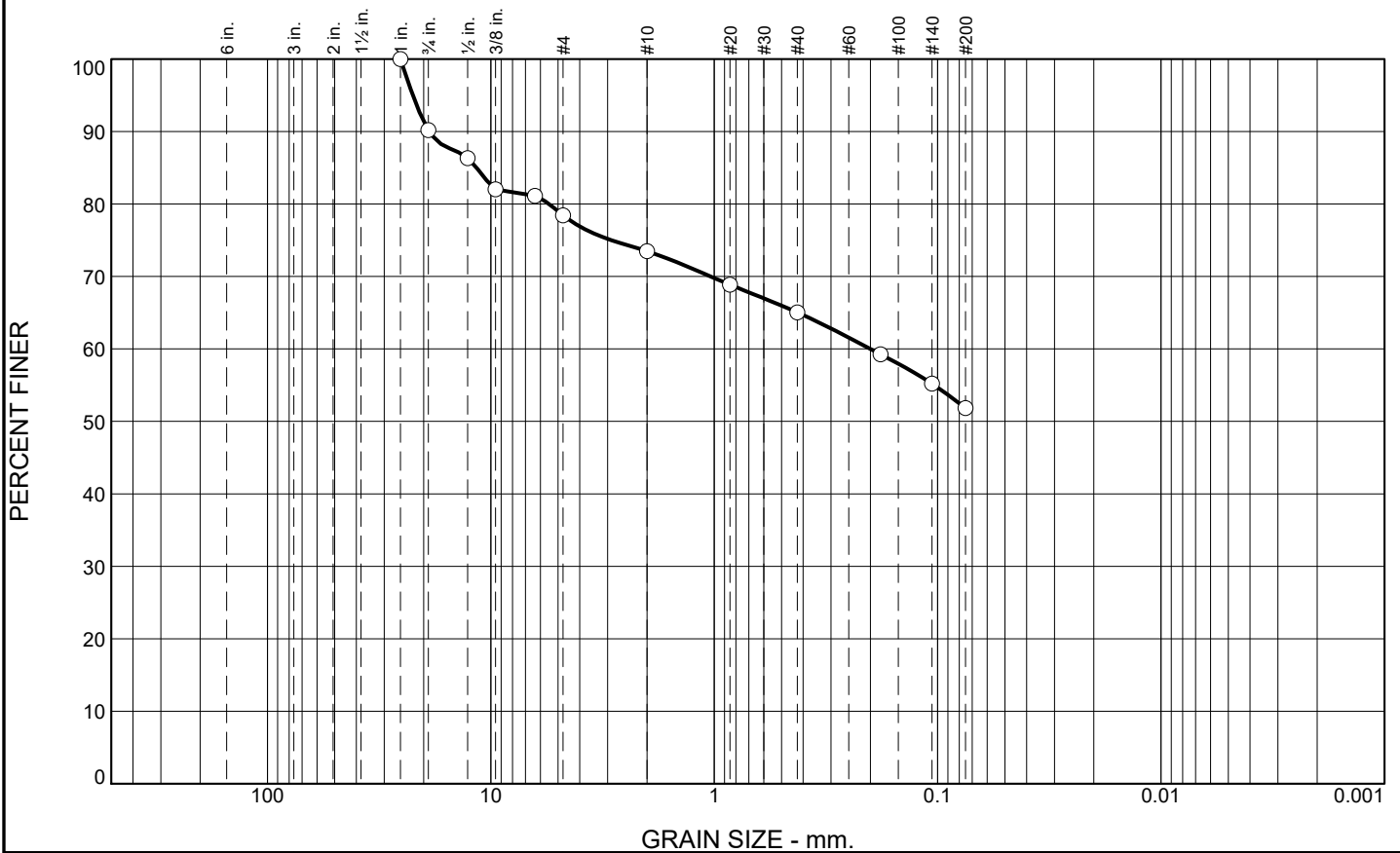
\* (no specification provided)

Location: CB-9                      Sample Number: S-2                      Depth: 1-3'                      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
	<b>Lab</b> 16469-04

Tested By: JMT                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	9.8	11.8	4.9	8.5	13.2	51.8	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	90.2		
1/2"	86.3		
3/8"	82.0		
1/4"	81.1		
#4	78.4		
#10	73.5		
#20	68.9		
#40	65.0		
#80	59.3		
#140	55.2		
#200	51.8		

**Soil Description**

sandy silt with gravel

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>90</sub>= 18.8600      D<sub>85</sub>= 11.5776      D<sub>60</sub>= 0.2000  
D<sub>50</sub>=                      D<sub>30</sub>=                      D<sub>15</sub>=  
D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**

USCS= ML                      AASHTO= A-4(0)

**Remarks**

Moisture Content: 27.7%

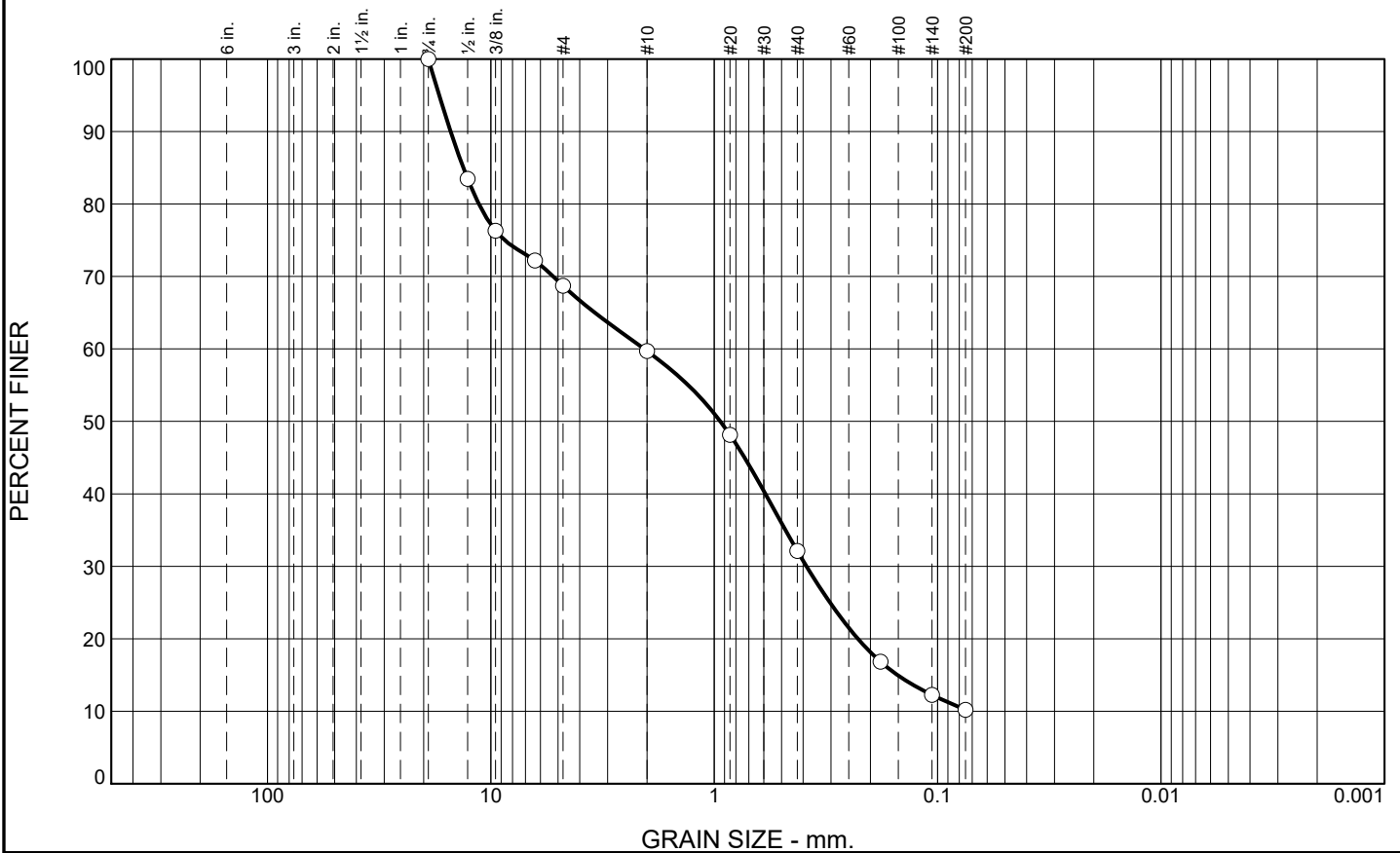
\* (no specification provided)

Location: CB-9                      Sample Number: S-4                      Depth: 5-7'                      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-05	

Tested By: CAG                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	31.3	9.0	27.6	21.9	10.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	83.5		
3/8"	76.3		
1/4"	72.2		
#4	68.7		
#10	59.7		
#20	48.1		
#40	32.1		
#80	16.8		
#140	12.3		
#200	10.2		

**Soil Description**  
poorly graded sand with silt and gravel

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 15.1260      D<sub>85</sub>= 13.2803      D<sub>60</sub>= 2.0585  
 D<sub>50</sub>= 0.9391      D<sub>30</sub>= 0.3869      D<sub>15</sub>= 0.1514  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= SP-SM                      AASHTO= A-1-b

**Remarks**  
 Moisture Content: 5.2%

\* (no specification provided)

**Location:** CB-10  
**Sample Number:** S-1      **Depth:** 0.3-2.3'

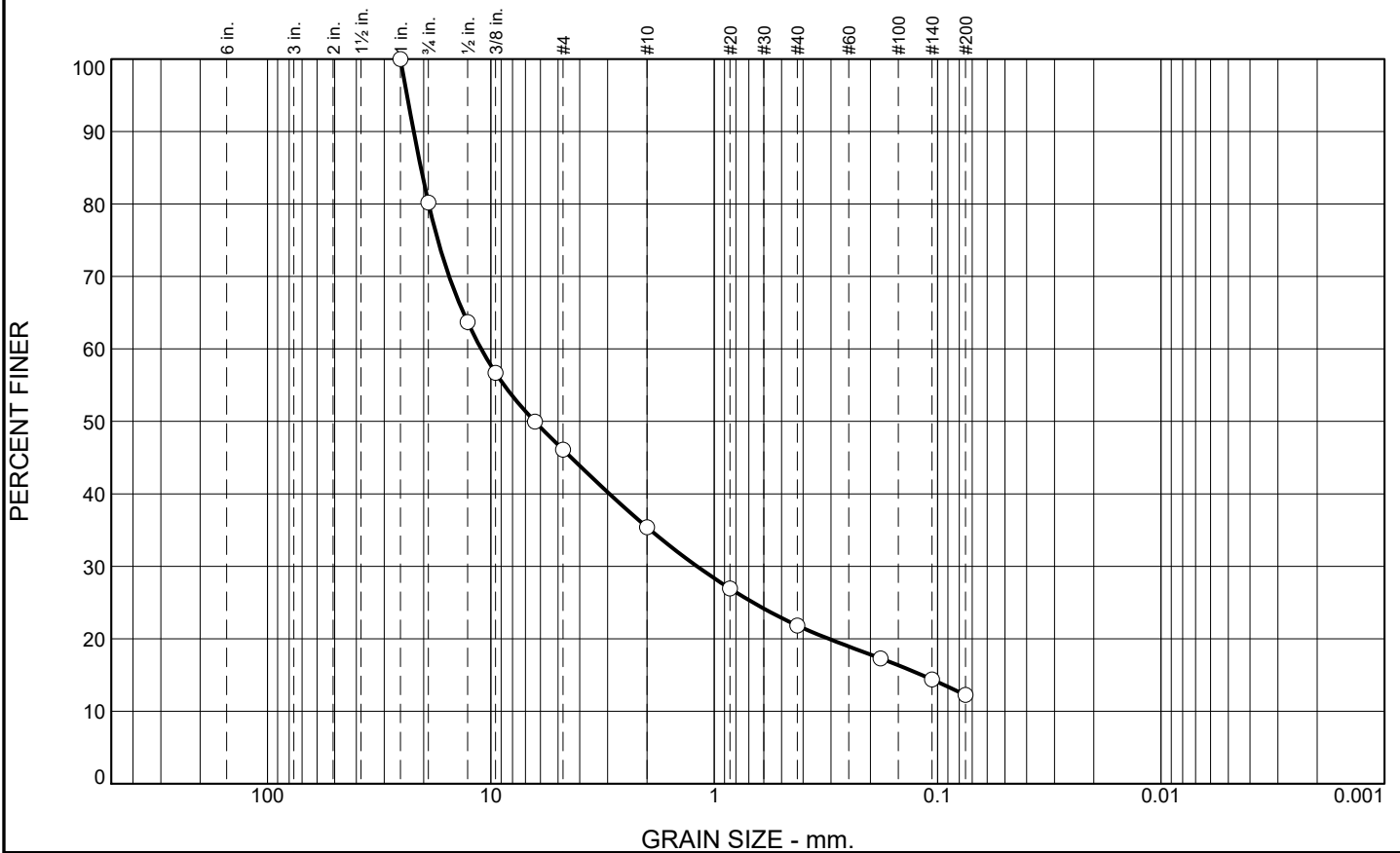
**Date:** 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-06	

**Tested By:** JMT

**Checked By:** MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	19.8	34.1	10.7	13.6	9.6	12.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	80.2		
1/2"	63.7		
3/8"	56.7		
1/4"	50.0		
#4	46.1		
#10	35.4		
#20	26.9		
#40	21.8		
#80	17.3		
#140	14.4		
#200	12.2		

**Soil Description**

silty gravel with sand

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>90</sub>= 22.1467      D<sub>85</sub>= 20.5815      D<sub>60</sub>= 11.0431  
D<sub>50</sub>= 6.3598      D<sub>30</sub>= 1.1935      D<sub>15</sub>= 0.1178  
D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**

USCS= GM                      AASHTO= A-1-a

**Remarks**

Moisture Content: 5.0%

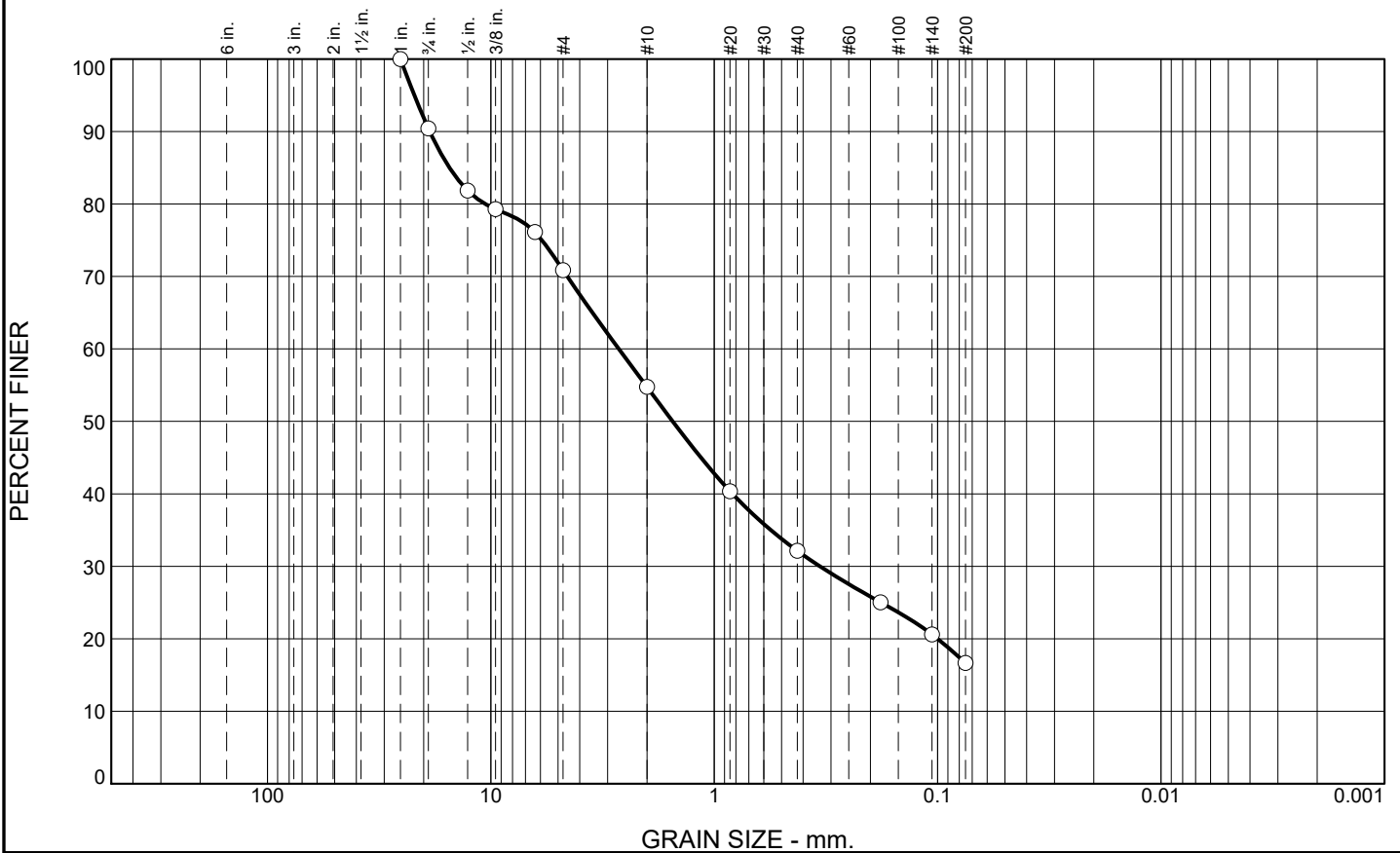
\* (no specification provided)

Location: CB-10                      Sample Number: S-4                      Depth: 7-9'                      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-07	

Tested By: CAG                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	9.6	19.5	16.1	22.7	15.4	16.7	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	90.4		
1/2"	81.9		
3/8"	79.3		
1/4"	76.1		
#4	70.9		
#10	54.8		
#20	40.4		
#40	32.1		
#80	25.0		
#140	20.6		
#200	16.7		

**Soil Description**  
silty sand with gravel

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 18.7680      D<sub>85</sub>= 15.3069      D<sub>60</sub>= 2.6756  
 D<sub>50</sub>= 1.5333      D<sub>30</sub>= 0.3368      D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= SM                      AASHTO= A-1-b

**Remarks**  
 Moisture Content: 6.3%

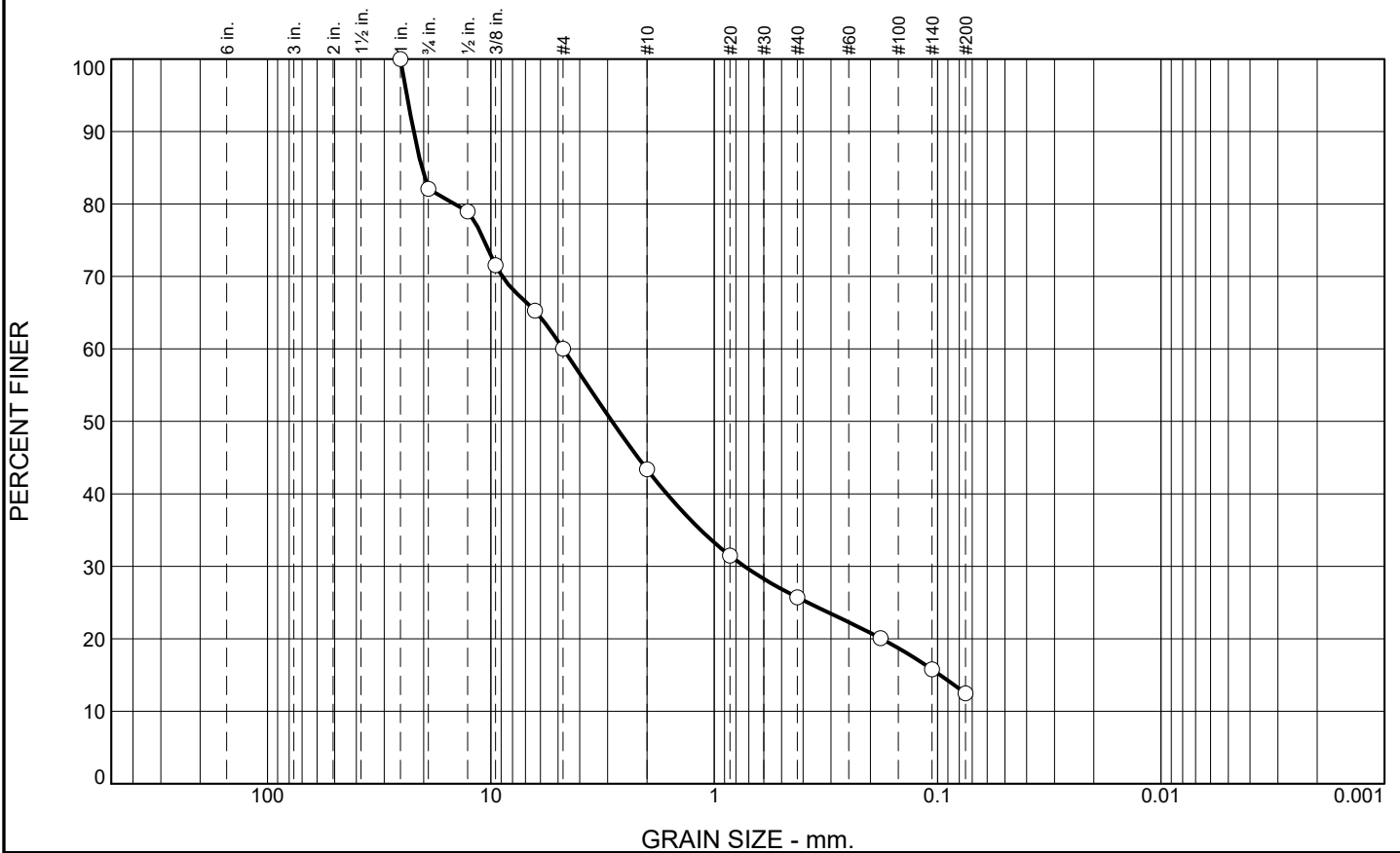
\* (no specification provided)

Location: CB-11      Sample Number: S-2      Depth: 2.3-4.3'      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-08	

Tested By: CAG                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	17.9	22.1	16.6	17.7	13.2	12.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	82.1		
1/2"	79.0		
3/8"	71.6		
1/4"	65.3		
#4	60.0		
#10	43.4		
#20	31.5		
#40	25.7		
#80	20.1		
#140	15.8		
#200	12.5		

**Soil Description**  
silty sand with gravel

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 22.1478      D<sub>85</sub>= 20.3699      D<sub>60</sub>= 4.7442  
 D<sub>50</sub>= 2.8682      D<sub>30</sub>= 0.7327      D<sub>15</sub>= 0.0975  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= SM                      AASHTO= A-1-a

**Remarks**  
 Moisture Content: 7.5%

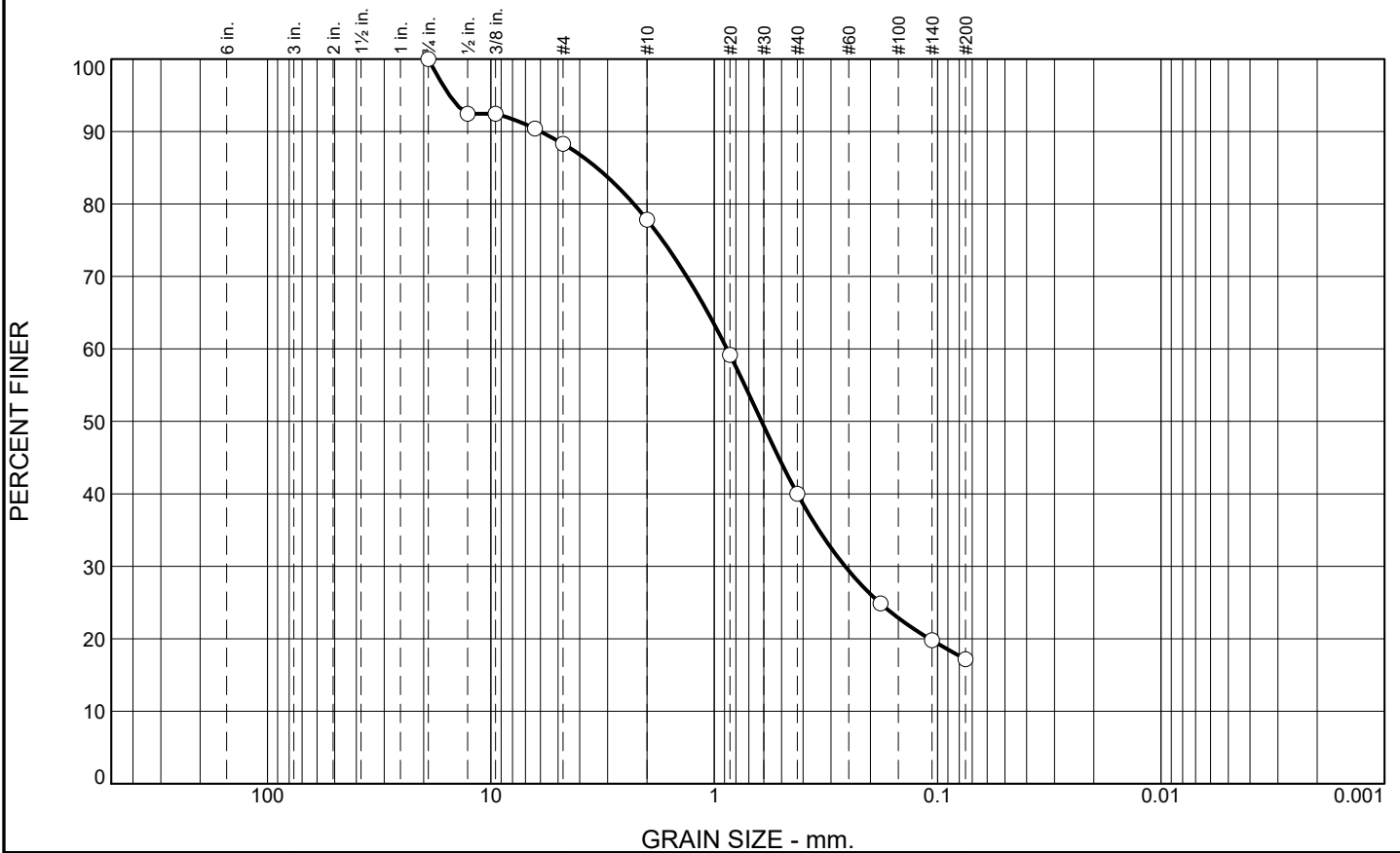
\* (no specification provided)

Location: CB-11      Sample Number: S-3      Depth: 5-7'      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-09	

Tested By: CAG                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	11.7	10.5	37.8	22.8	17.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
3/4"	100.0		
1/2"	92.5		
3/8"	92.5		
1/4"	90.4		
#4	88.3		
#10	77.8		
#20	59.2		
#40	40.0		
#80	24.9		
#140	19.8		
#200	17.2		

**Soil Description**  
silty sand

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 5.9842              D<sub>85</sub>= 3.3526              D<sub>60</sub>= 0.8765  
 D<sub>50</sub>= 0.6141              D<sub>30</sub>= 0.2598              D<sub>15</sub>=  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= SM                      AASHTO= A-1-b

**Remarks**  
 Moisture Content: 11.4%

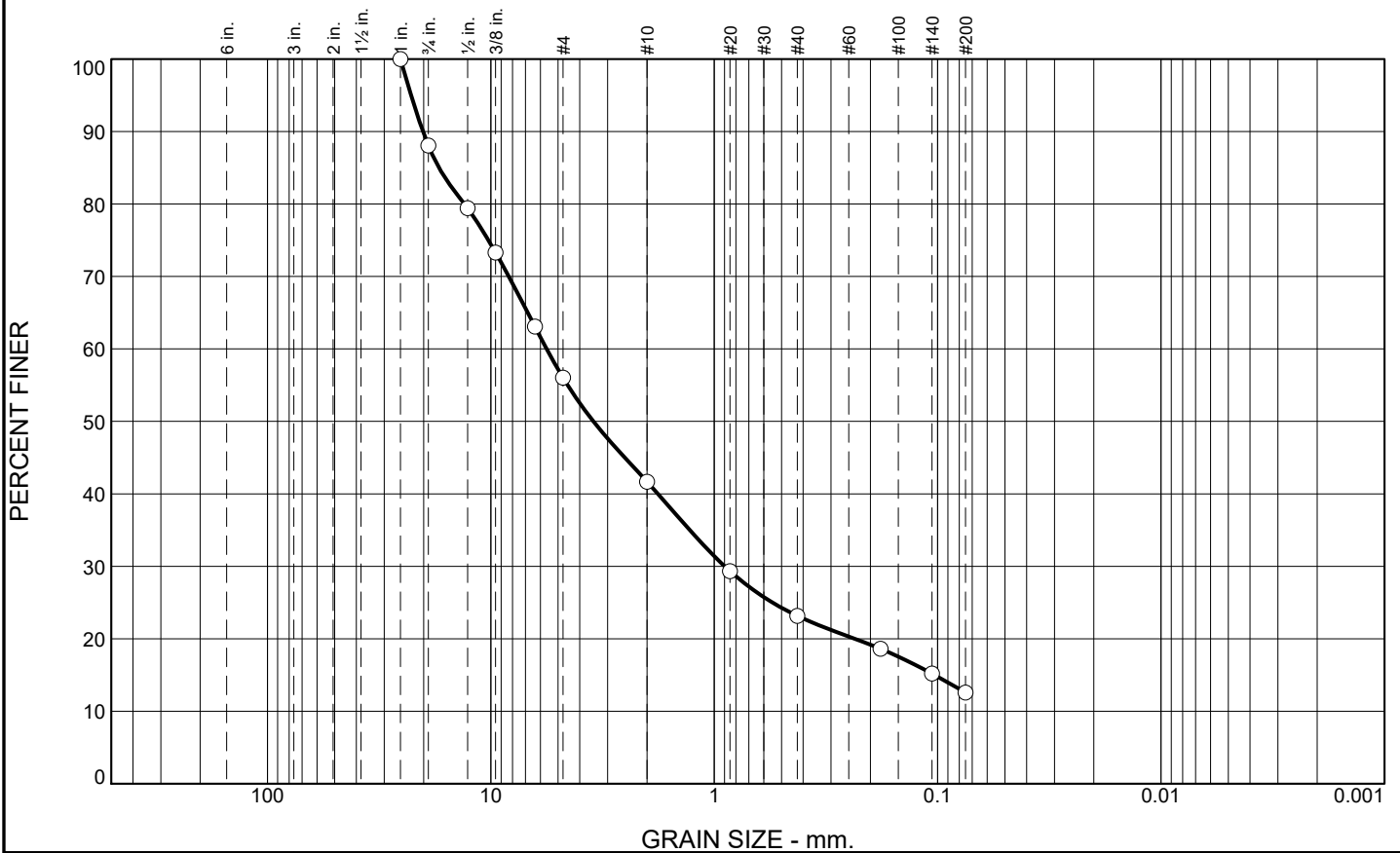
\* (no specification provided)

Location: CB-12                      Sample Number: S-1                      Depth: 0.3-2.3'                      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013 <b>Lab</b> 16469-10
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Tested By: JMT                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	11.9	32.1	14.3	18.5	10.6	12.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	88.1		
1/2"	79.4		
3/8"	73.3		
1/4"	63.1		
#4	56.0		
#10	41.7		
#20	29.3		
#40	23.2		
#80	18.6		
#140	15.2		
#200	12.6		

**Soil Description**  
silty gravel with sand

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 20.1335      D<sub>85</sub>= 17.0580      D<sub>60</sub>= 5.6217  
 D<sub>50</sub>= 3.4748      D<sub>30</sub>= 0.8978      D<sub>15</sub>= 0.1033  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= GM                      AASHTO= A-1-a

**Remarks**  
 Moisture Content: 6.4%

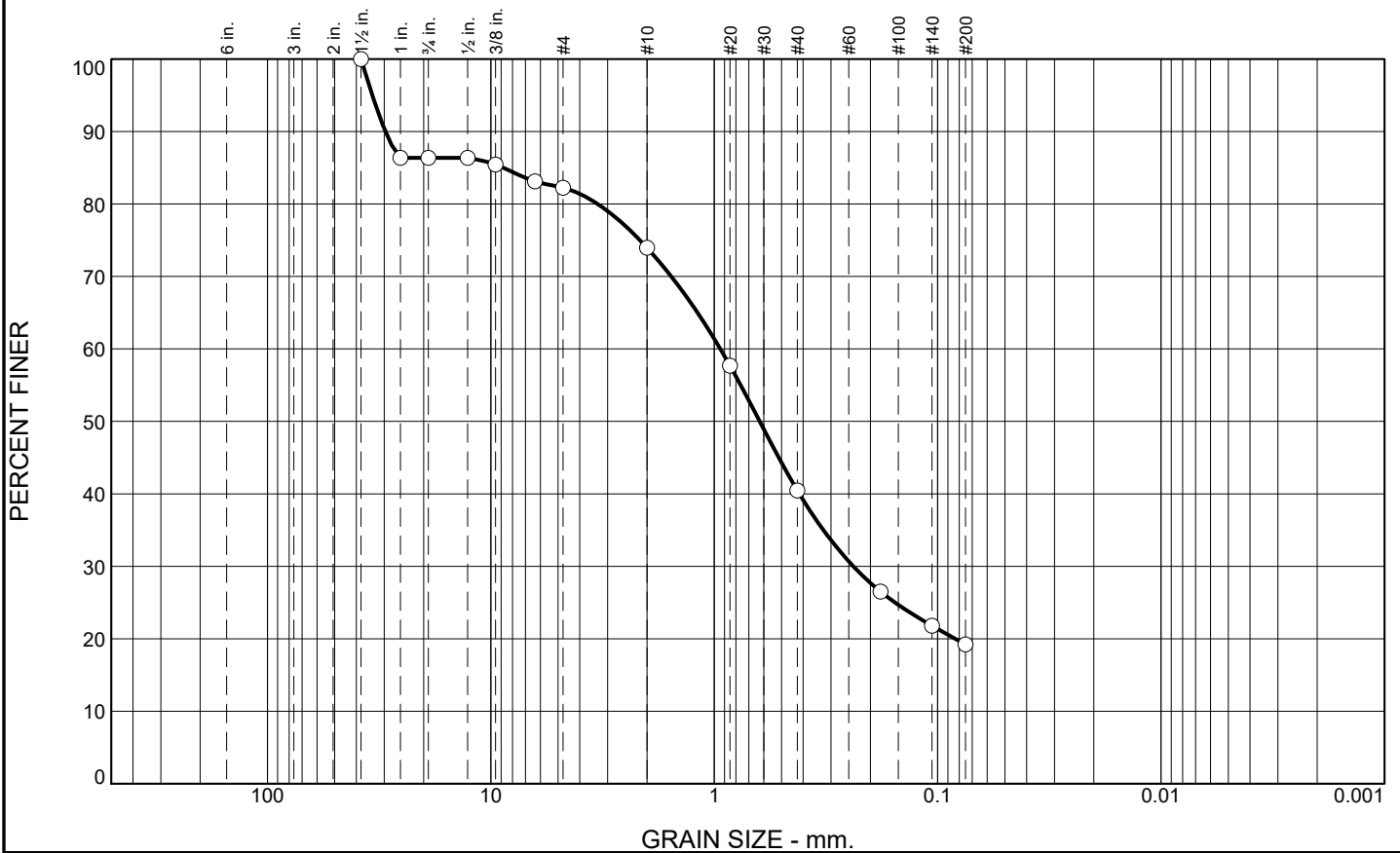
\* (no specification provided)

Location: CB-12                      Sample Number: S-4                      Depth: 7-9'                      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
	<b>Lab</b> 16469-11

Tested By: JMT                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	13.6	4.1	8.3	33.5	21.3	19.2	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1 1/2"	100.0		
1"	86.4		
3/4"	86.4		
1/2"	86.4		
3/8"	85.4		
1/4"	83.1		
#4	82.3		
#10	74.0		
#20	57.7		
#40	40.5		
#80	26.5		
#140	21.8		
#200	19.2		

**Soil Description**

silty sand with gravel

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>90</sub>= 29.6703      D<sub>85</sub>= 8.7739                      D<sub>60</sub>= 0.9387  
D<sub>50</sub>= 0.6260      D<sub>30</sub>= 0.2384                      D<sub>15</sub>=  
D<sub>10</sub>=                      C<sub>u</sub>=                                      C<sub>c</sub>=

**Classification**

USCS= SM                      AASHTO= A-1-b

**Remarks**

Moisture Content: 7.5%

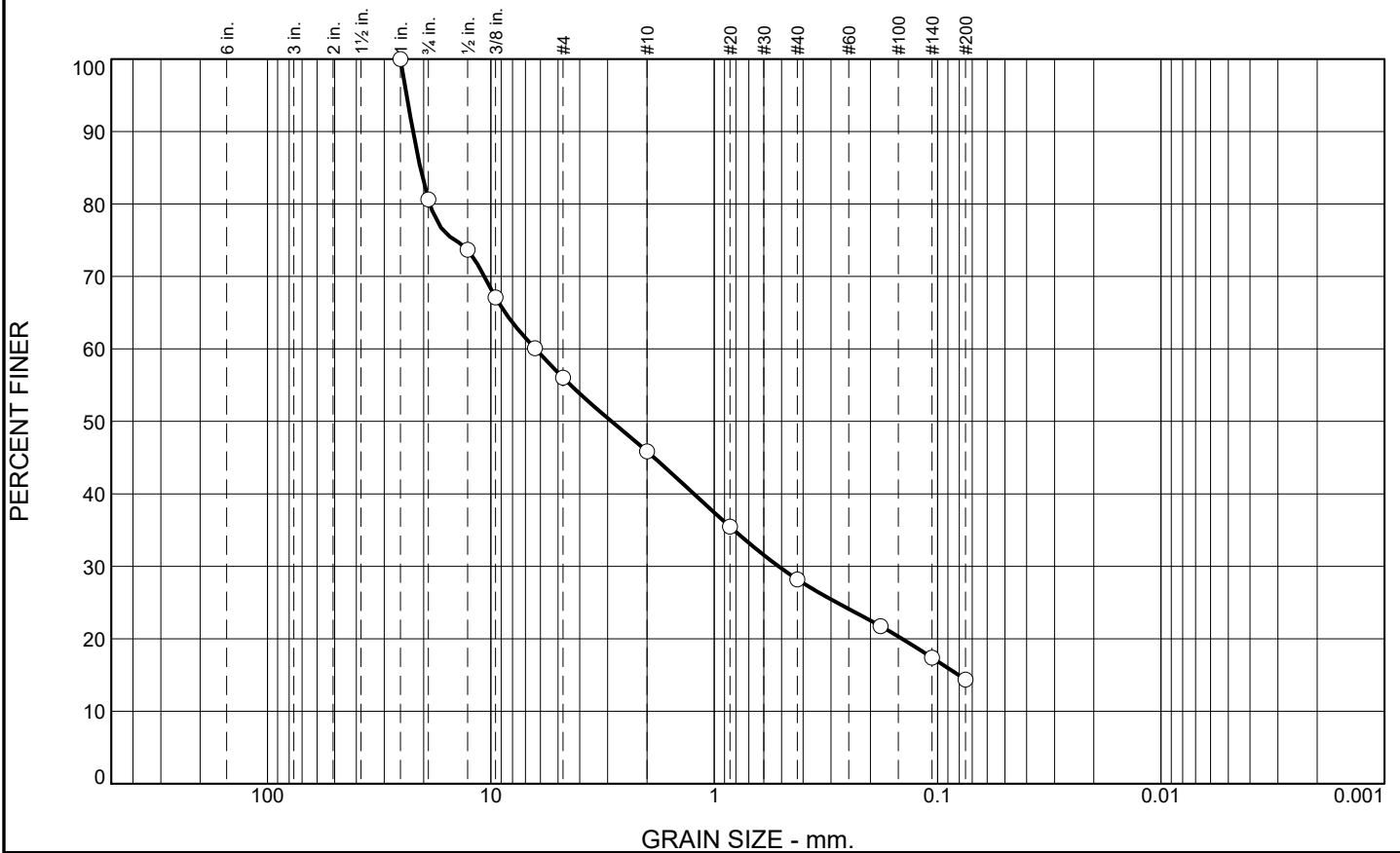
\* (no specification provided)

Location: CB-13                      Sample Number: S-2                      Depth: 2.3-4.3'                      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-12	

Tested By: JMT                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	19.4	24.6	10.1	17.7	13.8	14.4	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	80.6		
1/2"	73.7		
3/8"	67.1		
1/4"	60.1		
#4	56.0		
#10	45.9		
#20	35.5		
#40	28.2		
#80	21.7		
#140	17.4		
#200	14.4		

**Soil Description**

silty gravel with sand

**Atterberg Limits**

PL=                      LL=                      PI=

**Coefficients**

D<sub>90</sub>= 22.2986      D<sub>85</sub>= 20.6927      D<sub>60</sub>= 6.3033  
D<sub>50</sub>= 2.8823      D<sub>30</sub>= 0.5158      D<sub>15</sub>= 0.0806  
D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**

USCS= GM                      AASHTO= A-1-a

**Remarks**

Moisture Content: 6.0%

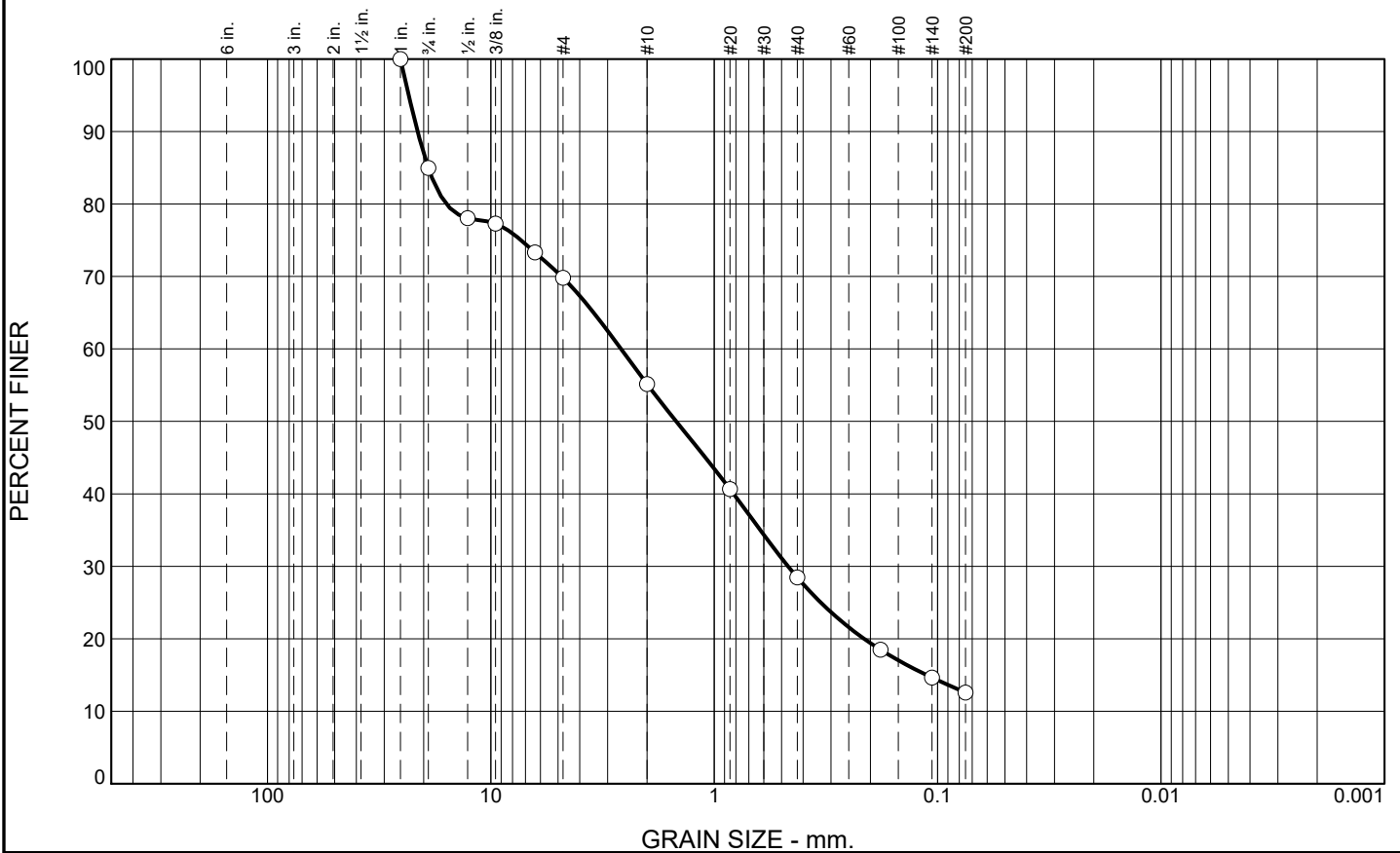
\* (no specification provided)

Location: CB-13      Sample Number: S-3      Depth: 5-7'      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-13	

Tested By: JMT                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	15.0	15.2	14.6	26.7	15.9	12.6	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	85.0		
1/2"	78.0		
3/8"	77.3		
1/4"	73.3		
#4	69.8		
#10	55.2		
#20	40.7		
#40	28.5		
#80	18.5		
#140	14.6		
#200	12.6		

**Soil Description**  
silty sand with gravel

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 21.2777      D<sub>85</sub>= 19.0583      D<sub>60</sub>= 2.6142  
 D<sub>50</sub>= 1.4788      D<sub>30</sub>= 0.4678      D<sub>15</sub>= 0.1121  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= SM                      AASHTO= A-1-b

**Remarks**  
 Moisture Content: 8.7%

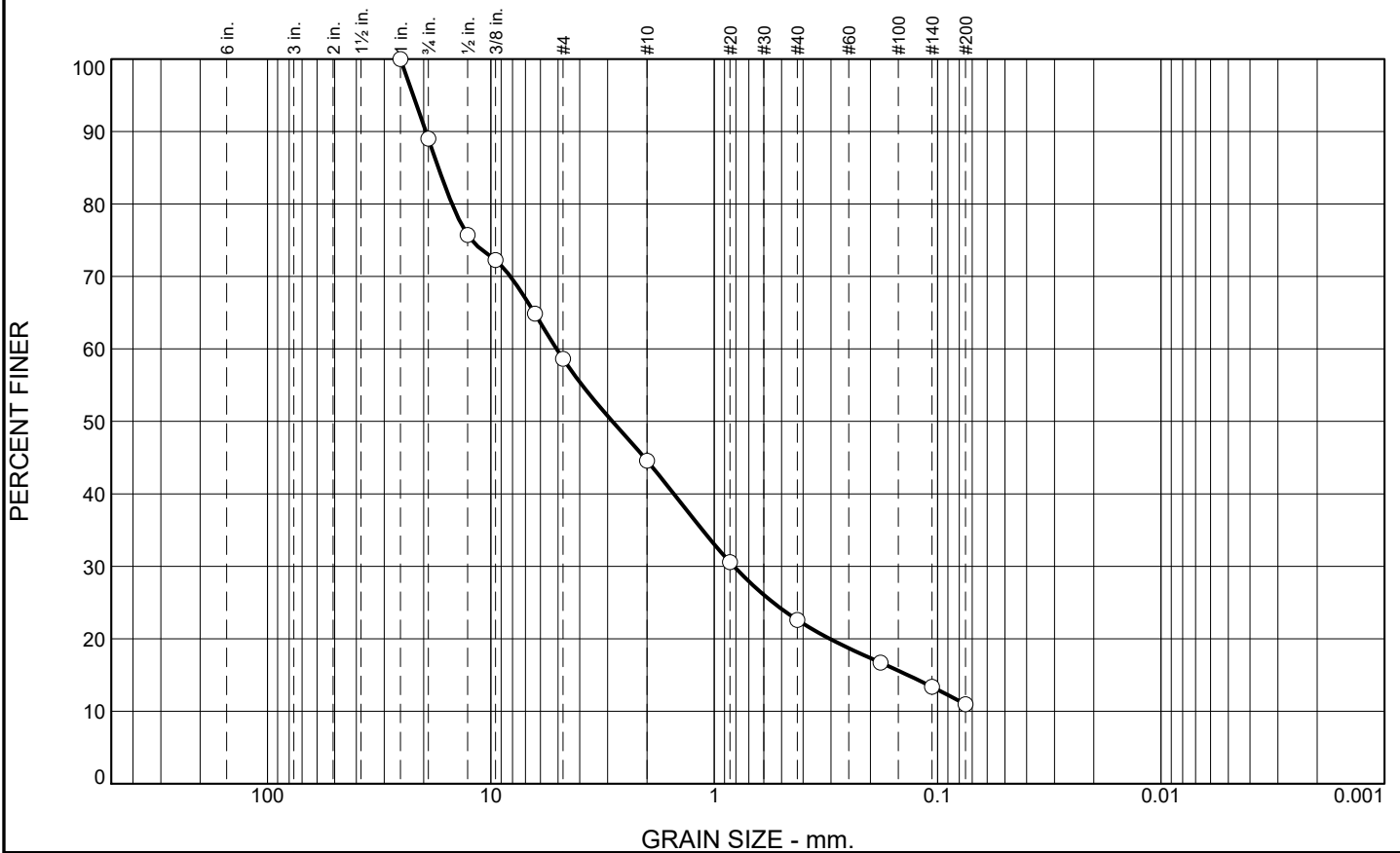
\* (no specification provided)

Location: CB-14      Sample Number: S-1      Depth: 0.3-2.3'      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-14	

Tested By: JMT                      Checked By: MTG

# Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	11.0	30.4	14.0	22.0	11.6	11.0	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1"	100.0		
3/4"	89.0		
1/2"	75.7		
3/8"	72.3		
1/4"	64.9		
#4	58.6		
#10	44.6		
#20	30.6		
#40	22.6		
#80	16.7		
#140	13.4		
#200	11.0		

**Soil Description**  
poorly graded sand with silt and gravel

**Atterberg Limits**  
 PL=                      LL=                      PI=

**Coefficients**  
 D<sub>90</sub>= 19.5368      D<sub>85</sub>= 17.1641      D<sub>60</sub>= 5.0750  
 D<sub>50</sub>= 2.8563      D<sub>30</sub>= 0.8175      D<sub>15</sub>= 0.1364  
 D<sub>10</sub>=                      C<sub>u</sub>=                      C<sub>c</sub>=

**Classification**  
 USCS= SP-SM                      AASHTO= A-1-a

**Remarks**  
 Moisture Content: 5.4%

\* (no specification provided)

Location: CB-14      Sample Number: S-4      Depth: 7-9'      Date: 4-9-2021

<b>R.W. Gillespie &amp; Associates, Inc. Biddeford, Maine</b>	<b>Client:</b> McFarland Johnson <b>Project:</b> Reconstruct Taxiway E Augusta, ME <b>Project No:</b> 1569-013
<b>Lab</b> 16469-15	

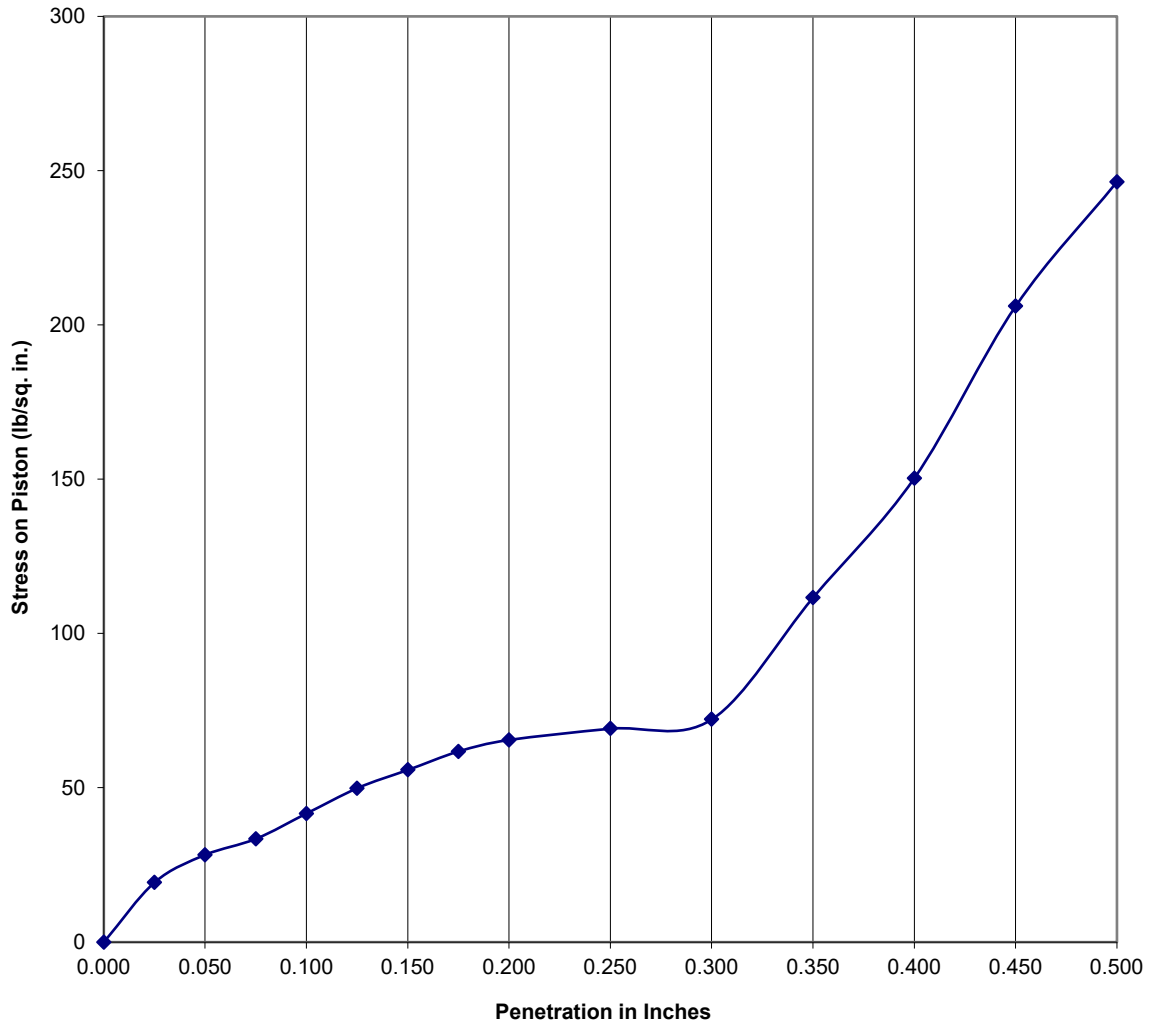
Tested By: JMT                      Checked By: MTG

**APPENDIX D**

**FIELD CALIFORNIA BEARING RATIO TEST RESULTS**

Geotechnical Engineering Evaluation  
Reconstruct Taxiway E  
Augusta State Airport  
Augusta, Maine

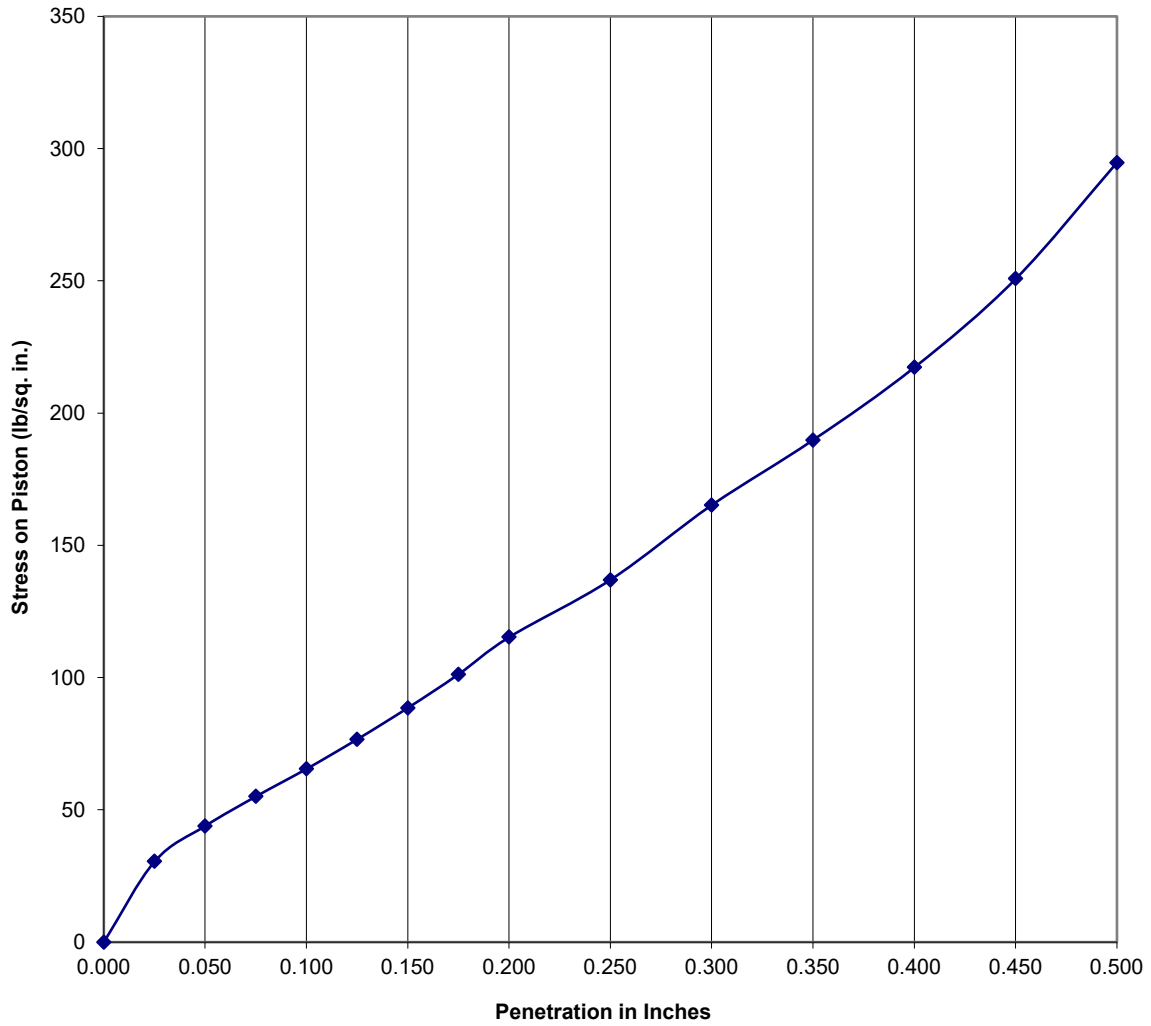
**Field California Bearing Ratio  
ASTM D4429**



**Bearing Ratio at 0.1 inch penetration = 4.2**

Test Location:	B-6	Test Depth:	42 inches
Project:	Reconstruct Taxiway E	Client:	McFarland Johnson Inc.
RWG&A Project No:	1569-013	Date:	5-Apr-2021
Location:	Augusta, ME		
<b>R. W. Gillespie &amp; Associates</b>			
20 Pomerleau Street, Suite 100 Biddeford, ME 04005	44 Wood Avenue, Suite 1 Mansfield, MA 02048	177 Shattuck Way, Suite 1 West Newington, NH 03801	

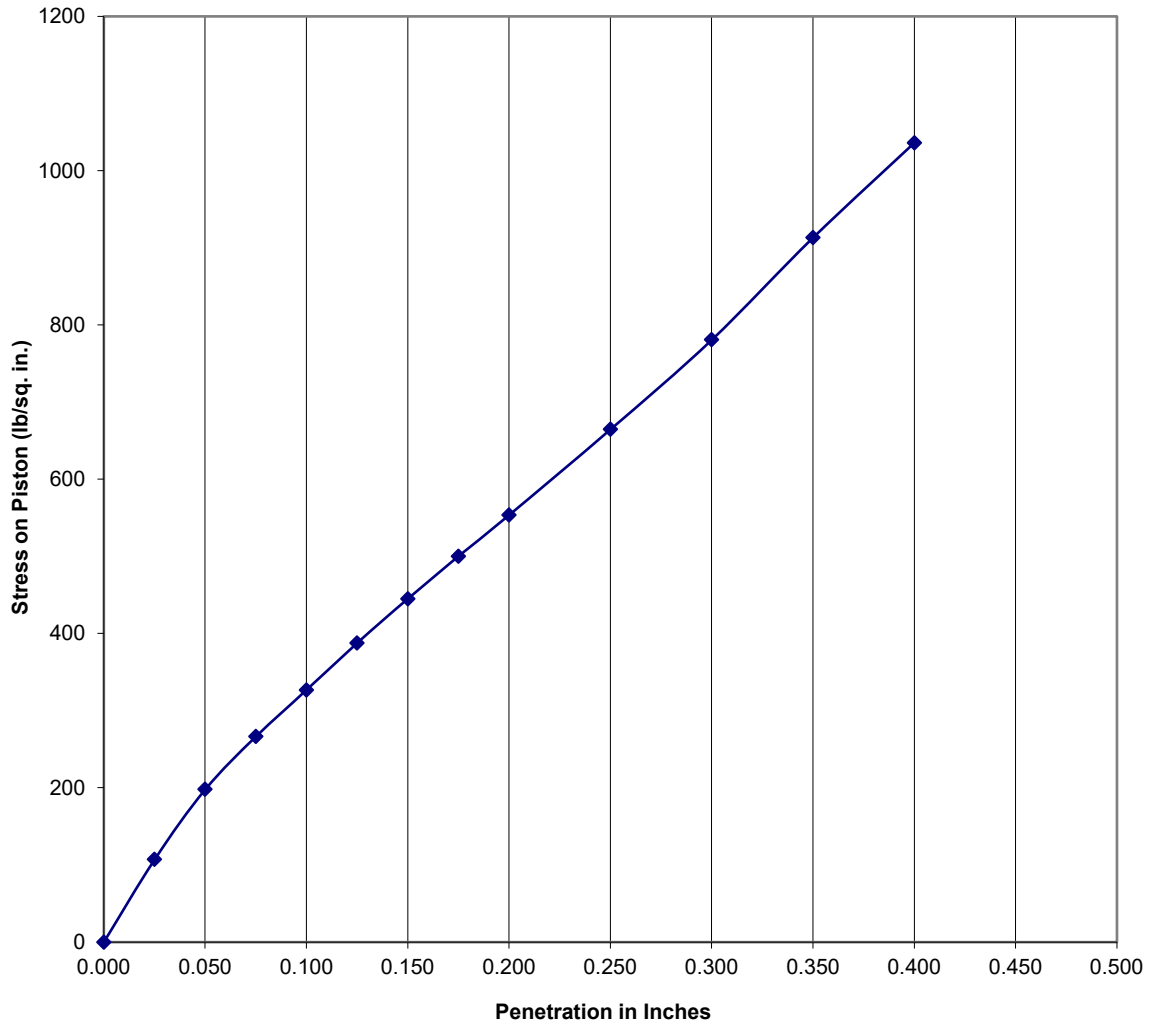
**Field California Bearing Ratio  
ASTM D4429**



**Bearing Ratio at 0.1 inch penetration = 6.6**

Test Location:	B-7	Test Depth:	42 inches
Project:	Reconstruct Taxiway E	Client:	McFarland Johnson Inc.
RWG&A Project No:	1569-013	Date:	5-Apr-2021
Location:	Augusta, ME		
<b>R. W. Gillespie &amp; Associates</b>			
20 Pomerleau Street, Suite 100 Biddeford, ME 04005	44 Wood Avenue, Suite 1 Mansfield, MA 02048	177 Shattuck Way, Suite 1 West Newington, NH 03801	

**Field California Bearing Ratio  
ASTM D4429**



**Bearing Ratio at 0.1 inch penetration = 32.7**

Test Location:	B-8	Test Depth:	42 inches
Project:	Reconstruct Taxiway E	Client:	McFarland Johnson Inc.
RWG&A Project No:	1569-013	Date:	5-Apr-2021
Location:	Augusta, ME		
<b>R. W. Gillespie &amp; Associates</b>			
20 Pomerleau Street, Suite 100 Biddeford, ME 04005	44 Wood Avenue, Suite 1 Mansfield, MA 02048	177 Shattuck Way, Suite 1 West Newington, NH 03801	

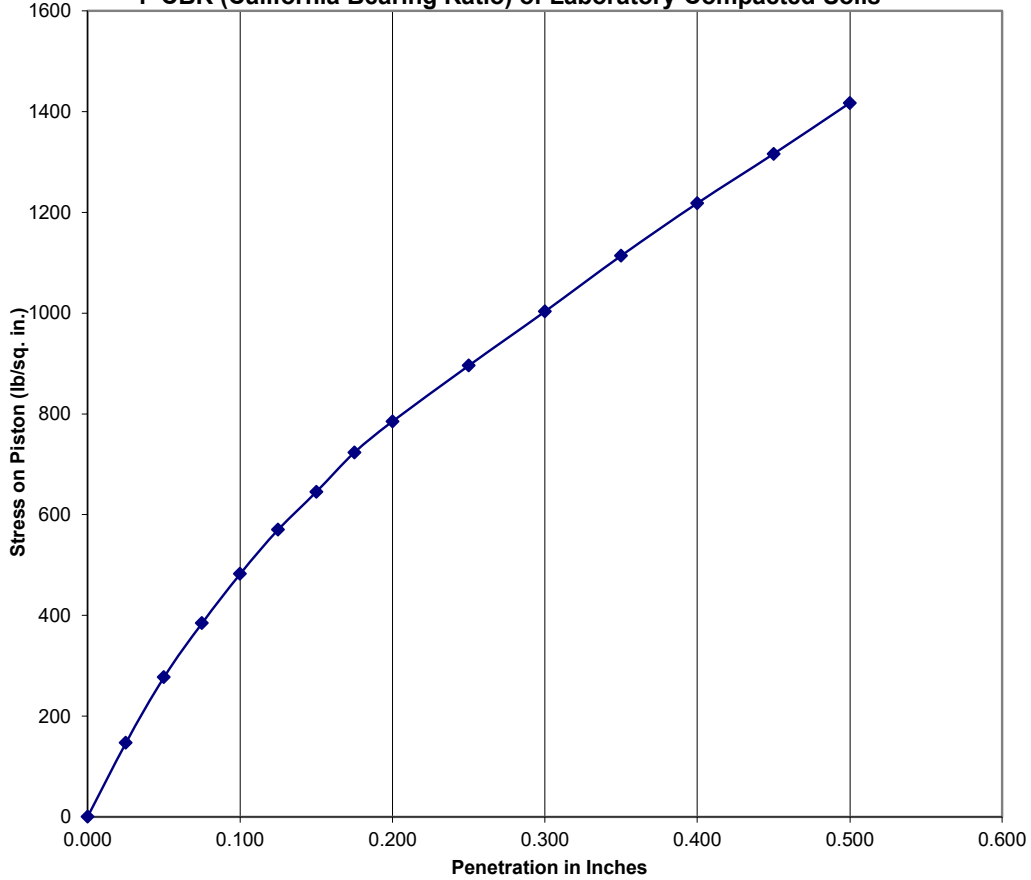
**APPENDIX E**

**LABORATORY CALIFORNIA BEARING RATIO TEST RESULTS**

Geotechnical Engineering Evaluation  
Reconstruct Taxiway E  
Augusta State Airport  
Augusta, Maine

**Lab California Bearing Ratio  
ASTM D 1883**

**1' CBR (California Bearing Ratio) of Laboratory-Compacted Soils**

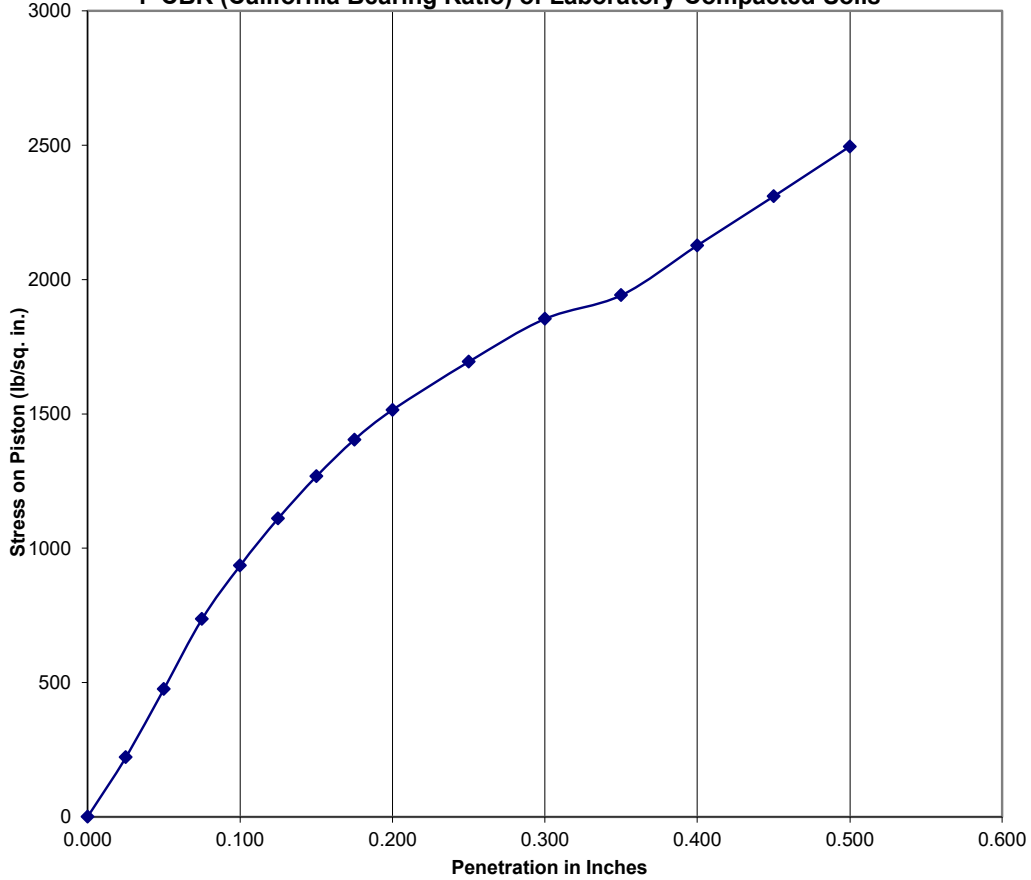


Bearing Ratio at 0.1" Penetration = 48.2 at 98.4% Compaction

<b>Test Location:</b>	<b>B-6</b>	<b>Sample #/Test Depth:</b>	<b>Bulk 3-5'</b>
Prep Method:	D1557	As Compacted Moisture Content:	7.5%
Curing Conditions:	Soaked	Top 1" of Test Sample Moisture Content:	N/A
Tested Dry Density:	134.0	Sample Swell:	0.0%
Surcharge Weight:	10 lbs	% Retained on 19mm Sieve:	46.4%
Special Sample Testing Procedures or Comments from Above			
None			
Project:	Reconstruct Taxiway E	Client:	McFarland Johnson
Project #:	1569-013	Date:	4/18/2021
Location:	Augusta, ME	Sample #:	16469-01
<b>R. W. Gillespie &amp; Associates</b>			
20 Pomerleau St. Suite 100 Biddeford, ME 04005		177 Shattuck Way, Suite 1 West Newington, NH 03801	

**Lab California Bearing Ratio  
ASTM D 1883**

**1' CBR (California Bearing Ratio) of Laboratory-Compacted Soils**

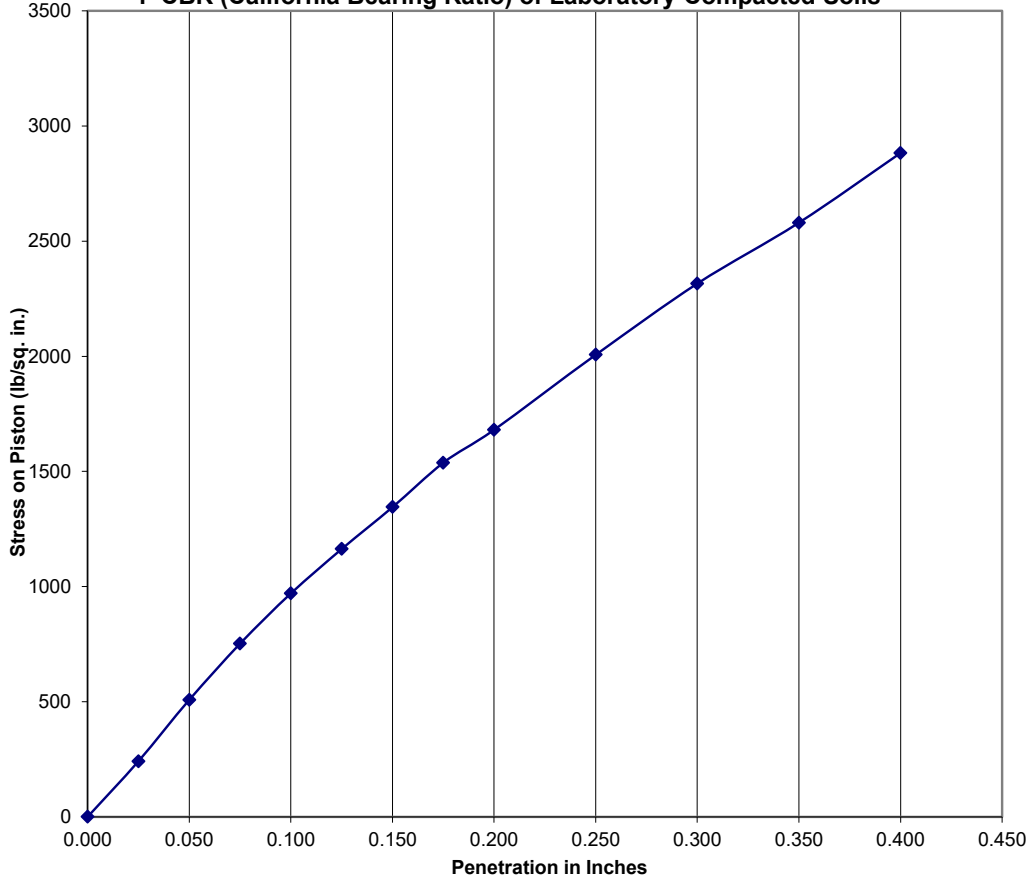


Bearing Ratio at 0.1" Penetration = 93.5 at 98.1% Compaction

<b>Test Location:</b>	<b>B-7</b>	<b>Sample #/Test Depth:</b>	<b>Bulk 3-5'</b>
Prep Method:	D1557	As Compacted Moisture Content:	7.7%
Curing Conditions:	Soaked	Top 1" of Test Sample Moisture Content:	N/A
Tested Dry Density:	136.3	Sample Swell:	0%
Surcharge Weight:	10 lbs	% Retained on 19mm Sieve:	23.3%
Special Sample Testing Procedures or Comments from Above			
None			
Project:	Reconstruct Taxiway E	Client:	McFarland Johnson
Project #:	1569-013	Date:	4/18/2021
Location:	Augusta, ME	Sample #:	16469-02
<b>R. W. Gillespie &amp; Associates</b>			
20 Pomerleau St. Suite 100 Biddeford, ME 04005		177 Shattuck Way, Suite 1 West Newington, NH 03801	

**Lab California Bearing Ratio  
ASTM D 1883**

**1' CBR (California Bearing Ratio) of Laboratory-Compacted Soils**



Bearing Ratio at 0.1" Penetration = 97.1 at 97.7% Compaction

<b>Test Location:</b>	<b>B-8</b>	<b>Sample #/Test Depth:</b>	<b>Bulk 3-5'</b>
Prep Method:	D1557	As Compacted Moisture Content:	8.3%
Curing Conditions:	Soaked	Top 1" of Test Sample Moisture Content:	N/A
Tested Dry Density:	138.5	Sample Swell:	0%
Surcharge Weight:	10 lbs	% Retained on 19mm Sieve:	12.2%
Special Sample Testing Procedures or Comments from Above			
Sample was stopped at 0.400 inches of penetration. The proving ring was at its maximum reading.			
Project:	Reconstruct Taxiway E	Client:	McFarland Johnson
Project #:	1569-013	Date:	4/18/2021
Location:	Augusta, ME	Sample #:	16469-03
<b>R. W. Gillespie &amp; Associates</b>			
20 Pomerleau St. Suite 100 Biddeford, ME 04005		177 Shattuck Way, Suite 1 West Newington, NH 03801	

**APPENDIX F**

**MOISTURE-DENSITY RELATIONSHIP TEST RESULTS**

Geotechnical Engineering Evaluation  
Reconstruct Taxiway E  
Augusta State Airport  
Augusta, Maine







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## Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

### DESCRIPTION

**102-1.** This item shall consist of temporary control measures as shown on the plans or as ordered by the Resident Project Representative (RPR) during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

### MATERIALS

**102-2.1 Grass.** Grass that will not compete with the grasses sown later for permanent cover per Item T-901 shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

**102-2.2 Mulches.** Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials per Item T-908. Mulches shall not create a wildlife attractant.

**102-2.3 Fertilizer.** Fertilizer shall be a standard commercial grade and shall conform to all federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

**102-2.4 Slope drains.** Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.

**102-2.5 Silt fence.** Silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

**102-2.6 Erosion Control Matting.** Erosion Control Matting used shall be non-woven geotextile and shall conform to the requirements specified in the following section of the MaineDOT Standard Specifications, Division 700 – Materials. Erosion Control Geotextile Specification 722.03.

**102-2.7 Wattle.** The wattle (fiber log) shall be a manufactured product with an outside open weave containment fabric filled with excelsior fibers, straw, or wood fibers with, or without, anionic flocculent. Composted wood mulch fibers shall not be used. The log shall have a twelve (12) inch minimum diameter. Fiber log materials shall be seed/weed free.

**102-2.8 Other.** All other materials shall meet commercial grade standards and shall be approved by the RPR before being incorporated into the project.

### CONSTRUCTION REQUIREMENTS

**102-3.1 General.** In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

**102-3.2 Schedule.** Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of

temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the RPR.

**102-3.3 Construction details.** The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the RPR.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the RPR. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the RPR, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The RPR may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing

operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

**102-3.4 Installation, maintenance and removal of silt fence.** Silt fences shall extend a minimum of 16 inches (41 cm) and a maximum of 34 inches (86 cm) above the ground surface. Posts shall be set no more than 10 feet (3 m) on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch (300-mm) overlap and securely sealed. A trench shall be excavated approximately 4 inches (100 mm) deep by 4 inches (100 mm) wide on the upslope side of the silt fence. The trench shall be backfilled, and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of silt that accumulates during construction and prior to establishment of permanent erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the RPR.

**102-3.5 Erosion Control Matting.** Surfaces to receive erosion control blanket shall conform to the grades and cross-sections shown on the plans and shall be finished to a smooth and even condition with all debris, roots, stones, and lumps raked out and removed. The soil surface shall be sufficiently loose to permit bedding of the matting. Unless otherwise directed, seed ordered shall be applied prior to placement of the matting.

The material shall be unrolled in the direction of the flow of water. Where the blanket ends at the top and bottom of the slope, the material shall be secured by toeing the material in 6" deep and placing staples 12" on center across the fabric.

Where the erosion control blanket meets end to end, the end down gradient shall be secured by toeing in the material 6" deep and applying staples 12" on center across the matting. The end of the up-gradient section shall overlap the toed in down gradient section by 12" and be secured by staples placed 12" on center across the fabric.

When adjoining rolls of erosion control blanket are laid parallel to one another, edges shall be overlapped 3" and staples placed 18" to 24" along the seam.

Staples shall be placed in a pattern that is recommended by the manufacturer.

Except where the blanket is turned down, all blanket material shall be spread evenly and smoothly so that it is in close contact with the ground. Bulging seams in either blanket material shall be cut out and joints formed as described above.

When instructed, additional seed shall be spread over the blanket material, particularly at those locations disturbed by building the slots. The blanket shall then be pressed onto the ground with a light lawn roller or by other satisfactory means.

The above specified spacing of staples may be changed as ordered, depending upon varying factors such as the season of the year or the amount of water encountered or anticipated.

**102-3.6 Wattles.** Wattles shall be per the detail on the plans, per manufactures recommendation and Best Management Practices. In areas of conflict the more stringent shall apply.

## METHOD OF MEASUREMENT

**102-4.1** Temporary erosion and pollution control work required will be performed as scheduled or directed by the RPR. Completed and accepted work will be measured as follows:

- a. Temporary seeding and mulching will be measured by the square yard (square meter).
- b. Installation and removal of inlet protection will be measured per each.
- c. Installation and removal of the stabilized Construction Entrance will be measured by each.
- d. Installation and removal of check dams will be measured by each.

- e. Installation and removal of Wattles will be measured by the linear foot (meter).
- f. Erosion Control Matting will be measured by the square yard (square meter)

**102-4.2** Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

### **BASIS OF PAYMENT**

**102-5.1** Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the RPR and measured as provided in paragraph 102-4.1 will be paid for under:

Item C-102-5.1a	Temporary seeding and mulching - per square yard (square meter)
Item C-102-5.1b	Installation and Removal of Inlet Protection - per each
Item C-102-5.1c	Stabilized Construction Entrance – per each
Item C-102-5.1d	Check Dam – per each
Item C-102-5.1e	Installation and removal of Wattles - per linear feet (meter)
Item C-102-5.1f	Erosion Control Matting – per square yard (square meter)

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the RPR will be paid for in accordance with Section 90, paragraph 90-05 *Payment for Extra Work*.

### **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.

Advisory Circulars (AC)

AC 150/5200-33 *Hazardous Wildlife Attractants on or Near Airports*

AC 150/5370-2 *Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

**END OF ITEM C-102**

### Item C-105 Mobilization

**105-1 Description.** This item of work shall consist of, but is not limited to, work and operations necessary for the movement of personnel, equipment, material, and supplies to and from the project site for work on the project except as provided in the contract as separate pay items.

**105-2 Mobilization limit.** Mobilization shall be limited to five (5) percent of the total project cost.

**105-3 Posted notices.** Prior to commencement of construction activities, the Contractor must post the following documents in a prominent and accessible place where they may be easily viewed by all employees of the prime Contractor and by all employees of subcontractors engaged by the prime Contractor: Equal Employment Opportunity (EEO) Poster "Equal Employment Opportunity is the Law" in accordance with the Office of Federal Contract Compliance Programs Executive Order 11246, as amended; Davis Bacon Wage Poster (WH 1321) - DOL "Notice to All Employees" Poster; and Applicable Davis-Bacon Wage Rate Determination. These notices must remain posted until final acceptance of the work by the Owner.

**105-4 Engineer/RPR field office.** An Engineer/RPR field office is not required.

### METHOD OF MEASUREMENT

**105-5 Basis of measurement and payment.** Based upon the contract lump sum price for "Mobilization" partial payments will be allowed as follows:

- a. Contractor shall reference MaineDOT Standard Specifications Section 108.2.3 for mobilization payment methods.

### BASIS OF PAYMENT

**105-6 Payment will be made under:**

Item C-105      Mobilization    - Lump Sum (LS)

### 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.

Office of Federal Contract Compliance Programs (OFCCP)

Executive Order 11246, as amended

EEOC-P/E-1 – Equal Employment Opportunity is the Law Poster

United States Department of Labor, Wage and Hour Division (WHD)  
WH 1321 – Employee Rights under the Davis-Bacon Act Poster

**END OF ITEM C-105**

## ITEM M-001 SPECIAL WORK REQUIREMENTS

### DESCRIPTION

**001-1.1 GENERAL.** The special requirements set forth in this section of these Specifications shall govern any aspect of the Contract work where such requirements are deemed applicable by the Owner or the Engineer. The purpose of these requirements is to help ensure that the Contract work complies with Airport Operation requirements, does not create any hazard to aircraft operations and point out special coordination or schedule conditions of which the Contractor should be aware. It shall be the Contractor's responsibility to conduct all work in strict accordance with the special requirements set forth herein, the Construction Safety and Phasing Plan (CSPP), the Contractor's Safety Plan Compliance Document (SPCD) and to fully cooperate with the Owner and the Engineer in every way necessary to fulfill the purposes of these requirements as set forth above.

Under this item, the Contractor shall set up his/her necessary general plant, including shops, storage areas, office, and such sanitary and other facilities as are required by local or state law or regulation. No separate measurement for payment will be made for work required by this item but rather the work shall be considered incidental to the overall project, unless covered by elsewhere.

Required materials that are not to be a part of the completed contract shall be, as determined by the Contractor, except that they shall conform to any pertinent local or state law, regulation, or code.

Work in providing the facilities and services under this item shall be done in a safe and workmanlike manner and shall conform to any pertinent local or state law, regulation, or code. Good housekeeping consistent with safety shall be maintained.

### 001-1.2 PROJECT DESCRIPTION.

This project is to Reconstruct, Mark, Light and Sign a Portion of Taxiway 'C' (Approx. 1,200 LF x 35 FT); Reconstruct, Mark, Light and Sign a Portion of Taxiway 'E' (Approx. 545 LF x 35 FT); Reconstruct, the Non-Movement Area of the Terminal Apron (Approx. 1,595 SY) – BASE BID. Reconstruct, Mark, Light and Sign Taxiway 'C' Bypass Taxiway (Approx. 1,800 SY) – ALTERNATE NO. 1 at the Augusta State Airport, Augusta Maine.

This construction will include but is not limited to: installation of temporary and permanent erosion control measures, excavation, removal of existing bituminous pavement, preparation of a reclaimed (recycled) Asphalt Aggregate Base Course, placement of new base course material, placement of Airport Asphalt Mix Pavement, Underground Electrical Duct Installation, Installation of Underground electrical Cable(s), installation of electrical Handholes, Installation of Airport Taxiway Edge Lighting, Installation of Airport Signage, Drainage Installation, Electrical Vault Equipment Installation, Topsoiling, Seeding, Mulching, Airfield Pavement Markings and other work as shown on the plans, as specified here in and as directed by the Engineer.

The Project is contingent upon the receipt of funding assistance from the Federal Aviation Administration (FAA) under the Airport Improvement Program (AIP) and Maine Department of Transportation.

### **01-1.3 PROJECT TIMETABLE.**

Anticipated Project Timetable is as follows:

- It is anticipated that the start of the project the Spring of 2022.
- Notice of award will be made in the Fall of 2021.
- The FAA does not allow unit price escalation clauses for work under this contract.
- The contract construction time is **60 calendar days** for the award of the base bid or base bid plus Alternate No. 1.

The project has been divided up into separate work areas for safety and to minimize disturbance to Airport operations by construction activities. Within the **60 calendar days** of total contract time, the contractor shall complete work within the specified work areas within the following specified time:

- Work Area 1A – Within ten (10) non-consecutive calendar days, as long as Taxiway 'B' can be opened for aircraft use.
- Work Area 1B - Within the sixty (60) consecutive calendar days project schedule.
- Work Area 2 - Within the sixty (60) consecutive calendar days project schedule, except when Runway 8-26 is open for departures and landings, at which time the RSA and ROFA must meet FAA safety standards.
- Work Area 3 - Within the sixty (60) consecutive calendar days project schedule. Vehicle traffic including but not limited to; Emergency Vehicles, Pick-ups and 18 passenger van shall access to the Terminal apron at all times.
- Work Area 4 – **Required, Nighttime Work Only.** Limited to ten (10) calendar days. Runway 17-35 is to be closed. Runway 8-26 to be opened. Can not occur simultaneous with work in Work Area 2.

For additional work area information and restrictions refer to the Construction Safety and Phasing Plans (CSPP) contained with the Contract Plans and Documents.

**001-1.4 BID ALTERNATIVES.** The project will consist of a Base Bid and one (1) alternate as follows:

#### Base Bid.

Reconstruct, Mark, Light and Sign a Portion of Taxiway 'C' (Approx. 1,200 LF x 35 FT);

Reconstruct, Mark, Light and Sign a Portion of Taxiway 'E' (Approx. 545 LF x 35 FT); Reconstruct, the Non-Movement Area of the Terminal Apron (Approx. 1,595 SY) – BASE BID.

Alternate No. 1.

Reconstruct, Mark, Light and Sign Taxiway 'C' Bypass Taxiway (Approx. 1,800 SY) – ALTERNATE NO. 1 – Alternate No. 1. This alternative includes the reclamation and lighting of the TW 'C' Bypass Taxiway. If this alternate is awarded, it will include additional costs for the following items:

- P-152-4.1
- P-207-5.1
- P-207-5.2
- P-401-8.1
- P-620-5.2b
- L-125-5.1

These items shall have the same unit cost as the base bid.

Alternate No. 1 also deducts quantities from the base bid. These items include:

- T-901-5.1
- T-905-5.1
- T-905-5.2
- T-908-5.1

These items numbers shall have the same unit cost as the base bid and shall be shown as deducts.

Alternate No. 2.

Install airfield electrical cables as direct buried cable, install both stake mounted and base mounted lights, and other work as shown on the plans or as specified herein. If this alternative is awarded, the cost of conduit and base mounted cans shall be deducted from the base bid. These items include:

- L-110-5.1a
- L-125-5.1

These items shall have the same unit cost as the base bid and shall be shown as a deducts.

Alternative No. 2 also adds quantities to the base bid. These items include:

- L-108-5.1
- L-125-5.2

There shall be no contract construction time adjustment beyond that provided for the base bid for the award of Alternate No. 1 and Alternate No. 2 work.

**001-1.5 EXISTING CONDITIONS AND PROJECT REQUIREMENTS.** With the submission of a

bid, it shall be understood that the Contractor has fully examined the Plans, Specifications and existing field conditions and understands fully all project requirements and obligations. Any claims for additional compensation for failure to completely understand the project requirements and obligations will be rejected by the Owner.

The Owner will be holding a pre-bid conference at which time prospective bidders will have access to investigate the work site. Additional access to the Airfield may be obtained with the permission of the Owner. All requests for additional access shall be made by contacting the Engineer.

Data on pavement core thickness, soil borings and the geotechnical report are being provided for your use and reference (refer to the Special Provisions of the project specifications). It is the sole responsibility of the Contractor regarding interpretations, assumptions or conclusions drawn from these reference items and test results in the preparation of their bid proposal.

**001-1.6 WETLANDS.** Wetlands are shown on the plans shall be delineated at the start of the project by the Contractor. The wetland disturbance shown on the plans has been permitted for, and any additional wetland disturbance caused by contractor shall be paid for by the contractor at no additional cost to the owner.

**001-1.7 PERMIT AND REGULATION COMPLIANCE.** The Contractor shall comply with all project permits, general permits, state laws, and local regulations. Any fines assessed against the Airport and related expenses due to non-compliance with the permits, laws, rules, and regulations cited in the Contract Documents and caused by the Contractor and their personnel, Subcontractors and Vendors shall be paid for by the Contractor.

For permit requirements refer to the Special Provisions of the project specifications.

**001-1.8 PRE-CONSTRUCTION VIDEO SURVEY.** The Contractor shall perform a video survey prior to the start of construction. The intent of the survey will be to document existing conditions prior to construction. The video survey shall include but not be limited to:

- Apron
- Existing Taxiways
- Runway 17-35
- Runway 8-26
- Existing NAVAIDS
- Existing Threshold Lights
- Existing Runway Lights in work area
- Existing Wetlands
- Haul Routes
- Staging Area
- And other areas subject to Contractor Activities

Audio notes shall accompany the video to identify the existing condition of the items being surveyed.

A copy of the video shall be provided to the Engineer in DVD format prior to the start of construction.

**001-1.9 COORDINATION WITH THE AIRPORT AND OTHER CONTRACTORS.** The Owner reserves the right to contract for and perform other work on the airfield within and outside the work areas of this contract.

When separate Contractors are let within the limits of any one project, each Contractor shall conduct their work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working within the same project area shall cooperate with each other as directed. Where necessary, each Contractor shall make reasonable adjustments in their schedules to allow for the proper sequencing of work by others.

The Contractor shall arrange their work and shall place and dispose of the materials being used or stored for later use so as not to interfere with the operations of the other Contractors. Contractors utilizing haul routes shall share in the responsibility of maintenance, dust control, and restoration of the haul routes. The responsibilities shall be pro-rated to each Contractor based on use. In areas of dispute between Contractors on the responsibilities for maintenance, dust control, and restoration of the haul routes or other items, the Engineer shall have the sole judgment as to the assessment of responsibilities to each respective Contractor.

Coordination between Contractors shall be at no additional cost to the Owner.

No additional compensation will be considered eligible due to contractor claims of delay, hindrance, or interference from other contractors.

**001-1.10 CONSTRUCTION SAFETY AND PHASING PLAN (CSPP).** To enhance safety and to minimize disturbance to daily airport operations the project has been divided in separate phases or work areas as shown on the Safety and Phasing Drawings. The safety and phasing drawings are part of the Construction Safety and Phasing Plan (CSPP). The Contractor shall follow the CSPP explicitly. Deviations from the CSPP will require a revision to the CSPP subject to the Owner and FAA approval. Refer to Specification M-120 for additional information on the Maintenance and Protection of Traffic.

**001-1.11 SAFETY PLAN COMPLIANCE DOCUMENT (SPCD).** The Contractor will be required to provide a Safety Plan Compliance Document (SPCD). The SPCD will detail how the CSPP will be compiled to. Within the SPCD the Contractor shall provide details including but not limited to contact names and numbers, barricades proposed, runway closed markers proposed, haul routes to work areas, communication plan, fueling of equipment, Foreign Object Debris (FOD) and dust control, verification of height restriction on stockpiles and equipment, and other safety procedures. The Contractor shall also include a SPCD certification that they have read, understand the requirements of, and will follow the CSPP. Approval of the SPCD by the Owner will be required prior to the issuance of the Notice to Proceed (NTP).

**001-1.12 UNDERGROUND UTILITIES AND CABLES.** The approximate locations of known utilities and underground cables are shown on the Plans. There may exist active or inactive underground cables and utilities within the project areas that are not shown on the Plans. Prior to commencement of any excavation the Contractor shall locate and verify the locations and depths of all underground utilities and cables.

The Contractor shall coordinate all work with the following agencies as appropriate.

1. The Federal Aviation Administration – Airways Facilities Branch
2. The National Oceanic and Atmospheric Administration – National Weather Bureau
3. Central Maine Power Company
4. Augusta State Airport

The Contractor shall furnish and install all materials necessary to protect existing underground utilities and cables that are to remain. The Contractor shall comply with the current version of the Dig Safe Law, effective Dec 17, 1998 or as revised. The Contractor is required to pre-mark the construction-site and give notice of planned digging near utility, cable, and fuel lines.

The Contractor shall locate and verify all underground utilities and cables at no additional cost to the Owner.

The Contractor shall repair, at their own expense, utilities damaged by their operations, including any damage done by driving their equipment over existing underground cables. The repair of utilities shall be inspected and approved by the appropriate utility and witnessed by the Engineer.

**001-1.13 SUBMITTALS.** Upon receipt of the “NOTICE OF AWARD” of the Contract, the Contractor shall submit all appropriate Shop Drawings, material certifications, Buy American Certifications, federal compliance documents, and equipment data sheets in accordance with relevant sections of these Specifications. Once approvals have been obtained, the Contractor shall order all necessary equipment and materials and shall notify the Engineer of their receipt. Please note that Contract Time will not start until the date specified in the “NOTICE TO PROCEED”.

The Contractor shall identify all long lead-time material items and incorporate them into the construction schedule. The Contractor is reminded to include sufficient time for material Shop Drawing review in this schedule. In general, submittals requiring in-office review only will be processed within ten (10) business days. Submittals requiring outside review can take up to twenty (20) business days. It shall be the Contractor's responsibility to identify long lead-time material items and incorporate their delivery into the overall work schedule.

No additional Contract time will be provided for failure to identify long lead-time materials.

**001-1.14 WORK HOURS.** Work hours available to the Contractor are Monday through Friday **6:30 a.m. to 6:00 p.m. and Saturday 8:00 a.m. to 4:30 p.m. Nighttime work will be between the hours of 7:30 p.m. to 6:30 a.m.** If applicable, local work hour ordinances shall also apply. Additional hours may be allowed with the approval of the Owner. In case of conflict in the Work Hours noted, the more stringent shall govern. Additional hours may be allowed with prior approval of the Owner.

**001-1.15 OVERALL WORK SCHEDULE.** The Contractor shall be required to submit a proposed schedule of how the work will be accomplished over the Contract period. The schedule shall be prepared using Microsoft Project or similar computer software. The schedule shall indicate detailed tasks with early and late start dates and critical path activities. This overall schedule shall be submitted to the Engineer prior to the Pre-Construction Conference. The Contractor shall be prepared to review the schedule at the Pre-Construction Conference with all parties. If so requested, the Contractor shall make modifications to the schedule to minimize disruption to Airport operations. The overall construction schedule is subject to the approval of the Airport and the Engineer.

It shall be understood that the "NOTICE TO PROCEED" will not be provided until the overall work schedule is submitted and determined to be acceptable by the Engineer and Owner.

During construction, the overall project schedule shall be updated biweekly with copies provided to the Engineer.

In accordance with the FAA General Provisions paragraph 80-02 of section 80, the Contractor shall notify the Engineer at least seventy-two (72) hours in advance of the time they intend to start work. It should be noted by the Contractor that seventy-two (72) hours is the time required by the Owner to issue a proper NOTAM of the pending construction activities.

The FAA requires 30 days advance notice for the nighttime shut down of Runway 17-35.

**001-1.16 MONTHLY, WEEKLY, AND DAILY SCHEDULES REQUIRED.** To facilitate the specific requirements and intent of this section, the Contractor shall weekly prepare and submit a schedule of operations for the following workweek. The schedule shall be given to the Engineer by the end of the work week, proceeding the week covered by the schedule. The weekly schedule shall be subject to the approval of the Engineer, and shall include as a minimum, the following:

1. Major work items to be accomplished.
2. Subcontractors to be on-site.
3. Names of each Contractor's and Subcontractor's personnel to be on-site.

4. Type and quantity of equipment to be on-site.
5. Areas of the site where construction is scheduled.
6. Any anticipated closing of facilities that will be required.
7. Other information requested by the Owner or Engineer.

A daily schedule shall be provided to the Engineer each morning of activities that will be accomplished that day. The daily schedule may be verbal. The Engineer may disallow work that is not included in the current weekly work schedule.

**001-1.17 ON-SITE SUPERVISION.** The Contractor shall have a competent superintendent on the work site **at all times** that workers of the Contractor and/or Subcontractors are on-site.

Any time that work is proceeding without the Contractor's superintendent on-site by the Prime Contractor, Subcontractors and Vendors will result in an immediate suspension of work by the Owner. If a suspension of work order is issued, the Contractor shall secure and maintain the site during the period of the suspension of work. No additional compensation will be considered for work performed in preparation of the suspension of work or maintenance of the site during the suspension. No additional Contract time or compensation will be considered for delays or work required by the Contractor for failure to have a competent superintendent on-site at all times.

The superintendent(s) shall be fully authorized to act as the Contractor's agent on the project. The superintendent shall be capable of reading and thoroughly understanding the Plans and Specifications and shall receive and fulfill instructions from the Engineer or the Owner. The superintendent(s) shall be experienced in the type and nature of the work to be completed.

**001-1.18 CONTRACTOR "ON-CALL NAMES AND PHONE NUMBERS".** The Contractor shall provide the Engineer and the Airport Manager with the name(s) and telephone number(s) of persons (two (2) minimum) that can be contacted before or after work hours for emergency situations affecting the construction. The Contractor shall be "on call" at all times during the length of the construction period until the end of the Warranty Period as described in the Supplemental General Provisions. The Contractor contact information shall be provided to the Engineer one (1) week prior to the Pre-Construction Conference.

**001-1.19 ADDITIONAL RESIDENT ENGINEER SERVICES.** The Owner has established a Resident Engineering budget based on the work hours made available to the Contractor. If the Contractor's work schedule exceeds the weekly Resident Engineering hours budgeted for the project, the Contractor agrees to pay the Owner the additional cost for the Resident Engineer in excess of the budgeted hours. The weekly Resident Engineering budget is sixty (60) hours per week. The cost to the Contractor shall be based on the Resident Engineer's actual billing rate plus expenses and fifteen percent (15%) profit in effect at the time the services were provided. For budgeting purposes, an hourly rate of \$140.00/hour is recommended. It shall be understood that these charges are in addition to any other damage claims available to the Owner (Liquidated

Damages, Breach of Contract, etc.), as described within the Contract Documents.

**001-1.20 CONTRACTOR'S AUTHORIZED AREA.** The Contractor shall not have access to the whole Airport. The Contractor shall be restricted to the designated work areas, haul route(s), staging area(s) and employee parking area shown on the plans.

The Contractor shall keep personnel and equipment clear of all other Airport critical areas and active Aircraft Operations Areas (AOA) at all times during construction.

No stationary equipment or stockpiles of materials will be allowed to penetrate the Runway 15-33 FAR Part 77 Approach Surfaces, or the runway transitional surfaces, and the runway or taxiway object free areas unless the area is closed to aircraft operations. At no time shall any construction equipment or stockpiles of materials penetrate the threshold approach surface.

For additional information refer to the Safety Plans.

**001-1.21 CONTRACTOR STAGING AREA AND EQUIPMENT YARD.** The area(s) for the location of the Contractor's field office and for storing materials and servicing, repairing, and parking construction equipment (Contractor's staging areas and auto parking areas) are located as shown on the Plans.

The Contractor will only be permitted to store equipment and materials in the Contractor's staging area. All equipment booms shall be lowered at the close of each day's work or when stored.

The Contractor (and their Subcontractors) shall provide all necessary temporary fencing and gates to protect materials and equipment from pilferage. The Owner will not be responsible for any vandalized equipment or material stored on the Airport property.

All areas occupied by the Contractor shall be maintained in a clean and orderly condition satisfactory to the Engineer. Attention shall be given to the elimination of combustible rubbish or debris in the areas and none shall be left exposed overnight or at other periods of time the work is shut down.

At the completion of the Contract, all Contractor's and Subcontractor's facilities shall be removed promptly in a workmanlike manner and the area restored to original or better condition and left clean and free of all debris or surplus material.

**001-1.22 HAUL ROUTES.** The Contractor shall not be granted access to the entire airfield and shall restrict their activities to the designated haul routes (roads) and service roads, staging areas and work areas as shown on the Plans.

Haul routes on the Airport shall be shown on the Plans. The Contractor shall stake, delineate with construction fence the haul routes to be used by Contractor vehicles. The maximum speed limit on all haul routes is **15 mph**.

The Contractor shall construct haul routes shown in non-paved or turf areas. The haul routes shall be constructed to support the equipment and vehicles that will be using them. The haul routes shall be constructed with a smooth and constant grade that will allow positive drainage off of the pavement to the existing drainage swale or drainage devices. Portions of the haul routes within the taxiway safety area and taxiway object free area shall be maintained at all times to allow for the safe use of the taxiway pavement by aircraft. Any ruts or holes greater than three inches (3") in depth shall be filled or graded smooth. Any stones, foreign objects and debris over three inches (3") in any diameter shall be removed. No windrows will be allowed within the taxiway safety area and no windrows that exceed three inches (3") in height above the taxiway centerline elevation will be allowed within the taxiway object free area.

In areas that haul routes cross underground cable(s) or utilities, the crossing shall be protected by placing steel plates over the cable(s) or utility. Any damage to the underground cable(s) or utilities shall be repaired or replaced at the Owners discretion at no additional cost to the Owner.

When active airfield pavements (runways, taxiways, and aprons) are used for haul routes they shall be kept clean of all stones, dirt, debris and foreign matter at all times.

The Contractor shall be responsible for all improvements necessary to construct the haul routes. These improvements shall include but not be limited to stripping and stockpiling of topsoil, excavation, placement of base material (gravel, recycled asphalt pavement, or other suitable material), grading and compaction of the base material. The thickness of the haul route base material shall be sufficient to allow passage of heaviest vehicle anticipated to utilize the haul route without considerable rutting.

The Contractor shall maintain all haul routes (roads) during the course of construction. At the completion of the work, all haul routes constructed by the Contractor shall be removed and the area restored to its original or better condition.

All paved haul routes shall be kept clean at all times to prevent the accumulation of dirt and mud and other debris. Haul routes shall be cleaned at regular intervals not to exceed two (2) hours and prior to opening areas for use by aircraft. If, in the opinion of the Engineer, sweeping of the pavement surface will generate too much dust, then a vacuum type of street cleaner or other approved pavement cleaning equipment shall be used.

The Contractor shall always provide dust control on the haul routes during the duration of this project. The Contractor shall have on-site at all times a functional water truck and operator who

shall monitor construction activities for dust and take corrective action as required.

The Contractor shall construct stabilized construction entrance in accordance with Best Management Practices (BMP) before entering a paved surface or a non-paved surface.

All haul routes constructed or disturbed shall be restored to their original condition or better before the Contract will be considered complete. This includes any damage to paved surfaces caused by the Contractor's activities. Unless otherwise shown on the Plans, the construction, or improvements to haul routes, all restoration of haul routes (including pavement repair) and dust control shall not be measured separately for payment but rather shall be considered incidental to the project.

All non-paved turf areas disturbed by the Contractor's operations shall be scarified or otherwise loosened to a depth not less than five inches (5"). Clods shall be broken and the top three inches (3") of soil shall be worked into a satisfactory seedbed by discing, or by use of cultipackers, rollers, drags, harrows, or other appropriate means. This area shall then be seeded, fertilized and mulched.

Haul routes constructed with gravel shall be restored by removing a sufficient amount of gravel to allow for four inches (4") of topsoil to be placed, graded, seeded and mulched. Grades and grading required for the restoration of constructed gravel haul routes shall be as directed by the Engineer.

All pavements damaged by the Contractor's activities shall be repaired to equal or better than prior conditions and to the satisfaction of the Engineer. The work may include, but not be limited to; saw cutting and removing damaged pavement, repair or replacement of base materials, tack coating of existing pavement edges, placement of hot bituminous concrete pavement meeting P-401 Specifications, placed in two (2) lifts or more matching the thickness of the existing pavement, and re-marking of the pavements.

When public roads and highways are used as haul routes, it will become the Contractor's responsibility to obtain the proper permits needed for this function and to obey all rules and regulations pertinent to the public road and highway.

**001-1.23 REQUIRED COMPLIANCE OF CONTRACTOR PERSONNEL WITH AIRPORT SAFETY AND SECURITY MEASURES.** The Contractor shall take all precautions necessary to ensure the safety of operating aircraft; airport security is maintained, as well as the safety of their own equipment and personnel.

The Contractor shall be responsible for meeting all applicable FAA, and Airport regulations concerning safety and security.

The Contractor is responsible for any temporary fencing, gates or security arrangements needed to meet these requirements. See Plans for additional information on operations and safety during

construction.

**001-1.24 TRENCHES AND EXCAVATIONS AND COVER REQUIREMENTS.** The Contractor will not be permitted to leave any trenches or excavations exceeding three (3) inches in depth open within active Safety Areas (RSA/TSA), Object Free Areas (ROFA/TOFA) and other active Aircraft Operation Areas (AOA) at night, on weekends, or at other times when work is not actually taking place on the excavation. All excavations shall be backfilled, compacted, and the pavement repaired and properly cured prior to the area being reopened to traffic.

Prior to the close of work each day, the Contractor shall ensure that the work area within active Safety Areas, Object Free Areas, and other active Aircraft Operation Areas (AOAs) are graded away from the pavements at a maximum slope of five percent (5%) and shall be left in such a condition that it will drain readily and effectively and will not pose a hazard to vehicles or aircraft. No piles of soil shall be left un-spread, no sharp changes in grade will be permitted, and the surface shall be thoroughly compacted.

**001-1.25 AIRFIELD BADGES.** There is no badging procedure at Augusta State Airport. The site superintendent is responsible for being educated on airport security, and safe airport operating procedures either from the Airport Manager, the Engineer or both, and relaying their message to other employees, and subcontractors. Security and safe airport operating procedures will also be discussed at the start of everyday during the daily Tailgate sections held by the engineer.

The Owner and Engineer reserves the right to deny airfield access to any personnel, whom in the opinion of the Airport present a safety or security risk.

**001-1.26 AIRFIELD DRIVING.** All Contractor and Subcontractor shall follow haul routes as shown on the safety and phasing plans, the prime contractor is responsible for making all subs aware of these haul routes. No active taxiways or runways shall be crossed without the ability to monitor the airport **UNICOM** active frequency.

The Owner and Engineer reserves the right to deny airfield access to any personnel, whom in the opinion of the Airport present a safety or security risk.

**001-1.27 VEHICLE IDENTIFICATION.** All Contractor vehicles shall have the company identification plainly visible on both sides of the vehicle in order to identify the vehicle and a unique and visible identification number or letter.

In addition, each Contractor's vehicle operating on the Airport or public roads shall be equipped with an amber flashing light. Each Contractor's motorized vehicle operating within the Airport or in the vicinity of an active runway approach shall be equipped with an amber flashing light and/or a three foot (3') square flag consisting of international orange and white squares not less than one foot (1') displayed in full view above the vehicle. Work during poor visibility conditions and at night

will require amber flashing light.

**001-1.28 ESCORT VEHICLES.** The Contractor shall provide an airfield escort for all vehicles requiring access to the work area locations which are not radio equipped and are crossing active Taxiways or Runways.

**0001-1.29 ESCORTS.** No Escorts will be needed on this project. The superintendent will inform all employees and subcontractors of safe airport operating procedures.

**01-1.30 WILDLIFE MANAGEMENT.** The Contractor shall be responsible to assist the Airport in the management of wildlife in the designated work areas to the satisfaction of the Engineer.

No wildlife attractants such as food scraps, grass seeds or ponded water shall remain on or near the Airport property. The Contractor shall be responsible for maintaining the construction site in the designated work areas to the satisfaction of the Engineer. Spotted wildlife shall be reported to Airport Operations.

**001-1.31 FOREIGN OBJECT DEBRIS (FOD) CONTROL PROVISIONS.** Waste and loose materials, commonly referred to as Foreign Object Debris (FOD) are capable of damaging aircraft and are a life safety concern. Contractors and their employees shall not leave or place FOD on or near active aircraft movement areas. Materials tracked onto these areas shall be continuously removed during the construction project.

The Contractor shall continuously monitor the active aircraft pavements for FOD and immediately, notify the Engineer and Airport operations if FOD is observed. With authorization, the Contractor will be responsible to remove or mitigate the FOD concern.

The Contractor shall have on-site at all times a sweeper which is capable of removing, to the satisfaction of the Engineer, any dirt or FOD tracked onto active pavements.

Prior to leaving the work site each night, the Contractor shall coordinate a FOD inspection with Airport Operations of all active pavement surfaces impacted by the construction activities that day and coordinate with Airport Operations the removal of any and all FOD encountered.

The Contractor shall take all necessary precautions to prevent FOD, including but not limited to covering dumpsters, securing store materials, cleaning tires prior to traveling on pavements, and other measures as directed by the Engineer.

**001-1.32 HAZARDOUS MATERIAL (HAZMAT) MANAGEMENT.** All hazardous and unsuitable materials, as identified on the Plans and Specifications or as removed by the Contractor, shall be

legally disposed of by the Contractor off Airport property.

**001-1.33 INSPECTION REQUIREMENTS.** At the end of each workday, the Contractor shall coordinate with the engineer for an inspection of all active aircraft areas; construction work areas, temporary runway/taxiway markings, temporary visual aids, lighted barricades, runway lights (if required), runway/taxiway safety areas, runway/taxiway surfaces and other items to ensure that conditions allow for safe Airport operations to the satisfaction of the Airport prior to leaving the site for the day.

Any deficiencies encountered in the engineer inspection shall be remedied prior to the Contractor leaving the site for the day. The Contractor shall provide written daily reports of the inspection, noting deficiencies found and corrective action taken to remedy the deficiency.

**001-1.34 RADIO CONTROL.** The Contractor shall have reliable two-way communication between all work crews, the Resident Engineer and Airport Operations at all times. No FAA or other Airport radio frequency will be used for this purpose. Contractor provided radios or cellular phones will be considered acceptable.

The Contractor shall have on-site at all times radio equipped vehicles, at least one (1) per working crew, which shall be monitored by a competent individual at all times during working hours. The radio shall have a two-way radio capable of communicating over the UNICOM/CTAF active frequency. The radio shall be capable of reliable two-way communication from any location on the Airport.

The Contractor shall supplement the radio equipped vehicles, with handheld radios for when the radio equipped vehicles are not occupied. Before the start of daily activities, the Contractor shall perform a radio check to ensure radios are in proper working order.

**001-1.35 RESIDENT ENGINEER COMMUNICATION.** The Contractor shall supply the Engineer with one (1) two-way radio and mobile phone, set at the Contractor's frequency as specified above. At the end of the project, the radio or cell phone will revert back to the Contractor. At the option of the Contractor, a cell phone may be provided in place of a radio.

**001-1.36 ENGINEER'S AIRFIELD RADIOS.** The Contractor shall supply the Engineer for their use, one (1) Airport hand-held radios for two-way communications with the Airports frequencies as specified above. The radios shall be handheld units, supplied new, with spare batteries, exterior antennas (magnetic mount), ear plug, remote mike, belt carrying case and battery chargers. At the end of the project the radios will revert back to the Contractor.

**001-1.37 ENGINEER'S FIELD OFFICE AND EQUIPMENT.** Refer to Specification Section M-110.

**001-1.38 CONSTRUCTION LAYOUT.** The Engineer will provide layout information that includes horizontal and vertical control points. Prior to layout, the Contractor shall inverse between these points and satisfy to them self as to the accuracy of the control points provided. The layout for construction shall be the responsibility of the Contractor.

The Contractor shall furnish assistance to the Engineer as requested to check the layout or otherwise control the work. Such assistance shall be understood to include the provision of suitable manpower to assist the Engineer in taping measurements, holding a survey rod for checking grades and the like. The Contractor's obligations for layout and furnishing assistance to the Engineer shall be deemed incidental to the completion of the various work items and no separate payment will be made for such layout, final survey, and assistance.

Refer to Specification Section M-150 for additional requirements.

**001-1.39 MAINTENANCE OF THE CONSTRUCTION-SITE.** The Contractor shall keep the construction-site free of paper, boxes, and other debris, which could be blown onto the runways and taxiways. The Contractor's main staging area shall be supplied with a dumpster with cover. All Airport pavements shall be kept clear and clean at all times. All rocks, mud, and other debris carried onto the Airport pavement by the Contractor's equipment must be reported to the Engineer or the Owner. The Owner will then close the affected area to traffic and the Contractor will immediately sweep, wash, and/or vacuum the area to the satisfaction of the Owner.

The Contractor shall also be responsible for supplying any other equipment as may be necessary to clean all areas that are contaminated as a result of their operations to the complete satisfaction of the Engineer and the Owner.

Trucks loaded in the construction area shall have loads trimmed as necessary to assure that no particles, stones, or debris will fall off and that no legal load limits are exceeded.

The Contractor shall be particularly careful not to track foreign material onto pavements outside of and within the Airport. The Contractor shall be responsible for removing foreign materials from vehicle tires prior to the vehicle leaving its work area.

**001-1.40 WASTE REDUCTION AND RECYCLE PLAN.** The Contractor shall prepare a waste reduction and recycle plan which will specify how the Contractor intends to minimize and reduce waste and recycle waste materials for review by the Engineer.

**001-1.41 TEMPORARY WORK STOPPAGES.** Temporary work stoppages are subject to the approval of the Owner. If the Contractor desires to request a temporary work stoppage, it shall be made in writing to the owner. The request shall state the reason for temporary work stoppage request. It shall be understood that it is the Owner sole decision whether a temporary work stoppage request will be granted or denied.

The Owner reserve the right to order a temporary work stoppage for any reason deem by the Owner to be in the airports best interest. If the Owner does implement a temporary work stoppage, it shall be in writing to the contractor. No contract time will be incurred by the contractor for Temporary work stoppage ordered by the Owner. No additional compensation will be allowed for a temporary work stoppage ordered by the Owner.

The Contractor shall be responsible to secure and stabilize all areas disturbed by Contractor operations for the period of the shut down and maintain the site to the satisfaction of the Engineer. All erosion and sedimentation control measures shall be put in place and maintained and checked regularly through the course of the temporary work stoppage. The Contractor agrees to compensate the Owner for additional all additional soft costs No additional compensation will be allowed for temporary work stoppages.

#### **001-1.42 "AS-BUILT DRAWINGS" (RECORD DRAWINGS) AND FINAL SURVEY.**

A. The Contractor shall maintain at the site, a set of drawings on which shall be recorded accurately as the work progresses, the actual "As-Built" dimensions, areas, clearing methods and grades of all their work, indicating thereon all variations from the Plans. This record of "As-Built" conditions shall include the work of all Subcontractors. Notations on mechanical and electrical drawings shall include nameplate data for all installed equipment. These drawings shall be kept current and available for review by the Engineer at all times.

The Contractor shall record on the final "As-Built" drawings any unknown active or abandoned underground cables discovered during construction. If a cable is damaged during construction, the permanent repair must be clearly marked in full description on the "As-Built" drawings.

B. Prior to final acceptance of the work, the Contractor shall have a final survey made by a land surveyor licensed in the State the project is located. The final survey shall consist of taking cross sections at the same stations as the design cross sections with elevations recorded at every location where a proposed grade was shown on the design cross section, at all changes in grade, at the top and toes of slopes, and at the limits of work. The survey shall include the distance from the construction baseline or centerline of each elevation, measured horizontally to the nearest 0.1 foot. The "As-Built" locations (station and offset from the construction baseline or centerline) and "As-Built" rim and invert elevations of all drainage structures and pipes and electrical structures will be included in the survey. The elevation of all pavements and structures and pipes shall be measured to the nearest 0.01 foot and elevation in turf area shall be measured to the nearest 0.1 foot and shall be based on NGVD MSL from the project benchmarks.

All "As-Built" information from the final survey shall be shown on the "As-Built" drawings. In addition, a copy of the electronic survey information prepared in a standard surveyor's format that can be easily followed and checked shall be provided.

The Contractor shall record on the final "As-Built" drawings any unknown active or abandoned underground cables discovered during construction. If a cable is damaged during construction, the permanent repair must be clearly marked in full description on the "As-Built" drawings.

C. The final "As-Built" drawings (Record Drawings) shall be submitted to the Engineer for review and shall be corrected by the Contractor as required. The "As-Built" drawings shall be completed and accepted by the Engineer before the time when the final payment shall be due and payable. The preparation of the "As-Built" drawings shall be deemed incidental to the completion of the various work items and no separate payment will be made for such.

**001-1.43 LIGHTED RUNWAY CLOSURE MARKERS AND BARRICADES.** Airfield Lighted Runway Closure Markers if required will be provided by the Contractor. The contractor will be required to assist the Airport in setting up and removal of the Runway Closed Markers as requested by the airport. The Lighted Runway Closure Marker shall be used anytime that the runway needs to be closed for work by the contractor that is within the Runway safety area and that work can't be performed within the Airports Prior Permission Required PPR rules.

Low profile Lighted barricades shall be provided by the Contractor. The Contractor shall assist the Airport of the set-up, adjustment, relocation and final removal of the low-profile barricades when requested by the Airport.

**001-1.44 MAINTENANCE OF THE EXISTING AIRFIELD LIGHTING.** The existing airfield lighting systems shall be maintained throughout construction (except for periods when the runway is closed). At the end of each day's construction activities, the Contractor shall assist the Engineer in a lighting check to verify that construction activities have not affected the operation of the airfield lights. All lights and signs on closed taxiway shall be covered during the duration of the phase.

**001-1.45 ACCEPTANCE TESTING.** All acceptance testing of materials required by various sections of the Specifications will be at no cost to the Contractor unless otherwise specified herein. However, the Contractor will pay for the cost of any retesting required because the materials did not pass the acceptance tests.

**001-1.46 PROJECT PHOTOGRAPHS.** The Contractor shall furnish photographs of the project; the views shall be as directed or approved by the Engineer. The photographs shall show the project site prior to construction, the work in progress and the project site at the completion of work.

A minimum of forty-eight (48) digital, color photographs will be taken during each thirty (30) day period of the Contract.

At the completion of each thirty (30) day period of the project, the Contractor shall deliver to the Engineer two (2) color prints of each view. Each view shall be clearly labeled with the date, project, and identification of the view. The photos shall be placed in a black bound album, in chronological

order, such that the descriptions can be read without removing the photos. In addition, electronic copies of the photos are to be provided.

At the completion of the Project, the Contractor shall have a color aerial photograph taken of the Airport. This photograph shall be taken with a mapping quality (cartographic) camera. The Contractor shall submit certification that the camera has been calibrated within the last three (3) years in accordance with USGS mapping standards. Photos shall not be obscured by cloud cover. Photos are to be clear, in focus, with high resolution and sharpness. Color shall be correct; overly green or washed-out photos will not be accepted. Snow cover will not be permitted. The view shall be vertical and shall include the entire Airport property. The contractor shall provide a contact print for approval of the Engineer and Owner prior to making the enlargements. The Contractor shall provide four (4) sets of enlargements at a minimum 40" x 40" at scale of 1" = 400'. Each enlargement is to be mounted on acid free gator board. **The Contractor shall submit to the Engineer prints of the photograph for approval prior to making the enlargements.**

In addition, oblique aerial color photographs taken from an altitude to completely cover just the site of the work, with sufficient detail to show the work from the four (4) different quadrants. If required, numerous photos may be taken to represent each view. The oblique photos may be taken from a high-resolution digital camera from a drone or plane. These photographs shall be taken after the completion of the work.

The Contractor shall provide a letter from the photographer transferring all rights to the photo to the Augusta State Airport. Electronic copies of the photographs shall be provided on CD, complete with labels, indicating the Airport, Project, AIP number, date of the photograph and what the photographs are. Photos shall be supplied in both high-resolution and in low-resolution.

**001-1.47 DAVIS-BACON AND WAGE COMPLIANCE.** This Project is subject to the requirements of the Davis-Bacon Act, The Contract Work Hours and Safety Act, The Copeland Act, and Fair Labor Standards Act.

The Contractor (also referred to as the Principal Contractor, Prime Contractor or General Contractor) is responsible for full compliance of all employers (the Contractor, Subcontractor, any/all lower-tier Subcontractors) with the labor standards and provisions applicable to this Project.

All certified payrolls shall be channeled through the Contractor. It shall be the Contractor's responsibility to review all Subcontractor, and any/all lower-tier Subcontractor's certified payrolls for compliance with the labor standards provisions applicable to this Project. Each Subcontractor and any/all lower-tier Subcontractors payroll submission shall be reviewed and stamped by the Contractor as "reviewed and found to be in compliance" prior to submission to the Engineer.

Certified payrolls shall be submitted in a format as prescribe by the law.

If the Project requires a work classification and rate that is not contained within the decisions or classifications contained within the Specifications, it shall be the Contractor's responsibility to request an additional classification(s) from the Department of the Labor. Failure of the decision to include a classification or wage determination does not relieve the Contractor from the obligation to meet applicable classification and wage rates. If additional wage rate requests are requested by the Contractor, the Contractor shall provide a copy of all correspondence and wage requests to the Engineer and the Airport Operator.

The Contractor shall post the Project's wage rate classifications at the work site, in a location approved by the Engineer prior to starting work.

The Owner is required to conduct employee interviews for compliance with the Davis-Bacon Wage requirements. The Contractor shall make employees available for interviews.

If it is necessary to make payment restitution to employee(s) the restitution shall be made independently of standard payroll. Documentation shall be provided which details the restitution action.

Certified payrolls shall be submitted and accepted prior to the acceptance of any Periodic Cost Estimates (PCEs) for the work period covered in the PCEs. Retainage for the project will not be released until all project certified payrolls have been submitted to and accepted by the Engineer.

**001-1.48 WORK FORCE UTILIZATION REPORTING.** The Contractor shall submit monthly work force utilization reports. The reports shall include the work force of the Contractor, Subcontractors, and lower tiered Subcontractors. The reports shall include the following:

- A list of all workers (including classification) that worked on the Project for the reporting period. This shall include all workers in addition to those employed on the job site including, Principals, Project Managers, and other office staff.
- Number of hours worked on the project by each person listed for the reporting period.
- Totals shall be provided separately for the Contractor, Subcontractor and lower tiered Subcontractors.
- Total number of hours, including, the Contractor, Subcontractor, and lower-tiered Subcontractors.

Monthly utilization reports will be required prior to the acceptance of any Periodic Cost Estimate (PCE). Retainage for the project will not be released until all project work force utilization reporting has been submitted to and approved by the Engineer.

**001-1.49 MONTHLY DBE REPORTING.** The Contractor shall submit monthly Disadvantaged Business Enterprise (DBE) reports. The Contractor shall use the report form as included within this Specification. The report shall be submitted regardless of if any DBE participation took place during

the period indicated.

The Contractor shall continually monitor their DBE participation on the Project. If it appears that the actual DBE participation will be lower than indicated in the Contractor's DBE Letter of Intent, the Contractor shall provide written notification, and indicate just reason for the change. The Contractor shall further provide additional Good Faith Effort documentation that effort was made to replace this DBE participation as outlined in the Supplemental General Provisions.

Monthly DBE reports will be required prior to the acceptance of any Periodic Cost Estimate (PCE). Retainage for the Project will not be released until all Project monthly DBE reporting documentation has been submitted to and approved by the Engineer.

**001-1.50 OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) DOCUMENTATION.** All employees to be employed at the job site shall have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration (OSHA) that is ten (10) hours in duration at the time the employee begins work.

The Contractor shall furnish documentation of successful completion of said course by either a copy of the OSHA card or a letter or certificate of completion from the person or company that administered the course. OSHA documentation shall be provided prior to any person beginning work on the site. It is recommended that Contractors and Subcontractors provide a copy of OSHA documentation for all employees prior to the start of work.

Periodic Cost Estimates will not be accepted for payment unless all OSHA documentation has been received. Retainage for the Project will not be released until all Project OSHA cards have been submitted to and approved by the Engineer.

**001-1.51 CONTRACT CHANGE ORDERS.** Any work to be included in this Project by Change Order must be approved by the State of Maine, FAA, and the Engineer. Any additional cost for change order work shall be at a fair and reasonable cost to the Owner. The Contractor shall provide a detailed breakdown of costs on all Change Order work. The break down shall use Contract unit prices, if available. If Contract unit prices are not available the Contractor shall provide a detailed breakdown of costs, indicating labor, equipment, and materials as separate line items and then sum together for a subtotal. Material costs shall include copies of supplier's quotes. Administrative costs, including but not limited to, office time and cost to increase the bonds or insurance will not be eligible for consideration in the change order. Labor costs for pricing Change Orders shall be actual rates including fringes without mark-up. Equipment costs shall be at standard industry rates, not to exceed rates as published by RS Means or other approved industry rate guideline.

Mark-up for overhead and profit shall be limited to ten (10) percent for the Contractor or Subcontractor performing the Change Order work. When a Subcontractor or lower-tiered Subcontractor is performing the Change Order work, each Subcontractor or Contractor above the

firm performing the Change Order work shall be limited to a five (5) percent mark-up for overhead and profit. The total mark-up for any Change Order shall not exceed twenty (20) percent of the change order prior to the application of profit.

**001-1.52 SUBSTANTIAL COMPLETION.** Substantial Completion shall be achieved when work is complete, and the work areas can be occupied or utilized for their intended purpose by the Owner without interference or restrictions.

It shall be the Contractor's responsibility to inform the Engineer, in writing, when the Contractor believes the project is substantially completed. The Engineer and Owner maintain the sole right to accept the requested substantial completion date or reject it. If the date of substantial completion is accepted, the Owner will temporarily suspend Contract time effective at the end of the day on the date of substantial completion. On or after the date of substantial completion, the Engineer will submit to the Contractor, in writing, a punch list of deficiencies.

The Contractor shall complete all punch list work (both field work and administrative work) within thirty (30) calendar days of the receipt of the punch list from the Engineer. Within the thirty (30) calendar days, the Contractor can work on the site up to five (5) days. Should the field portions of the punch list work remain incomplete after five (5) days of work on the site, the Owner may restart the assessment of Contract time. If any of the punch list work, including administrative work, remains incomplete after thirty (30) calendar days, the Owner may restart the assessment of Contract time.

The resumption of contract time may result in the assessment of liquidated damages in accordance with Supplemental General Provisions.

If the Contractor feels that additional time is required for field work, administrative work, or both, they may submit a request for additional time in writing to the Engineer before the start of work on the punch list. The request must include supporting justification and a schedule to complete the work. The Engineer and Owner maintain the sole right to accept the request for additional time or reject it. If no request for additional time is received by the engineer prior to the start of punch list work, it will be understood that the Contractor accepts the time frame outlined above.

The Owner reserves the right to add additional items to the punch list at any time. If the Contractor feels that additional time is required for the additional punch list item or items, they may submit a request for additional time in writing to the Engineer before the start of work on the additional punch list item or items. The request must include supporting justification and a schedule to complete the work. The Engineer and Owner maintain the sole right to accept the request for additional time or reject it. If no request for additional time is received by the engineer prior to the start of punch list work, it will be understood that the Contractor accepts the time frame outlined above.

**001-1.53 REQUIRED SUBMITTALS.** The following items must be submitted to the Engineer as part of this Specification section (along with all other submittals specifically referenced in the Plans

and Specifications):

- Pre-Construction Video DVD
- Project Schedules
- Safety Plan Compliance Document (SPCD)
- Waste Reduction and Recycling Plan
- Construction Plan (detailing means and methods)
- Insurance Certificates
- Material Shop Drawings
- Project Photographs
- Aerial Photographs
- As-Built Plans
- Payroll Certifications
- Work Force Utilization Documentation
- Disadvantaged Business Enterprise Documentation
- OSHA Compliance Documentation
- Signed Contractor's Guarantee (after substantial completion)
- Lien Waiver

#### **METHOD OF MEASUREMENT**

**001-2.1** No separate measurement for payment will be made for work under this item unless carried in other item specification. This work shall be considered incidental to the overall project.

**END OF SECTION M-001**

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**Item P-207 In-place Full Depth Reclamation (FDR)  
Recycled Asphalt Aggregate Base Course**

**DESCRIPTION**

**207-1.1** This item consists of a recycled asphalt aggregate base course resulting from the in-place full depth reclamation (FDR) of the existing pavement section (asphalt wearing surface and aggregate base), plus mechanical stabilization with additional aggregate or chemical stabilization with cement, asphalt emulsion or fly ash when required.

**MATERIALS**

**207-2.1 Aggregate.** The FDR shall consist of materials produced by recycling (pulverizing and mixing) the existing asphalt pavement, aggregate base, subgrade, and any additional aggregate as necessary. Material larger than 2 inches in any dimension shall not be permitted in the recycle asphalt aggregate base course.

The FDR shall meet the gradation in the table below.

**FDR Gradation**

<b>Sieve</b>	<b>Minimum Percentage by weight passing sieves</b>
2 inch (51 mm)	100
No. 4 (4.75 mm)	55
No. 200 (75 µm)	0-10

**a. Deleterious substances.** Materials for aggregate base shall be kept free from weeds, sticks, grass, roots and other foreign matter.

**b. Uniformity.** The materials shall be thoroughly recycled (pulverized and mixed) to ensure a uniform gradation.

**207-2.2 Stabilization.**

**a. Mechanical stabilization.** Addition of corrective aggregate material to adjust gradation shall be equivalent to specifications below or better.

Material shall be clean, sound, durable particles and fragments of stone or gravel, crushed stone, or crushed gravel mixed or blended with sand, screenings, or other materials. Materials shall be handled and stored in accordance with all federal, state, and local requirements. The aggregate shall be free from clay lumps, organic matter, or other deleterious materials or coatings. The method used to produce the crushed gravel shall result in the fractured particles in the finished product as nearly constant and uniform as practicable. The fine aggregate portion, defined as the portion passing the No. 4 (4.75 mm) sieve produced in crushing operations, shall be incorporated in the base material to the extent permitted by the gradation requirements. Aggregate base material requirements are listed in the following table.

**Corrective Aggregate Material Requirements**

<b>Material Test</b>	<b>Requirement</b>	<b>Standard</b>
<b>Coarse Aggregate</b>		
Resistance to Degradation	Loss: 50% maximum	ASTM C131
Soundness of Aggregates by Use of Sodium Sulfate <b>or</b> Magnesium Sulfate	Loss after 5 cycles: 12% maximum using Sodium sulfate - or - 18% maximum using magnesium sulfate	ASTM C88
Percentage of Fractured Particles	Minimum 60% by weight of particles with at least two fractured faces and 75% with at least one fractured face <sup>1</sup>	ASTM D5821
Flat Particles, Elongated Particles, or Flat and Elongated Particles	10% maximum, by weight, of flat, elongated, or flat and elongated particles <sup>2</sup>	ASTM D4791
<b>Fine Aggregate</b>		
Liquid limit	Less than or equal to 25	ASTM D4318
Plasticity Index	Not more than five (5)	ASTM D4318

<sup>1</sup> 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.

<sup>2</sup> 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).

The gradation of the aggregate base material shall meet the requirements of the gradation given in the following table when tested per ASTM C117 and ASTM C136. The gradation shall be well graded from coarse to fine and shall not vary from the lower limit on one sieve to the high limit on an adjacent sieve or vice versa.

**Gradation of Corrective Aggregate**

Sieve Size	Design Range Percentage by Weight passing	Contractor's Final Gradation	Job Control Grading Band Tolerances for Contractor's Final Gradation <sup>1</sup> Percent
2 inch (50 mm)	100%		±0
1-1/2 inch (37.5 mm)	90-100%		±5
1 inch (25.0 mm)	20-55%		±8
3/4 inch (19.0 mm)	0-15%		±8
No. 4 (4.75 mm)	0-5%		±8
No. 40 (425 µm)			
No. 200 (75 µm)	0-1%		±3

- 1 The "Job Control Grading Band Tolerances for Contractor's Final Gradation" in the table shall be applied to "Contractor's Final Gradation" to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

**207-2.3 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.

**207-2.4 Quality Control (QC) Sampling and testing.** The Contractor shall take at least two FDR samples per day of production in the presence of the Resident Project Representative (RPR) to check the gradation. Sampling shall be per ASTM D75. Material shall meet the requirements in paragraph 207-2.1. Samples shall be taken from the in-place, un-compacted material at random sampling locations per ASTM D3665.

**CONSTRUCTION METHODS**

**207-3.1 Milling.** Milling is not required.

**207-3.2 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 begin 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.

**207-3.3 Recycling (Pulverization and mixing).** The asphalt pavement, aggregate base and subgrade shall be recycled (pulverized and mixed) into a uniformly blended mixture with three (3) inches (75 mm) of P-208 Coarse Aggregate Base by dry unit weight and water to the depth indicated on the plans. All material over approximately 2 inches (50 mm) shall be removed by the Contractor. The mixture shall be brought to the desired moisture content.

The maximum lift thickness of the recycled aggregate base course material to be compacted shall be 12 inches (300 mm).

**207-3.4 Grading and compaction.** Immediately upon completion of recycling (pulverization and mixing), the material shall be shaped and graded in accordance with the project plans. The recycled asphalt aggregate base course shall be compacted within the same day to an in-place density of 100% as determined by ASTM D1557. The moisture content of the material during compaction shall be within  $\pm 2\%$  of the optimum moisture content as determined by ASTM D2216. The number, type and weight of rollers shall be sufficient to compact the material to the required density. Maximum density refers to maximum dry density at optimum moisture content unless otherwise specified.

**207-3.5 Finishing.** The surface of the aggregate base course shall be finished by blading or with automated equipment designed for this purpose. If the top layer is 1/2 inch (12 mm) or more below grade, the top layer shall be scarified to a depth of at least 3 inches (75mm), new material added, and the layer blended and re-compacted to bring it to grade. The addition of layers less than 3 inches (75mm) shall not be allowed.

**207-3.6 Proof rolling.** Compacted asphalt aggregate base course shall be proof rolled with a tandem axle dual wheel dump truck loaded to the legal limit with tires inflated to 80 psi (550 kPa) in the presence of the RPR. Soft areas that deflect greater than 0.5 inch (12 mm) or show permanent deformation greater than 0.5 inch (12 mm) shall be removed and reworked at the Contractor's expense.

**207-3.7 Weather limitations.** When weather conditions detrimentally affect the construction process and/or quality of the materials, the Contractor shall stop construction. Cement or fly ash shall not be applied when wind conditions affect the distribution of the materials. When the aggregates contain frozen materials or when the underlying course is frozen or wet, the construction shall be stopped. Construction shall not be performed unless the atmospheric temperature is above 35°F (2°C) and rising or approved by the RPR. When the temperature falls below 35°F (2°C), protect all completed areas against detrimental effects of freezing by approved methods. Correct completed areas damaged by freezing, rainfall, or other weather conditions to meet specified requirements.

**207-3.8 Maintenance.** The asphalt aggregate base course shall be maintained in a satisfactory condition until the work is accepted by the RPR. Equipment used in the construction of an adjoining section may be routed over completed sections of asphalt aggregate base course, provided that no damage results and equipment is routed over the full width of the completed asphalt aggregate base course. Any damage to the recycled asphalt aggregate base course shall be repaired by the Contractor at the Contractor's expense.

**207-3.9 Surface tolerances.** The finished surface shall be tested for smoothness and accuracy of grade. Any area failing smoothness or grade shall be scarified to a depth of at least 3 inches (75 mm), reshaped and re-compacted by the Contractor at the Contractor's expense.

**a. Smoothness.** The finished surface shall not vary more than 3/8-inch (9 mm) when tested with a 12-foot (3.7-m) straightedge applied parallel with 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 shall be measured on a 50-foot (15-m) grid and shall be within +0 and -1/2 inch (12 mm) of the specified grade.

**207-3.10 Acceptance sampling and testing for density.** FDR base course shall be accepted for density and thickness on an area basis. One (1) test for density and thickness will be made for each 1200 square yds (1000 square meters). Sampling locations will be determined on a random basis in accordance with ASTM D3665.

**a. Density.** The RPR shall perform all density.

Each area will be accepted for density when the field density is at least 100% of the maximum density of the FDR base course in accordance with ASTM D1557. The in-place field density shall be determined in accordance with 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. If the specified density is not attained, the area represented by the failed test must be reworked and/or recompacted and two additional random tests made. This procedure shall be followed until the specified density is reached. 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, and recompacted to grade. The Contractor shall replace, at his expense, base material where depth tests have been taken.

### METHOD OF MEASUREMENT

**207-4.1** The quantity of FDR asphalt aggregate base course shall be measured by the number of square yards (m<sup>2</sup>) of material in compliance with the plans and specifications.

**207-4.2** The quantity of corrective aggregate material shall be measured by the ton.

### BASIS OF PAYMENT

**207-5.1** Payment shall be made at the contract unit price per square yard (m<sup>2</sup>) for recycling the existing asphalt pavement, aggregate base course, subgrade and mixing with stabilizing agent, if required, spreading, compacting, and maintaining the recycled material to the compacted thickness as indicated on the drawings. This price shall be full compensation for furnishing all materials, for preparing and placing these materials, and for all labor, equipment tools and incidentals to complete the item.

Payment will be made under:

Item P-207-5.1            In-place Full Depth Recycled (FDR) asphalt aggregate base course – per square yard (m<sup>2</sup>)

**207-5.2** Payment shall be made at the contract unit price per ton (kg) for the stabilizing agent.

Item P-207-5.2            Corrective Aggregate Material - 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	Unit Weight of Aggregate
ASTM C88	Soundness of Aggregates by Use of Sodium or Magnesium Sulfate
ASTM C117	Materials Finer than 75- $\mu\text{m}$ (No. 200) Sieve in Mineral Aggregate by Washing
ASTM C131	Resistance to abrasion of Small Size Coarse Aggregate by Use of Los Angeles Machine
ASTM C136	Sieve or Screen Analysis of Fine and Coarse Aggregate
ASTM C150	Standard Specification for Portland Cement
ASTM C595	Standard Specification for Blended Hydraulic Cements
ASTM C1602	Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete
ASTM D75	Sampling Aggregate
ASTM D558	ASTM D558 Standard Test Methods for Moisture-Density (Unit Weight) Relations of Soil-Cement Mixtures
ASTM D698	Moisture Density Relations of Soils and Aggregate using 5.5 lb Rammer and 12 in drop.
ASTM D977	Standard Specification for Emulsified Asphalt
ASTM D1556	Test Method for Density and Unit Weight of Soil in Place by the Sand Cone Method
ASTM D1557	Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort
ASTM D2216	Test Methods for Laboratory Determination of Water (Moisture) Soil and Rock by Mass
ASTM D2419	Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2487	Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D4491	Standard Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4751	Standard Test Methods for Determining Apparent Opening Size of a Geotextile
ASTM D5821	Standard Test Method for Determining the Percentage of Fractured Particles in Coarse Aggregate

ASTM D6938            Standard Test Method for In-Place Density and Water Content of Soil and  
Soil Aggregate by Nuclear Methods (Shallow Depth)

American Association of State Highway and Transportation Officials (AASHTO)

M288                    Standard Specification for Geosynthetic Specification for Highway  
Applications

**END OF ITEM P-207**

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**Item P-620 Runway and Taxiway Marking**

**DESCRIPTION**

**620-1.1** This item shall consist of the preparation and painting of numbers, markings, and stripes on the surface of runways, taxiways, and aprons, in accordance with these specifications and at the locations shown on the plans, or as directed by the Resident Project Representative (RPR). The terms “paint” and “marking material” as well as “painting” and “application of markings” are interchangeable throughout this specification.

**MATERIALS**

**620-2.1 Materials acceptance.** The Contractor shall furnish manufacturer’s certified test reports, for materials shipped to the project. The certified test reports shall include a statement that the materials meet the specification requirements. This certification along with a copy of the paint manufacturer’s surface preparation; marking materials, including adhesion, flow promoting and/or floatation additive; and application requirements must be submitted and approved by the Resident Project Representative (RPR) prior to the initial application of markings. The reports can be used for material acceptance or the RPR may perform verification testing. The reports shall not be interpreted as a basis for payment. The Contractor shall notify the RPR upon arrival of a shipment of materials to the site. All material shall arrive in sealed containers that are easily quantifiable for inspection by the RPR.

**620-2.2 Marking materials.**

**Table 1. Marking Materials**

Paint <sup>1</sup>				Glass Beads <sup>2</sup>	
Type	Color	Fed Std. 595 Number	Application Rate Maximum	Type	Application Rate Minimum
Waterborne Type II	White <sup>3</sup>	37925	115 ft <sup>2</sup> /gal	Type III, Gradation A	7 lb/gal
Waterborne Type II	White <sup>4</sup>	37925	115 ft <sup>2</sup> /gal	Type III	10 lb/gal
Waterborne Type II	Yellow	33538 or 33655	115 ft <sup>2</sup> /gal	Type III, Gradation A	7 lb/gal
Waterborne Type II	Red	31136	115 ft <sup>2</sup> /gal	Type I, Gradation A	5 lb/gal
Waterborne Type II	Black	37038	115 ft <sup>2</sup> /gal	No Beads	No Beads

Waterborne Type II	Green	34108	115 ft <sup>2</sup> /gal	No Beads	No Beads
Temporary Marking Waterborne Type II	ALL	See Above	230 ft <sup>2</sup> /gal	No beads	No beads

<sup>1</sup> See paragraph 620-2.2a

<sup>2</sup> See paragraph 620-2.2b

<sup>3</sup> General application of White Paint

<sup>4</sup> Application of White Paint in Designators for Surface Painted Hold Markings

**a. Paint.** Paint shall be waterborne in accordance with the requirements of this paragraph. Paint colors shall comply with Federal Standard No. 595. See Table 1 above.

**Waterborne.** Paint shall meet the requirements of Federal Specification TT-P-1952F, Type II. The non-volatile portion of the vehicle for all paint types shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis.

**b. Reflective media.** Glass beads for white and yellow paint shall meet the requirements for Federal Specification TT-B-1325D Type I, Gradation A .

Glass beads for red and pink paint shall meet the requirements for Type I, Gradation A.

Glass beads shall be treated with all compatible coupling agents recommended by the manufacturers of the paint and reflective media to ensure adhesion and embedment.

Glass beads shall not be used in black and green paint.

Type III glass beads shall not be used in red and pink paint.

## CONSTRUCTION METHODS

**620-3.1 Weather limitations.** Painting shall only be performed when the surface is dry, and the ambient temperature and the pavement surface temperature meet the manufacturer's recommendations in accordance with paragraph 620-2.1. Painting operations shall be discontinued when the ambient or surface temperatures does not meet the manufacturer's recommendations. Markings shall not be applied when the wind speed exceeds 10 mph unless windscreens are used to shroud the material guns. Markings shall not be applied when weather conditions are forecasts to not be within the manufacturers' recommendations for application and dry time.

**620-3.2 Equipment.** Equipment shall include the apparatus necessary to properly clean the existing surface, a mechanical marking machine, a bead dispensing machine, and such auxiliary hand-painting equipment as may be necessary to satisfactorily complete the job.

The mechanical marker shall be an atomizing spray-type or airless type marking machine with automatic glass bead dispensers suitable for application of traffic paint. It shall produce an even and uniform film thickness and appearance of both paint and glass beads at the required coverage and shall apply markings of uniform cross-sections and clear-cut edges without running or

spattering and without over spray. The marking equipment for both paint and beads shall be calibrated daily.

**620-3.3 Preparation of surfaces.** Immediately before application of the paint, the surface shall be dry and free from dirt, grease, oil, laitance, or other contaminants that would reduce the bond between the paint and the pavement. Use of any chemicals or impact abrasives during surface preparation shall be approved in advance by the RPR. After the cleaning operations, sweeping, blowing, or rinsing with pressurized water shall be performed to ensure the surface is clean and free of grit or other debris left from the cleaning process.

**a. Preparation of new pavement surfaces.** The area to be painted shall be cleaned by broom, blower, water blasting, or by other methods approved by the RPR to remove all contaminants, including PCC curing compounds, minimizing damage to the pavement surface.

**b. Preparation of pavement to remove existing markings.** Existing pavement markings shall be removed by rotary grinding, water blasting, or by other methods approved by the RPR minimizing damage to the pavement surface. The removal area may need to be larger than the area of the markings to eliminate ghost markings. After removal of markings on asphalt pavements, apply a fog seal or seal coat to 'block out' the removal area to eliminate 'ghost' markings.

**c. Preparation of pavement markings prior to remarking.** Prior to remarking existing markings, loose existing markings must be removed minimizing damage to the pavement surface, with a method approved by the RPR. After removal, the surface shall be cleaned of all residue or debris.

Prior to the application of markings, the Contractor shall certify in writing that the surface is dry and free from dirt, grease, oil, laitance, or other foreign material that would prevent the bond of the paint to the pavement or existing markings. This certification along with a copy of the paint manufactures application and surface preparation requirements must be submitted to the RPR prior to the initial application of markings.

**620-3.4 Layout of markings.** The proposed markings shall be laid out in advance of the paint application. The locations of markings to receive glass beads shall be shown on the plans.

**620-3.5 Application.** A period of 30 days shall elapse between placement of surface course or seal coat and application of the permanent paint markings. Paint shall be applied at the locations and to the dimensions and spacing shown on the plans. Paint shall not be applied until the layout and condition of the surface has been approved by the RPR.

The edges of the markings shall not vary from a straight line more than 1/2 inch (12 mm) in 50 feet (15 m), and marking dimensions and spacing shall be within the following tolerances:

**Marking Dimensions and Spacing Tolerance**

<b>Dimension and Spacing</b>	<b>Tolerance</b>
36 inch (910 mm) or less	±1/2 inch (12 mm)
greater than 36 inch to 6 feet (910 mm to 1.85 m)	±1 inch (25 mm)
greater than 6 feet to 60 feet (1.85 m to 18.3 m)	±2 inch (50 mm)
greater than 60 feet (18.3 m)	±3 inch (76 mm)

The paint shall be mixed in accordance with the manufacturer's instructions and applied to the pavement with a marking machine at the rate shown in Table 1. The addition of thinner will not be permitted.

Glass beads shall be distributed upon the marked areas at the locations shown on the plans to receive glass beads immediately after application of the paint. A dispenser shall be furnished that is properly designed for attachment to the marking machine and suitable for dispensing glass beads. Glass beads shall be applied at the rate shown in Table 1. Glass beads shall not be applied to black paint or green paint. Glass beads shall adhere to the cured paint or all marking operations shall cease until corrections are made. Different bead types shall not be mixed. Regular monitoring of glass bead embedment and distribution should be performed.

**620-3.6 Application--preformed thermoplastic airport pavement markings.**

Preformed thermoplastic pavement markings not used.

**620-3.7 Control strip.** Prior to the full application of airfield markings, the Contractor shall prepare a control strip in the presence of the RPR. The Contractor shall demonstrate the surface preparation method and all striping equipment to be used on the project. The marking equipment must achieve the prescribed application rate of paint and population of glass beads (per Table 1) that are properly embedded and evenly distributed across the full width of the marking. Prior to acceptance of the control strip, markings must be evaluated during darkness to ensure a uniform appearance.

**620-3.8 Retro-reflectance.** Not used.

**620-3.9 Protection and cleanup.** After application of the markings, all markings shall be protected from damage until dry. All surfaces shall be protected from excess moisture and/or rain and from disfiguration by spatter, splashes, spillage, or drippings. The Contractor shall remove from the work area all debris, waste, loose reflective media, and by-products generated by the surface preparation and application operations to the satisfaction of the RPR. The Contractor shall dispose of these wastes in strict compliance with all applicable state, local, and federal environmental statutes and regulations.

## METHOD OF MEASUREMENT

**620-4.1a** The quantity of surface preparation shall be measured by the number of square feet (square meters) for each type of surface preparation specified in paragraph 620-3.3.

**620-4.1b** The quantity of markings shall be paid for shall be measured by the number of square feet (square meters) of painting.

**620-4.1c** The quantity of reflective media shall be paid for by the number of pounds (kg) of reflective media.

**620-4.1d** The quantity of temporary markings to be paid for shall be the number of square feet (square meters) of painting performed in accordance with the specifications and accepted by the RPR. Temporary marking includes surface preparation, application, and complete removal of the temporary marking.

### BASIS OF PAYMENT

**620-5.1** This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item complete in place and accepted by the RPR in accordance with these specifications.

**620-5.1a** Payment for surface preparation shall be made at the contract price for the number of square feet (square meters) for each type of surface preparation specified in paragraph 620-3.3.

**620-5.2b** Payment for markings shall be made at the contract price for the number of square feet (square meters) of painting.

**620-5.3c** Payment for reflective media shall be made at the contract unit price for the number of pounds (kg) of reflective media.

**620-5.4d** Payment for temporary markings shall be made at the contract price for the number of square feet (square meters) of painting. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-620-5.1a	Surface Preparation - per square foot (square meter).
Item P-620-5.2b	Surface Pavement Marking - per square foot (square meter).
Item P-620-5.3c	Reflective Media - per pound (kg).
Item P-620-5.4d	Not Used

### 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 D476	Standard Classification for Dry Pigmentary Titanium Dioxide Products
ASTM D968	Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
ASTM D1652	Standard Test Method for Epoxy Content of Epoxy Resins
ASTM D2074	Standard Test Method for Total, Primary, Secondary, and Tertiary Amine Values of Fatty Amines by Alternative Indicator Method
ASTM D2240	Standard Test Method for Rubber Property - Durometer Hardness
ASTM D7585	Standard Practice for Evaluating Retroreflective Pavement Markings Using Portable Hand-Operated Instruments
ASTM E303	Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester
ASTM E1710	Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer

ASTM E2302            Standard Test Method for Measurement of the Luminance Coefficient Under Diffuse Illumination of Pavement Marking Materials Using a Portable Reflectometer

ASTM G154            Standard Practice for Operating Fluorescent Ultraviolet (UV) Lamp Apparatus for Exposure of Nonmetallic Materials

Code of Federal Regulations (CFR)

40 CFR Part 60, Appendix A-7, Method 24  
                                 Determination of volatile matter content, water content, density, volume solids, and weight solids of surface coatings

29 CFR Part 1910.1200      Hazard Communication

Federal Specifications (FED SPEC)

FED SPEC TT-B-1325D      Beads (Glass Spheres) Retro-Reflective

FED SPEC TT-P-1952F      Paint, Traffic and Airfield Marking, Waterborne

FED STD 595              Colors used in Government Procurement

Commercial Item Description

A-A-2886B              Paint, Traffic, Solvent Based

Advisory Circulars (AC)

AC 150/5340-1            Standards for Airport Markings

AC 150/5320-12          Measurement, Construction, and Maintenance of Skid Resistant Airport Pavement Surfaces

**END OF ITEM P-620**

**Payment will be made under:**

Item D-701-5.1	12" Class V Reinforced Concrete Pipe - per linear foot.
Item D-701-5.2	Not Used.
Item D-701-5.3	Not Used.
Item D-701-5.4	Not Used.

**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.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter
AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drainpipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter

ASTM International (ASTM)

ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Paving's, and Linings for Corrugated Steel Sewer and Drainage Pipe

ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings

ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drainpipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications
National Fire Protection Association (NFPA)	
NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

**END ITEM D-701**

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

**751-3.10 Cleaning and restoration of site.** After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

### METHOD OF MEASUREMENT

**751-4.1** Manholes, catch basins, inlets, and inspection holes shall be measured by the unit.

### BASIS OF PAYMENT

**751-5.1** The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

#### Payment will be made under:

Item D-751-5.2	Not Used.
Item D-751-5.2	Catch Basins - per each
Item D-751-5.3	Inlets - per each
Item D-751-5.4	Inspection Holes - per each

### 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.

**Payment will be made under:**

Item L-108-5.1	Trenching for direct-buried cable, 18-inch minimum depth - per linear foot (meter)
Item L-108-5.2	No. 8 AWG Type C Cable, Installed in Trench, Duct Bank or Conduit - per linear foot (meter)
Item L-108-5.3	No. 6 AWG, Solid, Bare Copper Counterpoise Wire, Installed in Trench, Above the Duct Bank or Conduit, Including Connections/Terminations - per linear foot (meter)
Item L-108-5.4	Not Used

**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.

Advisory Circulars (AC)

AC 150/5340-26	Maintenance of Airport Visual Aid Facilities
AC 150/5340-30	Design and Installation Details for Airport Visual Aids
AC 150/5345-7	Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
AC 150/5345-26	Specification for L-823 Plug and Receptacle, Cable Connectors
AC 150/5345-53	Airport Lighting Equipment Certification Program

Commercial Item Description

A-A-59544A	Cable and Wire, Electrical (Power, Fixed Installation)
A-A-55809	Insulation Tape, Electrical, Pressure-Sensitive Adhesive, Plastic

ASTM International (ASTM)

ASTM B3	Standard Specification for Soft or Annealed Copper Wire
ASTM B8	Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft
ASTM B33	Standard Specification for Tin-Coated Soft or Annealed Copper Wire for Electrical Purposes
ASTM D4388	Standard Specification for Nonmetallic Semi-Conducting and Electrically Insulating Rubber Tapes

Mil Spec

MIL-PRF-23586F	Performance Specification: Sealing Compound (with Accelerator), Silicone Rubber, Electrical
MIL-I-24391	Insulation Tape, Electrical, Plastic, Pressure Sensitive

National Fire Protection Association (NFPA)

NFPA-70	National Electrical Code (NEC)
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NFPA-780                      Standard for the Installation of Lightning Protection Systems  
American National Standards Institute (ANSI)/Institute of Electrical and Electronics Engineers  
(IEEE)  
ANSI/IEEE STD 81        IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and  
Earth Surface Potentials of a Ground System  
Federal Aviation Administration Standard  
FAA STD-019E            Lightning and Surge Protection, Grounding Bonding and Shielding  
Requirements for Facilities and Electronic Equipment

**END OF ITEM L-108**

Wall brackets for square ducts shall be installed at all joints 2 feet (60 cm) or more apart with intermediate brackets as specified. Conduit shall be used between square ducts and equipment or between different items of equipment when the equipment is designed for conduit connection. When the equipment is not designed for conduit connection, conductors shall enter the square-type control duct through insulating bushings in the duct or on the conduit risers.

**109-5.5 Wiring and connections.** The Contractor shall make all necessary electrical connections in the vault per the wiring diagrams furnished and as directed by the RPR. In wiring to the terminal blocks, the Contractor shall leave sufficient extra length on each control lead to make future changes in connections at the terminal block. This shall be accomplished by running each control lead the longest way around the box to the proper terminal. Leads shall be neatly laced in place.

**109-5.6 Marking and labeling.** All equipment, control wires, terminal blocks, etc., shall be tagged, marked, or labeled as specified below:

**a. Wire identification.** The Contractor shall furnish and install self-sticking wire labels or identifying tags on all control wires at the point where they connect to the control equipment or to the terminal blocks. Wire labels, if used, shall be of the self-sticking preprinted type and of the manufacturer's recommended size for the wire involved. Identification -markings designated in the plans shall be followed. Tags, if used, shall be of fiber not less than 3/4 inch (19 mm) in diameter and not less than 1/32 inch (1 mm) thick. Identification markings designated in the plans shall be stamped on tags by means of small tool dies. Each tag shall be securely tied to the proper wire by a nonmetallic cord.

**b. Labels.** The Contractor shall stencil identifying labels on the cases of regulators, breakers, and distribution and control relay cases with white oil paint as designated by the RPR. The letters and numerals shall be not less than one inch (25 mm) in height and shall be of proportionate width. The Contractor shall also mark the correct circuit designations per the wiring diagram on the terminal marking strips, which are a part of each terminal block.

## METHOD OF MEASUREMENT

**109-6.3** The quantity of equipment to be paid for under this item shall consist of all equipment installed, connected and accepted as a complete unit ready for operation within an existing vault or prefabricated metal housing.

## BASIS OF PAYMENT

**109-7.1** Payment will be made at the contract unit price for each completed and accepted vault or prefabricated metal housing equipment installation. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item.

### Payment will be made under:

Item L-109-7.1	Not Used
Item L-109-7.2	Installation of Airport Transformer Vault Equipment in Place - per unit
Item L-109-7.3	Not Used

Item L-109-7.4      Not Used

### 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.

#### Advisory Circulars (AC)

- AC 150/5340-30      Design and Installation Details for Airport Visual Aids
- AC 150/5345-3      Specification for L-821, Panels for Remote Control of Airport Lighting
- AC 150/5345-5      Circuit Selector Switch
- AC 150/5345-7      Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits
- AC 150/5345-10     Specification for Constant Current Regulators and Regulator Monitors
- AC 150/5345-13     Specification for L-841 Auxiliary Relay Cabinet Assembly for Pilot Control of Airport Lighting Circuits
- AC 150/5345-49     Specification L-854, Radio Control Equipment;
- AC 150/5345-53     Airport Lighting Equipment Certification Program

#### American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

- ANSI/ICEA S-85-625 Standard for Telecommunications Cable Aircore, Polyolefin Insulated, Copper Conductor Technical Requirements

#### ASTM International (ASTM)

- ASTM A615          Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- ASTM C62          Standard Specification for Building Brick (Solid Masonry Units Made from Clay or Shale)
- ASTM C90          Standard Specification for Loadbearing Concrete Masonry Units
- ASTM D2823        Standard Specification for Asphalt Roof Coatings, Asbestos Containing
- ASTM D4479        Standard Specification for Asphalt Roof Coatings – Asbestos-Free

#### Commercial Item Description (CID)

- A-A 59544          Cable and Wire, Electrical (Power, Fixed Installation)  
Institute of Electrical and Electronic Engineers (IEEE)

- IEEE 1584          Guide for Performing Arc-Flash Hazard Calculations

#### Master Painter's Institute (MPI)

- MPI Reference #9   Alkyd, Exterior, Gloss (MPI Gloss Level 6)

#### Underwriters Laboratories (UL)

- UL Standard 6      Electrical Rigid Metal Conduit – Steel
- UL Standard 514B   Conduit, Tubing, and Cable Fittings

UL Standard 514C Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers  
UL Standard 651 Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings  
UL Standard 651A Type EB and A Rigid PVC Conduit and HDPE Conduit  
National Fire Protection Association (NFPA)  
NFPA-70 National Electrical Code (NEC)  
NFPA-70E Standard for Electrical Safety in the Workplace  
NFPA-780 Standard for the Installation of Lightning Protection Systems

**END OF ITEM L-109**

**Item L-110 Airport Underground Electrical Duct Banks and Conduits****DESCRIPTION**

**110-1.1** This item shall consist of underground electrical conduits and duct banks (single or multiple conduits encased in concrete or buried in sand) installed per this specification at the locations and per the dimensions, designs, and details shown on the plans. This item shall include furnishing and installing of all underground electrical duct banks and individual and multiple underground conduits and removal of existing duct banks. It shall also include all turving trenching, backfilling, removal, and restoration of any paved or turfed areas; concrete encasement, mandrelling, pulling lines, duct markers, plugging of conduits, and the testing of the installation as a completed system ready for installation of cables per the plans and specifications. This item shall also include furnishing and installing conduits and all incidentals for providing positive drainage of the system. Verification of existing ducts is incidental to the pay items provided in this specification.

**EQUIPMENT AND MATERIALS****110-2.1 General.**

**a.** All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when requested by the RPR.

**b.** Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, that comply with these specifications, at the Contractor's cost.

**c.** All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in project that accrue directly or indirectly from late submissions or resubmissions of submittals.

**d.** The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes specified in this document.

**e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

**110-2.2 Steel conduit.** Rigid galvanized steel (RGS) conduit and fittings shall be hot dipped galvanized inside and out and conform to the requirements of Underwriters Laboratories Standards 6, 514B, and 1242. All RGS conduits or RGS elbows installed below grade, in concrete, permanently wet locations or other similar environments shall be painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

**110-2.3 Plastic conduit.** Plastic conduit and fittings shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10. <sup>[1]</sup><sub>SEP</sub>
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

- a. Type I—Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.
- b. Type II—Schedule 40 PVC suitable for either above ground or underground use.
- c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.
- d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

**110-2.4 Split conduit.** Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

**110-2.5 Conduit spacers.** Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

**110-2.6 Concrete.** Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

**110-2.7 Precast concrete structures.** Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

**110-2.8 Flowable backfill.** Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

**110-2.9 Detectable warning tape.** Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber

optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item.

### CONSTRUCTION METHODS

**110-3.1 General.** The Contractor shall install underground duct banks and conduits at the approximate locations indicated on the plans. The RPR shall indicate specific locations as the work progresses, if required to differ from the plans. Duct banks and conduits shall be of the size, material, and type indicated on the plans or specifications. Where no size is indicated on the plans or in the specifications, conduits shall be not less than 2 inches (50 mm) inside diameter or comply with the National Electrical Code based on cable to be installed, whichever is larger. All duct bank and conduit lines shall be laid so as to grade toward access points and duct or conduit ends for drainage. Unless shown otherwise on the plans, grades shall be at least 3 inches (75 mm) per 100 feet (30 m). On runs where it is not practicable to maintain the grade all one way, the duct bank and conduit lines shall be graded from the center in both directions toward access points or conduit ends, with a drain into the storm drainage system. Pockets or traps where moisture may accumulate shall be avoided. Under pavement, the top of the duct bank shall not be less than 18 inches (0.5 m) below the subgrade; in other locations, the top of the duct bank or underground conduit shall be not less than 18 inches (0.5 m) below finished grade.

The Contractor shall mandrel each individual conduit whether the conduit is direct-buried or part of a duct bank. An iron-shod mandrel, not more than 1/4 inch (6 mm) smaller than the bore of the conduit shall be pulled or pushed through each conduit. The mandrel shall have a leather or rubber gasket slightly larger than the conduit hole.

The Contractor shall swab out all conduits/ducts and clean base can, manhole, pull boxes, etc., interiors immediately prior to pulling cable. Once cleaned and swabbed the light bases, manholes, pull boxes, etc., and all accessible points of entry to the duct/conduit system shall be kept closed except when installing cables. Cleaning of ducts, base cans, manholes, etc., is incidental to the pay item of the item being cleaned. All raceway systems left open, after initial cleaning, for any reason shall be recleaned at the Contractor's expense. All accessible points shall be kept closed when not installing cable. The Contractor shall verify existing ducts proposed for use in this project as clear and open. The Contractor shall notify the RPR of any blockage in the existing ducts.

For pulling the permanent wiring, each individual conduit, whether the conduit is direct-buried or part of a duct bank, shall be provided with a 200-pound (90 kg) test polypropylene pull rope. The ends shall be secured and sufficient length shall be left in access points to prevent it from slipping back into the conduit. Where spare conduits are installed, as indicated on the plans, the open ends shall be plugged with removable tapered plugs, designed for this purpose.

All conduits shall be securely fastened in place during construction and shall be plugged to prevent contaminants from entering the conduits. Any conduit section having a defective joint shall not be installed. Ducts shall be supported and spaced apart using approved spacers at intervals not to exceed 5 feet (1.5 m).

Unless otherwise shown on the plans, concrete encased duct banks shall be used when crossing under pavements expected to carry aircraft loads, such as runways, taxiways, taxilanes, ramps and aprons. When under paved shoulders and other paved areas, conduit and duct banks shall be encased using flowable fill for protection.

All conduits within concrete encasement of the duct banks shall terminate with female ends for ease in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Where turf is well established and the sod can be removed, it shall be carefully stripped and properly stored.

Trenches for conduits and duct banks may be excavated manually or with mechanical trenching equipment unless in pavement, in which case they shall be excavated with mechanical trenching equipment. Walls of trenches shall be essentially vertical so that a minimum of shoulder surface is disturbed. Blades of graders shall not be used to excavate the trench.

When rock is encountered, the rock shall be removed to a depth of at least 3 inches (75 mm) below the required conduit or duct bank depth and it shall be replaced with bedding material of earth or sand containing no mineral aggregate particles that would be retained on a 1/4-inch (6.3 mm) sieve. Flowable backfill may alternatively be used

Underground electrical warning (Caution) tape shall be installed in the trench above all underground duct banks and conduits in unpaved areas. Contractor shall submit a sample of the proposed warning tape for approval by the RPR. If not shown on the plans, the warning tape shall be located 6 inches above the duct/conduit or the counterpoise wire if present.

Joints in plastic conduit shall be prepared per the manufacturer's recommendations for the particular type of conduit. Plastic conduit shall be prepared by application of a plastic cleaner and brushing a plastic solvent on the outside of the conduit ends and on the inside of the couplings. The conduit fitting shall then be slipped together with a quick one-quarter turn twist to set the joint tightly. Where more than one conduit is placed in a single trench, or in duct banks, joints in the conduit shall be staggered a minimum of 2 feet (60 cm).

Changes in direction of runs exceeding 10 degrees, either vertical or horizontal, shall be accomplished using manufactured sweep bends.

Whether or not specifically indicated on the drawings, where the soil encountered at established duct bank grade is an unsuitable material, as determined by the RPR, the unsuitable material shall be removed per Item P-152 and replaced with suitable material. Additional duct bank supports shall be installed, as approved by the RPR.

All excavation shall be unclassified and shall be considered incidental to Item L-110. Dewatering necessary for duct installation, and erosion per federal, state, and local requirements is incidental to Item L-110.

Unless otherwise specified, excavated materials that are deemed by the RPR to be unsuitable for use in backfill or embankments shall be removed and disposed of offsite.

Any excess excavation shall be filled with suitable material approved by the RPR and compacted per Item P-152.

It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Where existing active cables) cross proposed installations, the Contractor shall ensure that these cables are adequately protected. Where crossings are unavoidable, no splices will be allowed in the existing cables, except as specified on the plans. Installation of new cable where such crossings must occur shall proceed as follows:

**a.** Existing cables shall be located manually. Unearthed cables shall be inspected to assure absolutely no damage has occurred.

b. Trenching, etc., in cable areas shall then proceed with approval of the RPR, with care taken to minimize possible damage or disruption of existing cable, including careful backfilling in area of cable.

In the event that any previously identified cable is damaged during the course of construction, the Contractor shall be responsible for the complete repair.

**110-3.2 Duct banks.** Unless otherwise shown in the plans, duct banks shall be installed so that the top of the concrete envelope is not less than 18 inches (0.5 m) below the bottom of the base or stabilized base course layers where installed under runways, taxiways, aprons, or other paved areas, and not less than 18 inches (0.5 m) below finished grade where installed in unpaved areas.

Unless otherwise shown on the plans, duct banks under paved areas shall extend at least 3 feet (1 m) beyond the edges of the pavement or 3 feet (1 m) beyond any under drains that may be installed alongside the paved area. Trenches for duct banks shall be opened the complete length before concrete is placed so that if any obstructions are encountered, provisions can be made to avoid them. Unless otherwise shown on the plans, all duct banks shall be placed on a layer of concrete not less than 3 inches (75 mm) thick prior to its initial set. The Contractor shall space the conduits not less than 3 inches (75 mm) apart (measured from outside wall to outside wall). All such multiple conduits shall be placed using conduit spacers applicable to the type of conduit. As the conduit laying progresses, concrete shall be placed around and on top of the conduits not less than 3 inches (75 mm) thick unless otherwise shown on the plans. All conduits shall terminate with female ends for ease of access in current and future use. Install factory plugs in all unused ends. Do not cover the ends or plugs with concrete.

Conduits forming the duct bank shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth prior to placing the concrete encasement. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

When specified, the Contractor shall reinforce the bottom side and top of encasements with steel reinforcing mesh or fabric or other approved metal reinforcement. When directed, the Contractor shall supply additional supports where the ground is soft and boggy, where ducts cross under roadways, or where shown on the plans. Under such conditions, the complete duct structure shall be supported on reinforced concrete footings, piers, or piles located at approximately 5-foot (1.5-m) intervals.

All pavement surfaces that are to have ducts installed therein shall be neatly saw cut to form a vertical face. All excavation shall be included in the contract with price for the duct.

Install a plastic, detectable, color as noted, 3 to 6 inches (75 to 150 mm) wide tape, 8 inches (200 mm) minimum below grade above all underground conduit or duct lines not installed under pavement. Utilize the 3-inch (75-mm) wide tape only for single conduit runs. Utilize the 6-inch (150-mm) wide tape for multiple conduits and duct banks. For duct banks equal to or greater than 24 inches (600 mm) in width, utilize more than one tape for sufficient coverage and identification of the duct bank as required.

When existing cables are to be placed in split duct, encased in concrete, the cable shall be carefully located and exposed by hand tools. Prior to being placed in duct, the RPR shall be notified so that he may inspect the cable and determine that it is in good condition. Where required, split duct shall be installed as shown on the drawings or as required by the RPR.

**110-3.3 Conduits without concrete encasement.** Trenches for single-conduit lines shall be not less than 6 inches (150 mm) nor more than 12 inches (300 mm) wide. The trench for 2 or more conduits installed at the same level shall be proportionately wider. Trench bottoms for conduits without concrete encasement shall be made to conform accurately to grade so as to provide uniform support for the conduit along its entire length.

Unless otherwise shown on the plans, a layer of fine earth material, at least 4 inches (100 mm) thick (loose measurement) shall be placed in the bottom of the trench as bedding for the conduit. The bedding material shall consist of soft dirt, sand or other fine fill, and it shall contain no particles that would be retained on a 1/4-inch (6.3 mm) sieve. The bedding material shall be tamped until firm. Flowable backfill may alternatively be used.

Unless otherwise shown on plans, conduits shall be installed so that the tops of all conduits within the Airport's secured area where trespassing is prohibited are at least 18 inches (0.5 m) below the finished grade. Conduits outside the Airport's secured area shall be installed so that the tops of the conduits are at least 24 inches (60 cm) below the finished grade per National Electric Code (NEC), Table 300.5.

When two or more individual conduits intended to carry conductors of equivalent voltage insulation rating are installed in the same trench without concrete encasement, they shall be spaced not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction. Where two or more individual conduits intended to carry conductors of differing voltage insulation rating are installed in the same trench without concrete encasement, they shall be placed not less than 3 inches (75 mm) apart (measured from outside wall to outside wall) in a horizontal direction and not less than 6 inches (150 mm) apart in a vertical direction.

Trenches shall be opened the complete length between normal termination points before conduit is installed so that if any unforeseen obstructions are encountered, proper provisions can be made to avoid them.

Conduits shall be installed using conduit spacers. No. 4 reinforcing bars shall be driven vertically into the soil a minimum of 6 inches (150 mm) to anchor the assembly into the earth while backfilling. For this purpose, the spacers shall be fastened down with locking collars attached to the vertical bars. Spacers shall be installed at 5-foot (1.5-m) intervals. Spacers shall be in the proper sizes and configurations to fit the conduits. Locking collars and spacers shall be submitted to the RPR for review prior to use.

**110-3.4 Markers.** The location of each end and of each change of direction of conduits and duct banks shall be marked by a concrete slab marker 2 feet (60 cm) square and 4 - 6 inches (100 - 150 mm) thick extending approximately one inch (25 mm) above the surface. The markers shall also be located directly above the ends of all conduits or duct banks, except where they terminate in a junction/access structure or building. Each cable or duct run from a line of lights and signs to the equipment vault must be marked at approximately every 200 feet (61 m) along the cable or duct run, with an additional marker at each change of direction of cable or duct run.

The Contractor shall impress the word "DUCT" or "CONDUIT" on each marker slab. Impression of letters shall be done in a manner, approved by the RPR, for a neat, professional appearance. All letters and words must be neatly stenciled. After placement, all markers shall be given one coat of high-visibility orange paint, as approved by the RPR. The Contractor shall also impress on the slab the number and size of conduits beneath the marker along with all other necessary information as determined by the RPR. The letters shall be 4 inches (100 mm) high and 3 inches (75 mm) wide with width of stroke 1/2 inch (12 mm) and 1/4 inch (6 mm) deep or as large as the

available space permits. Furnishing and installation of duct markers is incidental to the respective duct pay item.

**110-3.5 Backfilling for conduits.** For conduits, 8 inches (200 mm) of sand, soft earth, or other fine fill (loose measurement) shall be placed around the conduits ducts and carefully tamped around and over them with hand tampers. The remaining trench shall then be backfilled and compacted per Item P-152 except that material used for back fill shall be select material not larger than 4 inches (100 mm) in diameter.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during back filling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

**110-3.6 Backfilling for duct banks.** After the concrete has cured, the remaining trench shall be backfilled and compacted per Item P-152 "Excavation and Embankment" except that the material used for backfill shall be select material not larger than 4 inches (100 mm) in diameter. In addition to the requirements of Item P-152, where duct banks are installed under pavement, one moisture/density test per lift shall be made for each 250 linear feet (76 m) of duct bank or one work period's construction, whichever is less.

Flowable backfill may alternatively be used.

Trenches shall not contain pools of water during backfilling operations.

The trench shall be completely backfilled and tamped level with the adjacent surface; except that, where sod is to be placed over the trench, the backfilling shall be stopped at a depth equal to the thickness of the sod to be used, with proper allowance for settlement.

Any excess excavated material shall be removed and disposed of per instructions issued by the RPR.

**110-3.7 Restoration.** Where sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by the work shall be restored to its original condition. The restoration shall include; topsoiling, fertilizing, liming, seeding and mulching as shown on the plans.

The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. All restoration shall be considered incidental to the respective L-110 pay item. Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD) and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

**110-3.8 Ownership of removed cable.** The Contractor shall dispose of any cables removed off of Airport Property.

**METHOD OF MEASUREMENT**

**110-4.1** Underground conduits and duct banks shall be measured by the linear feet (meter) of conduits and duct banks installed, including encasement, locator tape, trenching and backfill with designated material, and restoration, and for drain lines, the termination at the drainage structure, all measured in place, completed, and accepted. Separate measurement shall be made for the various types and sizes.

**BASIS OF PAYMENT**

**110-5.1** Payment will be made at the contract unit price per linear foot for each type and size of conduit and duct bank completed and accepted, including trench and backfill with the designated material, and, for drain lines, the termination at the drainage structure. This price shall be full compensation for removal and disposal of existing duct banks and conduits as shown on the plans, furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item per the provisions and intent of the plans and specifications.

**Payment will be made under:**

Item L-110-5.1	Non-Encased Electrical Duct Bank, 1-Way 2-inch - per linear foot (meter)
Item L-110-5.2	Concrete Encased Electrical Duct Bank, 4-Way 4-Inch, 24" Minimum Coverage - per linear foot (meter)

**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.

## Advisory Circular (AC)

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

AC 150/5345-53 Airport Lighting Equipment Certification Program

## ASTM International (ASTM)

ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

## National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

## Underwriters Laboratories (UL)

UL Standard 6 Electrical Rigid Metal Conduit - Steel

UL Standard 514B Conduit, Tubing, and Cable Fittings

UL Standard 514C Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers

UL Standard 1242 Electrical Intermediate Metal Conduit Steel

UL Standard 651 Schedule 40, 80, Type EB and A Rigid PVC Conduit and Fittings

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UL Standard 651A Type EB and A Rigid PVC Conduit and HDPE Conduit

**END OF ITEM L-110**

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## Item L-115 Electrical Manholes and Junction Structures

### DESCRIPTION

**115-1.1** This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR including removal of existing manholes and junction structures as shown on the plans.

### EQUIPMENT AND MATERIALS

#### 115-2.1 General.

**a.** All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the RPR.

**b.** Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

**c.** All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

**d.** The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

**e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

**115-2.2 Concrete structures.** Concrete shall be proportioned, placed, and cured per [Item P-610, Concrete for Miscellaneous Structures]. Cast-in-place concrete structures shall be as shown on the plans.

**115-2.3 Precast concrete structures.** Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans.

Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand 100,000 lb. aircraft loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

Threaded inserts and pulling eyes shall be cast in as shown on the plans.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.

**115-2.4 Junction boxes.** Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless-steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch (9-mm) thickness for L-867 and 3/4-inch (19-mm) thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

**115-2.5 Mortar.** The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

**115-2.6 Concrete.** Concrete shall be proportioned, placed, and cured per Item P-610, Concrete for Miscellaneous Structures.

**115-2.7 Frames and covers.** The frames shall conform to one of the following requirements:

- a. ASTM A48      Gray iron castings
- b. ASTM A47      Malleable iron castings
- c. ASTM A27      Steel castings
- d. ASTM A283, Grade D   Structural steel for grates and frames
- e. ASTM A536      Ductile iron castings
- f. ASTM A897      Austempered ductile iron castings

All castings specified shall withstand a maximum tire pressure of 250 psi and maximum load of 100,000 lbs.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word "ELECTRIC" or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

Each manhole shall be provided with a "DANGER -- PERMIT-REQUIRED CONFINED SPACE, DO NOT ENTER" safety warning sign as detailed in the Contract Documents and in accordance with OSHA 1910.146 (c)(2).

**115-2.8 Ladders.** Ladders, if specified, shall be galvanized steel or as shown on the plans.

**115-2.9 Reinforcing steel.** All reinforcing steel shall be deformed bars of new billet steel meeting the requirements of ASTM A615, Grade 60.

**115-2.10 Bedding/special backfill.** Bedding or special backfill shall be as shown on the plans.

**115-2.11 Flowable backfill.** Flowable material used to backfill shall conform to the requirements of Item P-153, Controlled Low Strength Material.

**115-2.12 Cable trays.** Cable trays shall be of non-metallic material. Cable trays shall be located as shown on the plans.

**115-2.13 Plastic conduit.** Plastic conduit shall comply with Item L-110, Airport Underground Electrical Duct Banks and Conduits.

**115-2.14 Conduit terminators.** Conduit terminators shall be pre-manufactured for the specific purpose and sized as required or as shown on the plans.

**115-2.15 Pulling-in irons.** Pulling-in irons shall be manufactured with 7/8-inch (22 mm) diameter hot-dipped galvanized steel or stress-relieved carbon steel roping designed for concrete applications (7 strand, 1/2-inch (12 mm) diameter with an ultimate strength of 270,000 psi (1862 MPa)). Where stress-relieved carbon steel roping is used, a rustproof sleeve shall be installed at the hooking point and all exposed surfaces shall be encapsulated with a polyester coating to prevent corrosion.

**115-2.16 Ground rods.** Ground rods shall be one piece, copper clad steel. The ground rods shall be of the length and diameter specified on the plans, but in no case shall they be less than 10 feet (3.1 m) long nor less than 3/4 inch (19 mm) in diameter.

## CONSTRUCTION METHODS

**115-3.1 Unclassified excavation.** It is the Contractor's responsibility to locate existing utilities within the work area prior to excavation. Damage to utility lines, through lack of care in excavating, shall be repaired or replaced to the satisfaction of the RPR without additional expense to the Owner.

The Contractor shall perform excavation for structures and structure footings to the lines and grades or elevations shown on the plans or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown.

All excavation shall be unclassified and shall be considered incidental to Item L-115. Dewatering necessary for structure installation and erosion per federal, state, and local requirements is incidental to Item L-115.

Boulders, logs and all other objectionable material encountered in excavation shall be removed. All rock and other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped or serrated, as directed by the RPR. All seams, crevices, disintegrated rock and thin strata shall be removed. When concrete is to rest on a surface other than rock, special care shall be taken not to disturb the bottom of the excavation. Excavation to final grade shall not be made until just before the concrete or reinforcing is to be placed.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be affected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand, or a material approved by the RPR as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

**115-3.2 Concrete structures.** Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

**115-3.3 Precast unit installations.** Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

**115-3.4 Placement and treatment of castings, frames and fittings.** All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the RPR and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written approval is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the RPR and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

**115-3.5 Installation of ladders.** Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.

**115-3.6 Removal of sheeting and bracing.** In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches (150 mm) of material is placed above the top of the structure and before any bracing is removed. Voids left by the sheeting shall be carefully refilled with selected material and rammed tight with tools especially adapted for the purpose or otherwise as may be approved.

The RPR may direct the Contractor to delay the removal of sheeting and bracing if, in his judgment, the installed work has not attained the necessary strength to permit placing of backfill.

**115-3.7 Backfilling.** After a structure has been completed, the area around it shall be backfilled in horizontal layers not to exceed 6 inches (150 mm) in thickness measured after compaction to the density requirements in Item P-152. Each layer shall be deposited all around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

Backfill shall not be placed against any structure until approval is given by the RPR. In the case of concrete, such approval shall not be given until tests made by the laboratory under supervision of the RPR establish that the concrete has attained sufficient strength to provide a factor of safety against damage or strain in withstanding any pressure created by the backfill or the methods used in placing it.

Where required, the RPR may direct the Contractor to add, at his own expense, sufficient water during compaction to assure a complete consolidation of the backfill. The Contractor shall be responsible for all damage or injury done to conduits, duct banks, structures, property or persons due to improper placing or compacting of backfill.

**115-3.8 Connection of duct banks.** To relieve stress of joint between concrete-encased duct banks and structure walls, reinforcement rods shall be placed in the structure wall and shall be formed and tied into duct bank reinforcement at the time the duct bank is installed.

**115-3.9 Grounding.** A ground rod shall be installed in the floor of all concrete structures so that the top of rod extends 6 inches (150 mm) above the floor. The ground rod shall be installed within one foot (30 cm) of a corner of the concrete structure. Ground rods shall be installed prior to casting the bottom slab. Where the soil condition does not permit driving the ground rod into the earth without damage to the ground rod, the Contractor shall drill a 4-inch (100 mm) diameter hole into the earth to receive the ground rod. The hole around the ground rod shall be filled throughout its length, below slab, with Portland cement grout. Ground rods shall be installed in precast bottom slab of structures by drilling a hole through bottom slab and installing the ground rod. Bottom slab penetration shall be sealed watertight with Portland cement grout around the ground rod.

A grounding bus of 4/0 bare stranded copper shall be exothermically bonded to the ground rod and loop the concrete structure walls. The ground bus shall be a minimum of one foot (30 cm) above the floor of the structure and separate from other cables. No. 2 American wire gauge (AWG) bare copper pigtailed shall bond the grounding bus to all cable trays and other metal hardware within the concrete structure. Connections to the grounding bus shall be exothermic. If an exothermic weld is not possible, connections to the grounding bus shall be made by using connectors approved for direct burial in soil or concrete per UL 467. Hardware connections may be mechanical, using a lug designed for that purpose.

**115-3.10 Cleanup and repair.** After erection of all galvanized items, damaged areas shall be repaired by applying a liquid cold-galvanizing compound per MIL-P-21035. Surfaces shall be prepared, and compound applied per the manufacturer's recommendations.

Prior to acceptance, the entire structure shall be cleaned of all dirt and debris.

**115-3.11 Restoration.** After the backfill is completed, the Contractor shall dispose of all surplus material, dirt and rubbish from the site. The Contractor shall restore all disturbed areas equivalent to or better than their original condition. All sodding, grading and restoration shall be considered incidental to the respective Item L-115 pay item.

The Contractor shall grade around structures as required to provide positive drainage away from the structure.

Areas with special surface treatment, such as roads, sidewalks, or other paved areas shall have backfill compacted to match surrounding areas, and surfaces shall be repaired using materials comparable to original materials.

Following restoration of all trenching near airport movement surfaces, the Contractor shall thoroughly visually inspect the area for foreign object debris (FOD) and remove any such FOD that is found. This FOD inspection and removal shall be considered incidental to the pay item of which it is a component part.

After all work is completed, the Contractor shall remove all tools and other equipment, leaving the entire site free, clear and in good condition.

**115-3.12 Inspection.** Prior to final approval, the electrical structures shall be thoroughly inspected for conformance with the plans and this specification. Any indication of defects in materials or workmanship shall be further investigated and corrected. The earth resistance to ground of each ground rod shall not exceed 25 ohms. Each ground rod shall be tested using the fall-of-potential ground impedance test per American National Standards Institute / Institute of Electrical and Electronic Engineers (ANSI/IEEE) Standard 81. This test shall be performed prior to establishing connections to other ground electrodes.

**115-3.13 Manhole elevation adjustments.** The Contractor shall adjust the tops of existing manholes in areas designated in the Contract Documents to the new elevations shown. The Contractor shall be responsible for determining the exact height adjustment required to raise or lower the top of each manhole to the new elevations. The existing top elevation of each manhole to be adjusted shall be determined in the field and subtracted/added from the proposed top elevation.

The Contractor shall remove/extend the existing top section or ring and cover on the manhole structure or manhole access. The Contractor shall install precast concrete sections or grade rings of the required dimensions to adjust the manhole top to the new proposed elevation or shall cut the existing manhole walls to shorten the existing structure, as required by final grades. The Contractor shall reinstall the manhole top section or ring and cover on top and check the new top elevation.

The Contractor shall construct a concrete slab around the top of adjusted structures located in graded areas that are not to be paved. The concrete slab shall conform to the dimensions shown on the plans.

**115-3.14 Duct extension to existing ducts.** Where existing concrete encased ducts are to be extended, the duct extension shall be concrete encased plastic conduit. The fittings to connect the ducts together shall be standard manufactured connectors designed and approved for the purpose. The duct extensions shall be installed according to the concrete encased duct detail and as shown on the plans.

### METHOD OF MEASUREMENT

**115-4.1** Electrical manholes and junction structures shall be measured by each unit completed in place and accepted. The following items shall be included in the price of each unit: All required excavation and dewatering; sheeting and bracing; all required backfilling with on-site materials; restoration of all surfaces and finished grading and turfing; all required connections; temporary cables and connections; and ground rod testing.

**115-4.2 Manhole elevation adjustments** shall be measured by the completed unit installed, in place, completed, and accepted. Separate measurement shall not be made for the various types and sizes.

### BASIS OF PAYMENT

**115-5.1** The accepted quantity of electrical manholes and junction structures will be paid for at the Contract unit price per each, complete and in place. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials, furnishing and installation of appurtenances and connections to duct banks and other structures as may be required to complete the item as shown on the plans and for all labor, equipment, tools and incidentals necessary to complete the structure.

**115-5.2** Payment shall be made at the contract unit price for manhole elevation adjustments. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation of these materials, and for all labor, equipment, tools, and incidentals necessary, including but not limited to, spacers, concrete, rebar, dewatering, excavating, backfill, topsoil, sodding and pavement restoration, where required, to complete this item as shown in the plans and to the satisfaction of the RPR.

#### Payment will be made under:

Item L-115-5.2	Electrical Junction Structure 3' x3' - Per Each
Item L-115-5.3	Not Used
Item L-115-5.4	Not Used

### 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.

American National Standards Institute / Insulated Cable Engineers Association (ANSI/ICEA)

ANSI/IEEE STD 81 IEEE Guide for Measuring Earth Resistivity, Ground Impedance, and Earth Surface Potentials of a Ground System

Advisory Circular (AC)

AC 150/5345-7 Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits

AC 150/5345-26 Specification for L-823 Plug and Receptacle, Cable Connectors

AC 150/5345-42 Specification for Airport Light Bases, Transformer Housings, Junction Boxes, and Accessories

AC 150/5340-30 Design and Installation Details for Airport Visual Aids

AC 150/5345-53 Airport Lighting Equipment Certification Program

Commercial Item Description (CID)

A-A 59544 Cable and Wire, Electrical (Power, Fixed Installation)

ASTM International (ASTM)

ASTM A27 Standard Specification for Steel Castings, Carbon, for General Application

ASTM A47 Standard Specification for Ferritic Malleable Iron Castings

ASTM A48 Standard Specification for Gray Iron Castings

ASTM A123 Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products

ASTM A283 Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates

ASTM A536 Standard Specification for Ductile Iron Castings

ASTM A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

ASTM A897 Standard Specification for Austempered Ductile Iron Castings

ASTM C144 Standard Specification for Aggregate for Masonry Mortar

ASTM C150 Standard Specification for Portland Cement

ASTM C206 Standard Specification for Finishing Hydrated Lime

FAA Engineering Brief (EB)

EB #83 In Pavement Light Fixture Bolts

Mil Spec

MIL-P-21035 Paint High Zinc Dust Content, Galvanizing Repair

National Fire Protection Association (NFPA)

NFPA-70 National Electrical Code (NEC)

**END OF ITEM L-115**

## Item L-125 Installation of Airport Lighting Systems

### DESCRIPTION

**125-1.1** This item shall consist of airport lighting systems furnished and installed in accordance with this specification, the referenced specifications, and the applicable advisory circulars (ACs). The systems shall be installed at the locations and in accordance with the dimensions, design, and details shown in the plans. This item shall include the furnishing of all equipment, materials, services, and incidentals necessary to place the systems in operation as completed units to the satisfaction of the RPR.

### EQUIPMENT AND MATERIALS

#### 125-2.1 General.

**a.** Airport lighting equipment and materials covered by Federal Aviation Administration (FAA) specifications shall be certified under the Airport Lighting Equipment Certification Program in accordance with AC 150/5345-53, current version. FAA certified airfield lighting shall be compatible with each other to perform in compliance with FAA criteria and the intended operation. If the Contractor provides equipment that does not perform as intended because of incompatibility with the system, the Contractor assumes all costs to correct the system for to operate properly.

**b.** Manufacturer's certifications shall not relieve the Contractor of their responsibility to provide materials in accordance with these specifications and acceptable to the RPR. Materials supplied and/or installed that do not comply with these specifications shall be removed, when directed by the RPR and replaced with materials, which do comply with these specifications, at the sole cost of the Contractor.

**c.** All materials and equipment used shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Clearly mark each copy to identify pertinent products or models applicable to this project. Indicate all optional equipment and delete non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment for which they apply on each submittal sheet. Markings shall be clearly made with arrows or circles (highlighting is not acceptable). The Contractor shall be responsible for delays in the project accruing directly or indirectly from late submissions or resubmissions of submittals.

**d.** The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications. The Contractor's submittals shall be submitted by electronic PDF format, tabbed by specification section. The RPR reserves the right to reject any or all equipment, materials or procedures, which, in the RPR's opinion, does not meet the system design and the standards and codes, specified herein.

**e.** All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

All LED light fixtures, with the exception of obstruction lighting (AC 150/5345-43) must be warranted by the manufacturer for a minimum of 4 years after date of installation inclusive of all electronics." Obstruction lighting warranty is set by the manufacture.

**EQUIPMENT AND MATERIALS**

**125-2.2 Conduit/Duct.** Conduit shall conform to Specification Item L-110 Airport Underground Electrical Duct Banks and Conduits.

**125-2.3 Cable and Counterpoise.** Cable and Counterpoise shall conform to Item L-108 Underground Power Cable for Airports.

**125-2.4 Tape.** Rubber and plastic electrical tapes shall be Scotch Electrical Tape Numbers 23 and 88 respectively, as manufactured by 3M Company or an approved equal.

**125-2.5 Cable Connections.** Cable Connections shall conform to Item L-108 Installation of Underground Cable for Airports.

**125-2.6 Retroreflective Markers.** Retroreflective markers shall be type L-853 and shall conform to the requirements of AC 150/5345-39.

**125-2.7 Runway and Taxiway Lights.** Runway and taxiway lights shall conform to the requirements of AC 150/5345-46. Lamps shall be of size and type indicated, or as required by fixture manufacturer for each lighting fixture required under this contract. Filters shall be of colors conforming to the specification for the light concerned or to the standard referenced.

**Lights**

Type	Class	Mode	Style	Option	Base	Filter	Transformer	Notes
L-861T(L)	2	1	N/A		L-867	Blue	L-830	See note 1,2 below – 30” Ht.
L-861T(L)	2	1	N/A		Stake	Blue	L-830	See note 1,2 below – 30” Ht.

(L) = LED Fixture

Note 1: Provide fixture without arctic kit (heaters)

Note 2: Provide with snow marker (Whip)

**125-2.8 Runway and Taxiway Signs.** Runway and Taxiway Guidance Signs should conform to the requirements of AC 150/5345-44.

GENERAL CONSTRUCTION NOTES:

- 1. THE PLANS SHOW SUBSURFACE STRUCTURES, ABOVE-GROUND STRUCTURES AND/OR UTILITIES FROM FIELD LOCATION AND RECORD MAPPING...
2. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS...
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES, ETC. AND SHALL COMPLY WITH ALL REQUIRED PERMITS...
4. ALL WORK SHALL BE DONE IN STRICT COMPLIANCE WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES, STANDARDS, ORDINANCES, RULES AND REGULATIONS.
5. THE CONTRACTOR SHALL:
A. VERIFY ALL CONDITIONS IN THE FIELD PRIOR TO COMMENCEMENT OF WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
B. EXAMINE THE SITE AND INCLUDE IN HIS WORK CONSIDERATION FOR THE EFFECT OF ALL EXISTING CONDITIONS ON THE WORK.
C. PROVIDE AND INSTALL ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH THESE CONTRACT PLANS AND SPECIFICATIONS.
D. HOLD THE OWNER HARMLESS AGAINST ANY AND ALL CLAIMS ARISING FROM WORK DONE BY THE CONTRACTOR ON THE SITE.
6. ALL TRENCH EXCAVATION AND ANY REQUIRED SHEETING AND SHORING SHALL BE DONE IN ACCORDANCE WITH THE LATEST REVISIONS OF OSHA REGULATIONS FOR CONSTRUCTION.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR DEWATERING AND THE MAINTENANCE OF SURFACE DRAINAGE DURING THE COURSE OF WORK. CONTRACTOR SHALL MAINTAIN EXISTING SITE DRAINAGE PATTERNS THROUGHOUT CONSTRUCTION.

AVIATION NOTES:

- 1. IN ADDITION TO NORMAL SAFETY PRECAUTIONS EXPECTED OF THE CONTRACTOR, IT IS NOTED THAT SPECIAL CONSIDERATIONS MUST BE GIVEN TO THE FACT THAT CONSTRUCTION ACTIVITY WILL BE TAKING PLACE WITHIN THE CONFINES OF AN ACTIVE AIRPORT...
2. ALL CONSTRUCTION VEHICLES OPERATING ON AIRPORT PROPERTY MUST DISPLAY AN FAA APPROVED FLAG ON A STAFF OR ATTACHED TO THE VEHICLE SO THAT THE FLAG WILL BE READILY VISIBLE...
3. THE CONTRACTOR'S JOB SUPERINTENDENT IS TO MEET WITH THE PROJECT RESIDENT ENGINEER PRIOR TO THE START OF EACH WORKING DAY TO COORDINATE DAILY CONSTRUCTION ACTIVITIES.
4. ALL INTERRUPTION OF APRON, TAXIWAY OR RUNWAY LIGHTING SHALL BE COORDINATED AND SUBJECT TO THE APPROVAL OF AIRPORT OPERATIONS.
5. THE CONTRACTOR IS TO POST A GUARD AT ALL GATES USED FOR ACCESS OF CONSTRUCTION EQUIPMENT AND/OR PERSONNEL...
6. THE ACCESS ROUTES ILLUSTRATED ON THE PLAN ARE TO BE USED FOR ACCESS TO THE WORK AREAS...
7. ANY FINES ASSESSED TO THE AIRPORT DUE TO VIOLATIONS BY THE CONTRACTOR OF FAA SECURITY REQUIREMENTS SHALL BE PAID BY THE CONTRACTOR.
8. ANY FINES ASSESSED TO THE AIRPORT DUE TO VIOLATIONS BY THE CONTRACTOR OF MAINE DEP STORMWATER RUNOFF REQUIREMENTS SHALL BE PAID BY THE CONTRACTOR.

GENERAL NOTES:

- 1. THE CONTRACTOR SHALL COMPLY WITH FAA ADVISORY CIRCULAR (AC) 150/5370-2G, THE PROJECT SPECIFICATIONS, AND THE PLANS FOR GUIDANCE ON OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION...
2. THE CONTRACTOR SHALL PROVIDE QUALIFIED FLAGGERS WHO ARE RESPONSIBLE FOR THE CONTROL OF MOVEMENT OF THE CONTRACTOR'S EQUIPMENT AND PERSONNEL ACROSS ACTIVE TAXIWAYS, ILS CRITICAL AREAS AND GLIDE SLOPE CRITICAL AREAS AS NECESSARY...
3. NOTICE TO AIRMEN (NOTAM) ON ALL CONSTRUCTION ACTIVITIES WILL BE DIRECTED THROUGH THE ENGINEER AND ISSUED BY THE AIRPORT...
4. ALL UTILITY CONNECTIONS TO THE STAGING AREA ARE TO BE THE RESPONSIBILITY OF THE CONTRACTOR...
5. ALL CONSTRUCTION EQUIPMENT MUST MAINTAIN A DISTANCE GREATER THAN 44.5 FEET FROM ANY PARKED AIRCRAFT.
6. AT THE COMPLETION OF WORK IN ANY CONSTRUCTION PERIOD, AND PRIOR TO THE SCHEDULED OPENING OF THE DESIGNATED AIRFIELD FACILITY, AN INSPECTION TO DETERMINE WHETHER THE RESPECTIVE AIRPORT FACILITIES ARE IN THE APPROPRIATE CONDITION TO BE OPENED WILL BE PERFORMED...
7. CONTRACTOR SHALL DESIGNATE ONE PRINCIPAL PERSON AND TWO BACKUP PEOPLE WHO CAN BE CONTACTED 24 HOURS A DAY IN THE EVENT OF AN EMERGENCY...
8. ACCESS FOR AIRPORT RESCUE AND FIRE FIGHTING EQUIPMENT AND PERSONNEL SHALL BE MAINTAINED AT ALL TIMES...
9. A TRAINING SESSION BY THE AIRPORT STAFF OR THE THE ENGINEER WILL BE REQUIRED FOR ALL FLAGMEN...
10. ATTENTION IS DIRECTED TO THE DATUM USED IN THESE PLANS...
11. THE CONTRACTOR SHALL FURNISH AND PLACE THREE 2"x4" WOOD MARKERS AT LOCATIONS OF EXISTING MONUMENTS...
12. HORIZONTAL & VERTICAL CONTROL AS INDICATED ON SHEET G-3.

Table with 2 columns: Symbol and Description. Includes symbols for existing beacons, treelines, trees, gates, fire hydrants, survey points, electrical handholes, junction cans, guidance signs, runway edge lights, taxiway edge lights, base mounted lights, stake mounted lights, unknown structures, catch basins, utility poles, cable duct markers, precision approach paths, airfield base lights, ground rods, copper counterpoise, electrical utilities, duct banks, painted markings, drainage pipes, perimeter security fences, boring locations, oil water separators, and unlighted guidance signs.

EXISTING LEGEND

Table with 2 columns: Symbol and Description. Includes symbols for localizer critical area, runway object free area, runway obstacle free zone, runway safety area, runway protection zone, and taxiway object free area.

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY
NOT TO BE USED FOR CONSTRUCTION

ABBREVIATIONS:

Table with 4 columns: Abbreviation, Full Name, Abbreviation, Full Name. Lists various engineering and construction abbreviations such as A/P AIRPORT, AC ACRES, LVC LENGTH OF VERTICAL CURVE, etc.

Vertical sidebar containing project information: STATE OF MAINE, DEPARTMENT OF TRANSPORTATION, FAA AIP: 3-23-0003-XXX-2021, WIN 020655.03, AVIATION PLANS, AUGUSTA STATE AIRPORT BID DOCUMENTS, KENNEBEC COUNTY, AUGUSTA, GENERAL NOTES, SHEET NUMBER 2, OF 62.

BASE BID			
Bid Item	Description Of Item	Unit	Quantity
M-120-1	MAINTENANCE AND PROTECTION OF TRAFFIC	LS	1
M-150-1	PROJECT SURVEY AND STAKEOUT	LS	1
C-100	CONTRACTOR QUALITY CONTROL PROGRAM (CQCP)	LS	1
C-102-5.1a	TEMPORARY SEEDING AND MULCHING	SY	1,500
C-102-5.1b	INSTALLATION AND REMOVAL OF INLET PROTECTION	EA	21
C-102-5.1c	STABILIZED CONSTRUCTION ENTRANCE	EA	1
C-102-5.1e	INSTALLATION AND REMOVAL OF WATTLES	LF	1,700
C-102-5.1f	EROSION CONTROL MATTING	SY	4,000
C-105	MOBILIZATION (Limited to 5%)	LS	1
P-101-5.6	COLD MILLING	SY	900
P-101-5.7	REMOVAL OF PIPE AND OTHER BURIED STRUCTURES	LS	1
P-152-4.1a	UNCLASSIFIED EXCAVATION	CY	2,331
P-152-4.1c	MUCK EXCAVATION	CY	250
P-207-5.1	IN-PLACE FULL DEPTH RECYCLED (FDR) ASPHALT AGGREGATE BASE COURSE	SY	12,100
P-207-5.2	CORRECTIVE AGGREGATE MATERIAL	TON	1,900
P-401-8.1	ASPHALT SURFACE COURSE	TON	3,600
P-603-5.1	EMULSIFIED ASPHALT TACK COAT	GAL	1,300
P-605-5.1	JOINT SEALANT FOR PAVEMENTS	LF	1,400
P-620-5.1a	SURFACE PREPERATION (MARKING REMOVAL)	SF	1,400
P-620-5.2b	SURFACE PAVEMENT MARKINGS	SF	7,500
P-620-5.3c	REFLECTIVE MEDIA	LB	450
D-700-1	DRAINAGE SYSTEM REPAIRS	LS	1
D-700-2	INLET ADJUSTMENT	EA	2
D-700-3	FRAME & GRATE	EA	2
D-701-5.1	12" REINFORCED CONCRETE PIPE	LF	160
D-705-5.1	6" UNDERDRAIN PIPE COMPLETE, INCLUDING POROUS	LF	3,650
D-751-5.4	INSPECTION HOLE	EA	15
T-901-5.1	SEEDING	1KSF	116
T-905-5.1	TOPSOIL (OBTAINED ON SITE)	CY	750
T-905-5.2	TOPSOIL (OBTAINED OFF SITE)	CY	750
T-908-5.1	MULCHING	SY	13,500
L-108-5.2	NO. 8 AWG, 5KV, L-824, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	LF	7,400
L-108-5.3	NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE, INSTALLED IN TRENCH, INCLUDING CONNECTIONS/	LF	4,900
L-109-7.2	INSTALLATION OF AIRPORT TRANSFORMER VAULT EQUIPMENT IN PALCE - EXISTING VAULT	LS	1
L-110-5.1	NON-ENCASED ELECTRICAL DUCT BANK, 1-WAY 2 INCH	LF	4,600
L-110-5.2	CONCRETE ENCASED ELECTRICAL DUCT BANK, 4-WAY 4 INCH, 24" MINIMUM COVERAGE	LF	300
L-110-5.3	CONCRETE ENCASED ELECTRICAL DUCT BANK, 4-WAY 4 INCH, 48" MINIMUM COVERAGE	LF	40
L-115-5.2	ELECTRICAL JUNCTION STRUCTURE 4' x 4'	EA	7
L-115-5.3	EXISTING ELECTRICAL MANHOLE/JUNCTION STRUCTURE ELEVATION ADJUSTMENT	EA	6
L-125-5.1	L-861 BASE MOUNTED LED ELEVATED TAXIWAY EDGE	EA	92
L-125-5.4	AIRFIELD GUIDANCE SIGN ON FOUNDATION - 1 Mod.	EA	1
L-125-5.5	AIRFIELD GUIDANCE SIGN ON FOUNDATION - 3 Mod.	EA	9

Add. Alt #1			
Bid Item	Description Of Item	Unit	Quantity
P-152-4.1a_A	UNCLASSIFIED EXCAVATION	CY	50
P-207-5.1_A	IN-PLACE FULL DEPTH RECYCLED (FDR) ASPHALT AGGREGATE BASE COURSE	SY	1,800
P-207-5.2_A	CORRECTIVE AGGREGATE MATERIAL	TON	300
P-401-8.1_A	ASPHALT SURFACE COURSE	TON	600
P-603-5.1_A	EMULSIFIED ASPHALT TACK COAT	GAL	200
P-620-5.2b_A	SURFACE PAVEMENT MARKINGS	SF	1,100
T-901-5.1_A	SEEDING	1KSF	-5
T-905-5.1_A	TOPSOIL (OBTAINED ON SITE)	CY	-30
T-905-5.2_A	TOPSOIL (OBTAINED OFF SITE)	CY	-30
T-908-5.1_A	MULCHING	SY	-540
L-125-5.1_A	L-861 BASE MOUNTED LED ELEVATED TAXIWAY EDGE	EA	6

Add Alt #2			
Bid Item	Description Of Item	Unit	Quantity
L-108-5.1	TRENCHING FOR DIRECT BURIED CABLE, 18-INCH	LF	4600.00
L-110-5.1a	NON-ENCASED ELECTRICAL DUCT BANK, 1-WAY 2 INCH	LF	-4600.00
L-125-5.1	L-861 BASE MOUNTED LED ELEVATED TAXIWAY EDGE	EA	-64.00
L-125-5.2	L-861 STAKE MOUNTED LED ELEVATED TAXIWAY EDGE	EA	64.00

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
FAA AIP: 3-23-0003-XXX-2021  
WIN 020655.03  
AVIATION PLANS



MATTHEW I. O'BRIEN  
SIGNATURE  
12842  
P.E. NUMBER  
04-12-2021  
DATE

PROJ. MANAGER	T. LESIEGE	BY	DATE
DESIGN-DETAILED	M. O'BRIEN		
CHECKED-REVIEWED	R. LUCHINI		
DESIGN-DETAILED	R. LUCHINI		
REVISIONS 1	APPENDIX 2	R. LUCHINI	04-23-21
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
AUGUSTA  
KENNEBEC COUNTY  
ITEM LIST AND  
QUANTITY NOTES

SHEET NUMBER  
**4**  
OF 62

PLANS AND SPECIFICATIONS FOR  
BIDDING PURPOSES ONLY  
NOT TO BE USED FOR  
CONSTRUCTION

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Plans\CSPP 200 Overview.dgn

WORK AREA 1A - STA. 600-26 TO STA. 600-97

- DESCRIPTION OF WORK - WORK AREA 1A
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, MILL AND REMOVE EXISTING PAVEMENT
  - COMPACT EXISTING BASE GRAVEL
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

- OPERATIONAL IMPACTS - WORK AREA 1A
  - RUNWAY 17-35 - OPEN
  - RUNWAY 8-26 - OPEN
  - RUNWAY 35 GPS - ACTIVE
  - RUNWAY 17-35 LOCALIZER - ACTIVE
  - RUNWAY 17-4-PAPI - ACTIVE
  - RUNWAY 35 4-PAPI - ACTIVE
  - RUNWAY 35 REIL - ACTIVE
  - RUNWAY 35 VOR - ACTIVE
  - RUNWAY 17 MALSR - ACTIVE
  - TAXIWAY C - PARTIALLY CLOSED

- MARKING REMOVAL
- COVER LIGHTS AND LIGHTED SIGNS
- TAXIWAY CI - OPEN
- TAXIWAY B - CLOSED
- TAXIWAY E - OPEN
- TAXIWAY F - OPEN
- GATE 4 - GATE GUARD REQUIRED
- CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
- TERMINAL APRON - VEHICLE ACCESS ONLY
- WORK AREA 1A CANNOT BE CONCURRENT WITH WORK AREAS 2 & 4

WORK AREA 1B - STA. 600-97 TO STA. 604-29

WORK AREA 1B - STA. 600-97 TO STA. 604-29

- DESCRIPTION OF WORK - WORK AREA 1B
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, RECLAIM EXISTING PAVEMENT INTO NEW GRAVEL BASE
  - ADD SUPPLEMENTAL STONE AND RECLAIM INTO NEW GRAVEL BASE
  - INSTALL UNDERDRAIN, CATCH BASINS, CULVERTS, AND ADJUST FRAMES AND GRATES
  - INSTALL NEW LIGHTING CONDUIT, DUCT BANKS, CABLING, FIXTURES AND SIGNS
  - COMPACT AND FINE GRADE NEW GRAVEL BASE
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

- OPERATIONAL IMPACTS - WORK AREA 1B
  - RUNWAY 17-35 - OPEN
  - RUNWAY 8-26 - OPEN
  - RUNWAY 35 GPS - ACTIVE
  - RUNWAY 17-35 LOCALIZER - ACTIVE
  - RUNWAY 17-4-PAPI - ACTIVE
  - RUNWAY 35 4-PAPI - ACTIVE
  - RUNWAY 35 REIL - ACTIVE
  - RUNWAY 35 VOR - ACTIVE
  - RUNWAY 17 MALSR - ACTIVE
  - TAXIWAY C - PARTIALLY CLOSED

- MARKING REMOVAL
- COVER LIGHTS AND LIGHTED SIGNS
- TAXIWAY CI - OPEN
- TAXIWAY B - OPEN
- TAXIWAY E - OPEN
- TAXIWAY F - OPEN
- GATE 4 - GATE GUARD REQUIRED
- CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
- TERMINAL APRON - VEHICLE ACCESS ONLY
- WORK AREA 1B SHALL BE COMPLETED CONCURRENTLY WITH OTHER PHASES

WORK AREA 2 - STA. 604-29 TO STA. 605-28 AND STA. 605-91 TO STA. 606-79

WORK AREA 2 - STA. 604-29 TO STA. 605-28 AND STA. 605-91 TO STA. 606-79

- DESCRIPTION OF WORK - WORK AREA 2
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, RECLAIM EXISTING PAVEMENT INTO NEW GRAVEL BASE
  - ADD SUPPLEMENTAL STONE AND RECLAIM INTO NEW GRAVEL BASE
  - INSTALL UNDERDRAIN, CATCH BASINS, CULVERTS, AND ADJUST FRAMES AND GRATES
  - INSTALL NEW LIGHTING CONDUIT, DUCT BANKS, CABLING, FIXTURES AND SIGNS
  - COMPACT AND FINE GRADE NEW GRAVEL BASE
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

- OPERATIONAL IMPACTS - WORK AREA 2
  - RUNWAY 17-35 - OPEN
  - RUNWAY 8-26 - CLOSED
  - LOW PROFILE BARRICADES
  - LIGHTED X'S
  - RUNWAY 35 GPS - ACTIVE
  - RUNWAY 17-35 LOCALIZER - ACTIVE
  - RUNWAY 17-4-PAPI - ACTIVE
  - RUNWAY 35 4-PAPI - ACTIVE
  - RUNWAY 35 REIL - ACTIVE
  - RUNWAY 35 VOR - ACTIVE
  - RUNWAY 17 MALSR - ACTIVE
  - TAXIWAY C - PARTIALLY CLOSED

- MARKING REMOVAL
- COVER LIGHTS AND LIGHTED SIGNS
- TAXIWAY CI - OPEN
- TAXIWAY B - OPEN
- TAXIWAY E - OPEN
- TAXIWAY F - OPEN
- GATE 4 - GATE GUARD REQUIRED
- CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
- TERMINAL APRON - VEHICLE ACCESS ONLY
- WORK AREA 2 CANNOT BE CONCURRENT WITH WORK AREAS 1A & 4

WORK AREA 3 - STA. 606-79 TO STA. 613-96 AND STA. 205-20 TO STA. 212-84

WORK AREA 3 - STA. 606-79 TO STA. 613-96 AND STA. 205-20 TO STA. 212-84

- DESCRIPTION OF WORK - WORK AREA 3
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, RECLAIM EXISTING PAVEMENT INTO NEW GRAVEL BASE
  - ADD SUPPLEMENTAL STONE AND RECLAIM INTO NEW GRAVEL BASE
  - INSTALL UNDERDRAIN, CATCH BASINS, CULVERTS, AND ADJUST FRAMES AND GRATES
  - INSTALL NEW LIGHTING CONDUIT, DUCT BANKS, CABLING, FIXTURES AND SIGNS
  - COMPACT AND FINE GRADE NEW GRAVEL BASE
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

- OPERATIONAL IMPACTS - WORK AREA 3
  - RUNWAY 17-35 - OPEN
  - RUNWAY 8-26 - OPEN
  - RUNWAY 35 GPS - ACTIVE
  - RUNWAY 17-35 LOCALIZER - ACTIVE
  - RUNWAY 17-4-PAPI - ACTIVE
  - RUNWAY 35 4-PAPI - ACTIVE
  - RUNWAY 35 REIL - ACTIVE
  - RUNWAY 35 VOR - ACTIVE
  - RUNWAY 17 MALSR - ACTIVE
  - TAXIWAY C - PARTIALLY CLOSED

- COVER LIGHTS AND LIGHTED SIGNS
- TAXIWAY CI - OPEN
- TAXIWAY B - OPEN
- TAXIWAY E - PARTIALLY CLOSED
- TAXIWAY F - OPEN
- GATE 4 - GATE GUARD REQUIRED
- CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
- TERMINAL APRON - VEHICLE ACCESS ONLY
- WORK AREA 3 SHALL BE COMPLETED CONCURRENTLY WITH OTHER PHASES
- CONTRACTOR SHALL MAINTAIN VEHICLE ACCESS ACROSS TERMINAL APRON AT ALL TIMES THAT IS SUITABLE FOR EMERGENCY FIRE & RESCUE VEHICLES
- WORK AREA 3 WILL RESTRICT CAPE AIR OPERATIONS TO TERMINAL APRON. COORDINATION WILL BE REQUIRED WITH AIRPORT AND CAPE AIR TO MINIMIZE IMPACTS

WORK AREA 4 - STA. 203-10 TO STA. 205-20

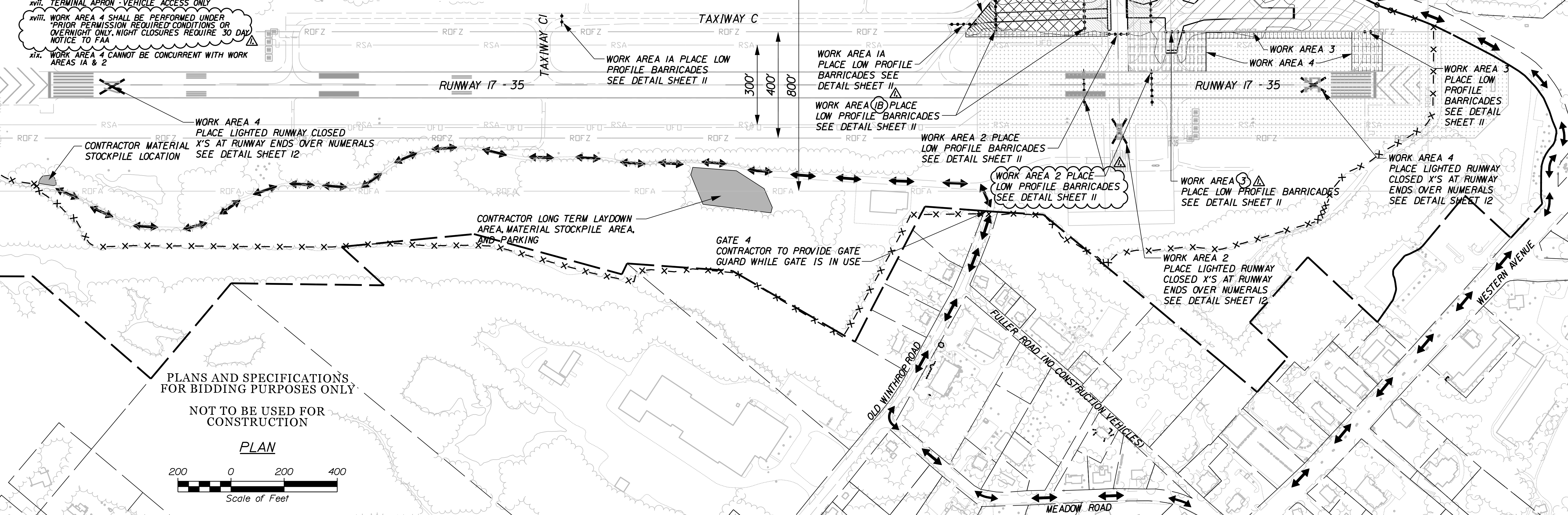
- DESCRIPTION OF WORK - WORK AREA 4
  - INSTALL SAFETY EQUIPMENT AND BARRICADES FOR AREA CLOSURE AND MOBILIZE ON SITE
  - SAW CUT PAVEMENT, RECLAIM EXISTING PAVEMENT INTO NEW GRAVEL BASE
  - ADD SUPPLEMENTAL STONE AND RECLAIM INTO NEW GRAVEL BASE
  - INSTALL NEW LIGHTING CONDUIT, DUCT BANKS, CABLING, FIXTURES AND SIGNS
  - INSTALL UNDERDRAIN, CATCH BASINS, CULVERTS, AND ADJUST FRAMES AND GRATES
  - COMPACT AND FINE GRADE NEW GRAVEL BASE
  - INSTALL BITUMINOUS CONCRETE PAVEMENT
  - SAW AND SEAL JOINTS
  - INSTALL TOPSOIL AND SEED
  - INSTALL PAVEMENT MARKINGS

- OPERATIONAL IMPACTS - WORK AREA 4
  - RUNWAY 17-35 - CLOSED
  - LOW PROFILE BARRICADES
  - LIGHTED X'S
  - RUNWAY 8-26 - OPEN
  - RUNWAY 35 GPS - INACTIVE
  - RUNWAY 17-35 LOCALIZER - INACTIVE
  - RUNWAY 17-4-PAPI - INACTIVE
  - RUNWAY 35 4-PAPI - INACTIVE
  - RUNWAY 35 REIL - INACTIVE
  - RUNWAY 35 VOR - INACTIVE
  - RUNWAY 17 MALSR - INACTIVE
  - TAXIWAY C - OPEN
  - TAXIWAY B - OPEN
  - TAXIWAY E - PARTIALLY CLOSED
  - TAXIWAY F - OPEN
  - GATE 4 - GATE GUARD REQUIRED
  - CONTRACTOR ACCESS GATE - GATE GUARD REQUIRED
  - TERMINAL APRON - VEHICLE ACCESS ONLY
  - WORK AREA 4 SHALL BE PERFORMED UNDER "PRIOR PERMISSION" REQUIRED CONDITIONS OR OVERNIGHT ONLY. NIGHT CLOSURES REQUIRE 30 DAY NOTICE TO FAA
  - WORK AREA 4 CANNOT BE CONCURRENT WITH WORK AREAS 1A & 2

- STANDARD HOURS
  - DAYTIME BETWEEN 7:00 AM AND 5:00 PM MONDAY THROUGH FRIDAY
  - NIGHTTIME BETWEEN 7:30 PM AND 6:30 AM MONDAY THROUGH FRIDAY
  - NIGHTTIME MAY BE PERMITTED UPON PRIOR WRITTEN APPROVAL FROM THE ENGINEER AND AUGUSTA STATE AIRPORT
  - WEEKEND WORK MAY BE PERMITTED UPON PRIOR WRITTEN APPROVAL FROM THE ENGINEER AND AUGUSTA STATE AIRPORT

NOTES

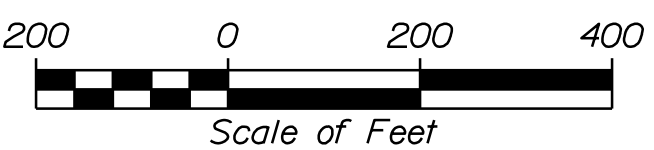
- CLEARING AND CONSTRUCTION SHALL COMMENCE AFTER SEPTEMBER 1, AND BEFORE MAY 1 AND CONTINUE THEREFROM DUE TO NESTING BIRDS. IF WORK STOPS AND THE SPECIES INITIATE NESTING DURING THAT PERIOD, CONSTRUCTION MAY NOT BE ABLE TO PROCEED UNTIL THE BREEDING SEASON IS OVER SEPTEMBER 1.
- THE CONTRACTOR SHALL HAVE A WATER TRUCK OR OTHER APPROVED MEANS APPROVED BY THE ENGINEER FOR CONTROLLING DUST ON-SITE AT ALL TIMES.
- ALL WORK MUST COMPLY WITH THE REQUIREMENTS OF FAA AC 150/5370-2F, OPERATIONAL SAFETY DURING CONSTRUCTION. SEE SHEET II FOR NOTES AND DETAILS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS REMOVAL OF FOREIGN OBJECT DEBRIS (FOD) FROM AIRFIELD PAVEMENTS. A VACUUM SWEEPER SHALL BE ON-SITE DURING ALL CONSTRUCTION WORK PERIODS. THE SWEEPER SHALL BE CONSIDERED INCIDENTAL TO ITEM M-120-1.
- PRIOR TO OPENING THE APRON TO AIRCRAFT, THE APRON WILL BE INSPECTED BY THE CONTRACTOR, ENGINEER AND OWNER. ANY DEFICIENCIES NOTED SHALL BE CORRECTED BY THE CONTRACTOR.
- PAYMENT FOR WORK ASSOCIATED WITH THE CSPP SHALL BE MADE UNDER ITEM M-120-1.
- THE CONTRACT TIME OF THIS PROJECT SHALL CONSIST OF 60 CONTINUOUS CALENDAR DAYS CTAF/UNICOM: 123.0



PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

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PLAN



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

FAA AIP: 3-23-0003-XXX-2021  
WIN 020655.03  
AVIATION PLANS

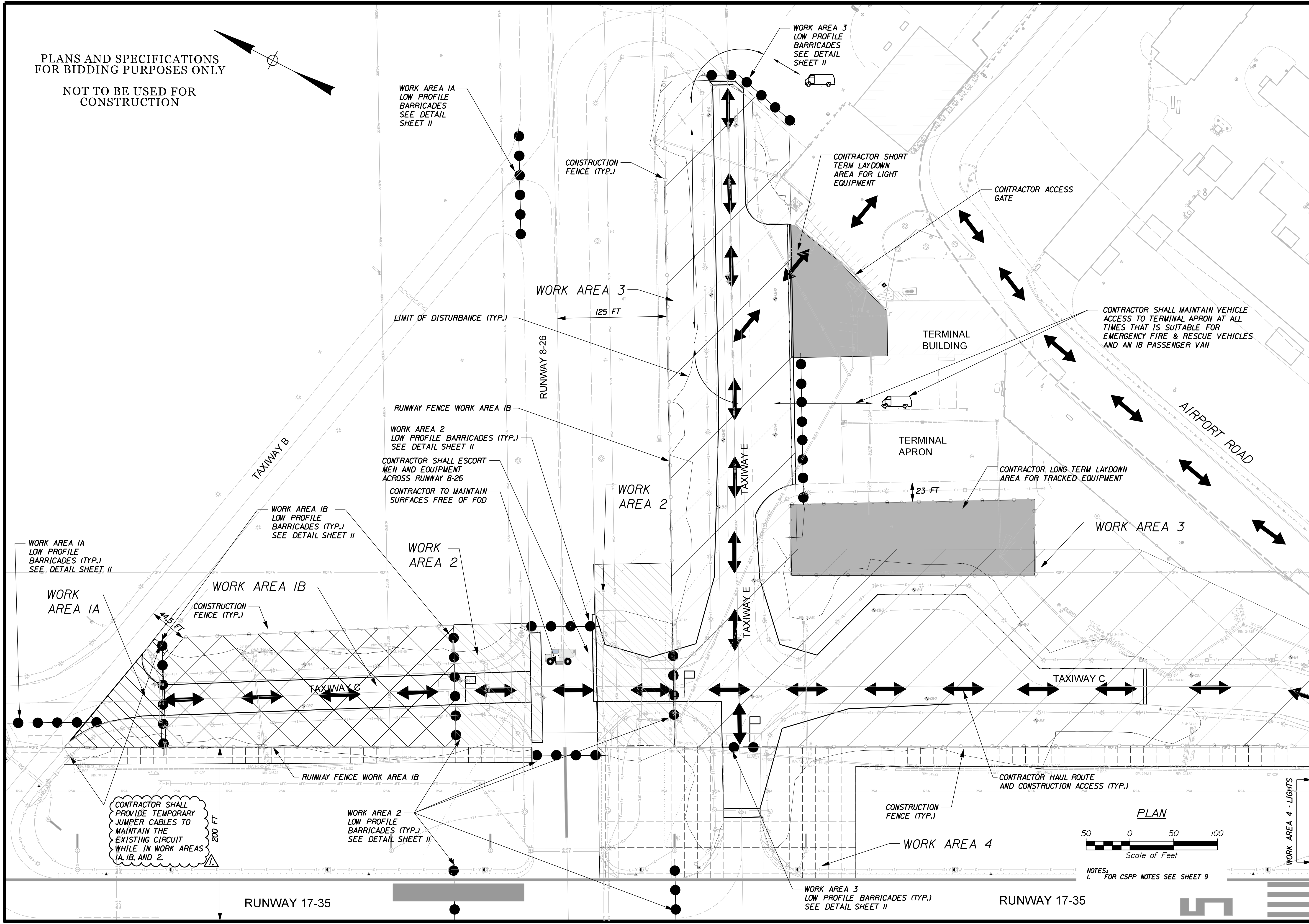
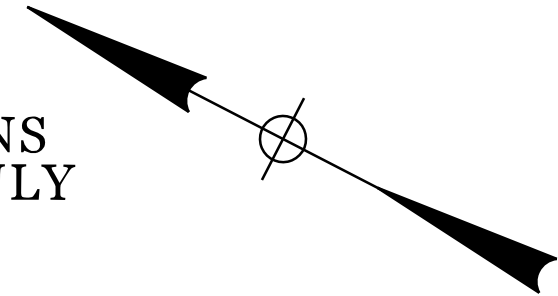
AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA

CONSTRUCTION SAFETY AND PHASING PLAN OVERVIEW

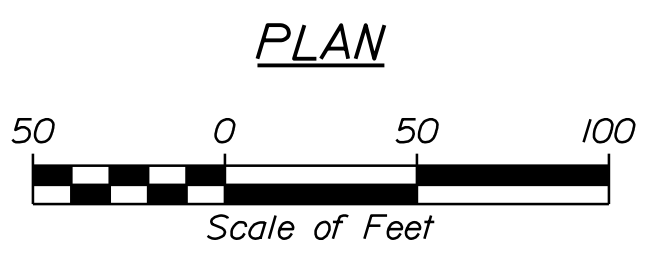
SHEET NUMBER 9 OF 62

PROJ. MANAGER	DATE	BY	T. LESIGEE
M. O'BRIEN		M. O'BRIEN	
CHECKED/REVIEWED	DESIGN/REVIEWED	DESIGNS/DETAILS	P.E. NUMBER
R. LUCHINI	R. LUCHINI	12842	
REVISIONS	APPENDIX	R. LUCHINI	DATE
1	2	04-23-21	04-12-2021
2			
3			
4			
FIELD CHANGES			

PLANS AND SPECIFICATIONS  
FOR BIDDING PURPOSES ONLY  
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CONSTRUCTION



CONTRACTOR SHALL PROVIDE TEMPORARY JUMPER CABLES TO MAINTAIN THE EXISTING CIRCUIT WHILE IN WORK AREAS 1A, 1B, AND 2.



NOTES:  
1. FOR CSPP NOTES SEE SHEET 9

Date: 4/23/2021  
Username: dpatel  
Division:  
Filename: ... \Plans\CSPP 50 Overview.dgn

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		FAA AIP: 3-23-0003-XXX-2021	
AVIATION PLANS WIN 020655.03		AVIATION PLANS	
MATHIEW I. O'BRIEN SIGNATURE	12842 P.E. NUMBER	R. LUCHINI APPENDIX 2	04-23-21 DATE
DESIGN DETAILED	CHECKED/REVIEWED	DESIGNS DETAILED	DESIGNS DETAILED
T. LESIEGE	M. O'BRIEN	R. LUCHINI	R. LUCHINI
PROJ. MANAGER	DATE	BY	DATE
AUGUSTA STATE AIRPORT BID DOCUMENTS KENNEBEC COUNTY AUGUSTA <b>CONSTRUCTION SAFETY AND PHASING PLAN</b>			
SHEET NUMBER		10	
		OF 62	

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Sheet Files\CSP\_Plan\_Details\_1.dgn

CONSTRUCTION SAFETY AND PHASING NOTES:

1. THE CONTRACTOR SHALL SUBMIT A WRITTEN SAFETY PLAN COMPLIANCE DOCUMENT (SPCD) TO THE ENGINEER, MAINEDOT, AND FAA FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION AND BEFORE ANY CONSTRUCTION IS ALLOWED TO BE PERFORMED...

- IDENTIFICATION AND QUALIFICATIONS OF DEDICATED SAFETY & SECURITY POINT OF CONTACT
WORK SCHEDULING, COORDINATION, AND NOTIFICATION PROCEDURES OF CONSTRUCTION ACTIVITIES.
AIRFIELD COMMUNICATIONS AND 24-HOUR EMERGENCY NOTIFICATION PROCEDURES.

2. THESE SAFETY AND PHASING PLANS HAVE BEEN APPROVED BY AUG AIRPORT OPERATIONS, COMBINING, MODIFYING, OR ALTERNATING PHASES/SUBPHASES WITHOUT APPROVAL OF AUG AIRPORT OPERATIONS THROUGH THE ENGINEER WILL NOT BE ALLOWED...

3. ALL OF THE CONTRACTOR'S AND SUBCONTRACTOR'S EMPLOYEES SHALL HAVE A 'TAILGATE' SAFETY MEETING EVERY SHIFT CHANGE OR START OF EACH DAY PRIOR TO ANY WORK WITH THE ENGINEER AND AUG OPERATIONS TO REVIEW THE DAY'S WORK AND SAFETY PROCEDURES...

4. THE CONTRACTOR SHALL PROVIDE A COMPETENT SAFETY PERSON (WHO ALSO COULD BE THE SUPERINTENDENT OR OTHER SUPERVISORY PERSON) FAMILIAR WITH AIRPORT SAFETY TO MONITOR CONSTRUCTION ACTIVITIES...

5. THE CONTRACTOR SHALL PROVIDE A POINT OF CONTACT TO THE OWNER AND ENGINEER WHO CAN BE CONTACTED AT ANY TIME THROUGHOUT THE COURSE OF THE CONTRACT...

6. UPON RECEIPT OF APPROVAL FOR A CLOSURE AND BEFORE EQUIPMENT ENTERS THE AIRFIELD AND CONSTRUCTION COMMENCES, THE WORK AREA SHALL BE SECURED...

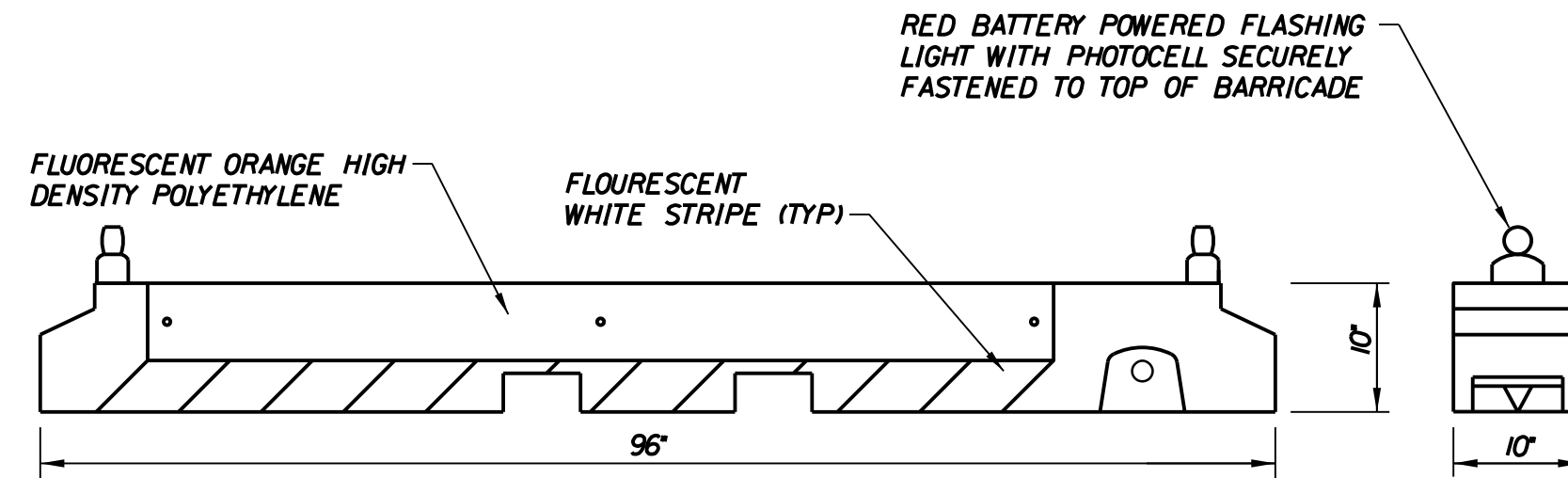
7. CONSTRUCTION SIGNS (I.E. "CONSTRUCTION TRAFFIC" WITH ARROWS, NO UNAUTHORIZED VEHICLES BEYOND THIS POINT OR OTHER STANDARD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICE (MUTCD) SIGNS) SHALL BE LOCATED AT THE WORK AREA EGRESS/INGRESS POINTS...

8. THE CONTRACTOR SHALL ENSURE THAT NO PAVEMENT LIPS, PAVEMENT EDGES, SIGN FOUNDATIONS, STRUCTURES OR OTHER APPURTENANCES EXCEED 3 INCHES WITHIN ACTIVE AIRCRAFT OPERATIONAL AREAS.

9. TEMPORARY TAXIWAY CLOSURES AND/OR RUNWAY CLOSURES IN ACCORDANCE WITH THE CSPP ARE SUBJECT TO WIND/WEATHER AVAILABILITY AND ARE SUBJECT TO A RECALL TIME TO BE DETERMINED BY AUG OPERATIONS.

10. NO TAXIWAY CAUTIONS WILL BE ALLOWED FOR THIS PROJECT, HOWEVER IF WORKING UNDER A TAXIWAY CAUTION ALLOWED BY AN APPROVED CSPP, ALL ADJACENT PAVEMENTS WILL BE AVAILABLE FOR AN UNLIMITED NUMBER OF AIRCRAFT OPERATIONS...

11. AS NOTED PREVIOUSLY WITHIN THESE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PROVIDE AT LEAST THREE (3) RADIO ESCORT VEHICLES WITH A AUG APPROVED LICENSED DRIVER TO AND FROM THE WORK AREAS WHEN INSIDE THE AIRPORT OPERATIONS AREA (AOA) AT ALL TIMES...

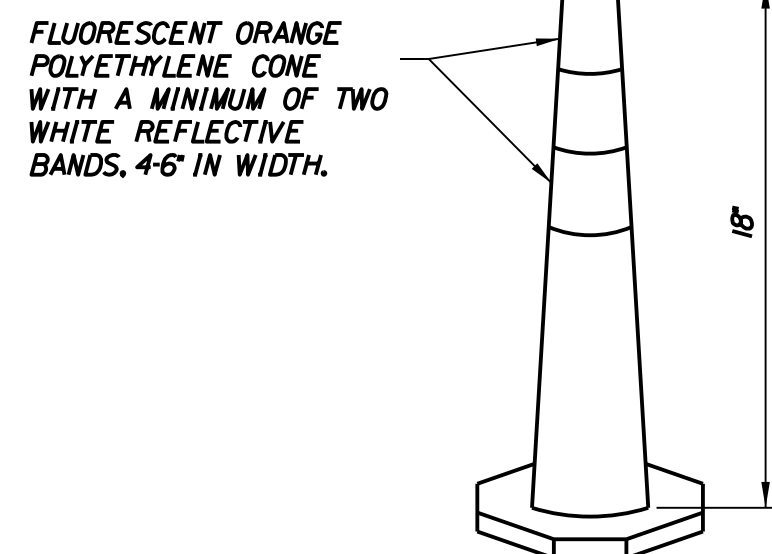


BARRICADE NOTES:

- 1. BARRICADES SHALL BE MULTI-BARRIER SAFETY BARRICADES WITH REFLECTIVE STRIPING.
2. BARRIERS SHALL BE PLACED END TO END TO CREATE A CONTINUOUS BARRICADE.
3. CONTRACTOR SHALL ENSURE THAT BARRICADES USED ON THE PROJECT ARE ADEQUATELY WEIGHTED WITH WATER BALLAST TO WITHSTAND HIGH WINDS AND/OR JET BLAST...

WATER BALLASTED LIGHTED SAFETY BARRICADE

(INCIDENTAL TO ITEM M-120-1) NOT TO SCALE



TRAFFIC CONE NOTES:

- 1. TRAFFIC CONES SHALL BE SPACED AT 25' ON CENTER ON EITHER SIDE OF HAUL ROAD.
2. CONTRACTOR SHALL MAKE FREQUENT INSPECTION OF THE TRAFFIC CONES AND SHALL RELOCATE ANY CONES THAT ARE MISALIGNED.
3. TRAFFIC CONES SHALL BE ADEQUATELY SECURED TO WITHSTAND HIGH WINDS AND/OR JET BLAST.

HAUL ROAD TRAFFIC CONE

(INCIDENTAL TO ITEM M-120-1) NOT TO SCALE

AVIATION BARRICADE NOTES:

- 1. ENGINEER AND AUG OPERATIONS WILL HAVE FINAL DETERMINATION WHERE EACH TYPE OF BARRICADE (LOW PROFILE, CHANNELIZER CONES, TRAFFIC CONES, ETC.) SHALL BE PLACED.
2. BARRICADES SHALL BE ONE OF THE BARRICADES SHOWN ON THIS SHEET OR APPROVED EQUAL.
3. ALL BARRICADES SHALL MEET REQUIREMENTS OF FAA ADVISORY CIRCULAR 150/5370-2F OR (CURRENT EDITION), 'OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION'.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION FAA AIP: 3-23-0003-XXX-2021 WIN 020655-03 AVIATION PLANS



MATTHEW T. OBRIEN SIGNATURE 12842 P.E. NUMBER 04-12-2021 DATE

Table with columns: PROJ. MANAGER, CHECKED-REVIEWED, DESIGNED-DETAILED, REVISIONS 1-4, FIELD CHANGES. Includes names T. LESIEGE, M. OBRIEN, R. LUCHINI and dates.

AUGUSTA STATE AIRPORT BID DOCUMENTS AUGUSTA KENNEBEC COUNTY CONSTRUCTION SAFETY AND PHASING PLAN DETAILS (1 OF 2)

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION

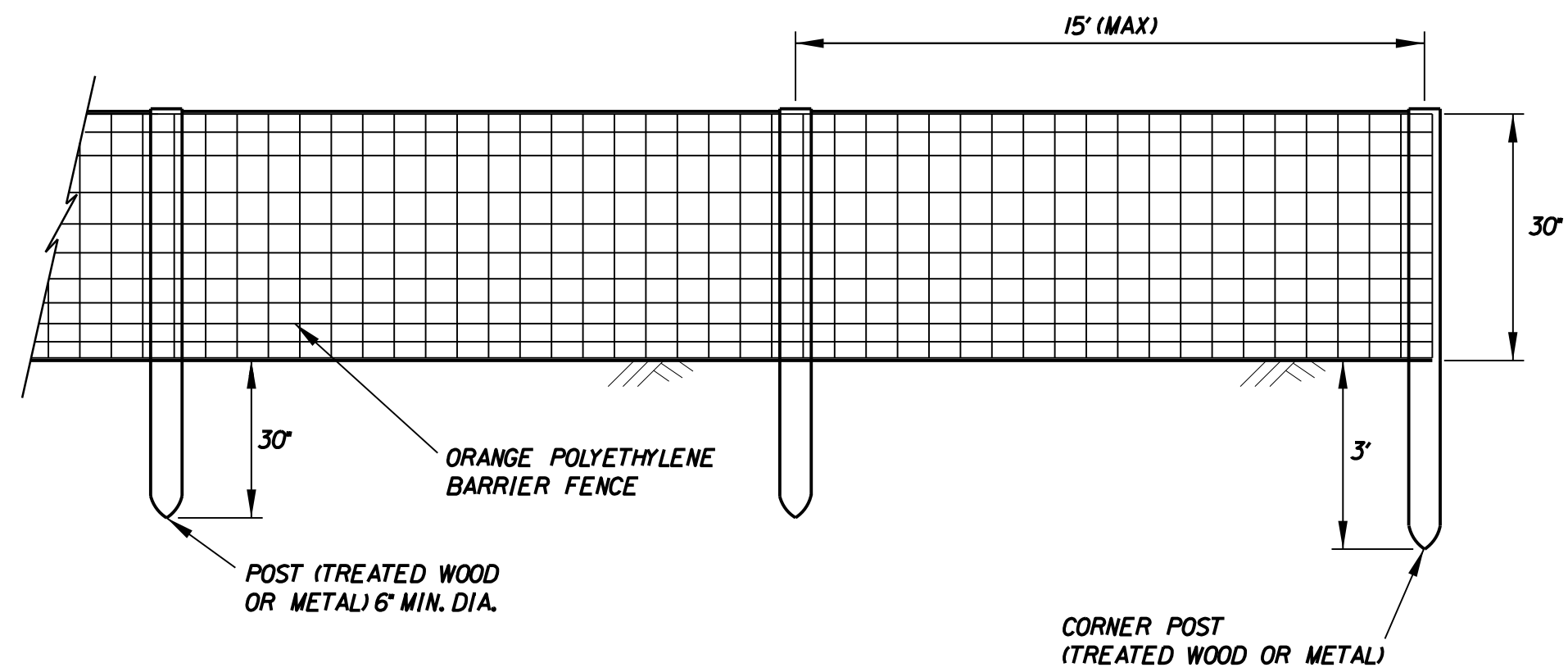
SHEET NUMBER 11 OF 62

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Sheet Files\CSPP\_Details\_2.dgn



**NOTES:**

1. CONTRACTOR SHALL PLACE FENCE IN THE LOCATIONS SHOWN ON THE PLANS.
2. CONTRACTOR SHALL INSPECT FENCE ON A DAILY BASIS AND SHALL REPAIR/REPLACE ANY DAMAGED SECTIONS AS REQUIRED OR ADBE.

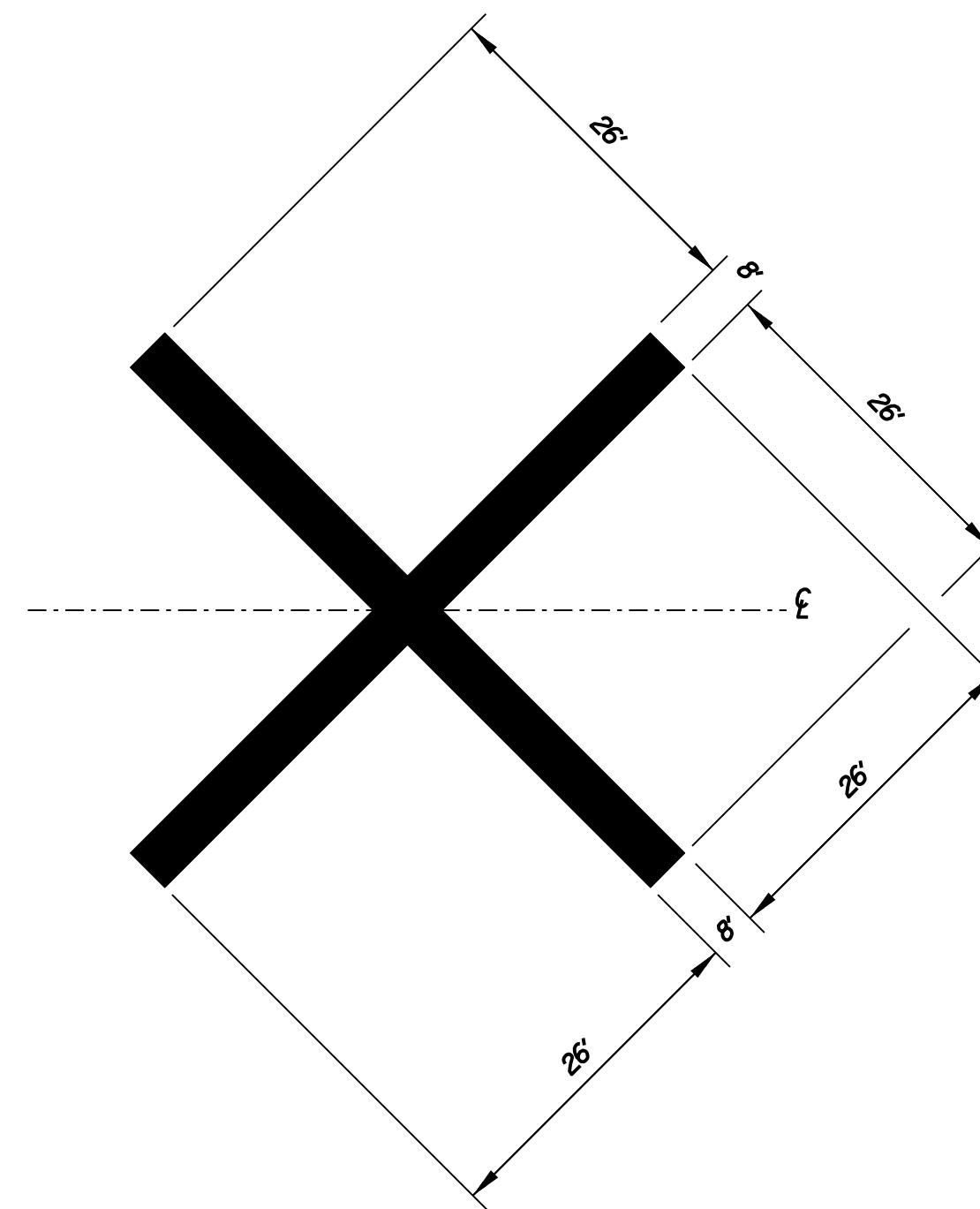
**CONSTRUCTION BARRIER FENCE DETAIL**

NOT TO SCALE  
(INCIDENTAL TO ITEM M-120-1)

**RUNWAY CLOSURE MARKER NOTES:**

1. RUNWAY CLOSURE MARKER IS TO BE A TOWABLE UNIT WHICH CAN BE QUICKLY AND EFFICIENTLY SET UP AND REMOVED FROM THE RUNWAY. THE RUNWAY CLOSURE MARKER SHALL MEET THE REQUIREMENTS OF FAA AC 150/5345-55A (LATEST REVISION).
2. RUNWAY CLOSURE MARKER MUST BE ABLE TO WITHSTAND A MINIMUM WIND SPEED OF 40 M.P.H. WITHOUT ADVERSELY AFFECTING AIMING OR OPERATION.
3. RUNWAY CLOSURE MARKER WILL CONSIST OF 21 90-WATT PAR 38 CLEAR INCANDESCENT LAMPS OR LAMPS WHICH ARE CAPABLE OF TRANSMITTING AVIATION WHITE LIGHT PER SAE-AS25050, ARRANGED IN THE SHAPE OF THE LETTER "X" WITH ARMS CROSSED AT AN ANGLE APPROPRIATE TO MAKE THE "X" DISCERNIBLE TO APPROACHING AIRCRAFT. THE "X" FRAME CONTAINING THE LIGHTS IS TO BE PAINTED NO. 13538 AVIATION YELLOW, PER FED-STD-595, ON ALL SIDES TO ENSURE VISIBILITY.
4. LIGHT FIXTURES MOUNTED IN "X" FRAME MUST INDIVIDUALLY BE CAPABLE OF PROVIDING THE FOLLOWING MINIMUM INTENSITIES:  
 DAYTIME EFFECTIVE INTENSITY OF 70,000 CANDELA (cd) AT THE BEAM CENTER, 34,000 cd AT 10 DEGREES RADIUS, AND 13,000 cd AT 15 DEGREES RADIUS.  
 NIGHTTIME EFFECTIVE INTENSITY OF 2,000 (cd) AT THE BEAM CENTER, 970 cd AT 10 DEGREES RADIUS, AND 370 cd AT 15 DEGREES RADIUS.
5. LIGHT FIXTURES MOUNTED IN "X" FRAME MUST HAVE ALL LIGHT BULBS, SOCKETS, WIRING AND CONNECTIONS ENCLOSED IN WEATHER RESISTANT HOUSINGS.
6. LIGHT FIXTURES MOUNTED IN "X" FRAME ARE TO BE IN A FLASHING MODE CONTROLLED BY A SOLID STATE FLASHER. FLASHER IS TO BE EQUIPPED WITH A FAIL SAFE ALLOWING LIGHTS TO REMAIN ON CONTINUOUS SHOULD FLASHER UNIT FAIL. FLASH INTERVAL TIME WILL BE: DAYTIME OPERATION - 2.5 SECONDS ON, 2.5 SECONDS OFF  
 NIGHTTIME OPERATION - 2.5 SECONDS ON, 2.5 SECONDS OFF
7. UNIT MUST BE EQUIPPED WITH A PHOTO CELL WHICH WILL REDUCE THE OUTPUT VOLTAGE TO 65 VOLTS DURING NIGHTTIME OPERATION.
8. THE RUNWAY CLOSURE MARKER MUST BE EQUIPPED FOR A CONNECTION TO 120V AC POWER SOURCE TO ALLOW FOR BACK-UP POWER SOURCE CAPABILITY OR ON-SITE POWER SUPPLY IF AVAILABLE. RUNWAY CLOSURE MARKER IS TO BE ENERGIZED BY A PORTABLE DIESEL ENGINE POWER SUPPLY WITH AN ADEQUATE FUEL CAPACITY TO SUPPLY POWER TO THE UNIT AT FULL LOAD FOR A MINIMUM OF 120 HOURS OF CONTINUOUS OPERATION.
9. RUNWAY CLOSURE MARKER IS TO BE EQUIPPED WITH 2 LIGHTS MOUNTED ON THE BACK SIDE OF THE TOP LEGS OF THE "X" FRAME. LIGHTS ARE TO BE WIRED SUCH THAT THEY REMAIN CONTINUOUSLY ON DURING CLOSURE MARKER OPERATION AS AN INDICATION OF POWER BEING SUPPLIED TO THE UNIT.
10. UNIT IS TO BE EQUIPPED WITH SOLAR POWERED SAFETY BEACON MOUNTED IN A LOCATION VISIBLE TO ATCT OR AIRPORT PERSONNEL. BEACON IS TO BE WIRED SUCH THAT IT WILL BE ACTIVATED IN THE EVENT OF TOTAL POWER LOSS AND HAVE SUFFICIENT POWER TO OPERATE FOR A MINIMUM OF 140 HOURS DAY OR NIGHT.
11. RUNWAY CLOSURE MARKER AS MANUFACTURED BY SHERWIN INDUSTRIES, INC. OR APPROVED EQUAL.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE, MOVING AND FUELING.

13. ALL RUNWAY CLOSURES REQUIRE RUNWAY CLOSURE MARKER X'S DAYTIME CLOSURES CAN UTILIZE LIGHTED AND FABRIC RUNWAY CLOSURE MARKERS AND NIGHTTIME CLOSURES CAN ONLY UTILIZE LIGHTED RUNWAY CLOSURE MARKERS.



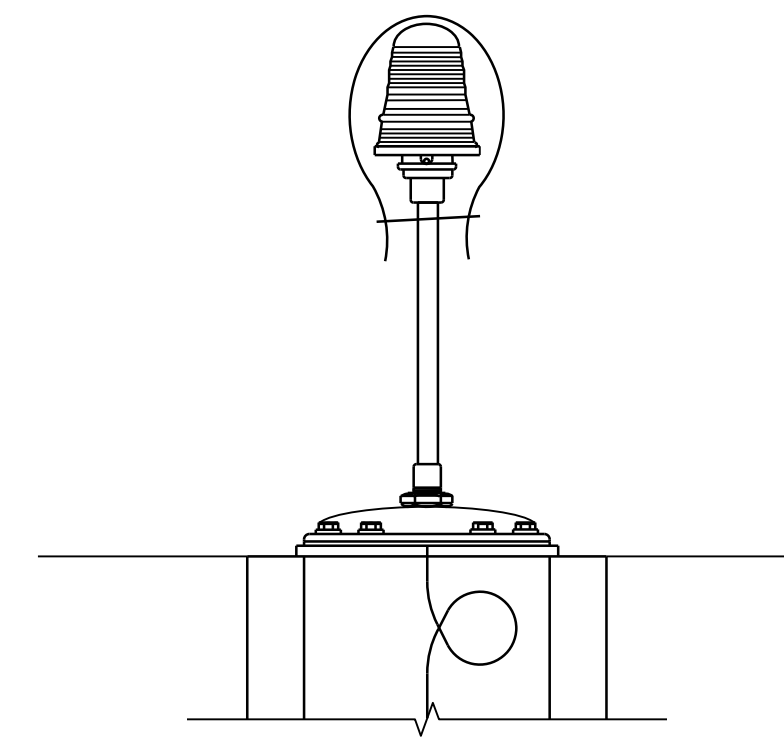
**FABRIC RUNWAY CLOSED MARKER DETAIL**

NOT TO SCALE  
(INCIDENTAL TO ITEM M-120-1)

**NOTES:**

1. THE CONTRACTOR SHALL PROVIDE TWO (2) FABRIC RUNWAY CLOSURE MARKERS PER THE CONTRACT SPECIFICATIONS. MARKERS SHALL BE BY:  
 NEUBERT AERO CORP., 14141 46TH STREET N, SUITE 1206 CLEARWATER, FL (WWW.AIRPORTNAC.COM) OR APPROVED EQUAL.
2. CLOSURE MARKER SHALL BE AVIATION YELLOW WITH A BLACK 6" BORDER.
3. CLOSURE MARKER SHALL BE PLACED OVER THE RUNWAY DESIGNATION NUMERALS UNLESS OTHERWISE DIRECTED BY THE ENGINEER/OWNER.

4. THE AIRPORT HAS 2 FABRIC RUNWAY CLOSED MARKERS AVAILABLE TO THE CONTRACTOR FOR USE DURING THIS PROJECT. ANY AIRPORT OWNED FABRIC RUNWAY CLOSED MARKERS USED BY THE CONTRACTOR SHALL BE MAINTAINED AND RETURNED TO THE AIRPORT IN WORKING ORDER, AT THE SAME CONDITION OR BETTER PRIOR TO USE. THE AIRPORT DOES NOT GUARANTEE THE CONDITION OF THE FABRIC RUNWAY CLOSED MARKERS AVAILABLE FOR USE ON THE PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE FABRIC RUNWAY CLOSED MARKERS USED ON THE PROJECT MEET THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS.

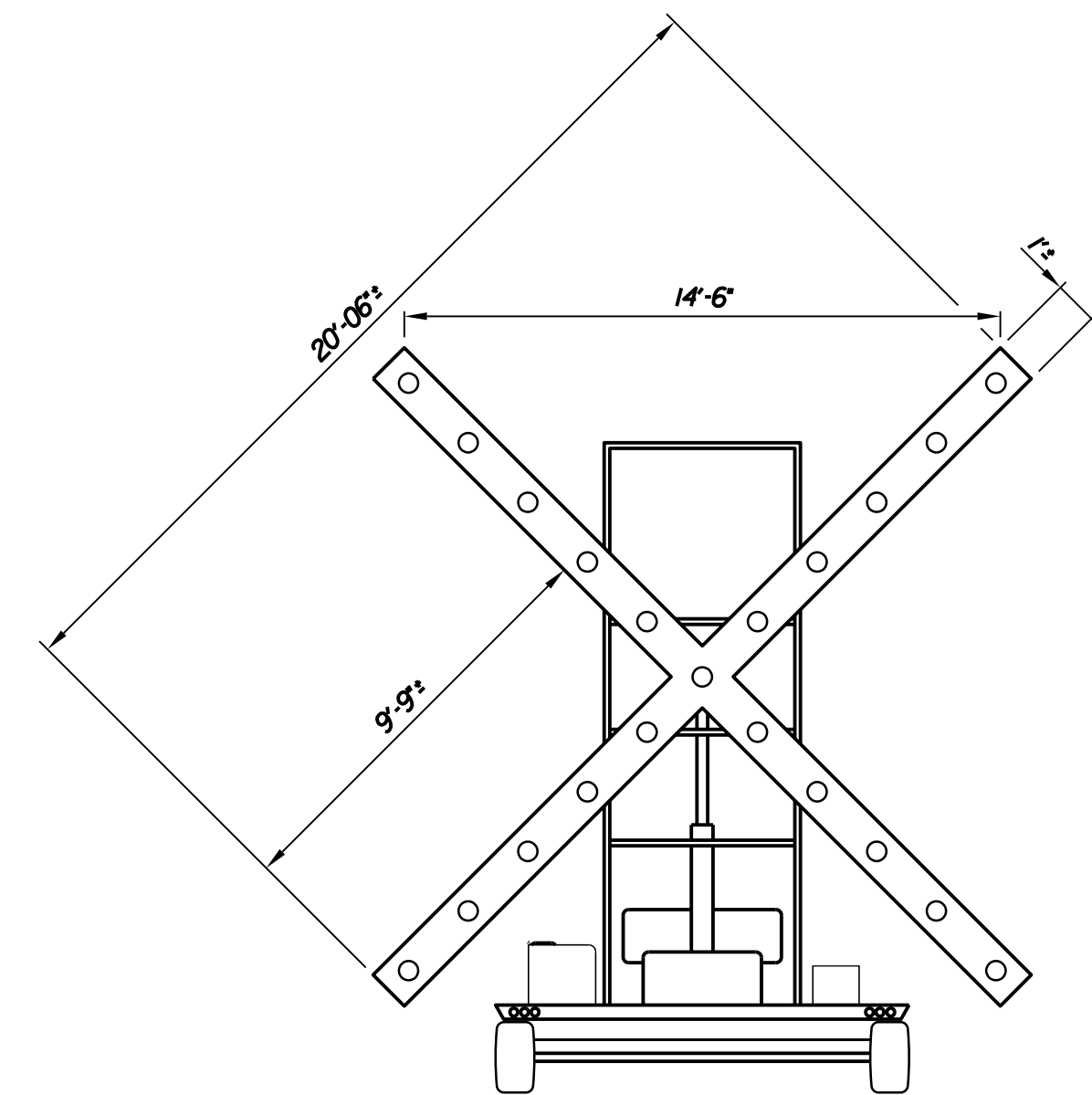


**NOTE:**

1. TAXIWAY LIGHTING CIRCUIT SHALL BE DISABLED IN ADDITION TO COVERING BLUE GLOBES.
2. ALTERNATE MEANS MAY BE APPROVED BY THE ENGINEER.

**EDGE LIGHT COVER DETAIL**

NOT TO SCALE  
(INCIDENTAL TO ITEM M-120-1)



**LIGHTED RUNWAY CLOSURE MARKER**

NOT TO SCALE  
(INCIDENTAL TO ITEM M-120-1)

**NOTES:**

1. THE CONTRACTOR SHALL PROVIDE TWO (2) LIGHTED RUNWAY CLOSURE MARKERS PER THE CONTRACT SPECIFICATIONS. MARKERS SHALL BE BY:  
 SHERWIN INDUSTRIAL INC. (WWW.SHERWININDUSTRIES.COM) OR APPROVED EQUAL.

2. THE AIRPORT HAS 2 LIGHTED RUNWAY CLOSURE MARKERS AVAILABLE TO THE CONTRACTOR FOR USE IN DURING THIS PROJECT. ANY AIRPORT OWNED LIGHTED RUNWAY CLOSURE MARKERS USED BY THE CONTRACTOR SHALL BE MAINTAINED AND RETURNED TO THE AIRPORT IN WORKING ORDER, AT THE SAME CONDITION OR BETTER PRIOR TO USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER MAINTENANCE OF THE LIGHTED RUNWAY CLOSURE MARKERS INCLUDING ANY OIL CHANGES AND REPLACED BULBS AS NEEDED.

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION



MATTHEW T. O'BRIEN  
SIGNATURE  
12842  
P.E. NUMBER  
04-12-2021  
DATE

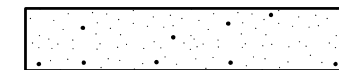
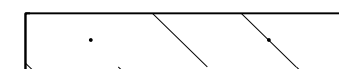

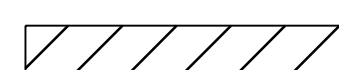
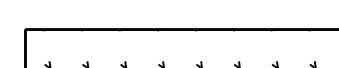



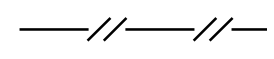
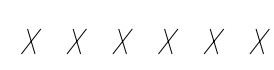
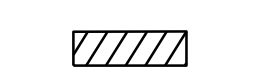
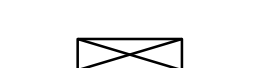




PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGNED-DETAILED	DESIGNS-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
T. LESBIE	M. O'BRIEN	R. LUCHINI	R. LUCHINI	APPENDIX 2					

SHEET NUMBER

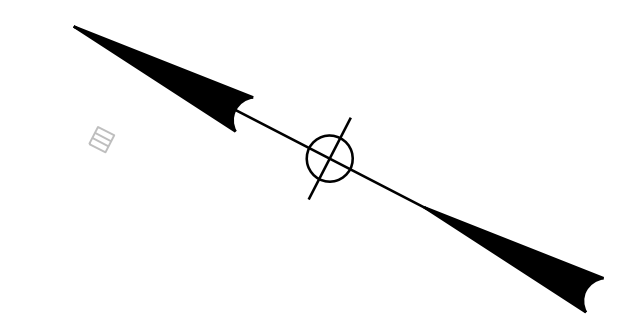
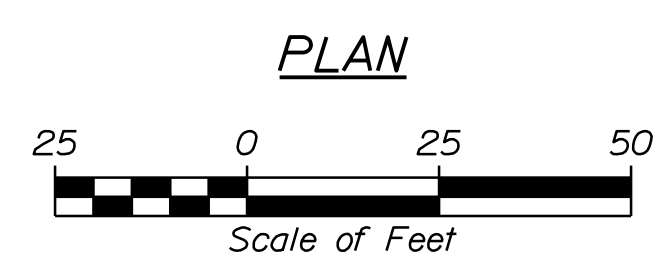
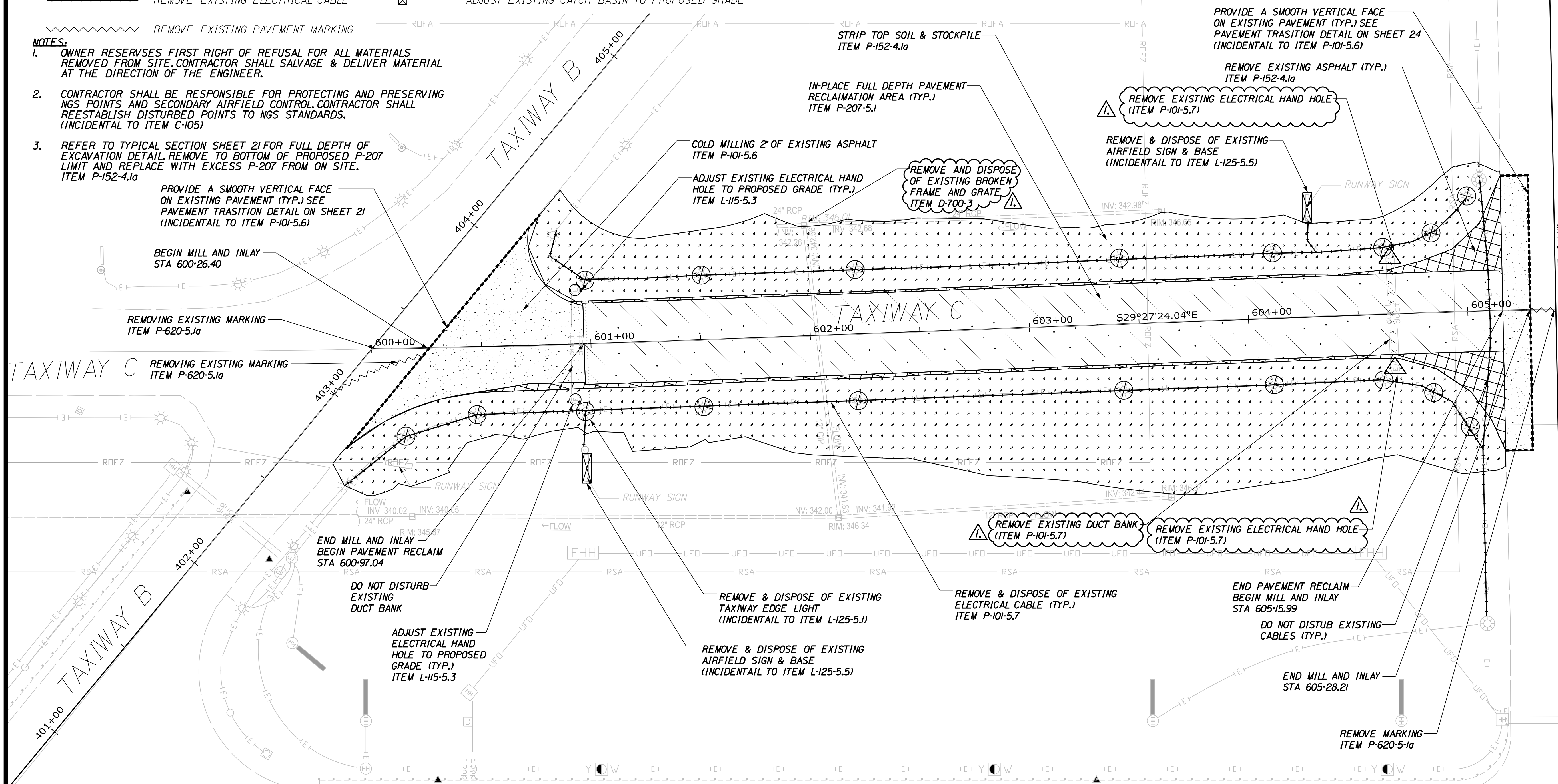
12

OF 62

LEGEND

-  MILL AND INLAY
-  RECLAIM EXISTING PAVEMENT
-  REMOVE EXISTING PAVEMENT
-  FULL DEPTH EXCAVATION IN WIDENING AREA
-  INFIELD GRADING AREA
-  SAWCUT
-  REMOVE EXISTING ELECTRICAL CABLE
-  REMOVE EXISTING PAVEMENT MARKING
-  REMOVE EXISTING DRAINAGE PIPE
-  REMOVE EXISTING DUCT BANK
-  REMOVE & DISPOSE OF EXISTING NON-LIGHTED SIGN
-  REMOVE & DISPOSE OF EXISTING AIRFIELD SIGN & BASE
-  REMOVE & DISPOSE OF EXISTING TAXIWAY EDGE LIGHT
-  ADJUST EXISTING ELECTRICAL HAND HOLE TO PROPOSED GRADE
-  REMOVE EXISTING ELECTRICAL HAND HOLE
-  ADJUST EXISTING CATCH BASIN TO PROPOSED GRADE

- NOTES:
1. OWNER RESERVES FIRST RIGHT OF REFUSAL FOR ALL MATERIALS REMOVED FROM SITE. CONTRACTOR SHALL SALVAGE & DELIVER MATERIAL AT THE DIRECTION OF THE ENGINEER.
  2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING AND PRESERVING NGS POINTS AND SECONDARY AIRFIELD CONTROL. CONTRACTOR SHALL REESTABLISH DISTURBED POINTS TO NGS STANDARDS. (INCIDENTAL TO ITEM C-105)
  3. REFER TO TYPICAL SECTION SHEET 21 FOR FULL DEPTH OF EXCAVATION DETAIL REMOVE TO BOTTOM OF PROPOSED P-207 LIMIT AND REPLACE WITH EXCESS P-207 FROM ON SITE. ITEM P-152-4.1a



MATCHLINE (See Sheet Number 14)

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION



PROJ. MANAGER	DATE
DESIGN-DETAILED	BY
CHECKED-REVIEWED	T. LESIEGE
DESIGN-DETAILED	M. O'BRIEN
DESIGN-DETAILED	R. LUCHINI
REVISIONS 1	APPENDUM 2 R. LUCHINI
REVISIONS 2	04-23-21
REVISIONS 3	P.E. NUMBER
REVISIONS 4	12842
FIELD CHANGES	DATE
	04-12-2021

AUGUSTA STATE AIRPORT	
BID DOCUMENTS	
KENNEBEC COUNTY	
AUGUSTA	
DEMOLITION PLAN	
(1 OF 4)	

PROJ. MANAGER	DATE
DESIGN-DETAILED	BY
CHECKED-REVIEWED	T. LESIEGE
DESIGN-DETAILED	M. O'BRIEN
DESIGN-DETAILED	R. LUCHINI
REVISIONS 1	APPENDUM 2 R. LUCHINI
REVISIONS 2	04-23-21
REVISIONS 3	P.E. NUMBER
REVISIONS 4	12842
FIELD CHANGES	DATE
	04-12-2021

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Plans\Demo\_Plan\_1.dgn

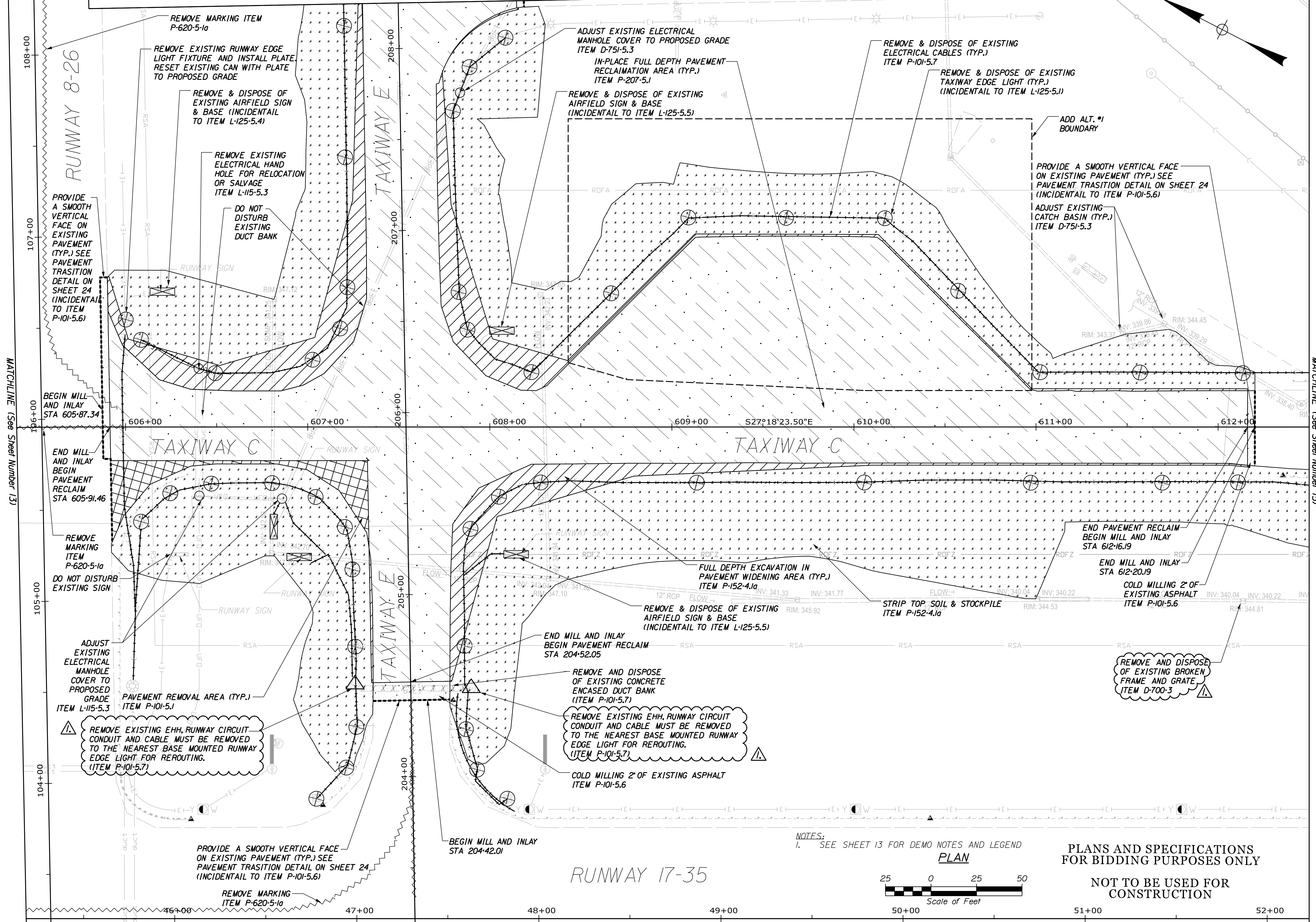
Date: 4/23/2021

Username: khopkins

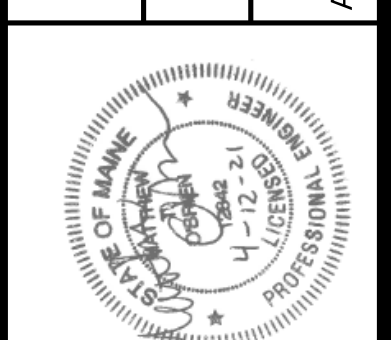
Division:

Filename: ... \Plans\Demo\_Plan\_2.dgn

MATCHLINE (See Sheet Number 16)



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 FAA AIP: 3-23-0003-XXX-2021  
 WIN 020655.03  
 AVIATION PLANS



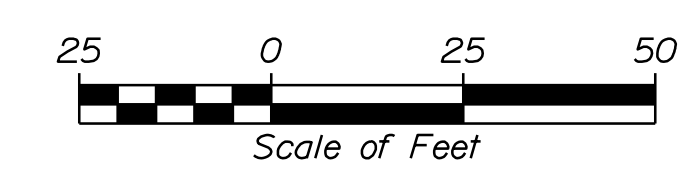
PROJ. MANAGER: T. LESIEGE  
 BY: M. OBRIEN  
 CHECKED/REVIEWED: M. OBRIEN  
 DESIGNED/DETAILED: R. LUCHINI  
 DATE: 04-23-21  
 P.E. NUMBER: 12842  
 APPENDIX 2: R. LUCHINI  
 DATE: 04-12-2021

PROJ. MANAGER	DATE	BY
T. LESIEGE		M. OBRIEN
DESIGNED/DETAILED		M. OBRIEN
CHECKED/REVIEWED		M. OBRIEN
DESIGNED/DETAILED		R. LUCHINI
DESIGNED/DETAILED		R. LUCHINI
REVISIONS 1		APPENDIX 2: R. LUCHINI
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

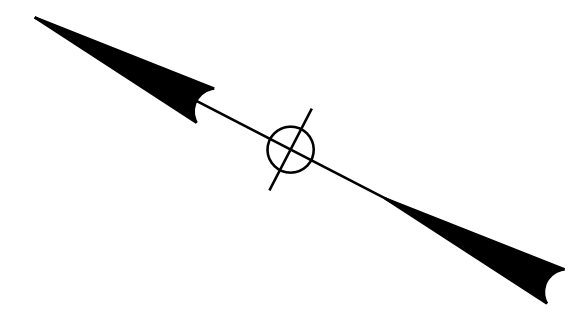
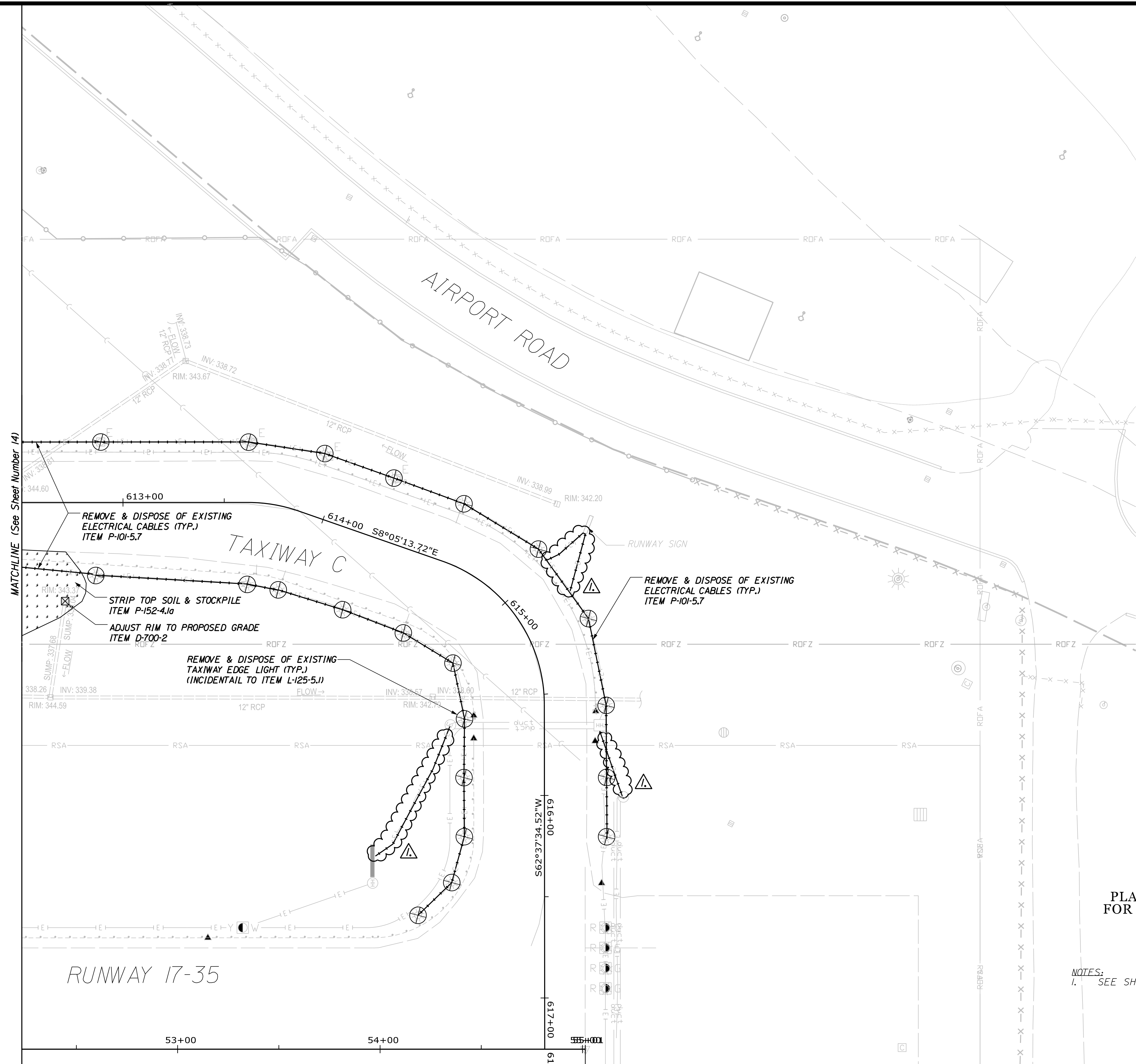
AUGUSTA STATE AIRPORT  
 BID DOCUMENTS  
 AUGUSTA  
 KENNEBEC COUNTY  
 DEMOLITION PLAN  
 (2 OF 4)

SHEET NUMBER  
 14  
 OF 62

NOTES:  
 1. SEE SHEET 13 FOR DEMO NOTES AND LEGEND

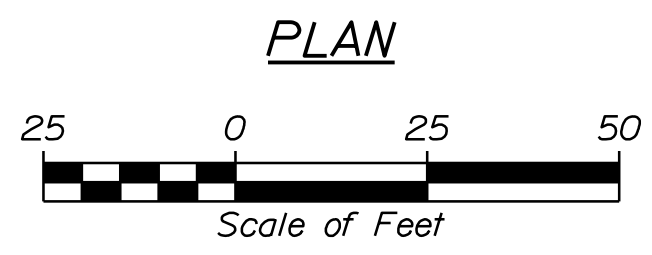


PLANS AND SPECIFICATIONS  
 FOR BIDDING PURPOSES ONLY  
 NOT TO BE USED FOR  
 CONSTRUCTION



PLANS AND SPECIFICATIONS  
FOR BIDDING PURPOSES ONLY  
NOT TO BE USED FOR  
CONSTRUCTION

NOTES:  
1. SEE SHEET 13 FOR DEMO NOTES AND LEGEND



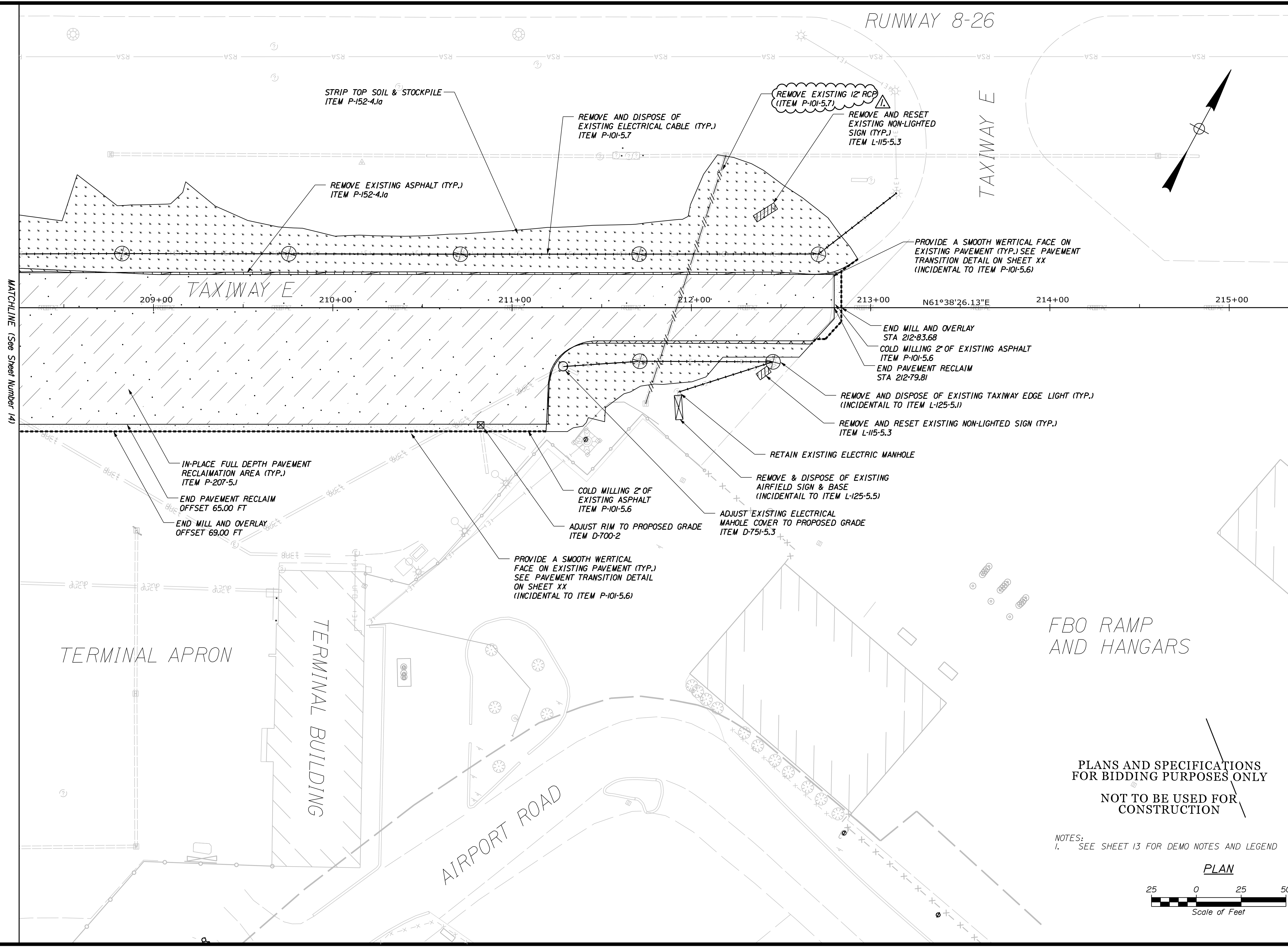
STATE OF MAINE DEPARTMENT OF TRANSPORTATION			
FAA AIP: 3-23-0003-XXX-2021		AVIATION PLANS	
WIN 020655.03			
PROJ. MANAGER	T. LESIEGE	BY	DATE
CHECKED/REVIEWED	M. O'BRIEN		
DESIGNED/DETAILED	R. LUCHINI		
REVISIONS 1	APPENDIX 2	R. LUCHINI	04-23-21
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
AUGUSTA STATE AIRPORT BID DOCUMENTS		KENNEBEC COUNTY	
AUGUSTA		DEMOLITION PLAN (3 OF 4)	
SHEET NUMBER		15	
		OF 62	

Date: 4/23/2021

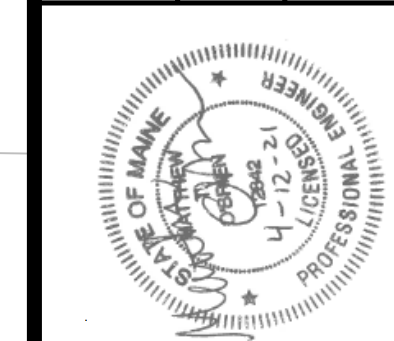
Username: dpatel

Division:

Filename: ... \Plans\Demo\_Plan\_4.dgn



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 FAA AIP: 3-23-0003-XXX-2021  
 WIN 020655.03  
 AVIATION PLANS



PROJ. MANAGER: T. LESIEGE  
 CHECKED/REVIEWED: M. O'BRIEN  
 DESIGNED/DETAILED: R. LUCHINI  
 REVISIONS: 1, 2, 3, 4  
 SIGNATURE: MATTHEW T. O'BRIEN  
 P.E. NUMBER: 12842  
 DATE: 04-12-2021

PROJ. MANAGER	DESIGN/REVIEWED	DESIGNED/DETAILED	REVISIONS	DATE
T. LESIEGE	M. O'BRIEN	R. LUCHINI	1	04-23-21
			2	
			3	
			4	

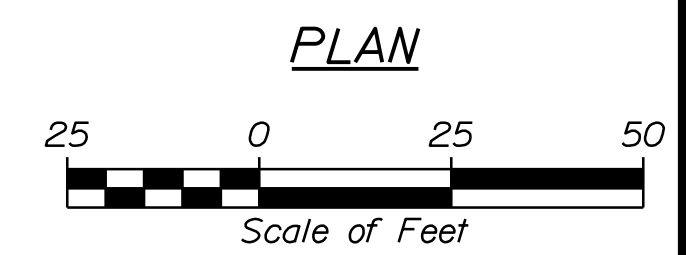
AUGUSTA STATE AIRPORT  
 BID DOCUMENTS  
 KENNEBEC COUNTY  
 AUGUSTA  
 DEMOLITION PLAN  
 (4 OF 4)

SHEET NUMBER  
**16**  
 OF 62

FBO RAMP  
 AND HANGARS

PLANS AND SPECIFICATIONS  
 FOR BIDDING PURPOSES ONLY  
 NOT TO BE USED FOR  
 CONSTRUCTION

NOTES:  
 1. SEE SHEET 13 FOR DEMO NOTES AND LEGEND



Date: 4/23/2021

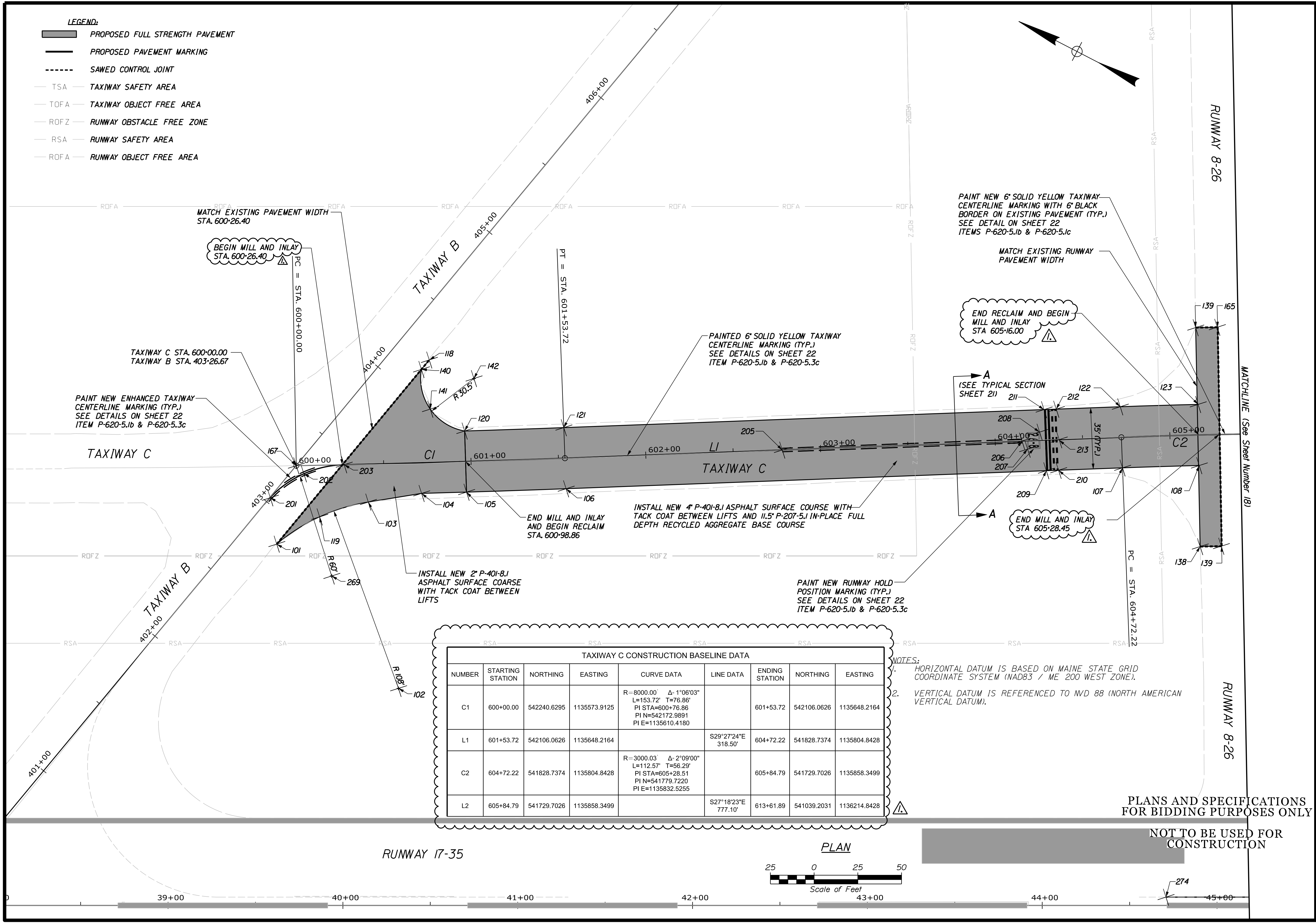
Username: dpatel

Division:

Filename: ... \Plans\Layout\_Plan\_1.dgn

LEGEND:

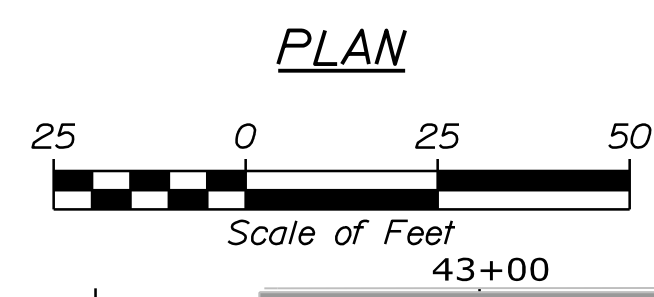
- PROPOSED FULL STRENGTH PAVEMENT
- PROPOSED PAVEMENT MARKING
- SAWED CONTROL JOINT
- TSA TAXIWAY SAFETY AREA
- TOFA TAXIWAY OBJECT FREE AREA
- ROFZ RUNWAY OBSTACLE FREE ZONE
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA



**TAXIWAY C CONSTRUCTION BASELINE DATA**

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
C1	600+00.00	542240.6295	1135573.9125	R=8000.00' Δ=1°06'03" L=153.72' T=76.86' PI STA=600+76.86 PI N=542172.9891 PI E=1135610.4180		601+53.72	542106.0626	1135648.2164
L1	601+53.72	542106.0626	1135648.2164		S29°27'24"E 318.50'	604+72.22	541828.7374	1135804.8428
C2	604+72.22	541828.7374	1135804.8428	R=3000.03' Δ=2°09'00" L=112.57' T=56.29' PI STA=605+28.51 PI N=541779.7220 PI E=1135832.5255		605+84.79	541729.7026	1135858.3499
L2	605+84.79	541729.7026	1135858.3499		S27°18'23"E 777.10'	613+61.89	541039.2031	1136214.8428

NOTES:  
 1. HORIZONTAL DATUM IS BASED ON MAINE STATE GRID COORDINATE SYSTEM (NAD83 / ME 200 WEST ZONE).  
 2. VERTICAL DATUM IS REFERENCED TO MVD 88 (NORTH AMERICAN VERTICAL DATUM).



PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION



PROJ. MANAGER: T. LESIEGE  
 DESIGN-DETAILED: M. O'BRIEN  
 CHECKED-REVIEWED: M. O'BRIEN  
 DESIGN-DETAILED: R. LUCHINI  
 DESIGN-DETAILED: R. LUCHINI  
 REVISIONS: 1  
 REVISIONS: 2  
 REVISIONS: 3  
 REVISIONS: 4  
 FIELD CHANGES

DATE	BY	REVISION
04-12-2021	R. LUCHINI	APPENDUM 2

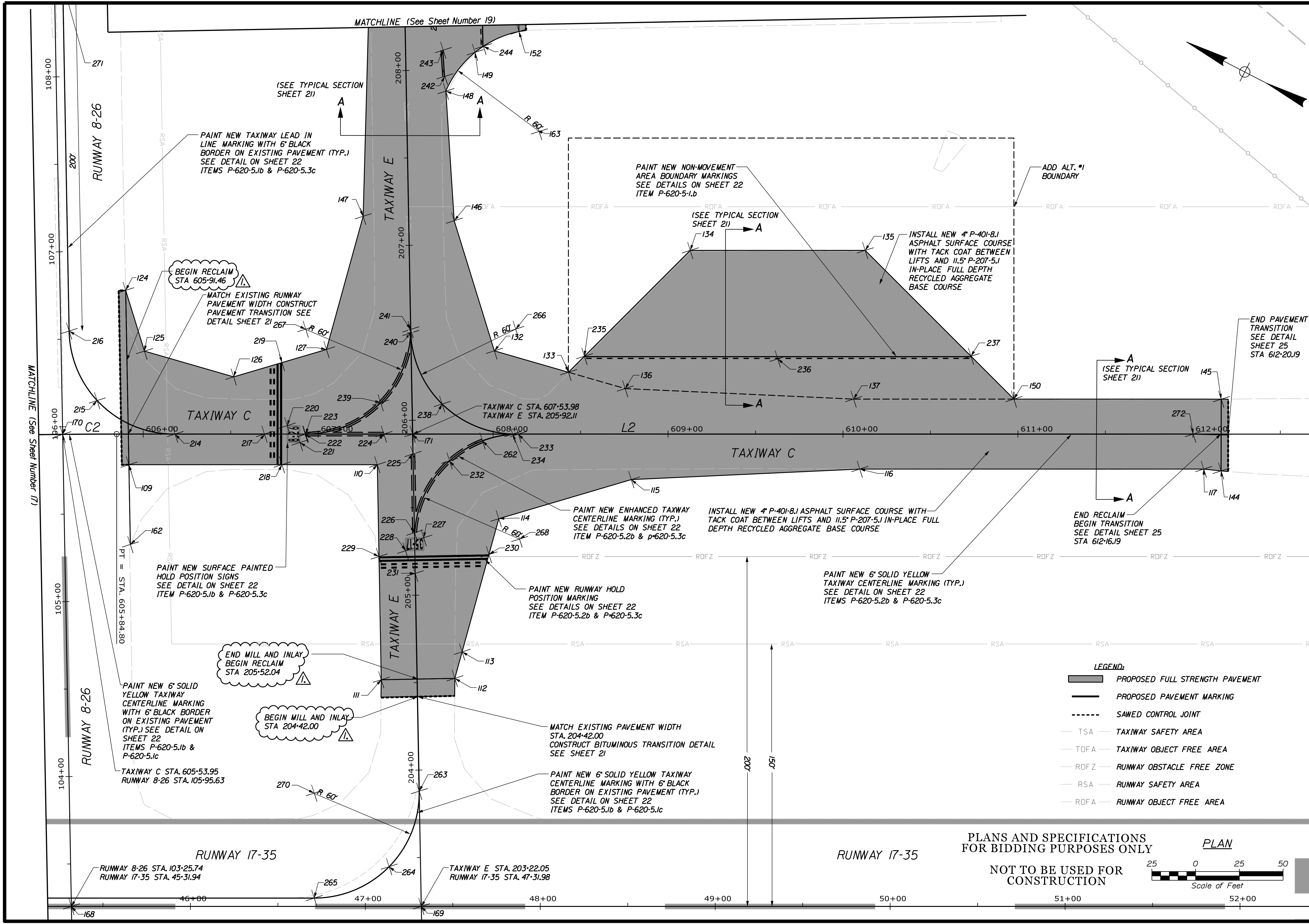
AUGUSTA STATE AIRPORT  
 BID DOCUMENTS  
 KENNEBEC COUNTY  
 AUGUSTA  
**GEOMETRY LAYOUT AND MARKING PLAN (1 OF 4)**

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Plans\Layout\_Plan\_2.dgn

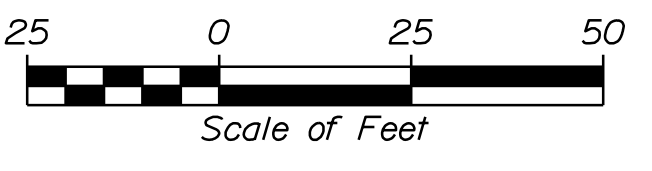


**LEGEND:**

	PROPOSED FULL STRENGTH PAVEMENT
	PROPOSED PAVEMENT MARKING
	SAWED CONTROL JOINT
	TSA TAXIWAY SAFETY AREA
	TOFA TAXIWAY OBJECT FREE AREA
	ROFZ RUNWAY OBSTACLE FREE ZONE
	RSA RUNWAY SAFETY AREA
	ROFA RUNWAY OBJECT FREE AREA

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
FAA AIP: 3-23-0003-XXX-2021  
AVIATION PLANS  
WIN 020655.03



PROJ. MANAGER	T. LESIEGE	DATE	
DESIGN-DETAILED	M. O'BRIEN	BY	
CHECKED-REVIEWED		T. LESIEGE	
DESIGN-DETAILED	R. LUCHINI	DATE	04-23-21
DESIGN-DETAILED		P.E. NUMBER	04-23-21
REVISIONS 1		DATE	
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA  
GEOMETRY LAYOUT AND MARKING PLAN (2 OF 4)

SHEET NUMBER  
**18**  
OF 62

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Plans\Layout\_Plan\_3.dgn

MATCHLINE (See Sheet Number 18)

PAINTED 6" SOLID YELLOW TAXIWAY CENTERLINE MARKING (TYP.) SEE DETAILS ON SHEET 22 ITEM P-620-5.2b & P-620-5.3b

INSTALL NEW 4" P-401-8.1 ASPHALT SURFACE COARSE WITH TACK COAT BETWEEN LIFTS AND 11.5" P-207-5.1 IN-PLACE FULL DEPTH RECYCLED AGGREGATE BASE COARSE

MATCH EXISTING PAVEMENT WIDTH STA. 212+78.72 CONSTRUCT BITUMINOUS TRANSITION DETAIL SEE SHEET 21

END RECLAIM BEGIN PAVEMENT TRANSITION SEE DETAIL SHEET 21 STA 212+79.68

END PAVEMENT TRANSITION SEE DETAIL SHEET 21 STA 212+83.68

PAINTED 6" DASHED DOUBLE YELLOW TAXIWAY EDGE MARKING (TYP.) SEE DETAILS ON SHEET 22 ITEM P-620-5.2b & P-620-5.3c

PAINT NEW NON-MOVEMENT AREA BOUNDARY MARKINGS SEE DETAILS ON SHEET 22 ITEM P-620-5.2.b & P-620-5.3c

END PAVEMENT TRANSITION SEE DETAIL SHEET 21 OFFSET 81.00 FT

END RECLAIM BEGIN PAVEMENT TRANSITION SEE DETAIL SHEET 21 OFFSET 77.00 FT

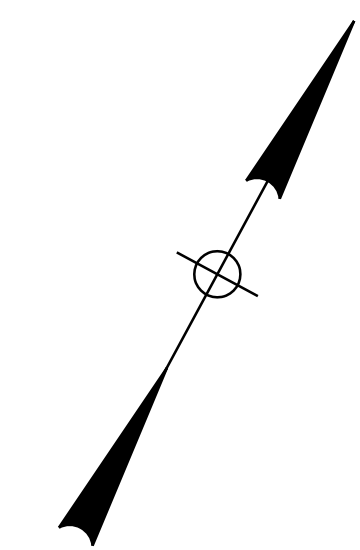
TAXIWAY E CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L5	200+45.00	541306.5589	1135461.6359		N61°38'26"E 2567.96'	226+12.96	542526.3408	1137721.4005

TERMINAL APRON

TERMINAL BUILDING

RUNWAY 8-26

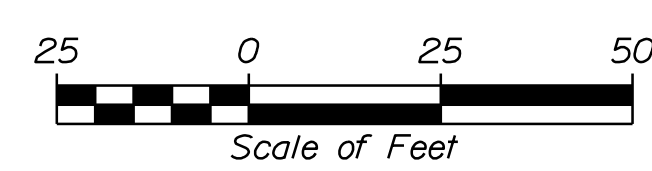


PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION

LEGEND:

- PROPOSED FULL STRENGTH PAVEMENT
- PROPOSED PAVEMENT MARKING
- SAWED CONTROL JOINT
- TSA TAXIWAY SAFETY AREA
- TOFA TAXIWAY OBJECT FREE AREA
- ROFZ RUNWAY OBSTACLE FREE ZONE
- RSA RUNWAY SAFETY AREA
- ROFA RUNWAY OBJECT FREE AREA



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
FAA AIP: 3-23-0003-XXX-2021  
AVIATION PLANS  
WIN 020655.03



PROJ. MANAGER: T. LESIEGE  
DESIGN-DETAILED: M. O'BRIEN  
CHECKED-REVIEWED: R. LUCHINI  
DESIGN-DETAILED: R. LUCHINI  
REVISIONS: 1, 2, 3, 4  
P.E. NUMBER: 12842  
DATE: 04-12-2021

DATE	BY	T. LESIEGE

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA  
GEOMETRY LAYOUT AND MARKING PLAN (3 OF 4)

SHEET NUMBER

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OF 62

EDGE OF PAVEMENT GEOMETRY LAYOUT POINTS

Point Table		
Name	Northing	Easting
101	542229.98	1135528.91
102	542130.23	1135487.51
103	542194.47	1135574.32
104	542169.66	1135592.69
105	542147.17	1135605.13
106	542097.46	1135632.98
107	541820.13	1135789.61
108	541781.75	1135810.91
109	541715.47	1135846.01
110	541589.27	1135911.16
111	541530.87	1135802.97
112	541493.87	1135822.94
113	541497.11	1135838.32
114	541513.40	1135915.59
115	541456.37	1135970.21
116	541343.08	1136035.45
117	541168.35	1136125.66
118	542200.81	1135662.57
119	542215.31	1135554.03
120	542164.17	1135635.73
121	542114.67	1135663.45
122	541837.34	1135820.08
123	541798.38	1135841.71
124	541762.82	1135933.73
125	541737.35	1135907.77
126	541685.27	1135918.09
127	541645.32	1135956.34
132	541559.68	1135999.68
133	541516.45	1136008.25
134	541486.51	1136102.07
135	541397.66	1136147.95
136	541483.33	1136014.81
137	541364.55	1136069.38
138	541760.02	1135769.96
139	541819.79	1135880.10
140	542202.31	1135655.71
141	542187.37	1135637.84
142	542173.22	1135664.86
144	541159.04	1136129.29
145	541177.78	1136165.73
146	541614.20	1136055.24
147	541661.62	1136033.62
148	541652.42	1136118.88
149	541647.76	1136146.24
150	541283.14	1136111.41
152	541630.91	1136168.30
154	541772.52	1136430.65
155	541789.68	1136421.39
156	541810.97	1136419.14
157	541827.59	1136432.67
158	541885.66	1136540.26
159	541936.08	1136539.78
160	541921.36	1136532.71
161	541742.01	1136200.45
162	541693.80	1135805.86
163	541594.45	1136122.87
164	541802.95	1136445.97
165	541808.91	1135885.97
166	541749.38	1135775.70

MARKING LAYOUT POINTS

Point Table		
Name	Northing	Easting
201	542245.42	1135550.78
202	542234.66	1135571.81
203	542216.55	1135586.96
205	541997.76	1135709.38
206	541878.25	1135776.88
207	541873.32	1135774.24
208	541871.65	1135786.03
209	541858.11	1135768.16
210	541852.01	1135771.60
211	541875.32	1135798.63
212	541869.22	1135802.07
213	541859.75	1135787.33
214	541700.02	1135873.68
215	541748.41	1135870.27
216	541780.86	1135898.22
217	541654.62	1135897.11
218	541637.70	1135886.15
219	541664.47	1135938.01
220	541645.28	1135907.38
221	541634.41	1135902.11
222	541633.96	1135907.78
223	541633.67	1135907.93
224	541593.97	1135928.42
225	541573.96	1135925.95
226	541552.50	1135886.39
227	541546.53	1135886.21
228	541552.34	1135874.83
229	541564.33	1135864.95
230	541509.02	1135894.81
231	541541.54	1135865.89
232	541553.60	1135932.05
233	541525.64	1135963.71
234	541528.54	1135962.21
235	541512.52	1136020.56
236	541413.64	1136069.92
237	541316.14	1136121.94
238	541572.26	1135958.98
239	541603.86	1135943.54
240	541606.81	1135986.82
241	541607.79	1135988.63
242	541656.79	1136126.15
243	541664.51	1136139.00
244	541645.14	1136151.51
245	541790.57	1136420.93
246	541677.38	1136160.44
247	541685.11	1136173.29
248	541697.98	1136194.73
249	541705.70	1136207.58
250	541717.88	1136229.41
251	541725.00	1136242.61
252	541736.88	1136264.61
253	541744.00	1136277.81
254	541755.88	1136299.81
255	541763.00	1136313.01
256	541774.88	1136335.01
257	541782.00	1136348.21
258	541793.88	1136370.21
259	541801.00	1136383.41
260	541812.88	1136405.41

MARKING LAYOUT POINTS

Point Table		
Name	Northing	Easting
266	541554.55	1136016.30
267	541661.19	1135961.25
268	541497.54	1135910.69
269	542193.68	1135527.13
270	541535.18	1135727.79
271	541875.87	1136074.22
272	541182.88	1136140.66
273	541904.13	1136537.62
275	541685.37	1135582.73

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

FAA AIP: 3-23-0003-XXX-2021

WIN \$PINNUMBERS  
AVIATION PLANS



MATTHEW T. O'BRIEN  
SIGNATURE  
12842  
P.E. NUMBER  
04-12-2021  
DATE

DATE

BY

T. LESIEGE

M. O'BRIEN

R. LUCHINI

APPENDIX 2

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

DATE

BY

T. LESIEGE

M. O'BRIEN

R. LUCHINI

APPENDIX 2

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

DATE

BY

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
AUGUSTA  
KENNEBEC COUNTY  
GEOMETRY LAYOUT AND  
MARKING PLAN (4 OF 4)

SHEET NUMBER

20

OF 62

PLANS AND SPECIFICATIONS  
FOR BIDDING PURPOSES ONLY

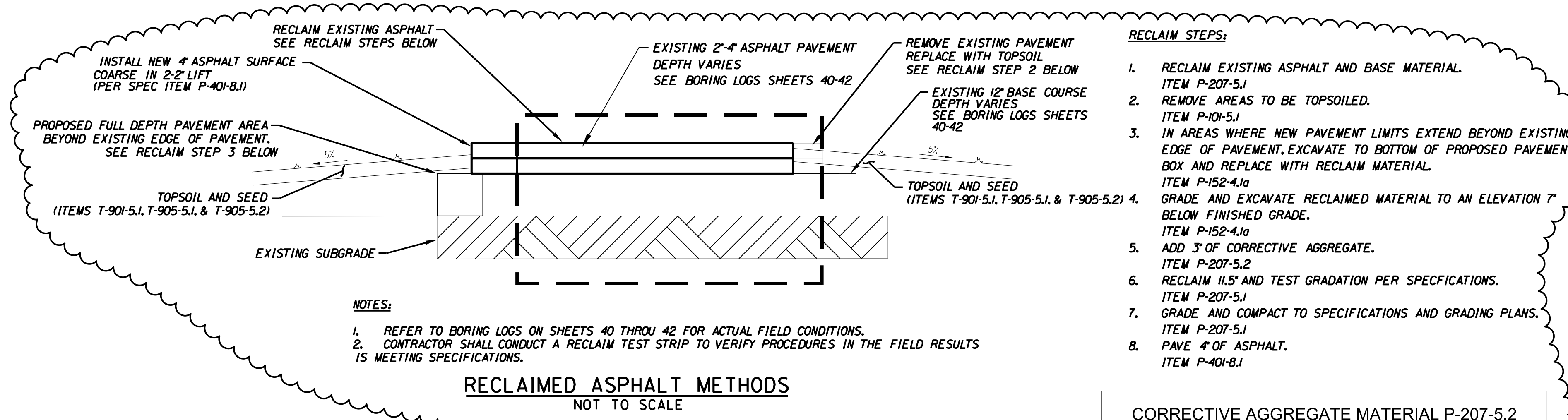
NOT TO BE USED FOR  
CONSTRUCTION

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Typical Pavement\_Details.dgn

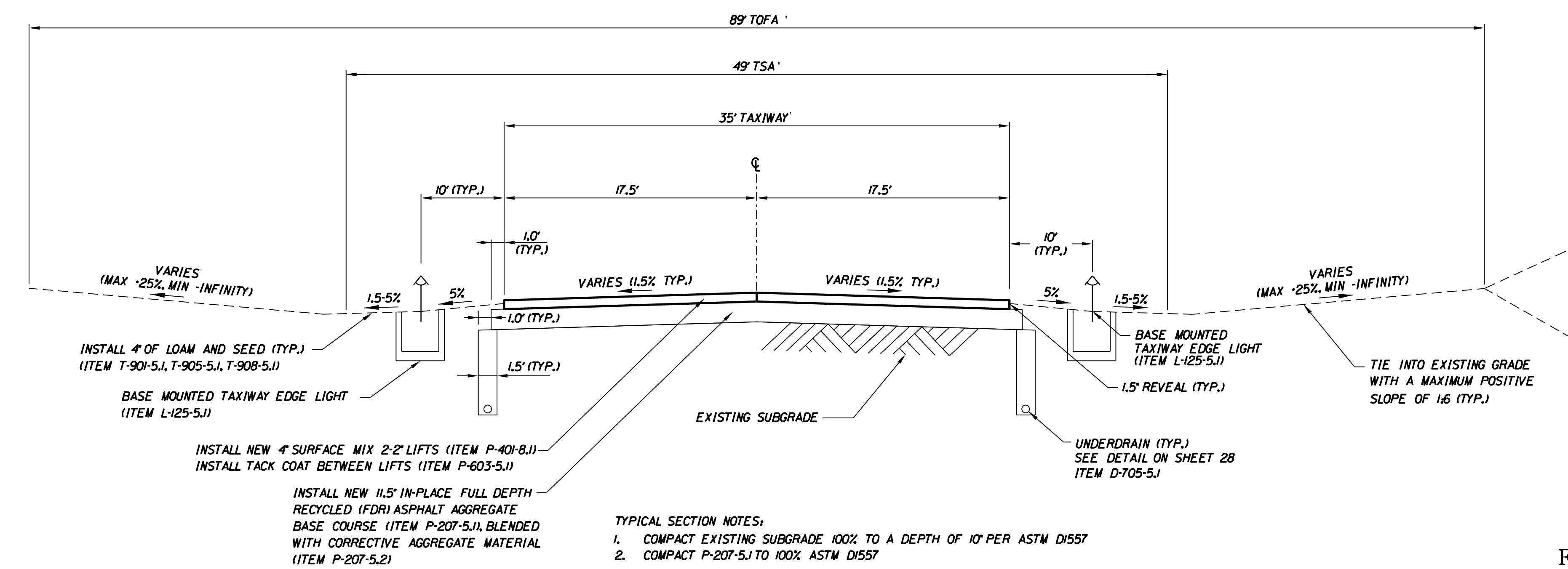
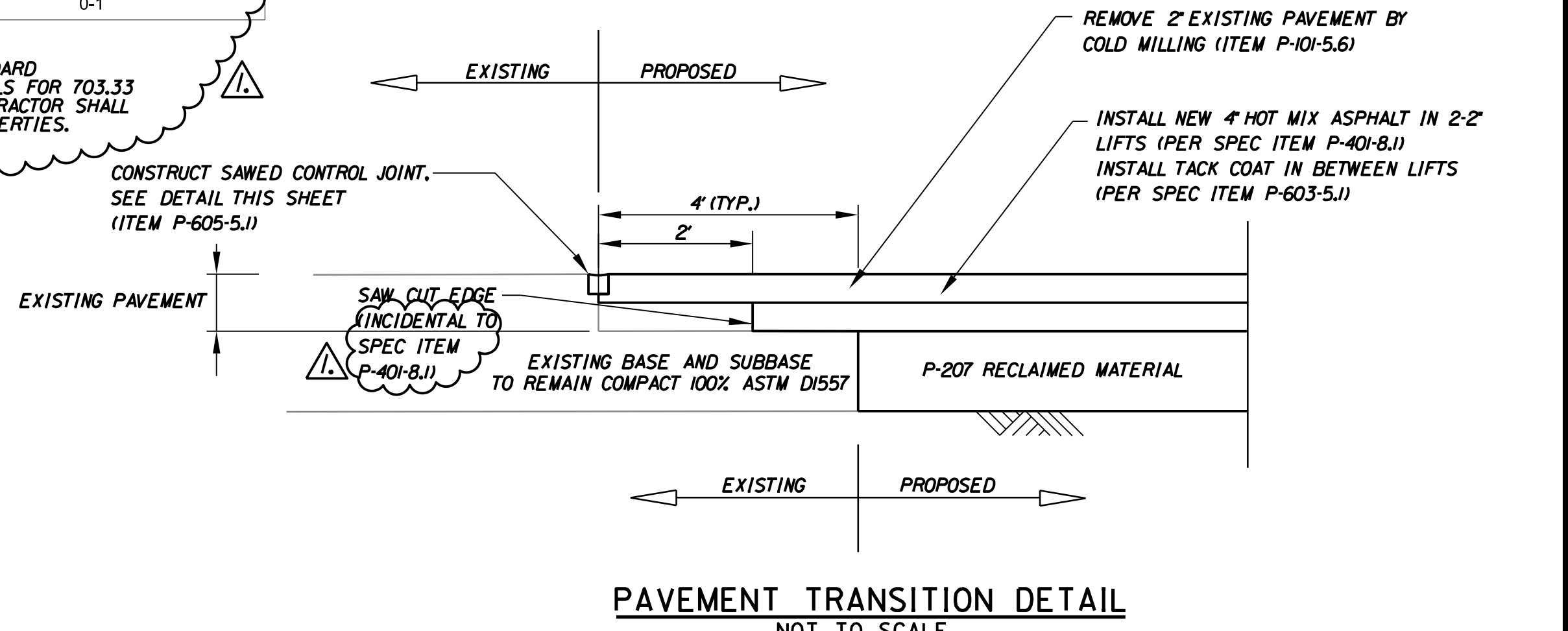
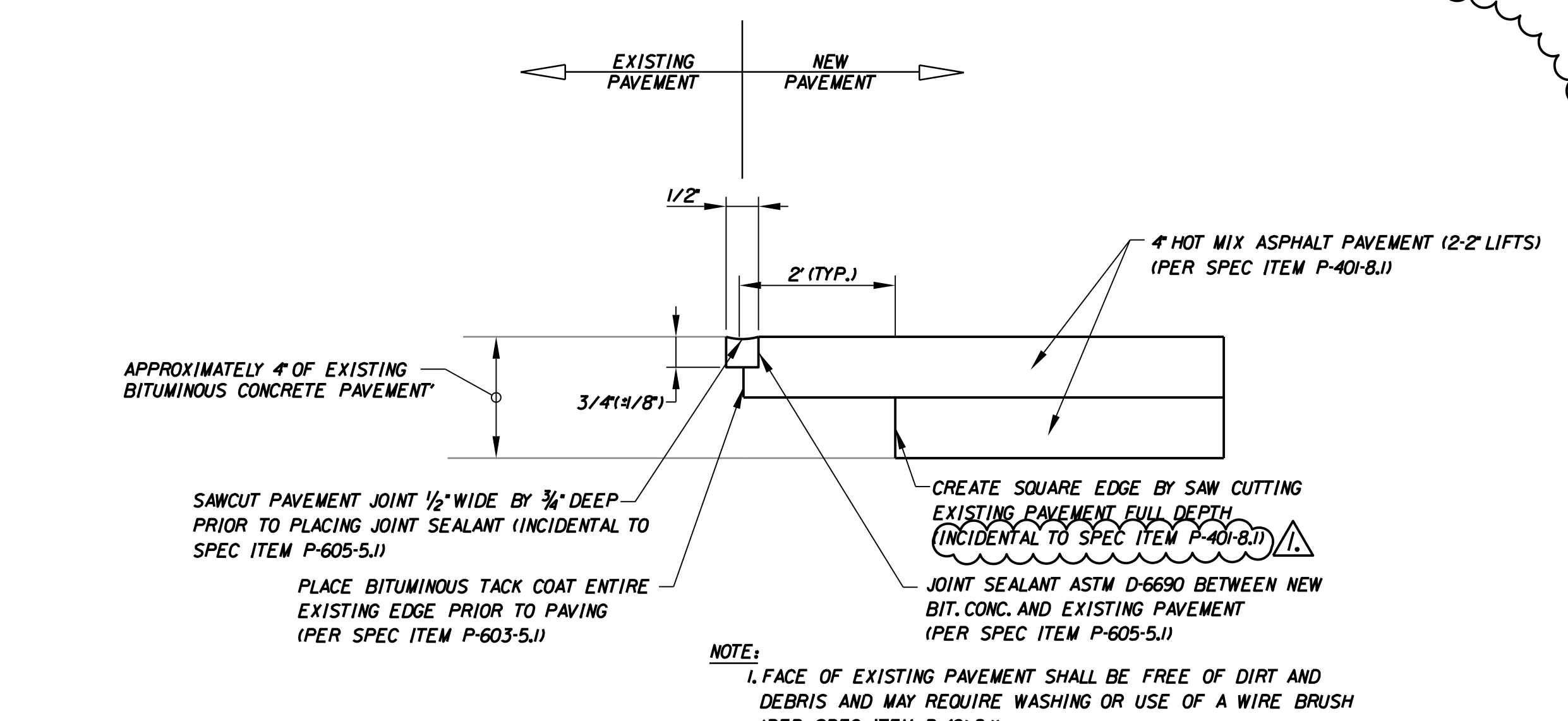
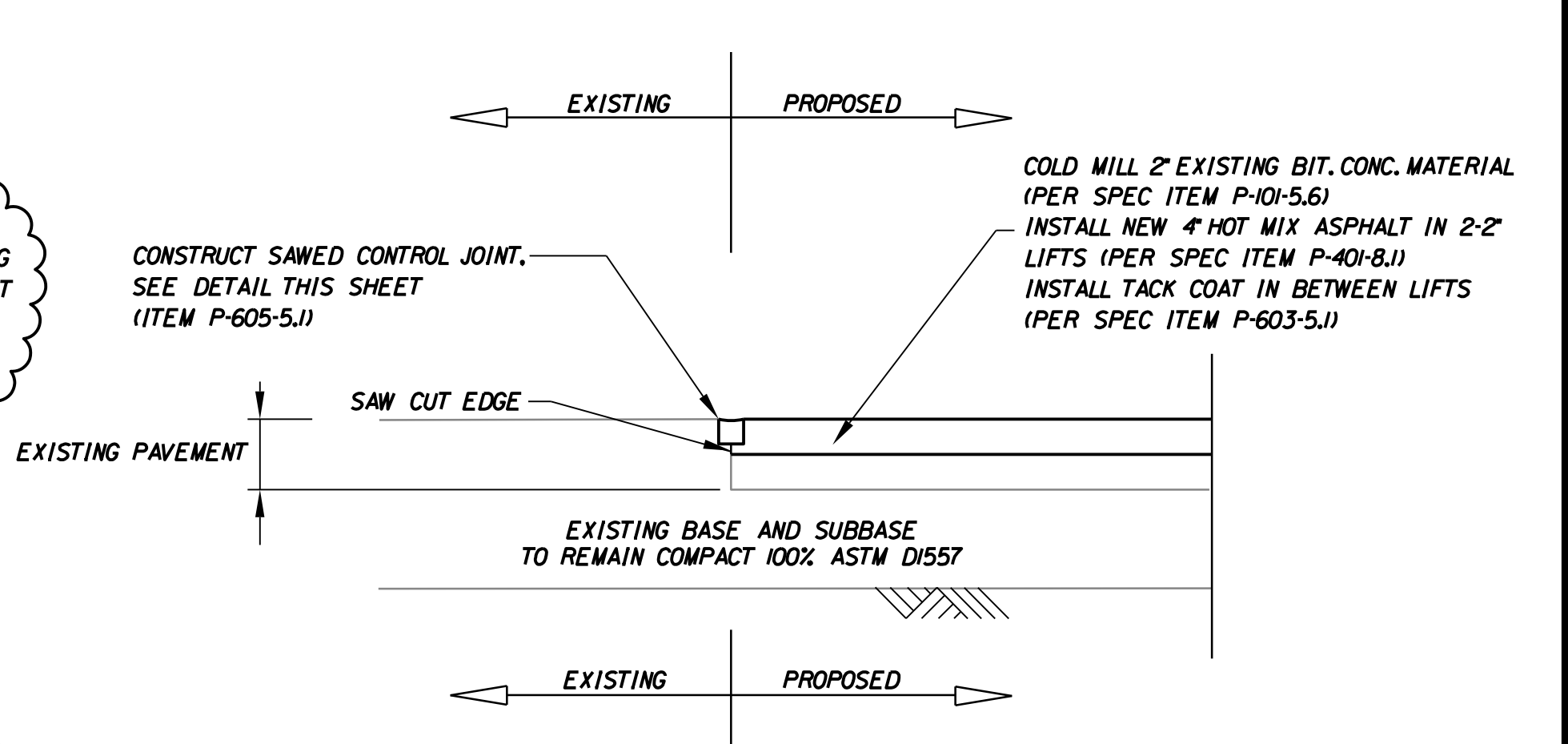


**CORRECTIVE AGGREGATE MATERIAL P-207-5.2 GRADATION**

SIEVE SIZE	PERCENT PASSING BY WEIGHT
2 INCH	100
1 1/2 INCH	90-100
1 INCH	20-55
3/4 INCH	0-15
NO. 4	0-5
NO. 200	0-1

**NOTES:**

1. THIS GRADATION MEETS MAJNDOT STANDARD SPECIFICATIONS DIVISION 700 - MATERIALS FOR 703.33 STONE BALLAST TYPE 4 GRADATION. CONTRACTOR SHALL VERIFY MATERIAL MEETS P-207-5.2 PROPERTIES. (ITEM P-207-5.2)



TAXIWAY C: STA. 606+96.86 TO STA. 605+16.00 & STA. 605+91.46 TO STA. 612+16.19  
TAXIWAY E: STA. 204+52.04 TO STA. 212+79.68

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION

PROJ. MANAGER	T. LESIEGE	DATE	
DESIGN-DETAILED	M. OBREIN	BY	MATTHEW T. OBREIN
CHECKED-REVIEWED		DATE	
DESIGN-DETAILED	R. LUCHINI	SIGNATURE	
DESIGN-DETAILED		DATE	
REVISIONS 1	APPENDIX 2 R. LUCHINI	P.E. NUMBER	04-23-21
REVISIONS 2		DATE	04-12-2021
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SHEET NUMBER

21

OF 62



MATTHEW T. OBRIEN  
SIGNATURE

12842  
P.E. NUMBER

04-12-2021  
DATE

BY

T. LESIEGE

M. OBRIEN

R. LUCHINI

APPENDIX 2

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY

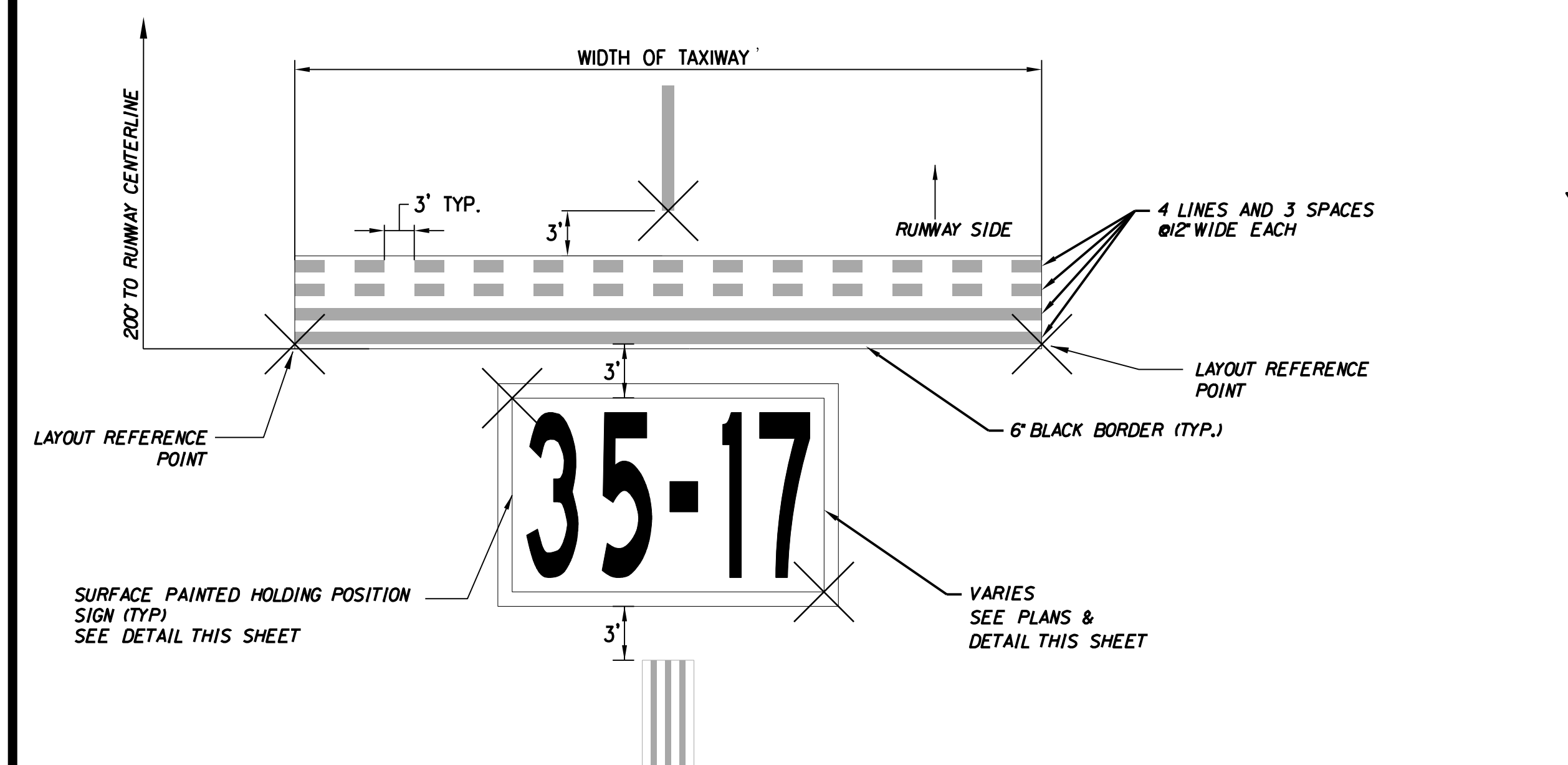
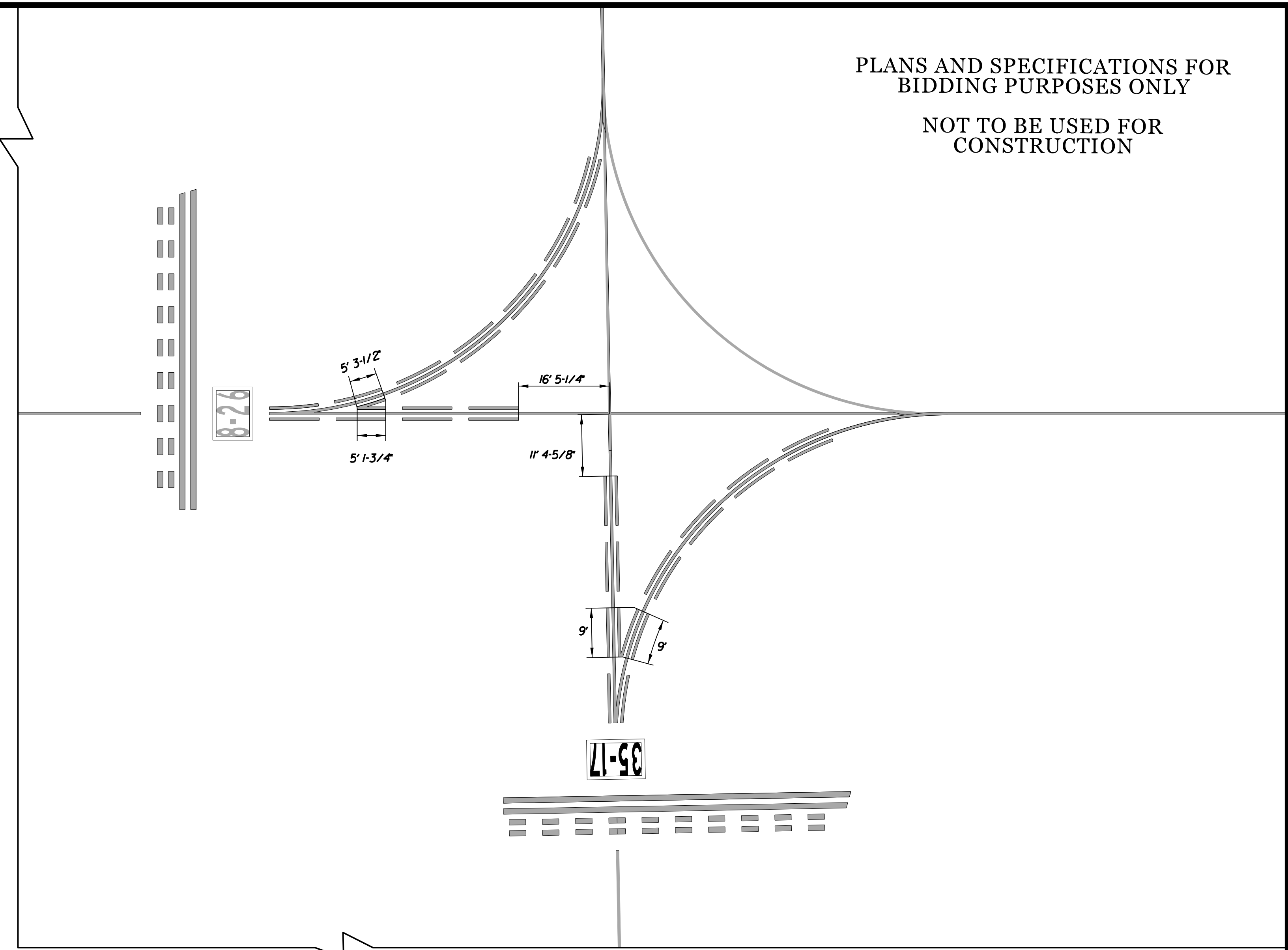
AUGUSTA

MARKING DETAILS

SHEET NUMBER

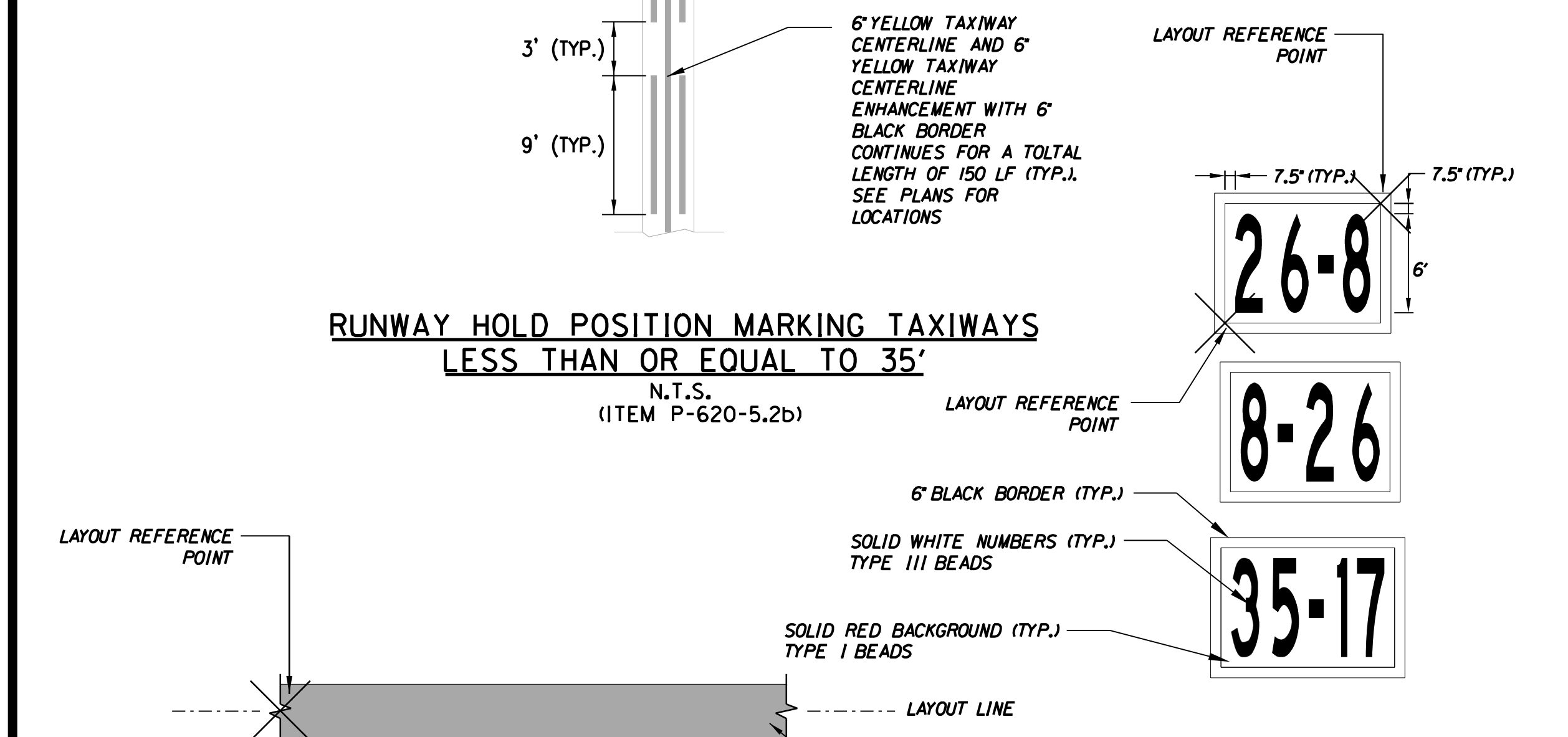
22

OF 62



**RUNWAY HOLD POSITION MARKING TAXIWAYS  
LESS THAN OR EQUAL TO 35'**

N.T.S.  
(ITEM P-620-5.2b)

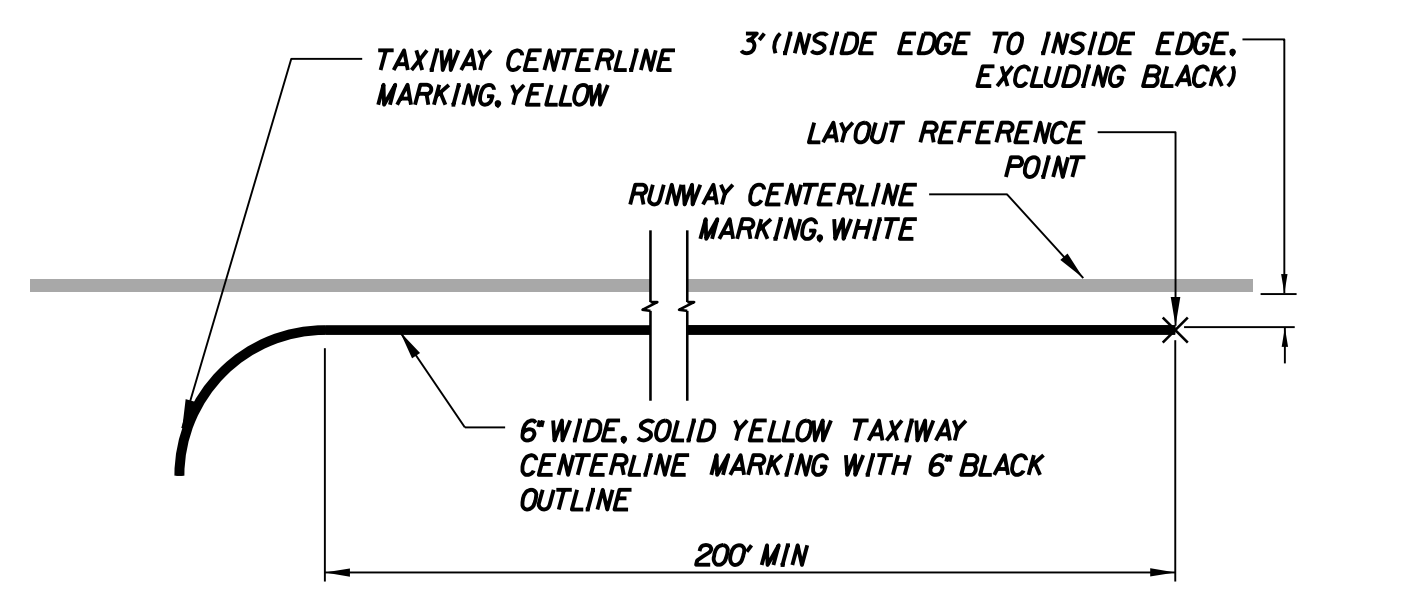


**CENTERLINE NOTES:**

- CENTERLINE ON NEW PAVEMENT SHALL RECEIVE NO OUTLINE
- CENTERLINE ON OLD PAVEMENT SHALL RECEIVE A 6\"/>

**TAXIWAY CENTERLINE MARKING (YELLOW)**

N.T.S.  
(ITEM P-620-5.2b)



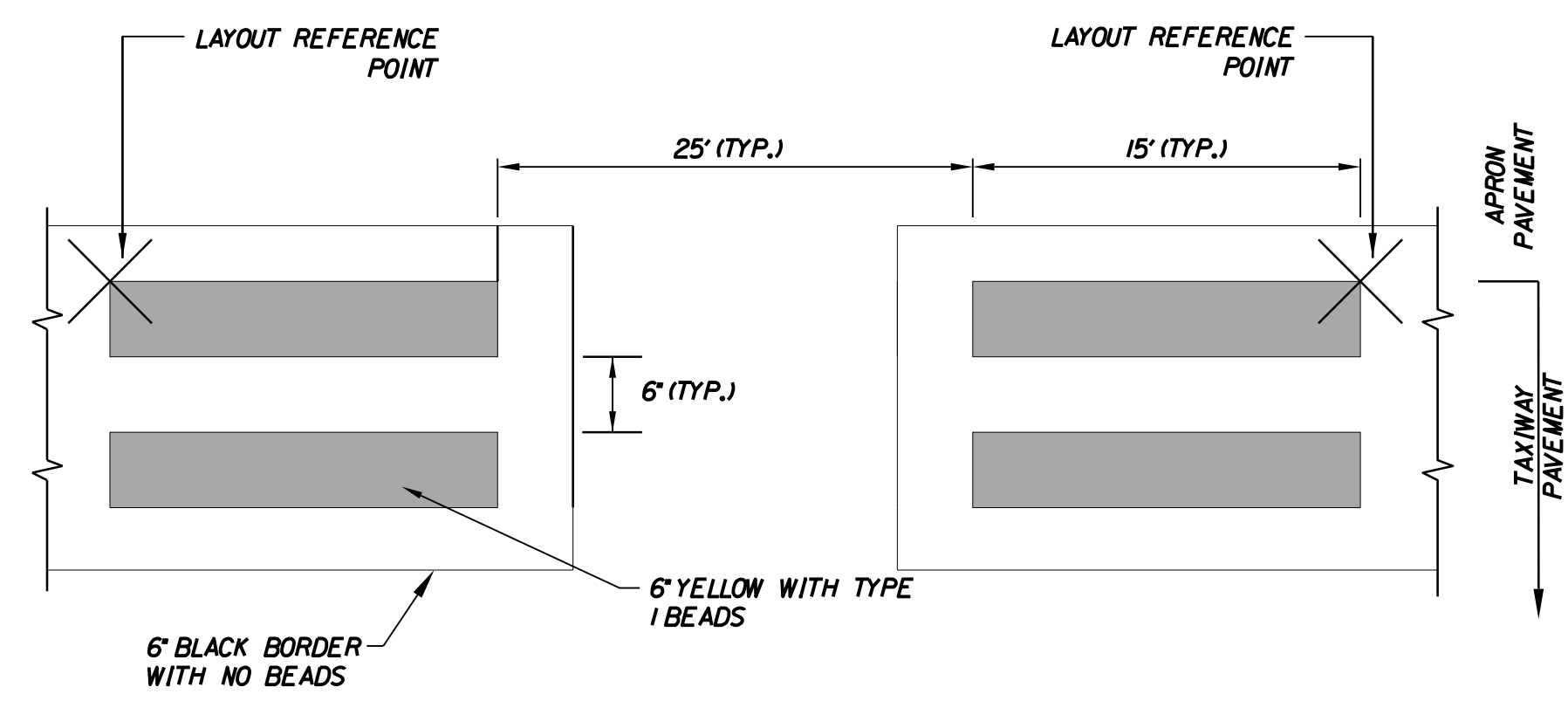
**TAXIWAY TO RUNWAY CENTERLINE MARKING DETAIL**

N.T.S.  
(ITEM P-620-5.2b)

- MARKING NOTES:**
- BLACK PAINT SHALL RECEIVE NO BEADS
  - YELLOW MARKINGS SHALL RECEIVE TYPE III BEADS
  - RED MARKINGS SHALL RECEIVE TYPE I BEADS
  - WHITE MARKINGS SHALL RECEIVE TYPE III BEADS
  - BLACK PAINT SHALL ONLY BE USED ON EXISTING PAVEMENTS. NO BLACK PAINT SHALL BE USED ON NEW PAVEMENT.

**SURFACE PAINTED HOLD SIGN**

N.T.S.  
(ITEM P-620-5.2b)



**DASHED DOUBLE TAXIWAY EDGE MARKING  
(YELLOW)**

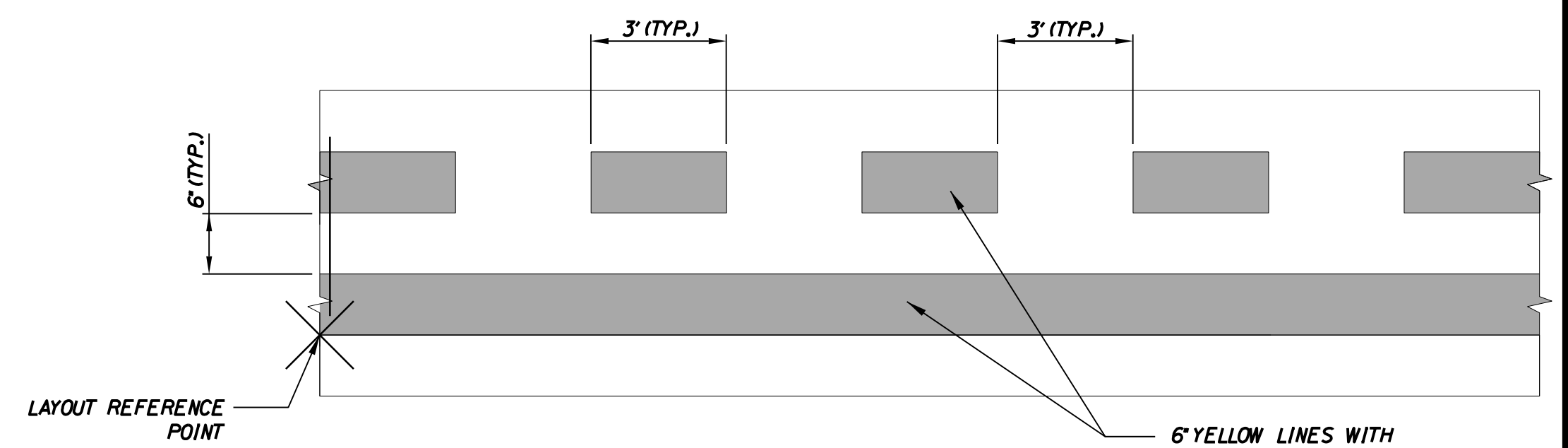
NOT TO SCALE

**ENHANCED TAXIWAY CENTERLINE**

N.T.S.  
(ITEM P-620-5.2b)

**NOTES:**

- DASHED LINES FOR THE ENHANCED TAXIWAY CENTERLINE MARKING ARE 6\"/>
- THE ENHANCED CENTERLINE IS SURROUNDED BY A 6\"/>
- THE ENHANCED CENTERLINE BEGINS 3\"/>
- SPACING LENGTH IS DETERMINED ALONG CENTERLINE OF TAXIWAY.
- ENHANCED CENTERLINE TO BE 150\"/>



**NON-MOVEMENT BOUNDARY LINE (YELLOW)**

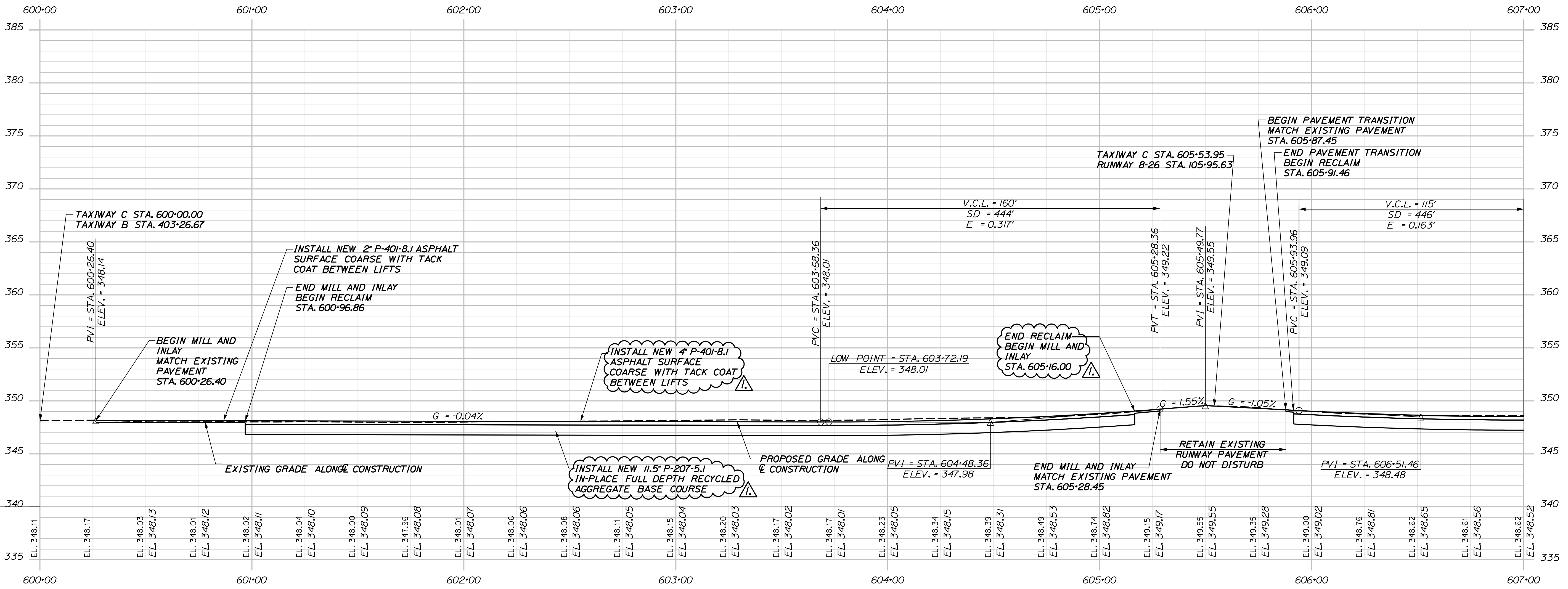
NOT TO SCALE  
ITEM P-620-5.2b

Date: 4/23/2021

Username: dpatel

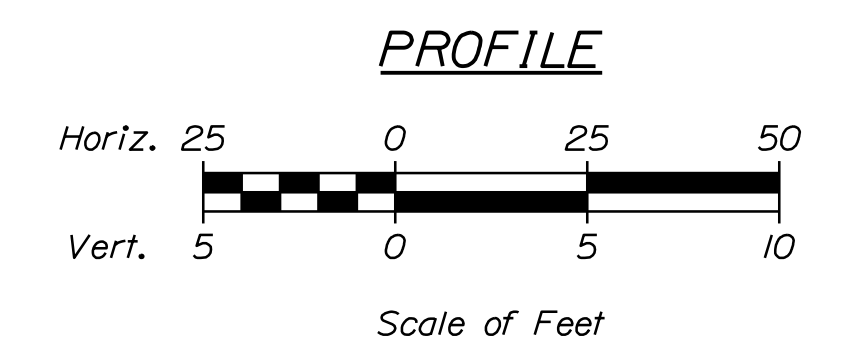
Division:

Filename: ... \Marking\_Details.dgn



PROFILE TAXIWAY 'C'

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY  
 NOT TO BE USED FOR CONSTRUCTION

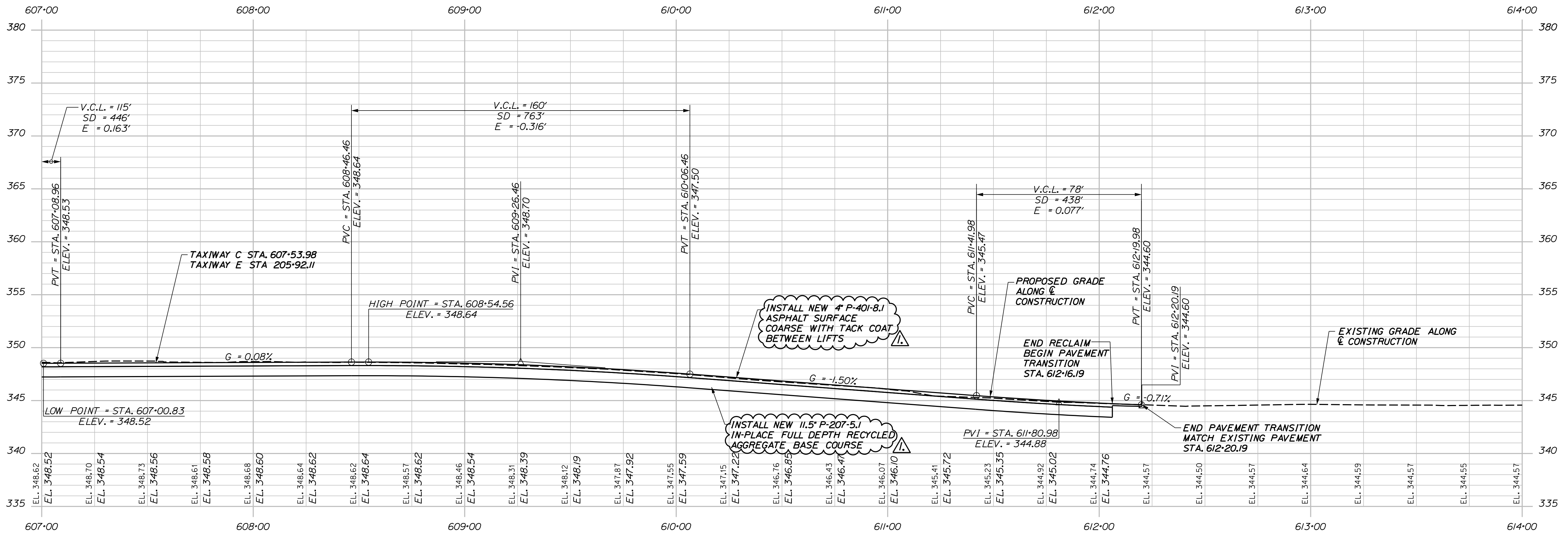


PROJ. MANAGER	T. LESIEGE	BY	MATTHEW T. O'BRIEN
DESIGN DETAILED	M. O'BRIEN	SIGNATURE	12842
CHECKED/REVIEWED	R. LUCHINI	P.E. NUMBER	04-23-21
DESIGN DETAILED	R. LUCHINI	DATE	04-12-2021
REVISIONS 1	APPENDIX 2		
REVISIONS 2	R. LUCHINI		
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

AUGUSTA STATE AIRPORT  
 BID DOCUMENTS  
 KENNEBEC COUNTY  
 AUGUSTA  
**PROFILE TAXIWAY "C"**  
 (1 OF 2)

SHEET NUMBER

**23**

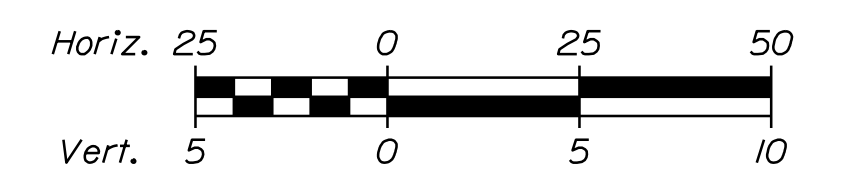


PROFILE TAXIWAY 'C'

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION

PROFILE

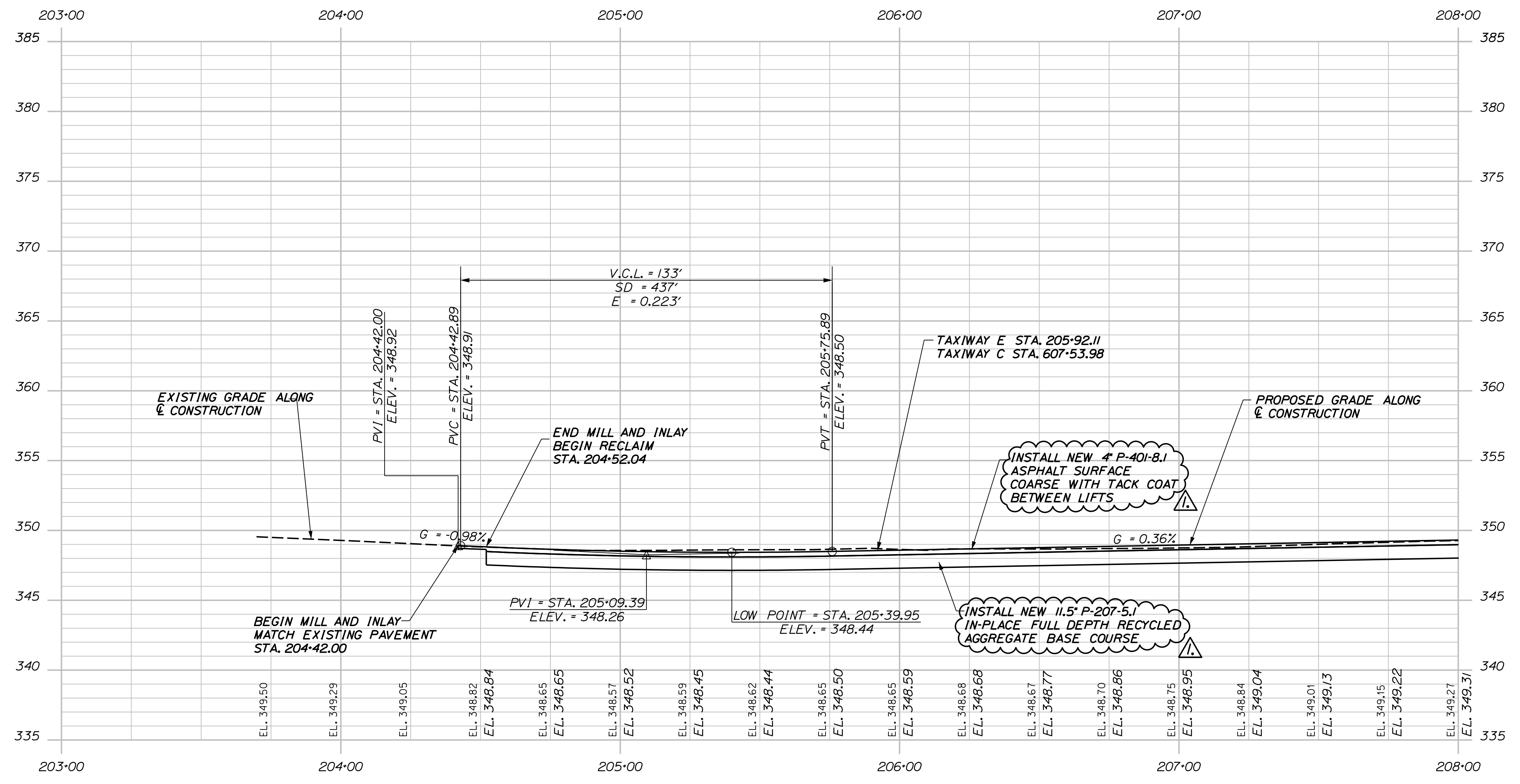


PROJ. MANAGER	T. LESIEGE	BY	MATTHEW T. O'BRIEN	DATE	
CHECKED/REVIEWED	M. O'BRIEN	SIGNATURE			
DESIGNS/DETAILED	R. LUCHINI	P.E. NUMBER	12842		
REVISIONS 1	APPENDUM 2	R. LUCHINI	04-23-21		
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA  
PROFILE TAXIWAY "C"  
(2 OF 2)

SHEET NUMBER

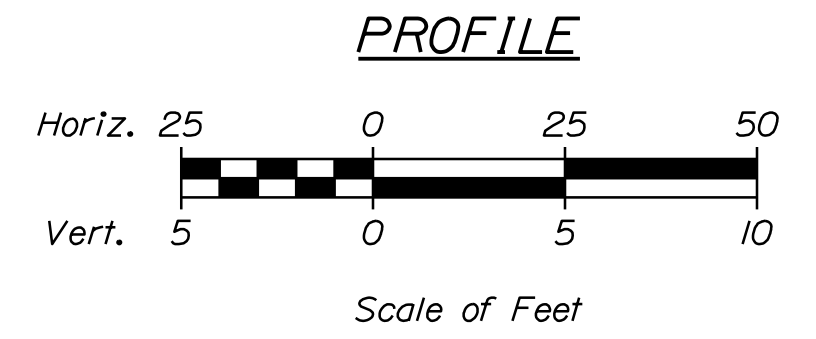
24



PROFILE TAXIWAY 'E'

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION



MATTHEW T. O'BRIEN  
SIGNATURE  
12842  
P.E. NUMBER  
04-23-21  
DATE

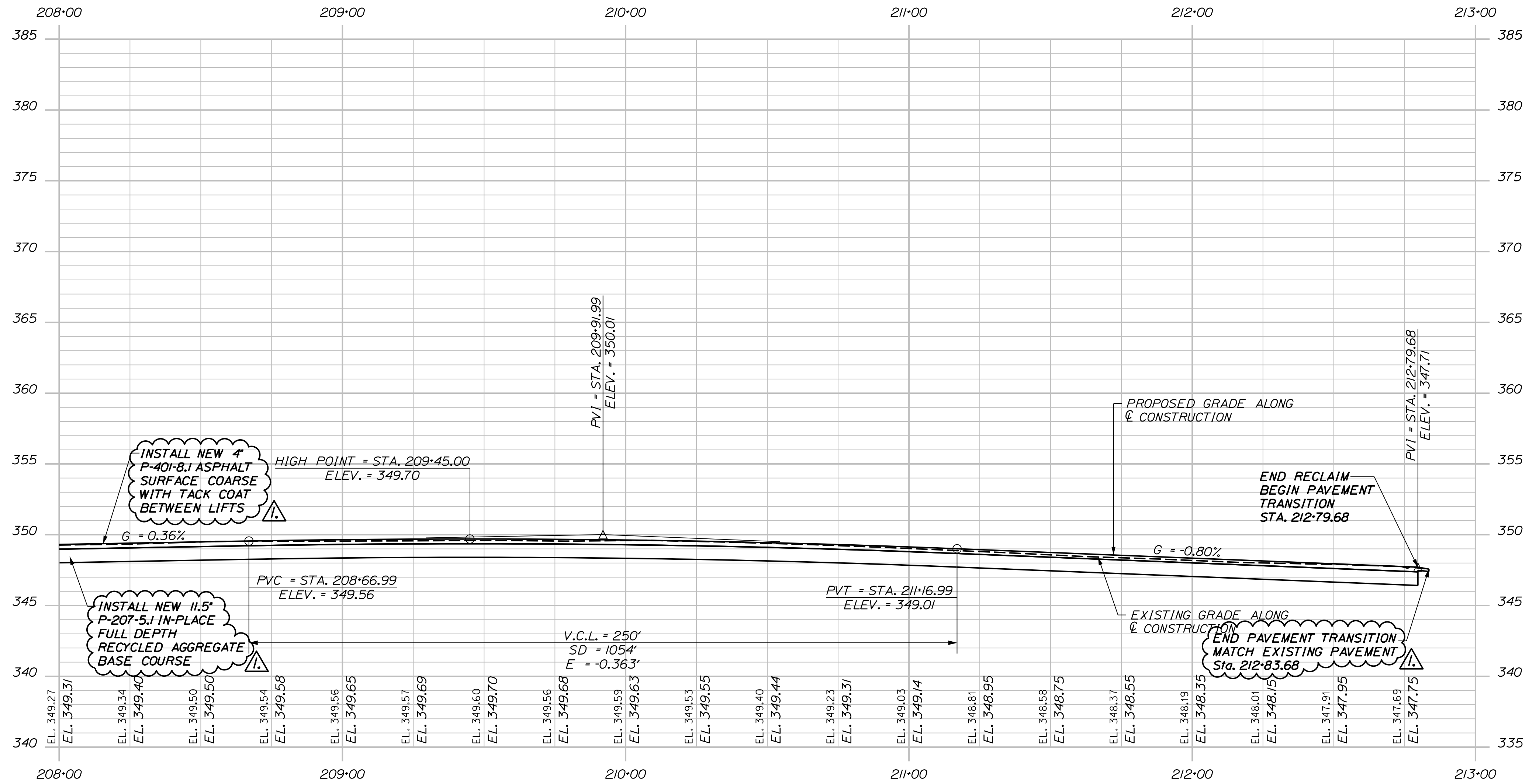
PROJ. MANAGER	DATE	BY	T. LESIEGE
DESIGN-DETAILED			
CHECKED-REVIEWED			
DESIGN-DETAILED			
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA  
PROFILE TAXIWAY "E"  
(1 OF 2)

SHEET NUMBER

25

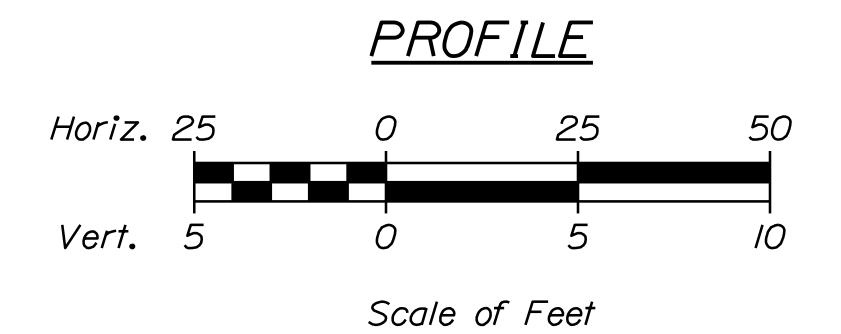
OF 62



PROFILE TAXIWAY 'E'

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION



MATTHEW T. O'BRIEN  
SIGNATURE  
12842  
P.E. NUMBER  
04-12-2021  
DATE

PROJ. MANAGER	DATE	BY	T. LESIEGE
DESIGN-DETAILED	M. O'BRIEN		
CHECKED-REVIEWED	R. LUCHINI		
DESIGN-DETAILED	R. LUCHINI		
DESIGN-DETAILED	APPENDUM 2	R. LUCHINI	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA  
PROFILE TAXIWAY "E"  
(2 OF 2)

SHEET NUMBER

26

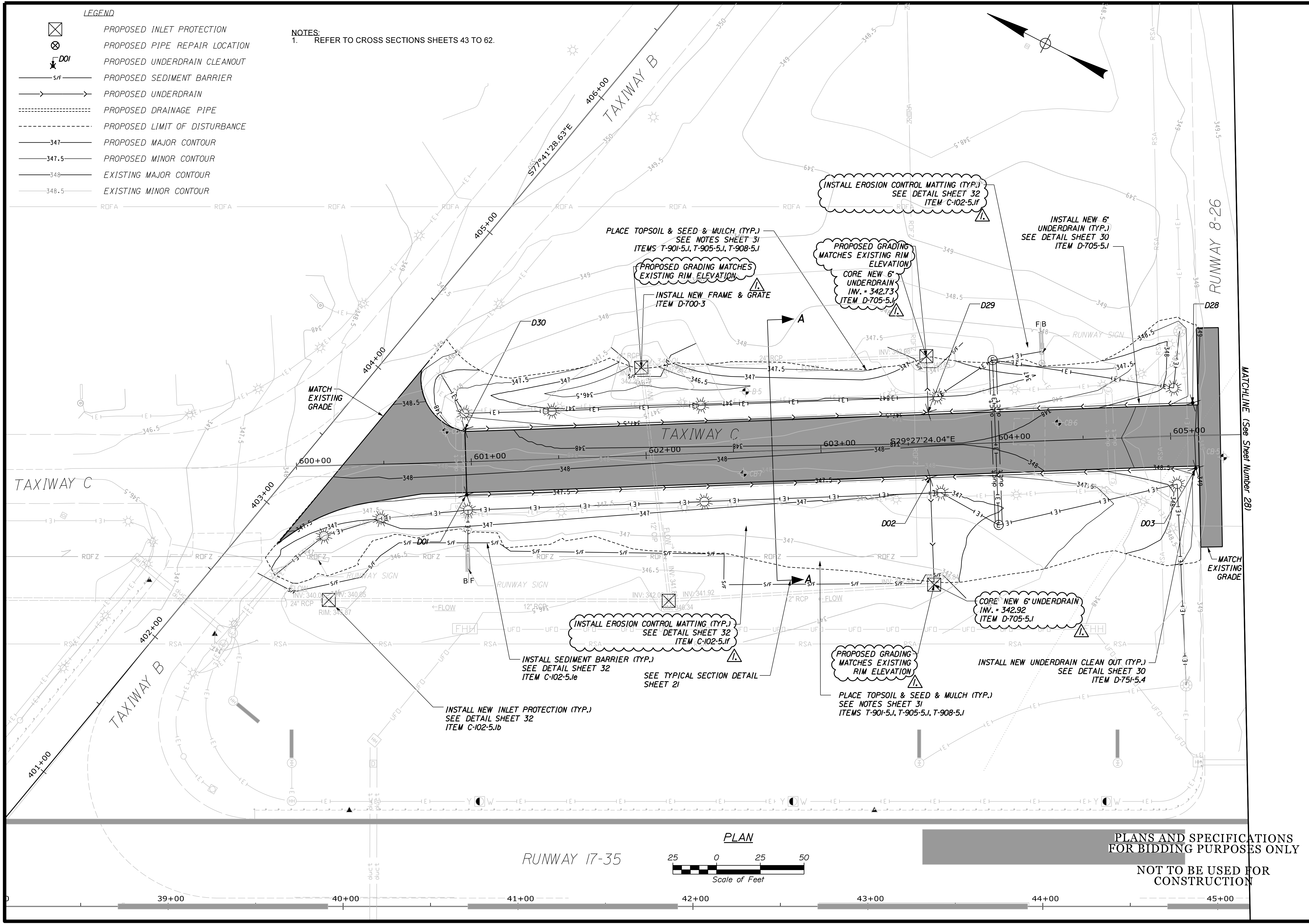
OF 62

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Grading\_Erosion\_Control\_1.dgn



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		FAA AIP: 3-23-0003-XXX-2021	
AUGUSTA STATE AIRPORT BID DOCUMENTS		Kennebec County	
AUGUSTA		EROSION CONTROL PLAN (1 OF 3)	
PROJ. MANAGER	DATE	BY	DATE
DESIGN-DETAILED	T. LESIEGE	M. OBRIEN	
CHECKED-REVIEWED	M. OBRIEN	R. LUCHINI	
DESIGNS-DETAILED	R. LUCHINI	APPENDIX 2	R. LUCHINI
DESIGNS-DETAILED	R. LUCHINI	REVISIONS 1	04-23-21
REVISIONS 1		REVISIONS 2	
REVISIONS 2		REVISIONS 3	
REVISIONS 3		REVISIONS 4	
FIELD CHANGES			
SHEET NUMBER		27	
		OF 62	

NOTES:  
1. REFER TO CROSS SECTIONS SHEETS 40 TO 59.

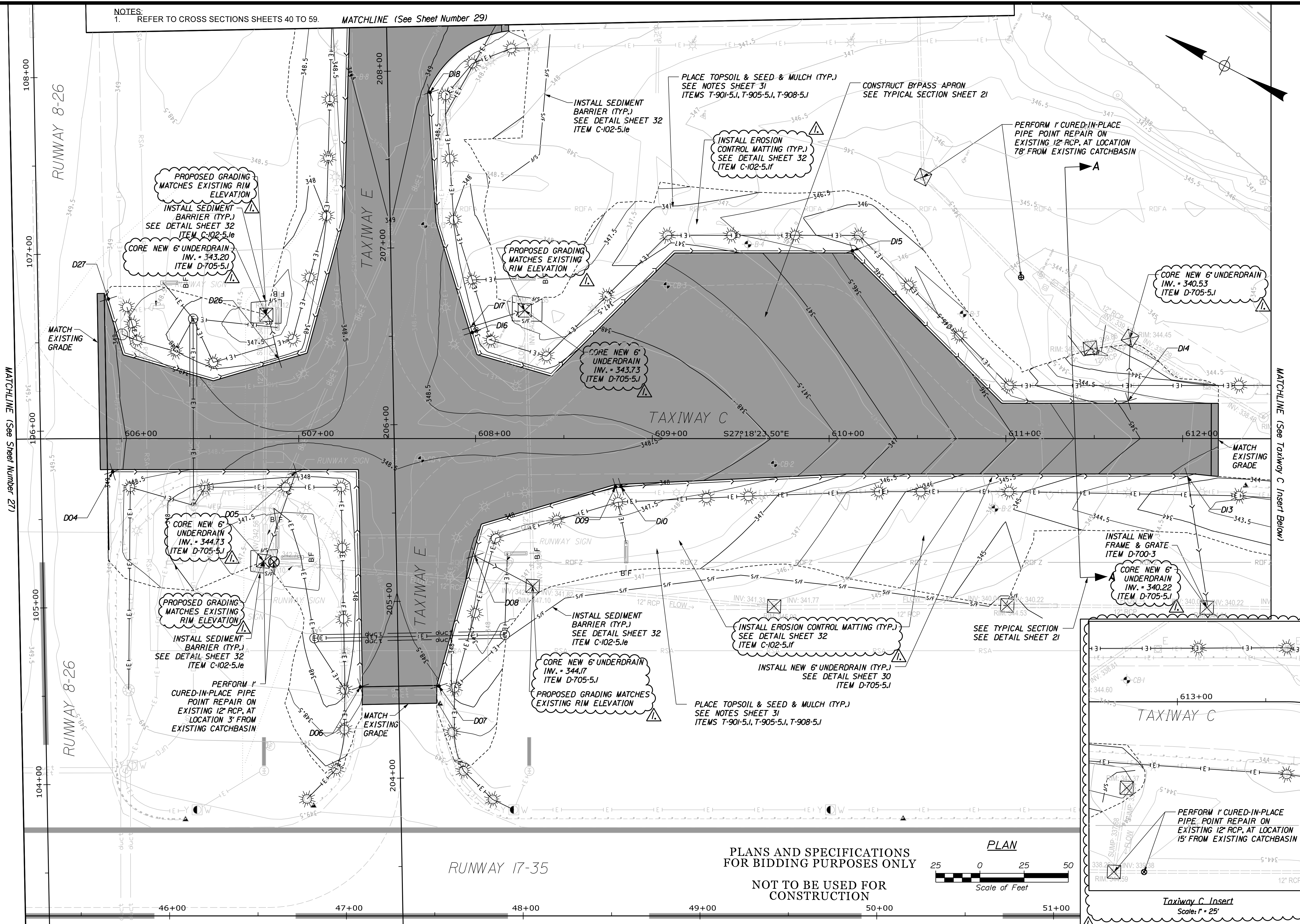
MATCHLINE (See Sheet Number 29)

Date: 4/23/2021

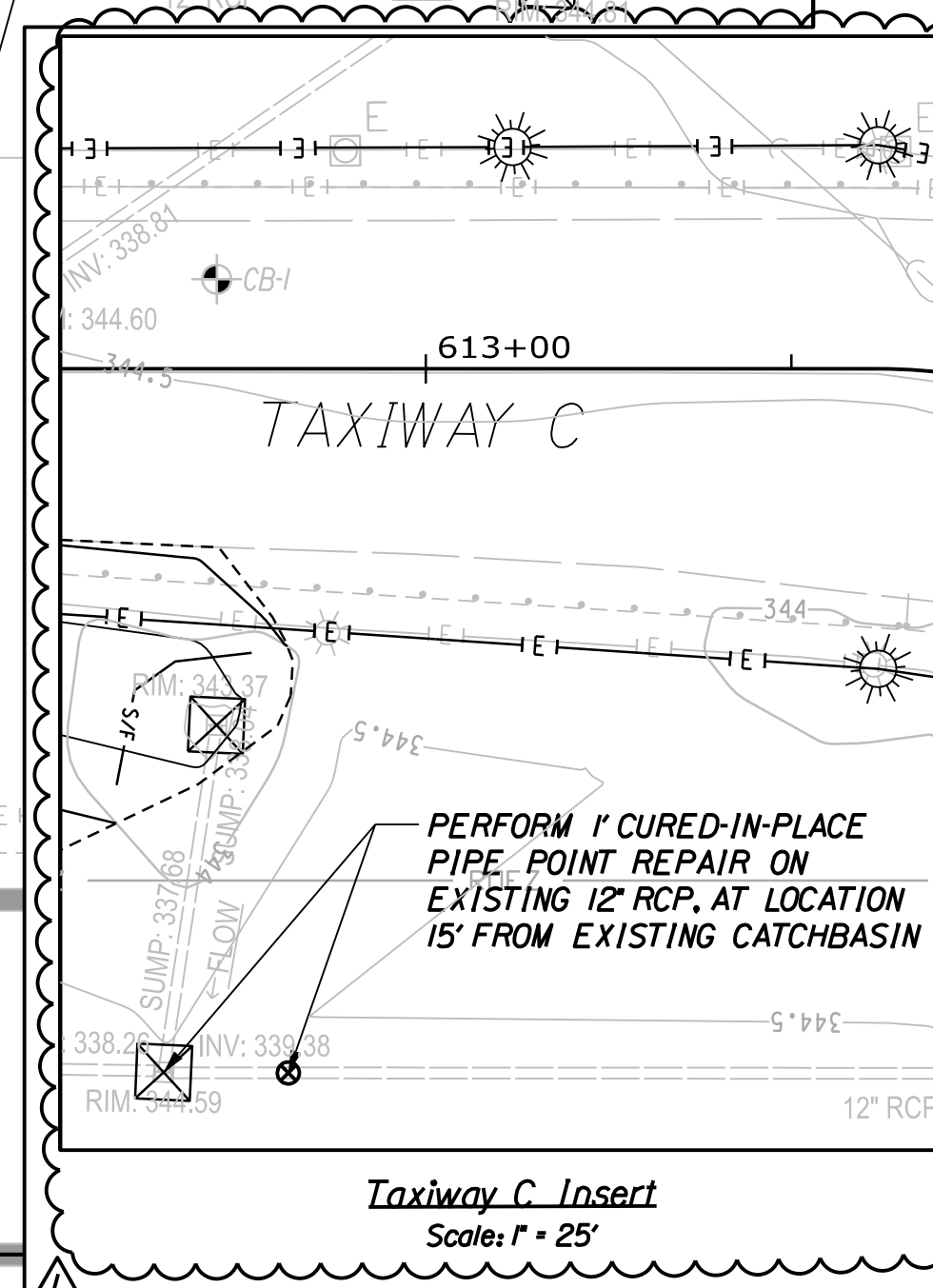
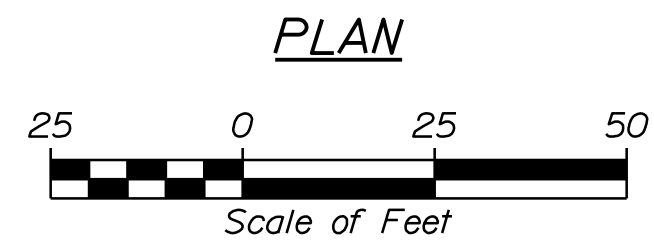
Username: dpatel

Division:

Filename: ... \Grading\_Erosion\_Control\_2.dgn



PLANS AND SPECIFICATIONS  
FOR BIDDING PURPOSES ONLY  
NOT TO BE USED FOR  
CONSTRUCTION



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		FAA AIP: 3-23-0003-XXX-2021		WIN 020655.03	
AUGUSTA STATE AIRPORT BID DOCUMENTS		KENNEBEC COUNTY		AVIATION PLANS	
PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	DATE
CHECKED/REVIEWED		T. LESIEGE		MATTHEW I. O'BRIEN	
DESIGNS DET/TAILED		M. O'BRIEN			
DESIGNS DET/TAILED		R. LUCHINI			
REVISIONS 1		APPENDIX 2		P.E. NUMBER	
REVISIONS 2		R. LUCHINI		04-23-21	
REVISIONS 3				DATE	
REVISIONS 4					
FIELD CHANGES					
AUGUSTA		AUGUSTA STATE AIRPORT		SHEET NUMBER	
GRADING, DRAINAGE AND EROSION CONTROL PLAN (2 OF 3)		28		OF 62	

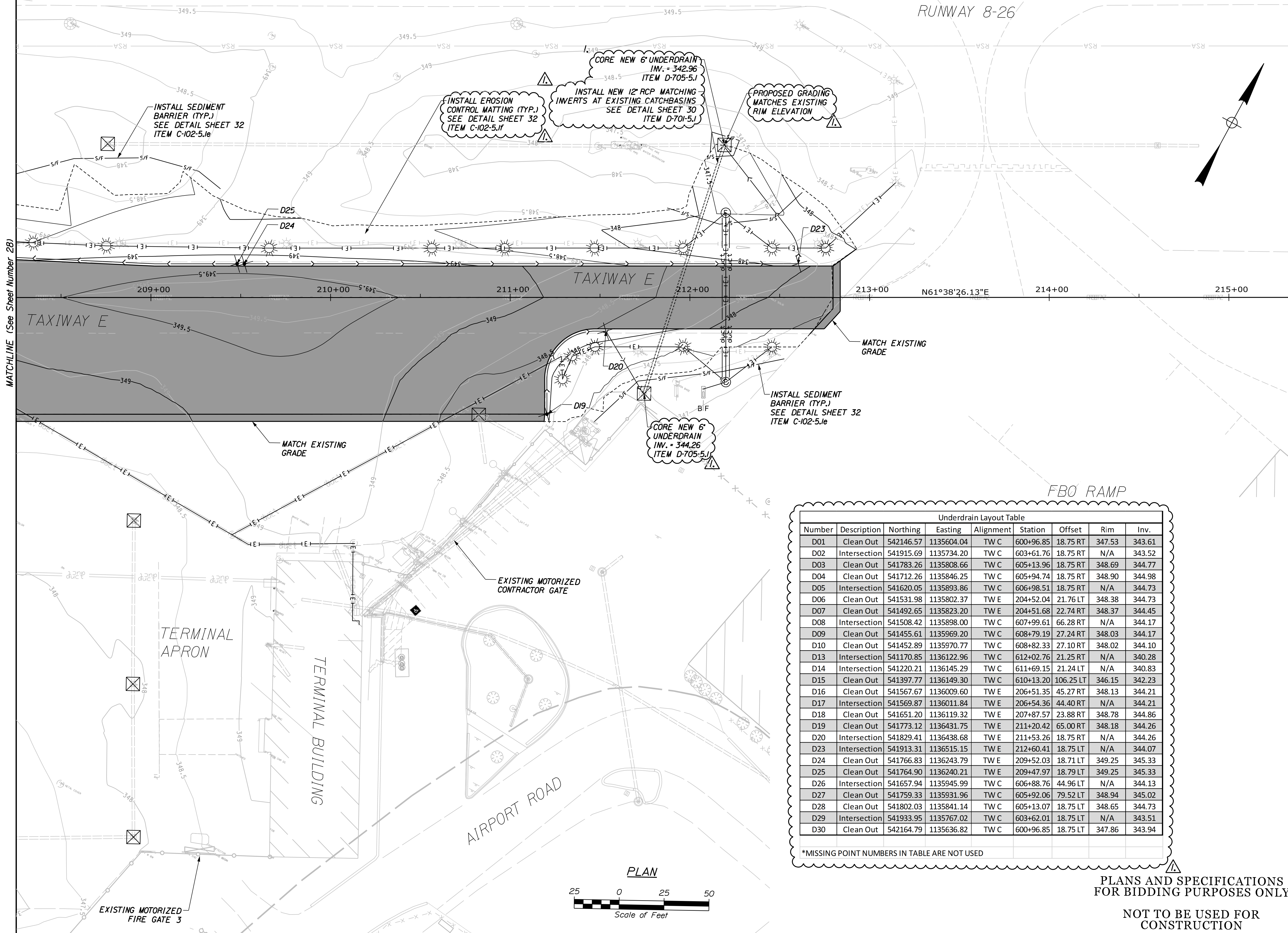
Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Grading\_Erosion\_Control\_3.dgn

MATCHLINE (See Sheet Number 28)



RUNWAY 8-26

TAXIWAY E

FBO RAMP

TERMINAL APRON

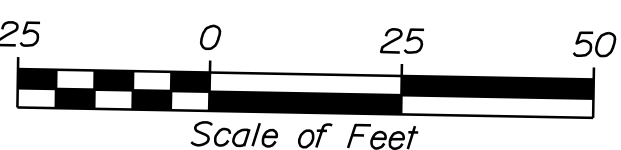
TERMINAL BUILDING

AIRPORT ROAD

EXISTING MOTORIZED CONTRACTOR GATE

EXISTING MOTORIZED FIRE GATE 3

PLAN



Underdrain Layout Table								
Number	Description	Northing	Easting	Alignment	Station	Offset	Rim	Inv.
D01	Clean Out	542146.57	1135604.04	TW C	600+96.85	18.75 RT	347.53	343.61
D02	Intersection	541915.69	1135734.20	TW C	603+61.76	18.75 RT	N/A	343.52
D03	Clean Out	541783.26	1135808.66	TW C	605+13.96	18.75 RT	348.69	344.77
D04	Clean Out	541712.26	1135846.25	TW C	605+94.74	18.75 RT	348.90	344.98
D05	Intersection	541620.05	1135893.86	TW C	606+98.51	18.75 RT	N/A	344.73
D06	Clean Out	541531.98	1135802.37	TW E	204+52.04	21.76 LT	348.38	344.73
D07	Clean Out	541492.65	1135823.20	TW E	204+51.68	22.74 RT	348.37	344.45
D08	Intersection	541508.42	1135898.00	TW C	607+99.61	66.28 RT	N/A	344.17
D09	Clean Out	541455.61	1135969.20	TW C	608+79.19	27.24 RT	348.03	344.17
D10	Clean Out	541452.89	1135970.77	TW C	608+82.33	27.10 RT	348.02	344.10
D13	Intersection	541170.85	1136122.96	TW C	612+02.76	21.25 RT	N/A	340.28
D14	Intersection	541220.21	1136145.29	TW C	611+69.15	21.24 LT	N/A	340.83
D15	Clean Out	541397.77	1136149.30	TW C	610+13.20	106.25 LT	346.15	342.23
D16	Clean Out	541567.67	1136009.60	TW E	206+51.35	45.27 RT	348.13	344.21
D17	Intersection	541569.87	1136011.84	TW E	206+54.36	44.40 RT	N/A	344.21
D18	Clean Out	541651.20	1136119.32	TW E	207+87.57	23.88 RT	348.78	344.86
D19	Clean Out	541773.12	1136431.75	TW E	211+20.42	65.00 RT	348.18	344.26
D20	Intersection	541829.41	1136438.68	TW E	211+53.26	18.75 RT	N/A	344.26
D23	Intersection	541913.31	1136515.15	TW E	212+60.41	18.75 LT	N/A	344.07
D24	Clean Out	541766.83	1136243.79	TW E	209+52.03	18.71 LT	349.25	345.33
D25	Clean Out	541764.90	1136240.21	TW E	209+47.97	18.79 LT	349.25	345.33
D26	Intersection	541657.94	1135945.99	TW C	606+88.76	44.96 LT	N/A	344.13
D27	Clean Out	541759.33	1135931.96	TW C	605+92.06	79.52 LT	348.94	345.02
D28	Clean Out	541802.03	1135841.14	TW C	605+13.07	18.75 LT	348.65	344.73
D29	Intersection	541933.95	1135767.02	TW C	603+62.01	18.75 LT	N/A	343.51
D30	Clean Out	542164.79	1135636.82	TW C	600+96.85	18.75 LT	347.86	343.94

\*MISSING POINT NUMBERS IN TABLE ARE NOT USED

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 FAA AIP: 3-23-0003-XXX-2021  
 AVIATION PLANS  
 WIN 020655.03



PROJ. MANAGER: T. LESIGE  
 CHECKED/REVIEWED: M. O'BRIEN  
 DESIGNED/DETAILED: R. LUCHINI  
 SIGNATURE: MATTHEW T. O'BRIEN  
 P.E. NUMBER: 12842  
 DATE: 04-12-2021

PROJ. MANAGER	DATE	BY	T. LESIGE
DESIGNED/DETAILED			M. O'BRIEN
CHECKED/REVIEWED			M. O'BRIEN
DESIGNED/DETAILED			R. LUCHINI
REVISIONS 1			ADDENDUM 2 R. LUCHINI
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

AUGUSTA STATE AIRPORT  
 BID DOCUMENTS  
 KENNEBEC COUNTY  
 AUGUSTA  
 GRADING, DRAINAGE AND  
 EROSION CONTROL PLAN (3 OF 3)

SHEET NUMBER

29

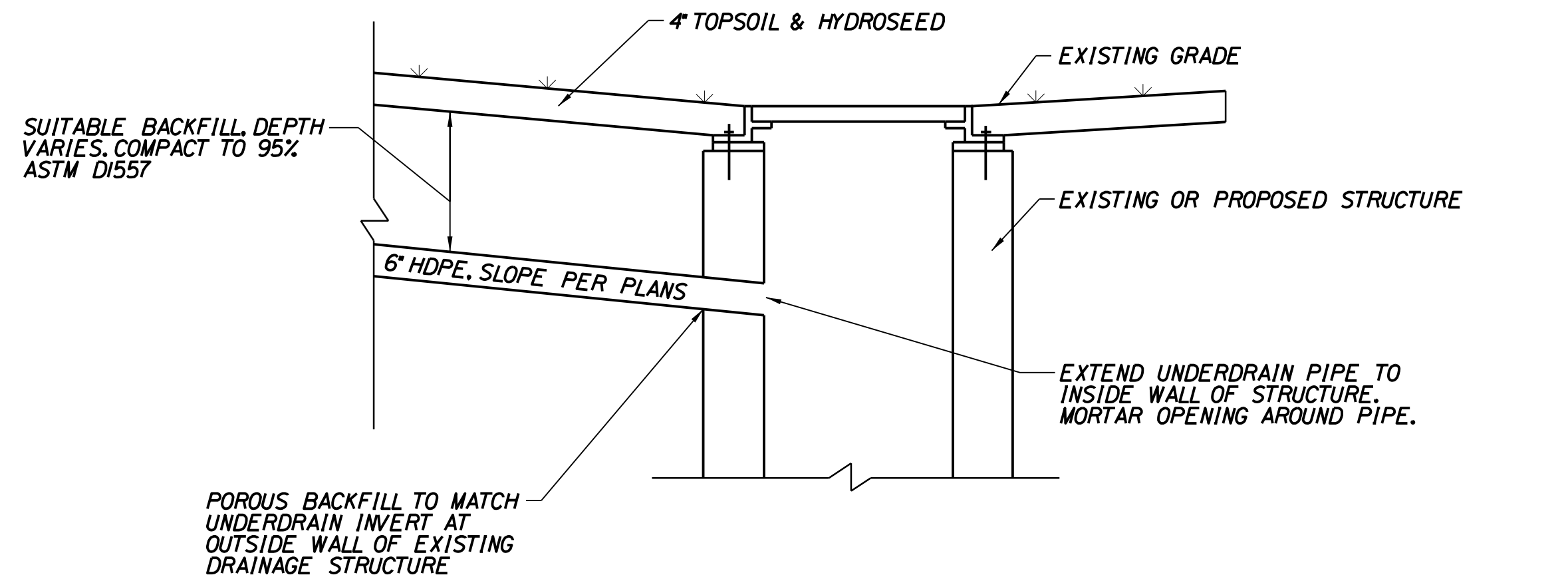
OF 62

Date: 4/23/2021

Username: dpatel

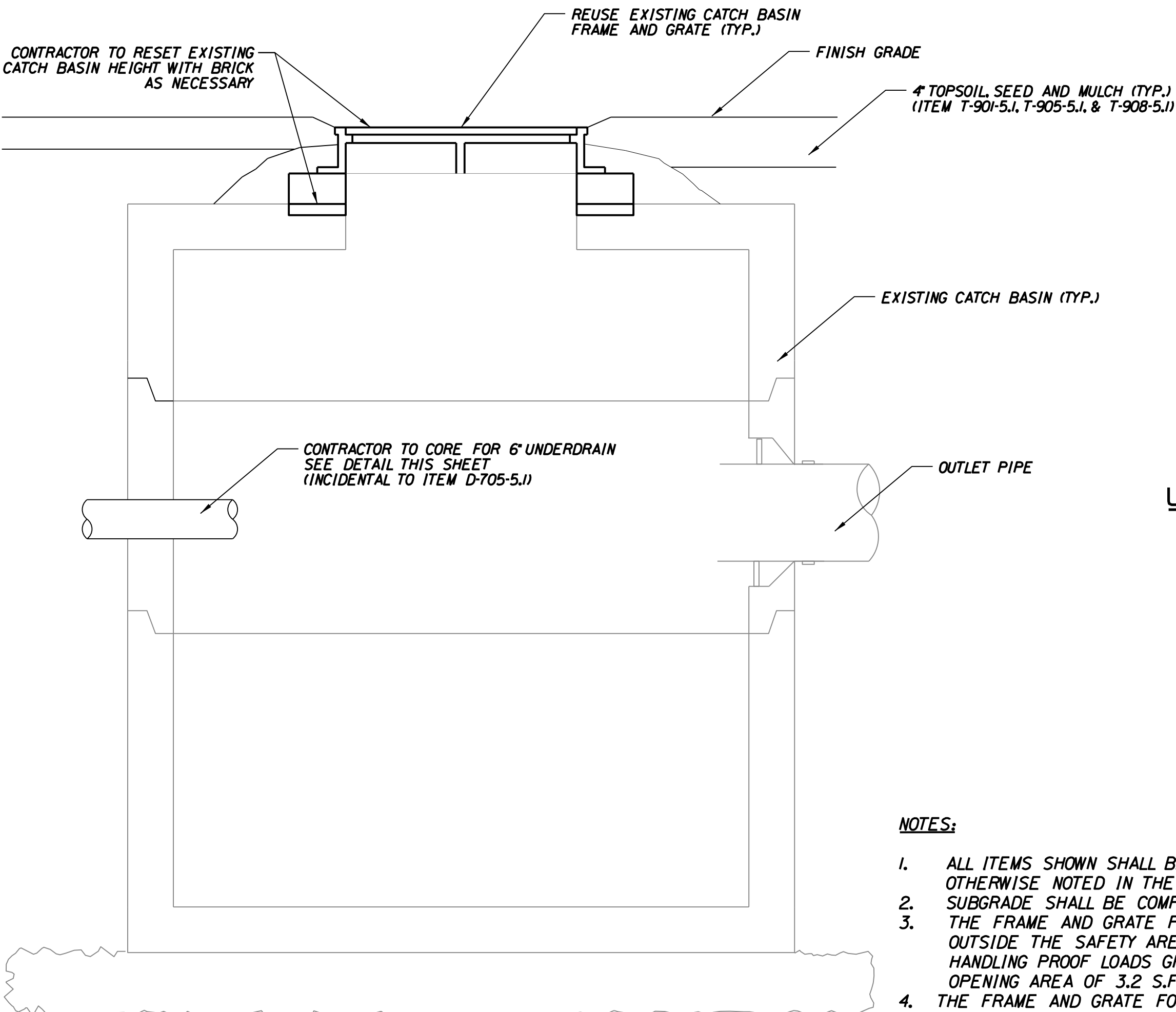
Division:

Filename: ... \Drain\_Eros\_Details\_1.dgn

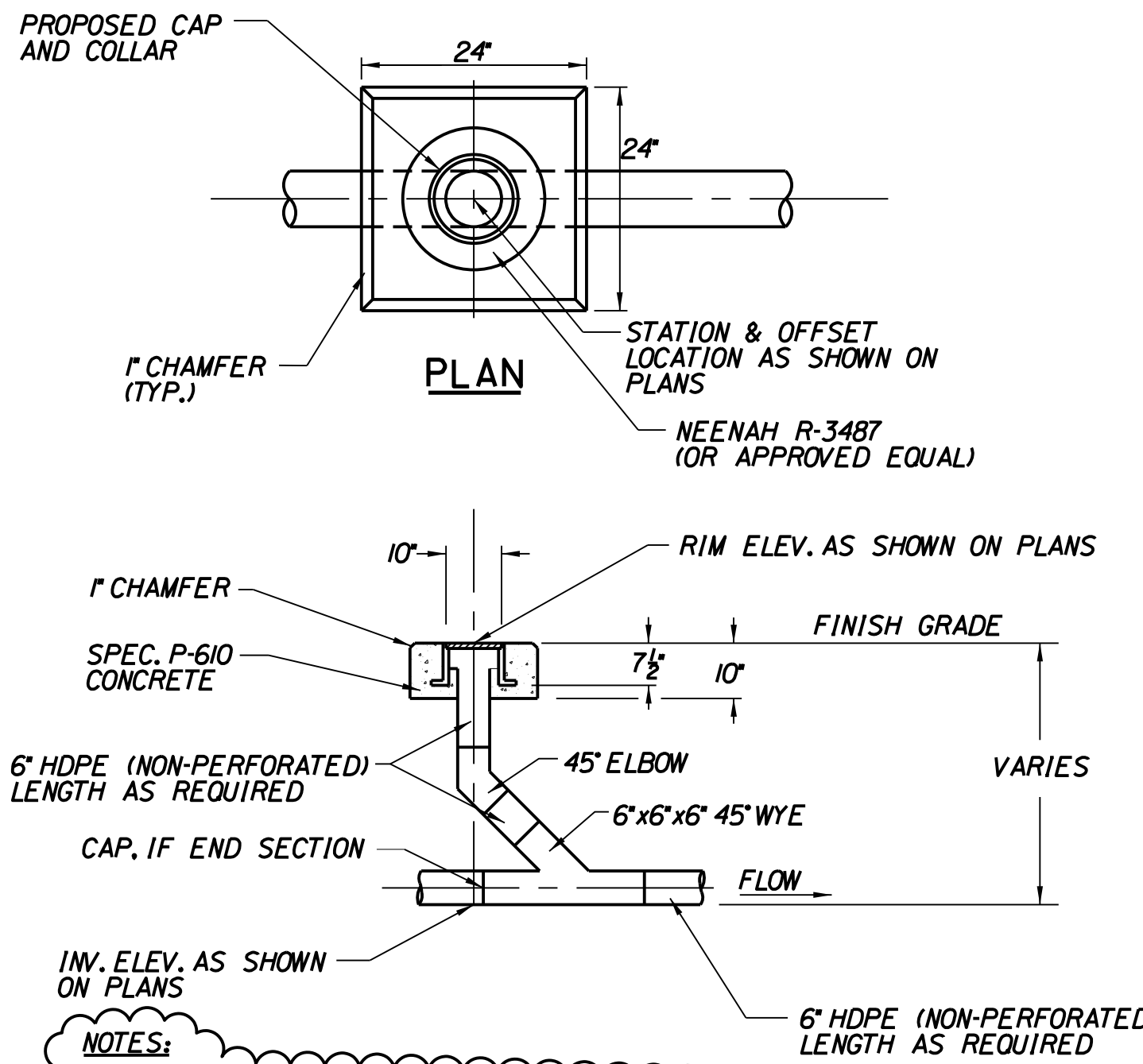


- NOTES:
1. WHEN UNDERDRAIN TERMINATES AT STRUCTURE THE PIPE SHALL BE PLACED SO THAT IT PENETRATES THE FULL WALL OF THE STRUCTURE AND MORTAR PLACED AT ALL VOIDS.
  2. ALL WORK ASSOCIATED WITH OUTLETTING UNDERDRAIN TO DRAINAGE STRUCTURE SHALL BE INCLUDED IN ITEM D-705-5.1.
  3. CONTRACTOR SHALL VERIFY OUTLET ELEVATION & CONSTRUCTABILITY PRIOR TO INSTALLING UNDERDRAIN.

**UNDERDRAIN TIE-IN DETAIL**  
(ITEM D-705-5.1)  
NOT TO SCALE

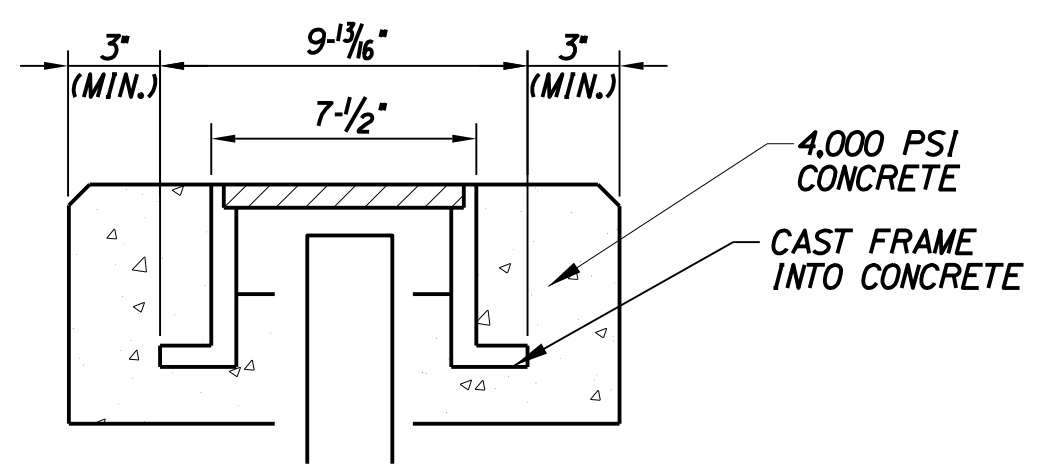


**EXISTING CATCH BASIN RIM ADJUSTMENT DETAIL**  
N.T.S.  
(INCIDENTAL TO ITEM D-700-3)

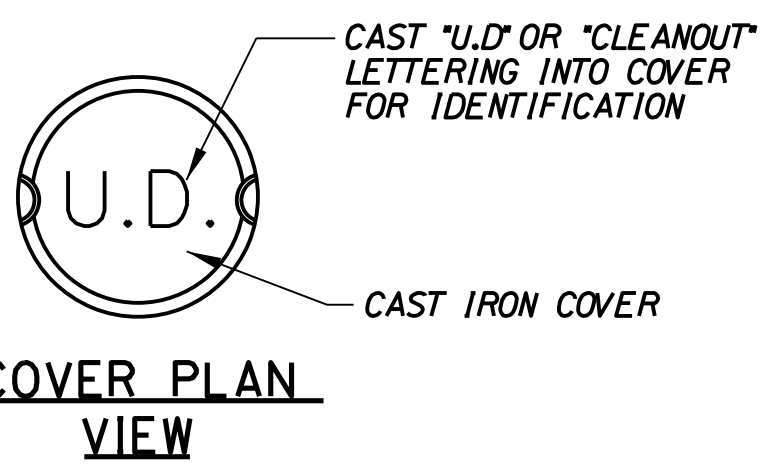


- NOTES:
1. ALL ITEMS SHOWN SHALL BE CONSIDERED INCIDENTAL UNLESS OTHERWISE NOTED IN THE DETAIL.
  2. SUBGRADE SHALL BE COMPACTED TO 95% OF ASTM D698.
  3. THE FRAME AND GRATE FOR ALL UNDERDRAIN CLEAN OUTS LOCATED OUTSIDE THE SAFETY AREA SHALL BE EXTRA HEAVY DUTY (CAPABLE OF HANDLING PROOF LOADS GREATER THAN 100,000 LBS.)

**UNDERDRAIN CLEAN OUT DETAIL**  
(ITEM D-751-5.4)  
NOT TO SCALE



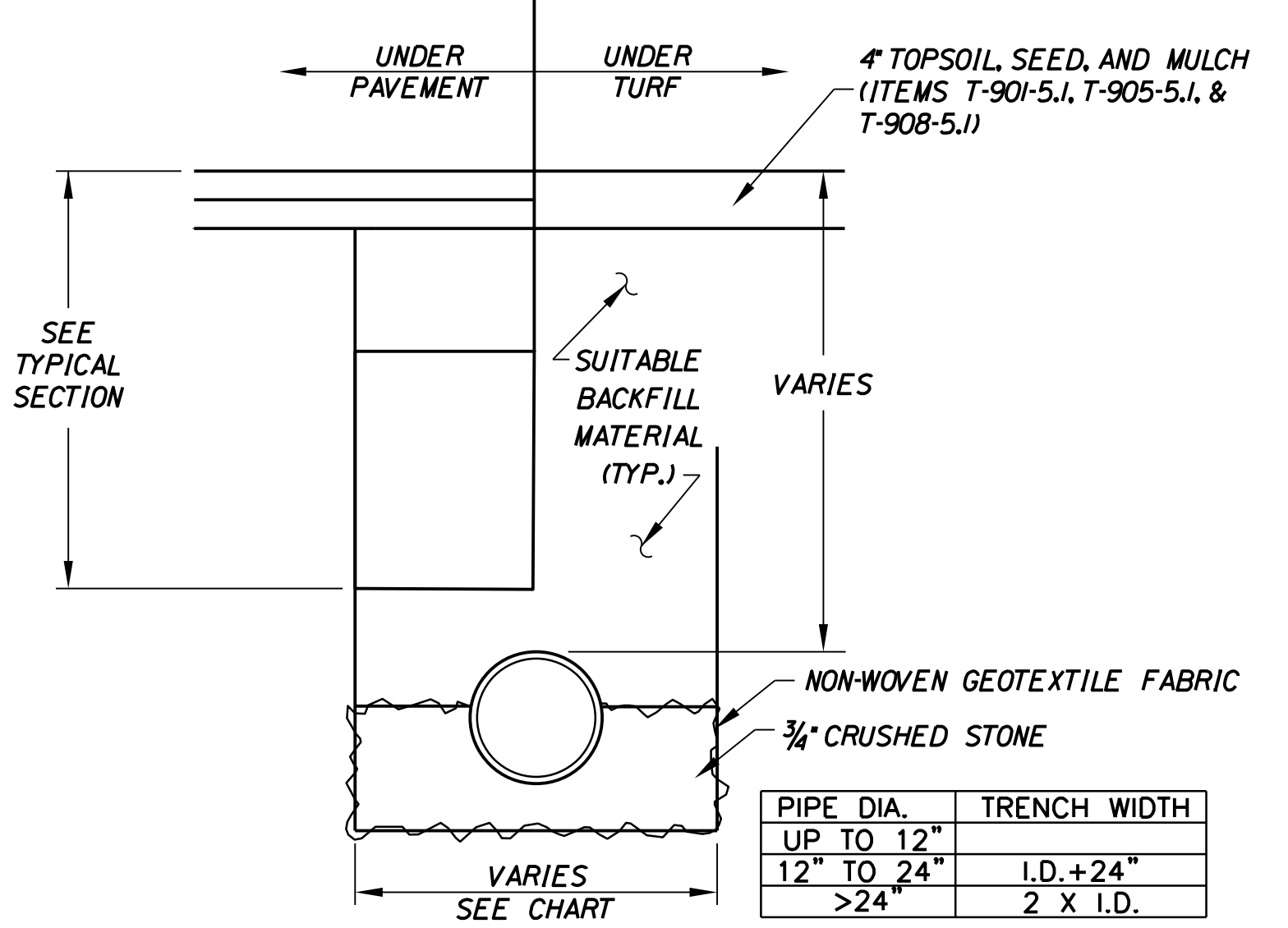
**UNDERDRAIN CLEANOUT COVER DETAIL**  
(ITEM D-751-5.4)  
NOT TO SCALE



- NOTES:
1. ALL ITEMS SHOWN SHALL BE CONSIDERED INCIDENTAL UNLESS OTHERWISE NOTED IN THE DETAIL.
  2. SUBGRADE SHALL BE COMPACTED TO 95% OF ASTM D698.
  3. THE FRAME AND GRATE FOR ALL AIRFIELD CATCH BASINS LOCATED OUTSIDE THE SAFETY AREA SHALL BE EXTRA HEAVY DUTY (CAPABLE OF HANDLING PROOF LOADS GREATER THAN 100,000 LBS.) AND A MINIMUM OPENING AREA OF 3.2 S.F.
  4. THE FRAME AND GRATE FOR ALL AIRFIELD CATCH BASINS LOCATED INSIDE THE SAFETY AREA SHALL BE AIRCRAFT LOADING R-3475 (OR APPROVED EQUAL), AND A MINIMUM OPENING OF 2.7 S.F.

**PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY**

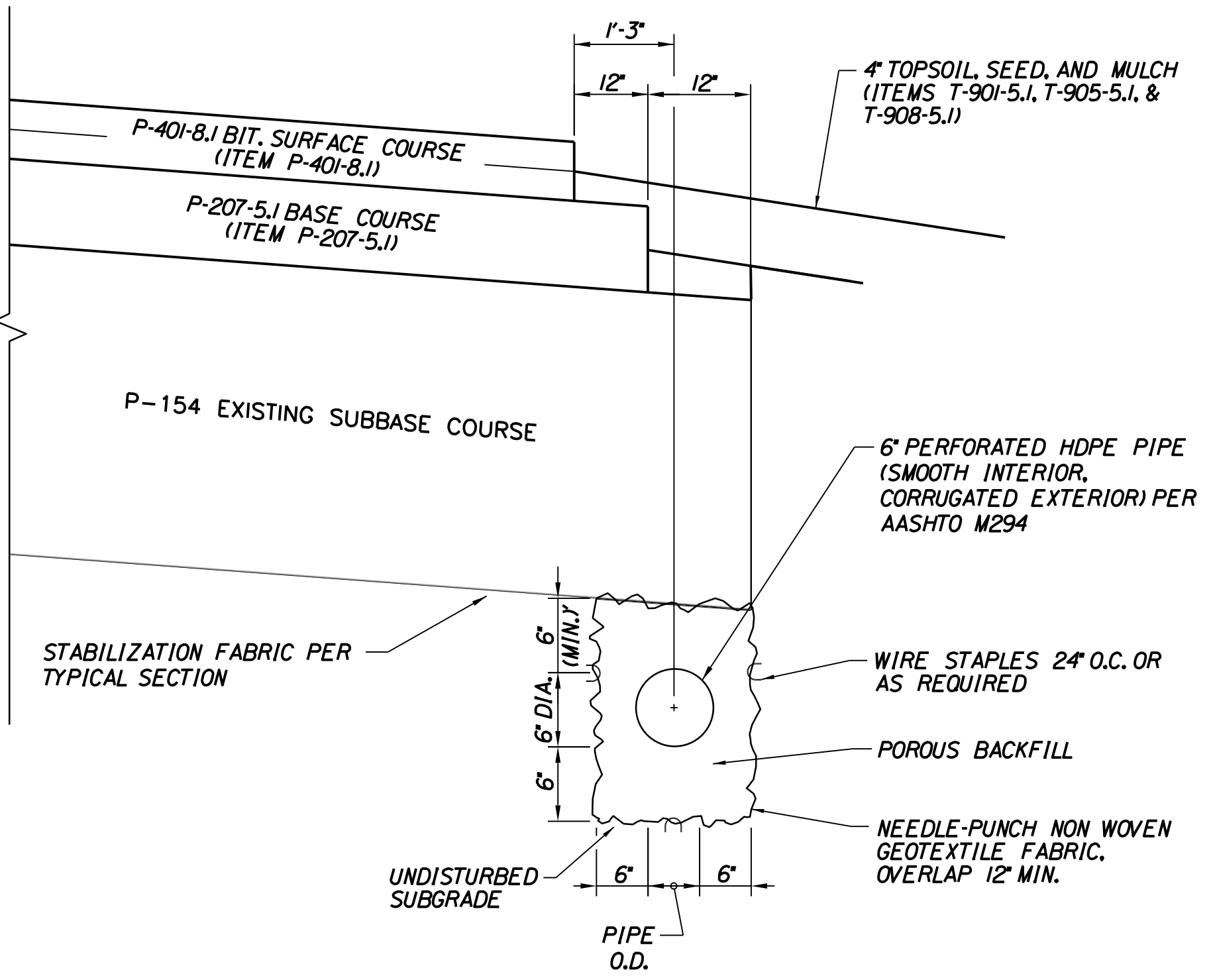
NOT TO BE USED FOR CONSTRUCTION



- NOTES:
1. CONTRACTOR SHALL SHORE TRENCH SIDES AS REQUIRED.
  2. CONTRACTOR SHALL DEWATER TRENCH EXCAVATION AS REQUIRED.
  3. CONTRACTOR SHALL COMPACT THE EXCAVATED SUBGRADE TO 95% OF ASTM D-698 UNDER TURF AND 100% OF ASTM D-1557 UNDER PAVEMENT AND WITHIN 10' OF ALL EDGES OF PAVEMENT EVEN IN TURF.

**DRAIN PIPE TRENCH DETAIL**  
(ITEM D-701-5.1)  
NOT TO SCALE

PIPE SHALL BE INSTALLED IN THE CENTER OF THE TRENCH. WORK INCLUDES DEWATERING AS NECESSARY. ALL WORK DESCRIBED IN THIS DETAIL TO BE PAID UNDER ITEM D-701-5.1.



**UNDERDRAIN DETAIL**  
(ITEM D-705-5.1)  
NOT TO SCALE

ALL COSTS ASSOCIATED WITH UNDERDRAIN INSTALLATION INCLUDING OUTLETS, CONNECTION TO STRUCTURE AND END SECTIONS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM D-705-5.1.  
ALL UNDERDRAIN PIPE TO BE SMOOTH INTERIOR/CORRUGATED EXTERIOR HDPE. TUBING IS NOT ALLOWED.



PROJ. MANAGER: T. LESIEGE  
DESIGN-DETAILED: M. OBRIEN  
CHECKED-REVIEWED: M. OBRIEN  
DESIGN-DETAILED: R. LUCHINI  
DESIGN-DETAILED: R. LUCHINI  
REVISIONS 1: APPENDIX 2  
REVISIONS 2: R. LUCHINI  
REVISIONS 3: R. LUCHINI  
REVISIONS 4: R. LUCHINI  
FIELD CHANGES: R. LUCHINI

DATE: 04-12-2021  
SIGNATURE: MATTHEW T. OBRIEN  
P.E. NUMBER: 12842

SHEET NUMBER

30

OF 62

EROSION CONTROL SPECIFICATIONS FOR UPLAND AREAS:

- SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN ACCORDANCE WITH MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS, MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPS), AND ANY FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.
- RECOGNIZING THAT IMMEDIATE ATTENTION TO EROSION CONTROL PRACTICES DRAMATICALLY IMPROVES SOIL AND MOISTURE CONSERVATION AND REDUCES NEGATIVE IMPACTS ON WATER QUALITY, THE CONTRACTOR SHALL GIVE HIGH PRIORITY TO THE DAILY AND TIMELY INSTALLATION OF BOTH TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES. IMMEDIATE INSTALLATION OF PRACTICES USUALLY REDUCES LONG TERM COSTS TO THE CONTRACTOR.
- EROSION CONTROL PRACTICES ARE SHOWN ON THE PLANS WITH RESPECT TO LOCATION AS DETERMINED FROM EXISTING TOPOGRAPHY. CHANGES MAY BE INDICATED IN THE FIELD TO IMPROVE EROSION AND SEDIMENT CONTROL.
- CONSTRUCTION SHALL PROCEED UNIT BY UNIT TO FACILITATE INSTALLATION OF EROSION CONTROL MEASURES AND THE COMPLETION OF GRADING, SEEDING, AND LANDSCAPING AS SOON AS POSSIBLE WITHIN A UNIT. THIS PROCEDURE SHOULD RESULT IN THE EXPOSURE OF THE SMALLEST PRACTICAL LAND AREA AT ANY ONE TIME.
- ALL DISTURBED UPLAND AREAS SHALL HAVE TOPSOIL SPREAD (4" MINIMUM (REFER TO PLANS) WITHIN TWO WEEKS AND BE LIMED, FERTILIZED, TILLED, SEEDED AND MULCHED. ALL SLOPES 3:1 (1 RISE ON 3 RUN) AND STEEPER SHALL HAVE MULCH HELD IN PLACE WITH BIODEGRADABLE JUTE NETTING OR EROSION CONTROL BLANKET, STAPLED AND STAKED. EACH AREA SHALL BE LIMED, FERTILIZED, PREPARED, SEEDED AND MULCHED (WITH ANCHORED NETTING OR BLANKET IF REQUIRED) WITHIN 14 DAYS OF FINAL GRADING. WHEN PERMANENT SEEDING CANNOT BE INSTALLED BY SEPTEMBER 15, TEMPORARY SEEDING AND MULCHING OF ALL DISTURBED AREAS SHALL BE INSTALLED IMMEDIATELY AND MAINTAINED IN THAT CONDITION UNTIL PERMANENT PRACTICES CAN BE INSTALLED IN THE FOLLOWING PLANTING SEASON.
- TEMPORARY STABILIZATION OF DISTURBED UPLAND AREAS (IF REQUIRED):  
 SEEDBED PREPARATION: TILL FOUR INCHES DEEP MIXING IN FERTILIZER AND GROUND LIMESTONE.  
 APPLY LIMESTONE 2 TONS/ACRE (100#/1,000 SQ. FT.) OR ACCORDING TO SOIL TEST.  
  
 FERTILIZE: UNIFORMLY APPLY NOT LESS THAN 400#/ACRE (14#/1,000 SQ. FT.) OF 10-10-10 OR EQUIVALENT OR AS INDICATED BY SOIL TEST. FORTY PERCENT OF NITROGEN SHOULD BE IN ORGANIC FORM.  
  
 TEMPORARY SEEDING: SELECT APPROPRIATE SEEDING MIXTURE FROM TABLE 1. SPREAD SEED UNIFORMLY. FIRM SOIL BY ROLLING OR PACKING; IF NOT FEASIBLE, THEN RAKE LIGHTLY TO COVER SEEDS.  
  
 MULCHING: MULCH ALL DISTURBED AREAS WITH 2 TONS OF HAY OR STRAW PER ACRE (90-100#/1,000 SQ. FT.). ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND FLATTER SLOPES SUBJECT TO WASH OR WIND BLOWN. USE JUTE (OR OTHER BIODEGRADABLE) NETTING OR BLANKET. STAKING AND STAPLING MAY BE REQUIRED.
- OVERWINTER STABILIZATION OF DISTURBED UPLAND AREAS:
  - IF CONSTRUCTION OCCURS AFTER NOVEMBER 1ST, ALL DISTURBED AREAS SHOULD BE STABILIZED DAILY IF THE CONSTRUCTION IS ACTIVE. ANY EROSION OR DISCHARGES SHOULD BE REPAIRED IMMEDIATELY.
  - NO MORE THAN 1 ACRE SHOULD BE ACTIVELY WORKED ON AT ANY ONE TIME WITHOUT REGULAR INSPECTION; OR THE EXPOSED AREA SHOULD BE LIMITED TO WHICH CAN BE MULCHED IN ONE DAY. ANY MEASURES NECESSARY TO CONTROL EROSION/SEDIMENTATION SHOULD BE INSTALLED FOR THE CONDITIONS AT THE SITE (SOIL ERODIBILITY, SLOPE, GROUNDWATER, SIZE, WEATHER CONDITIONS, ETC.)
  - FOR OVER-WINTER PROTECTION, A DOUBLE ROW OF SEDIMENT BARRIERS (SILT FENCE BACKED WITH HAY BALES OR EROSION CONTROL MIX, ETC.) SHOULD BE PLACED WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE.
  - ALL HAY MULCH SHOULD BE ANCHORED WITH NETTING, ASPHALT EMULSION CHEMICALS, TRACKING OR EROSION CONTROL MIX AFTER NOVEMBER 1ST. THE GROUND SURFACE SHOULD BE INVISIBLE UNDER THE MULCH.

- LOAM OR SEED IS NOT EFFECTIVE AFTER OCTOBER 15. FINISHED AREAS CAN BE MULCHED WITHOUT SEEDING OR WITH DORMANT SEEDING APPLIED AT A 3 TIMES THE SPECIFIED RATE FOR PERMANENT SEEDING. ALL AREAS SEEDED DURING THE WINTER SHOULD BE INSPECTED IN THE SPRING AND REVEGETATED IF THE CATCH IS LESS THAN 75%.
- ALL VEGETATED AREAS WITH A SLOPE OF 15% OR LESS SHOULD HAVE 90% GRASS COVER BY NOVEMBER 1ST OR SHOULD BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SF, MULCHED WITH HAY AT 75 POUNDS PER 1000 SF, AND ANCHORED WITH NETTING. OR BY NOVEMBER 15 THE AREA SHOULD BE PROTECTED WITH AN EROSION CONTROL BLANKET, EROSION CONTROL MIX, OR HAY AT A RATE OF AT LEAST 150 POUND PER 1000 SF.
- ALL VEGETATED SLOPES GREATER THAN 15%, SHOULD BE SEEDED AND MULCHED BY SEPTEMBER 1. IF A SLOPE IS NOT STABILIZED BY OCTOBER 15, THE SOIL MAY BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SF AND PROTECTED WITH EROSION CONTROL BLANKETS. IF THE RYE FAILS TO GROW THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 15 THE SLOPE SHOULD BE PROTECTED WITH AN EROSION CONTROL BLANKET, EROSION CONTROL MIX, OR RIPRAP.
- ALL GRASS LINED DITCHES AND CHANNELS SHOULD BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A DITCH OR CHANNEL IS NOT SUFFICIENTLY GRASSED OVER (75% COVER) BY NOVEMBER 15TH, THE DITCH SHOULD BE LINED WITH STONE RIPRAP. THE DITCH WILL NEED TO BE OVER-EXCAVATED TO ACCOMMODATE THE THICKNESS OF THE RIPRAP.
- SOIL STOCKPILES SHOULD BE MULCHED FOR WINTER PROTECTION WITH HAY AT TWICE THE NORMAL RATE OR WITH A FOUR INCH LAYER OF "EROSION CONTROL MIX". STOCKPILES SHOULD NOT BE LEFT OVERWINTER (EVEN MULCHED) IF WITHIN 100 FEET FROM A PROTECTED RESOURCE.

- PERMANENT STABILIZATION OF DISTURBED UPLAND AREAS:  
 SEED BED PREPARATION: TOPSOIL (SANDY TOPSOIL, TOPSOIL, OR SILT TOPSOIL), FRIABLE, FREE OF TREE ROOTS, WEEDS, STONES MORE THAN 1-1/2 INCHES IN DIAMETER OR LENGTH SHALL BE PLACED OVER ALL DISTURBED AREAS IN A 4" MINIMUM (REFER TO PLANS) THICK LAYER.

TOPSOIL: TOPSOIL SHALL BE FREE OF HERBICIDES AND TOXIC MATERIALS. TILL THREE TO FIVE INCHES DEEP MIXING IN THE FERTILIZER AND LIME. APPLY LIME AND FERTILIZER ACCORDING TO SOIL TEST AND CURRENT EXTENSION SERVICE RECOMMENDATIONS. IN ABSENCE OF A SOIL TEST, APPLY LIME (A PH OF 5.5-6.0 IS DESIRED) AT A RATE OF 2.5 TONS PER ACRE AND 10-20-20 ANALYSIS FERTILIZER AT A RATE OF 500# PER ACRE (40% OF NITROGEN TO BE IN AN ORGANIC OR SLOW-RELEASE FORM).

SEEDING; RECOMMENDED SEED MIXES:

A. MAINE DOT 717.03 METHOD #1 - PARK MIXTURE	LBS/ACRE	LBS/1000 SF
CREeping RED FESCUE	45% +/- 4%	
KENTUCKY BLUEGRASS	25% +/- 4%	
CHEWING FESCUE	15% +/- 4%	
PERENNIAL RYEGRASS	10% +/- 2%	
ANNUAL RYEGRASS	5% +/- 2%	
TOTALS -	100	4.00

SEEDING METHODS: SEEDING SHOULD BE PERFORMED BY THE FOLLOWING METHOD:  
 HYDROSEEDING WITH SUBSEQUENT TRACKING.  
 TRACKING THE SEEDING WITH SMALL TRACK CONSTRUCTION EQUIPMENT SHOULD BE ORIENTED UP AND DOWN THE SLOPE.

MULCHING: MULCH ALL DISTURBED AREAS WITH 2 TONS OF HAY OR STRAW PER ACRE (90 - 100#/1,000 SQ. FT.). ANCHOR ON ALL SLOPES 3:1 OR STEEPER AND ON FLATTER SLOPES SUBJECT TO WASH (WATERWAYS AND/OR WINDBLOWN) USING JUTE (OR OTHER BIODEGRADABLE) NETTING OR EROSION CONTROL BLANKET, STAKING, AND STAPLING.

MAINTENANCE: INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEED IMMEDIATELY. CONDUCT A FOLLOW-UP SURVEY AFTER ONE YEAR AND REPLACE FAILED PLANTS WHERE NECESSARY. IF VEGETATIVE COVER IS INADEQUATE TO PREVENT EROSION, OVERSEED AND FERTILIZE IN ACCORDANCE WITH SOIL TEST RESULTS. IF A STAND HAS LESS THAN 40% COVER, REEVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. RE-ESTABLISH THE STAND FOLLOWING SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS, OMITTING LIME AND FERTILIZER IN THE ABSENCE OF SOIL TEST RESULTS. IF THE SEASON PREVENTS RESOWING, MULCH OR JUTE NETTING IS AN EFFECTIVE TEMPORARY COVER. SEEDED AREAS SHOULD BE FERTILIZED DURING THE SECOND GROWING SEASON. LIME AND FERTILIZE THEREAFTER AT PERIODIC INTERVALS, AS NEEDED.

TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.

- MAINTENANCE: DURING THE CONSTRUCTION PERIOD AND UNTIL SUCH TIME AS THE LONG TERM VEGETATION IS ESTABLISHED TO A 70% VEGETATIVE STAND.
  - DISTURBED AREAS WILL BE FERTILIZED AND RESEED.
  - CATCH BASINS AND FILTER BAGS WILL BE CHECKED AND CLEANED AS NECESSARY.
  - DRAINAGE AND GRASS TREATMENT SWALES SHALL BE CHECKED FREQUENTLY AND CLEANED AS REQUIRED.
  - THE SILT FENCES WILL BE CHECKED ON A REGULAR BASIS AND REPAIRED AS NECESSARY TO CORRECT ANY DAMAGE, DETERIORATION, AND SHORT-CIRCUITING.
- REFER TO "GRADING PLANS" FOR THIS PROJECT PRIOR TO ANY SITE DISTURBANCE.
- INSPECTIONS: THE ENGINEER SHALL BE CONTACTED ON A REGULAR BASIS TO INSPECT ALL EROSION CONTROL PRACTICES AS WELL AS THE MAINTENANCE OF THE EROSION CONTROL COMPONENTS. REFER TO CONSTRUCTION SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. EROSION CONTROL PRACTICES SHALL BE IN STRICT ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
- THE MAXIMUM AMOUNT OF AREA TO BE DISTURBED AND UNSTABILIZED SHALL BE 5 ACRES AT ANY ONE TIME.
- THE MAXIMUM AMOUNT OF TIME ANY AREA MAY BE DISTURBED WITHOUT STABILIZATION SHALL BE 14 DAYS.

CONSTRUCTION SEQUENCE

- INSTALL INLET PROTECTION/FILTER BAGS AT ALL LOCATIONS INDICATED ON PLAN OR AT OTHER LOCATIONS AS DETERMINED BY ENGINEER. INSTALL OTHER TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL MEASURES AS EARTHWORK PROCEEDS.
- CONTRACTOR SHALL LEGALLY DISPOSE OF ALL SURPLUS UNCLASSIFIED EXCAVATION AT AN APPROVED LOCATION NOTED IN THE SPECIFICATIONS.
- RECLAIM EXISTING PAVEMENT AS REQUIRED.
- ADD SUPPLEMENTAL STONE AND CUT ROUGH GRADE.
- INSTALL ELECTRICAL AND DRAINAGE.
- PAVE NEW AREAS.
- GRADE AREA AS SHOWN ON PLANS AND LOAM, FERTILIZE AND SEED AREAS TO ESTABLISH VEGETATION.
- INSPECT ALL DISTURBED AREAS ON A DAILY BASIS. FOLLOWING THIS DAILY INSPECTION, INSTALL AS REQUIRED ANY AND ALL TEMPORARY DRAINAGE, EROSION, AND SEDIMENT CONTROL PRACTICES AS INDICATED, I.E., DIVERSION CHANNELS, BERMS, DRAINS, DITCHES, STONE DIKES, SILT FENCES, SEED AND MULCH OR OTHER PRACTICES AS RECOMMENDED AND SPECIFIED IN THE "MAINE EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES".
- CLEAN AND RESTORE SILT DESTINATION SITES. REMOVE OTHER EROSION CONTROL PRACTICES ON A TIMELY BASIS AS PERMANENT MEASURES TAKE HOLD. SPOT FERTILIZE, SEED, AND MULCH AS REQUIRED.
- INSPECT AND MAINTAIN GRADING, EROSION CONTROL AND SEDIMENT CONTROL PRACTICES WEEKLY AND IMMEDIATELY AFTER ALL SUBSTANTIAL STORMS.

EROSION CONTROL INSPECTION AND MAINTENANCE NOTES:

- THE CONTRACTOR IS RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION.
- CONSTRUCTION INSPECTIONS SHALL BE PERFORMED AT LEAST ONCE A WEEK AND BEFORE AND AFTER EACH SIGNIFICANT RAINFALL. A SIGNIFICANT RAINFALL EVEN IS MORE THAN 1/2" OF RAINFALL IN A 24-HOUR PERIOD.
- IF ANY CORRECTIVE ACTION IS REQUIRED, IT SHALL BEGIN BY THE END OF THE NEXT WORKDAY AND SHALL BE COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT, WHICHEVER COMES FIRST.
- THE CONTRACTOR SHALL DOCUMENT AND MAINTAIN RECORD OF FORMS DURING CONSTRUCTION. DOCUMENTATION OF CORRECTIVE ACTIONS DURING CONSTRUCTION SHALL BE MAINTAINED WITH THE PROPER INSPECTION FORMS AND FOR A MINIMUM OF THREE YEARS AFTER PERMANENT STABILIZATION HAS BEEN ACHIEVED.
- ALL CONSTRUCTION INSPECTIONS SHALL BE CONDUCTED BY SOMEONE WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING STANDS AND CONDITIONS IN THE PERMIT.
- THE SCOPE OF CONSTRUCTION INSPECTIONS SHALL INCLUDE DISTURBED AND IMPERVIOUS AREAS, MATERIAL STORAGE AREAS, AND VEHICLE ACCESS POINTS IN ADDITION TO ANY EROSION AND SEDIMENT CONTROL MEASURES.

OVERWINTER EROSION CONTROL MIX INSTALLATION

- CAN BE INSTALLED ON FROZEN GROUND, FORESTED AREAS, AND ON CUT AND FILL SLOPES.
- A THICKNESS OF 2 INCHES ON 3:1 SLOPES OR LESS SHALL BE APPLIED. AN ADDITIONAL 1/2 INCH PER 20 FEET OF SLOPE OR UP TO 4 INCHES FOR A 100 FOOT SLOPE.
- ON SLOPES GREATER THAN 3:1, 4 INCHES OR MORE OF MATERIAL IS RECOMMENDED; AND IF SLOPES ARE GREATER THAN 60 FEET LONG, 5 INCHES ARE NEEDED.
- EROSION CONTROL MIX IS NOT RECOMMENDED ON SLOPES GREATER THAN 1:1.
- THE MIX MUST BE DISTRIBUTED EVENLY WITH A HYDRAULIC BUCKET, PNEUMATIC BLOWER, OR BY HAND. OTHER REINFORCEMENT BMP'S (I.E. RIPRAP) SHOULD BE USED ON SLOPES WITH GROUNDWATER SEEPAGE, WITHIN DRAINAGE CHANNELS AND THEIR OUTLETS, OR IN GULLIES.

**TABLE 1 - TEMPORARY UPLAND STABILIZATION PLANT SELECTION AND SEEDING RATES**

SPECIES	PER ACRE	PER 1000 SQ.FT.	REMARKS
WINTER RYE	120 LBS.	3 LBS.	BEST FOR FALL SEEDING. SEED AUGUST 15 TO OCTOBER 15 FOR BEST COVER. SEED TO DEPTH OF ONE TO 1 1/2 INCHES.
OATS	2 1/2 BU OR 80 LBS.	2 LBS.	BEST FOR SPRING SEEDINGS. SEED BETWEEN APRIL 1 TO JULY 1 OR AUGUST 15 TO SEPTEMBER 15. SEED TO DEPTH OF ONE INCH.
ANNUAL RYE	40 LBS.	1 LB.	GROWS QUICKLY, BUT IS OF SHORT GRASS DURATION USE WHERE APPEARANCES ARE IMPORTANT. COVER SEED WITH NO MORE THAN 1/4 INCH OF SOIL. WITH MULCH, SEEDING MAY BE DONE THROUGHOUT GROWING SEASON. SEED BETWEEN APRIL 1 AND JUNE 1 OR AUGUST 15 & SEPTEMBER 15.
FOXTAIL MILLET	30 LBS.	0.7 LB.	MAY 1 TO JUNE 30. SEED TO DEPTH OF 1/2 TO 3/4 INCH.

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 FAA AIP: 3-23-0003-XXX-2021  
 WIN 020655.03  
 AVIATION PLANS

AUGUSTA STATE AIRPORT  
 BID DOCUMENTS  
 AUGUSTA  
 KENNEBEC COUNTY  
 DRAINAGE AND EROSION CONTROL DETAILS (2 OF 3)

SHEET NUMBER  
 31  
 OF 62

PROJ. MANAGER: T. LESIEGE  
 CHECKED: M. O'BRIEN  
 DESIGNED: R. LUCHINI  
 REVISIONS: 1, 2, 3, 4  
 FIELD CHANGES

DATE: 04-23-21  
 BY: R. LUCHINI  
 T. LESIEGE  
 M. O'BRIEN  
 R. LUCHINI  
 APPENDIX 2  
 P.E. NUMBER: 04-12-2021  
 DATE

MATTHEW T. O'BRIEN  
 SIGNATURE: 12842  
 P.E. NUMBER: 04-12-2021  
 DATE

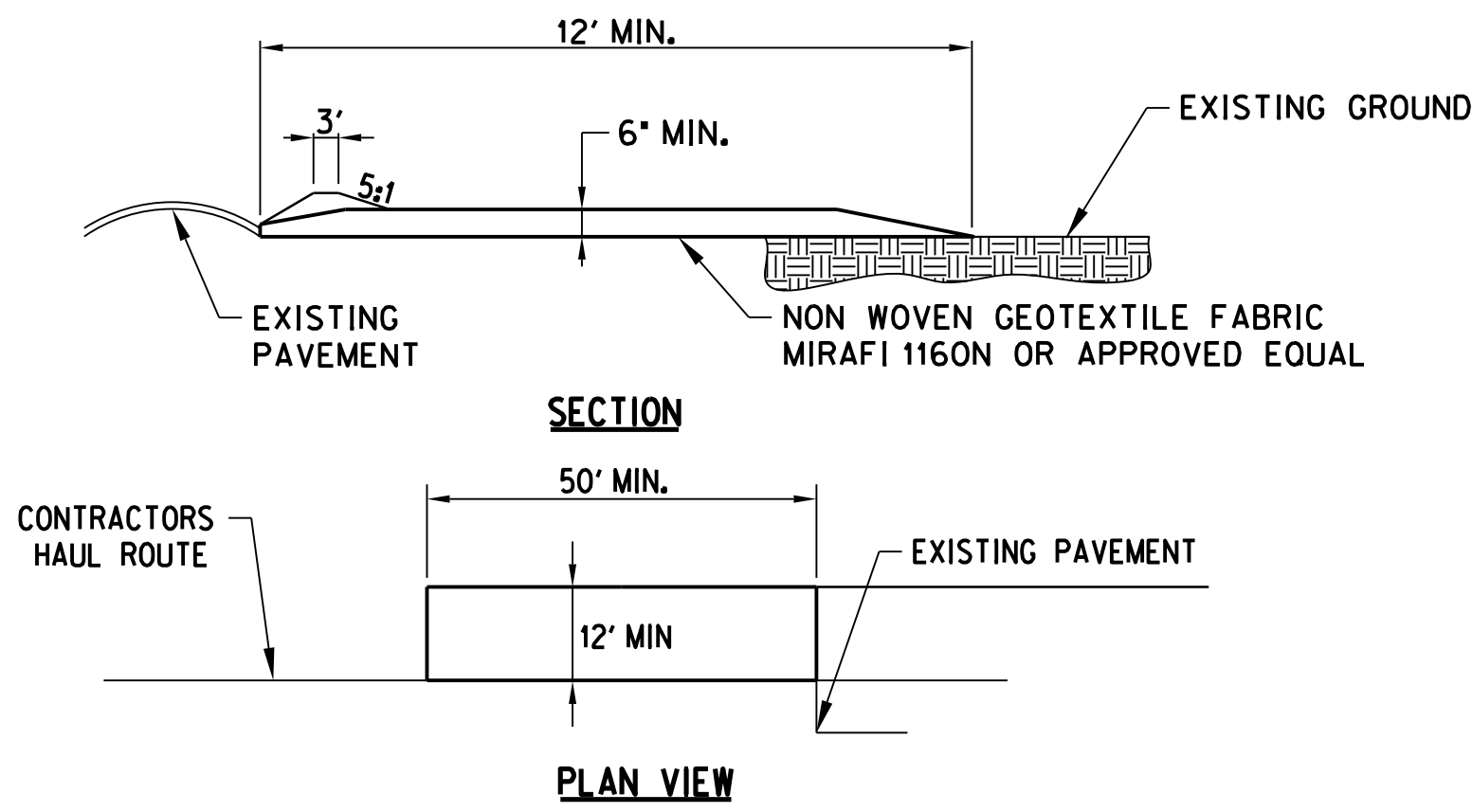
PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY  
 NOT TO BE USED FOR CONSTRUCTION

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Drain\_Eros\_Details\_3.dgn



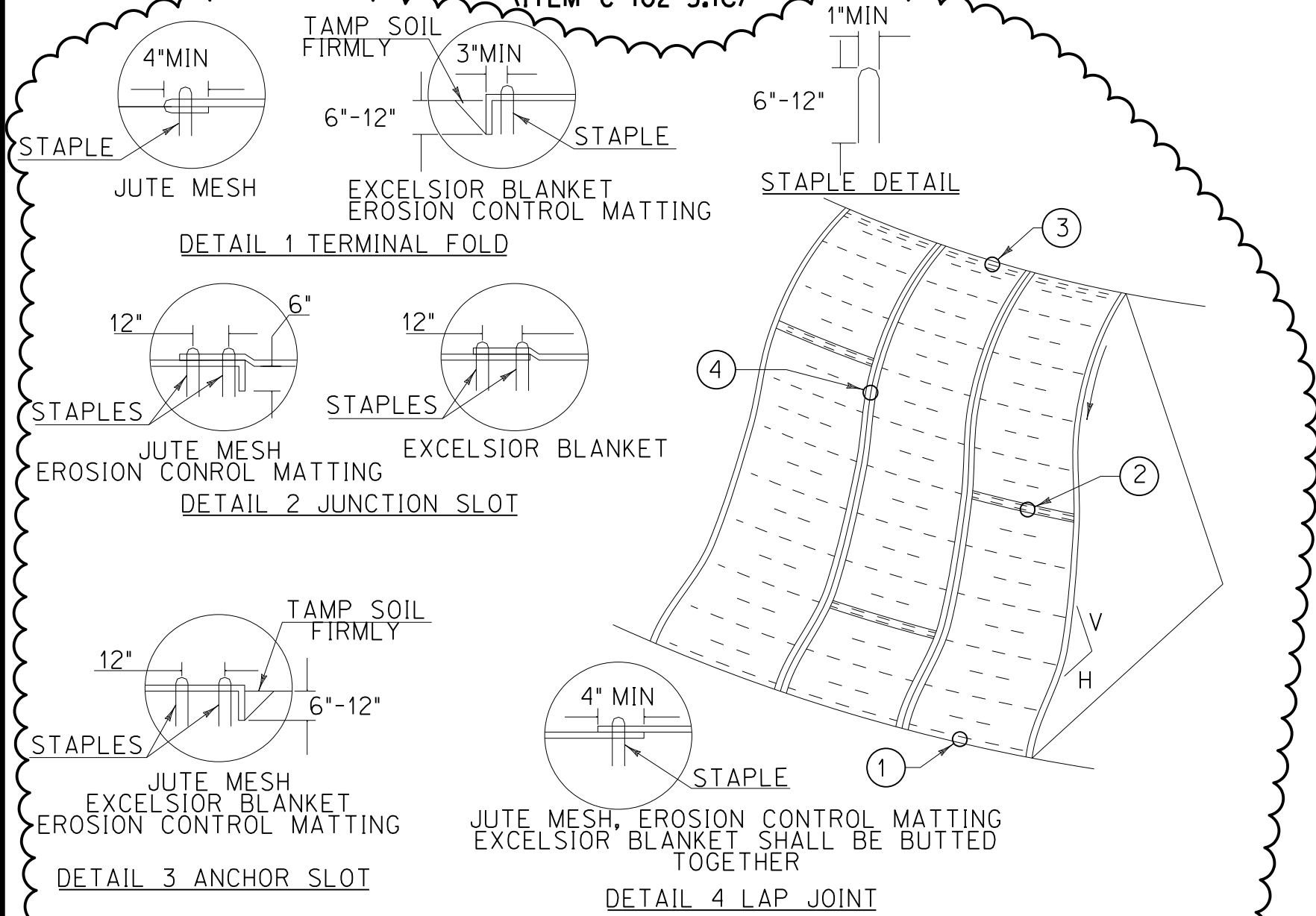
**STABILIZED CONSTRUCTION ENTRANCE NOTES:**

1. STONE SIZE—USE 1”-3” STONE, RECLAIMED OR RECYCLED CONCRETE EQUIVALENT
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30’ MINIMUM LENGTH APPLIES).
3. THICKNESS - NOT LESS THAN 8”.
4. WIDTH - 12’ MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24’ IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED ACCORDING TO PERMIT REQUIREMENTS.

**STABILIZED CONSTRUCTION ENTRANCE DETAIL**

N.T.S.

(ITEM C-102-5.1c)



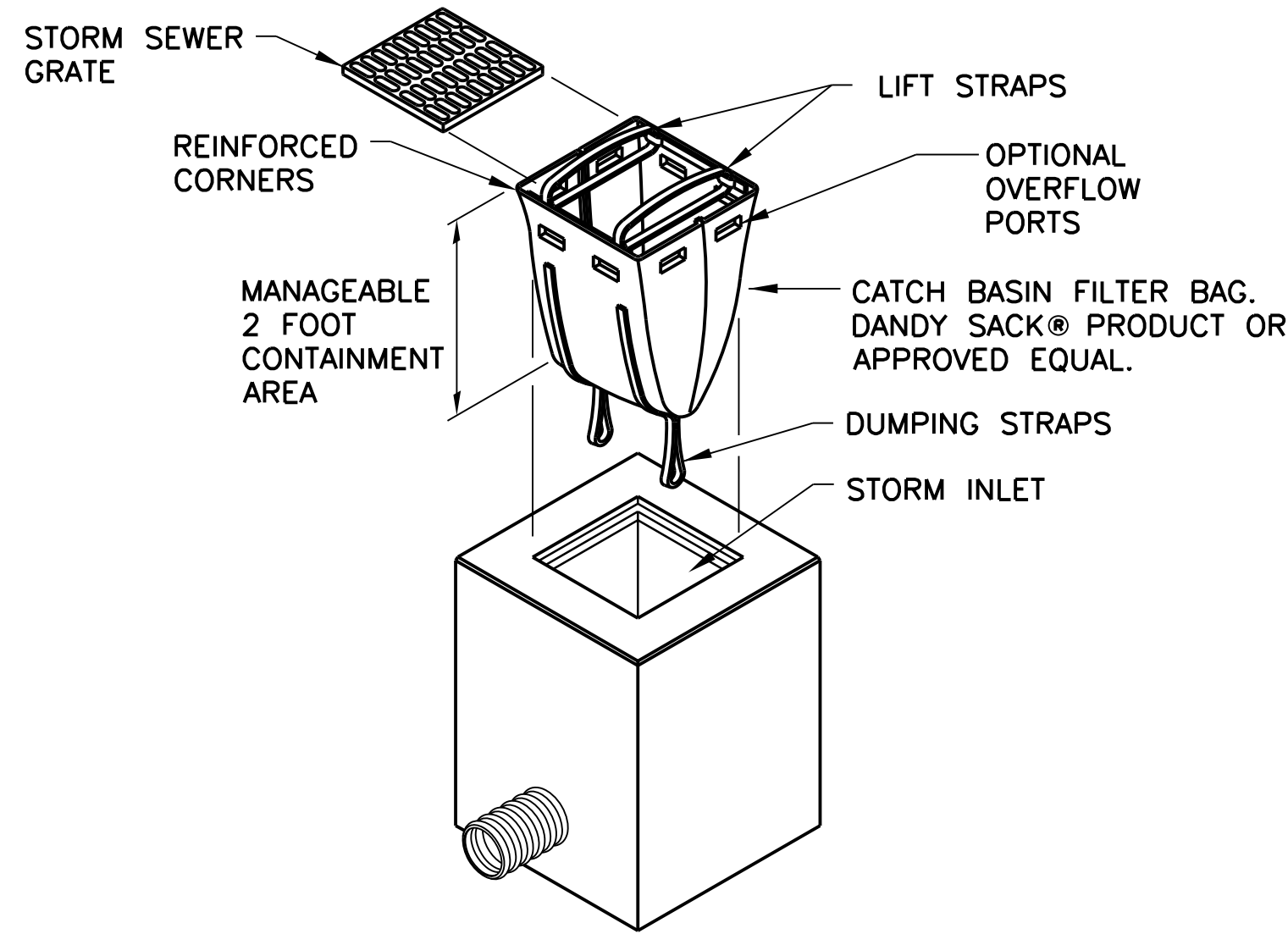
**CONSTRUCTION SPECIFICATIONS**

1. APPLY TO SLOPES GREATER THAN 3H:1V OR WHERE NECESSARY TO AID IN ESTABLISHING VEGETATION.
2. APPLY FERTILIZER, LIME SEED PRIOR TO PLACING MATTING.
3. STAPLES ARE TO BE PLACED ALTERNATELY, IN COLUMNS APPROXIMATELY 2’ APART AND IN ROWS APPROXIMATELY 3’ APART. APPROXIMATELY 175 STAPLES ARE REQUIRED PER 4’X225’ ROLL OF MATERIAL AND 125 STAPLES ARE REQUIRED PER 4’X150’ ROLL OF MATERIAL.
4. DISTURBED AREAS SHALL BE SMOOTHLY GRADED. EROSION CONTROL MATERIAL SHALL BE PLACED LOOSELY OVER GROUND SURFACE. DO NOT STRETCH.
5. ALL TERMINAL ENDS AND TRANSVERSE LAPS SHALL BE STAPLED AT APPROXIMATELY 12” INTERVALS.
6. ONLY NATURAL FIBER MATTING SHALL BE USED.

**EROSION CONTROL MATTING-SIDE SLOPE**

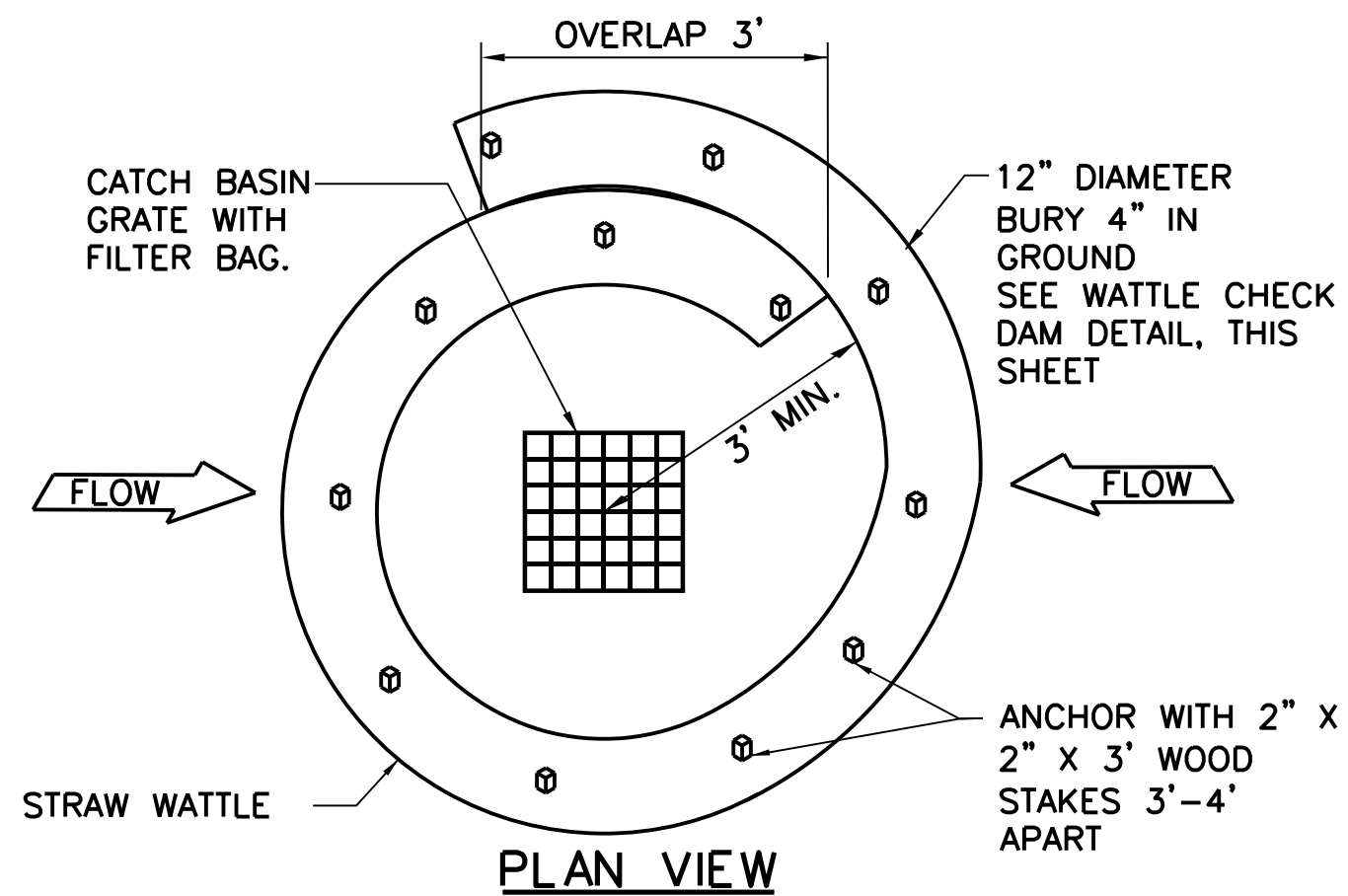
N.T.S.

(ITEM C-102-5.1f)

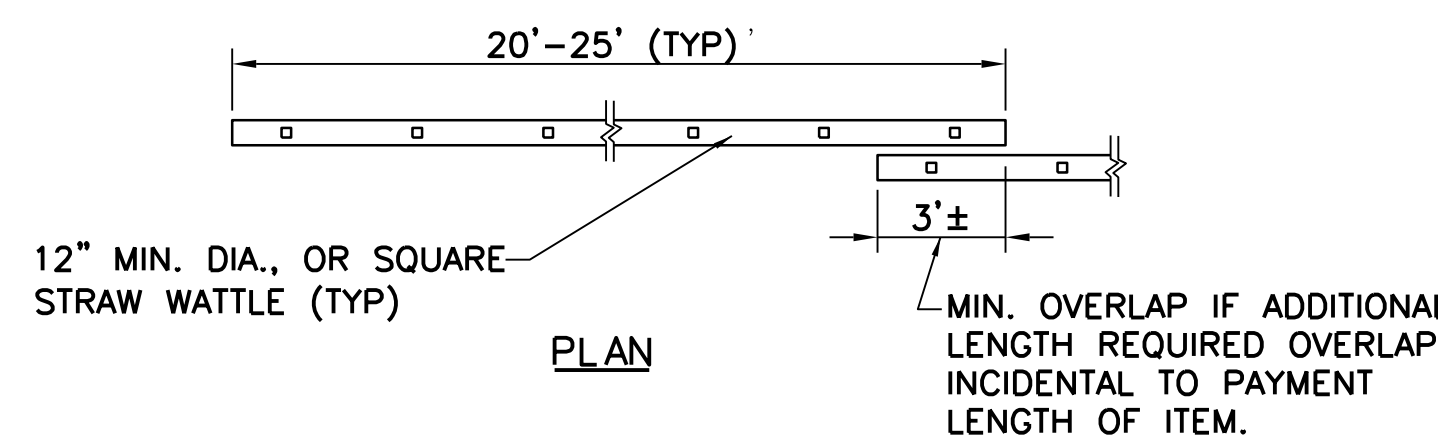
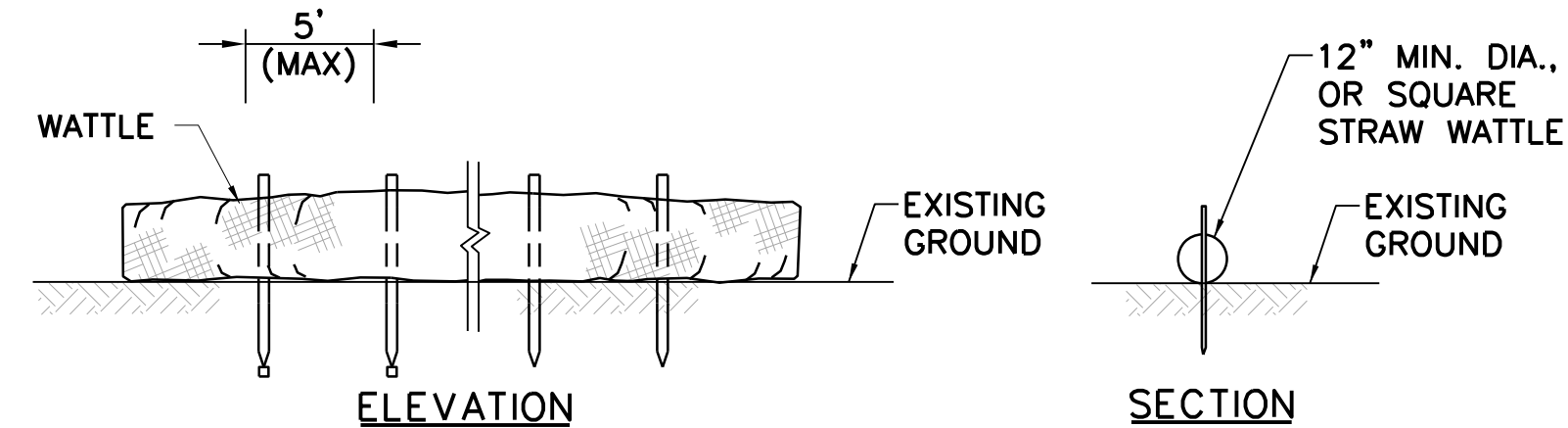


**INLET PROTECTION (FILTER BAG) INSTALLATION**

N.T.S.  
(ITEM C-102-5.1b)



**WATTLE INLET PROTECTION**



**SEDIMENT BARRIER - WATTLES**  
NOT TO SCALE  
(ITEM C-102-5.1e)

**EROSION CONTROL MIX:**

EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE PROJECT SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR ACCEPTABLE MANUFACTURED PRODUCTS. WOOD AND BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX.

**COMPOSITION**

EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:

- THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80 AND 100% DRY WEIGHT BASIS.
- THE PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70% MAXIMUM OF 85% PASSING A 0.75" SCREEN.
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
- LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
- SOLUBLE SALTS CONTENT SHALL BE <4.0 MMHOS/CM.

THE PH SHOULD FALL BETWEEN 5.0 AND 8.0

**EROSION CONTROL MIX BERMS SEDIMENT BARRIER INSTALLATION:**

THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL CONTOUR. IT MAY BE NECESSARY TO CUT ALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.

ON SLOPES LESS THAN 5% OR AT THE BOTTOM OF STEEPER SLOPES (2:1) UP TO 20' LONG, THE BARRIER MUST BE A MINIMUM OF 12" HIGH, AS MEASURED ON THE UPHILL SIDE OF THE BARRIER, AND A MINIMUM OF TWO FEET WIDE.

ON LONGER OR STEEPER SLOPES, THE BARRIER SHOULD BE WIDER TO ACCOMMODATE THE ADDITIONAL RUNOFF.

FROZEN GROUND, OUTCROPS OF BEDROCK AND VERY ROOTED FORESTED AREAS ARE LOCATIONS WHERE BERMS OF EROSION CONTROL MIX ARE MOST PRACTICAL AND EFFECTIVE. OTHER BMPs SHOULD BE USED AT LOW POINTS OF CONCENTRATED RUNOFF, BELOW CULVERT OUTLET APRONS, AROUND CATCH BASINS AND CLOSED STORM SYSTEMS, AND AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT AREA MORE THAN 50' FROM TOP TO BOTTOM (I.E. A LARGE UP GRADIENT CONTRIBUTING WATERSHED).

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

FAA AIP: 3-23-0003-XXX-2021

WIN 020655.03  
AVIATION PLANS



PROJ. MANAGER: M. OBRIEN  
CHECKED/REVIEWED: R. LUCHINI  
DESIGN/DETAILS: R. LUCHINI  
REVISIONS: 1, 2, 3, 4  
DATE: 04-12-2021

PROJ. MANAGER	DESIGN/REVIEWED	DESIGN/DETAILS	REVISIONS	DATE
M. OBRIEN	R. LUCHINI	R. LUCHINI	1, 2, 3, 4	04-12-2021

AUGUSTA STATE AIRPORT  
BID DOCUMENTS

KENNEBEC COUNTY

AUGUSTA  
DRAINAGE AND EROSION CONTROL DETAILS (3 OF 3)

SHEET NUMBER

32

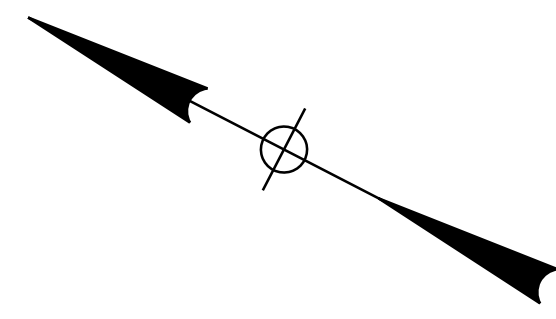
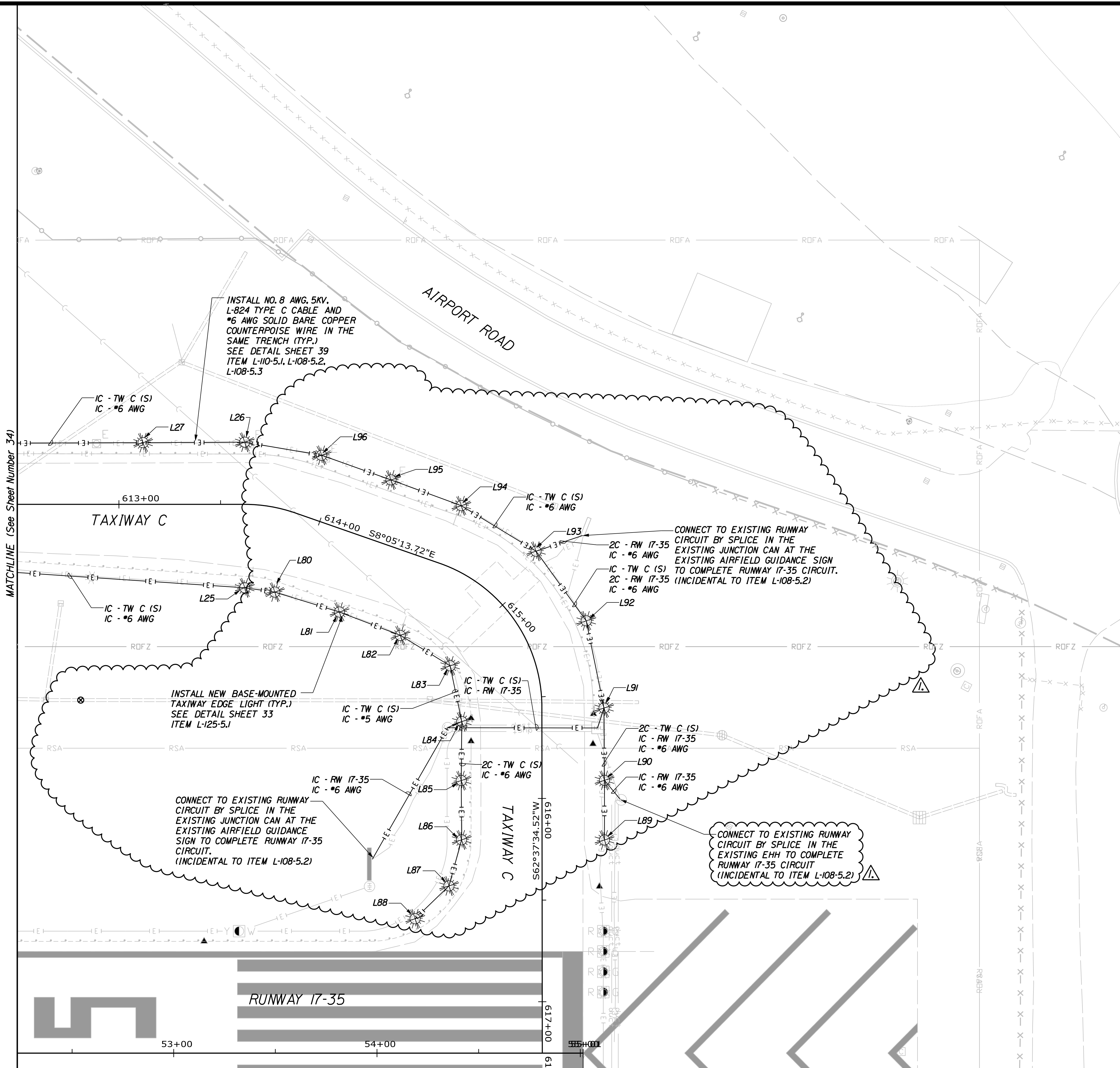
OF 62

Date: 4/23/2021

Username: dpatel

Division:

Filename: ... \Plans\Electrical\_Plan\_3.dgn



PLANS AND SPECIFICATIONS  
FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR  
CONSTRUCTION

**LEGEND:**

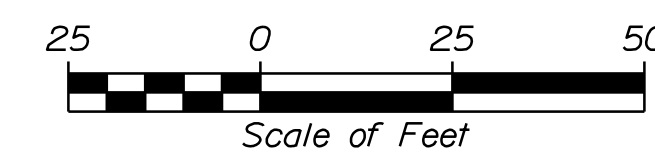
- PROPOSED FULL STRENGTH PAVEMENT
- PROPOSED ELECTRICAL CONDUIT
- PROPOSED ELECTRICAL CONDUIT
- PROPOSED BASE MOUNTED TAXIWAY EDGE LIGHT
- PROPOSED STAKE MOUNTED TAXIWAY EDGE LIGHT
- PROPOSED AIRFIELD GUIDANCE SIGN AND FOUNDATION
- PROPOSED ELECTRICAL HAND HOLE
- PROPOSED ELECTRICAL JUNCTION CAN
- RESET EXISTING NON-LIGHTED SIGN

• OF CABLES  
IC - TW C (N)  
CIRCUIT

**CIRCUITS:**

- TW C (N) - TAXIWAY C NORTH OF RW 8-26, TAXIWAY CI, TAXIWAY B
- TW C (S) - TAXIWAY C SOUTH OF RW 8-26, TAXIWAY E
- RW 8-26 - RUNWAY 8-26
- RW 17-35 - RUNWAY 17-35
- #6 AWG - EQUIPOTENTIAL SOLID BARE COPPER COUNTERPOISE WIRE

**PLAN**



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
FAA AIP: 3-23-0003-XXX-2021  
AVIATION PLANS  
WIN 020655.03



PROJ. MANAGER: M. O'BRIEN  
CHECKED/REVIEWED: M. O'BRIEN  
DESIGNED/DETAILED: R. LUCHINI  
REVISIONS: 1, 2, 3, 4  
DATE: 04-23-21

DATE	BY	T. LESIEGE	DATE

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA  
ELECTRICAL PLAN (3 OF 5)

SHEET NUMBER  
**35**  
OF 62

Point Table		
Name	Northing	Easting
L01	542141.97	1135596.58
L02	542024.12	1135662.91
L03	541906.37	1135729.42
L04	541788.53	1135795.79
L05	541699.42	1135843.03
L06	541661.68	1135862.52
L07	541621.27	1135883.38
L08	541593.41	1135897.77
L09	541577.17	1135867.70
L10	541558.05	1135832.27
L11	541539.09	1135796.77
L12	541528.87	1135776.80
L13	541473.05	1135804.05
L14	541484.36	1135826.31
L15	541493.41	1135869.26
L16	541502.47	1135912.21
L17	541476.40	1135937.18
L18	541450.32	1135962.15
L19	541406.95	1135987.13
L20	541386.37	1135998.98
L21	541322.02	1136035.06
L22	541300.94	1136045.95
L23	541256.51	1136068.89
L24	541139.91	1136126.46
L25	541020.37	1136178.37
L26	541053.24	1136242.03
L27	541097.55	1136218.87
L28	541168.55	1136181.95
L29	541284.04	1136122.20
L30	541322.21	1136134.38
L31	541360.39	1136146.56
L32	541398.57	1136158.73
L33	541430.64	1136142.17
L34	541462.71	1136125.62
L35	541494.78	1136109.06
L36	541509.48	1136062.98
L37	541524.18	1136016.91
L38	541556.33	1136010.54
L39	541581.28	1136035.96
L40	541606.23	1136061.39
L41	541624.11	1136091.16
L42	541642.56	1136121.88
L43	541637.40	1136144.77
L44	541621.79	1136162.56
L45	541794.40	1136430.13
L46	541808.13	1136428.78
L47	541818.82	1136437.48
L48	541842.17	1136480.74
L49	541865.63	1136524.20
L50	541928.22	1136524.36
L51	541914.03	1136498.07
L52	541890.57	1136454.61
L53	541867.11	1136411.15
L54	541843.36	1136367.15
L55	541824.08	1136331.44
L56	541781.06	1136251.73
L57	541739.13	1136171.42
L58	541721.49	1136134.82
L59	541699.76	1136089.73

Point Table		
Name	Northing	Easting
L61	541671.15	1136030.37
L62	541663.71	1135995.05
L63	541656.26	1135959.72
L64	541690.08	1135927.34
L65	541712.04	1135922.98
L66	541734.00	1135918.63
L67	541740.92	1135925.69
L68	541747.85	1135932.75
L69	541815.58	1135843.68
L70	541933.41	1135777.31
L71	542051.17	1135710.80
L72	542125.39	1135668.89
L73	542169.21	1135644.80
L74	542208.37	1135545.71
L75	542184.14	1135569.39
L76	541522.71	1135754.74
L78	541436.22	1135780.15
L79	541458.24	1135786.94
L80	541006.26	1136183.27
L81	540973.50	1136189.15
L82	540941.61	1136192.72
L83	540912.95	1136190.60
L84	540895.26	1136168.85
L85	540882.20	1136142.98
L86	540868.68	1136117.12
L87	540863.79	1136094.14
L88	540871.18	1136072.14
L89	540806.19	1136149.32
L90	540819.64	1136175.38
L91	540836.16	1136206.89
L92	540863.61	1136240.98
L93	540901.27	1136260.11
L94	540944.23	1136263.14
L95	540980.77	1136258.55
L96	541016.69	1136253.64

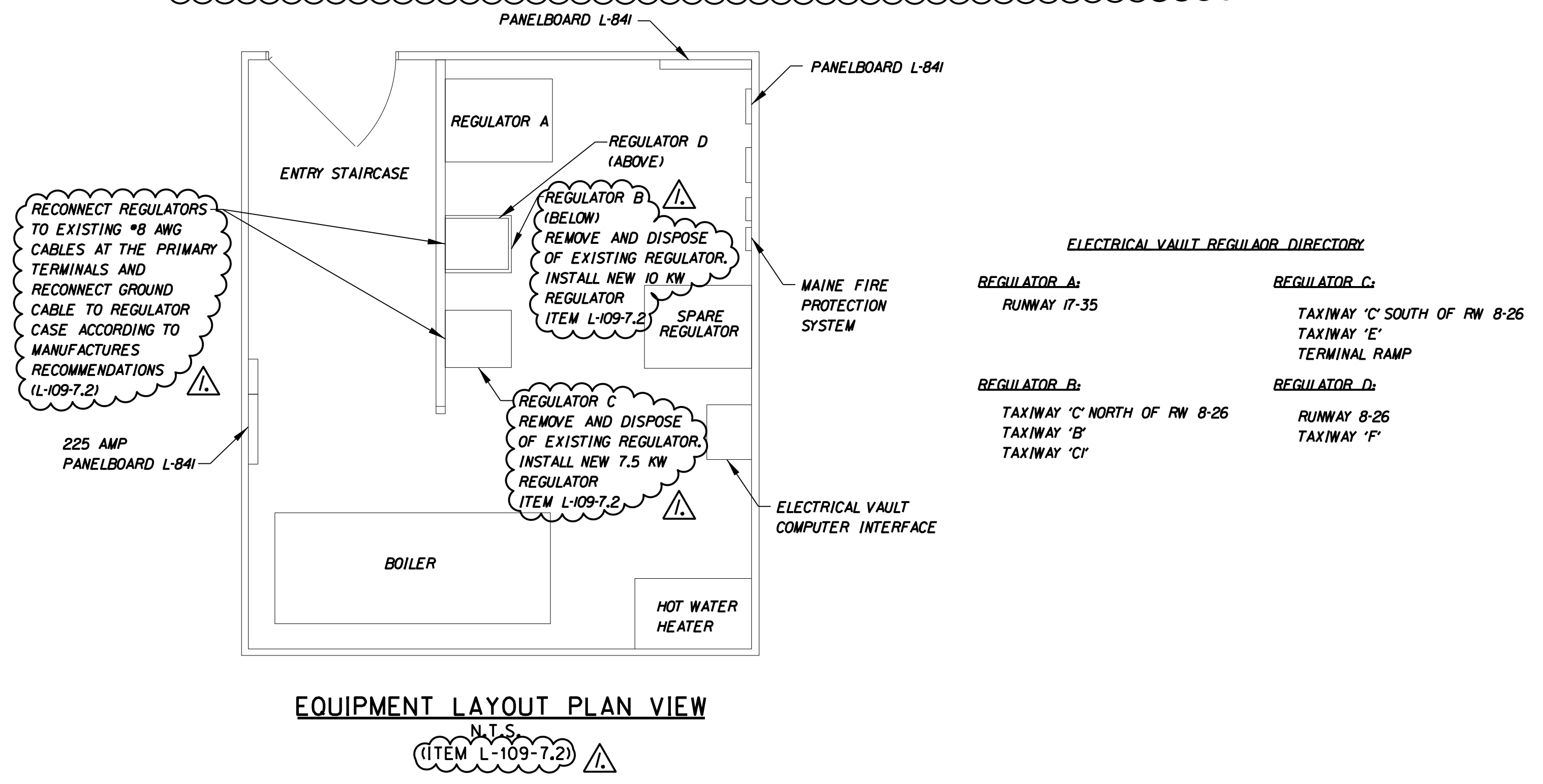
Point Table		
Name	Northing	Easting
S1	542130.54	1135574.33
S2	541892.89	1135828.90
S3	541614.02	1135858.99
S4	541596.75	1135851.33
S5	541491.30	1135908.26
S6	541434.85	1135942.19
S7	541558.54	1136048.66
S8	541825.48	1136502.44
S9	541667.63	1135962.84
S10	541734.60	1135955.12

Point Table		
Name	Northing	Easting
HH01	541711.59	1135944.09
HH02	541567.64	1135814.95
HH03	541472.82	1135866.08
HH04	541836.11	1136510.91
HH05	541919.12	1136466.10

**BASIS FOR DESIGN L-828 CONSTANT CURRENT REGULATORS (ITEM L-109-7.2a) - BASE BID**  
(L-828 EQUIPMENT SHALL MEET OR EXCEED THE REQUIREMENTS OF FAA AC 150/5345-10, CURRENT EDITION)

NEW NAMEPLATE ID	PANEL - CIRCUIT # / VOLTAGE	TYPE	STYLE	CLASS	SIZE	BREAKER SIZE / WIRE SIZE	ITEM NO.	NOTES
REGULATOR C	VERIFY PANEL IN FIELD	L-828 - REGULATOR	1 - THREE BRIGHTNESS STEPS	1 - 6.6 AMPERES (A) OUTPUT CURRENT	7.5 KW	70A, 2P BREAKER (2) #8, (1) #6G	L-109-7.2	<ul style="list-style-type: none"> <li>REFERENCE CCR NOTES BELOW</li> <li>PROVIDE UNIT WITH DIGITAL DISPLAY AND MONITORING, INCLUDING INPUT CURRENT/VOLTAGE, AND OUTPUT IRMS</li> <li>PROVIDE OWNER WITH 4 HOURS MIN. TRAINING ON USE OF CCR</li> </ul>
REGULATOR B	VERIFY PANEL IN FIELD	L-828 - REGULATOR	1 - THREE BRIGHTNESS STEPS	1 - 6.6 AMPERES (A) OUTPUT CURRENT	10 KW	90A, 2P BREAKER (2) #8, (1) #6G	L-109-7.2	<ul style="list-style-type: none"> <li>REFERENCE CCR NOTES BELOW</li> <li>PROVIDE UNIT WITH DIGITAL DISPLAY AND MONITORING, INCLUDING INPUT CURRENT/VOLTAGE, AND OUTPUT IRMS</li> <li>PROVIDE OWNER WITH 4 HOURS MIN. TRAINING ON USE OF CCR</li> </ul>

- CCR NOTES:
- NEW CCR SHALL BE DRY, AIR-COOLED, FERRORESONANT TYPE. OBTAIN VALID CERTIFICATE OF CONFORMANCE TO FAA AIRPORT LIGHTING EQUIPMENT CERTIFICATION PROGRAM FROM MFR, AND INCLUDE WITH EQUIPMENT SUBMITTAL FOR ENGINEER'S REVIEW.
  - REFERENCE CCR NAMEPLATE FOR LINE CURRENT, CIRCUIT BREAKER AND CONDUCTOR SIZES SHOWN IN THE TABLE ABOVE ARE INTENDED TO CONVEY A SCOPE OF MAGNITUDE. CONFIRM FINAL FEEDER CIRCUIT OVERCURRENT PROTECTION AND CONDUCTORS ARE SIZED TO CARRY 125% OF LINE CURRENT OR AS PER MFR (USE THE STRICTER OF 125% OR PER MFR).
  - PROVIDE GROUNDING PER MFR. BOND TO EXISTING VAULT GROUND LOOP (EXTEND LOOP AS NECESSARY TO MAKE THE PROPER NEC CONNECTION). CONNECT THE GROUND CONDUCTOR TO THE EQUIPMENT GROUND TERMINAL. NOTE: DO NOT CONNECT COUNTERPOISE TO THIS TERMINAL.
  - OPERATE CCR IN LOCAL MODE AND REMOTE MODE AT ALL BRIGHTNESS STEPS. CHECK FOR CORRECT CURRENT LEVEL AT EACH STEP. PREPARE A REPORT OF THE OPERATIONS AND INCLUDE IN FINAL CCR O&M MANUAL.



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
FAA AIP: 3-23-0003-XXX-2021  
WIN 020655.03  
AVIATION PLANS

AUGUSTA STATE AIRPORT  
BID DOCUMENTS  
KENNEBEC COUNTY  
AUGUSTA  
ELECTRICAL PLAN (5 OF 5)

SHEET NUMBER  
**37**  
OF 62

PLANS AND SPECIFICATIONS FOR  
BIDDING PURPOSES ONLY  
NOT TO BE USED FOR  
CONSTRUCTION

PROJ. MANAGER	T. LESIGE	DATE	
CHECKED-REVIEWED	M. O'BRIEN	BY	
DESIGNS DETAILED	R. LUCHINI	T. LESIGE	
REVISIONS 1	APPENDIX 2	R. LUCHINI	04-23-21
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

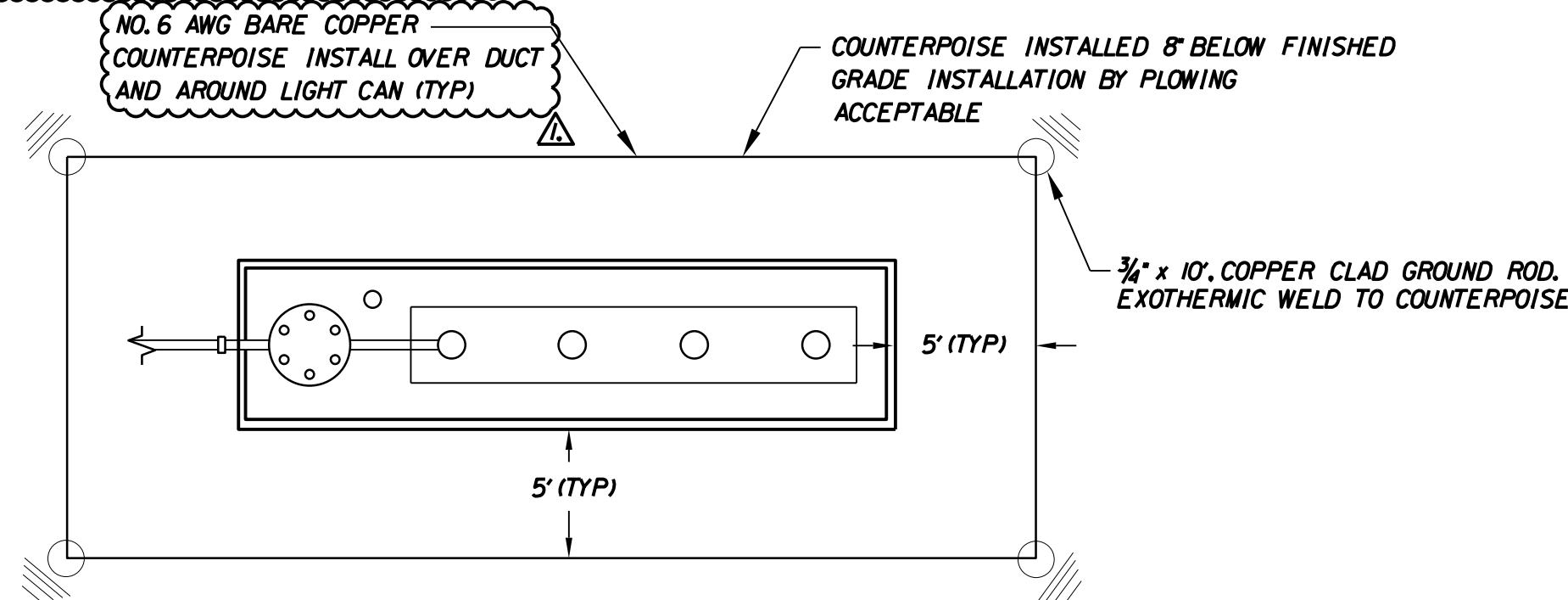
MATTHEW T. O'BRIEN  
SIGNATURE  
12842  
P.E. NUMBER  
04-12-2021  
DATE

L - LOCATION  
 Y - DIRECTION/BOUNDARY  
 R - MANDATORY

**GUIDANCE SIGN SCHEDULE**

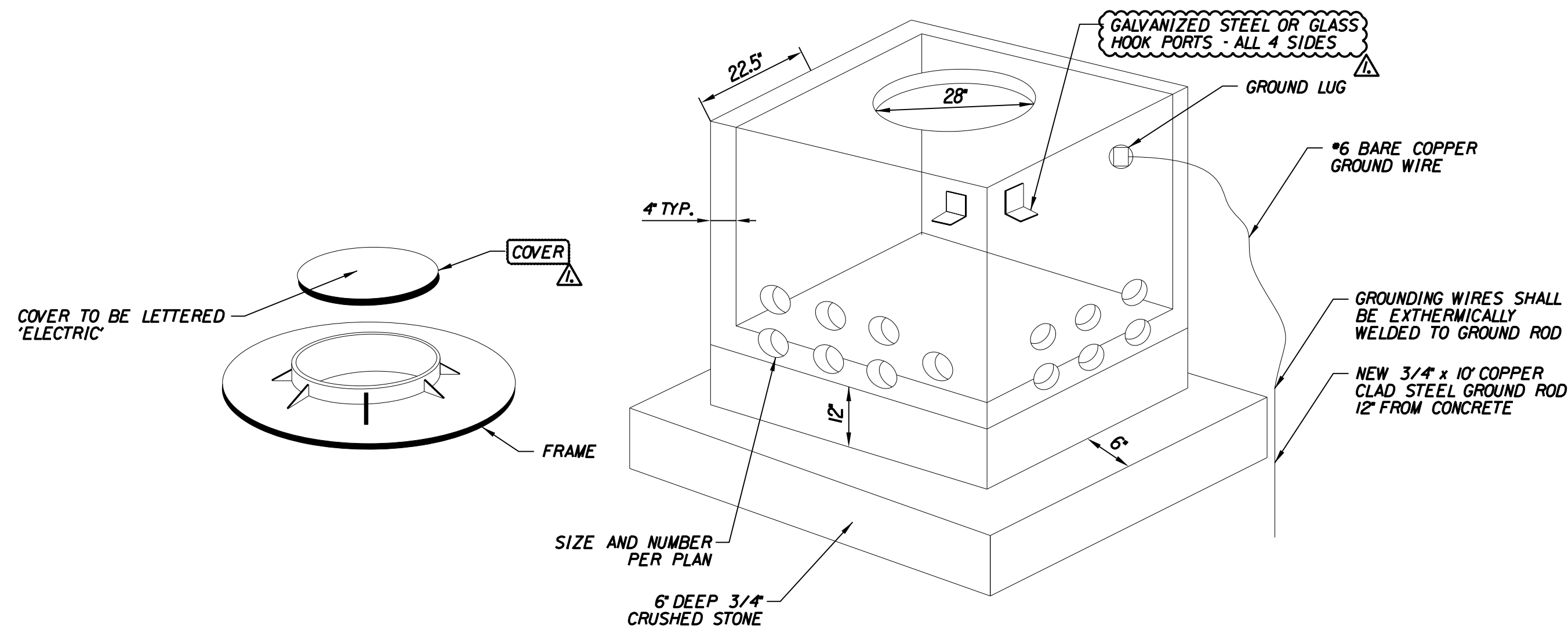
SIGN ID	MANUFACTURER	LEGEND		SIZE	STYLE	PANEL	PANEL TYPE		ITEM NO.
		FRONT	BACK				FRONT	BACK	
S1	NEW SIGN	◀B C C▶	TERM▶	2	2	3	L/Y	Y	L-125-5.5
S2	NEW SIGN	C 26-8		2	2	3	L/R	-	L-125-5.5
S3	NEW SIGN	C 8-26		2	2	3	L/R	-	L-125-5.5
S4	NEW SIGN	35-17 E	E	2	3	3	R/L	L	L-125-5.5
S5	NEW SIGN	E 35-17		2	3	3	L/R	-	L-125-5.5
S6	NEW SIGN	C ←E→		2	2	3	L/Y	-	L-125-5.5
S7	NEW SIGN	E ←C→		2	2	3	L/Y	-	L-125-5.5
S8	NEW SIGN	E	E	2	2	1	L	L	L-125-5.4
S9	NEW SIGN	8-26 C		2	2	3	R/L	-	L-125-5.5
S10	NEW SIGN	←C		2	2	3	Y	-	L-125-5.5

**NOTES:**  
 1. THE NUMBER OF MODULES SHOWN ON THIS SIGN SCHEDULE WILL BE THE NUMBER OF MODULES PAID FOR REGARDLESS OF THE NUMBER OF MODULES REQUIRED BY THE MANUFACTURER.



**EXISTING AND NEW AIRFIELD SIGN COUNTERPOISE INSTALLATION DETAIL**

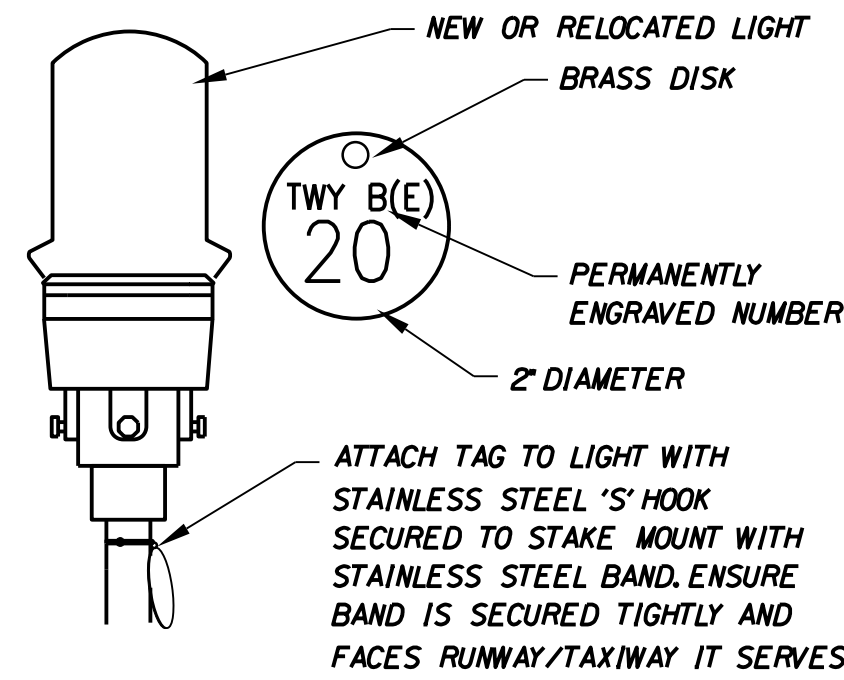
N.T.S.  
 (ITEM L-125-5.4 & L-125-5.5)



- NOTES:**
- CONCRETE SHALL BE 4,000 PSI.
  - CAST IRON MANHOLE COVER SHALL READ "ELECTRIC". COVER SHALL BE NEENAH R-3493-A OR APPROVED EQUAL.
  - STONE BASE SHALL BE COMPACTED 95% MAX DENSITY, PER ASTM D-1995.
  - HANDHOLE COVERS AND FRAMES SHALL BE SET FLUSH WITH FINISH GRADE. ADJUST TO GRADE WITH A MINIMUM OF TWO (2) AND A MAXIMUM OF FIVE (5) COURSES OF CLAY BRICK.
  - NEW 3/4" x 10" COPPER CLAD STEEL GROUND ROD SHALL BE PLACED 12" FROM HANDHOLE.
  - ALL PREFABRICATED REINFORCED CONCRETE STRUCTURES AND FRAME & GRATES SHALL BE DESIGNED AND CONSTRUCTED TO SUPPORT A 36,000 LB DUAL WHEEL LOAD. THE CONTRACTOR IS REQUIRED TO SUBMIT SHOP DRAWINGS AND MANUFACTURER CERTIFICATIONS TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION. SHOP DRAWINGS FOR LOADING SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN MAINE.

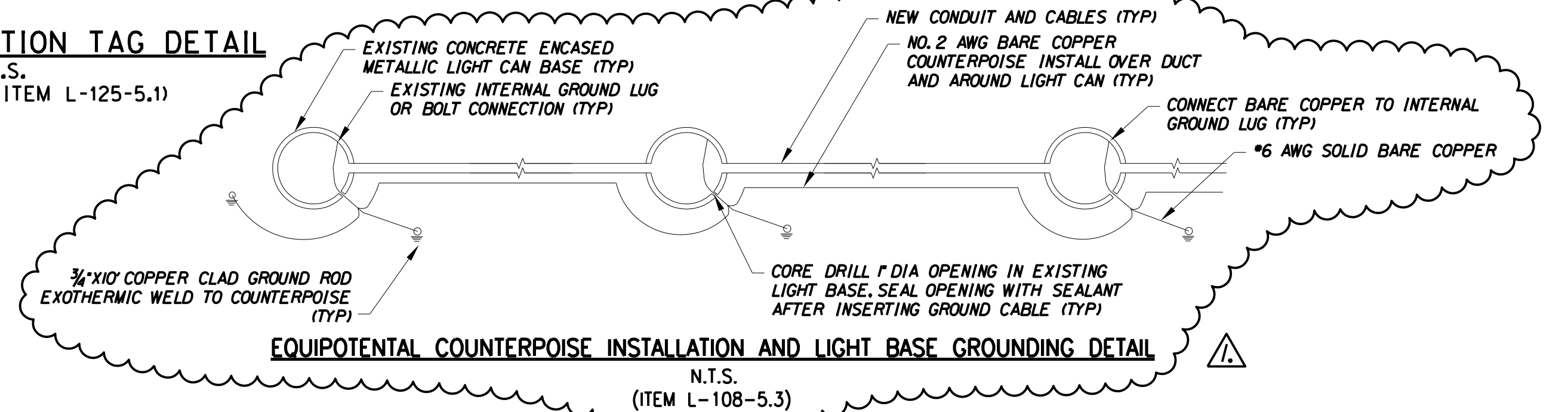
**ELECTRICAL JUNCTION STRUCTURE 4' X 4'**

N.T.S.  
 (ITEM L-115-5.2)



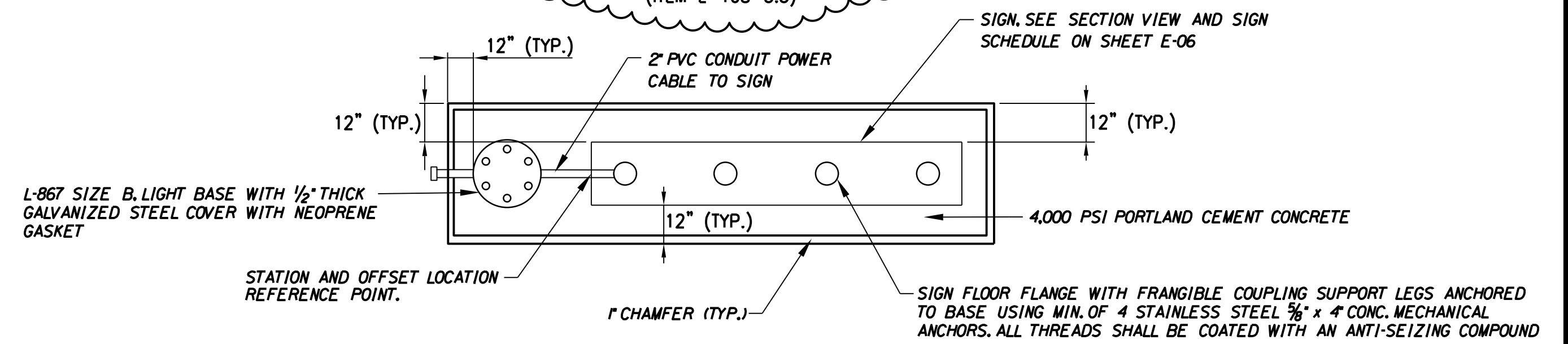
**LIGHT IDENTIFICATION TAG DETAIL**

N.T.S.  
 (INCIDENTAL TO ITEM L-125-5.1)



**EQUIPOTENTIAL COUNTERPOISE INSTALLATION AND LIGHT BASE GROUNDING DETAIL**

N.T.S.  
 (ITEM L-108-5.3)



SET 20'-35' FROM EDGE OF R/W OR TWY PAVEMENT

1/2" GALVANIZED STEEL COVER, PLATE, AND S.S. BOLTS. EXTEND BOLTS 1" BELOW FLANGE WITH NEOPRENE GASKET. SHALL BE SET FLUSH TO TOP OF CONCRETE

GROUND LIGHT BASE USING FACTORY INSTALLED GROUND LUG WITH #6 AWG BARE COPPER TO GROUND ROD

GROUNDING WIRES SHALL BE EXOTHERMICALLY WELDED TO GROUND ROD

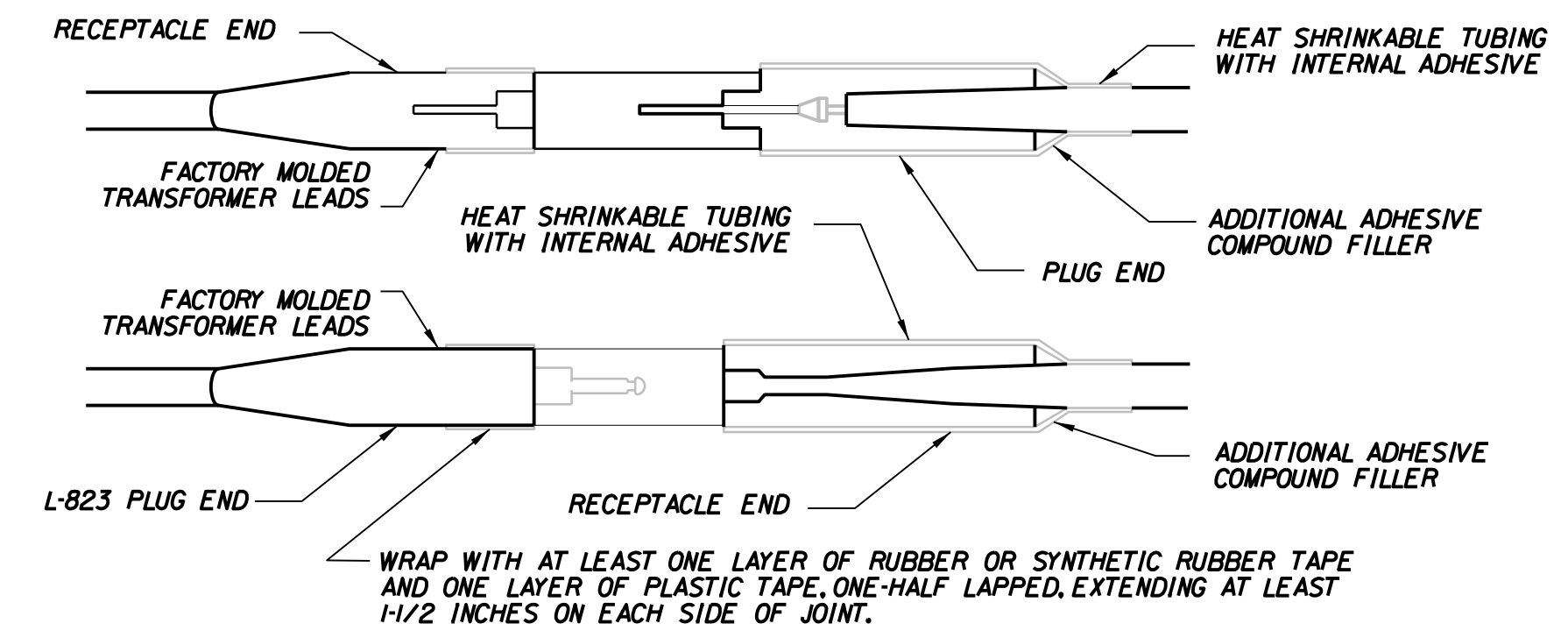
NEW 3/4" x 10" COPPER CLAD STEEL GROUND ROD 12" FROM CONCRETE

**NOTES:**

- GROUNDWIRE FROM LIGHT BASE TO GROUND ROD AND FROM SIGN TO GROUND ROD SHALL BE #6 AWG BARE COPPER. CONNECT GROUND WIRES TO GROUND ROD WITH EXOTHERMIC WELD.
- SIGNS AND SIGN BASES SHALL BE SET LEVEL AND TRUE. ADJUST EXISTING GRADE SURROUNDING SIGN BASE AS REQUIRED 3% MAXIMUM GRADE.
- FURNISH SIGN WITH L-830 ISOLATION TRANSFORMER, SIZE AS REQUIRED BY SIGN MANUFACTURER.
- THE NUMBER OF MODULES SHOWN ON THE SIGN SCHEDULE (THIS SHEET) WILL BE THE NUMBER OF MODULES PAID FOR REGARDLESS OF THE NUMBER OF MODULES REQUIRED BY THE MANUFACTURER.

**L-858 AIRFIELD GUIDANCE SIGN DETAIL**

N.T.S.  
 (ITEM L-125-5.4 & L-125-5.5)



**L-823 CONNECTIONS**

N.T.S.

PLANS AND SPECIFICATIONS FOR BIDDING PURPOSES ONLY

NOT TO BE USED FOR CONSTRUCTION



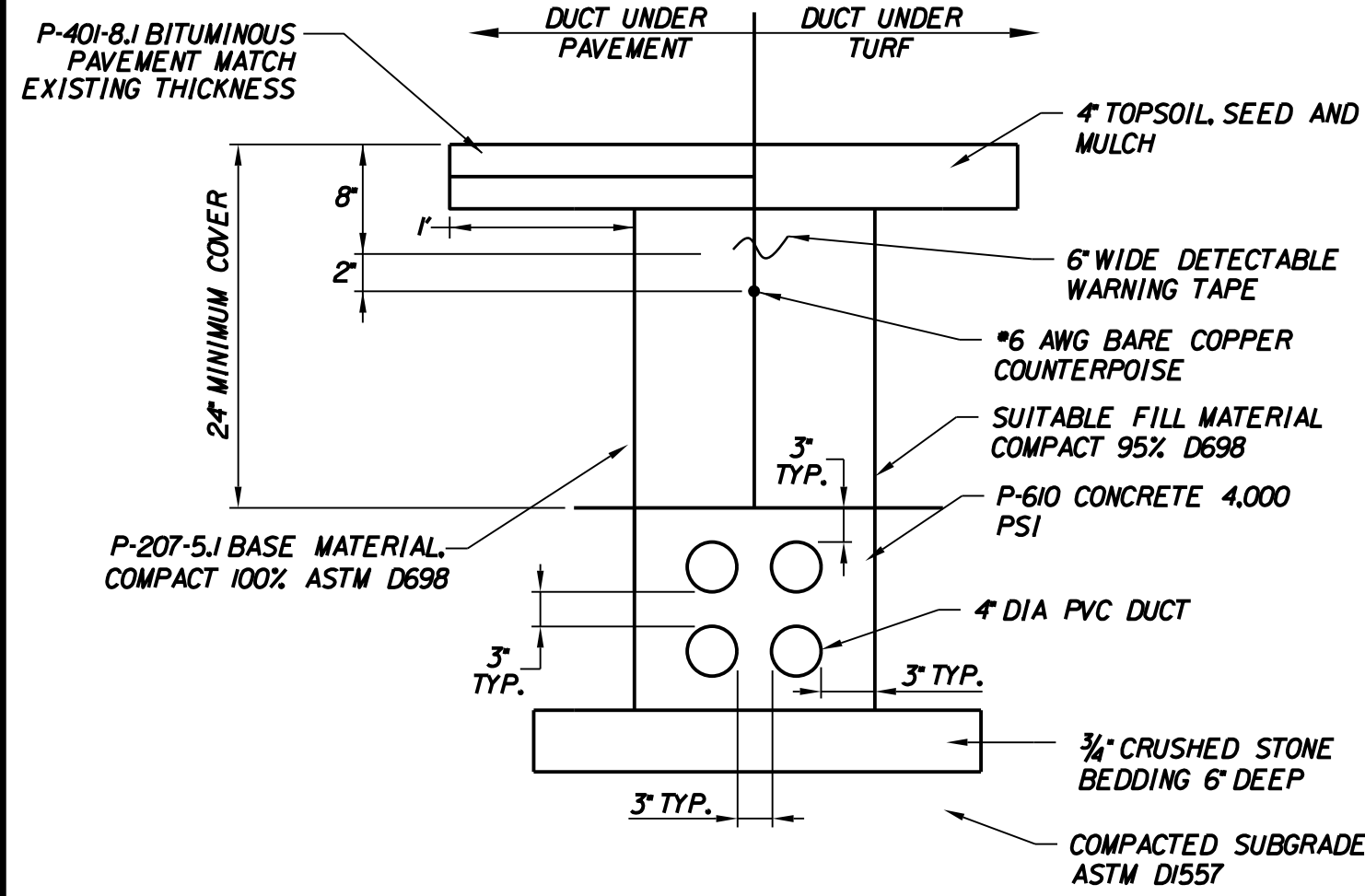
PROJ. MANAGER: T. LESIEGE  
 DESIGN DETAILED: M. O'BRIEN  
 CHECKED/REVIEWED: M. O'BRIEN  
 DESIGN DETAILED: R. LUCHINI  
 REVISIONS: 1  
 REVISIONS: 2  
 REVISIONS: 3  
 REVISIONS: 4  
 FIELD CHANGES

DATE	BY	DATE	BY
	M. O'BRIEN		M. O'BRIEN
	R. LUCHINI		R. LUCHINI
	R. LUCHINI		R. LUCHINI
	R. LUCHINI		R. LUCHINI

SHEET NUMBER

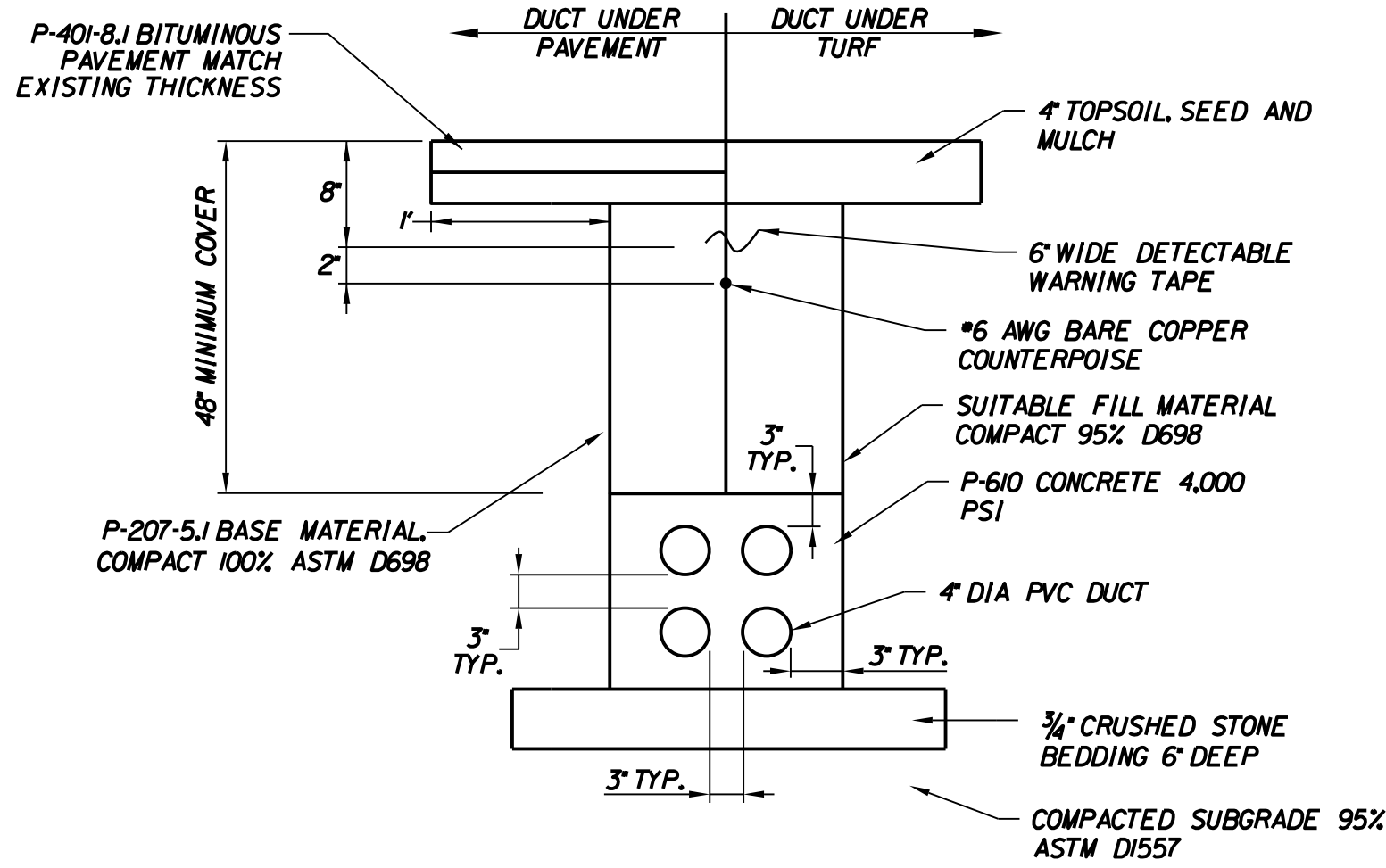
38

OF 62



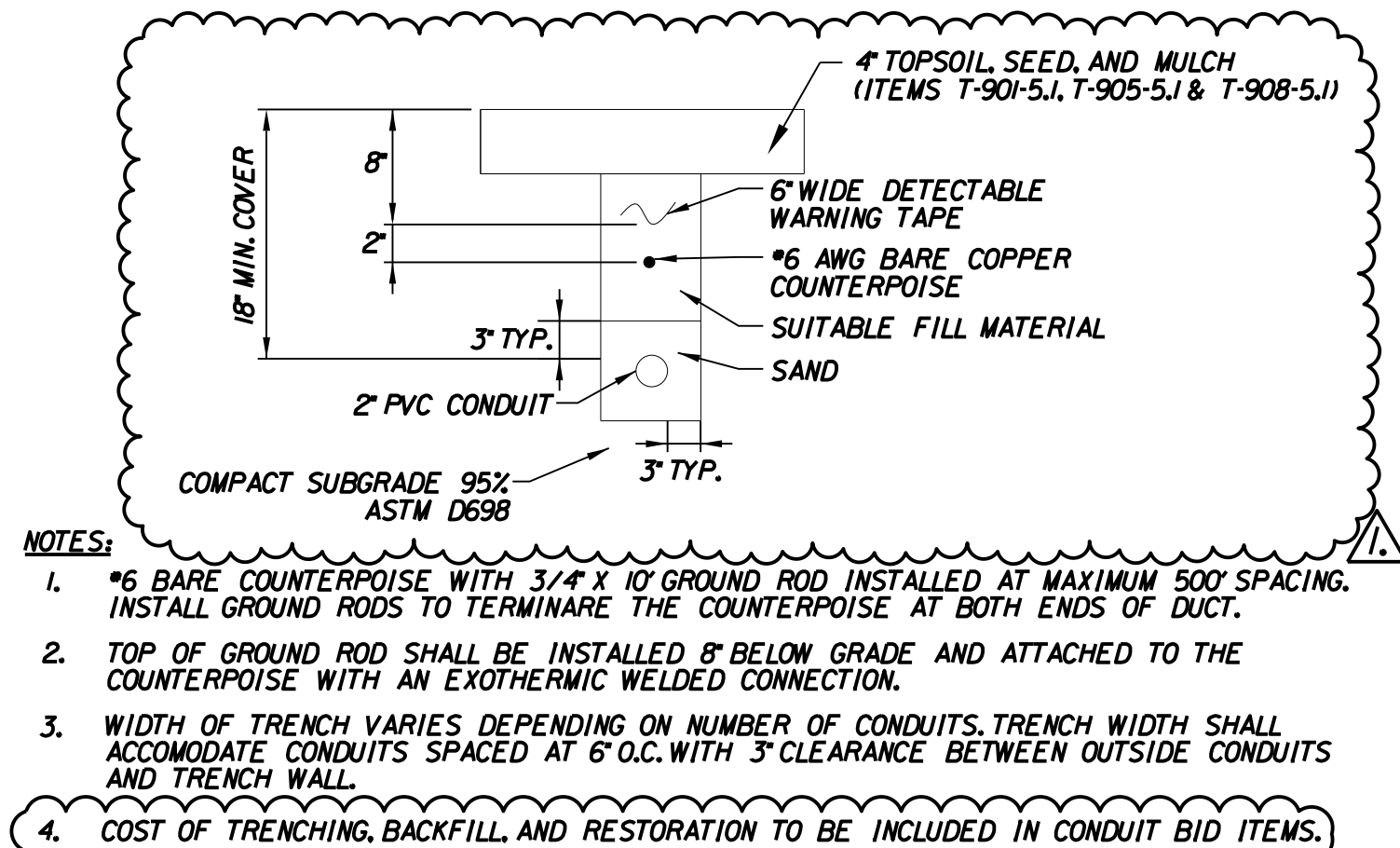
**(4\*)4-WAY CONCRETE ENCASED  
DUCT BANK - 24" MINIMUM COVER**

N.T.S.  
(ITEM L-110-5.2)



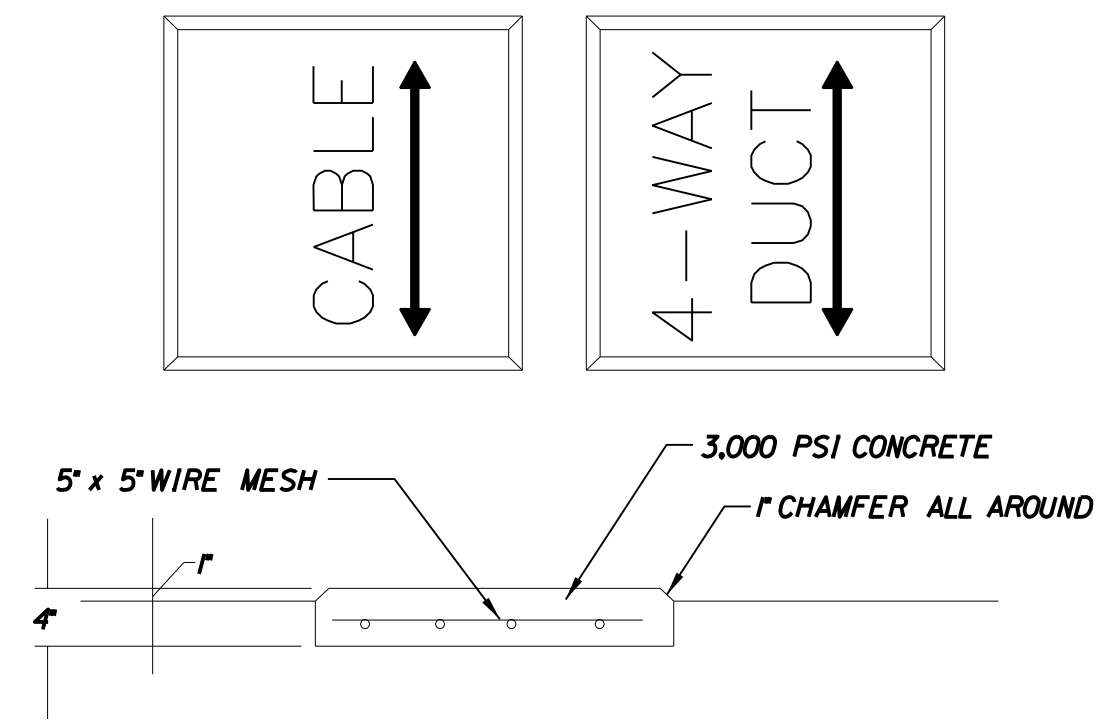
**(4\*)4-WAY CONCRETE ENCASED  
DUCT BANK - 48" MINIMUM COVER**

N.T.S.  
(ITEM L-110-5.3)



**(2\*)1-WAY NON-ENCASED DUCT BANK**

N.T.S.  
(ITEM L-110-5.1)

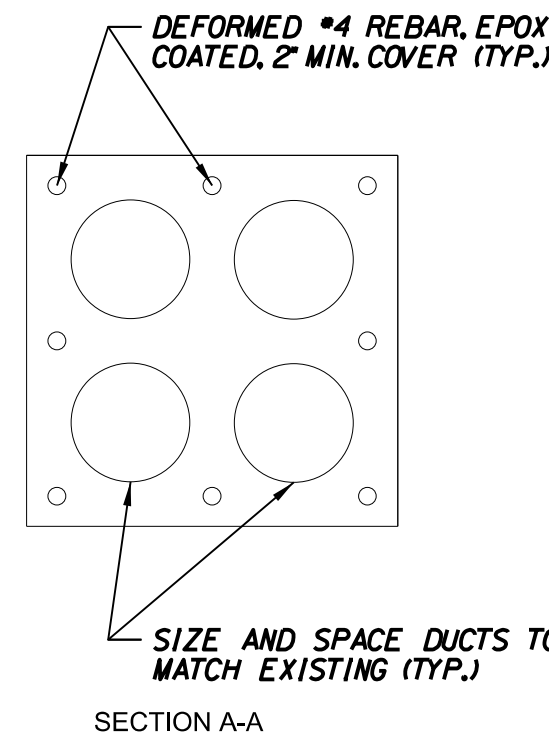


**NOTES:**

1. MARKER LEGEND TO BE IMPRINTED A MIN. 1/4" DEEP IN A WORKMANLINE MANNER, NO FREE SCRIPT.
2. DUCT MARKERS SHALL BE PLACED EACH END OF DUCT BANK LOCATED HALF-WAY BETWEEN EDGE OF PAVEMENT AND ELECTRICAL HANDHOLE.
3. CABLE MARKERS SHALL BE CENTERED OVER CABLE RUNS AND INSTALLED AT INTERVALS NOT TO EXCEED 500. CABLE MARKERS SHALL BE PLACED AT BEGINNING AND END OF CABLE RUNS AND AT ANY CHANGE IN HORIZONTAL ALIGNMENT.

**CABLE/DUCT MARKER DETAIL**

N.T.S.  
(INCIDENTAL TO ITEM L-110-5.2)

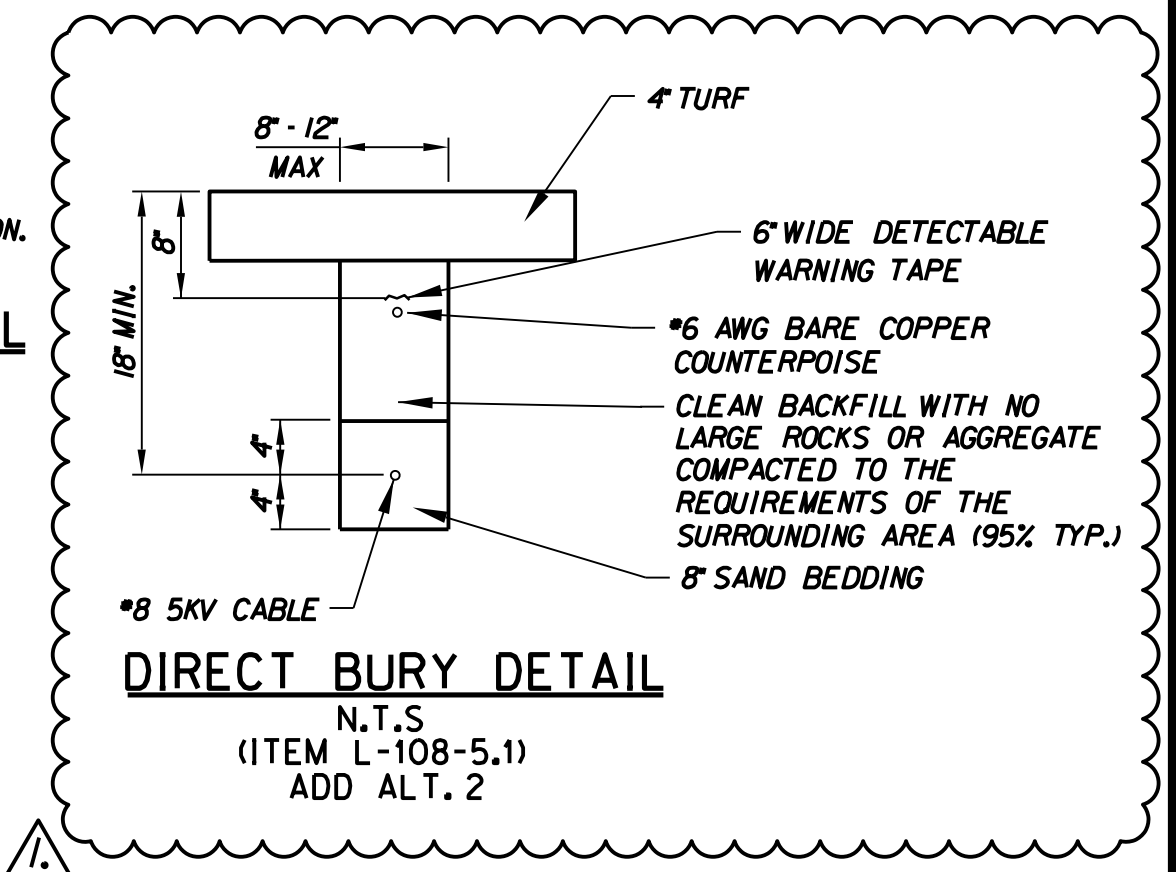


**NOTES:**

1. REMOVE CONCRETE AROUND EXISTING DUCT TO ACCOMMODATE NEW BELL END OF PROPOSED DUCT (12" MIN.)
2. ADJUST DUCT SPACING TO MATCH EXISTING.
3. 3" CONCRETE COVER REQUIRED ALL AROUND (MIN.).
4. SPLICE EXISTING CABLES AS REQUIRED AT END OF EXTENSION.

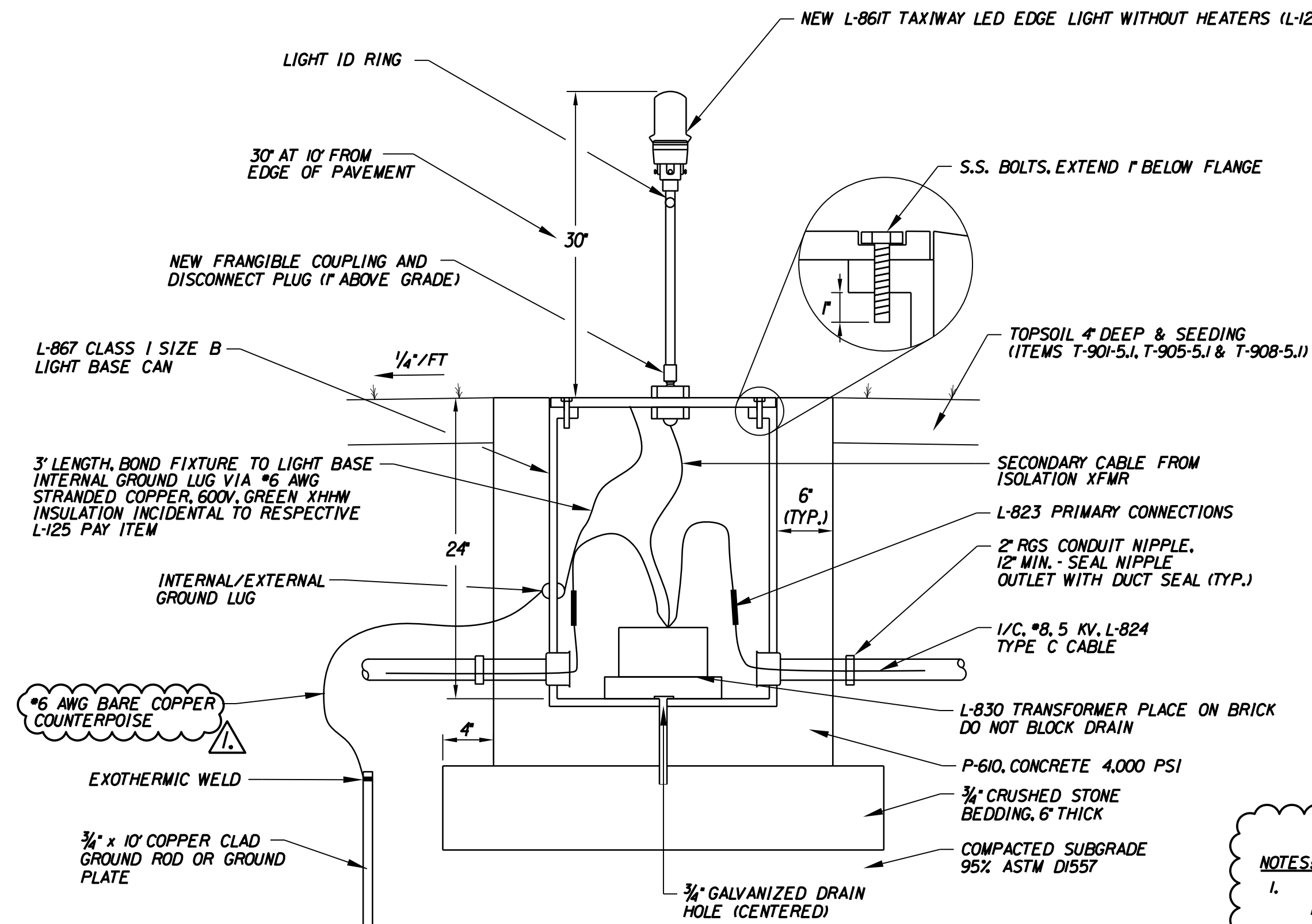
**DUCT BANK EXTENSION DETAIL**

N.T.S.  
(INCIDENTAL TO ITEM L-110-5.3)



**DIRECT BURY DETAIL**

N.T.S.  
(ITEM L-108-5.1)  
ADD ALT. 2

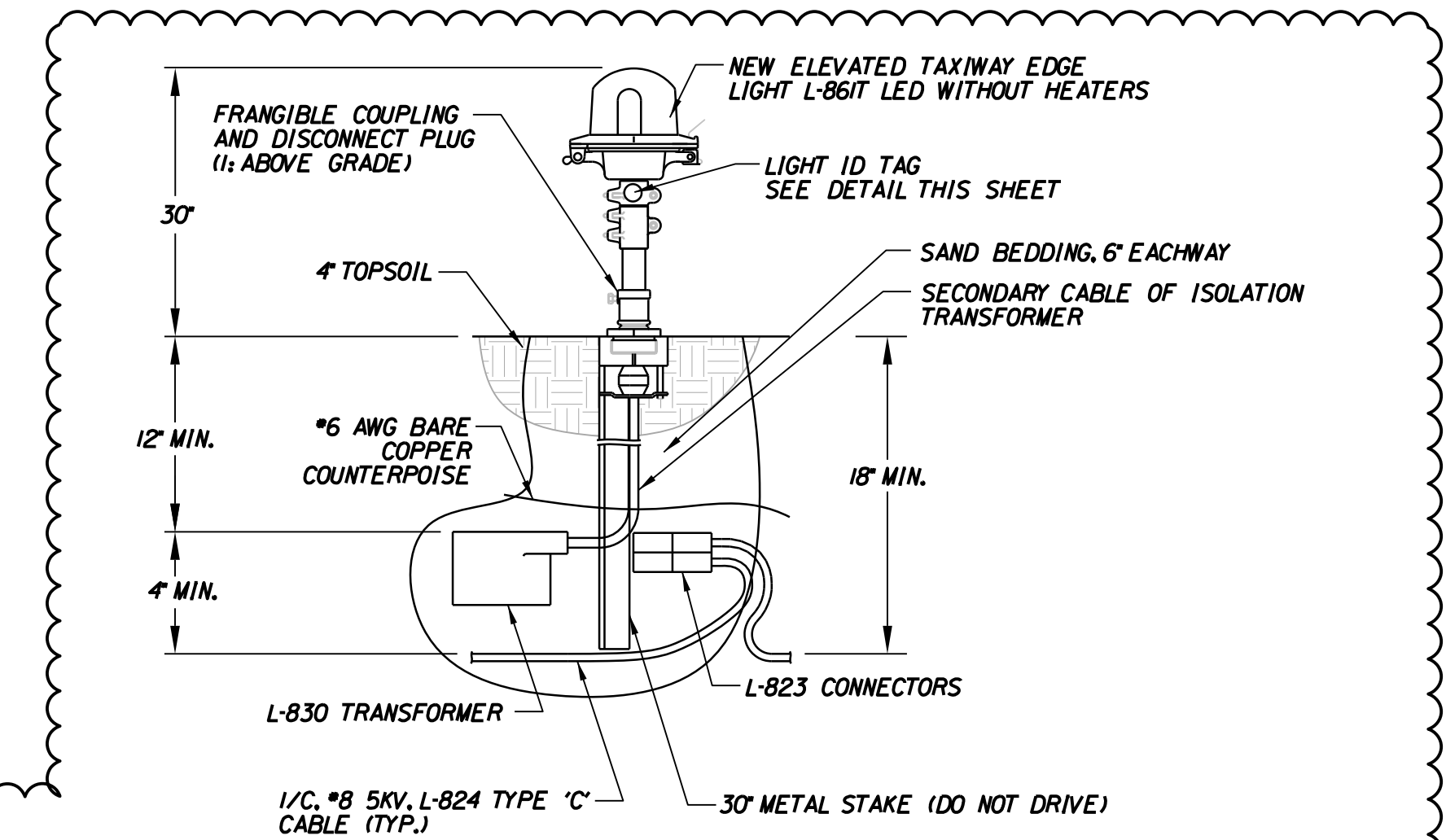


**NOTES:**

1. TAXIWAY EDGE LIGHTS ARE TO BE SET 10' FROM THE EDGE OF PAVEMENT TO THE CENTERLINE OF THE LIGHT FIXTURE.
2. THE CONTRACTOR SHALL ADJUST THE HORIZONTAL DISTANCE FROM THE EDGE OF THE PAVEMENT SUCH THAT THE LIGHT FIXTURES FORM A STRAIGHT-LINE HORIZONTALLY ALONG THE ENTIRE TAXIWAY EDGE AND VERTICALLY FOLLOW THE RUNWAY OR TAXIWAY GRADE.
3. SUFFICIENT CABLE SLACK (MIN. OF 3 FEET) SHALL BE LEFT IN EACH BASE TO ALLOW TRANSFORMERS TO BE TAKEN OUT OF THE BASE.
4. ID NUMBER SHALL BE ASSIGNED USING A LOGICAL ORDER DEPENDENT ON EXISTING LIGHT ID NUMBERS AND APPROVED BY THE ENGINEER AND AIRPORT MANAGER.
5. THE CONTRACTOR SHALL IDENTIFY WHICH LIGHT BASES REQUIRE MORE THAN TWO DUCTS OPENINGS TO ACCEPT A CONDUIT RUNNING PERPENDICULAR TO THE TAXIWAY CENTERLINE. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE ADDITIONAL DUCT OPENING.
6. FIBERGLASS RETROREFLECTIVE LIGHT MARKER SHALL BE INSTALLED ON NEW LED EDGE LIGHTS ONLY

**BASE MOUNTED TAXIWAY**

N.T.S.  
(ITEM L-125-5.1)



**NOTES:**

1. TAXIWAY EDGE LIGHTS ARE TO BE SET 10' FROM THE EDGE OF PAVEMENT TO THE CENTERLINE OF THE LIGHT FIXTURE.
2. THE CONTRACTOR SHALL ADJUST THE HORIZONTAL DISTANCE FROM THE EDGE OF THE PAVEMENT SUCH THAT THE LIGHT FIXTURES FORM A STRAIGHT-LINE HORIZONTALLY ALONG THE ENTIRE TAXIWAY EDGE AND VERTICALLY FOLLOW THE TAXIWAY GRADE.
3. SUFFICIENT CABLE SLACK (MIN. OF 3 FEET) SHALL BE LEFT AT EACH LIGHT TO ALLOW TRANSFORMERS TO BE TAKEN OUT OF THE GROUND.
4. ID NUMBER SHALL BE ASSIGNED USING A LOGICAL ORDER DEPENDENT ON EXISTING LIGHT ID NUMBERS AND APPROVED BY THE ENGINEER.

**STAKE MOUNTED TAXIWAY EDGE LIGHT**

N.T.S.  
(ITEM L-125-5.2)  
ADD ALT. 2



PROJ. MANAGER: M. OBRIEN  
DESIGN DETAILED: M. OBRIEN  
CHECKED/REVIEWED: R. LUCHINI  
DESIGN DETAILED: R. LUCHINI  
REVISIONS: 1  
REVISIONS: 2  
REVISIONS: 3  
REVISIONS: 4  
FIELD CHANGES

DATE	BY	T. LESIEGE	M. OBRIEN	R. LUCHINI	APPENDIX 2	R. LUCHINI	04-12-2021	DATE