

MAINE TURNPIKE AUTHORITY

ADDENDUM NO. 2

CONTRACT 2021.07

EXIT 45 – INTERCHANGE

RECONFIGURATION

MILE 44.9

The bid opening date is Thursday February 18, 2021 at 11:00 am.

The following changes are made to the Proposal, Specifications and Plans.

PROPOSAL

- Proposal Sheet P-19 is deleted and replaced with the attached.

SPECIFICATIONS

- Revisions to the attached Specifications are in bold font.
- Page N-1, Bid Opening date shall be changed to February 18th, 2021 at 11:00 a.m. by Zoom with the following meeting information:

Topic: Exit 45 Bid Opening

Time: Feb 18, 2021 11:00 AM Eastern Time (US and Canada)

Join Zoom Meeting

<https://us02web.zoom.us/j/83402262179?pwd=KzJmZUsyWldtVml2UGtsclQzZHBjUT09>

Meeting ID: 834 0226 2179

Passcode: 915077

One tap mobile

+13126266799,,83402262179#,,,,*915077# US (Chicago)

+19292056099,,83402262179#,,,,*915077# US (New York)

- Page SP-19, Section 107.4.7 (Prosecution of Work) shall be deleted and replaced with the attached.
- Page SP-53, Section 401 (Hot Mix Asphalt Pavement) shall be deleted and replaced with the attached.
- Pages SP-62 to SP-63, Section 403 (Hot Mix Asphalt Pavement) shall be deleted and replaced with the attached.
- Page SP-332 Section 670 (Septic System), Subsection 670.03 (Pipe and Fittings), make a pen and ink change deleting the first paragraph and replacing with the following “Gravity sewer pipe (solid) and fittings for the both the NB and SB toll plaza shall be four inch SDR 35 conforming to ASTM D3034. Joints shall be integrally formed bell and spigot type, push-on joints conforming to ASTM D3139 with elastomeric gasket conforming to ASTM F477.”
- Part III, Division 800, TOC is deleted and replaced with the attached

- Part III, Division 800, SP 072600 (attached) is added in its entirety.
- Part III, Division 800, SP 075323 (attached) is added in its entirety.
- Part III, Division 800, Make a pen and ink change for all references from Section “08400” to Section “084113”.

PLANS

- Plan Sheet EQ-02 (4 of 431) is deleted and replaced with the attached.
- Plan Sheet CP-02 (117 of 431) is deleted and replaced with the attached.
- Make a pen and ink change to plan sheet TC-01 (344 of 431), Change Class AAA – Deck to Class AAA.
- Plan Sheets TSP-03 to TSP-04 (354-355 of 431) are deleted and replaced with the attached.
- Make a pen and ink change to Plan Sheet A01 (403 of 431) - RESTROOM 106 – Change the partition type at the wall common with Door 105 from partition type 4 to partition type 3.
- Make a pen and ink change to Plan Sheet A05 (407 of 431) - Change the R value of the Attic insulation from “2-Layers Batt Insulation (R-30)” to “Multiple Batt Insulation Layers (R-38)”.
- Make a pen and ink change to Plan Sheet A11 (413 of 431) - Detail 1 – Exterior Partition Type 1: The 5/8” thick sheetrock shall be foil-backed in this wall type. The 5/8” thick sheetrock is un-rated in this wall type.
- Plan Sheet S0.1 (416 of 431) is deleted and replaced with the attached.
- Make a pen and ink change to Plan Sheet E-01 (430 of 431), Updated catalog number is with-
Manufacturer: ASL, Cat. No.: CKS-W24-DV-30K-W12-FW.
- Make a pen and ink change to Plan Sheet E-02 (431 of 431), change 90kW to 60 kW for the Standby Generator and change 300 amps to 200 amps for the 3-phase Automatic Transfer Switch.

QUESTIONS

The following are questions asked at the pre-bid meeting held on January 26, 2021 or submitted to the Maine Turnpike Authority in writing. Answers to the questions are noted. Bidders shall utilize this information in preparing their bid.

Question 1: The details for the toll plaza canopy roof systems call out EPDM roofing. There was no specification provided for the EPDM Roofing. Could you provide this specification section?

Answer: Yes, SP 075323 is included in this Addendum #2.

Question 2: Can you please provide specifications and types of materials to be used for the Toll Plaza Canopy EPDM roofing systems and flashing?

Answer: Yes, SP 075323 is included in this Addendum #2.

Question 3: There are 16 HP associated with the NB & SB Toll Administration Building. Are these paid for under items 800.401/800.402 or the 501 items?

Answer: Per SP 341, Section 800 (Toll Administration Building, Subsection 800.03 Method of Measurement) piles for the buildings will be included for payment under Items 800.01 and 800.02.

- Question 4: Please clarify if the H-pile under the building foundations are paid for under one of the 501 items for H-pile or incidental to the administration building items (800.01 & 800.02).
Answer: Per SP 341, Section 800 (Toll Administration Building, Subsection 800.03 Method of Measurement) piles for the buildings will be included for payment under Items 800.01 and 800.02.
- Question 5: Dwg S0.1 (416 of 431, Pile Foundation Note 4 indicates HP 14x105 pile for the SB Toll Building. Bid Items include HP 14x89 and HP 14*102. Please clarify.
Answer: Per SP 800.03 piles for the buildings will be included in Items 800.01 and 800.02.
- Question 6: Drawing AO1 (sheet 403 of 431) the interior Restroom wall that contains door 105 is labeled as wall type 4 (2 hour fire wall) I believe this is mislabeled and was intended to be wall type 3 (labeled on Break Room just below)...please clarify.
Answer: Make a pen and ink change to Sheet A01 (403 of 431) - RESTROOM 106 – Change the partition type at the wall common with Door 105 from partition type 4 to partition type 3.
- Question 7: Exterior wall type 1 shown on Drawing A11 (sheet 413 of 431 indicates regular 5/8” type X gypsum board on inside face, however Section 092900 Gypsum Board & Metal Framing Page 3 item 2.03-B mentions a foil backed gypsum board, which is the required product?
Answer: Make a pen and ink change to Sheet A11 (413 of 431) - Detail 1 – Exterior Partition Type 1: The 5/8” thick sheetrock shall be foil-backed in this wall type. The 5/8” thick sheetrock is un-rated in this wall type.
- Question 8: There are multiple divisions that reference door hardware section 08400, but no section has been provided. Please provide section 08400.
Answer: Make a pen and ink change for all references from Section “08400” to Section “084113”.
- Question 9: Please provide the manufacture loading info, EPA info and qty of all tolling equipment on the Mast Arms info for Items 504.61 and 504.62.
Answer: The Toll Dual Purpose Mast Arms are to be contractor designed and the Effective Projected Area (EPA) is a function of the design based on the project specification. The mast arms will have two AVI antenna, as shown on sheet 353 of 431, and each antenna is approximately 35” by 32” and a point loading for each of 100 lbs. should be assumed.
- Question 10: The wage rates included in Addendum #1 include 3 sets of wage rates. 1) Does the new 2019 Maine law apply which states if multiple wage rates are included in a project for the same classification, the higher wage rate shall prevail across the project for that classification. Please clarify. Can you clarify the demarcation on the project where each set of wage rates shall apply if the answer to the first question is not applicable.
Answer: Please contact the Maine Department of Labor regarding questions on the Wage Rate laws.
- Question 11: Under SP Section 107.4.6 Interim Completion Date B, it states that fine grading and paving of the areas listed shall not occur until after July 16th, 2022. Interim Completion Date C states commissioning shall be 14 sequential days per lane. Please clarify that this time is equal to 84 CD’s for both toll booth structures. If this interpretation is correct, this puts the

must start date of commissioning at July 8th, 2022 to meet the open date of September 30th, 2022. These dates do not allow enough time to complete the work on the ramps and begin commissioning. Please clarify.

Answer: The Contractor must account for 14 sequential calendar days per toll lane for each toll plaza facility (Northbound and Southbound). The System Integrator can test and commission the Northbound and Southbound toll plaza facilities concurrently. For example, if the Contractor has the Northbound toll plaza facility ready for testing and commissioning 7 calendar days prior to Southbound then the combined duration of testing and commissioning Northbound and Southbound toll plaza facilities concurrently is 49 calendar days.

Question 12: Special Provision 800.2 calls for Class “AAA” concrete (4500 psi) for generator pads. Drawing TC-01 (p. 344) calls for Class “AAA-Deck” concrete (4000 psi). Please clarify.

Answer: Make a pen and ink change to plan sheet 344 of 431, Change Class AAA – Deck to Class AAA and change ($f'c = 4,000$ psi) to ($f'c = 4,500$ psi).

Question 13: Please clarify release of retainage for the building items once the building has been accepted.

Answer: In accordance with Part I - Supplemental Specifications, Section 108.3- Retainage, the Contractor may request, and the MTA will consider, a reduction in retainage when the Project is substantially complete. Therefore, this potential reduction in retainage is not correlated to building substantial completion or acceptance but to the Project substantial completion.

Question 14: In reference to the steel barrier and the anchor plates on the existing bridge. It appears that many of the anchor plate bolts have been epoxied, making the bolts inaccessible for removal. Anchor plates may need to be cut or the pavement/concrete may need to be jack-hammered to remove these barrier. Does the MTA have a quantity of these anchor plates, and will they need to be replaced if damaged during demolition? If so how will that be paid for?

Answer: Anchor rods do not need to be salvaged. The anchor plates are required for future reuse of the barrier and will be the Contractor’s responsibility to replace if damaged during removal – this replacement is part of removing the barrier. Removing the barrier is incidental to Item 202.19 “Remove Existing Bridge”.

Question 15: How are the steel bridge drains paid for? We cannot find where they are called out as incidental and there is no pay item on the plans. Please clarify.

Answer: The steel bridge drains will be incidental to Item 502.26 “Structural Concrete Roadway and Sidewalk Slab on Steel Bridges” per the MTA 2016 Supplemental Specification Section 502.

Question 16: Please provide contact information for the Authorities current propane supplier.

Answer: The Authority’s current propane supplier is Dead River Company but is subject to change.

Question 17: The Lintel Schedule on S0.1 (p. 416 of 431) has a max M.O. of 8’-0”. The M.O. for Door 101 and Window C is 11’-4”. Please advise.

Answer: The required lintel for the 11’-4” M.O. shall be (2) L8 x 4 x 3/4 LLV steel angles in the 8” CMU wall and L6 x 4 x 1/2 LLV steel angle in the 4” brick veneer wall.

- Question 18: Our lighting vendors tell us that the catalog number for the Type W1 light fixture in the Administration Building is not a good number. Please advise.
Answer: Make a pen and ink change to plan sheet 430 of 431, Updated catalog number is with- Manufacturer: ASL, Cat. No.: CKS-W24-DV-30K-W12-FW.
- Question 19: The W1 light fixture has an invalid catalogue number. It appears to be a wall sconce, but the supplier is seeking additional clarification.
Answer: Make a pen and ink change to plan sheet 430 of 431, Updated catalog number is with- Manufacturer: ASL, Cat. No.: CKS-W24-DV-30K-W12-FW.
- Question 20: The specifications call for a 60KW generator and the single line diagram calls for a 90KW generator. Please advise.
Answer: Make a pen and ink change to plan sheet 431 of 431, change 90kW to 60 kW for the Standby Generator.
- Question 21: The specifications call for a 200 amp ATS and the single line diagram calls for a 300 amp ATS. Please advise.
Answer: Make a pen and ink change to plan sheet 431 of 431, change 300 amps to 200 amps for the 3-phase Automatic Transfer Switch.
- Question 22: Is there language regarding full closure of highway for beam erection, beam removal, overhead sign installation? I do not see the typical 20 minute stoppage language.
Answer: This is included in the Maintenance of Traffic on SP-258. Project Specific MOT Section Lane Closure tables include a column for Erection and Removal of bridge Girders on Mainline and a column on 703 for Erection and Removal of overhead structures/signs from 10 pm – 5 am.
- Question 23: Is Appendix E to be used for the leach field chamber system only? There are many discrepancies between Appendix E, Special Provision Section 670 and the plan set. Please clarify what dia pipe to use for the Southbound sewer?
Answer: Appendix E shows the correct locations for the leach fields and has the proper depiction of the NB forced main system and agrees with the plans and specifications. The SB septic system is intended to be a gravity system and not force main. The leach field shown for the SB system in the Appendix E is correct, as well as tank size and description. Per Addendum #2 (as noted above) Subsection 670.03 the SB gravity system shall be 4” SDR-35.
- Question 24: Item 503.14 Epoxy Coated Rebar has a total qty of 514,000 LBS. Is it a coincidence that exactly half of that qty is on the bridge and the other half is at the toll plaza?
Answer: These quantities are correct as shown.
- Question 25: Can you clarify the revision to section 401.08
Answer: This section has been revised in the attached SP-53.
- Question 26: The locations for Directional Drilling appear to show three separate runs next to each other, each has two 3” conduits, do they need separation, or can all 6 conduits be pulled in same bore?
Answer: This would be contractor means and methods, all 6 conduits could be pulled in a single bore if the contractor chooses to do so.

Question 27: Specification Section 26000 Electrical under Fire Alarm Control Panel List Notifier NFW-50 (Fire Warden-50) as the manufacturer, would a Simplex 4007 be acceptable as an or equal?
Answer: As per Section 26000, Subsection 2.14 – C-6-a-(2), an “Approved Equal” is an alternative to the Notifier NFW-50. Any proposed substitution will need to go through the contract submittal review and approval process.

Question 28: Will the MTA add a guardrail removal item to the contract?
Answer: Per MaineDOT Standard Specification 606.09 removal of guardrail not reset is incidental to other contract items.

Question 29: Can a supplier name and product number be provided for the Precompressed Closed Cell Foam shown on Sheet S-17 (Pg. 309)?
Answer: Precompressed Closed Cell Foam shall conform to ASTM designation D1752, Type 1 or ASTM D5249, Type 2. Products such as “Ceramar” manufactured by W.R. Meadows, or an approved equal are acceptable.

Question 30: The exhaust fans as indicated on the attached drawing are recycled through an ERV rather than vented directly to the outdoors. Please confirm that this is permitted by code.
Answer: The symbols noted are grilles - not exhaust fans. The system does exhaust via the Heat Recovery Unit to the outdoors.

Question 31: Can we be provided the As-Built plans for the existing canopy, toll booths, tunnel, and administrative building?
Answer: Yes, the as-built plans have been posted to the MTA website. Please note that the plans for the eastbound toll booth removal and gantry installation from the mid-90s are not available.

Question 32: Is the propane tanks supplier responsible for installing any gas lines for the administrative builds and toll booths. Does the tank supplier need to inspect and verify LP piping before the piping is buried or incased in concrete?
Answer: The Contractor is responsible for all propane related installations and conformance to all applicable regulations. The tank supplier that the contractor chooses to use, will be required to install all propane related facilities per code.

Per Section 104.4.6 - Utility Coordination: “The Authority’s propane supplier shall be responsible for inspecting the underground propane piping installation prior to burial, inspecting the above ground propane piping, fittings, and regulators prior to delivery and filling the new propane tanks supplied and installed by the Contractor at the Administration Buildings. The Contractor will be responsible for furnishing and installing new propane piping and tanks as shown on the plans.”

Question 33: The insulation at the first-floor ceilings/attics calls for 2 layers of batt insulation (Min R-30). This does not meet code for a Commercial Building. The drawings show the insulation in the attic as not extending fully over the top plates of the exterior walls, so the minimum to meet code for this application is R-38. The plans also specify a vapor barrier at the bottoms of the trusses (1/A05), but there isn’t a material specification for the vapor barrier listed on the plans or in the Specifications. Please advise.
Answer: Make a pen and ink change to plan sheet 407 of 431, Change the R value of the Attic insulation from “2-Layers Batt Insulation (R-30)” to “Multiple Batt Insulation Layers (R-38)”. NOTE: Batt insulation shall cover the entire Attic space as indicated in Wall

Sections 1, 2 & 3 on Sheet A06 – Toll Administration Building – Wall Sections and Partition Types. SP 072600 is included in this Addendum #2.

Question 34: Sheet 116: Note 8: You are asking us to provide directional drilling for Highway Lighting and Traffic Signal wire integral to the conduit. You are also asking for directional drilling by itself for toll and communications. I am not sure how this is going to work when you have given us only a single line item for drilling.

Answer: The wiring for the Highway Lighting and Traffic Signal is incidental to the directional drilled conduits that contain it, it's not integral. Pre-wired conduit will not be accepted for any directional drilled conduit. The wiring within the directional drilled conduit for the toll system is paid for under the respective 655 item.

Question 35: Quantities item #643.931 you are requesting pricing for (6) wood poles with guys and span wire. There are 4 poles for traffic signals so the only other 2 poles I see are on sheet 117 for the service to the Admin Building. The drawing states that the permanent electric service is by others, so are we installing these poles?

Answer: No, the utility poles are provided by others, quantity for 643.931 will be reduced to four (4). See revised P-Sheet.

Question 36: Sheet #116: There are 4 poles slated to be removed with lights and overhead cable. Please advise if this overhead span that currently feed this span will conflict with the bridge work?

Answer: The 4 temporary lights on the NB off ramp are fed underground from the panel at the end of the SB on ramp and then aerial between poles. These temporary lights and aerial wires should not interfere with the bridge work.

Question 37: Sheet 115: Are precast light bases able to be used (either over drilled and backfilled with flowable fill, backfilled with crushed stone, or just compacted when backfilled)? Please specify which.

Answer: Yes, precast highway lighting foundations are acceptable. Acceptable methods of backfill include flowable fill (excavatable) or with aggregate material and backfill compaction shall conform to Standard Specifications.

Question 38: Sheet 115: Are all arms for light poles 12' long unless indicated on the plan set as being 8' long?

Answer: Yes, the only 8' arms are on the mainline per plans and specifications.

Question 39: Sheet 117: There are (2) fixtures listed as replacement LED fixtures for the new traffic signal poles. I assume these will need arms as well, and if so what length?

Answer: Per section 634.01, "Replacement LED light fixtures with 12 foot offset arms will be installed on the wooden traffic signal strain poles and wired into the signal cabinet."

ATTACHMENTS

- Addendum No. 2 (8 pages)
- Revised Proposal Sheets (1 pages)
- Special Provision Sheets (21 pages)
- Revised Plan Sheets (5 pages)

Notes: The above items shall be considered as part of the bid submittal.

The total number of pages included with this addendum is Thirty-Five pages (35).

All bidders are requested to acknowledge the receipt of the Addendum No. 1 by signing below and faxing this sheet to Nathaniel Carll, Purchasing Department, Maine Turnpike Authority at 207-871-7739. Bidders are also required to acknowledge receipt of this Addendum No. 1 on Page P-7 of the bid package.

Business Name

Print Name and Title

Signature

Date
February 12, 2021

Very truly yours,

MAINE TURNPIKE AUTHORITY

Nathaniel Carll
Purchasing Department
Maine Turnpike Authority

Item No	Item Description	Units	Approx. Quantities	Unit Prices in Numbers		Bid Amount in Numbers	
				Dollars	Cents	Dollars	Cents
BROUGHT FORWARD:							
643.931	WOOD POLES WITH GUYS AND SPAN WIRE	Each	4				
645.107	REMOVE AND STACK CANOPY MOUNTED SIGN	Each	4				
645.109	REMOVE AND RESET SIGN	Each	1				
645.1092	CANOPY MOUNTED DYNAMIC MESSAGE SIGN	Each	2				
645.1099	REMOVE AND DISPOSE SIGN	Each	70				
645.123	OVERHEAD GUIDE SIGN: (STA. 1062+50)	Lump Sum	1				
645.124	OVERHEAD GUIDE SIGN ON EXISTING STRUCTURE	Lump Sum	1				
645.14	CANOPY MOUNTED SIGN	Each	2				
645.141	CANOPY MOUNTED SIGN - SUPPLIED BY AUTHORITY	Each	2				
645.161	BREAKAWAY DEVICE SINGLE POLE	Each	14				
645.162	BREAKAWAY DEVICE MULTI POLE	Each	9				
645.251	ROADSIDE GUIDE SIGN, TYPE I	Square Foot	610				

CARRIED FORWARD:							
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Interim Completion Date B

The contractor shall complete the embankment construction of permanent Ramp A to the top of Aggregate Base Course -Type A from Sta. 100+00 to Sta. 111+50 by July 16, 2021 to provide one year of preload settlement. Placement of additional Aggregate Base Course – Type A will be required to correct any settlement over the one year duration, fine grading, and paving of this area and the Southbound Toll Administration building access road shall occur after July 16, 2022.

Permanent Ramp C from station 304+50 left to station 306+00 left, permanent Ramp C from station 315+25 to station 317+25, and Northbound On Emergency Vehicle Ramp from station 353+00 to station 354+50 shall be constructed to the top of Aggregate Base Course – Type A by July 16, 2021. Placement of additional Aggregate Base Course – Type A will be required to correct any settlement over the one year duration, fine grading, and paving of this area and the Southbound Toll Administration building access road shall occur after July 16, 2022.

Interim Completion Date C

The contractor shall complete the work associated with the proposed Exit 45 bridge, Southbound Toll Plaza Facilities (Entry and Exit) and Northbound Toll Plaza Facilities (Entry and Exit), including commissioning of the tolling systems by the System Integrator and the Authority, Southbound Toll Administration building and Northbound Toll Administration building, traffic signal system, including the final wearing course of pavement for Ramp A between station 106+00 and 119+25, Ramp B between stations 200+00 and 210+25, Ramp C between stations 300+00 and 318+00, Ramp D between stations 406+00 and 415+00 and Route 703 between stations 1046+20 and 1052+25, and all reconfigured ramps are operational and open to traffic by September 30, 2022. A weekend interchange closure will be allowed as stated in Special Provision Section 652 Project Specific Maintenance of Traffic Requirements to complete this work. The Authority will transfer fare collection operations from the existing toll plaza facility to the new southbound and northbound toll plaza facilities during the weekend closure. The Authority will be collecting fares at the new southbound and northbound toll plaza facilities when the interchange is reopened at the end of the weekend closure. The Contractor must account for 14 sequential calendar days per toll lane **for each toll plaza facility**, in the construction schedule, that is required by the System Integrator for testing and commissioning of the toll lanes in their schedule. Multiple lanes will NOT be commissioned simultaneously **at each toll plaza facility** but instead, sequentially. **The System Integrator can test and commission the northbound and southbound toll plaza facilities concurrently. The administration buildings shall be officially accepted (including completion of all punch list items, delivery of O&M manuals and any training) on or before Interim Completion Date C. Interim Completion Date C shall define the start of the buildings warranty period and all utility services shall become the responsibility of the Authority.**

Interim Completion Date D

The contractor shall complete all work associated with demolition of the existing toll plaza and toll administration building including reconstruction of the roadway within the demolition limits and the westbound right shoulder from station 2066+00 to station 2070+80 and shall have traffic established as shown in the Route 703 Phase 5 Maintenance of Traffic plans by November 11, 2022. The Authority will allow a Thursday overnight closure of the interchange ramps for demolition of the toll gantry and toll canopy in their entirety and a sequential weekend closure of the interchange ramps for the phase 1 demolition of the existing toll plaza. Traffic shall be established in accordance with the Route 703 Phase 4 maintenance of traffic plans when the interchange reopens to traffic at the completion of the weekend closure.

The undercarriage of haul units actively hauling HMA to the site shall be relatively free of dust / mud agglomerations. Haul units found to be contaminating the paving surface shall be removed from the site and cleaned prior to returning.

The contractor shall supply enough haul units such that paving is continuous and without any stops or paver speed changes during the installation of ramp or mainline wearing courses utilizing an MTV or any course placed on a bridge deck. The contractor will be charged a fee of \$1000 for every occurrence if paving is either stopped or the paver must slow down to avoid stopping due to inadequate number of haul units at the sole discretion of the Authority.

Section 401.09 Pavers

Add the following to the end of the fourth paragraph:

The forward operating speed of the paver shall be limited based on the course being placed. A shim or leveling course shall have a maximum speed of 50 feet per minute (fpm). Any base, intermediate, or surface course shall have a maximum paver speed of 40 fpm. The limited speed is not to be calculated on an average basis over time but shall be the actual limitation at any moment during the paving operation.

Section 401.091 Material Transfer Vehicle (MTV)

The first paragraph shall be deleted and replaced with:

When required by Special Provision Section 403, the paver shall be supplied mixture by a material transfer vehicle (Roadtec SB2500 or approved equal) capable of receiving and storing bituminous mixture from haul trucks, remixing, and delivering the mix to the paver hopper in a consistently uniform manner.

The fourth paragraph shall be deleted and replaced with:

The MTV shall be designed so that the mix receives additional mixing action.

Section 401.11 Preparation of Existing Surface

Add the following paragraph:

The contractor will be permitted to be generally innovative in methods to dry existing wet or damp pavement. Any method which causes damage or burning of the existing pavement, or which causes debris to fly into traffic shall be discontinued.

Section 401.111 Layout

The contractor shall layout the site prior to any pavement course or final striping. Layout shall be achieved by physical measurements obtained every 50' along the length to be paved or striped from a fixed reference point. The contractor shall transfer the measurements to the

SPECIAL PROVISIONSECTION 403HOT MIX ASPHALT PAVEMENT

Course	HMA Grading	Item Number	Total Thickness	No. of Layers	Complimentary Notes
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I-95 Northbound and Southbound Mainline and Shoulder Construction

Wearing	12.5 mm	403.2081	1.5"	1	A,D,E,F,H,I,J,K
Base	19.0 mm	403.207	2.5"	1	C,I
Base	19.0 mm	403.2072	4.5"	2	D,I

I-95 Northbound and Southbound Median Construction

Intermediate	12.5 mm	403.213	1.5"	1	C,I
Base	19.0 mm	403.207	2.5"	1	C,I

Ramps

Wearing	12.5 mm	403.2081	1.5"	1	A,D,E,F,H,I,J,K
Intermediate	12.5 mm	403.213	1.5"	1	C,I
Base	19.0 mm	403.207	2.5"	1	C,I

Route 703 – Eastbound and Westbound and Shoulder Construction

Wearing	12.5 mm	403.2081	1.5"	1	A,D,E,F,H,I,J,K
Intermediate	12.5 mm	403.213	1.5"	1	C,I
Base	19.0 mm	403.207	2.5"	1	C,I
Base	19.0 mm	403.2072	4.5"	2	D,I

Route 703 – Mill, Shim & Overlay

Wearing	12.5 mm	403.2081	1.5"	1	A,D,E,F,H,I,J,K
Intermediate	12.5 mm	403.213	1.5"	1	C,I
Base	19.0 mm	403.207	2.5"	1	C,I
Base	19.0 mm	403.207	4.5"	2	C,I
Shim	4.75 mm or 9.5 mm	403.212	Varies	Varies	C,I

Exit 45 Underpass Bridge

Wearing	12.5 mm	403.2081	1.5"	1	A,D,E,F,H,I,J,K
Base	12.5 mm	403.213	1.5"	1	C,I

Access Road

Wearing	12.5 mm	403.208	2"	1	C,I
Base	12.5 mm	403.213	2"	1	C,I

Ramp A – Raised Island and Median Drainage Waterway

Handwork	9.5 mm	403.209	2"	2	C
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COMPLEMENTARY NOTES

- A. The required PGAB for this mixture shall be **64E-28**.
- B. RAP may not be used.
- C. The Maine DOT will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 10 to <30 million ESALS for mix placed under this contract. Minimum and Maximum PGAB content limits from 401.21 shall not apply.
- D. The MTA will conduct the job mix verification. The aggregate qualities shall meet the design traffic level of 10 to <30 million ESALS for mix placed under this contract. The design verification, Quality Control, and Acceptance tests for this mix will be performed at **75 gyrations**. (N design)
- E. A material transfer vehicle (MTV) shall be used for the placement of Hot Mix Asphalt wearing surface on all roadways including acceleration and deceleration lanes and all ramps.
- F. Joints shall be constructed as the “notched wedge” type in accordance with Subsection 401.17.
- G. Joint density will be measured in accordance with Subsection 401.165.
- H. PGAB shall conform to the provisions of 403.02 – Polymer Modified PGAB for HMA
- I. The contractor shall furnish a quality control technician equipped with an approved densometer to ensure density requirements are met.
- J. Hydrated Lime shall be incorporated into the mixture.
- K. The antistrip additive Zycotherm manufactured by Zydex Industries shall be incorporated into the PGAB at a rate of 0.1%.

DIVISION 800

TABLE OF CONTENTS

The specification sections listed below, and all State of Maine Department of Transportation “Standard Specifications for Highways and Bridges” referenced therein, comprise Division 800:

3 – CONCRETE

033000	Cast-In-Place Concrete	03300 -	1 to 13
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4 – MASONRY

042000	Unit Masonry General	042000 -	1 to 11
042000.12	Masonry Mortar and Grout	042000.12 -	1 to 3
042000.13	Masonry Accessories	042000.13 -	1 to 5
042113	Brick Masonry	042113 -	1 to 2
042200	Concrete Masonry Units	042200 -	1 to 13

5 – METALS

05120	Structural Steel	05120 -	1 to 10
055000	Metal Fabrications	055000 -	1 to 8

6 – WOOD AND PLASTICS

061000	Rough Carpentry	061000 -	1 to 6
06190	Wood Trusses	06190 -	1 to 5
062013	Finish Carpentry	062013 -	1 to 4

7 – THERMAL AND MOISTURE PROTECTION

072100	Thermal Insulation	072100 -	1 to 4
072600	Vapor Retarders	072600 -	1 to 2
074113.16	Standing Seam Metal Roofing	074113.16 -	1 to 13
075323	Ethylene-Propylene-Diene-Monomer (EPDM) Roofing	075323	1 to 12

076200	Sheet Metal Flashing	076200 -	1 to 2
078413	Penetration Firestopping	078413 -	1 to 9
079200	Joint Sealants	079200 -	1 to 6

8 – DOORS AND WINDOWS

081113	Hollow Metal Doors and Frames	081113 -	1 to 7
084113	Aluminum-Framed Entrances and Storefronts	084113 -	1 to 5
085113	Aluminum Windows	085113 -	1 to 3
087100	Door Hardware	087100 -	1 to 4
088000	Glazing	088000 -	1 to 5

9 – FINISHES

092900	Gypsum Board and Metal Framing	092900 -	1 to 6
093013	Ceramic Tiling	093013 -	1 to 3
095123	Acoustical Tile Ceilings	095123 -	1 to 2
096513	Resilient Base and Accessories	096513 -	1 to 3
099123	Painting	099123 -	1 to 14

10 – SPECIALTIES

101423	Room Identification Signage	101423 -	1 to 4
102800	Toilet, Bath and Accessories	102800 -	1 to 2
104416	Fire Extinguishers	104416 -	1 to 2
105113	Metal Lockers	105113 -	1 to 6
107516	Ground-Set Flagpoles	107516 -	1 to 4

11 – KITCHEN EQUIPMENT

113100	Kitchen Equipment	113100 -	1 to 2
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12 – KITCHEN CASEWORK

123216	Manufactured Plastic-Laminate-Faced Cabinets	123216 -	1 to 7
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22 – PLUMBING

220000	Plumbing	220000 -	1 to 23
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23 – HEATING, VENTILATING, AND AIR CONDITIONING (HVAC)

230000	Supplemental Mechanical General Requirements	230000 -	1 to 11
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230713	Insulation (Plumbing and HVAC)	230713 -	1 to 5
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233113	Ductwork and Accessories	233133 -	1 to 6
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236000	HVAC Systems	236000 -	1 to 9
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250000	Automatic Temperature Controls	250000 -	1 to 4
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26 – ELECTRICAL

26000	Electrical	26000 -	1 to 39
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SECTION 072600 - VAPOR RETARDERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Polyethylene vapor retarders.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each product, for tests performed by a qualified testing agency.

PART 2 - PRODUCTS

2.1 POLYETHYLENE VAPOR RETARDERS

- A. Polyethylene Vapor Retarders: ASTM D 4397, 6-mil- thick sheet, with maximum permeance rating of 0.1 perm.
- B. ACCESSORIES
- C. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean substrates of substances that are harmful to vapor retarders, including removing projections capable of puncturing vapor retarders.

3.2 INSTALLATION OF VAPOR RETARDERS ON FRAMING

- A. Place vapor retarders on side of construction indicated on Drawings.
- B. Extend vapor retarders to extremities of areas to protect from vapor transmission. Secure vapor retarders in place with adhesives, vapor retarder fasteners, or other anchorage system as recommended by manufacturer. Extend vapor retarders to cover miscellaneous voids in insulated substrates, including those filled with loose-fiber insulation.
- C. Seal vertical joints in vapor retarders over framing by lapping no fewer than two studs and sealing with vapor-retarder tape according to vapor-retarder manufacturer's written instructions. Locate all joints over framing members or other solid substrates.
- D. Seal joints caused by pipes, conduits, electrical boxes, and similar items penetrating vapor retarders with vapor-retarder tape to create an airtight seal between penetrating objects and vapor retarders.
- E. Repair tears or punctures in vapor retarders immediately before concealment by other work. Cover with vapor-retarder tape or another layer of vapor retarders.

3.3 PROTECTION

- A. Protect vapor retarders from damage until concealed by permanent construction.

END OF SECTION 072600

SECTION 075323
ETHYLENE-PROPYLENE-DIENE-MONOMER (EPDM) ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section Includes:

- 1. Adhered ethylene-propylene-diene-terpolymer (EPDM) roofing system.
- 2. Substrate board.

B. Related Requirements:

- 1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.
- 2. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
- 3. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D 1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to work of this Section.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Roofing Conference: Conduct conference at Project site.

- 1. Meet with Owner, Architect, Construction Manager, Owner's insurer if applicable, roofing Installer, roofing system manufacturer's representative, deck Installer, air barrier Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
- 2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.

3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 1. For roof system component fasteners, include copy of FM Approvals.
- B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:
 1. Layout and thickness of roofing layers.
 2. Base flashings and membrane terminations.
 3. Flashing details at penetrations.
 4. Roof plan showing orientation of steel roof deck and orientation of roof membrane and fastening spacings and patterns for mechanically fastened roofing system.
- C. Samples for Verification: For the following products:
 1. Roof membrane and flashings of color required.
- D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and manufacturer.
- B. Manufacturer Certificates:

1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of complying with performance requirements.
2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- C. Product Test Reports: For components of roof membrane, for tests performed by a qualified testing agency, indicating compliance with specified requirements.
- D. Evaluation Reports: For components of roofing system, from ICC-ES.
 1. Fastener-pullout test results and manufacturer's revised requirements for fastener patterns.
- E. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.
- B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

1.8 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

- C. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes roof membrane, base flashings, fasteners, substrate board, and other components of roofing system.
 - 2. Warranty Period: 20 years from Date of Substantial Completion.
- B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as roof membrane, base flashing, and substrate boards for the following warranty period:
 - 1. Warranty Period: Two years from Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing system and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and flashings shall remain watertight.
 - 1. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
 - 2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D 3746, ASTM D 4272, or the Resistance to Foot Traffic Test in FM Approvals 4470.

- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
- C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to UL 580, or UL 1897:
 - 1. Zone 1 (Roof Area Field): -19.8 lbf/sq. ft.
 - 2. Zone 2 (Roof Area Perimeter): -33.3 lbf/sq. ft.
 - a. Location: From roof edge to 3-ft inside roof edge.
 - 3. Zone 3 (Roof Area Corners): -50.1 lbf/sq. ft.
 - a. Location: 3-ft in each direction from building corner.

2.2 ETHYLENE-PROPYLENE-DIENE-TERPOLYMER (EPDM) ROOFING

- A. EPDM Sheet: ASTM D 4637/D 4637M, Type II, scrim or fabric internally reinforced.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlisle SynTec Incorporated.
 - b. Firestone Building Products.
 - c. GenFlex Roofing Systems.
 - 2. Thickness: 60 mils, nominal.
 - 3. Exposed Face Color: Black.
 - 4. Source Limitations: Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer.

2.3 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
 - 1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: 60-mil- thick EPDM, partially cured or cured, according to application.
- C. Protection Sheet: Epichlorohydrin or neoprene nonreinforced flexible sheet, 55 to 60 mils thick, recommended by EPDM manufacturer for resistance to hydrocarbons, non-aromatic solvents, grease, and oil.

- D. Slip Sheet: Manufacturer's standard, of thickness required for application.
- E. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- F. Bonding Adhesive: Manufacturer's standard.
- G. Seaming Material: Single-component, butyl splicing adhesive and splice cleaner or Manufacturer's standard, synthetic-rubber polymer primer and 3-inch- wide minimum, butyl splice tape with release film.
- H. Lap Sealant: Manufacturer's standard, single-component sealant, colored to match membrane roofing.
- I. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- J. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8-inch-thick; with anchors.
- K. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening components to substrate, and acceptable to roofing system manufacturer.
- L. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, molded pipe boot flashings, preformed inside and outside corner sheet flashings, reinforced EPDM securement strips, T-joint covers, in-seam sealants, termination reglets, cover strips, and other accessories.

2.4 SUBSTRATE BOARDS

- A. Substrate Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum board or ASTM C 1278/C 1278M, fiber-reinforced gypsum board.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. CertainTeed Corporation.
 - b. Georgia-Pacific Building Products.
 - c. National Gypsum Company.
 - d. United States Gypsum Company.
 - 2. Thickness: 1/2 inch.
- B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening substrate panel to roof deck.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
 - 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 - 2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of roof deck.
 - 3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing system installation according to roofing system manufacturer's written instructions. Remove sharp projections.
- B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Perform fastener-pullout tests according to roof system manufacturer's written instructions.
 - 1. Submit test result within 24 hours of performing tests.
 - a. Include manufacturer's requirements for any revision to previously submitted fastener patterns required to achieve specified wind uplift requirements.

3.3 ROOFING INSTALLATION, GENERAL

- A. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.4 SUBSTRATE BOARD INSTALLATION

- A. Install substrate board with long joints in continuous straight lines, with end joints staggered not less than 24 inches in adjacent rows.
 - 1. At steel roof decks, install substrate board at right angle to flutes of deck.
 - a. Locate end joints over crests of steel roof deck.
 - 2. Tightly butt substrate boards together.
 - 3. Cut substrate board to fit tight around penetrations and projections, and to fit tight to intersecting sloping roof decks.
 - 4. Fasten substrate board to top flanges of steel deck to resist uplift pressure at corners, perimeter, and field of roof according to roofing system manufacturers' written instructions.

3.5 ADHERED ROOFING INSTALLATION

- A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.
- B. Unroll membrane roof membrane and allow to relax before installing.
- C. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- D. Accurately align roof membrane, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- E. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer, and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.
- F. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeters.
- G. Apply roof membrane with side laps shingled with slope of roof deck where possible.

- H. Seam Installation: Clean both faces of splice areas, apply splicing cement.
 - 1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
 - 2. Apply lap sealant and seal exposed edges of roofing terminations.
 - 3. Apply a continuous bead of in-seam sealant before closing splice if required by roofing system manufacturer.
- I. Tape Seam Installation: Clean and prime both faces of splice areas, apply splice tape.
 - 1. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
 - 2. Apply lap sealant and seal exposed edges of roofing terminations.
 - 3. Firmly roll side and end laps of overlapping roof membrane to ensure a watertight seam installation.
 - 4. Apply lap sealant and seal exposed edges of roofing terminations.
- J. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
- K. Spread sealant or mastic bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.6 BASE FLASHING INSTALLATION

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean splice areas, apply splicing cement, and firmly roll side and end laps of overlapping sheets to ensure a watertight seam installation. Apply lap sealant and seal exposed edges of sheet flashing terminations.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.7 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.8 ROOFING INSTALLER'S WARRANTY

A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:

- 1. Owner: <Insert name of Owner>.
- 2. Address: <Insert address>.
- 3. Building Name/Type: <Insert information>.
- 4. Address: <Insert address>.
- 5. Area of Work: <Insert information>.
- 6. Acceptance Date: _____.
- 7. Warranty Period: <Insert time>.
- 8. Expiration Date: _____.

- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period Roofing Installer will, at Roofing Installer's own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. lightning;
 - b. peak gust wind speed exceeding <Insert mph (m/s)>;
 - c. fire;
 - d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. vapor condensation on bottom of roofing; and
 - g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
 2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
 3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
 4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and

void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.

- 5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
- 6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
- 7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

- 1. Authorized Signature: _____.
- 2. Name: _____.
- 3. Title: _____.

END OF SECTION 075323

Date: 2/11/2021

ESTIMATED QUANTITIES						
ITEM NO.	DESCRIPTION	HIGHWAY QUANTITY	BRIDGE QUANTITY	TOLL QUANTITY	TOTAL QUANTITY	UNIT
606.1301	3"W-BEAM GUARDRAIL - MID-WAY SPLICE (7' STEEL POST, 8" OFFSET BLOCKS, SINGLE FACED)	1350			1350	LF
606.1304	3"W-BEAM GUARDRAIL - MID-WAY SPLICE (7' STEEL POST, 8" OFFSET BLOCKS, OVER 15' RADIUS)	50			50	LF
606.1307	3"W-BEAM GUARDRAIL - MID-WAY SPLICE FLARED TERMINAL	9			9	EA
606.132	3"W-BEAM GUARDRAIL - MID-WAY SPLICE (7' STEEL POST, 8" OFFSET BLOCKS, DOUBLE FACED)	180			180	LF
606.1351	3"W-BEAM GUARDRAIL - MID-WAY SPLICE TERMINAL END - ANCHORED END	8			8	EA
606.1723	BRIDGE TRANSITION - TYPE III	8			8	EA
606.1724	BRIDGE TRANSITION - TYPE III, MODIFIED	1			1	EA
606.265	TERMINAL END - SINGLE RAIL - GALVANIZED STEEL	4			4	EA
606.352	REFLECTORIZED BEAM GUARDRAIL DELINEATOR	38			38	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	34			34	EA
606.356	UNDERDRAIN DELINEATOR POST	380			380	EA
606.3561	DELINEATOR POST - REMOVE AND RESET	60			60	EA
606.3562	DELINEATOR POST - REMOVE AND STACK	70			70	EA
607.25	REMOVE AND RESET CHAIN LINK FENCE			11	11	LF
607.494	GATE SUPPLIED BY THE AUTHORITY			1	1	EA
608.08	REINFORCED CONCRETE SIDEWALK			190	190	SY
609.11	VERTICAL CURB TYPE I			280	280	LF
609.12	VERTICAL CURB TYPE I - CIRCULAR			58	58	LF
609.13	VERTICAL BRIDGE CURB TYPE I			490	490	LF
609.14	VERTICAL BRIDGE CURB TYPE I - CIRCULAR			180	180	LF
609.15	SLOPED CURB TYPE I		570		570	LF
609.234	TERMINAL CURB TYPE I - 4 FOOT			8	8	EA
609.238	TERMINAL CURB TYPE I - 8 FOOT			2	2	EA
609.34	CURB TYPE 5	170			170	LF
609.35	CURB TYPE 5 - CIRCULAR	20			20	LF
610.08	PLAIN RIPRAP	340			340	CY
610.18	STONE DITCH PROTECTION	750			750	CY
610.181	TEMPORARY STONE CHECK DAM	81			81	CY
613.319	EROSION CONTROL BLANKET	8650			8650	SY
615.07	LOAM	7050			7050	CY
615.073	LOAM - SUPPLIED BY AUTHORITY	2700			2700	CY
618.14	SEEDING METHOD NUMBER 2	810			810	UNIT
618.143	SPECIAL SEEDING	14			14	UNIT
619.1201	MULCH - PLAN QUANTITY	810			810	UNIT
619.1202	TEMPORARY MULCH	1			1	LS
620.56	DRAINAGE GEOTEXTILE	800			800	SY
620.58	EROSION CONTROL GEOTEXTILE	3350			3350	SY
620.60	SEPARATION GEOTEXTILE	390			390	SY
620.70	HDPE GEOMEMBRANE	4300			4300	SY
621.408	EVERGREENS (2.5' - 3') GROUP B			6	6	EA
621.513	HYBRID RHODODENDRON 'PJM' (2.5' - 3')			6	6	EA
621.553	DECIDUOUS SHRUBS (3'-4') GROUP B			4	4	EA
625.106	WATER SERVICE SUPPLY LINE (<3")			1550	1550	LF
625.107	WATER METER PIT			1	1	EA
626.121	QUAZITE JUNCTION BOX (36x24)			23	23	EA
626.122	QUAZITE JUNCTION BOX (18x11)	68			68	EA
626.123	QUAZITE JUNCTION BOX (48x36)			4	4	EA
626.131	ADJUST EXISTING JUNCTION BOX TO GRADE	6			6	EA
626.22	NON-METALLIC CONDUIT	10,000			10,000	LF
626.223	HORIZONTAL DIRECTIONAL DRILLED CONDUIT	2753		3897	6650	LF
626.31	18 INCH DIAMETER FOUNDATION	2			2	EA
626.32	24 INCH DIAMETER FOUNDATION	70			70	EA
626.332	30-INCH DIAMETER, GREATER THAN 8- FEET LONG, ALL 36 INCH AND 42 INCH DIAMETER FOUNDATIONS	9			9	CY
626.38	GROUND MOUNTED CABINET FOUNDATION			3	3	EA
626.701	OVERHEAD GUIDE SIGN FOUNDATION STA 1062+50			1	1	LS
627.18	12' SOLID WHITE PAVEMENT MARKING LINE	6100			6100	LF
627.712	WHITE OR YELLOW PAVEMENT MARKING LINE	49,000			49,000	LF
627.73	TEMPORARY 6 INCH PAVEMENT MARKING TAPE	20,000			20,000	LF
627.731	TEMPORARY 6 INCH BLACK PAVEMENT MARKING TAPE	250			250	LF
627.75	WHITE OR YELLOW PAVEMENT & CURB MARKING	32			32	SF
627.77	REMOVING EXISTING PAVEMENT MARKING	45,200			45,200	SF

ESTIMATED QUANTITIES						
ITEM NO.	DESCRIPTION	HIGHWAY QUANTITY	BRIDGE QUANTITY	TOLL QUANTITY	TOTAL QUANTITY	UNIT
627.78	TEMPORARY PAVEMENT MARKING LINE, WHITE OR YELLOW	197,000			197,000	LF
627.812	TEMPORARY RAISED PAVEMENT MARKERS	1650			1650	EA
627.941	PAVEMENT MARKING TAPE - DOTTED WHITE LANE LINE, 6-INCH WIDTH	350			350	LF
627.942	PAVEMENT MARKING TAPE - DOTTED WHITE LANE LINE, 12-INCH WIDTH	420			420	LF
627.944	PAVEMENT MARKINGS - RECESSED TAPE - WORDS, ARROWS, STOP BARS	320			320	SF
629.05	HAND LABOR, STRAIGHT TIME	200			200	HR
631.10	AIR COMPRESSOR (INCLUDING OPERATOR)	40			40	HR
631.11	AIR TOOL (INCLUDING OPERATOR)	40			40	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	160			160	HR
631.13	BULLDOZER (INCLUDING OPERATOR)	160			160	HR
631.14	GRADER (INCLUDING OPERATOR)	160			160	HR
631.171	TRUCK - SMALL (INCLUDING OPERATOR)	40			40	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	160			160	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	80			80	HR
631.32	CULVERT CLEANER (INCLUDING OPERATORS)	20			20	HR
631.36	FOREMAN	160			160	HR
631.50	JACKHAMMER (AIR TOOL INCLUDING OPERATOR)			60	60	HR
631.51	BUCKET TRUCK			60	60	HR
631.52	SCISSOR LIFT			60	60	HR
631.53	ELECTRICIAN			100	100	HR
631.54	ELECTRICIAN'S APPRENTICE			100	100	HR
631.55	PLUMBER			60	60	HR
633.031	PROPANE SERVICE - SOUTHBOUND			1	1	LS
633.032	PROPANE SERVICE - NORTHBOUND			1	1	LS
633.21	PROPANE TANK SUPPORTS			8	8	EA
633.31	PROPANE TANK PAD			55	55	SY
634.175	REPLACEMENT LED FIXTURE	6			6	EA
634.208	REMOVE AND RESET LIGHT STANDARD	11			11	EA
634.2083	REMOVE AND STACK LIGHT STANDARD	8			8	EA
634.231	CONVENTIONAL LIGHT STANDARD WITH LED FIXTURE	41			41	EA
639.181	FIELD OFFICE, TYPE A (PROVIDED BY MTA)	1			1	EA
639.261	GEOTECHNICAL INSTRUMENTATION PROTECTION AND REMOVAL	1			1	LS
643.712	LANE USE SIGNAL			6	6	EA
643.80	TRAFFIC SIGNAL AT EXIT 45 1-95 SB ON/OFF RAMP	1			1	LS
643.931	WOOD POLES WITH GUYS AND SPAN WIRE	4			4	EA
645.107	REMOVE AND STACK CANOPY MOUNTED SIGN			4	4	EA
645.109	REMOVE AND RESET SIGN			1	1	EA
645.1092	CANOPY MOUNTED DYNAMIC MESSAGE SIGN			2	2	EA
645.1099	REMOVE AND DISPOSE SIGN	70			70	EA
645.123	OVERHEAD GUIDE SIGN: (STA. 1062+50)			1	1	LS
645.124	OVERHEAD GUIDE SIGN ON EXISTING STRUCTURE	1			1	LS
645.14	CANOPY MOUNTED SIGN			2	2	EA
645.141	CANOPY MOUNTED SIGN - SUPPLIED BY AUTHORITY			2	2	EA
645.161	BREAKAWAY DEVICE SINGLE POLE	14			14	EA
645.162	BREAKAWAY DEVICE MULTI POLE	9			9	EA
645.251	ROADSIDE GUIDE SIGN, TYPE I	610			610	SF
645.271	REGULATORY, WARNING, CONFIRMATION AND ROUTE ASSEMBLY SIGN, TYPE I	760			760	SF
645.289	STEEL H-BEAM POLES	6500			6500	LB
645.501	REMOVE AND RESET MAINLINE SIGN NO.1	1			1	LS
645.5011	TEMPORARY REMOVE AND RESET MAINLINE SIGN	1			1	LS
645.502	REMOVE AND RESET MAINLINE SIGN NO.2	1			1	LS
645.503	REMOVE AND RESET MAINLINE SIGN NO.3	1			1	LS
645.504	REMOVE AND RESET MAINLINE SIGN NO.4	1			1	LS
645.505	REMOVE AND RESET MAINLINE SIGN NO.5	1			1	LS
648.00	FLAGPOLE AND SPOTLIGHT			2	2	EA
652.30	FLASHING ARROW	6			6	EA
652.312	TYPE III BARRICADES	9			9	EA
652.33	DRUM	710			710	EA
652.34	CONE	50			50	EA
652.35	CONSTRUCTION SIGNS	3750			3750	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1			1	LS
652.38	FLAGGERS	240			240	HR
652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	4			4	EA
652.4101	PORTABLE-CHANGEABLE MESSAGE SIGN	20			20	WEEK
652.45	TRUCK MOUNTED ATTENUATOR	290			290	CR
652.452	AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	3			3	EA
652.47	SEQUENTIAL FLASHING WARNING LIGHTS	30			30	EA

Filename: 00X_EstimatedQuantities_02.dgn

Scale: NOT TO SCALE

No.	Revision	By	Date
1	UPDATED QUANTITY AND UNITS	JRH	1/21
2	UPDATED QUANTITY	JRH	2/21

Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Raymond W. Hanf, P.E.

	By	Date	Checked	By	Date
Designed	DEB	09\20	Checked	RMH	09\20
Drawn	CAV	09\20	In Charge of	RAL	09\20

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

EXIT 45
 INTERCHANGE RECONFIGURATION
 ESTIMATED QUANTITIES (2 OF 3)

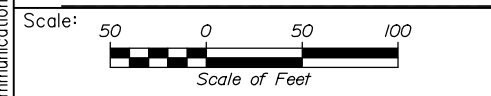
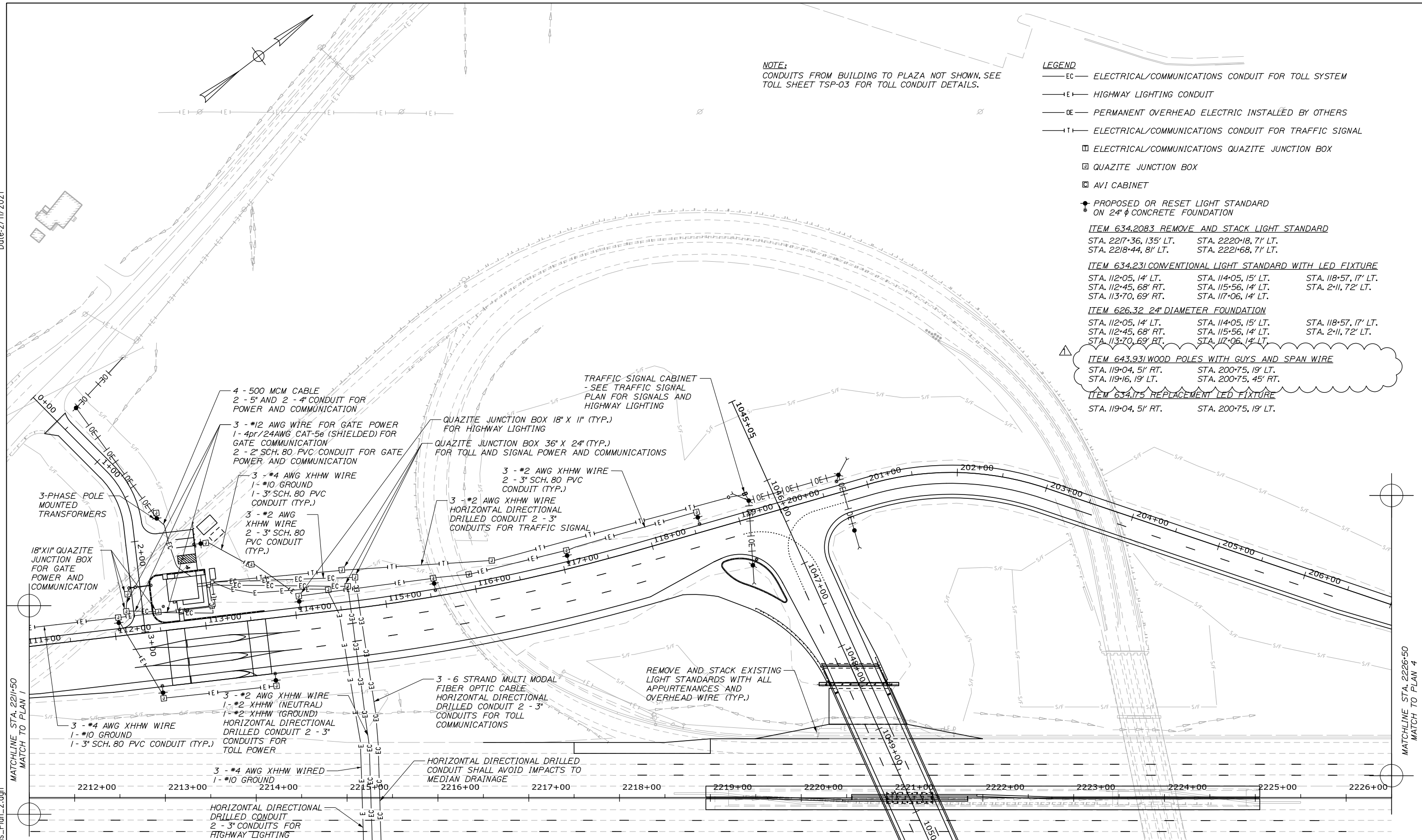
SHEET NUMBER: EQ-02
 CONTRACT: 2021.07
 4 OF 431

Date: 2/11/2021

NOTE:
 CONDUITS FROM BUILDING TO PLAZA NOT SHOWN, SEE
 TOLL SHEET TSP-03 FOR TOLL CONDUIT DETAILS.

- LEGEND**
- EC — ELECTRICAL/COMMUNICATIONS CONDUIT FOR TOLL SYSTEM
 - EI — HIGHWAY LIGHTING CONDUIT
 - OE — PERMANENT OVERHEAD ELECTRIC INSTALLED BY OTHERS
 - TI — ELECTRICAL/COMMUNICATIONS CONDUIT FOR TRAFFIC SIGNAL
 - ELECTRICAL/COMMUNICATIONS QUAZITE JUNCTION BOX
 - QUAZITE JUNCTION BOX
 - AVI CABINET
 - ⬤ PROPOSED OR RESET LIGHT STANDARD ON 24" Ø CONCRETE FOUNDATION

- ITEM 634.2083 REMOVE AND STACK LIGHT STANDARD**
 STA. 2217+36, 135' LT. STA. 2220+18, 71' LT.
 STA. 2218+44, 81' LT. STA. 2221+68, 71' LT.
- ITEM 634.231 CONVENTIONAL LIGHT STANDARD WITH LED FIXTURE**
 STA. 112+05, 14' LT. STA. 114+05, 15' LT. STA. 118+57, 17' LT.
 STA. 112+45, 68' RT. STA. 115+56, 14' LT. STA. 2+11, 72' LT.
 STA. 113+70, 69' RT. STA. 117+06, 14' LT.
- ITEM 626.32 24" DIAMETER FOUNDATION**
 STA. 112+05, 14' LT. STA. 114+05, 15' LT. STA. 118+57, 17' LT.
 STA. 112+45, 68' RT. STA. 115+56, 14' LT. STA. 2+11, 72' LT.
 STA. 113+70, 69' RT. STA. 117+06, 14' LT.
- ITEM 643.931 WOOD POLES WITH GUYS AND SPAN WIRE**
 STA. 119+04, 51' RT. STA. 200+75, 19' LT.
 STA. 119+16, 19' LT. STA. 200+75, 45' RT.
- ITEM 634.175 REPLACEMENT LED FIXTURE**
 STA. 119+04, 51' RT. STA. 200+75, 19' LT.



Designed by:

HNTB

No.	Revision	By	Date
1	UPDATED QUANTITY NOTES	JRH	2/21

CONSULTANT PROJECT MANAGER: Raymond W. Hanf, P.E.

	By	Date	By	Date	
Designed	EDD	09\20	Checked	JRH	09\20
Drawn	AJS	09\20	In Charge of	RAL	09\20

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

EXIT 45 INTERCHANGE RECONFIGURATION
POWER AND COMMUNICATION PLANS (2 OF 7)

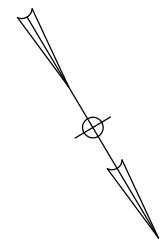
SHEET NUMBER: CP-02
 CONTRACT: 2021.07
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Filename: OXX-Communications_Plan_2.dgn

MATCHLINE STA. 2226+50
MATCH TO PLAN 4

Date: 2/5/2021

Filename: 00X_SB_Plaza Proposed Electrical Plan.dgn



INSTALL TRAFFIC CONTROL PEDESTAL, VES CAMERA, AND PATRON FARE DISPLAY (TYP.)

CONDUIT STUB-UP SEE DETAIL A, THIS SHEET (TYP.)

PROPOSED JUNCTION BOX (TYP.)

INSTALL NEW LANE 2 & 3 CONTROLLER CABINETS

PROPOSED JUNCTION BOX (TYP.)

(1) 1 1/2" SCH 80 PVC (TYP.)

(1) 1 1/2" SCH 80 PVC (TYP.)

100 AMP DIRTY POWER SUBPANEL

CONDUIT STUB UP - SEE DETAIL A

(6) 3" SCH 80 PVC (TYP.)

(6) 3" SCH 80 PVC (TYP.)

(3) 3" SCH 80 PVC (TYP.)

100 AMP DIRTY POWER SUBPANEL

INSTALL NEW LANE 1 CONTROLLER CABINET

STUB UP 2" SCH. 80 PVC CONDUIT DATA/POWER TO BOOTH PIT (TYP.)

PROPOSED GROUNDING WELL FOR LIGHTNING SUPPRESSION SYSTEM. NUMBER OF GROUNDING WELLS TO BE DETERMINED BY LIGHTNING SUPPRESSION CONTRACTOR

GROUND CABLE TO BUILDING #2/0 AWG BARE COPPER WIRE IN 1 1/2" SCH. 80 PVC. ATTACH TO GROUNDING WELL AT BUILDING

TIE INTO BUILDING GROUNDING SYSTEM

TOLL BUILDING

CONDUITS IN SAND BACKFILL

2 48"X36" QUAZITE JUNCTION BOXES

TOLLING CONDUIT

TRAFFIC SIGNAL CONDUIT

SEAL WITH ELECTRICAL PUTTY AND EPOXY

PROPOSED LOOP LEAD

CONCRETE SLAB

d = 1/4" TO 1/2" FOR SINGLE LEAD
d = 2/2" FOR MULTIPLE LEADS
d = 3" AT STUB UP ONLY

3" SCHEDULE 80 PVC

PROPOSED SCH. 80 PVC CONDUIT BELOW CONCRETE SLAB

SANITARY TEE OR SANITARY 90° FOR START OF CONDUIT RUN. USE REDUCERS TO FIT 1 1/2" CONDUIT.

DETAIL A
STUB UP IN CASH LANE SLAB
SECTION VIEW

NOTE: SEALING STUB-UPS SHALL BE INCIDENTAL TO THE PVC PAY ITEM.

ENTRY TOLL PLAZA LEGEND	
POWER	P
COMMUNICATION	C

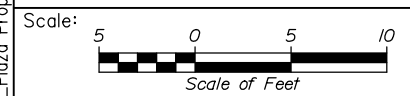
NOTES:

1. ALL ABOVE GROUND CONDUIT SHALL BE GALVANIZED RIGID METAL CONDUIT. ALL BELOW GROUND CONDUIT SHALL BE SCHEDULE 80 PVC CONDUIT.
2. ALL LOOP LEAD STUB UPS ARE 3" DIAMETER AND SHALL BE 3" MIN. FROM EDGE OF SLAB. THE TOP ELEVATION OF ALL SENSOR LOOP CONDUIT FROM STUB UPS SHALL BE AT BOTTOM OF SLAB. SEE DETAIL ON THIS SHEET.
3. CONTRACTOR SHALL CONFIRM LOCATIONS OF JOINTS AND STUB UPS PRIOR TO SETTING STUB UPS.
4. ALL SENSOR LOOP JUNCTION BOXES SHALL BE NON-METALLIC.
5. INSTALL NEW LANE CONTROLLERS AT LOCATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY MTA AND SYSTEM INTEGRATOR.
6. SOUTHBOUND ENTRY PLAZA SHOWN, NORTHBOUND ENTRY PLAZA SIMILAR.
7. AVI CABINET WILL BE SUPPORTED BY A UNISTRUT FRAME AND HELD A MINIMUM OF 6" ABOVE THE BUMPER.

↑
LANE 3

↑
LANE 2

↑
LANE 1



Designed by:



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**THE GOLD STAR
MEMORIAL HIGHWAY**

**EXIT 45
INTERCHANGE RECONFIGURATION
ENTRY TOLL PLAZA
UNDERGROUND ELECTRICAL PLAN**

No.	Revision	By	Date
1	UPDATED AVI CABINET AND NOTES	WWL	2/21

CONSULTANT PROJECT MANAGER: Raymond W. Hanf, P.E.					
	By	Date	By	Date	
Designed	RBM	09\20	Checked	RBM	09\20
Drawn	WWL	09\20	In Charge of	RAL	09\20

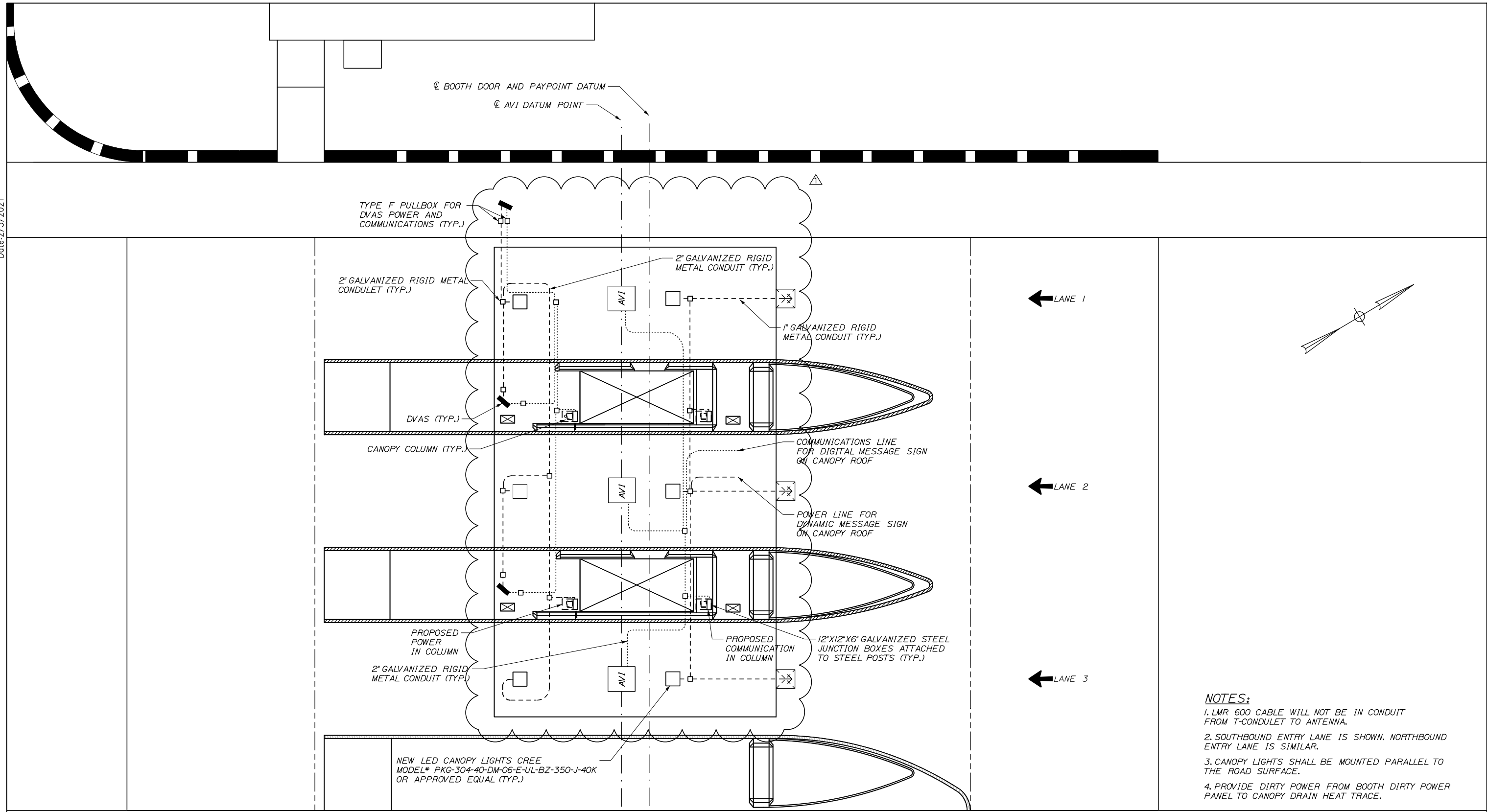
MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

CONTRACT: 2021.07

SHEET NUMBER: TSP-03

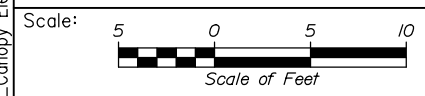
354 OF 431

Date: 2/5/2021



- NOTES:**
1. LMR 600 CABLE WILL NOT BE IN CONDUIT FROM T-CONDULET TO ANTENNA.
 2. SOUTHBOUND ENTRY LANE IS SHOWN. NORTHBOUND ENTRY LANE IS SIMILAR.
 3. CANOPY LIGHTS SHALL BE MOUNTED PARALLEL TO THE ROAD SURFACE.
 4. PROVIDE DIRTY POWER FROM BOOTH DIRTY POWER PANEL TO CANOPY DRAIN HEAT TRACE.

Filename: 00X_SB_Canopy_Electrical.dgn



Designed by:

HNTB

CONSULTANT PROJECT MANAGER: Raymond W. Hanf, P.E.

No.	Revision	By	Date
1	UPDATED CONDUIT PATHING	WWL	2/21

	By	Date	By	Date	
Designed	RBM	09\20	Checked	RBM	09\20
Drawn	WWL	09\20	In Charge of	RAL	09\20

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MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER: Ralph C. Norwood, IV, P.E., P.T.O.E.

EXIT 45
INTERCHANGE RECONFIGURATION
ENTRY TOLL PLAZA
CANOPY ELECTRICAL

SHEET NUMBER: TSP-04
CONTRACT: 2021.07
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