



THE GOLD STAR
MEMORIAL HIGHWAY

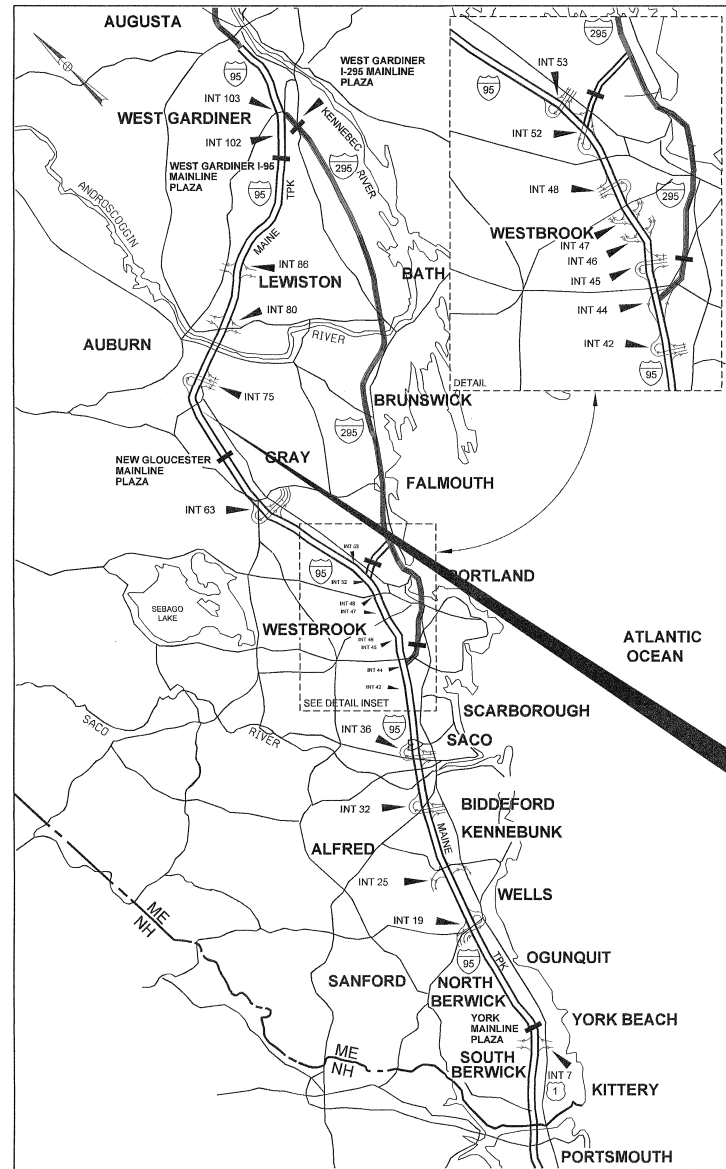
MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR
MICHAEL J. CIANCHETTE, VICE CHAIR
JANE L. LINCOLN, MEMBER
THOMAS J. ZUKE, MEMBER
ANDREW MCLEAN, MEMBER
BRUCE VAN NOTE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

CONTRACT 2024.13
CULVERT AND SLOPE REPAIRS
MM 72.2

CONTRACT 2024.13 CULVERT AND SLOPE REPAIRS MM 72.2



LOCATION MAP

CONTRACT 2024.13



APPROVED:

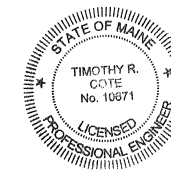
MAINE TURNPIKE AUTHORITY

Peter S. Merfeld
PETER S. MERFELD, P.E. - CHIEF OPERATIONS OFFICER

04/03/24
DATE

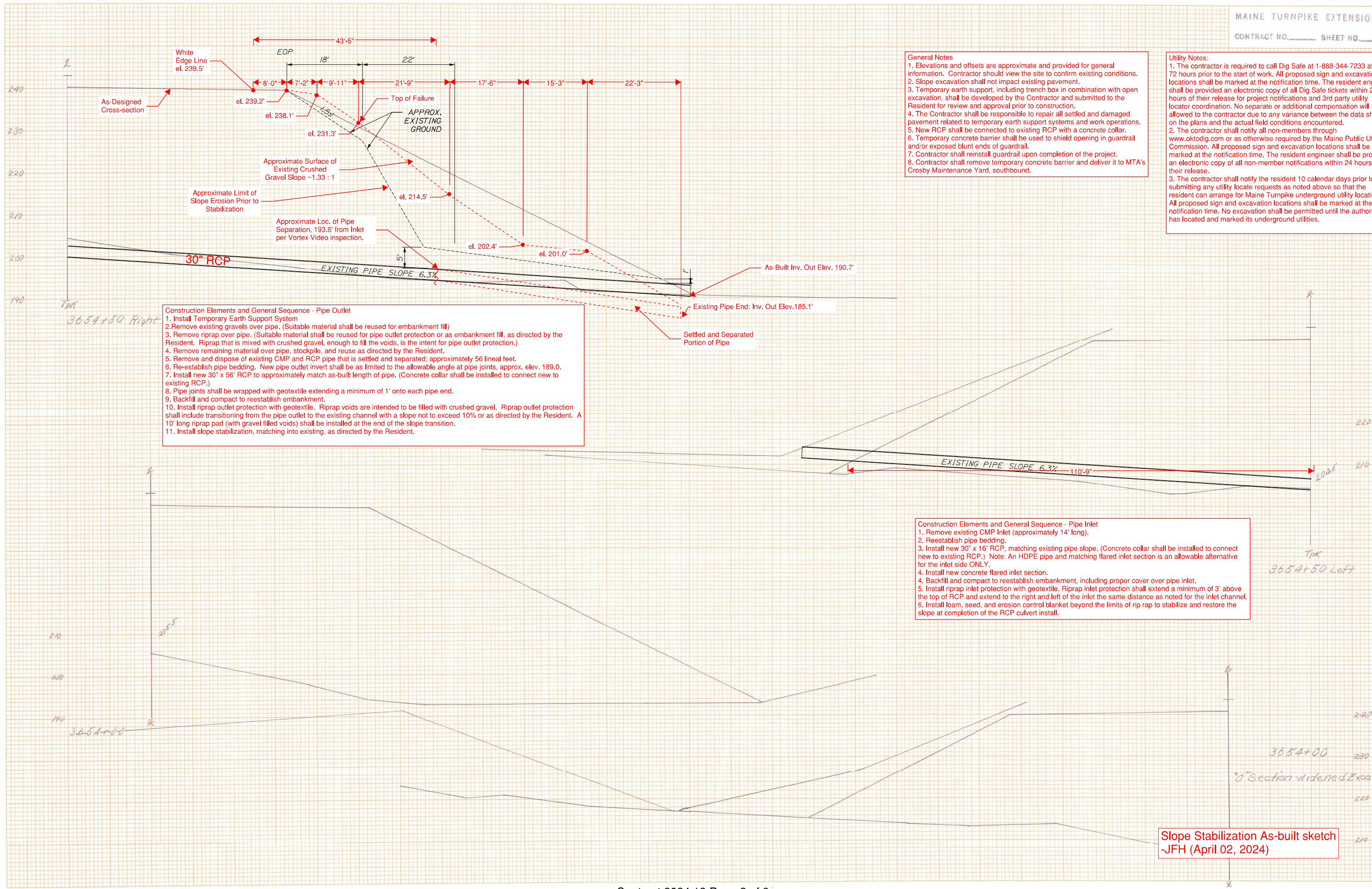
Stephen R. Tart
STEPHEN R. TART, P.E. - CHIEF ENGINEER/DIRECTOR OF ENGINEERING

4/23/24
DATE



TIMOTHY R. COTE P.E.
VICE PRESIDENT | PROJECT DIRECTOR

Timothy R. Cote
DATE *4/23/2024*



General Notes

1. Elevations and offsets are approximate and provided for general information. Contractor should view the site to confirm existing conditions.
2. Slope excavation shall not impact existing pavement.
3. Temporary earth support, including trench box in combination with open excavation, shall be developed by the Contractor and submitted to the Resident for review and approval prior to construction.
4. The Contractor shall be responsible to repair all settled and damaged pavement related to temporary earth support systems and work operations.
5. New RCP shall be connected to existing RCP with a concrete collar.
6. Temporary concrete barrier shall be used to shield opening in guardrail and/or exposed blunt ends of guardrail.
7. Contractor shall reinstall guardrail upon completion of the project.
8. Contractor shall remove temporary concrete barrier and deliver it to MTA's Crosby Maintenance Yard, southbound.

Utility Notes:

1. The contractor is required to call Dig Safe at 1-888-344-7233 at least 72 hours prior to the start of work. All proposed sign and excavation locations shall be marked at the notification time. The resident engineer shall be provided an electronic copy of all Dig Safe tickets within 24 hours of their release for project notifications and 3rd party utility locator coordination. No separate or additional compensation will be allowed to the contractor due to any variance between the data shown on the plans and the actual field conditions encountered.
2. The contractor shall notify all non-members through www.oktodig.com or as otherwise required by the Maine Public Utilities Commission. All proposed sign and excavation locations shall be marked at the notification time. The resident engineer shall be provided an electronic copy of all non-member notifications within 24 hours of their release.
3. The contractor shall notify the resident 10 calendar days prior to submitting any utility locate requests as noted above so that the resident can arrange for Maine Turnpike underground utility location. All proposed sign and excavation locations shall be marked at the notification time. No excavation shall be permitted until the authority has located and marked its underground utilities.

Construction Elements and General Sequence - Pipe Outlet

1. Install Temporary Earth Support System
2. Remove existing gravels over pipe. (Suitable material shall be reused for embankment fill)
3. Remove riprap over pipe. (Suitable material shall be reused for pipe outlet protection or as embankment fill, as directed by the Resident. Riprap that is mixed with crushed gravel, enough to fill the voids, is the intent for pipe outlet protection.)
4. Remove remaining material over pipe, stockpile, and reuse as directed by the Resident.
5. Remove and dispose of existing CMP and RCP pipe that is settled and separated; approximately 56 lineal feet.
6. Re-establish pipe bedding. New pipe outlet invert shall be as limited to the allowable angle at pipe joints, approx. elev. 189.0.
7. Install new 30" x 56' RCP to approximately match as-built length of pipe. (Concrete collar shall be installed to connect new to existing RCP.)
8. Pipe joints shall be wrapped with geotextile extending a minimum of 1' onto each pipe end.
9. Backfill and compact to reestablish embankment.
10. Install riprap outlet protection with geotextile. Riprap voids are intended to be filled with crushed gravel. Riprap outlet protection shall include transitioning from the pipe outlet to the existing channel with a slope not to exceed 10% or as directed by the Resident. A 10' long riprap pad (with gravel filled voids) shall be installed at the end of the slope transition.
11. Install slope stabilization, matching into existing, as directed by the Resident.

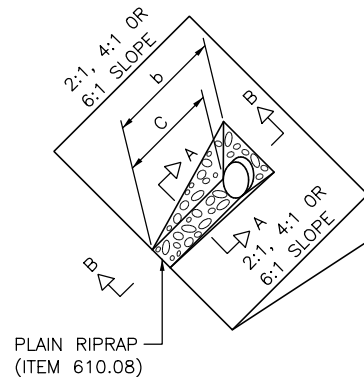
Construction Elements and General Sequence - Pipe Inlet

1. Remove existing CMP Inlet (approximately 14' long).
2. Reestablish pipe bedding.
3. Install new 30" x 16' RCP, matching existing pipe slope. (Concrete collar shall be installed to connect new to existing RCP.) Note: An HDPE pipe and matching flared inlet section is an allowable alternative for the inlet side ONLY.
4. Install new concrete flared inlet section.
4. Backfill and compact to reestablish embankment, including proper cover over pipe inlet.
5. Install riprap inlet protection with geotextile. Riprap inlet protection shall extend a minimum of 3' above the top of RCP and extend to the right and left of the inlet the same distance as noted for the inlet channel.
6. Install loam, seed, and erosion control blanket beyond the limits of rip rap to stabilize and restore the slope at completion of the RCP culvert install.

Slope Stabilization As-built sketch -JFH (April 02, 2024)

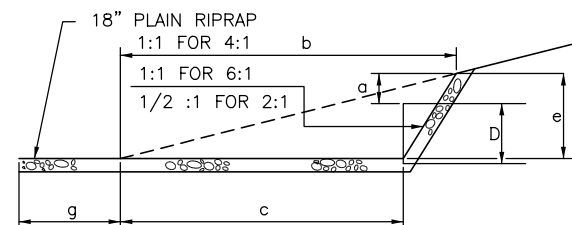
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 NOTE BOOK NO. _____
 TEMPLATE NO. _____
 AREAS CHECKED _____
 DATE _____

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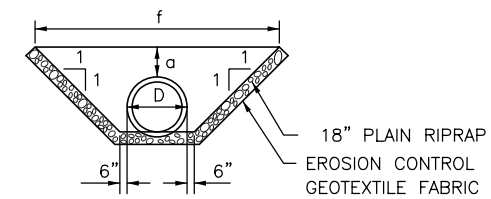


DIMENSIONS FOR SLOPE OF 2:1

D	a (FT)	b (FT)	c (FT)	e (FT)	f (FT)	g (FT)	STONE DEPTH (FT)	STONE (CY)
12"	1.00	4.00	3.00	2.00	6.00	1.00	1.50	1.30
15"	1.00	4.50	3.37	2.25	6.75	1.63	1.50	1.70
18"	1.00	5.00	3.75	2.50	7.50	2.25	1.50	2.09
21"	1.00	5.50	4.13	2.75	8.25	2.88	1.50	2.58
24"	1.00	6.00	4.50	3.00	9.00	3.50	1.50	3.12
30"	1.00	7.00	5.25	3.50	10.50	4.75	1.50	4.33
36"	1.00	8.00	6.00	4.00	12.00	6.00	1.50	5.75
42"	1.00	9.00	6.75	4.50	13.50	7.25	1.50	7.37
48"	1.00	10.00	7.50	5.00	15.00	8.50	1.50	9.18
54"	1.00	11.00	8.25	5.50	16.50	9.75	1.50	11.19
60"	1.00	12.00	9.00	6.00	18.00	11.00	1.50	13.40
66"	1.00	13.00	9.75	6.50	19.50	12.25	1.50	15.81
72"	1.00	14.00	10.50	7.00	21.00	13.50	1.50	18.41
84"	1.00	16.00	12.00	8.00	24.00	16.00	1.50	24.22



SECTION B-B



SECTION A-A

ROADWAY CULVERT END
SLOPE TREATMENT

CULVERT NOTES:

1. THE DIMENSIONS SHOWN ARE APPROXIMATE AND MAY BE MODIFIED BY THE RESIDENT.
2. STONE QUANTITIES ARE FOR ONE END OF THE PIPE.

Filename: 006_Drn_Dtls.dgn

Scale:			
<i>NOT TO SCALE</i>			
No.	Revision	By	Date

Designed by:			
HNTB			
	By	Date	
	PEM	4/24	
	Checked	DAM	4/24
	Drawn	PEM	4/24
	In Charge of	TRC	4/24

HNTB CORPORATION
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**THE GOLD STAR
MEMORIAL HIGHWAY**

MTA PROJECT MANAGER:

CULVERT AND SLOPE REPAIRS
MM 72.2

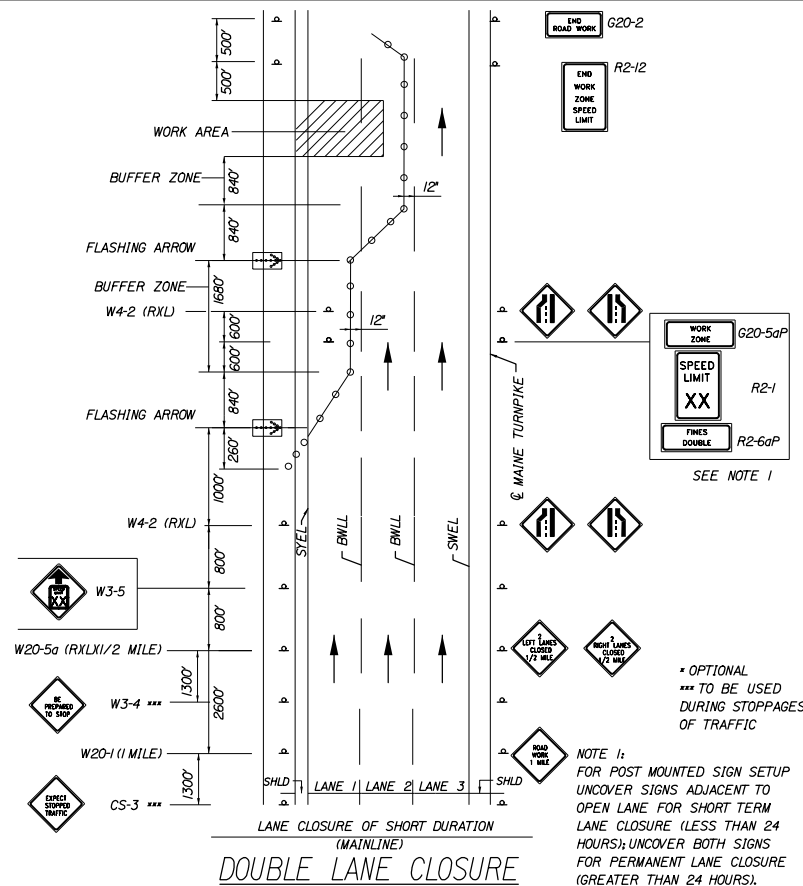
DRAINAGE DETAILS

SHEET NUMBER:

CONTRACT:2024.13

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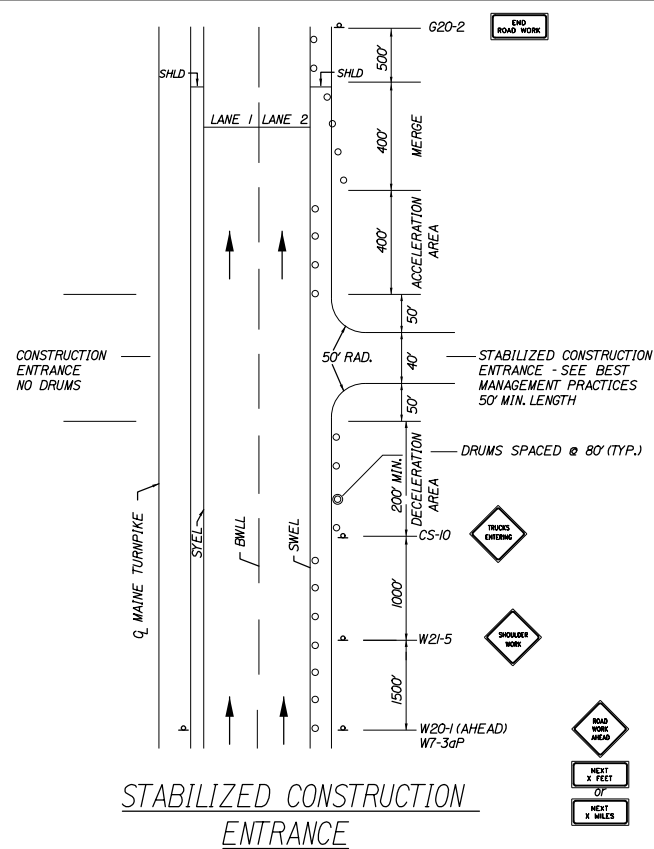
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DOUBLE LANE CLOSURE

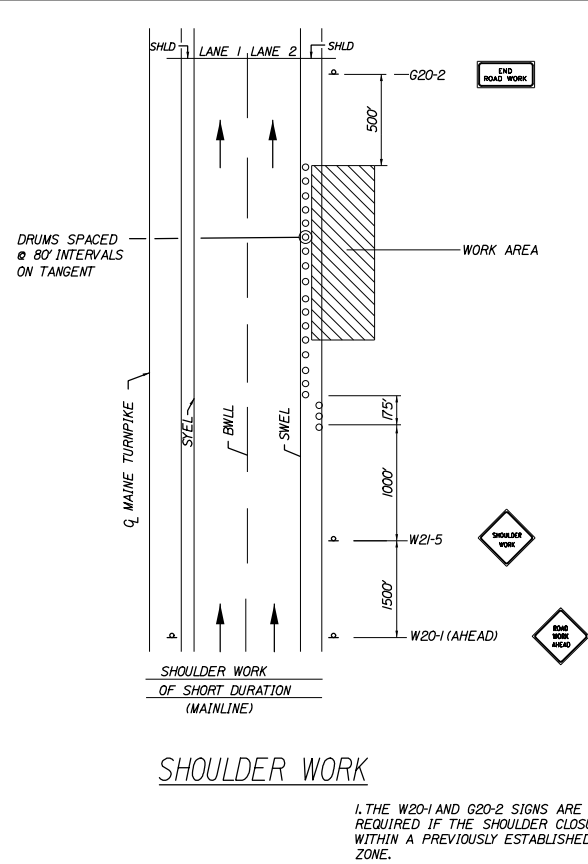
NOTE 1:
FOR POST MOUNTED SIGN SETUP UNCOVER SIGNS ADJACENT TO OPEN LANE FOR SHORT TERM LANE CLOSURE (LESS THAN 24 HOURS); UNCOVER BOTH SIGNS FOR PERMANENT LANE CLOSURE (GREATER THAN 24 HOURS).

* OPTIONAL
*** TO BE USED DURING STOPPAGES OF TRAFFIC



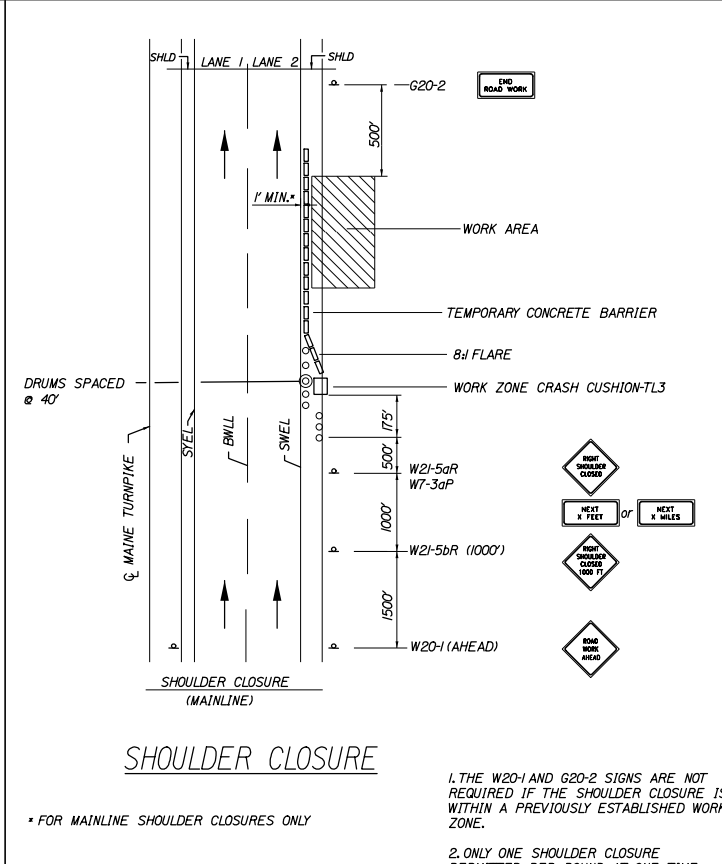
STABILIZED CONSTRUCTION ENTRANCE

1. SIGN G20-2 IS NOT REQUIRED IF ENTRANCE IS WITHIN THE WORK ZONE.



SHOULDER WORK

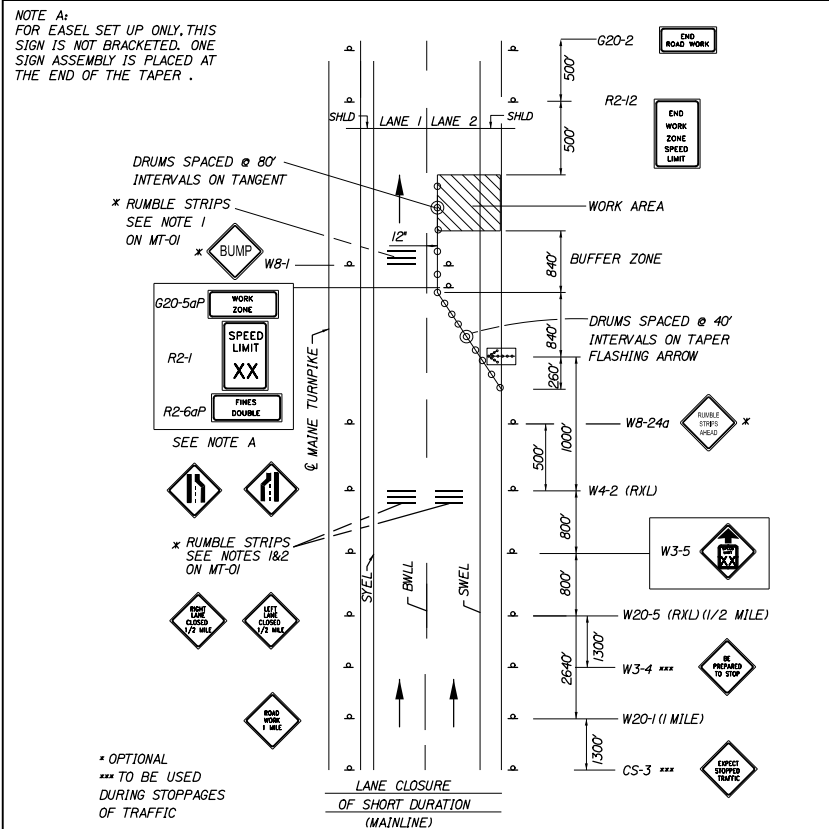
1. THE W20-1 AND G20-2 SIGNS ARE NOT REQUIRED IF THE SHOULDER CLOSURE IS WITHIN A PREVIOUSLY ESTABLISHED WORK ZONE.



SHOULDER CLOSURE

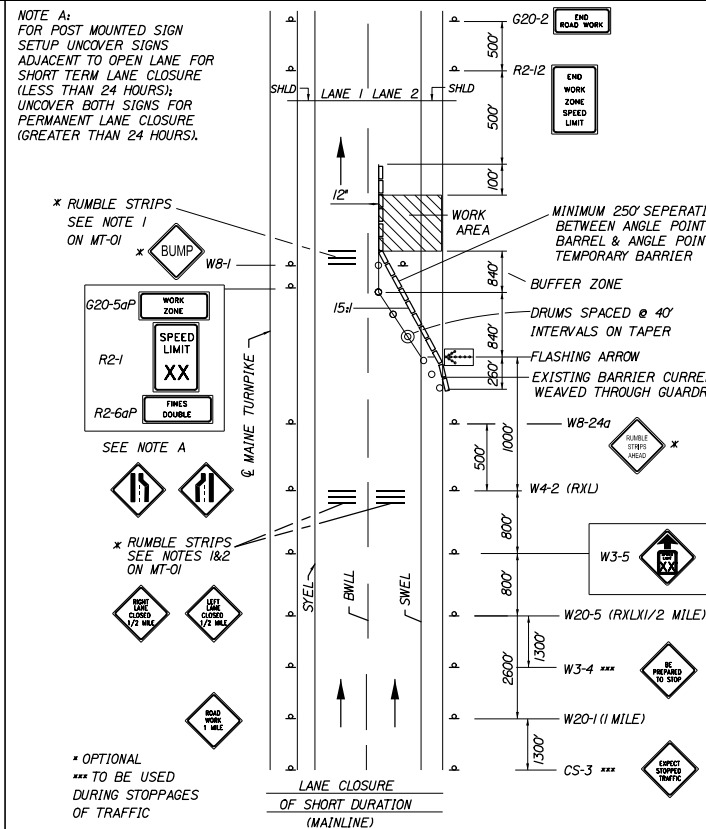
* FOR MAINLINE SHOULDER CLOSURES ONLY

1. THE W20-1 AND G20-2 SIGNS ARE NOT REQUIRED IF THE SHOULDER CLOSURE IS WITHIN A PREVIOUSLY ESTABLISHED WORK ZONE.
2. ONLY ONE SHOULDER CLOSURE PERMITTED PER BOUND AT ONE TIME.



SINGLE LANE CLOSURE - SIGNS ON EASELS

* OPTIONAL
*** TO BE USED DURING STOPPAGES OF TRAFFIC



SINGLE LANE CLOSURE - POST MOUNTED SIGN SETUP

* OPTIONAL
*** TO BE USED DURING STOPPAGES OF TRAFFIC

GENERAL MAINTENANCE OF TRAFFIC NOTES:

- ALL PAVEMENT STRIPING & SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", U.S.D.O.T., F.H.W.A., LATEST EDITION.
- THESE PLANS SHOW THE GENERAL CONDITION FOR TURNPIKE MAINLINE TRAFFIC CONTROL DURING CONSTRUCTION. SLIGHT MODIFICATIONS IN CONSTRUCTION PROCEDURE MAY OCCUR AND MAY REQUIRE SOME MINOR ADJUSTMENTS TO BE MADE IN THE FIELD. ALL PROCEDURES MUST BE APPROVED BY THE RESIDENT.
- THE CONTRACTOR SHALL REMOVE ALL PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS IN ACCORDANCE WITH THE SPECIFICATIONS AND MUTCD. PAYMENT SHALL BE MADE UNDER ITEM 627.77 - REMOVING PAVEMENT MARKINGS.
- EXPOSED BARRIER ENDS SHALL BE PROTECTED BY A WORK ZONE CRASH CUSHION. PAYMENT WILL BE UNDER ITEM 527.34 - WORK ZONE CRASH CUSHION - TL-3.
- SPEED LIMIT, STOP, YIELD AND EXIT SIGNS SHALL BE A MINIMUM OF 5' ABOVE THE PAVEMENT.

ABBREVIATIONS FOR ALL M.O.T. PLANS

- BWLL - BROKEN WHITE LANE LINE
- SWEL - SOLID WHITE EDGE LINE
- SYEL - SOLID YELLOW EDGE LINE
- TBWLL - TEMPORARY BROKEN WHITE LANE LINE
- TSWLL - TEMPORARY SOLID WHITE LANE LINE
- TSYLL - TEMPORARY SOLID YELLOW LANE LINE

TEMPORARY RUMBLE STRIP NOTES

- IF RUMBLE STRIPS ARE USED THEY SHALL BE PLACED IN ONE OF THE FOLLOWING CONFIGURATIONS:
 - ADJACENT TO THE WORK ZONE (1 UNIT)
 - UPSTREAM FROM THE TAPER FOR THE WORKZONE (2 UNITS)
 - BOTH ADJACENT TO THE WORKZONE AND PRIOR TO THE TAPER (3 UNITS)
 W8-1 SIGNS SHALL BE PLACED ADJACENT TO THE FIRST RUMBLE STRIP AT ANY LOCATION. ONLY ONE SET OF W8-24a SIGNS ARE REQUIRED FOR ANY OF THE ABOVE CONFIGURATIONS.
- RUMBLE STRIPS MAY BE PLACED UPSTREAM OF THE TAPER BETWEEN THE W3-5 SIGNS AND THE W4-2 SIGNS. IF RUMBLE STRIPS ARE INSTALLED PRIOR TO TAPER, W8-1 SIGNS SHALL BE PLACED ADJACENT TO THE FIRST STRIP AND THE W8-24a SIGNS SHALL BE MOVED TO 400' AFTER THE W20-5 SIGNS.

NOTE 2:
TEMPORARY CONCRETE BARRIER (TCB) SHALL BE USED TO SHIELD OPENING IN GUARDRAIL AND/OR EXPOSED BLUNT ENDS OF GUARDRAIL. TCB IS CURRENTLY ON SITE IN THE SHOULDER. CONTRACTOR SHALL BE RESPONSIBLE TO MOVE IT INTO PLACE TO CREATE CONTRACTOR ACCESS WITHIN A SINGLE RIGHT LANE CLOSURE.

CONTRACTOR SHALL COORDINATE WITH RESIDENT AND REPLACE ALL MTA OWNED TRAFFIC CONTROL DEVICES, EXCEPT TEMPORARY CONCRETE BARRIER, WITH THEIR OWN DEVICES AT THE FIRST SHOULDER OR LANE CLOSURE SETUP. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMAINING TRAFFIC CONTROL THROUGHOUT THE CONTRACT.

TAPER RATE FOR TEMPORARY CONCRETE BARRIER SHALL BE A MINIMUM OF 8' UNLESS MORE SPACE IS AVAILABLE, THEN THE BARRIER SHALL BE TAPERED AT 15' OR 100' WHICHEVER IS LONGEST. THE BARRIER SHALL TERMINATE WEAVED INTO EXISTING GUARDRAIL EXISTING CONDITION.

BARREL TAPER SHALL PROVIDE A MINIMUM 250' BUFFER TO WHERE THE BARRIER BECOMES PARALLEL TO THE TRAVEL LANE.

Scale: NOT TO SCALE

No.	Revision	By	Date

Designed by:

HNTB

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South Portland, ME 04106
TEL (207) 774-5155
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CONSULTANT PROJECT MANAGER: TIMOTHY R. COTE, P.E.

	By	Date		By	Date
Designed	PEM	4/24	Checked	DAM	4/24
Drawn	PEM	4/24	In Charge of	TRC	4/24

MAINE TURNPIKE

THE GOLD STAR MEMORIAL HIGHWAY

MTA PROJECT MANAGER:

CULVERT AND SLOPE REPAIRS
MM 72.2
MAINTENANCE OF TRAFFIC
DETAILS

SHEET NUMBER:
CONTRACT: 2024.13
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Figure 1 - Northbound Slope Failure before slope stabilization



Figure 2 - Northbound Slope Failure stabilized with riprap, sand, erosion stone, and gravel backfill



Figure 3 - Northbound Access Road, facing South. Access road to remain.



Figure 4 – Southbound Culvert inlet, existing condition (bypass pump from stabilization effort shown.)



Figure 5 – Southbound hay-bale and filter fabric settlement area. Outfall drains to north away from inlet