



# MAINE TURNPIKE AUTHORITY

DANIEL E. WATHEN, CHAIR ROBERT D. STONE, VICE CHAIR MICHAEL J.CIANCHETTE. MEMBER JOHN E. DORITY. MEMBER ANN R. ROBINSON, MEMBER THOMAS J. ZUKE, MEMBER KAREN S. DOYLE, MEMBER EX-OFFICIO

S. PETER MILLS, EXECUTIVE DIRECTOR

WILSON ROAD UNDERPASS **CONTRACT 2018.08** MILE 20 BRIDGE REPAIRS,
DENNETT ROAD OVERPASS (MILE 0.6)
SNOW FENCE INSTALLATION,
WILSON ROAD UNDERPASS (MILE 2.0) WEARING SURFACE REPAIRS, YORK RIVER BRIDGE (MILE 5.2) DENNETT ROAD OVERPASS

HNTB

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MAINE TURNPIKE AUTHORITY

**LOCATION MAP** 

PETER S. MERFELD, P.E. CHIEF OPERATIONS OFFICER

PORTSMOUTH

**CONTRACT 2018.08** 

BRIDGE REPAIRS.

MILE 0.6





# **TYLIN**INTERNATIONAL



**ENGINEER OF RECORD, SHEETS 1-38** 

HEATH E. COWAN, P.E. T.Y. LIN INTERNATIONAL PROJECT MANAGER

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1/30/2018 DATE

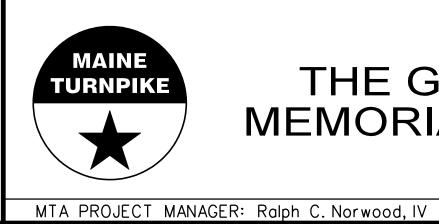
DIRECTOR OF ENGINEERING AND BUILDING MAINTENANCE

ITEM NO.	ITEM DESCRIPTION	UNIT	DENNETT RD. QUANTITY	WILSON ST.	YORK RIVER BRIDGE	TOTAL QUANTITY
202,121	REMOVING EXISTING CONCRETE (5 CY)	LS	/	<u>-</u>	-	
202.17	REMOVING EXISTING STRUCTURAL CONCRETE (ICY)	LS	/	-	-	
202.202	REMOVING PAVEMENT SURFACE	SY	895	-	-	
202.203	PAVEMENT BUTT JOINTS	SY	30	<u>-</u>	-	30
202.206	REMOVING RUMBLE STRIPS	LF	2350	-	-	2,350
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	CY	25	-	-	
		<b>U</b> .				
403.2081	HOT MIX ASPHALT, 12.5MM NOMINAL MAXIMUM SIZE (POLYMER MODIFIED)	TON	74	<del>-</del>	-	74
403,210	HOT MIX ASPHALT, 9.5MM NOMINAL MAXIMUM SIZE	TON	25	1	-	25
403.211	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SHIMMING)	TON	25	-	-	<i>2</i> 5
403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE AND INTERMEDIATE BASE COURSE)	TON	8	-	-	8
409.15	BITUMINOUS TACK COAT, APPLIED	GAL	72	-	-	72
502.21	STRUCTURAL CONCRETE ABUTMENTS AND RETAINING WALLS	CY	6	-	-	6
503.14	EPOXY-COATED REINFORCING STEEL, FABRICATED AND DELIVERED	LB	1500	<del>-</del>	-	I <b>,</b> 500
503.15	EPOXY-COATED REINFORCING STEEL, PLACING	LB	1500	-	-	1,500
504.801	STRUCTURAL STEEL REPAIR	LS	1	-	-	1
506.9103	ZINC-RICH PROTECTIVE COATING SYSTEM	LS	/	-	-	I
507.095	ALUMINUM BRIDGE RAILING - SPLICE MODIFICATION	EA	4	-	-	4
5.5.000						
5/5,202	CLEAR PROTECTIVE COATING FOR CONCRETE SURFACES	SY	770	-	-	770
5/5,203	BROADCAST SEALANT FOR CONCRETE SURFACES	SY	-	-	8600	8,600
518.10	ABUTMENT REPAIRS	SF	440	-	-	440
518.39	GRANITE CURB JOINT MORTAR AND BEDDING MORTAR REPAIR	LF	20	-	-	20
<i>518.40</i>	EPOXY INJECTION CRACK REPAIR	LF	45	-	150	195
518.41	LONGITUDINAL JOINT REPAIR	LF	-	-	2400	2,400
518.70	REPAIR OF OVERHEAD SURFACES <8 INCHES	SF	275	-	-	<i>2</i> 75
518.75	FASCIA AND OVERHANG REPAIRS	SF	50	-	-	50
520,232	EXPANSION DEVICE - ASPHALTIC PLUG JOINT	<u>LF</u>	226	-	-	226
520.234	EXPANSION DEVICE - MULTI-DIRECTIONAL STRUCTURAL SEAL	LF	97	-	-	97
520.251	EXPANSION DEVICE - BONDED SILICONE-AND-FOAM HYBRID JOINT SEAL	LF	9	-	-	9
<i>523.5211</i>	BEARING REHABILITATION, ROCKER BEARINGS	EΑ	21	-	-	
526.306	TEMPORARY CONCRETE BARRIER, TYPE I - SUPPLIED BY AUTHORITY	LS			_	
526.351	MEDIAN BARRIER TYPE I - PRECAST	LF	60	-	_	60
526.35/5	MEDIAN BARRIER TYPE I - CAST-IN-PLACE	LF	102	-	_	102
526 <b>.</b> 361	MEDIAN BARRIER TYPE I - PRECAST	EA	2	-	-	2
527.341	WORK ZONE CRASH CUSHIONS - TL-3	UNIT	2	1	-	3
CO2 150	IOT CHIVEDT DIDE OPTION III	, –				
603.159	I2" CULVERT PIPE OPTION	LF LF	8	<del>-</del>	-	8
603.199	ZT COLVERT FIFE OFTION III	L <sup>r</sup>	6	-	-	6
604.09	CATCH BASIN TYPE BI	EA	2	-	-	2
604.246	CATCH BASIN TYPE F5	EA	2	-	-	2
605.//	I2" UNDERDRAIN TYPE C	LF	43	-	-	43

ITEM NO.	ITEM DESCRIPTION	UNIT	DENNETT RD.	WILSON ST. QUANTITY	YORK RIVER BRIDGE	TOTAL QUANTITY
606.1723	BRIDGE TRANSITION - TYPE III (5 CY)	EA	4	-	-	4
606.1724	BRIDGE TRANSITION - TYPE III, MODIFIED (ICY)	EΑ	2	-	-	2
606.278	TERMINAL END - ANCHORED END	ΕA	2	-	-	2
606.352	REFLECTORIZED BEAM GUARDRAIL DELINEATOR	EΑ	155	-	-	155
606 <b>.</b> 356	UNDERDRAIN DELINEATOR POST	EA	2	-	-	2
606.3605	REMOVE, MODIFY AND RESET, SINGLE RAIL	LF	130	-	_	
606.3606	REMOVE, MODIFY AND RESET, DOUBLE RAIL	LF	50	-	_	50
606 <b>.</b> 3621	GUARDRAIL ADJUST, SINGLE RAIL	LF	250	-	-	250
607.474	avov EEvoE		400			160
607.431	SNOW FENCE	LF	460	<u>-</u>	-	460
609.191	CONCRETE CURB TYPE 2	LF	72	-	-	72
627.18	12" SOLID WHITE PAVEMENT MARKING LINE	LF	320	-	-	320
627.744	6" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	LF	6100	-	-	6,100
627.77	REMOVING PAVEMENT MARKINGS	SF	3300	-	-	3,300
627 <b>.</b> 78	TEMPORARY PAVEMENT MARKING LINE WHITE OR YELLOW	LF	10600	-	_	10,600
627 <b>.</b> 78 627 <b>.</b> 812	TEMPORARY RAISED PAVEMENT MARKERS	EA	5400	-	-	5 <b>,</b> 400
629.05	HAND LABOR , STRAIGHT TIME	HR	-	-	20	20
631.10	AIR COMPRESSOR (INCLUDING OPERATOR)	HR	-	_	20	20
631 <b>.</b> 11	AIR TOOL (INCLUDING OPERATOR)	HR	_		20	20
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	HR	-	<u>-</u>	10	10
<i>652.30</i>	FLASHING ARROW BOARD	EA	3	2	4	9
652 <b>.</b> 312	TYPE III BARRICADE	EA	10	-	-	10
652.33	DRUM	EA	170	200	230	600
652 <b>.</b> 34	CONE	EΑ	100	100	-	200
<i>652<b>.</b>3</i> 5	CONSTRUCTION SIGNS	SF	1950	1200	770	<i>3,920</i>
652 <b>.</b> 361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	LS	0.49	0.30	.21	1
652 <b>.</b> 38	FLAGGERS	HR	230	60	-	290
652 <b>.</b> 410	PORTABLE - CHANGEABLE MESSAGE SIGN	ΕA	1	-	2	3
652 <b>.</b> 45	TRUCK MOUNTED ATTENUATOR	CD	50	-	45	95
652 <b>.</b> 451	AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN	CD	50	20	45	115
659 <b>.</b> 10	MOBILIZATION	LS	0.64	0.07	0.29	
	MODILIZATION	LJ	0.04	0.07	0.23	

	Scal	e:			Designed by:					
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	No.	Revision	Ву	Date						
: د					CONSULTANT F	PROJEC	T MANAGER:	Heath Cowan		
5						Ву	Date		Ву	Date
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-					Drawn	BLT	1/2018	In Charge of	DSM	1/2018
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# THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPAIRS DENNETT ROAD OVERPASS

QUANTITIES

SHEET NUMBER: QT-01

2 OF 40

CONTRACT:2018.08

### <u>DESIGN</u>

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
7TH EDITION WITH INTERIMS THROUGH 2016.

### CONSTRUCTION

STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS NOVEMBER, 2014

STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS, NOVEMBER 2014, WITH LATEST REVISIONS

AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS, THIRD EDITION WITH 2016 INTERIMS

### MATERIALS:

### <u>CONCRETE</u>

END POSTS, MEDIAN BARRIER, AND MEDIAN TRANSITION BARRIERS SHALL BE CLASS AAA

ALL PATCHING AND REPAIR AREAS SHALL BE CLASS AAA-MODIFIED.

REINFORCING STEEL

AASHTO M31, GRADE 60 EPOXY-COATED.

# BASIC DESIGN STRESSES:

### **CONCRETE**

CLASS AAA -  $f'_{G}$  = 4500 P.S.I.

CLASS AAA - MODIFIED, f' = 4,500 P.S.I.

# REINFORCING STEEL

 $f_y = 60,000 P.S.I.$ 

### GENERAL NOTES:

- I. THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 1-888-344-7233 AT LEAST 72 HOURS PRIOR TO THE START OF THE WORK.
- 2. ALL DETAILS SHALL BE IN CONFORMANCE WITH MAINE DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD DETAILS, HIGHWAYS AND BRIDGES, LATEST REVISION AND MDOT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL, LATEST REVISION UNLESS OTHERWISE INCLUDED IN THESE PLANS.
- 3. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.
- 4. THE PROPOSED ELEVATIONS ARE BASED ON THE NAVD 88 DATUM. THE AS-BUILT PLANS ARE BASED ON NGVD 29 DATUM.
- 5. FOR ADDITIONAL DETAILS REFERENCED OR NOT SHOWN IN THESE DRAWINGS, SEE THE STATE OF MAINE, DEPARTMENT OF TRANSPORTATION STANDARD DETAILS, HIGHWAYS AND BRIDGES, NOVEMBER 2014 WITH UPDATES.
- 6. COPIES OF THE AS-BUILT PLANS ARE ON FILE AT THE MAINE TURNPIKE AUTHORITY. A PORTION OF THESE PLANS ARE INCLUDED IN THIS CONTRACT FOR THE CONTRACTOR'S CONVENIENCE. THE COMPLETENESS AND ACCURACY OF THESE PLANS IS NOT GUARANTEED.
- 7. REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2" MIN., UNLESS OTHERWISE NOTED.
- 8. CHAMFER ALL EXPOSED CONCRETE EDGES 3/4" UNLESS OTHERWISE NOTED.
- 9. ALL PROPOSED CONCRETE CURB FACES AND INSIDE AND TOP FACES OF THE ENDPOSTS SHALL RECEIVE A RUBBED FINISH PRIOR TO THE APPLICATION OF THE CLEAR PROTECTIVE COATING FOR CONCRETE SURFACE.
- IO. SHIELDING REQUIRED DURING CONSTRUCTION SHALL NOT PROJECT BELOW THE BOTTOM FLANGES OF GIRDERS.
- II. ALL PAINT ON EXISTING STEEL, DAMAGED BY CONTRACTOR'S OPERATIONS, SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTE THAT THE EXISTING BRIDGE STRUCTURES CONTAIN LEAD BASED PAINT. THE CONTRACTOR SHALL INSTITUTE EVERY PRECAUTION WHEN WORKING WITH MATERIALS COATED WITH LEAD PAINT.
- 12. WHERE DRILLING AND ANCHORING OF REINFORCING STEEL IS REQUIRED, THE CONTRACTOR SHALL USE A MATERIAL LISTED ON THE MAINEDOT PREQUALIFIED LIST OF CHEMICAL ANCHORING MATERIALS. THE DEPTH OF EMBEDMENT SHALL BE SUFFICIENT TO DEVELOP 125% OF THE YIELD STRENGTH OF THE BAR, BUT SHALL BE NO LESS THAN THE MINIMUM DEPTH OF EMBEDMENT WHEN SPECIFIED. WHERE MINIMUM EMBEDMENT DEPTH HAS NOT BEEN SPECIFIED, BAR LENGTHS HAVE BEEN DEVELOPED BASED ON AN ASSUMED EMBEDMENT DEPTH OF 9" FOR #5 BARS AND II" FOR #6 BARS. THE CONTRACTOR SHALL VERIFY THE REQUIRED DEPTH OF EMBEDMENT AND ADJUST THE REQUIRED BAR LENGTHS AS REQUIRED.
- 13. PAYMENT FOR DRILLING AND ANCHORING OF REINFORCING STEEL IS INCIDENTAL TO ITEM 503.15, EPOXY-COATED REINFORCING STEEL, PLACING.
- 14. A BEAD OF HOT-APPLIED RUBBERIZED ASPHALT SEALER SHALL BE APPLIED ALONG CURB LINES AFTER INSTALLATION OF BASE COURSE AND ALONG ALL SURFACE PAVEMENT JOINTS. PAYMENT SHALL NOT BE MADE DIRECTLY, BUT SHALL BE CONSIDERED INCIDENTAL TO RELATED CONTRACT ITEMS.

# <u>UTILITY:</u>

- I. THE CONTRACTOR SHALL NOTIFY THE RESIDENT IO DAYS PRIOR TO CONSTRUCTION SO THE RESIDENT CAN ARRANGE FOR MAINE TURNPIKE UNDERGROUND UTILITY LOCATION. ALL PROPOSED SIGN LOCATIONS AND EXCAVATIONS LOCATIONS SHALL BE MARKED AT THE NOTIFICATION TIME. EXCAVATING WILL NOT BE PERMITTED UNTIL THE AUTHORITY HAS LOCATED AND MARKED ITS' UNDERGROUND UTILITIES, OR NOTIFIED THE RESIDENT THAT THERE ARE NO UNDERGROUND UTILITES IN THE MARKED AREAS.
- 2. THE AUTHORITY AS PROGRAMMED TWO FIELD VISITS FOR MAINE TURNPIKE UTILTY COORDINATION ON THIS PROJECT. SHOULD THE CONTRACTOR NEED ADDITIONAL SIGN LOCATIONS AND/OR ADDITIONAL EXCAVATION LOCATIONS MARKED, OR SHOULD THE CONTRACTOR FAIL TO MAINTAIN THE AUTHORITY'S PERVIOULY ESTABLISHED DIG SAFE MARKS, THE AUTHORITY SHALL DEDUCT THE ADDED MARKINGS COSTS FROM THE CONTRACTOR'S PAYMENTS.

### CONCRETE REPAIR PROCEDURAL NOTES:

- I. CONCRETE REPAIRS, INCLUDING THE ASSOCIATED REMOVALS, WILL BE PAID UNDER 518 ITEMS.
- 2. ANY REINFORCING STEEL REQUIRED TO REPLACE DETERIORATED EXISTING REINFORCEMENT SHALL BE EPOXY COATED AND WILL BE PAID FOR UNDER ITEM 503.14, "EPOXY-COATED REINFORCING STEEL, FABRICATED AND DELIVERED" AND ITEM 503.15, "EPOXY-COATED REINFORCING STEEL, PLACING."

### REMOVAL PROCEDURE:

- I. CONTRACTOR SHALL REMOVE TECTYL COATING WHERE PRESENT PRIOR TO WORK.
  PAYMENT SHALL BE INCIDENTAL TO THE SPECIFIED 518 ITEMS.
- 2. PRIOR TO THE START OF THE CONCRETE REMOVAL, THE RESIDENT AND THE CONTRACTOR SHALL SOUND ALL EXPOSED SURFACES OF CONCRETE AND AGREE ON THE REMOVAL LIMITS. SHOULD THE REMOVAL AREA LIMITS APPEAR TO CHANGE DURING THE DEMOLITION PROCESS, THE CONTRACTOR SHALL NOTIFY THE RESIDENT. THE RESIDENT AND CONTRACTOR SHALL AGREE ON THE REVISED PAY LIMITS PRIOR TO THE CONTRACTOR CONTINUING THE REMOVAL.
- 3. PERFORM I INCH DEEP SAWCUTS ALONG LIMITS OF REMOVAL.
- 4. CHIP CONCRETE TO DEPTH REQUIRED PER SPECIFICATIONS.

# CONCRETE SURFACE PATCH/REPAIR PROCEDURE:

I. PREPARE AND PATCH REPAIR AREAS WITH CLASS AAA - MODIFIED CONCRETE. SEE SPECIFICATIONS FOR MATERIAL, PREPARATION, PLACEMENT, AND CURING REQUIREMENTS.

### GENERAL FINISHING:

I. ALL EXPOSED CONCRETE SURFACES SHALL BE COATED WITH A PROTECTIVE COATING SUITABLE FOR CONCRETE SURFACES AFTER PATCHING IS COMPLETE AND PATCH MATERIALS HAVE CURED. PIGMENTED PROTECTIVE COATING SHALL BE APPLIED TO ALL ABUTMENT FACES, ALL WINGWALL FACES, AND ALL END POST OUTSIDE FACES. CLEAR PROTECTIVE COATING SHALL BE APPLIED TO ALL CONCRETE CURB FACES, ALL FASCIAS AND FASCIA OVERHANGS, AND ALL END POST INSIDE AND TOP FACES.

## EPOXY INJECTION CRACK REPAIR:

- I. PREPARE CONCRETE SURFACE AND CRACK AREA BY CLEANING SUBSTRATE WITH WIRE BRUSH TO REMOVE LAITANCE AND CONTAMINANTS. BLAST CLEAN THE CRACK AND CONCRETE SURFACE; DO NOT USE WATER.
- 2. SET INJECTION PORTS ALONG THE LENGTH OF THE CRACK USING A HIGH-MODULUS EPOXY ADHESIVE. ONCE SET, SEAL PORTS AND CRACK WITH SAME EPOXY ADHESIVE.
- 3. WHEN THE EPOXY ADHESIVE SEAL HAS CURED, INJECT A HIGH-MODULUS, LOW-VISCOSITY EPOXY SUCH AS SIKADUR 35. SIKADUR 55. OR APPROVED EQUAL.

### LIST OF ABBREVIATIONS

APPROX.

BOT.

ABUT. ABUTMENT
ADDL. ADDITIONAL
ASCG. AGGREGATE SUBBASE
COURSE GRAVEL
ALT. ALTERNATE

BOTTOM

APPROXIMATE

BRG. BEARING CLEARCENTERLINE CONCRETE CONC. CONSTR. CONSTRUCTION DEMO. DEMOLITION DIAMETER DIA. DIAPH. DIAPHRAGM EA. EACHEASTBOUND EΒ E.F. EACH FACE EL. ELEVATION *EQUAL* EXIST. EXISTING EXP. EXPANSION F.F. FAR FACE JOINT JT. MAXIMUMMAX.

MIN. MINIMUM
MTA MAINE TURNPIKE AUTHORITY

NB NORTHBOUND
N.F. NEAR FACE
N.T.S. NOT TO SCALE

O.H.W. ORDINARY HIGH WATER PED. PEDESTAL

PED. PEDESTAL
PGL PROFILE GRADE LINE
PLATE

PROPOSED PROP. RDWY. ROADWAY SHLD. SHOULDER SB SOUTHBOUND SP. SPACES STA. STATION T.&B. TOP & BOTTOM TPKE. TURNPIKE

TYP. TYPICAL

U.O.N. UNLESS OTHERWISE NOTED

VERT

VERT. VERTICAL
WB WESTBOUND
W.P. WORKING POINT

TA\003\_Gen\_N

Scale:

NOT TO SCALE

Revision

T-Y-LIN INTERNATIONAL

DSM 10/2017 In Charge of DSM 1/2018

By

Date

|NLB| 10/2017

CONSULTANT PROJECT MANAGER: Heath Cowan

By Date

Designed DSM 10/2017 Checked

By Date

Designed by:

Drawn

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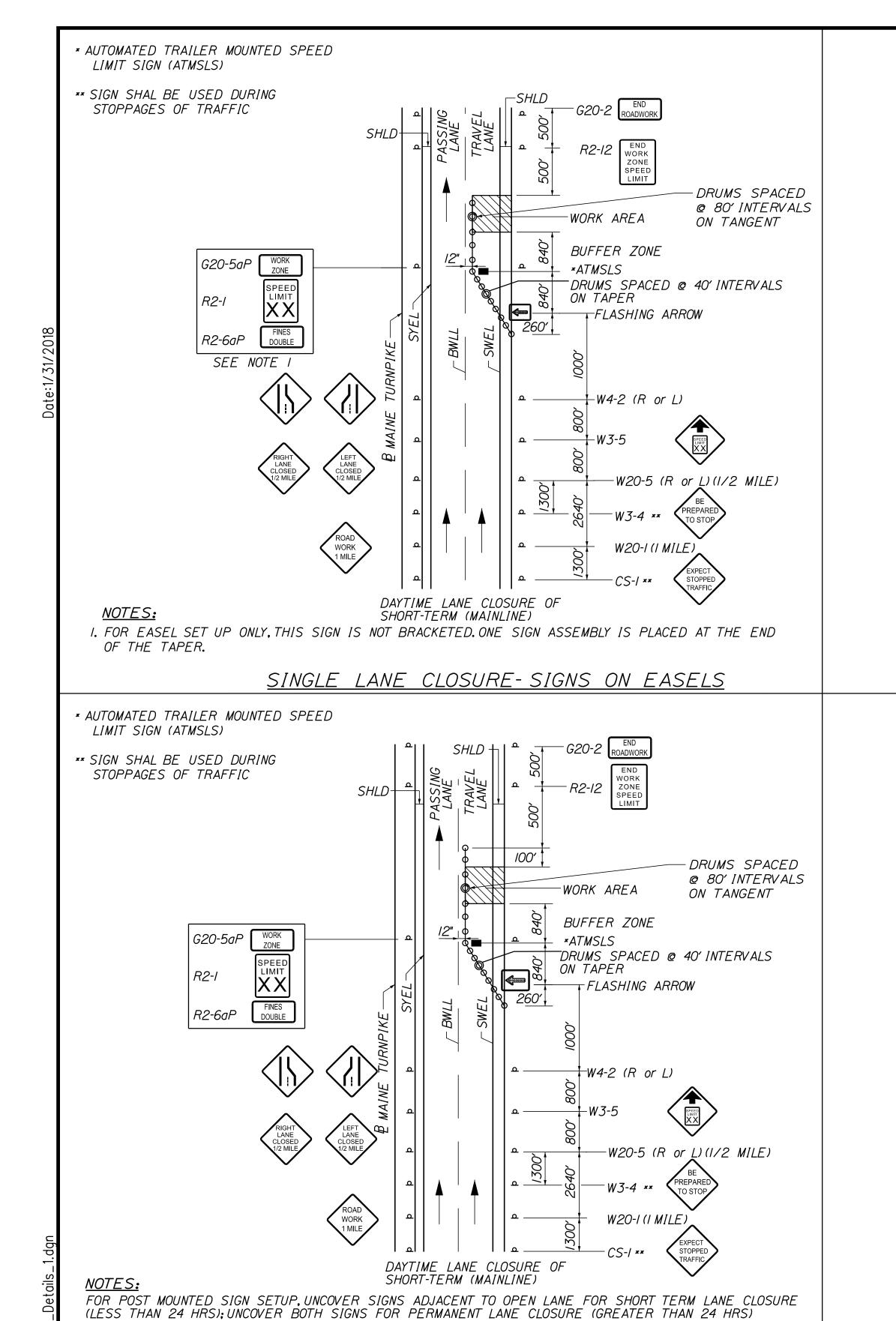
THE GOLD STAR MEMORIAL HIGHWAY BRIDGE REPAIRS
DENNETT ROAD OVERPASS

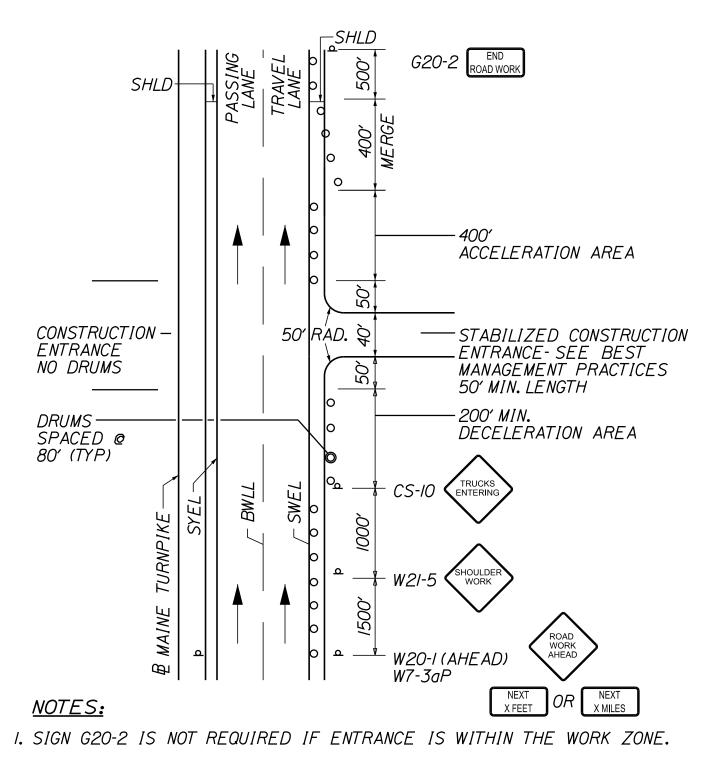
GENERAL NOTES

SHEET NUMBER: GN-01

CONTRACT:2018.08

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2. "TRUCKS ENTERING" SIGN SHALL ALSO BE USED AT LOCATIONS WHERE TRUCKS ENTER THE WORK ZONE FROM THE TRAVEL LANE.

STABILIZED CONSTRUCTION ENTRANCE

# DRUMS SPACED— @ 80'INTERVALS ON TANGENT WORK AREA

SHOULDER WORK OF SHORT-TERM (MAINLINE)

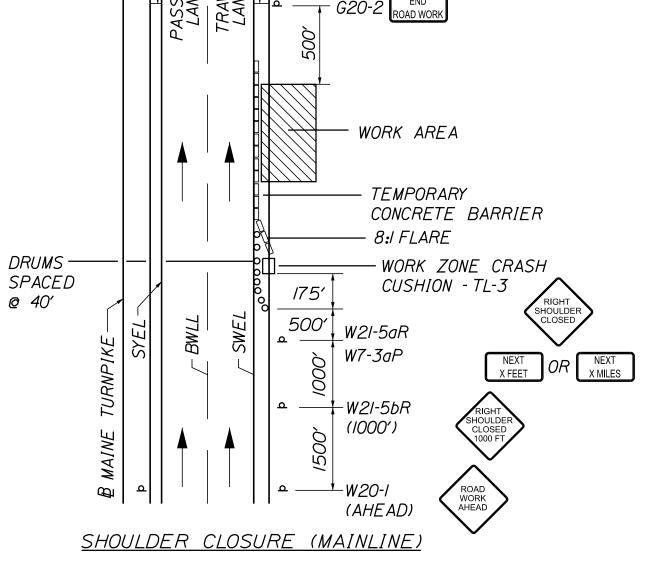
<u>NOTE:</u>

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

# SHOULDER WORK

GENERAL MAINTENANCE OF TRAFFIC NOTES:

- I. 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. NOTE THERE IS A 2009 EDITION OF MUTCD.
- 2. ALL SPEED LIMIT, STOP, AND YIELD SIGNS ARE TO BE MOUNTED 5 FEET ABOVE THE PAVEMENT SURFACE.
- 3. 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.
- 4. 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.
- 5. EXPOSED BARRIER ENDS SHALL BE PROTECTED BY A WORK ZONE CRASH CUSHION. PAYMENT WILL BE UNDER ITEM 527.341 - WORK ZONE CRASH CUSHION - TL-3.



NOTE:

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

SHOULDER CLOSURE

# 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 TSWEL = TEMORARY SOLID WHITE EDGE LINE TSYEL = TEMPORARY SOLID YELLOW EDGE LINE

SINGLE LANE CLOSURE-POST MOUNTED SIGN SETUP Scale: Designed by: NOT TO SCALE T-Y-LININTERNATIONAL By Date Revision CONSULTANT PROJECT MANAGER: Heath Cowan Ву Date KSD 9/2017 JRH 8/2017 Checked Designed JRH 8/2017 In Charge of DSM 1/2018

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THE GOLD STAR MEMORIAL HIGHWAY

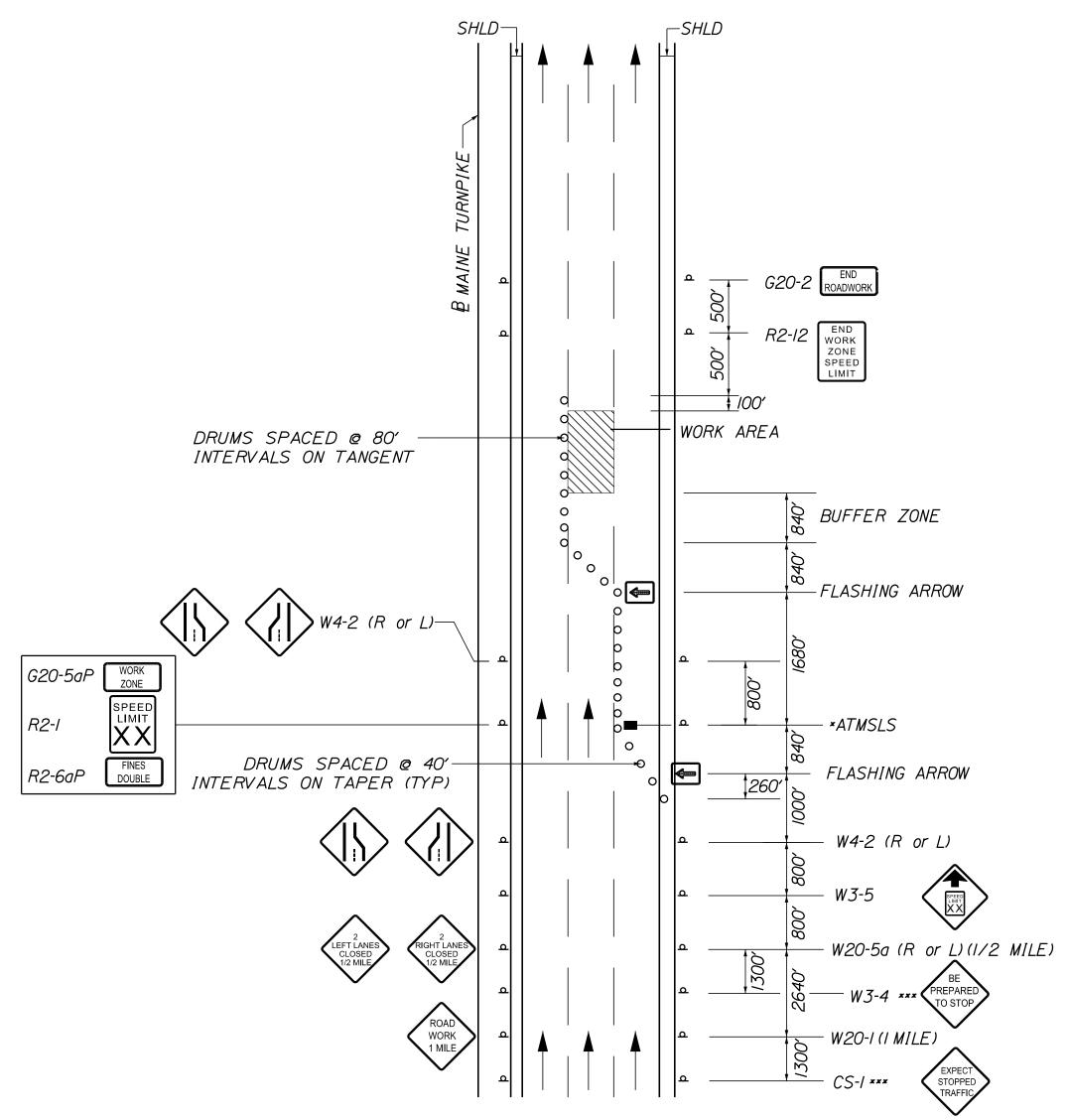
BRIDGE REPAIRS DENNETT ROAD OVERPASS

TRAFFIC CONTROL DETAILS SHEET 1 OF 5

SHEET NUMBER: MT-01

CONTRACT:2018.08

MTA PROJECT MANAGER: Ralph C. Norwood, IV

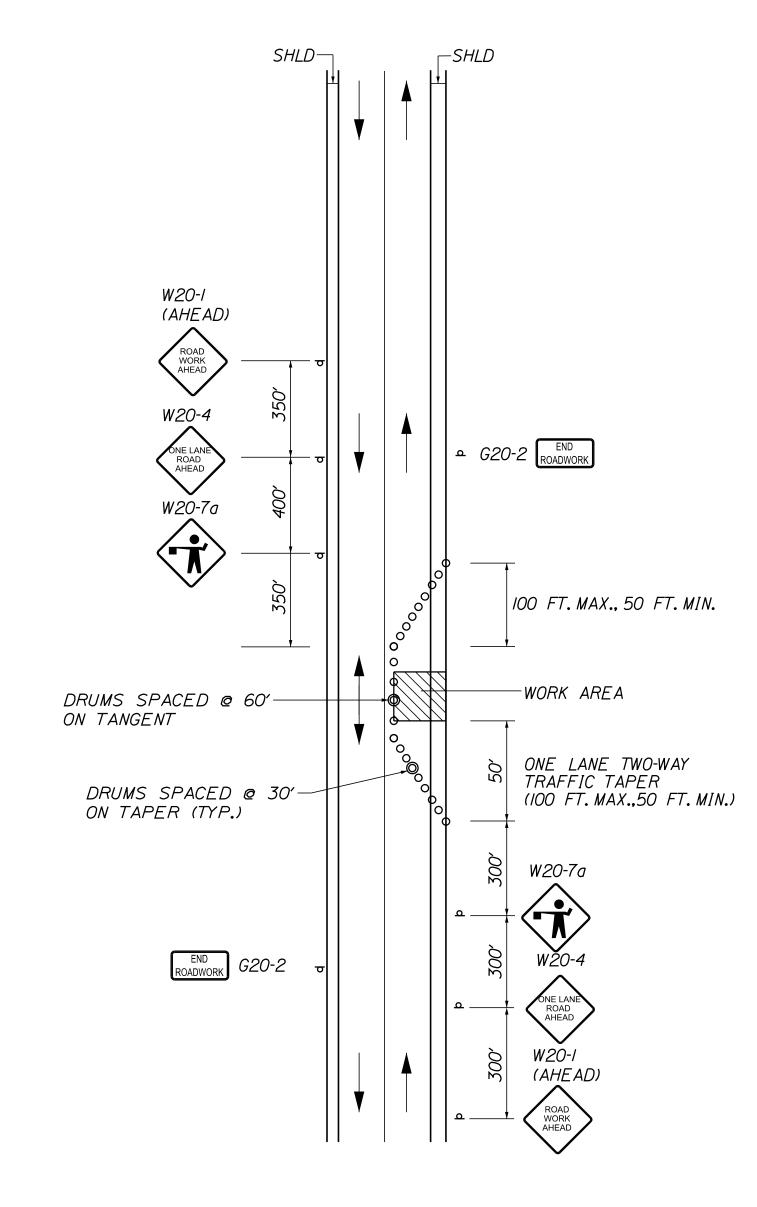


\* AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN (ATMSLS)
\*\* SIGNS ONLY USED WHEN RUMBLE STRIPS ARE USED

DOUBLE LANE CLOSURE

# <u>NOTES:</u>

I. SIGNS DESIGNATED WITH \*\*\* SHALL BE USED DURING STOPPAGES OF TRAFFIC.



# LOCAL ROAD SINGLE LANE CLOSURE

# <u>NOTES:</u>

- I. ROAD WORK AHEAD AND END ROAD WORK SIGNS MAY BE OMITTED FOR SHORT DURATION OPERATIONS (LESS THAN I HOUR).
- 2. FLAGGERS SHALL BE LOCATED SO THEY ARE CLEARLY VISIBLE TO APPROACHING DRIVERS.
- 3. SIGN SPACING ASSUMES LOCAL ROAD SPEED IS 40 MPH OR LESS.

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THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPAIRS DENNETT ROAD OVERPASS

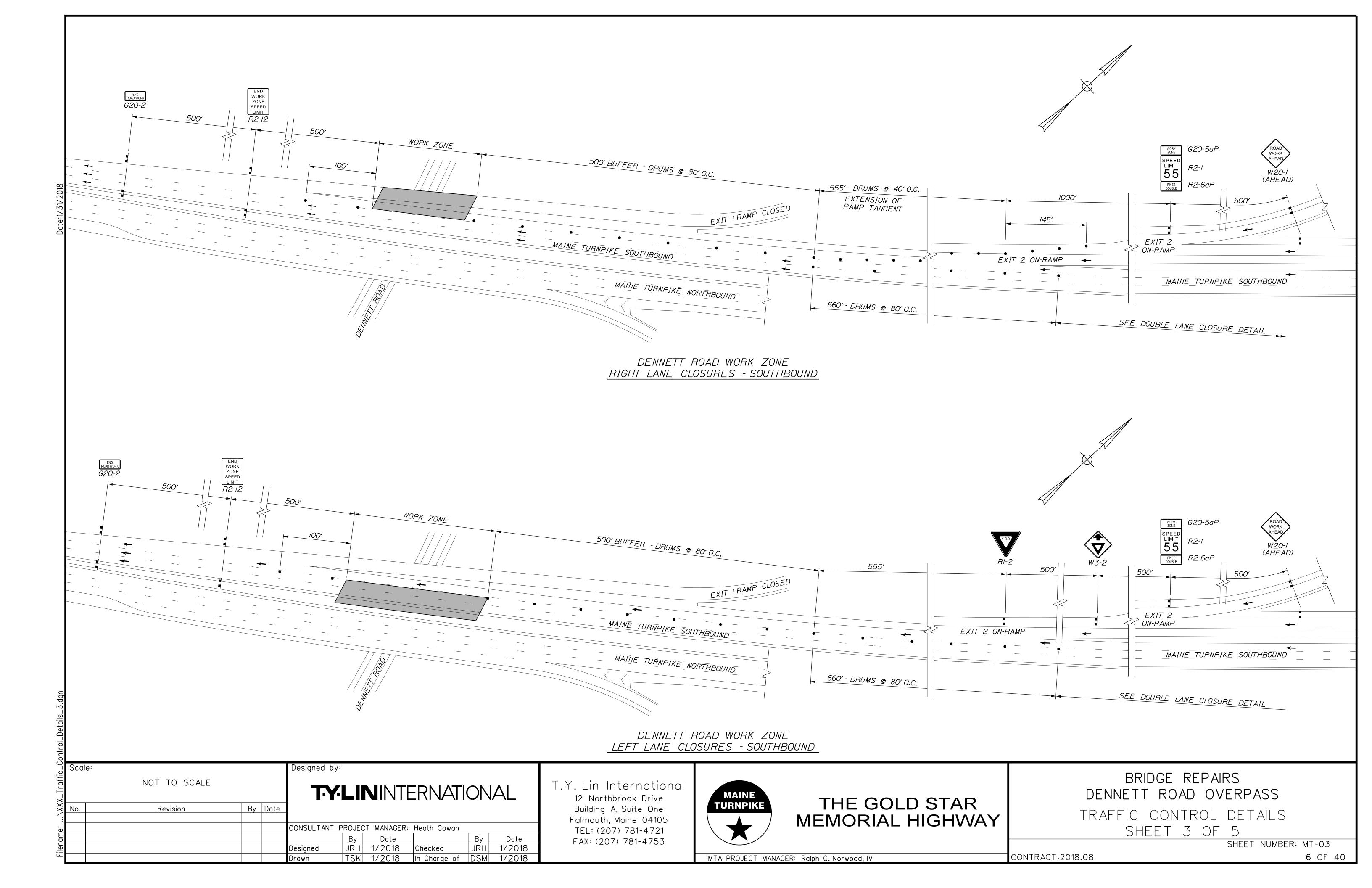
TRAFFIC CONTROL DETAILS

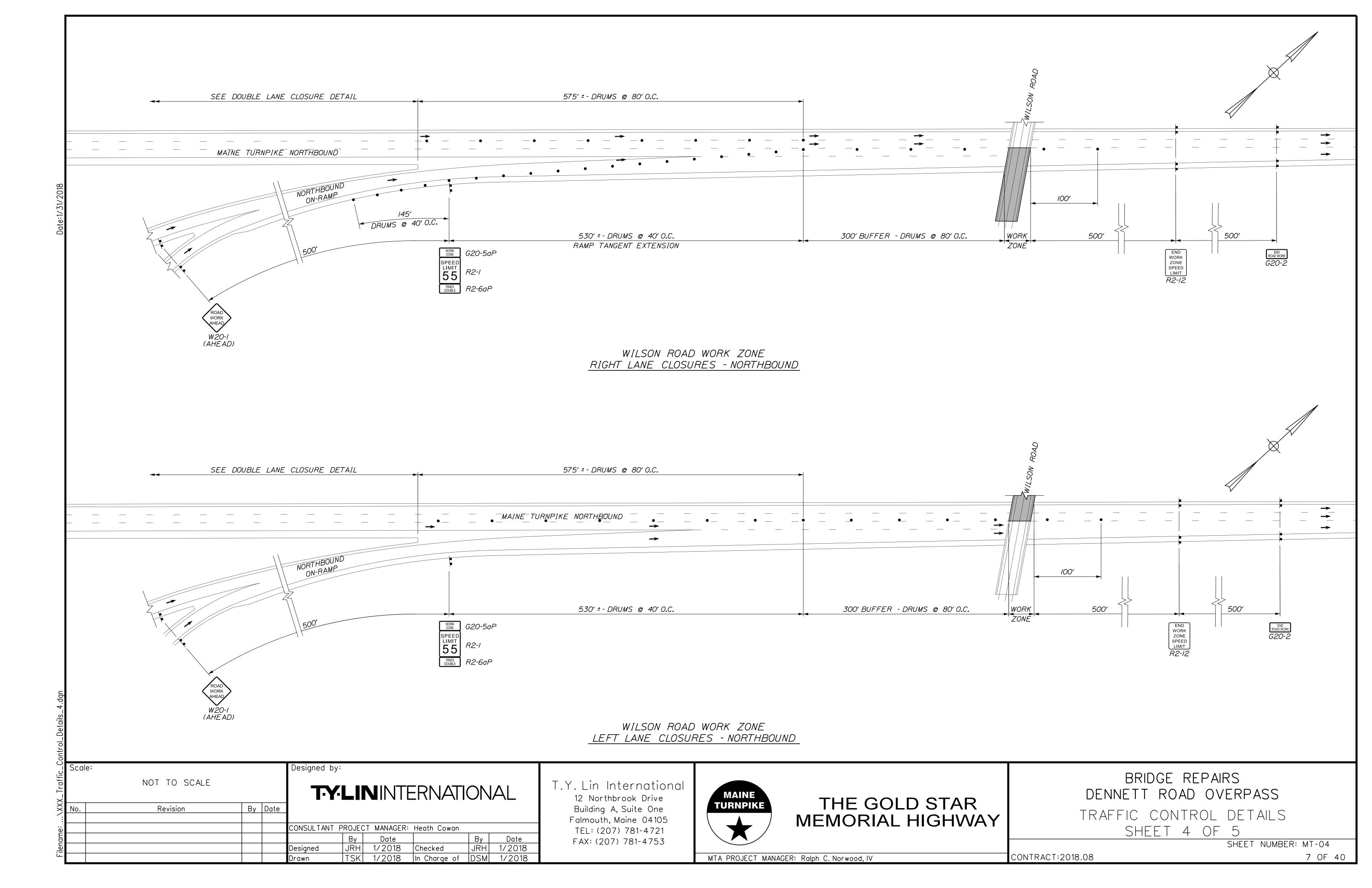
SHEET 2 OF 5

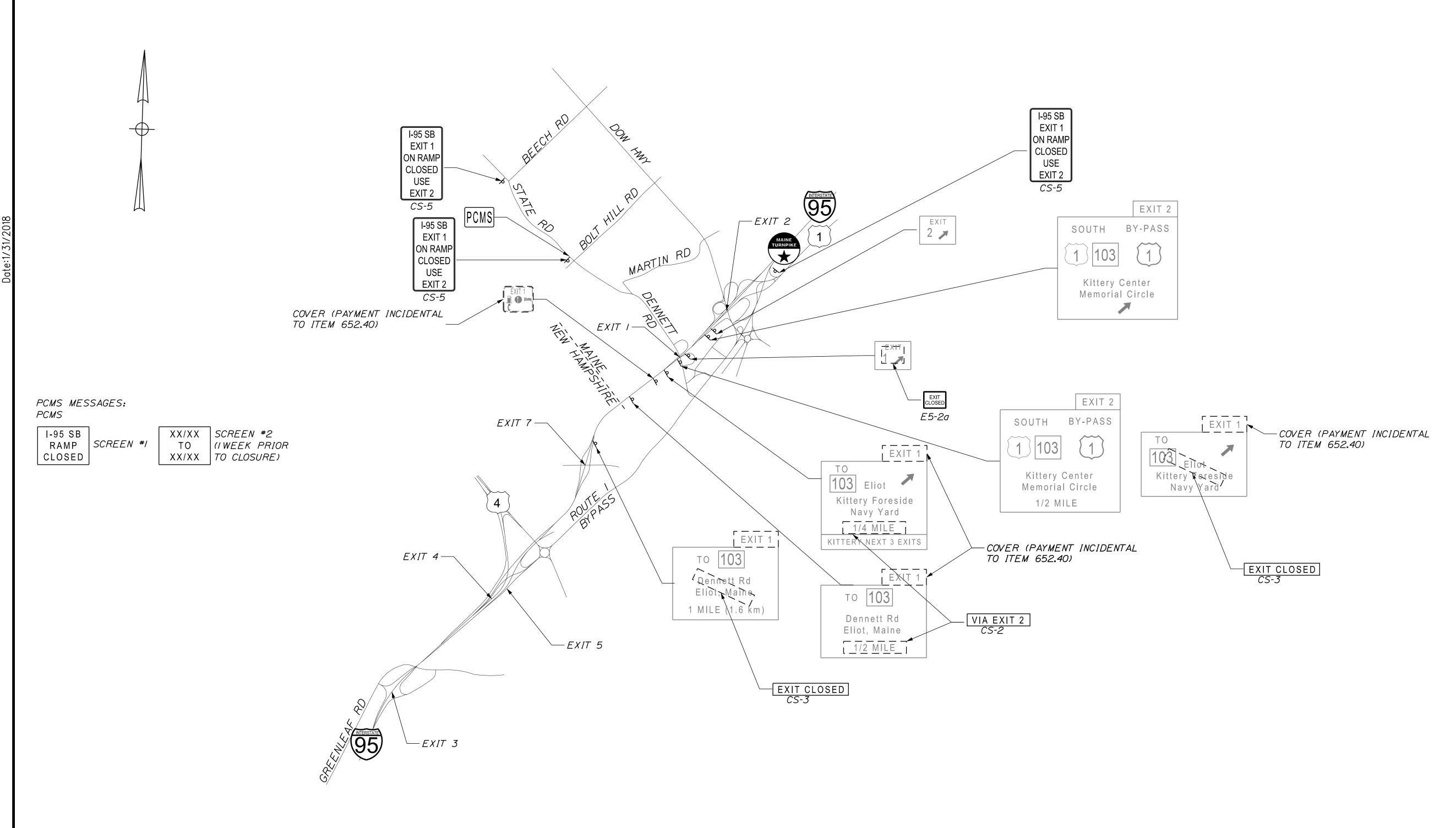
CONTRACT:2018.08

SHEET NUMBER: MT-02 5 OF 40

MTA PROJECT MANAGER: Ralph C. Norwood, IV

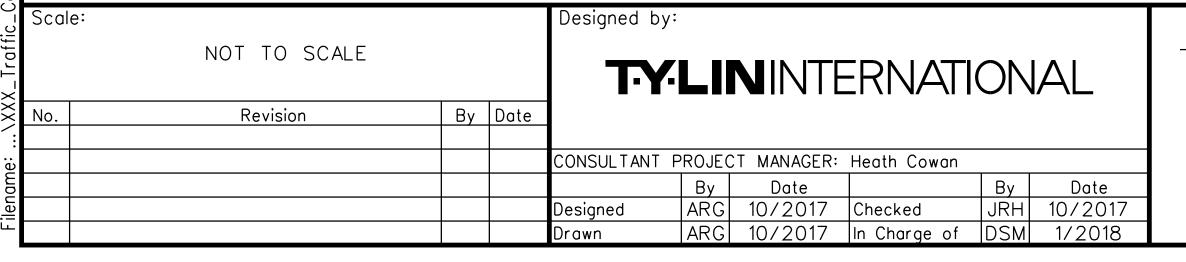






# GENERAL MAINTENANCE OF TRAFFIC NOTES:

I. ALL TEMPORARY LANE CLOSURES SHALL BE COORDINATED WITH NHDOT AND NH STATE POLICE.



T.Y. Lin International
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Falmouth, Maine 04105
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FAX: (207) 781-4753



# THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPAIRS

DENNETT ROAD OVERPASS

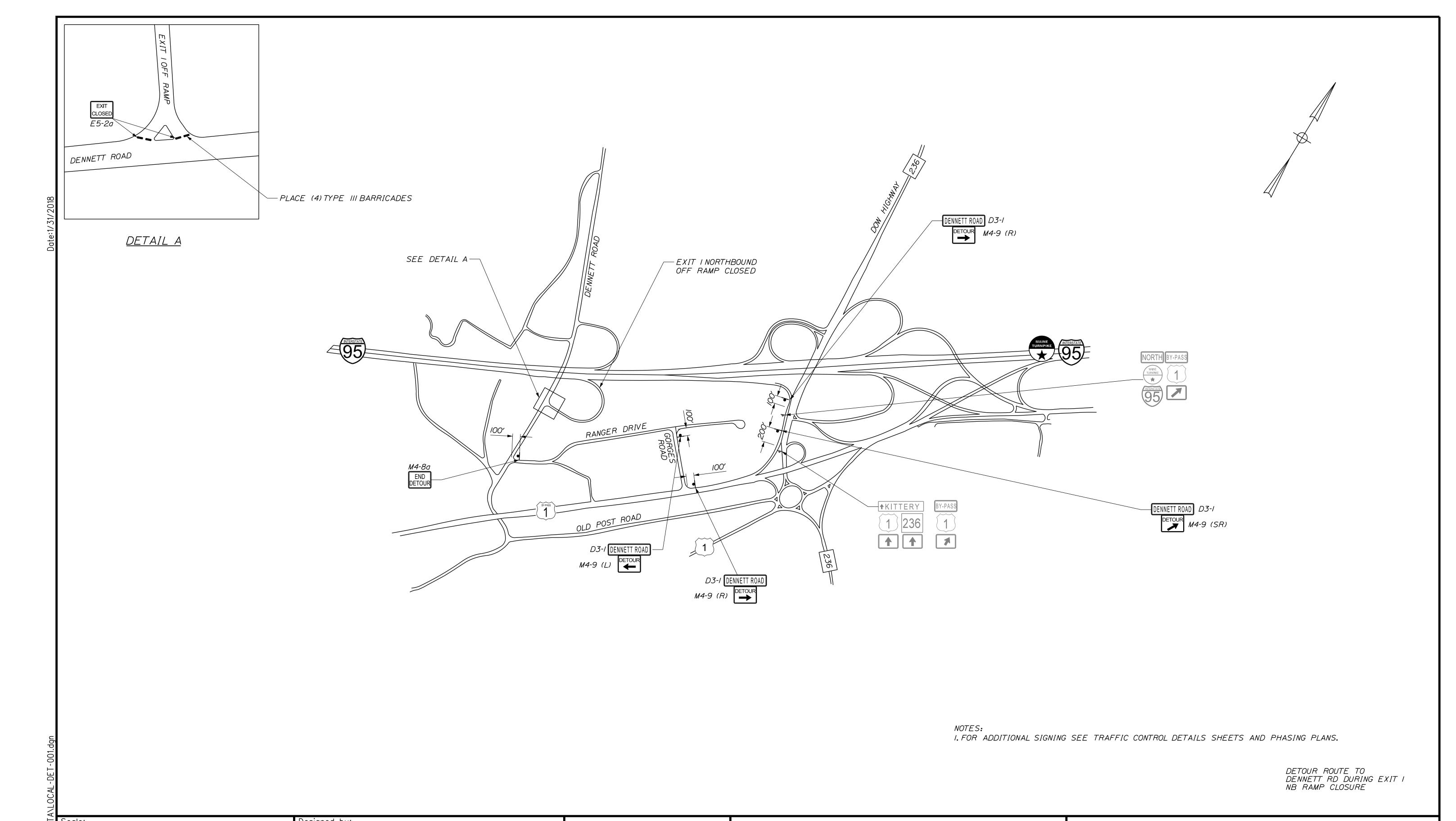
TRAFFIC CONTROL DETAILS

TRAFFIC CONTROL DETAILS
SHEET 5 OF 5

SHEET NUMBER: MT-05

CONTRACT:2018.08

SHEET NUMBER: MT-05



Scale:

NOT TO SCALE

THININTERNATIONAL

No. Revision By Date

CONSULTANT PROJECT MANAGER: Heath Cowan

By Date

By Date

By Date

By Date

By Date

By Date

Designed ARG 10/2017 Checked JRH 10/2017

Drawn ARG 10/2017 In Charge of DSM 1/2018

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MAINE
TURNPIKE

# THE GOLD STAR MEMORIAL HIGHWAY

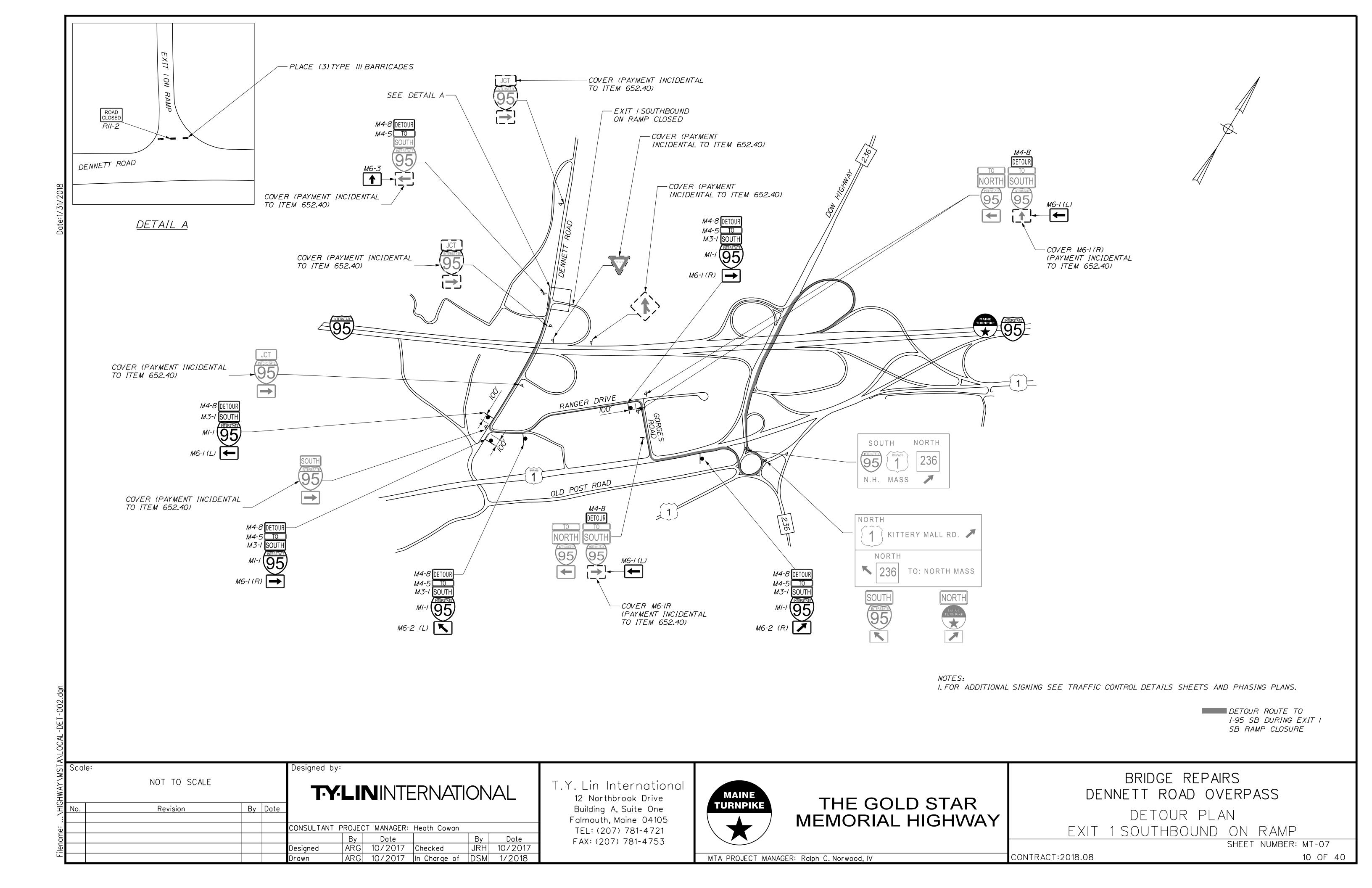
BRIDGE REPAIRS
DENNETT ROAD OVERPASS

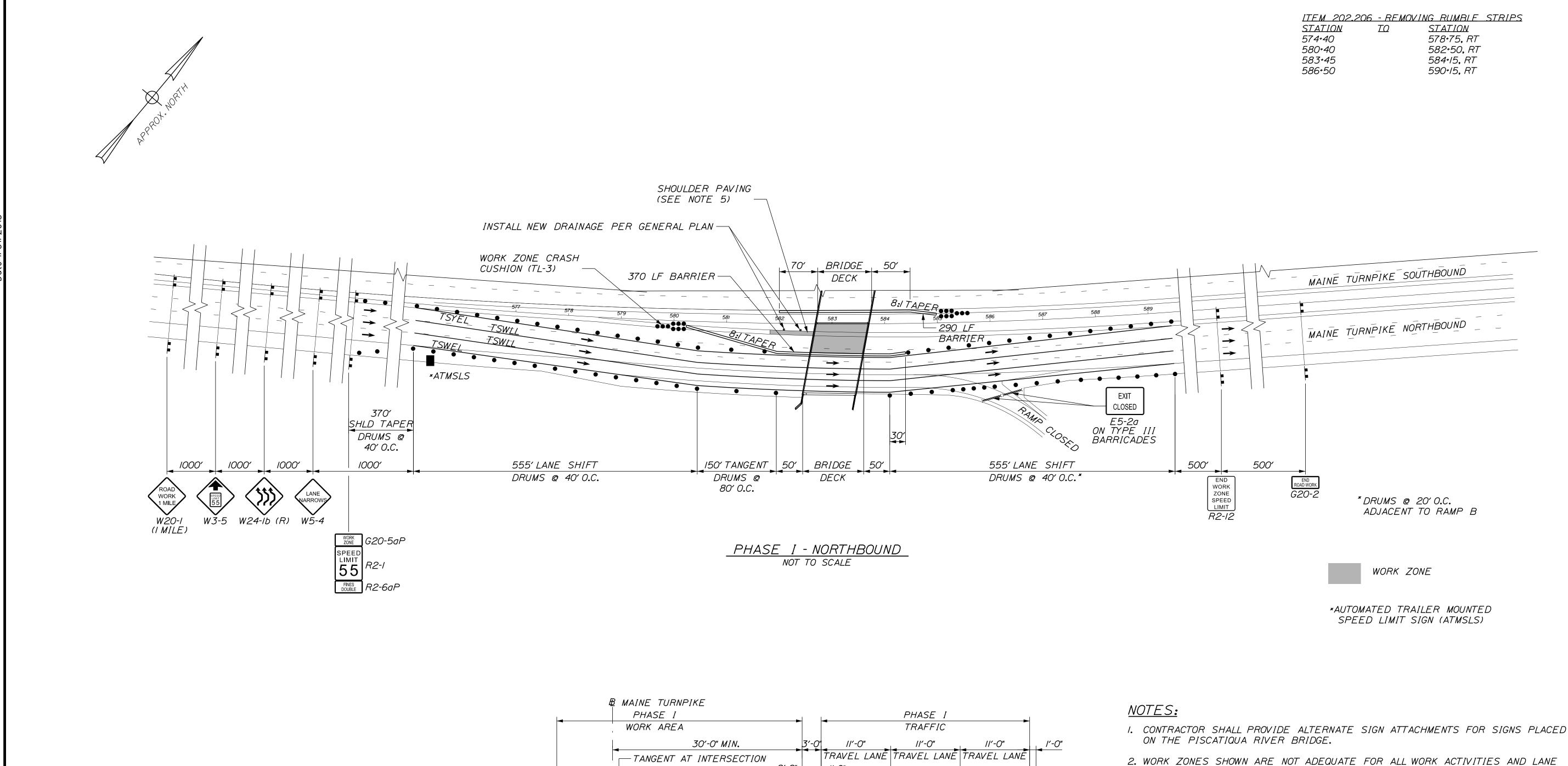
DETOUR PLAN
EXIT 1 NORTHBOUND OFF RAMP

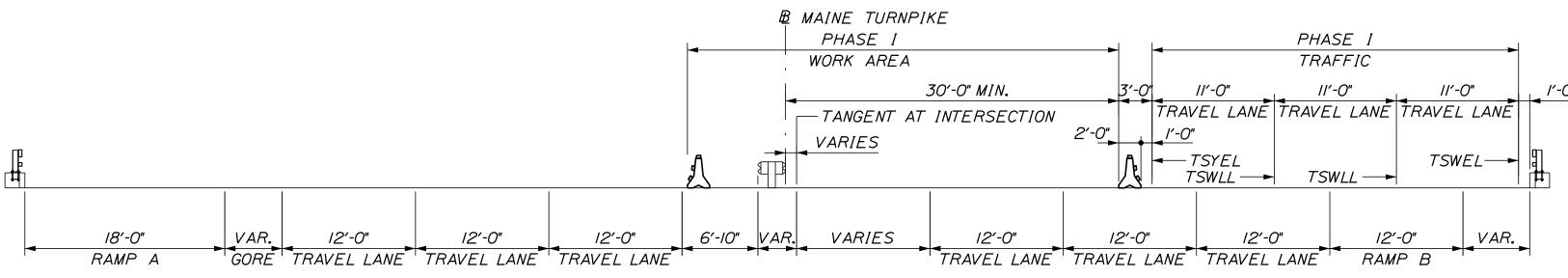
CONTRACT:2018.08

SHEET NUMBER: MT-06

MTA PROJECT MANAGER: Ralph C. Norwood, IV







# PHASE I DENNETT ROAD BRIDGE DECK CROSS SECTION NOT TO SCALE (LOOKING NORTHBOUND)

### Scale: Designed by: NOT TO SCALE T-Y-LININTERNATIONAL By Date Revision CONSULTANT PROJECT MANAGER: Heath Cowan By Date DWB 10/2017 Checked JRH 10/2017 Designed TSK 10/2017 In Charge of DSM 1/2018

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MEMORIAL HIGHWAY

# BRIDGE REPAIRS DENNETT ROAD OVERPASS

MAINTENANCE OF TRAFFIC PHASE I

SHEET NUMBER: MT-08

CONTRACT:2018.08 11 OF 40

THE GOLD STAR

CLOSURES MAY BE NECESSARY.

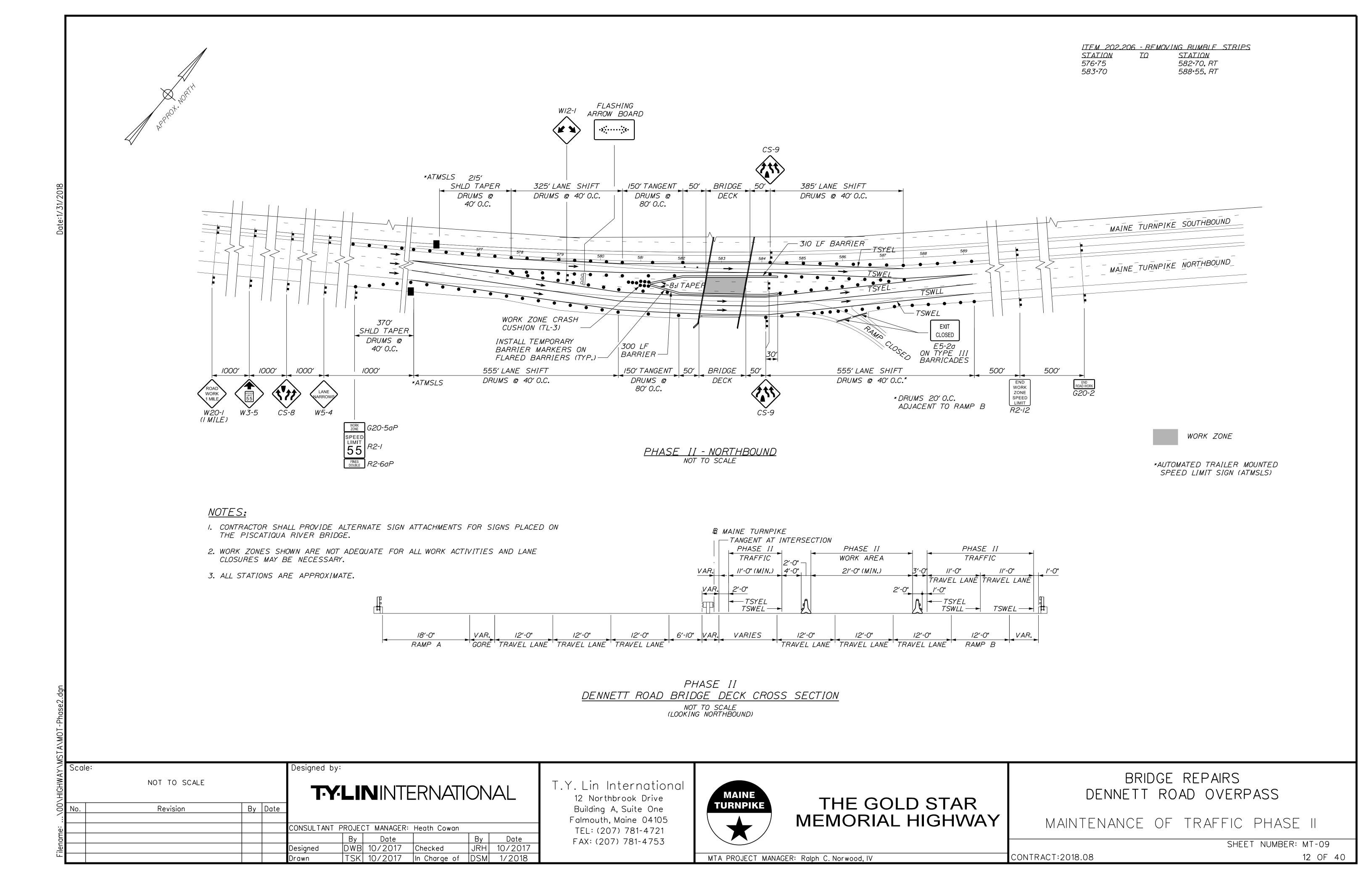
3. ALL STATIONS ARE APPROXIMATE.

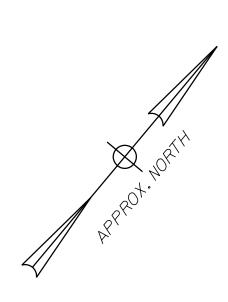
4. FOR SOUTHBOUND SHOULDER CLOSURE SIGNING, SEE DETAIL SHEET MT-OI.

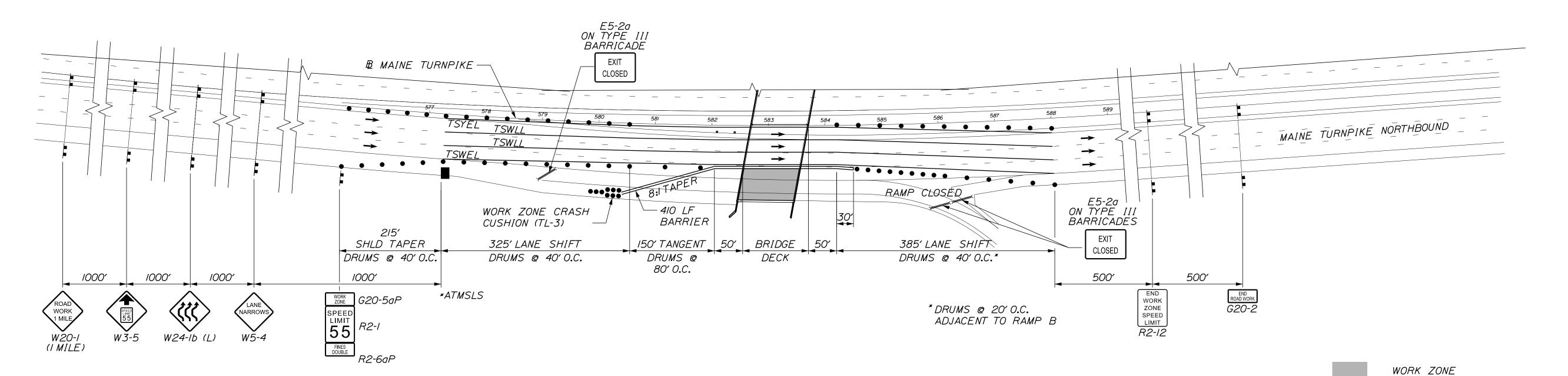
5. NORTHBOUND SHOULDERS SHALL BE PAVED TO FINAL CONDITIONS DURING PHASE I

MEDIAN GRADES UNTIL NEW PRECAST MEDIAN BARIER IS INSTALED IN PHASE IV.

WORK. TEMPORARY PAVEMENT SHALL BE USED TO TRANSITION TO EXISTING





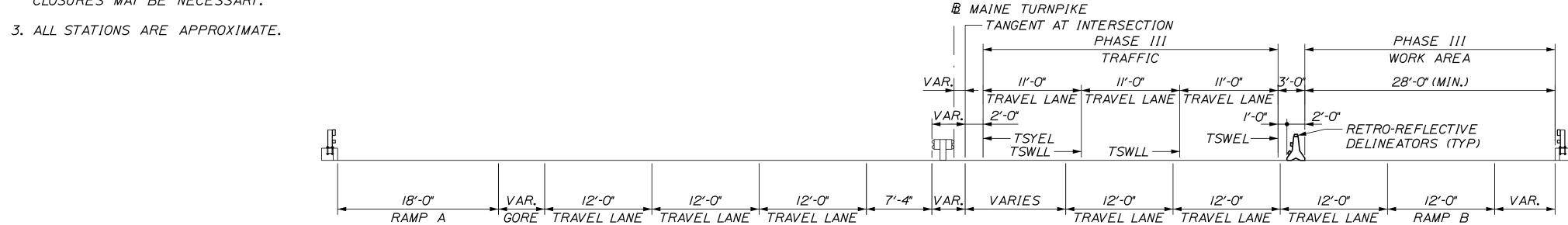


PHASE III - NORTHBOUND

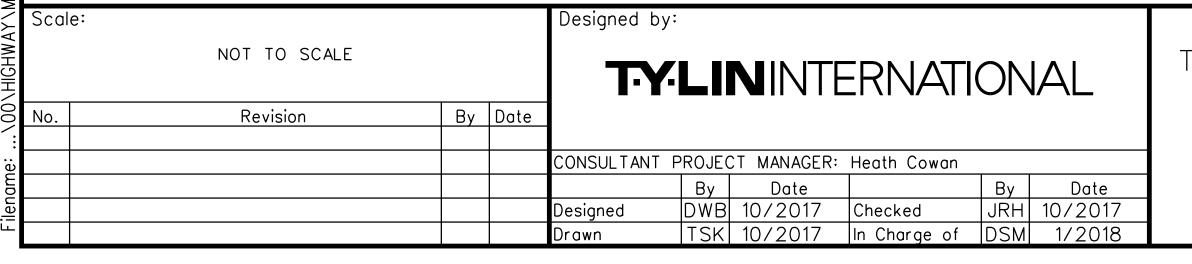
NOT TO SCALE

# NOTES:

- I. CONTRACTOR SHALL PROVIDE ALTERNATE SIGN ATTACHMENTS FOR SIGNS PLACED ON THE PISCATIQUA RIVER BRIDGE.
- 2. WORK ZONES SHOWN ARE NOT ADEQUATE FOR ALL WORK ACTIVITIES AND LANE CLOSURES MAY BE NECESSARY.



# PHASE III DENNETT ROAD BRIDGE DECK CROSS SECTION NOT TO SCALE (LOOKING NORTHBOUND)



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# THE GOLD STAR MEMORIAL HIGHWAY

# BRIDGE REPAIRS DENNETT ROAD OVERPASS

\*AUTOMATED TRAILER MOUNTED SPEED LIMIT SIGN (ATMSLS)

MAINTENANCE OF TRAFFIC PHASE III

SHEET NUMBER: MT-10

MTA PROJECT MANAGER: Ralph C. Norwood, IV

CONTRACT: 2018.08 13 OF 40

960' TANGENT 175' SHLD TAPER DRUMS @ 40' O.C. DRUMS @ 80' O.C. BRIDGE *50*′ DECK (TYP.)  $\overline{(TYP.)}$ (TYP.) -300 LF BARRIER • • MAINE TURNPIKE SOUTHBOUND -WORK ZONE CRASH\_ 3<u>4</u>0 LF -CUSHION (TL-3) (TYP.) 8:1 TAPER BARRIER -8:/ TAPER B MAINE\_TURNPIKE - <u>2</u>90 <u>L</u>F BARRIER MAINE TURNPIKE NORTHBOUND 8:ITAPER. RAMP CLOSED E5-2a ON TYPE III BARRICADES 280 LF CLOSED BARRIER EXIT E5-2a ON TYPE III BRIDGE CLOSED DECK (TYP.) **BARRICADES** (TYP.) '

NOTES:

PHASE IV NOT TO SCALE

800' TANGENT

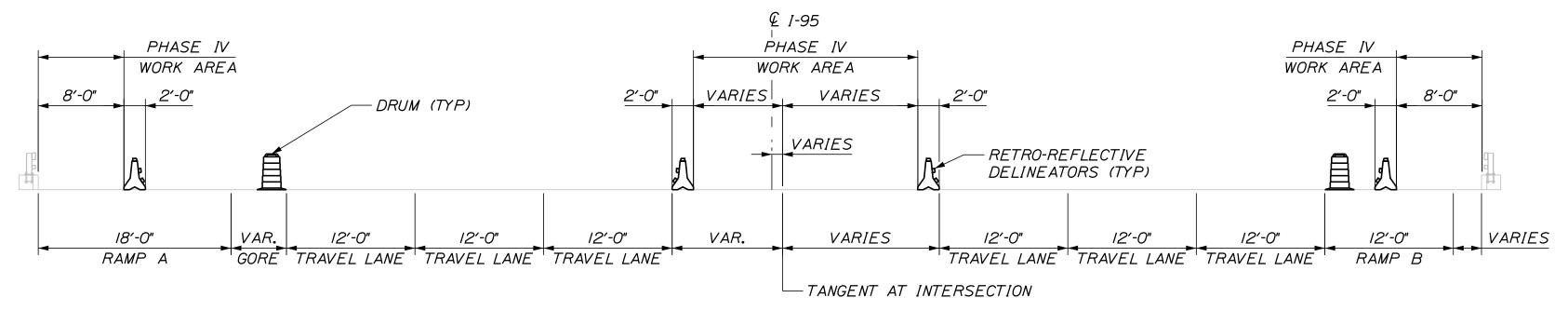
DRUMS @ 80' O.C.

I. CONTRACTOR SHALL PROVIDE ALTERNATE SIGN ATTACHMENTS FOR SIGNS PLACED ON THE PISCATIQUA RIVER BRIDGE.

175' SHLD TAPER

DRUMS @ 40' O.C.

- 2. WORK ZONES SHOWN ARE NOT ADEQUATE FOR ALL WORK ACTIVITIES AND LANE CLOSURES MAY BE NECESSARY.
- 3. ALL STATIONS ARE APPROXIMATE.
- 4. FOR ALL SIGNING SEE SHOULDER CLOSURE DETAIL SHEET MT-OI.



PHASE IV DENNET ROAD BRIDGE DECK CROSS SECTION NOT TO SCALE (LOOKING NORTHBOUND)

Designed by: Scale: NOT TO SCALE T-Y-LININTERNATIONAL By Date Revision CONSULTANT PROJECT MANAGER: Heath Cowan By Date JRH 10/2017 JRH 10/2017 Checked Designed BLT 10/2017 In Charge of DSM 1/2018

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THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPAIRS DENNETT ROAD OVERPASS

WORK ZONE

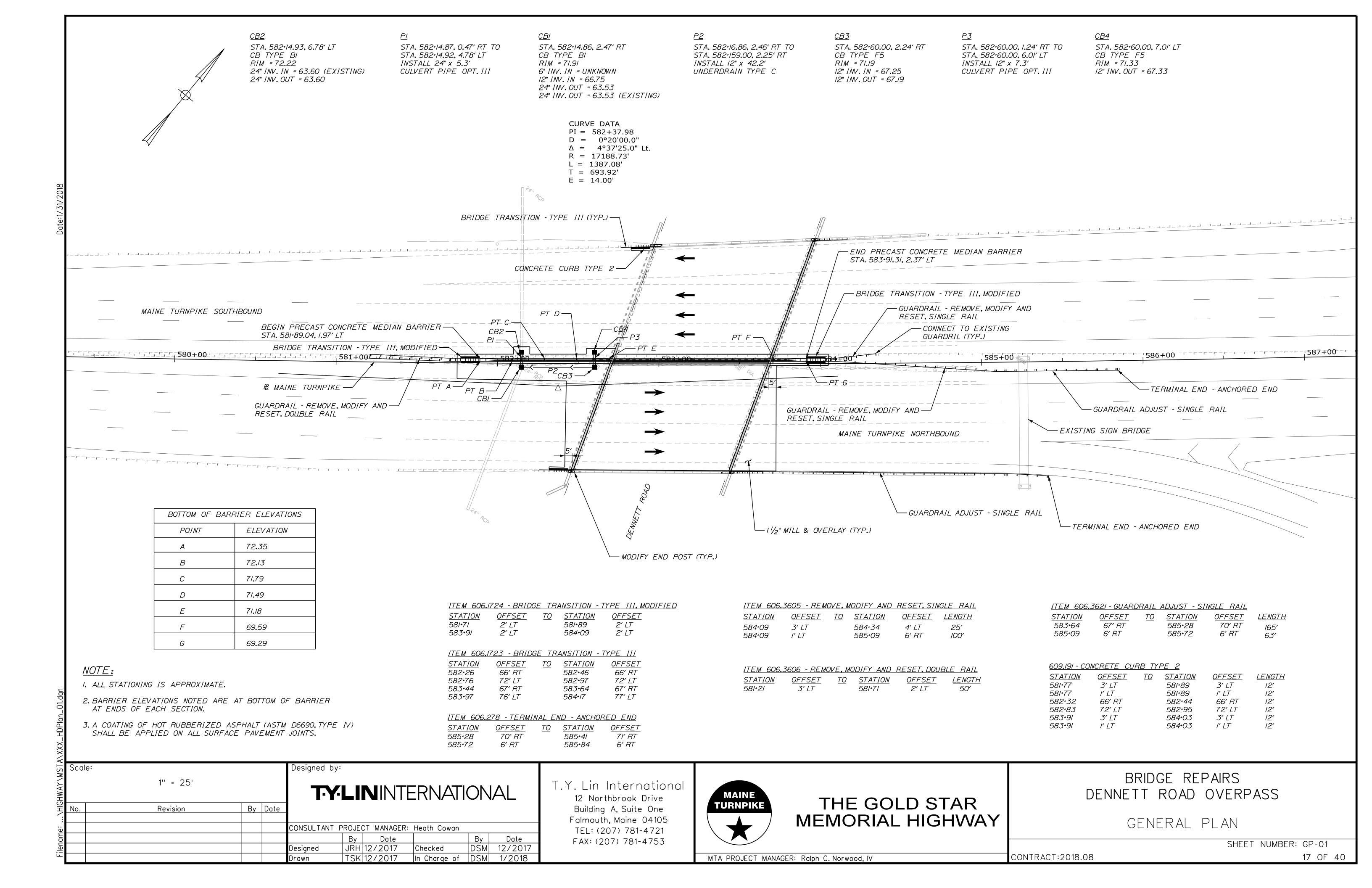
MAINTENANCE OF TRAFFIC PHASE IV

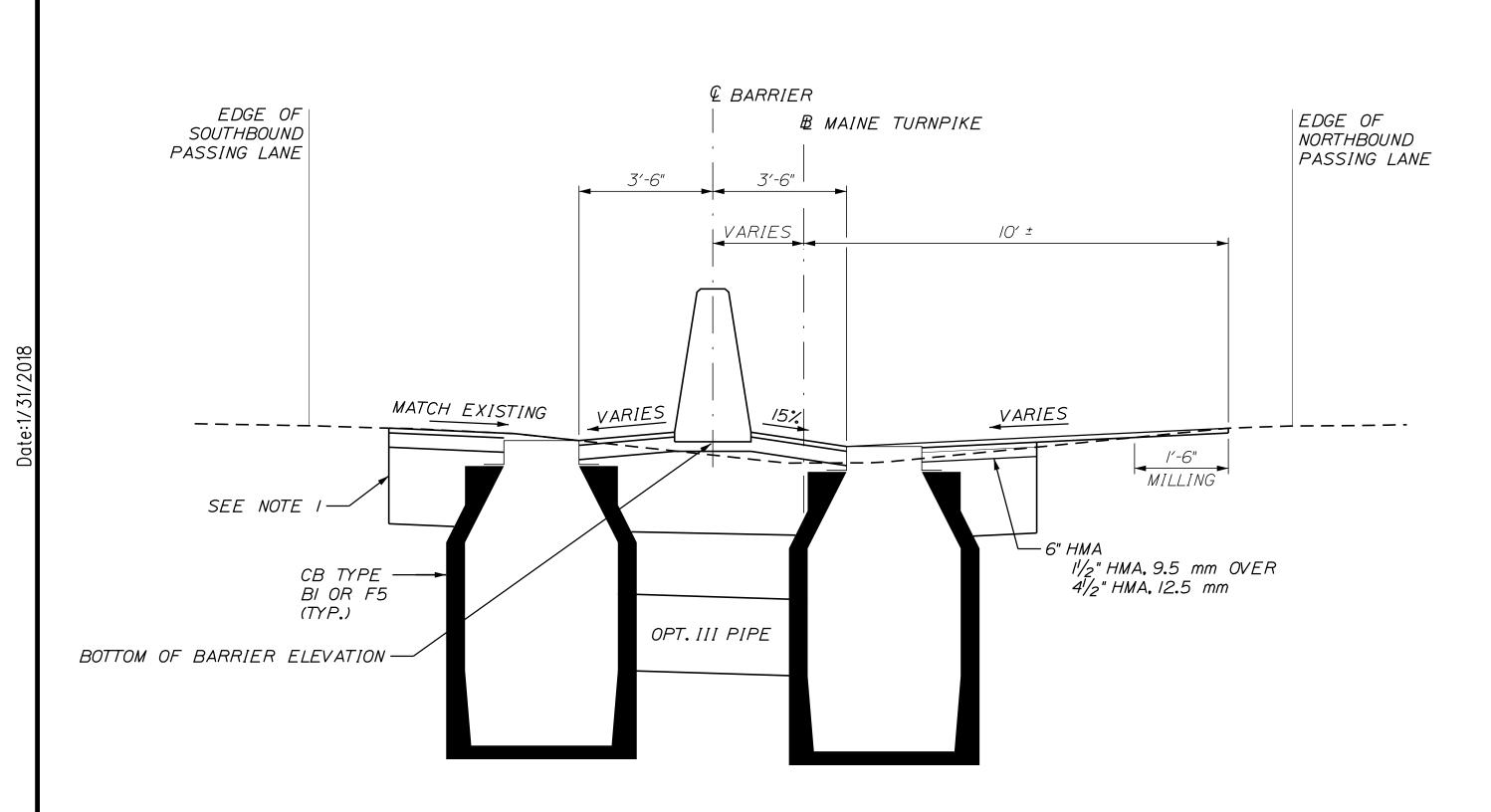
SHEET NUMBER: MT-11

CONTRACT:2018.08

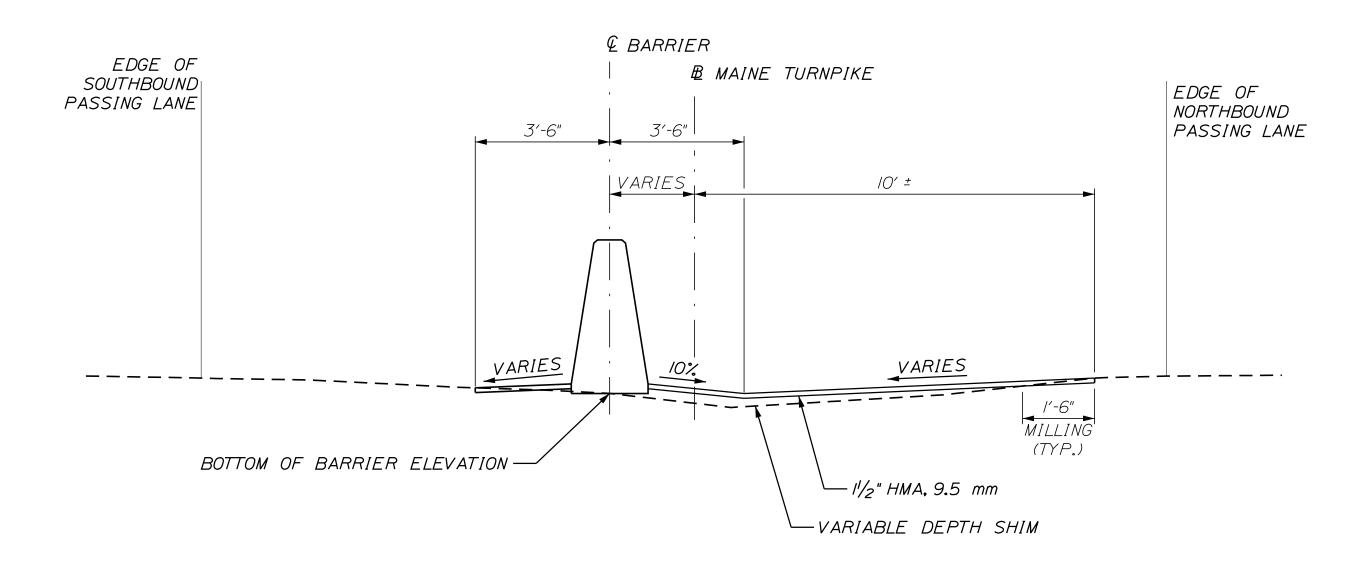
	IDENTIFI- CATION NUMBER	SIZE SIC WIDTH	GN	TEXT		MENSIONS (INCHES)  VERTICAL ARROW  SPACING RTE. MKR.	NUMBER OF SIGNS REQUIRED	COL BACK- GROUND	T   RORDER	AREA IN SQUARE FEET	NOTES	IDENTIFI- CATION NUMBER	SIZE SIO WIDTH	GN	TEXT	TEXT DIMENSIONS  LETTER VERTICAL HEIGHT SPACING			OR LEGEND BORDER	BORDER AREA IN SQUARE FEET	NOTES
				EXPECT								M3-/	24"	12"	SOUTH	TEXT DIMENSION CONFORM TO "ST HIGHWAY SIGNS" & 2012 SUPPLE	S SHALL TANDARD - 2009 5	WHITE	BLACK	2.00	
	CS-I	48"	48"	STOPPED TRAFFIC	6" 6" 6"	4" 4"	6	ORANGE	BLACK	16 <b>.</b> 00 (96)		M4-5	24"	12"	ТО	& 2012 301 1 EE	5	WHITE	BLACK	2.00	
												M4-8	24"	12"	DETOUR		9	WHITE	BLACK	2.00 (18)	
	CS-2	102"	18"	VIA EXIT 2	IO" EM	4"	2	ORANGE	BLACK	12.75 (25.5)	NO BORDER	M4-8a	24"	/8"	END DETOUR		/	ORANGE	BLACK	3.00 (3)	
2018	CS-3	<i>168</i> "	42"	EXIT CLOSED	/5" E	/3.5"	2	ORANGE	BLACK	49 (98)		M4-9 (LEFT) (RIGHT)	<i>30</i> "	24"	DETOUR -		1 2	ORANGE	BLACK	5.00 (5) (10)	
ste:1/31/				LATI GLOGLD		/3.5"				(96)		M4-9 (SR)	<i>30</i> "	24"	DETOUR			ORANGE	BLACK	5.00 (5)	
Ď				I-95 SB EXIT 1	8D 8D	5 4 4						M6-I (LEFT) (RIGHT)	<i>30</i> "	24"			4 2	WHITE	BLACK	5.00 (20) (10)	
	CS-5	48"	78"	ON RAMP CLOSED	8D 8D	4	3	ORANGE	BLACK	26.00 (78)		M6-2 (LEFT) (RIGHT)	<i>30</i> "	24"			<i>I I</i>	WHITE	BLACK	5.00 (5) (5)	
				USE EXIT 2	8D 8D	<i>4</i> 5						М6-3	30"	24"			/	ORANGE	BLACK	5.00 (5)	
	CS-8	48"	48"	<b>4V44</b>			2	ORANGE	BLACK	16.00 (32)		RI-2	<i>36</i> "	36"	YIELD			WHITE	RED	3.90 (3.9)	
								ONANGL	BLACK	(32)		70.4	4.00	COIL	SPEED				Di Aok	20.00	
	CS-9	48"	48"				3	ORANGE	BLACK	16.00		R2-I	48"	60"	55		10	WHITE	BLACK	20.00	
										(48)		R2-6aP	48"	24"	FINES DOUBLE		10	WHITE	BLACK	8.00 (80)	
	CS-10	<i>48</i> "	48"	TRUCKS ENTERING	7" 7"	6"	/	ORANGE	BLACK	16.00 (16)		R2-I2	36"	54"	END WORK ZONE SPEED LIMIT		12	WHITE	BLACK	/3.5 (/62)	
	D3-I	48"	12"	Dennett Rd	CONFOR HIGHWA	IMENSIONS SHALL M TO "STANDARD Y SIGNS" - 2009 SUPPLEMENT	4	ORANGE	BLACK	<b>4.</b> 00 (16)		RII-2	48"	30"	ROAD CLOSED		3	WHITE	BLACK	(30)	
	E5-2a	48"	36"	EXIT			8	ORANGE	BLACK	12 <b>.</b> 00 (96)		W3-2	48"	48"	YIELD			ORANGE	BLACK	16.00 (16)	
	G20-2	48" 36"	24" 18"	END ROAD WORK			16 4	ORANGE	BLACK	8.00 (128) 4.50 (18)											
/_01.dgn	G20-5aP	48"	24"	WORK ZONE			10	ORANGE	BLACK	8.00 (80)		W3-4	<i>48</i> "	48"	BE PREPARED		6	ORANGE	BLACK	16.00 (96)	
n_Summary	M/-I	24"	24"	95	₩	₩ ₩	5	RED/ BLUE	WHITE	4.00 (20)					TO STOP	Ψ   Ψ	₩				
Filename:\XXX_MOT_Sign	ale:		OT TO SCA	ALE By Date	SULTANT PROJEC By Ined TSK	T MANAGER: Heath Condition  T Date  10/2017 Checked  10/2017 In Charge	owan By JRH	Date 1/2018	Building Falmouth TEL: (2 FAX: (2)	Internathbrook Days A, Suite n, Maine ( 07) 781-4	Orive One 04105 4721 4753	MAINE TURNPIKE  MTA PROJECT		MEN	HE GOLD S IORIAL HIG	HWAY	MA	ENNET AINTEN	T ROA Nance	REPAIRS AD OVERPAS OF TRAFF ARY 10F 2 sheet n	IC

	IDENTIFI- CATION NUMBER	SIZE OF SIGN WIDTH HEIGHT	TEXT	TEXT DIMENSIONS (INCHES)  LETTER VERTICAL ARROW  HEIGHT SPACING RTE. MKR.	NUMBER COLOR OF SIGNS BACK- LEGENL REQUIRED GROUND BORDE	BORDER SQUARE RADIUS FEET NOTES	IDENTIFI- CATION NUMBER	SIZE SIC WIDTH	9N		ERTICAL ARROW SIGNACING RTE. MKR. REQU	BER C F GNS BACK- IRED GROUND	DLOR  LEGEND BO  BORDER	RDER AREA IN SQUARE FEET NOTES
	W3-5	48" 48"	SPEED LIMIT 55	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS" - 2009 & 2012 SUPPLEMENT	12 ORANGE BLACK	(6.00	W20-5 (LEFT) (RIGHT)	48"	48"	LANE CONFORM HIGHWAY	TENSIONS SHALL TO "STANDARD SIGNS" - 2009 UPPLEMENT	ORANGE	BLACK	16.00 (96) (96)
e:1/31/2018	W4-!	48" 48"			2 ORANGE BLACK	(6.00 (32)	W20-5a (LEFT) (RIGHT)	48"	48"	2 XXX LANES CLOSED 1/2 MILE		ORANGE	BLACK	16.00 (128) (128)
Dat	W4-2 (LEFT) (RIGHT)	48" 48"			14 ORANGE BLACK	(16.00 (224) (224)	W20-4	36"	36"	ONE LANE ROAD AHEAD		ORANGE	BLACK	9.00 (36)
	W5-4	48" 48"	LANE		2 ORANGE BLACK	( 16.00 (64)	W20-7a	36"	36"			orange	BLACK	9.00 (36)
	W7-3aP	36" 30"	NEXT X FEET		3 ORANGE BLACK	7.50 (22.5)		48"	48"	SHOULDER WORK		? ORANGE	BLACK	16.00 (32)
	W8-I	48" 48"	BUMP		8 ORANGE BLACK	(16.00 (128)	W2I-5a (RIGHT) (LEFT)	48"	48"	XXX SHOULDER CLOSED		? ORANGE	BLACK	/6.00 (32) (32)
	W8-24a	48" 48"	RUMBLE STRIPS AHEAD		8 ORANGE BLACK	(6.00 (128)	W2I-5b (RIGHT) (LEFT)	48"	48"	XXX SHOULDER CLOSED 1000 FT		ORANGE	BLACK	/6.00 (32) (32)
	WI2-I	48" 48"			4 ORANGE BLACK	(64)	W24-la (LEFT) (RIGHT)	48"	48"	<b>55</b>		2 ORANGE	BLACK	16.00 (32) (32)
	W20-I (I MILE) (AHEAD)	48" 48" 48" 48" 36" 36"	ROAD WORK XXX		12 7 ORANGE BLACK	16.00 (192) (112) (12) (36)	W24-Ib (LEFT) (RIGHT)	48"	48"		<b>V</b>	ORANGE	BLACK	16.00 (32) (32)
Scale No.	:	NOT TO SCA Revision	LE  By Date  CON	ISULTANT PROJECT MANAGER: Heath By Date Igned TSK 10/2017 Chec	h Cowan  By Date cked JRH 1/2018	T.Y. Lin Internationa 12 Northbrook Drive Building A, Suite One Falmouth, Maine 04105 TEL: (207) 781-4721 FAX: (207) 781-4753	MAINE TURNPIKE  MTA PROJECT M	7 [	MEI	HE GOLD STAR MORIAL HIGHWAY		DENNET MAINTEN SIGN S	JANCE O	PAIRS OVERPASS F TRAFFIC 2 OF 2 SHEET NUMBER: MT-13 16 OF

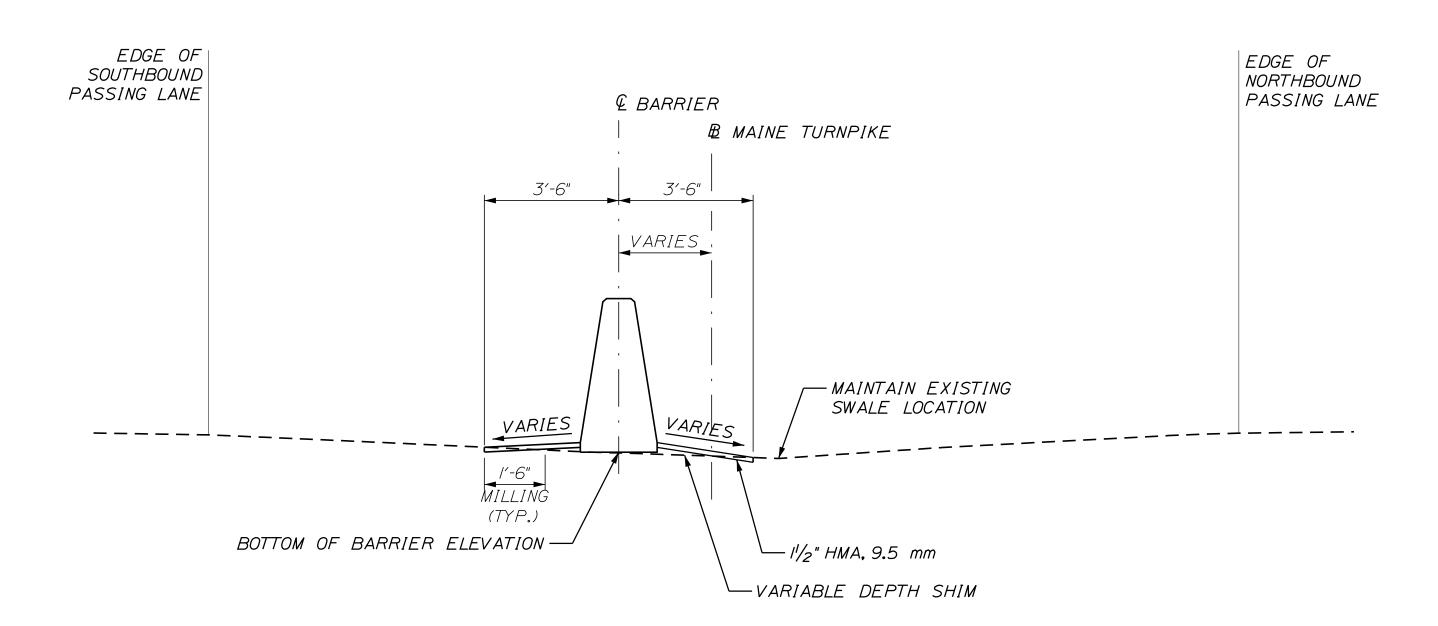




# TYPICAL SECTION AT CATCH BASINS



TYPICAL SECTION SOUTH OF DENNETT ROAD

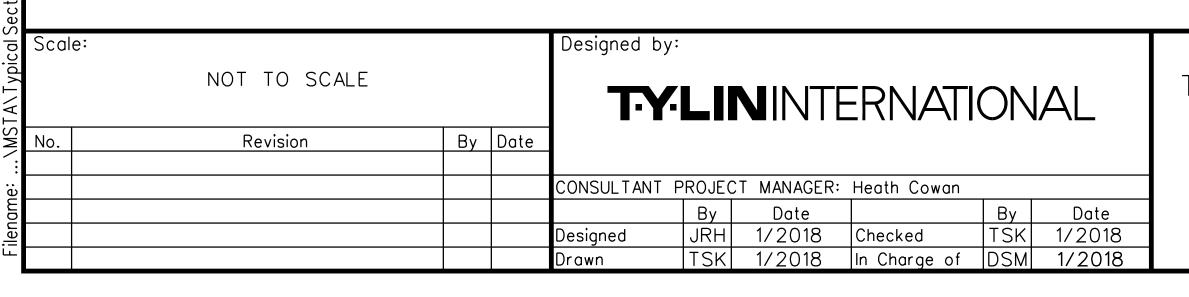


TYPICAL SECTION NORTH OF DENNETT ROAD

# NOTES:

- I. GRAVEL IN EXCAVATION AREAS SHALL BE AGGREGATE SUBBASE COURSE GRAVEL (TYPE D) AND SHALL BE PLACED TO A MINIMUM DEPTH OF 24", OR MATCH EXISTING GRAVEL DEPTHS IF MORE.
- 2. SEAL MEDIAN AREAS WITH TWO APPLICATIONS OF EMULSIFIED BITUMINOUS SEALER PER SPECIFICATION 401 AFTER COMPLETING ALL PAVING WORK. PAYMENT FOR SEALING SHALL BE INCIDENTAL TO PAVING ITEMS.
- 3. A COATING OF HOT RUBBERIZED ASPHALT (ASTM D6690, TYPE IV) SHALL BE APPLIED ON ALL SURFACE PAVEMENT JOINTS.

CONTRACT:2018.08



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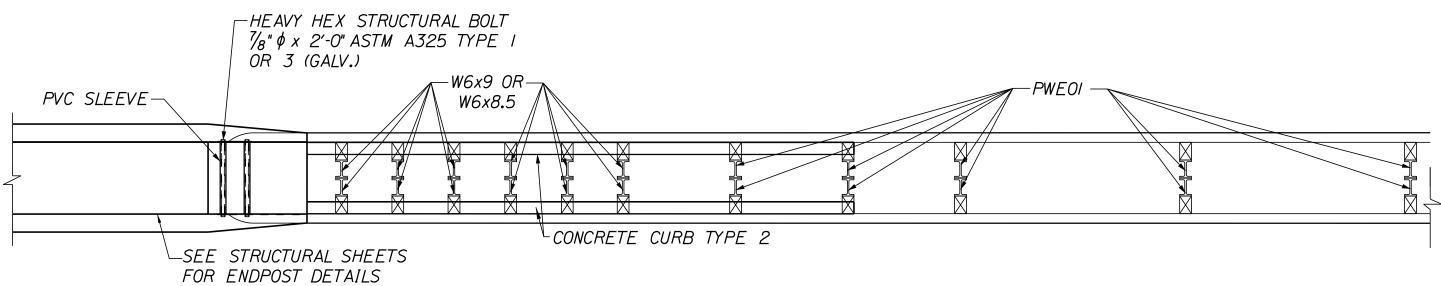


THE GOLD STAR MEMORIAL HIGHWAY BRIDGE REPAIRS
DENNETT ROAD OVERPASS

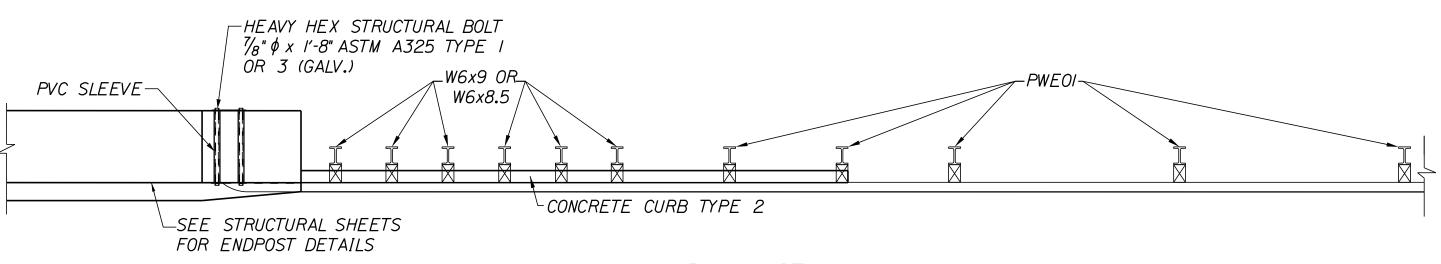
MEDIAN TYPICAL SECTIONS

SHEET NUMBER: GP-02

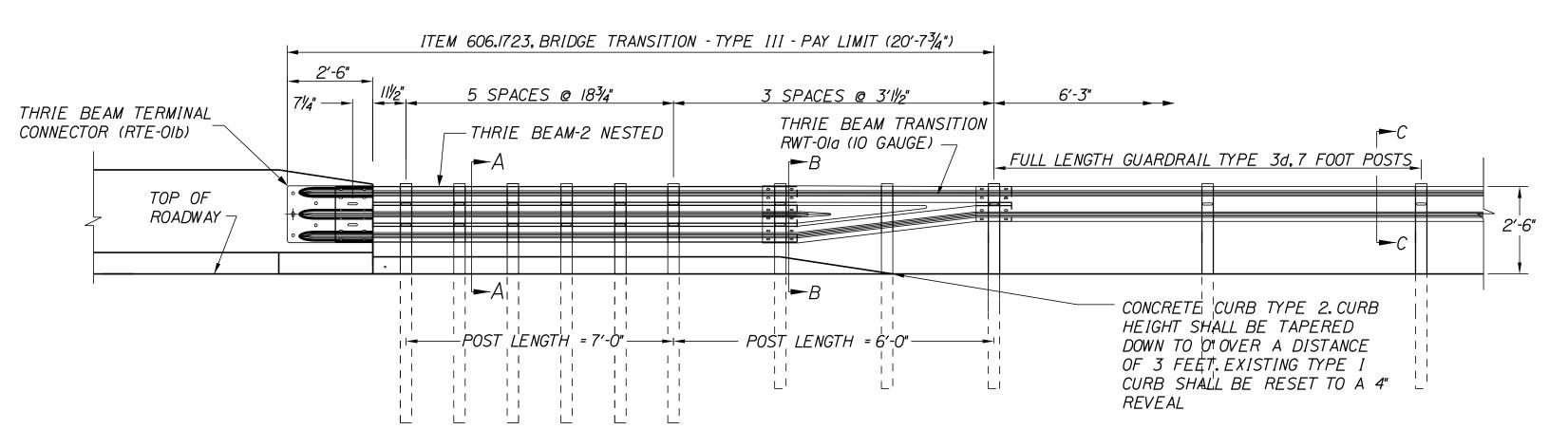
MTA PROJECT MANAGER: Ralph C. Norwood, IV



PLAN VIEW BRIDGE TRANSITION - TYPE III, MODIFIED 3/8" = 1'-0"



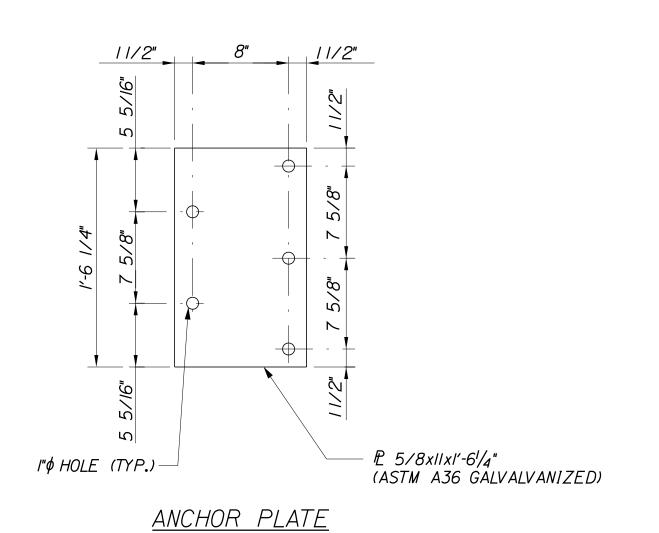
<u>PLAN VIEW</u> BRIDGE TRANSITION - TYPE III 3/8" = 1'-0"

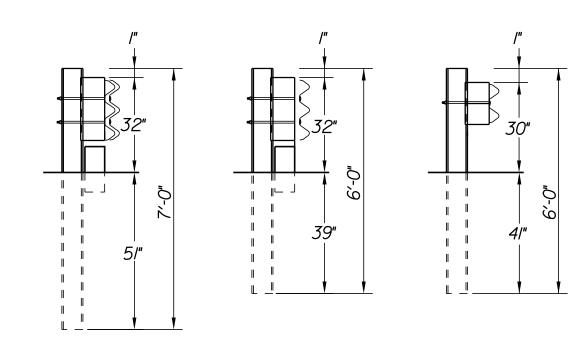


THRIE BEAM BRIDGE ATTACHMENT AT APPROACH END POSTS 3/8" = 1'-0"

# **GENERAL NOTES:**

- I. ADDITIONAL HOLES MAY BE MADE IN THE THRIE-BEAM PANELS BY DRILLING, PUNCHING, OR OTHER MEANS THAT PRODUCE A NEAT, CLEAN HOLE. BURNING HOLES WILL NOT BE ALLOWED.
- 2. THRIE BEAM SHALL BE PLACED WITH THE COMPOSITE BLOCKOUT FACE IN FRONT OF OR DIRECTLY ABOVE THE CURB FACE.
- 3. RAIL ELEMENT SHALL MEET ALL REQUIREMENTS OF AASHTO M-180 EXCEPT AS MODIFIED ON THE PLANS. THE THRIE BEAM TRANSITION TO W-BEAM SHALL BE OF THE SAME MATERIAL, BUT SHALL NOT BE LESS THAN 10 GAUGE.
- 4. ALL BOLTS SHALL HAVE DOUBLE NUTS.
- 5. STANDARD BARRIER HARDWARE HAS BEEN USED TO DEVELOP THESE GUARDRAIL ATTACHMENTS. DESIGNATIONS PROVIDED IN PARENTHESIS RELATE TO STANDARD ELEMENTS DETAILED IN "A GUIDE TO STANDARDIZED BARRIER RAIL HARDWARE." 1979. AASHTO-AGC-ARTBA JOINT COOPERATE COMMITTEE.
- 6. I" HOLE IN CONCRETE SHALL BE FORMED BY A METHOD APPROVED BY THE ENGINEER.





11/2" = 1'-0"

SECTION A-A SECTION B-B SECTION C-C

Sc	cale:	AS NOTED			Designed b	y:				
Sc		AS NOTED			T-	/LII	NINT	ERNATI	ON	AL
No	D.	Revision	Ву	Date						
					CONSULTANT	PROJEC	T MANAGER:	Heath Cowan		
						Ву	Date		Ву	Date
					Designed	JRH	5/2017	Checked	KSD	5/2017
					Drawn	PEM	5/2017	In Charge of	DSM	1/2018

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THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPAIRS DENNETT ROAD OVERPASS

> GUARDRAIL DETAILS SHEET 1 OF 2

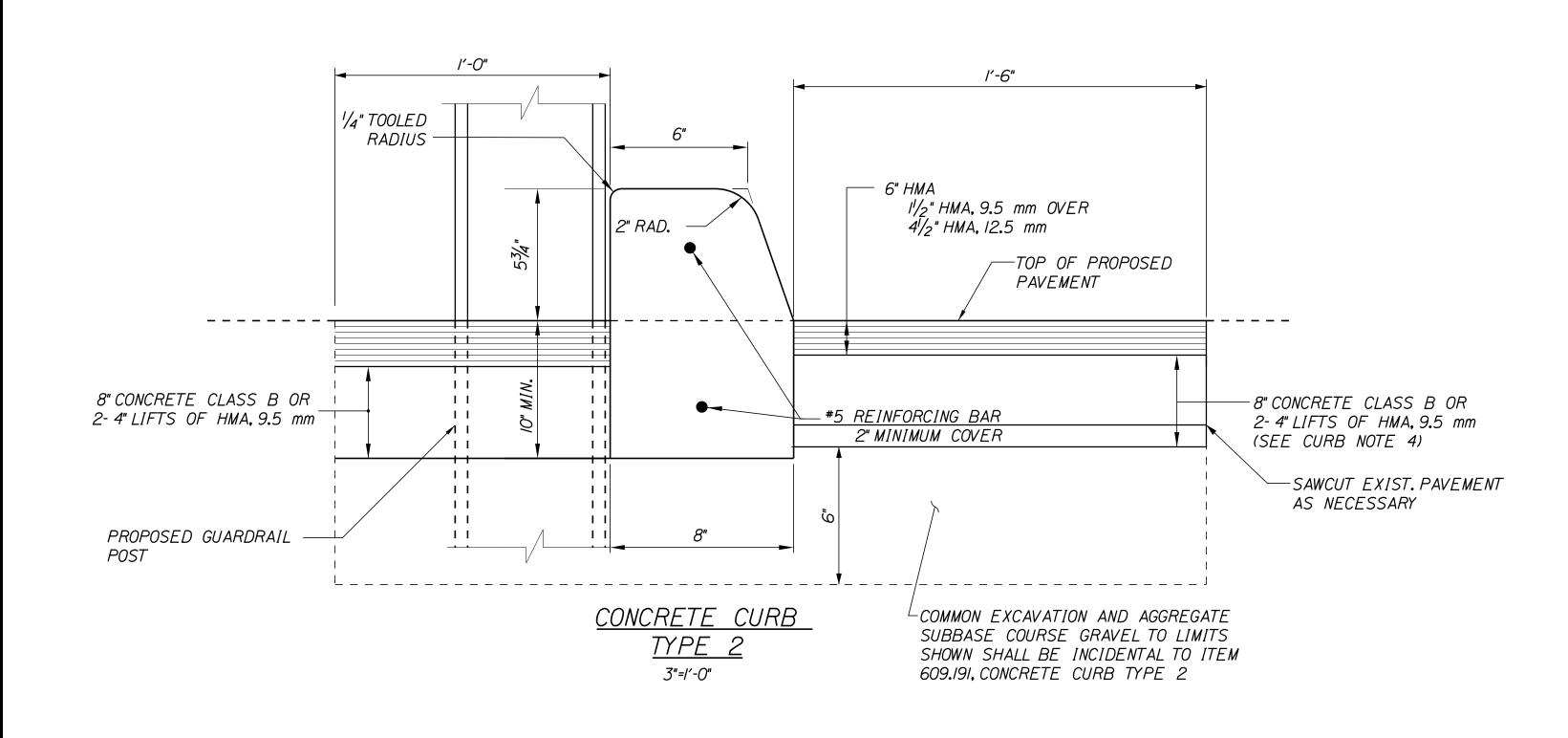
SHEET NUMBER: GR-01

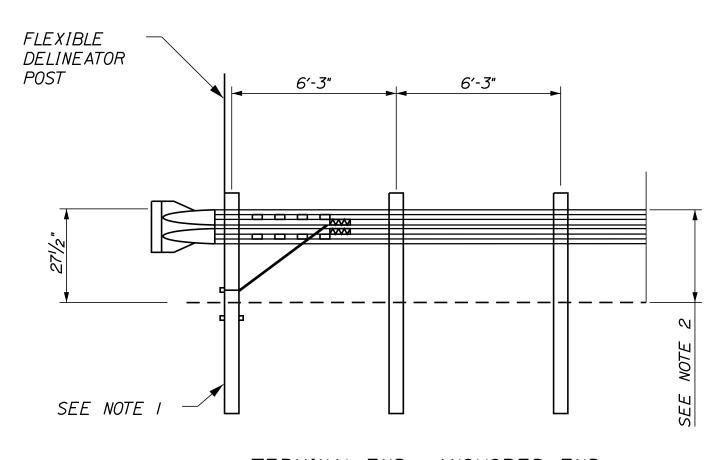
CONTRACT:2018.08

- I. SOIL ANCHOR TUBES INSTALLED AS PART OF CAT, FLEAT OR TRAILING TERMINAL ENDS SHALL NOT PROTRUDE FROM THE GROUND MORE THAN 31/2". ADDITIONAL SITE GRADING MAY BE REQUIRED TO ADJUST SOIL TUBE REVEAL AND IF REQUIRED SHALL NOT DIRECT STORMWATER SURFACE DRAINAGE TOWARDS THE SHOULDER OR TRAVEL WAY. ADDITIONAL SITE GRADING SHALL BE INCIDENTAL TO THE END TERMINAL INSTALLATION.
- 2. TRANSITION RAIL HEIGHT ON TERMINAL END-ANCHORED ENDS FROM 271/2" AT THE END OF THE RAIL TO 30" HEIGHT OVER A 25 LINEAR FOOT LENGTH.

# CURB NOTES:

- I. CURBING SHALL BE EITHER PRECAST CONCRETE, CAST-IN-PLACE CONCRETE OR GRANITE TO MEET DIMENSIONS SHOWN ON THE PLANS, CURNING SHALL BE PAID UNDER ITEM 609.191 CONCRETE CURB TYPE 2.
- 2. CONCRETE CURBS USED IN CONJUNCTION WITH THRIE-BEAM BRIDGE ATTACHMENT SHALL BE TYPE 2. SEE DETAILS THIS SHEET. CONCRETE CURBS SHALL BE CONTINUOUS WITHOUT DRAINAGE CUTS.
- 3. CURB TRANSITIONS SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 609.191 CONCRETE CURB TYPE 2.
- 4. SAWCUTTING EXISTING PAVEMENT CONCRETE FILL AND PAVEMENT TO LIMITS SHOWN SHALL BE INCIDENTAL TO ITEM 609.191.





TERMINAL END - ANCHORED END (ITEM 606.278)

N.T.S.

_Guardrail.	Scal	le: AS NOTED			Designed b		NINTI	ERNATI	ON	ΔΙ	T
.\XXX	No.	Revision	Ву	Date	1					<i>,</i> ( <u></u>	
: e:					CONSULTANT	PROJEC	T MANAGER:	Heath Cowan			
a						Ву	Date		Ву	Date	
ilen					Designed	JRH	5/2017	Checked	KSD	5/2017	1
تا					Drawn	PEM	5/2017	In Charge of	DSM	1/2018	1

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THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPAIRS DENNETT ROAD OVERPASS

> GUARDRAIL DETAILS SHEET 2 OF 2

SHEET NUMBER: GR-02

CONTRACT:2018.08

- I. EROSION AND SEDIMENT CONTROL DEVICES REQUIRED FOR THE CONTRACTOR'S ACCESS LOCATIONS AND STORAGE AREAS WILL NOT BE MEASURED FOR PAYMENT.
- 2. THE CONTRACTOR WILL BE ALLOWED TO STORE MATERIAL AND EQUIPMENT ON GRAVEL AND PAVEMENT WITHIN THE CLOSED PORTIONS OF THE MAINLINE TURNPIKE AND DENNETT ROAD. THESE AREAS ARE EITHER INCLUDED IN THE LIMITS OF DISTURBANCE OR HAVE BEEN PREVIOUSLY SURFACED AND DO NOT ADD TO THE LIMITS OF DISTURBANCE.
- 3. CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID IMPACTING OR DISTURBING ROADWAY DITCHES.

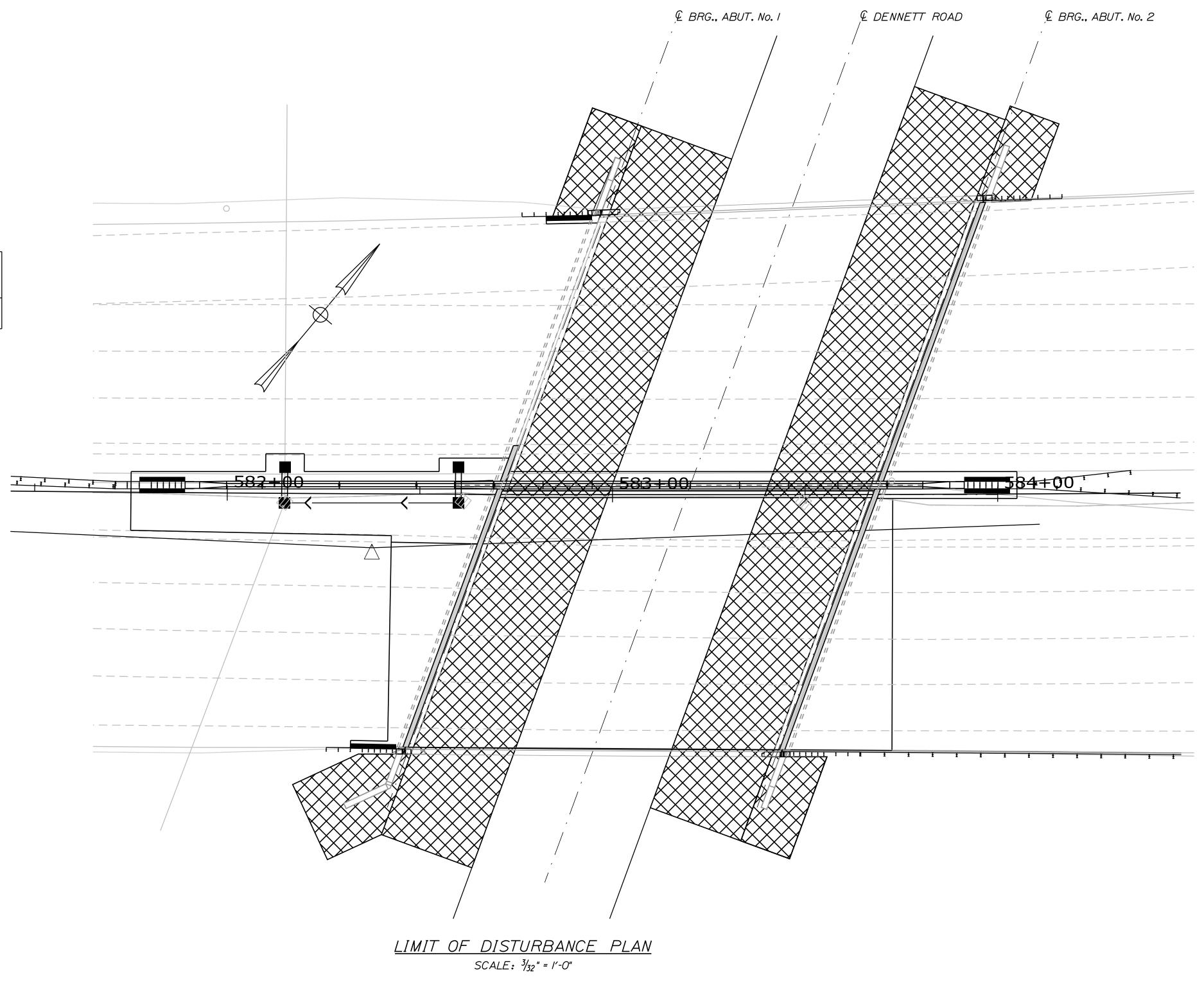
# AREAS:

LOCATION	CONTRACT LIMIT OF DISTURBANCE	CONTRACTOR'S LIMIT OF DISTURBANCE AREA FOR ACCESS AND STORAGE
DENNETT ROAD OVERPASS (MILE 0.6)	O ACRES	0.025 ACRES

# LEGEND:

CONTRACT LIMIT OF DISTURBANCE

CONTRACTOR'S LIMIT OF DISTURBANCE AREA FOR ACCESS AND STORAGE



Scale: Designed by: NOT TO SCALE T-Y-LININTERNATIONAL By Date Revision CONSULTANT PROJECT MANAGER: Heath Cowan By Date
Checked NLB 10/2017
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DSM 9/2017
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THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPAIRS DENNETT ROAD OVERPASS

LIMIT OF DISTURBANCE

SHEET NUMBER: LD-01

MTA PROJECT MANAGER: Ralph C. Norwood, IV

21 OF 40 CONTRACT:2018.08

2. CONTRACTOR SHALL REPAIR AREAS OF DETERIORATED GRANITE CURB BEDDING AND JOINT MORTAR ON THE DECK AS REQUIRED, LOCATIONS OF GRANITE CURB BEDDING AND JOINT MORTAR SHALL BE FIELD DETERMINED BY THE RESIDENT. PAYMENT SHALL BE UNDER THE 518 ITEMS.

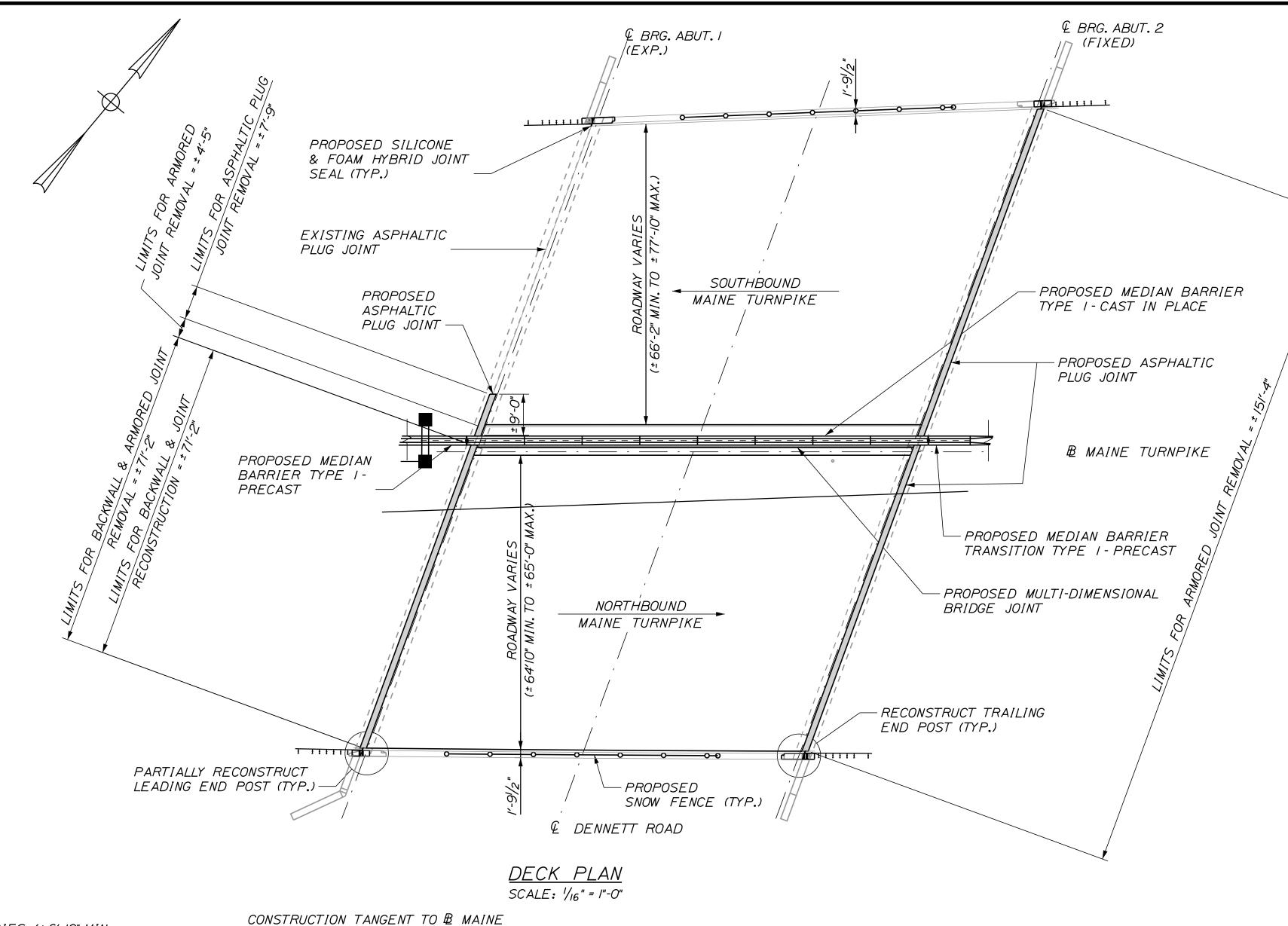
- 3. SEAL SHOULDER AREAS WITH TWO APPLICATIONS OF EMULSIFIED BITUMINOUS SEALER PER SPECIFICATION SECTION 401 AFTER COMPLETING ALL DECK PAVING WORK.
- 4. ALL PVC DECK WEEPS WHICH DRAIN ONTO ABUTMENTS OR STRUCTURAL STEEL SHALL BE EXTENDED AND DIVERTED AWAY FROM BRIDGE COMPONENTS BELOW DECK, AND SHALL EXTEND IFT BELOW BOTTOM FLANGE, AS DIRECTED BY THE RESIDENT. PAYMENT SHALL BE BY THE VARIOUS LABOR AND EQUIPMENT ITEMS.

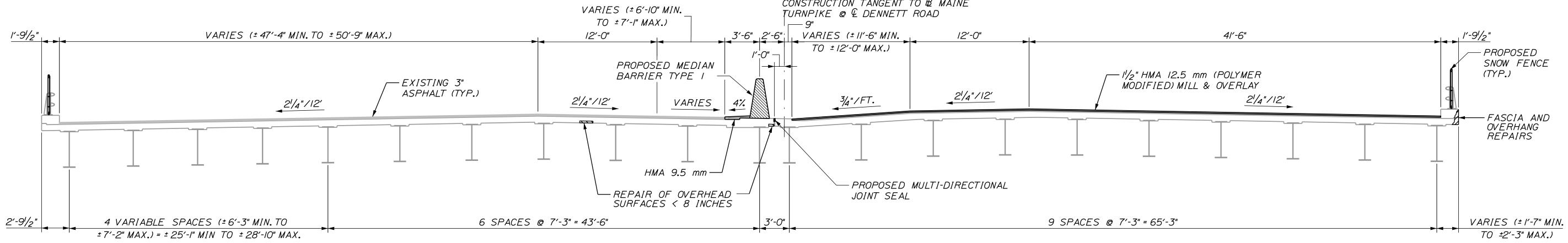
ESTIMATED REPA	IR QUANTITIES	(BOTH DECKS)
	REPAIR OF OVERHEAD SURFACES < 8 INCHES (S.F.)	FASCIA AND OVERHANG REPAIRS (S.F.)
DENNETT ROAD UNDERPASS (MILE 0.06)	275	50

# LEGEND:

LIMITS OF REPAIR OF OVERHEAD SURFACES < 8 INCHES (REPAIR AREAS TO BE DETERMED IN THE FIELD)

REPAIR OF FASCIA AND OVERHANG REPAIRS (REPAIR AREAS TO BE DETERMINED IN THE FIELD)





TRANSVERSE SECTION

SCALE: 3/16" = 1'-0" (LOOKING NORTHBOUND)

### Scale: Designed by: AS NOTED T-Y-LININTERNATIONAL By Date Revision CONSULTANT PROJECT MANAGER: Heath Cowan Ву Date NLB 10/2017 DSM 10/2017 Checked Designed In Charge of DSM 1/2018 ISAMI 10/2017 Drawn

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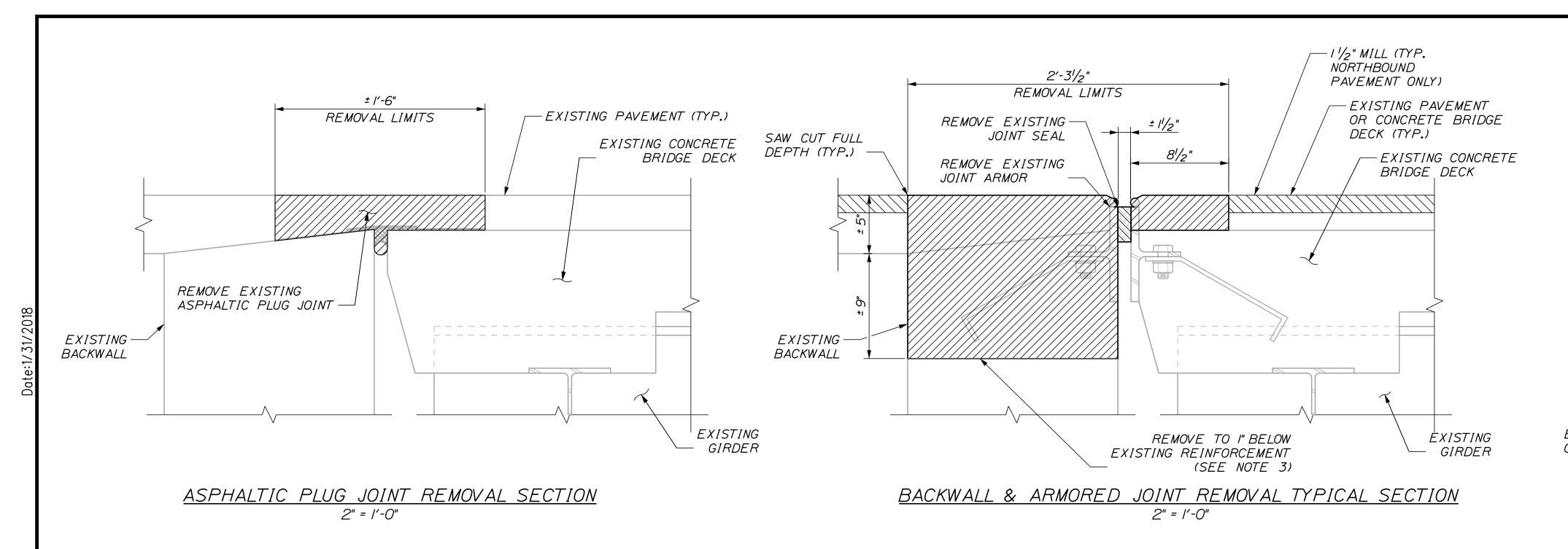
THE GOLD STAR MEMORIAL HIGHWAY

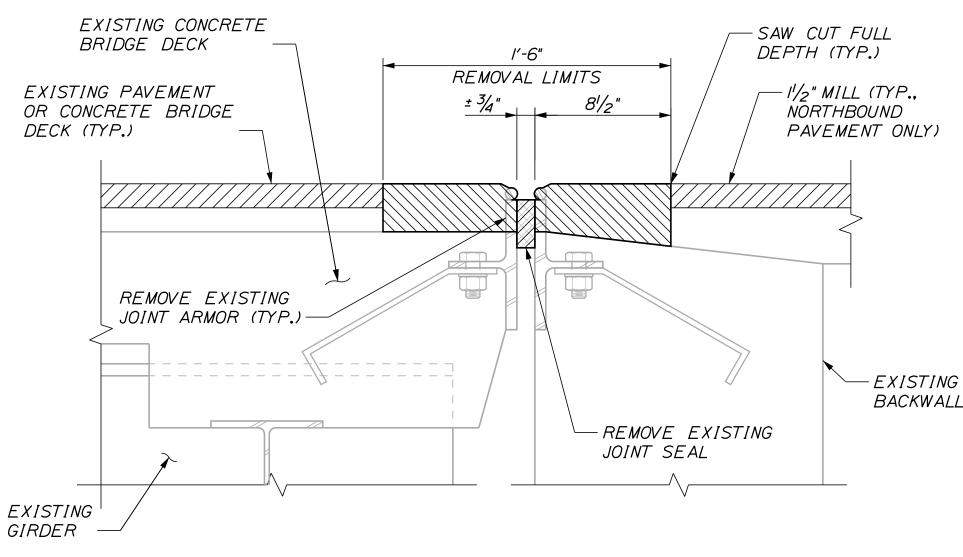
BRIDGE REPAIRS DENNETT ROAD OVERPASS

DECK PLAN & SECTION

SHEET NUMBER: S-01

CONTRACT:2018.08





ARMORED JOINT REMOVAL TYPICAL SECTION 2" = /'-0"

-6" STEEL PLATE

AGGREGATE/BINDER

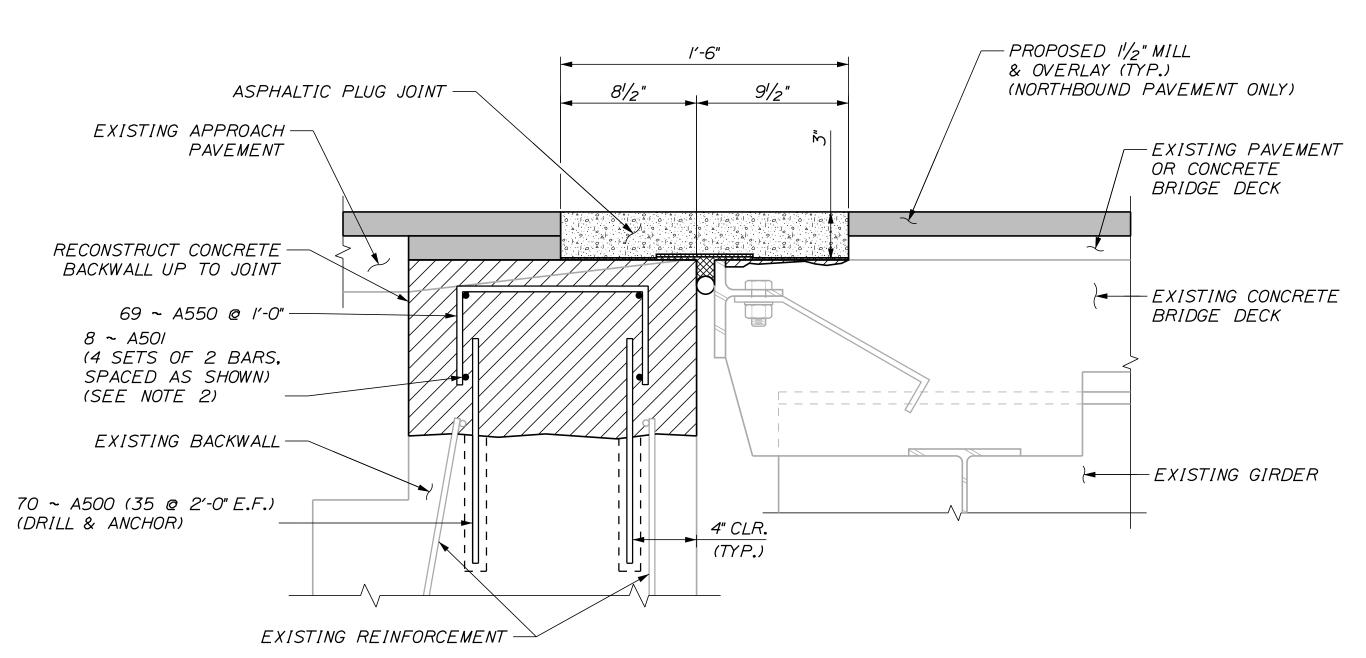
-PROPOSED I/2" MILL

& OVERLAY (TYP.,

PAVEMENT ONLY)

NORTHBOUND

- COMPACTED

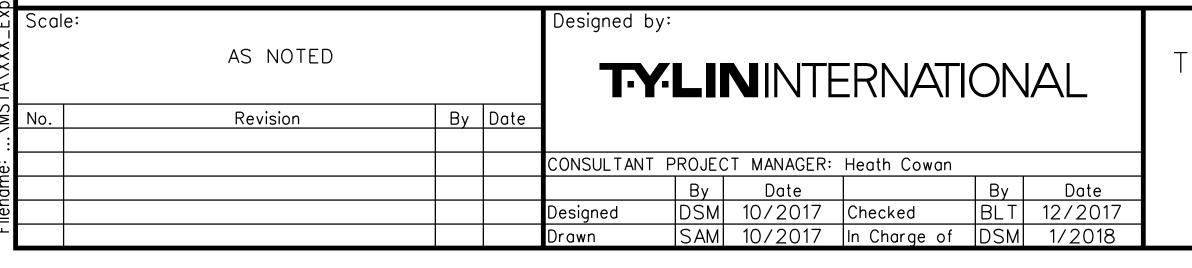


BACKWALL & JOINT RECONSTRUCTION SECTION

2" = /'-0" (FOR DETAILS NOT SHOWN, SEE ASPHALTIC PLUG JOINT TYPICAL SECTION)

NOTES:

- I. FOR REMOVAL AND RECONSTRUCTION NOTES, SEE SHEET "JOINT DETAILS SHEET 2 OF 2"
- 2. BAR SPLICES AT LIMITS OF EACH PHASES WORK SHALL BE MADE WITH MECHANICAL SPLICES. PAYMENT FOR SPLICES SHALL NOT BE MADE DIRECTLY, BUT SHALL BE
- 3. THE CONTRACTOR IS MADE AWARE THAT A 20'-0" LENGTH OF THE EXISTING TOP OF BACKWALL WAS RECENTLY PATCHED USING POLYSET PLY-KRETE FS. THIS MATERIAL MAY BE



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EXISTING PAVEMENT

EXISTING CONCRETE -----

BRIDGE DECK

EXISTING GIRDER -

OR CONCRETE

BRIDGE DECK

THE GOLD STAR MEMORIAL HIGHWAY

1/4" BINDER -

BRIDGE REPAIRS DENNETT ROAD OVERPASS

JOINT DETAILS SHEET 1 OF 2

SHEET NUMBER: S-02

23 OF 40

- EXISTING APPROACH

-REPAIR CONCRETE AND

CONSTRUCT LEVEL

(SEE NOTES)

SURFACE FOR JOINT

-EXISTING BACKWALL

PAVEMENT

CONTRACT:2018.08

l'-6"

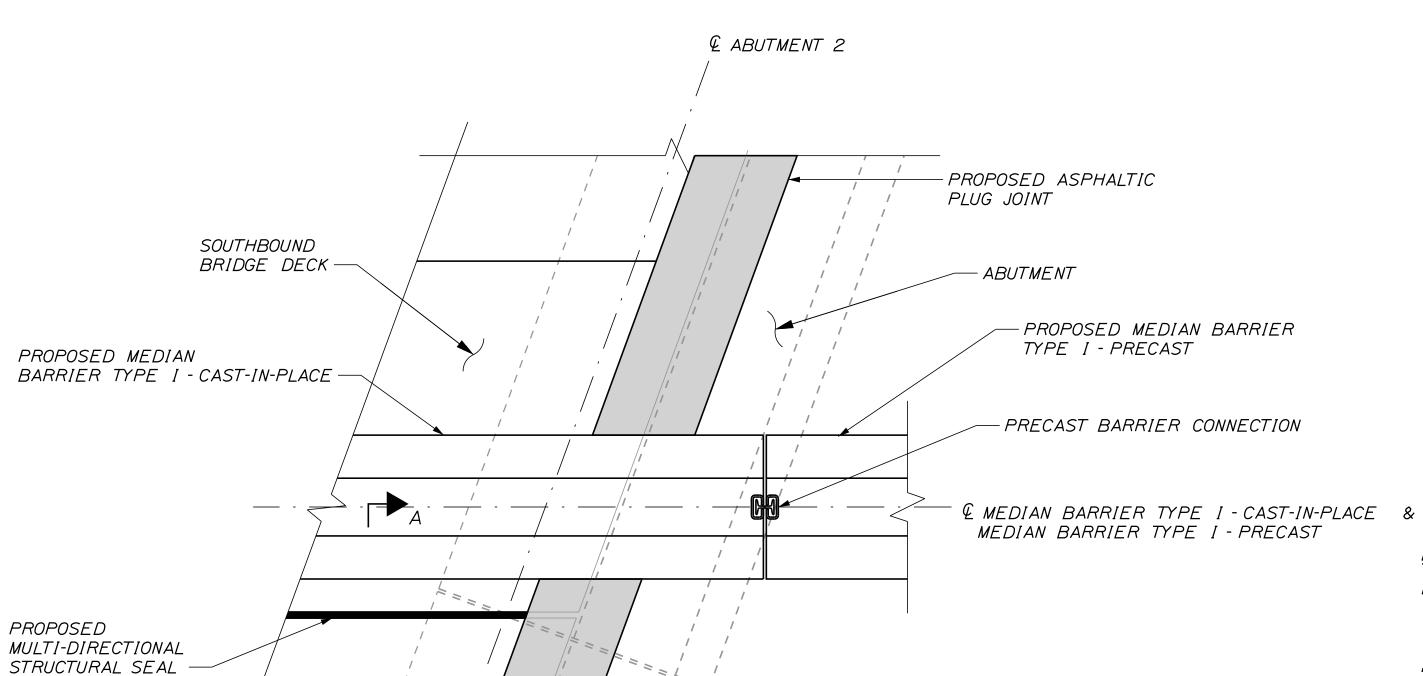
81/2"

91/2"

ASPHALTIC PLUG JOINT TYPICAL SECTION

3" = /'-0"

CONSIDERED INCIDENTAL TO RELATED CONTRACT ITEMS. UNUSUALLY DIFFICULT TO REMOVE. T.Y. Lin International



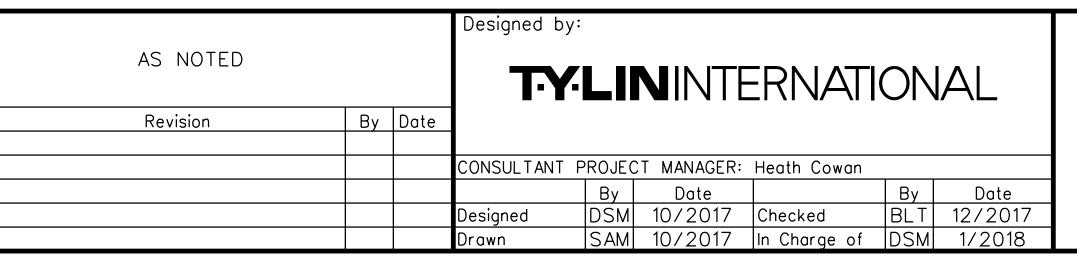
- B MAINE TURNPIKE

PROPOSED ASPHALTIC

PLUG JOINT



SCALE: 3/4" = 1'-0" (ABUTMENT 2 SHOWN, ABUTMENT I SIMILAR)



Scale:

NORTHBOUND

BRIDGE DECK -

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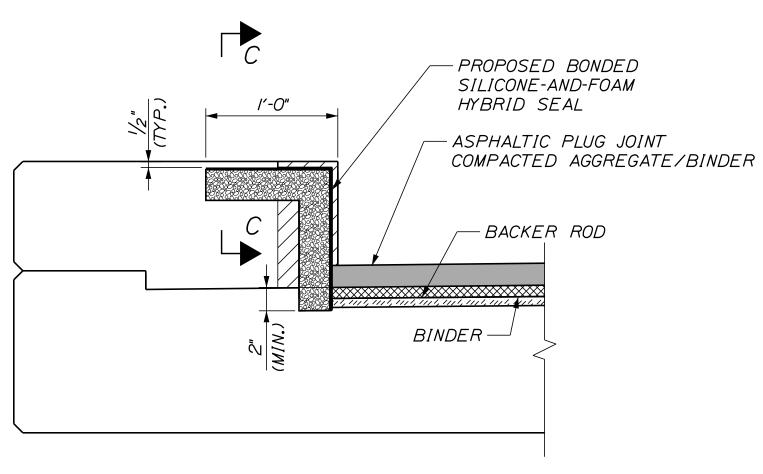
# THE GOLD STAR MEMORIAL HIGHWAY

# BRIDGE REPAIRS DENNETT ROAD OVERPASS

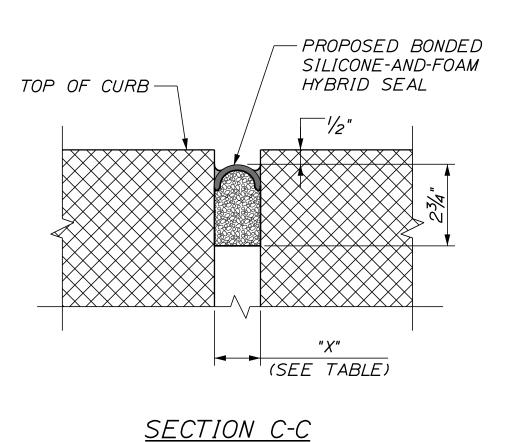
JOINT DETAILS SHEET 2 OF 2

SHEET NUMBER: S-03

CONTRACT:2018.08 24 OF 40



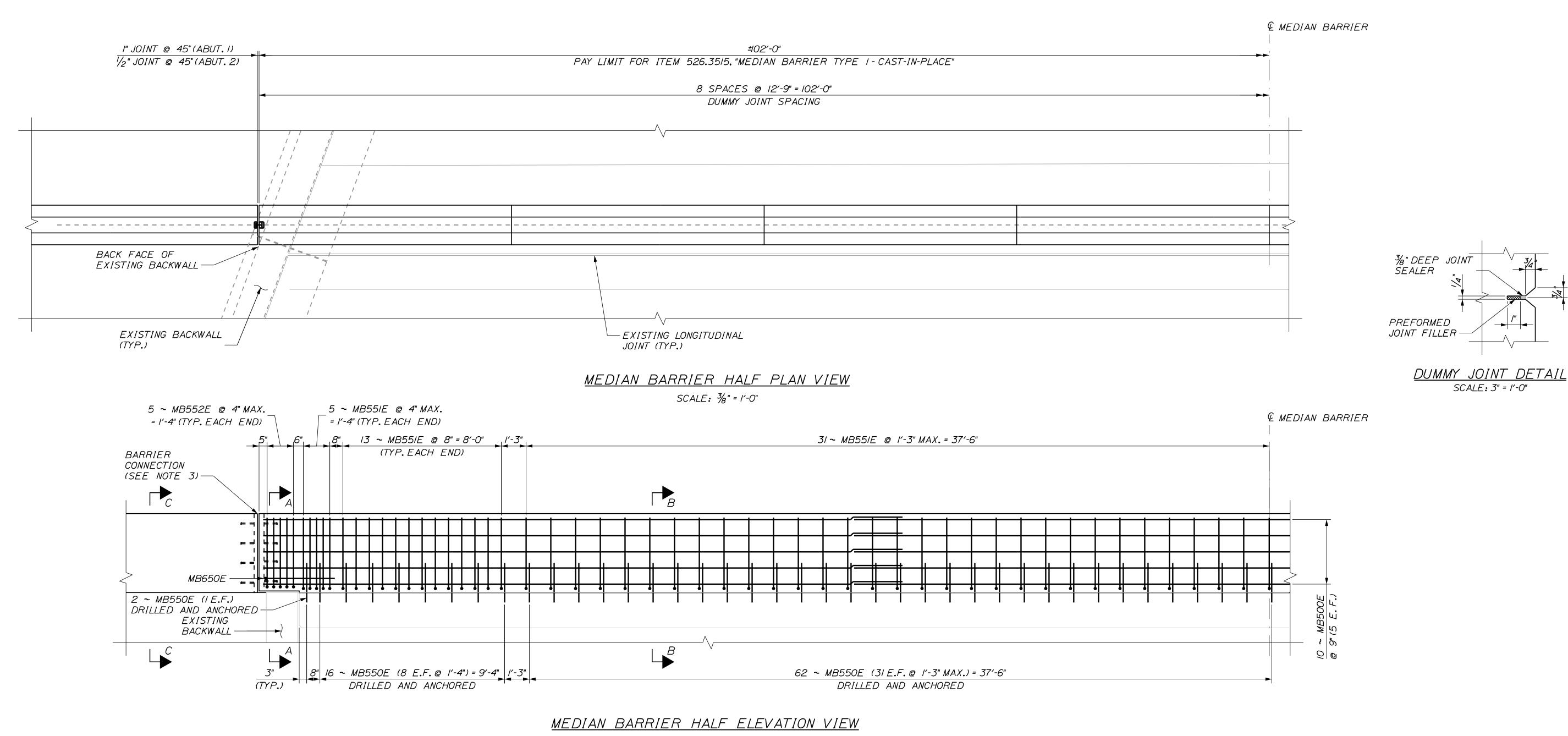
JOINT DETAIL AT CURB NOT TO SCALE



NOT TO SCALE

# NOTES:

- I. CONCRETE REPAIR & LEVELING ON TOP OF DECK AT JOINT SHALL BE INCIDENTAL TO ITEM 520.232, "EXPANSION DEVICE - ASPHALTIC PLUG JOINT". ALL REPAIRS SHALL BE COMPLETED IN ACCORDANCE WITH SPECIFICATIONS SECTION 518.
- 2 CONCRETE REPAIR ON UNDERSIDE OF DECK SHALL BE PAID FOR AS ITEM 518.70, "REPAIR OF OVERHEAD SURFACES < 8 INCH".
- 3. REINFORCEMENT NOT SHOWN FOR CLARITY.
- 4. INSTALL SILICONE-AND-FOAM HYBRID SEAL IN CURB PRIOR TO ASPHALTIC PLUG JOINT INSTALLATION.
- 5. ABUTMENT I BACKWALL RECONSTRUCTION SHALL BE PAID FOR UNDER ITEMS 202.121, 502.21, 503.14, AND 503.15.



SCALE: 3/8" = 1'-0"

# <u>GENERAL NOTES</u>

- I. MEDIAN BARRIER, INCLUDING ALL CONCRETE, REINFORCEMENT, LABOR AND INCIDENTALS SHALL BE PAID UNDER ITEM 526.3515, "MEDIAN BARRIER TYPE I CAST-IN-PLACE."
- 2. DRILLED AND ANCHORED BARS SHALL BE EMBEDDED USING A EPOXY ANCHORAGE SYSTEM FROM THE MAINEDOT QUALIFIED PRODUCTS LIST. EACH ANCHORED BAR SHALL DEVELOP A MINIMUM OF 4.0 KIPS OF TENSION CAPACITY. FOLLOW THE MANUFACTURER'S DIRECTIONS FOR INSTALLING THE EXPOXIED ANCHOR BARS. ALL ANCHORAGE SHOWN IS THE MINIMUM REQUIRED, AND IS INCIDENTAL TO THE BID ITEM.
- 3. FOR ADDITIONAL DETAILS AND SECTIONS, SEE SHEET "BARRIER DETAILS 2 OF 4"
- 4. RETROFLEFLECTIVE MEDIAM BARRIER DELINEATORS SHALL BE PROVIDED ALONG TOP OF BARRIER WITH SPACING TO MATCH PRECAST BARRIER DELINEATOR SPACINGS OFF THE BRIDGE.

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No.	Revision	Ву	Date						
				CONSULTANT	PROJEC	CT MANAGER:	Heath Cowan		
					Ву	Date		Ву	Date
				Designed	BLT	12/2017	Checked	DŚM	12/2017
				Drawn	SAM	12/2017	In Charge of	DSM	1/2018

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THE GOLD STAR
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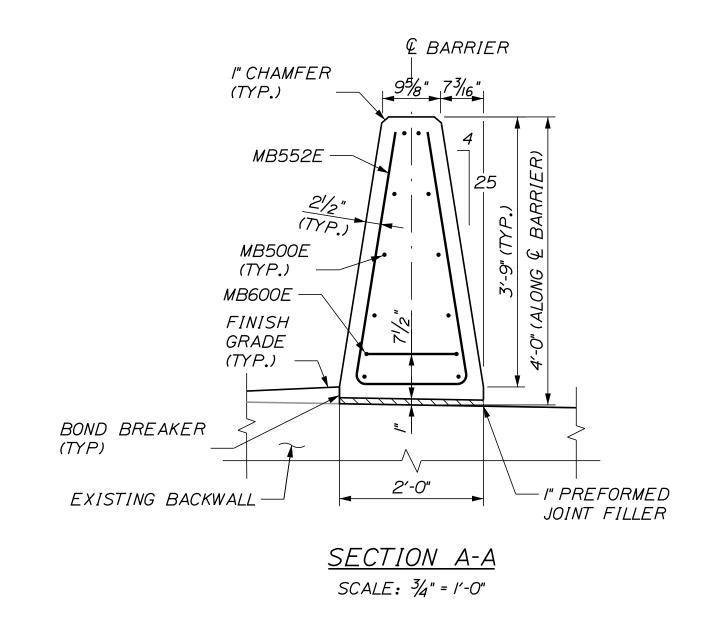
BRIDGE REPAIRS DENNETT ROAD OVERPASS

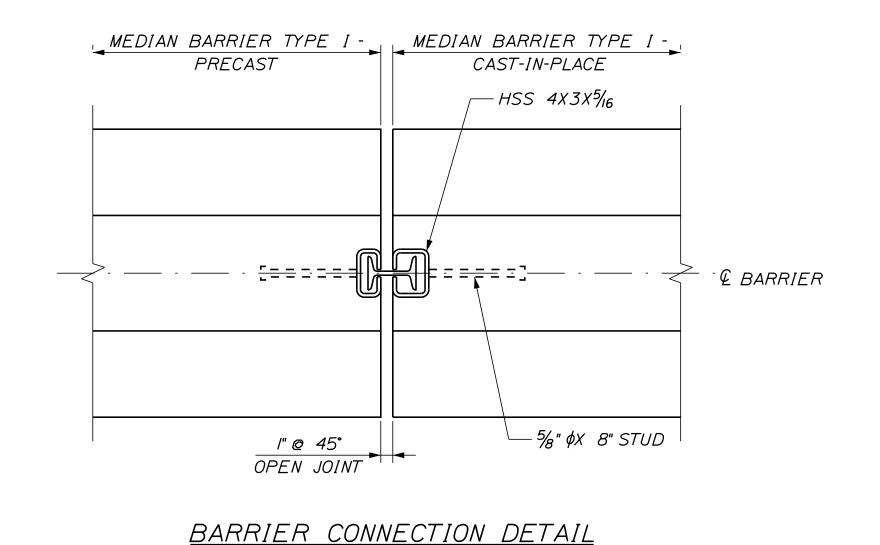
> BARRIER DETAILS SHEET 1 OF 4

SHEET NUMBER: S-04

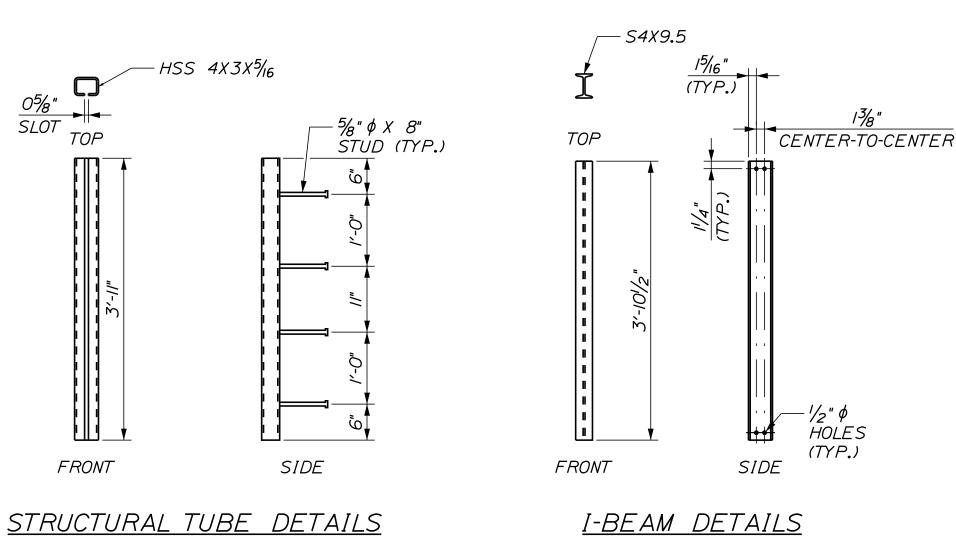
MTA PROJECT MANAGER: Ralph C. Norwood, IV

CONTRACT: 2018.08 25 OF 40



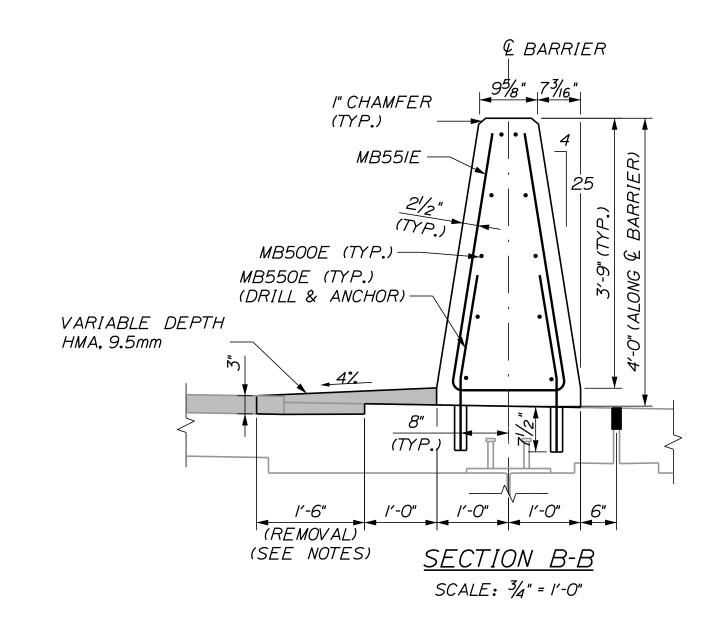


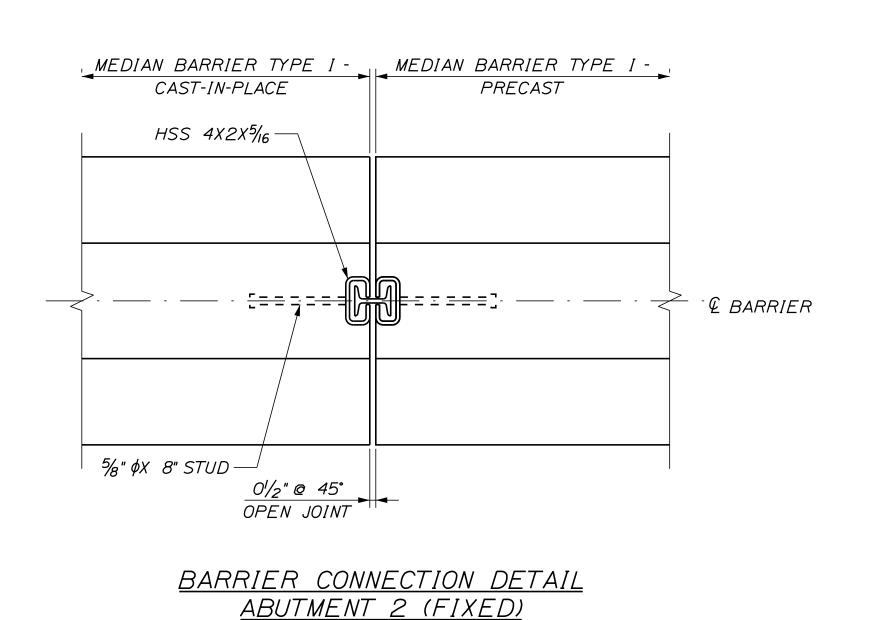
ABUTMENT I (EXP.)

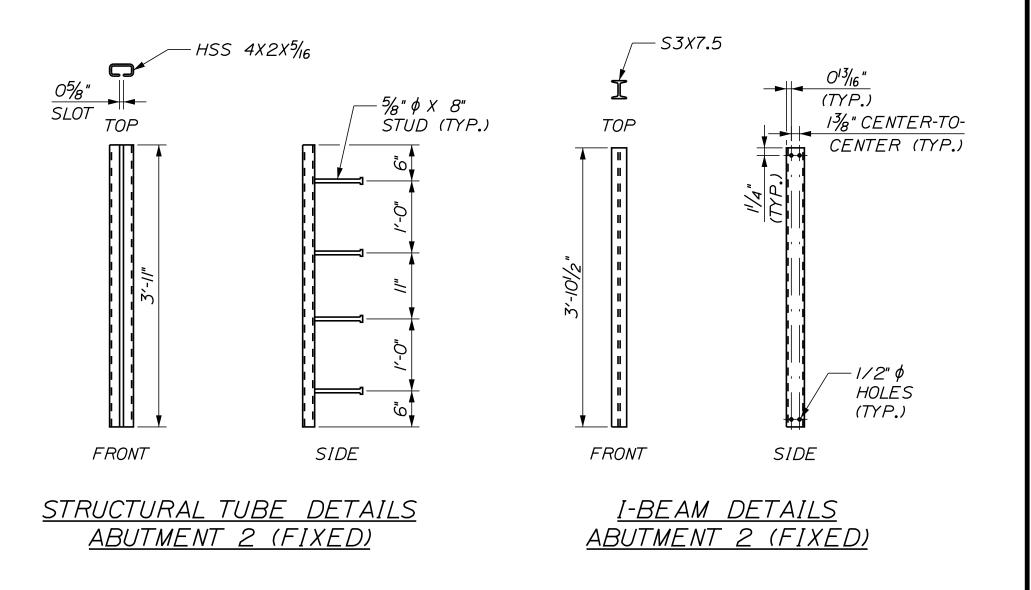


ABUTMENT I (EXP.

ABUTMENT I (EXP.,





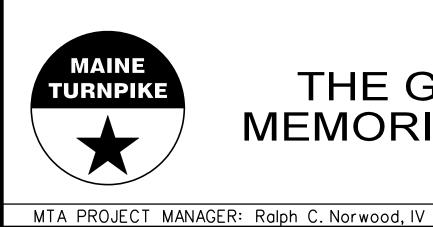


# NOTES:

- I. FOR PLAN VIEW, ELEVATION VIEW, AND NOTES FOR MEDIAN BARRIER TYPE I CAST-IN-PLACE, SEE SHEET "BARRIER DETAILS I OF 4"
- 2. FOR ADDITIONAL DETAILS AND NOTES FOR MEDIAN BARRIER TYPE I PRECAST, SEE SHEET "BARRIER DETAILS 3 OF 4"
- 3. EXISTING BITUMINOUS PAVEMENT AND STRUCTURAL CONCRETE REMOVED FROM SOUTHBOUND BRIDGE SHOULDER SHALL BE PAID UNDER ITEM 202.17, "REMOVING EXISTING STRUCTURAL CONCRETE".

Scale:				Designed b	oy:				
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				CONSULTAN <sup>-</sup>	T PROJEC	T MANAGER:	Heath Cowan		
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				Designed	BLT	12/2017	Checked	DSM	12/2017
			i e	Drawn	SAM	12/2017	In Charge of	DSM	1/2018

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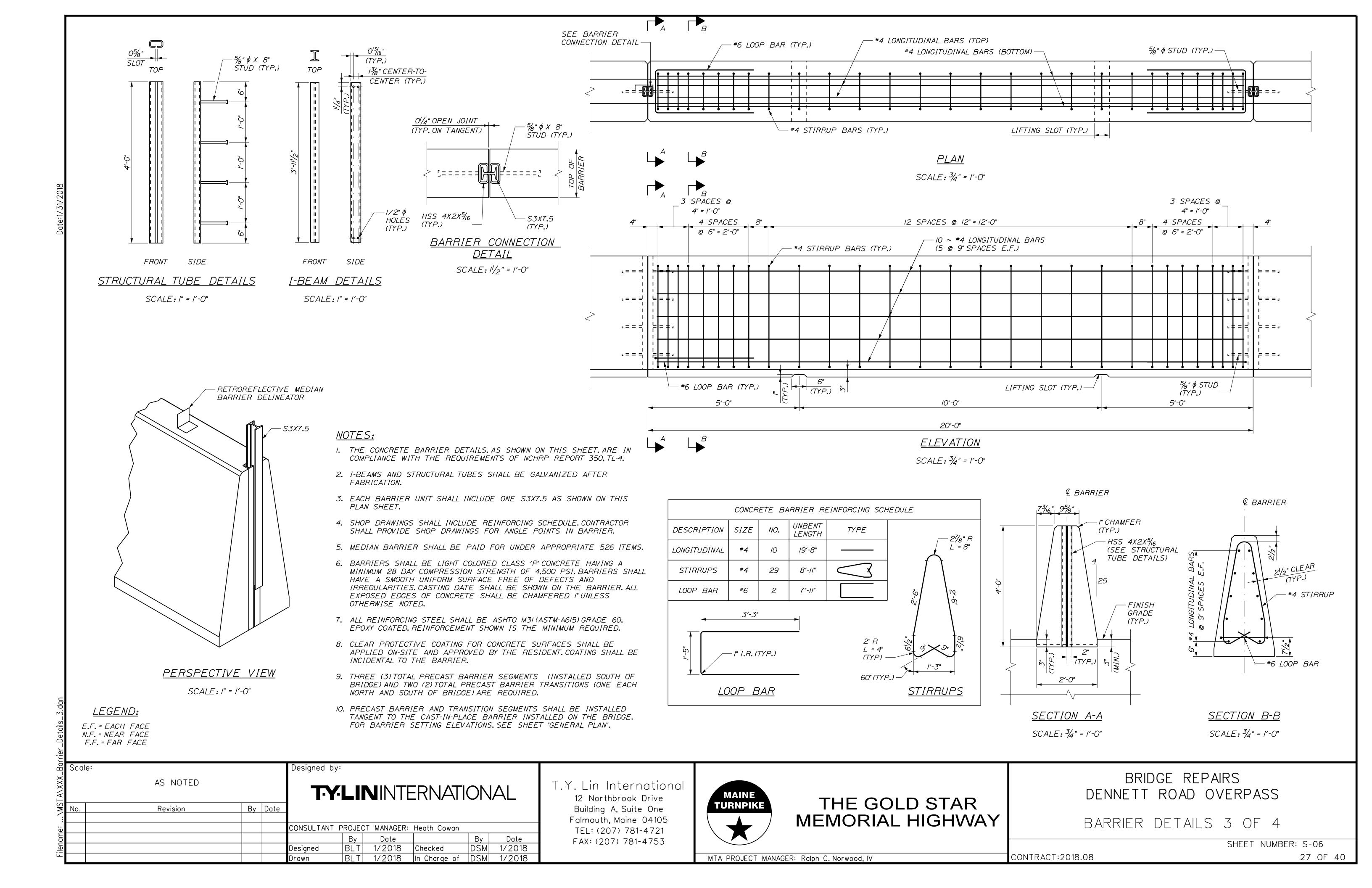
THE GOLD STAR
MEMORIAL HIGHWAY

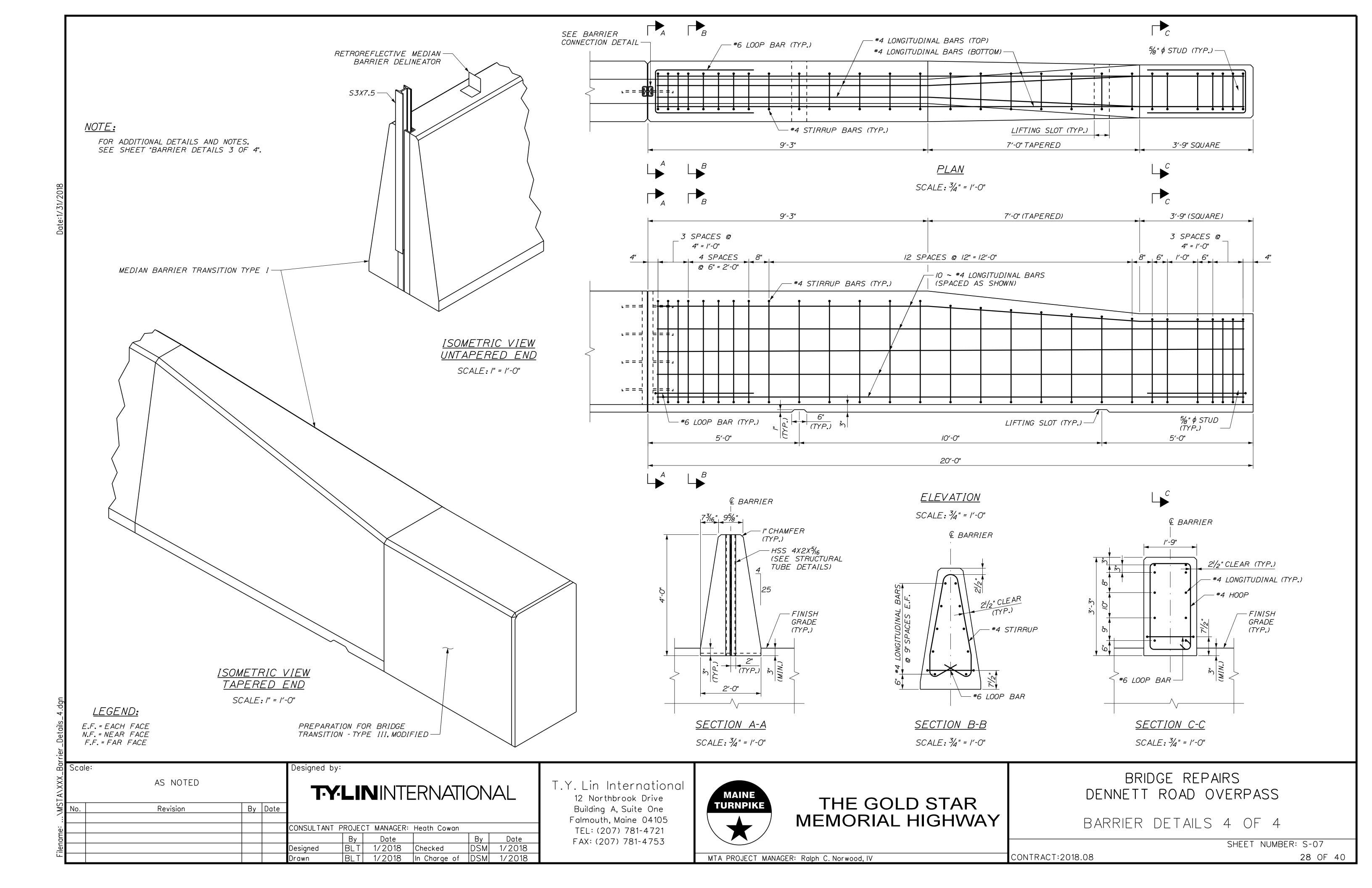
BRIDGE REPAIRS
DENNETT ROAD OVERPASS

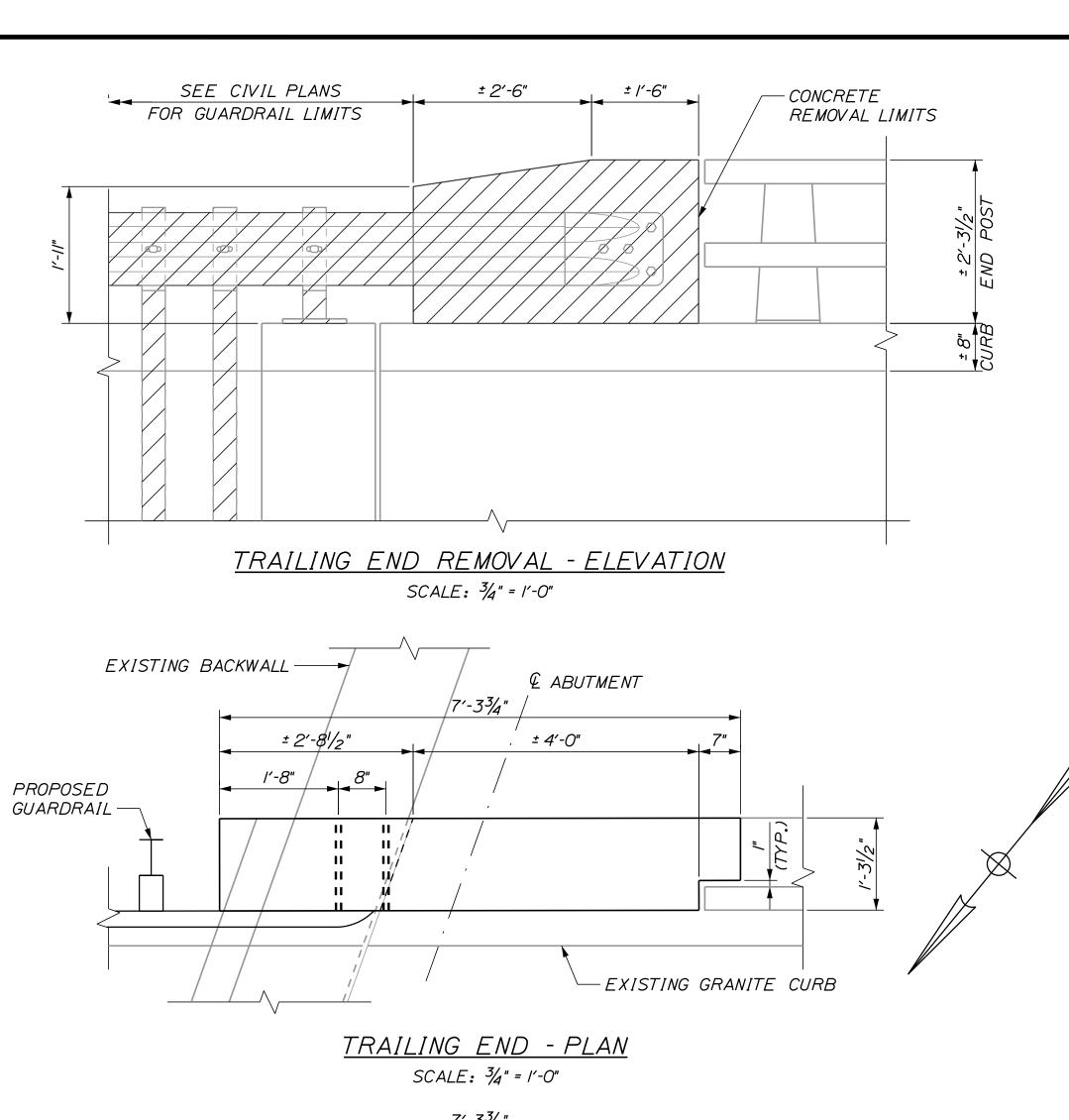
BARRIER DETAILS

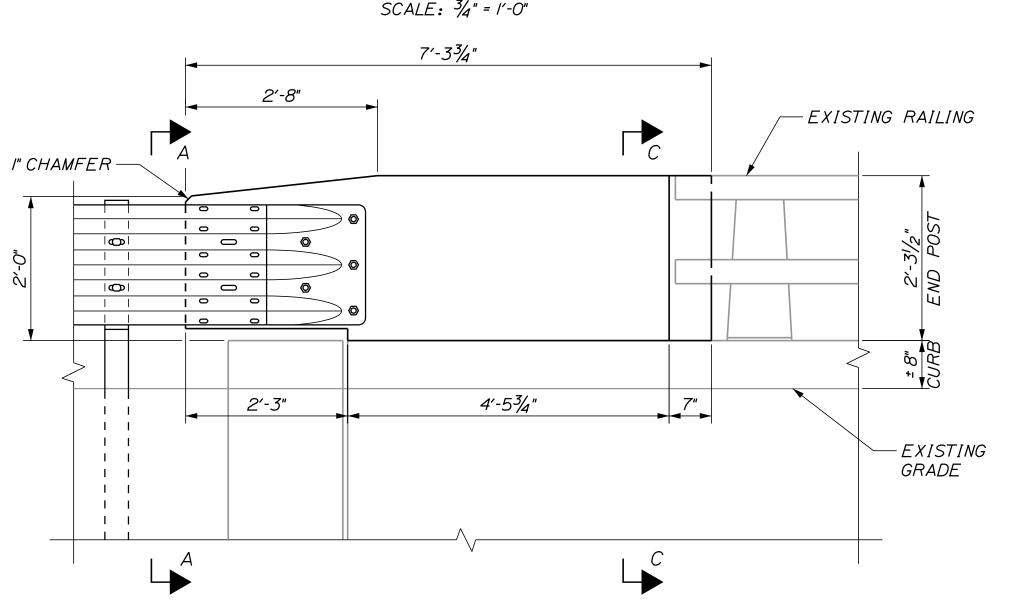
SHEET 2 OF 4

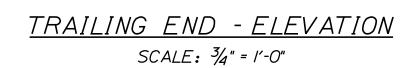
SHEET NUMBER: S-05 CONTRACT:2018.08 26 OF 40

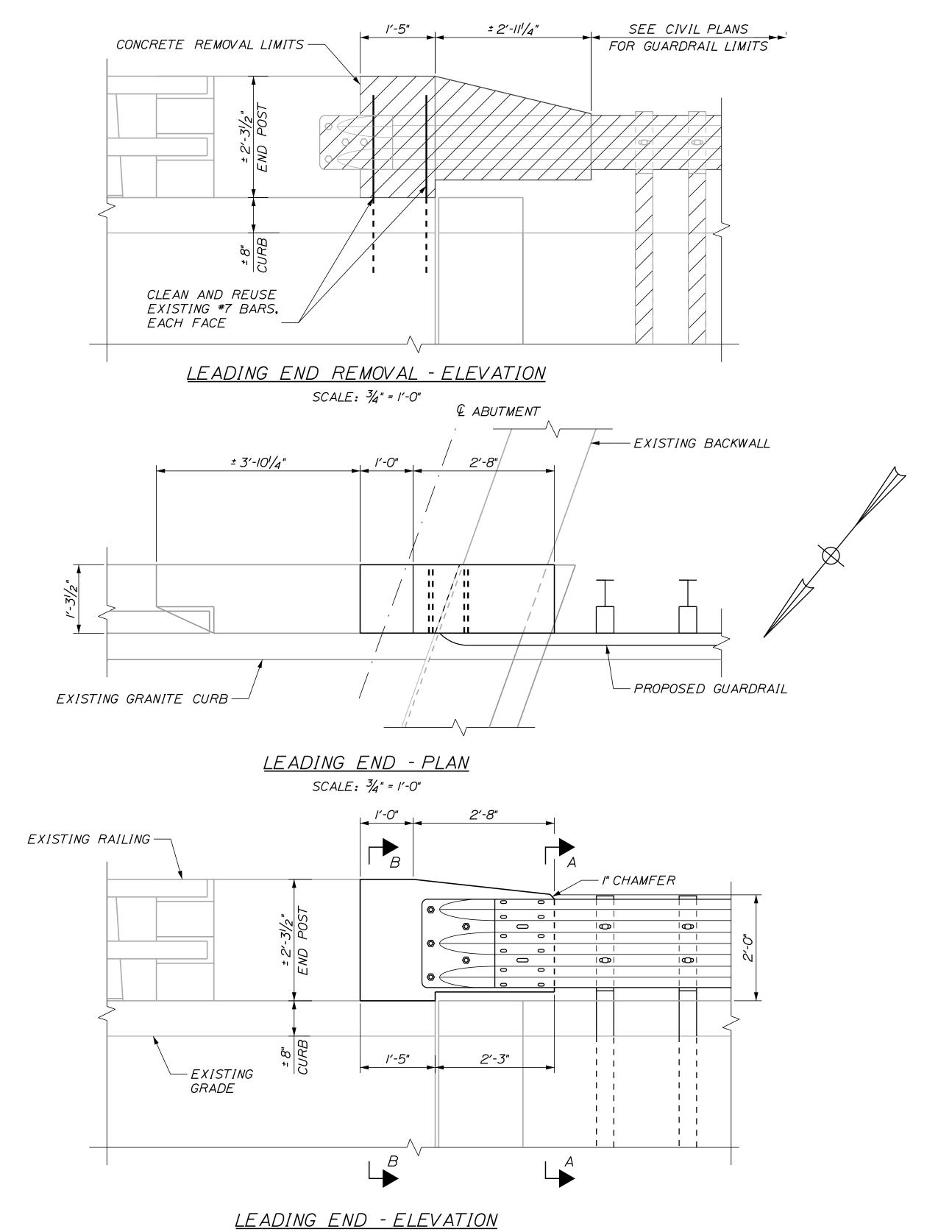












SCALE: 3/4" = 1'-0"

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No	0.	Revision	Ву	Date	1					
					CONSULTANT	PROJEC	CT MANAGER:	Heath Cowan		
						Ву	Date		Ву	Date
					Designed	DSM	10/2017	Checked	BLT	10/2017
					Drawn	SAM	10/2017	In Charge of	DSM	1/2018

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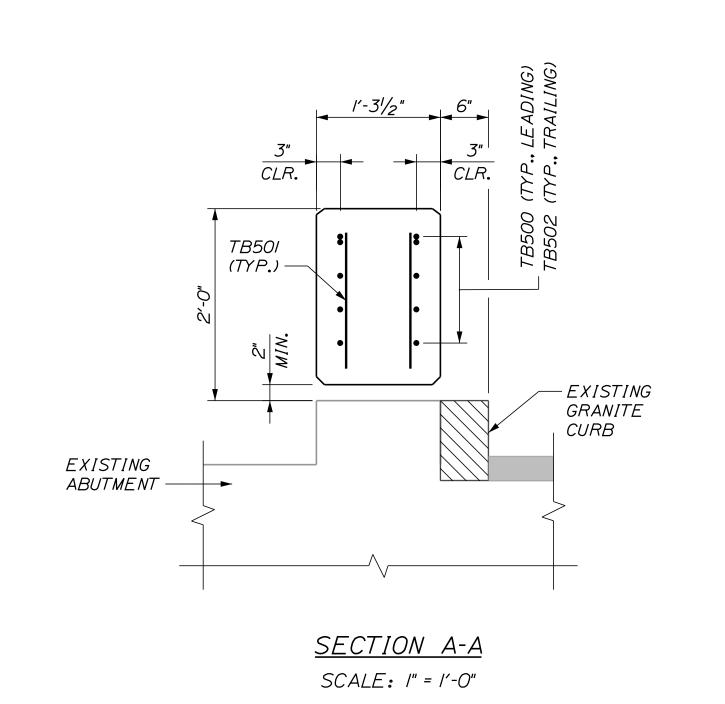
BRIDGE REPAIRS DENNETT ROAD OVERPASS

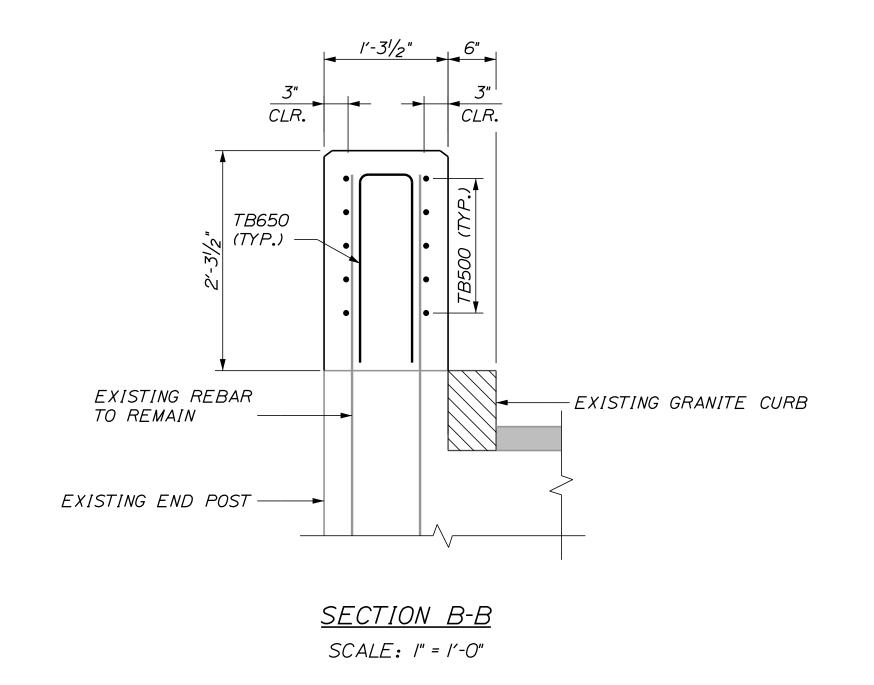
> END POST DETAILS SHEET 1 OF 2

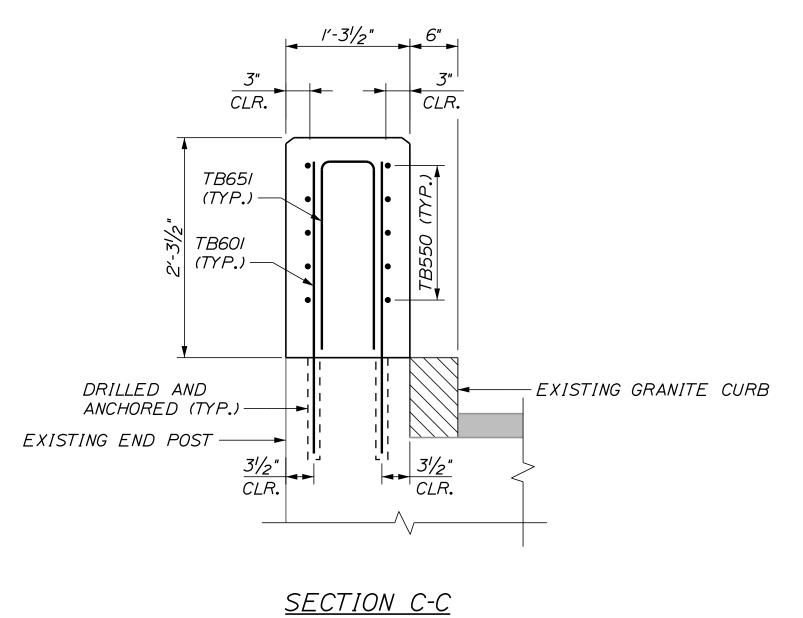
CONTRACT:2018.08

SHEET NUMBER: S-08

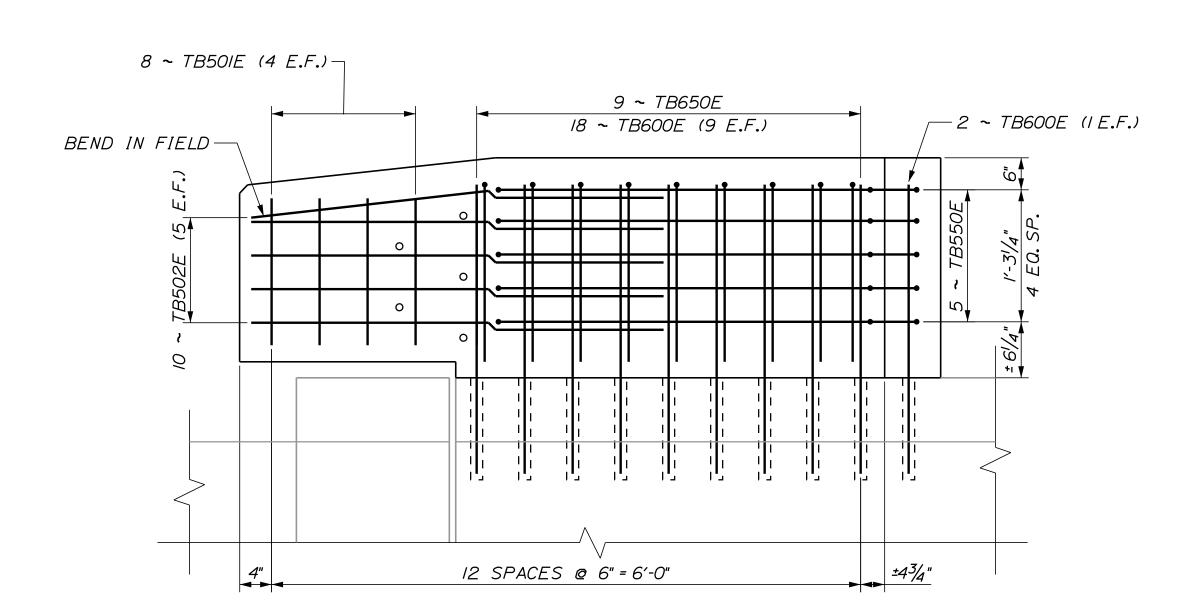
MTA PROJECT MANAGER: Ralph C. Norwood, IV



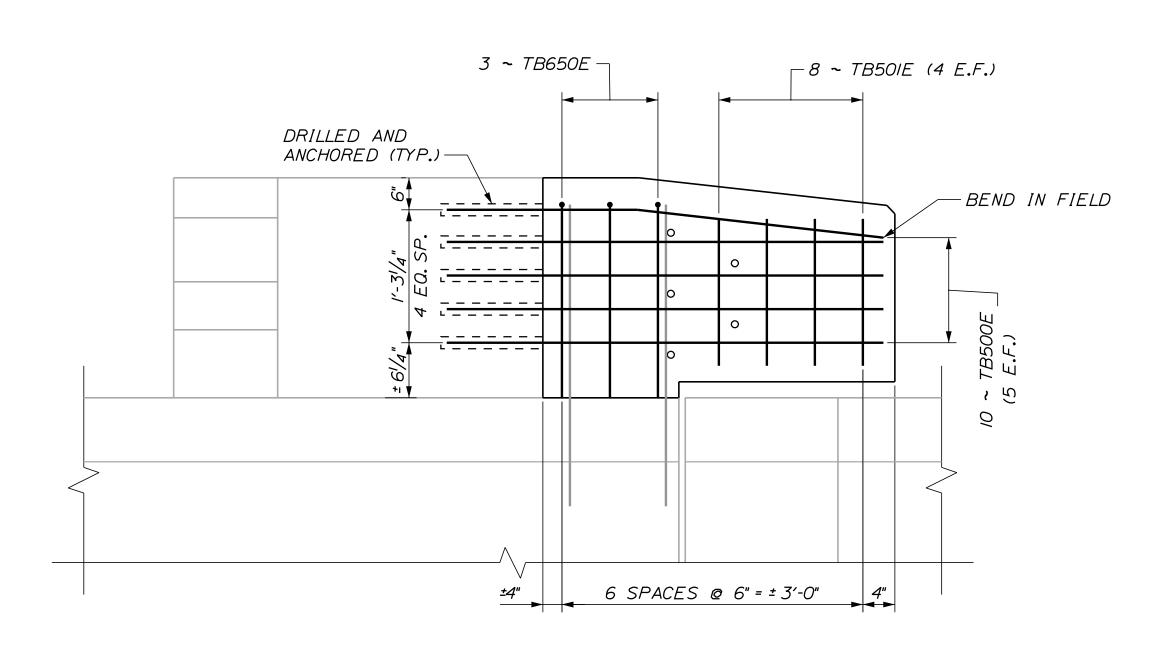




SCALE: /" = /'-O"



TRAILING END REINFORCEMENT - ELEVATION SCALE: /" = /'-0"



LEADING END REINFORCMENT - ELEVATION SCALE: /" = /'-0"

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No	).	Revision	Ву	Date						-		
					CONSUL TANT	PROJEC	CT MANAGER:	Heath Cowan				
						Ву	Date		Ву	Date		
					Designed	DŚM	10/2017	Checked	BLT	10/2017		
					Drawn	SAM	10/2017	In Charge of	DSM	1/2018		

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THE GOLD STAR MEMORIAL HIGHWAY

BRIDGE REPAIRS DENNETT ROAD OVERPASS

> END POST DETAILS SHEET 2 OF 2

SHEET NUMBER: S-09

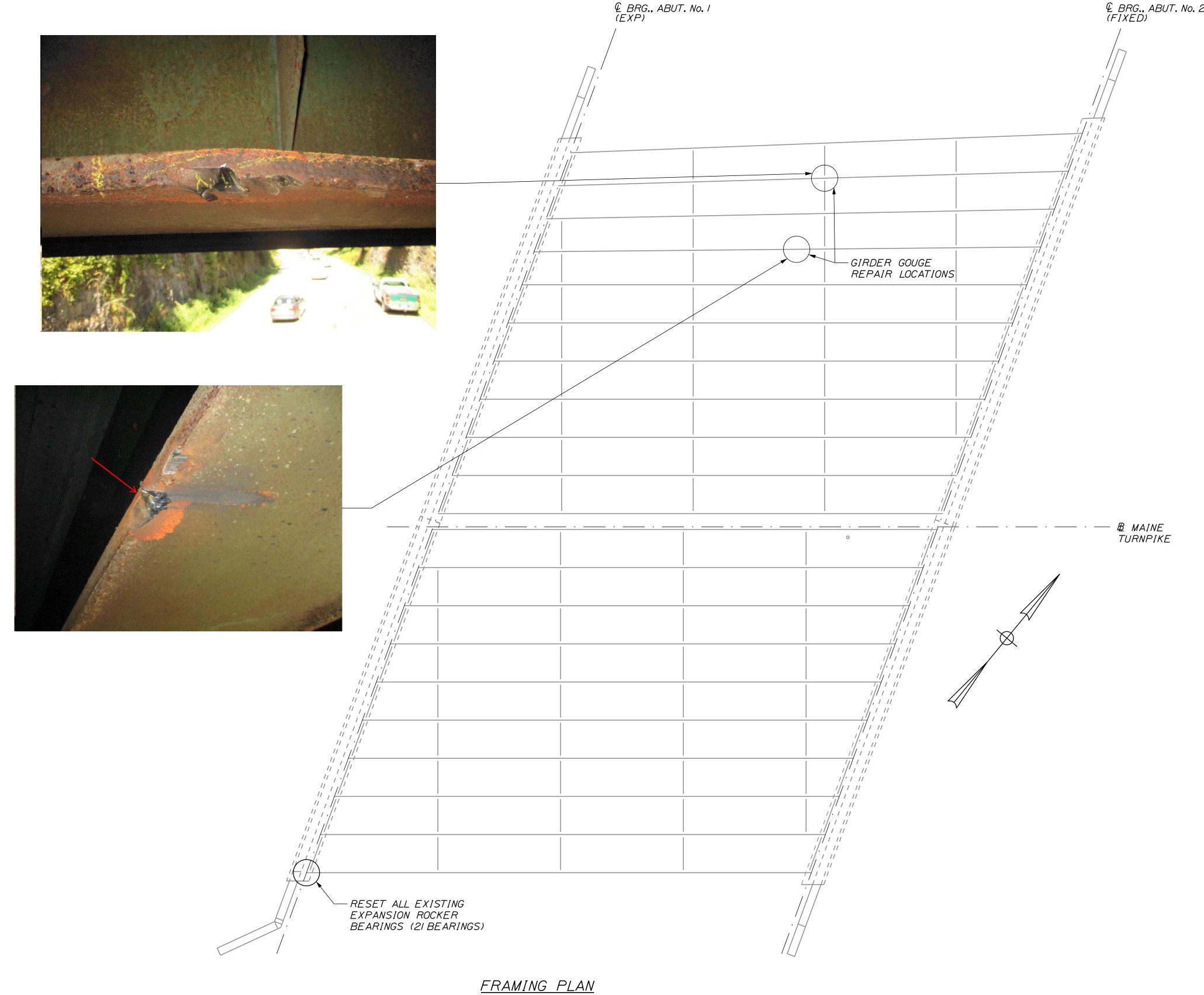
MTA PROJECT MANAGER: Ralph C. Norwood, IV

CONTRACT:2018.08 30 OF 40

<u>GIRDER GOUGE REPAIR DETAIL</u> NOT TO SCALE

# NOTES:

I. "STRUCTURAL STEEL REPAIR" INCLUDES GRINDING BOTTOM FLANGE GOUGES SMOOTH USING A METHOD APPROVED BY THE RESIDENT AND FIELD COATING IN ACCORDANCE WITH SPECIAL PROVISION 506.



SCALE: 3/32" = 1'-0"

Scale: Designed by: NOT TO SCALE T-Y-LININTERNATIONAL By Date Revision CONSULTANT PROJECT MANAGER: Heath Cowan By Date
DSM 9/2017
ECW 9/2017 By Date
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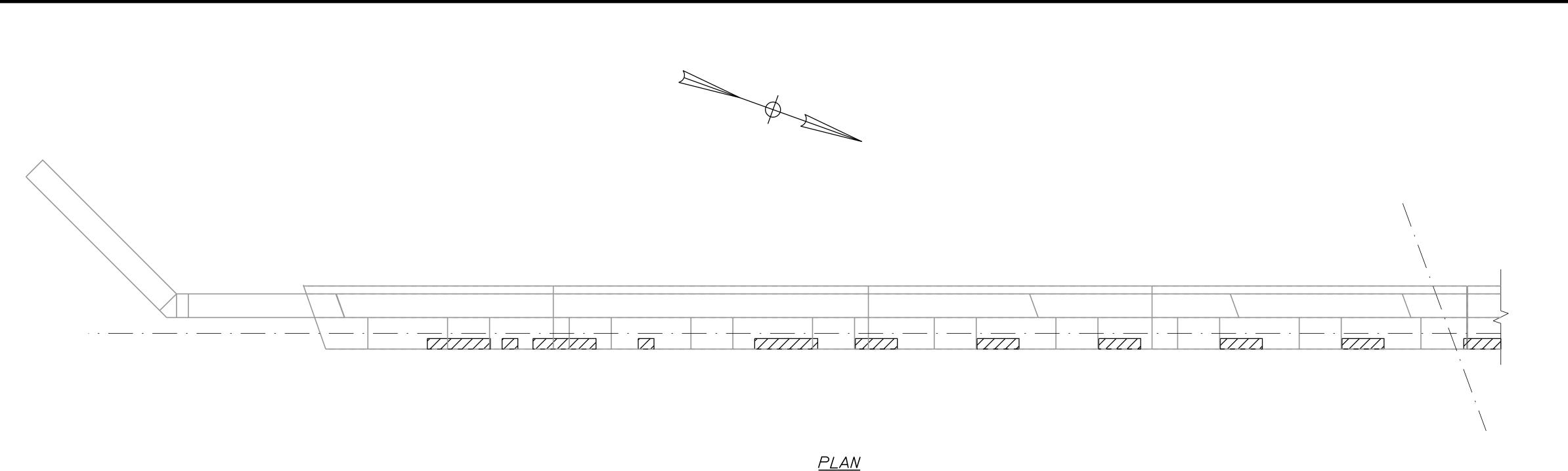
BRIDGE REPAIRS DENNETT ROAD OVERPASS

STEEL REPAIR DETAILS

SHEET NUMBER: S-10 **31** OF 40

MTA PROJECT MANAGER: Ralph C. Norwood, IV

CONTRACT:2018.08



NOT TO SCALE

# ABUTMENT I ESTIMATED QUANTITY OF REPAIRS AREAABUTMENT REPAIRS

270 S.F. 5 L.F. EPOXY INJECTED CRACK REPAIRS

# NOTE:

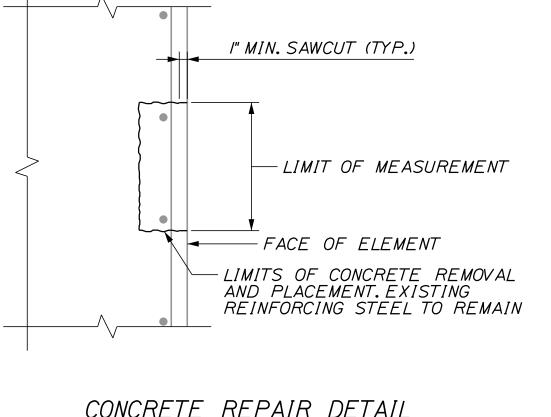
I. FOR PROCEDURAL NOTES SEE SHEET "ESTIMATED QUANTITIES & GENERAL NOTES"

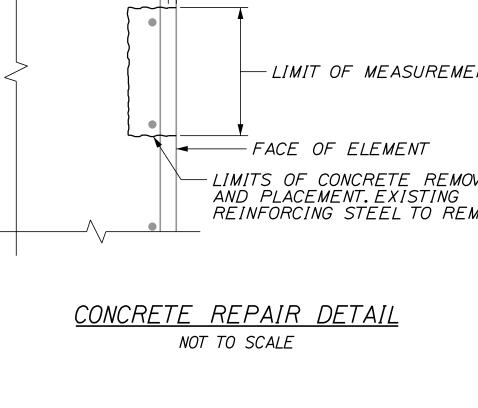
# LEGEND:

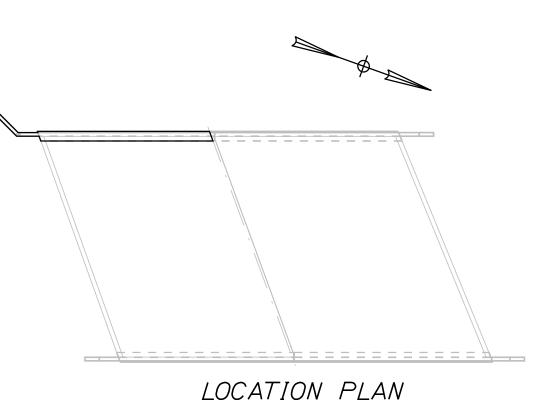
LIMIT OF CONCRETE SURFACE REPAIRS --- LIMIT OF EPOXY INJECTED CRACK REPAIR

—— EXISTING CONCRETE

EXISTING AND PROPOSED GROUND







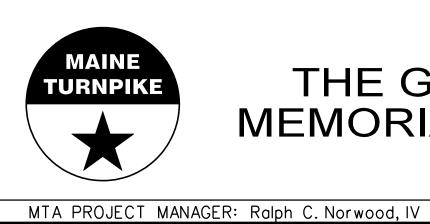
LOCATION PLAN

# Designed by: Scale: NOT TO SCALE T-Y-LININTERNATIONAL By Date Revision CONSULTANT PROJECT MANAGER: Heath Cowan By Date By Date BLT 10/2017 Checked DSM 10/2017 ECW 10/2017 In Charge of DSM 1/2018 Designed

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<u>ELEVATION</u>

NOT TO SCALE



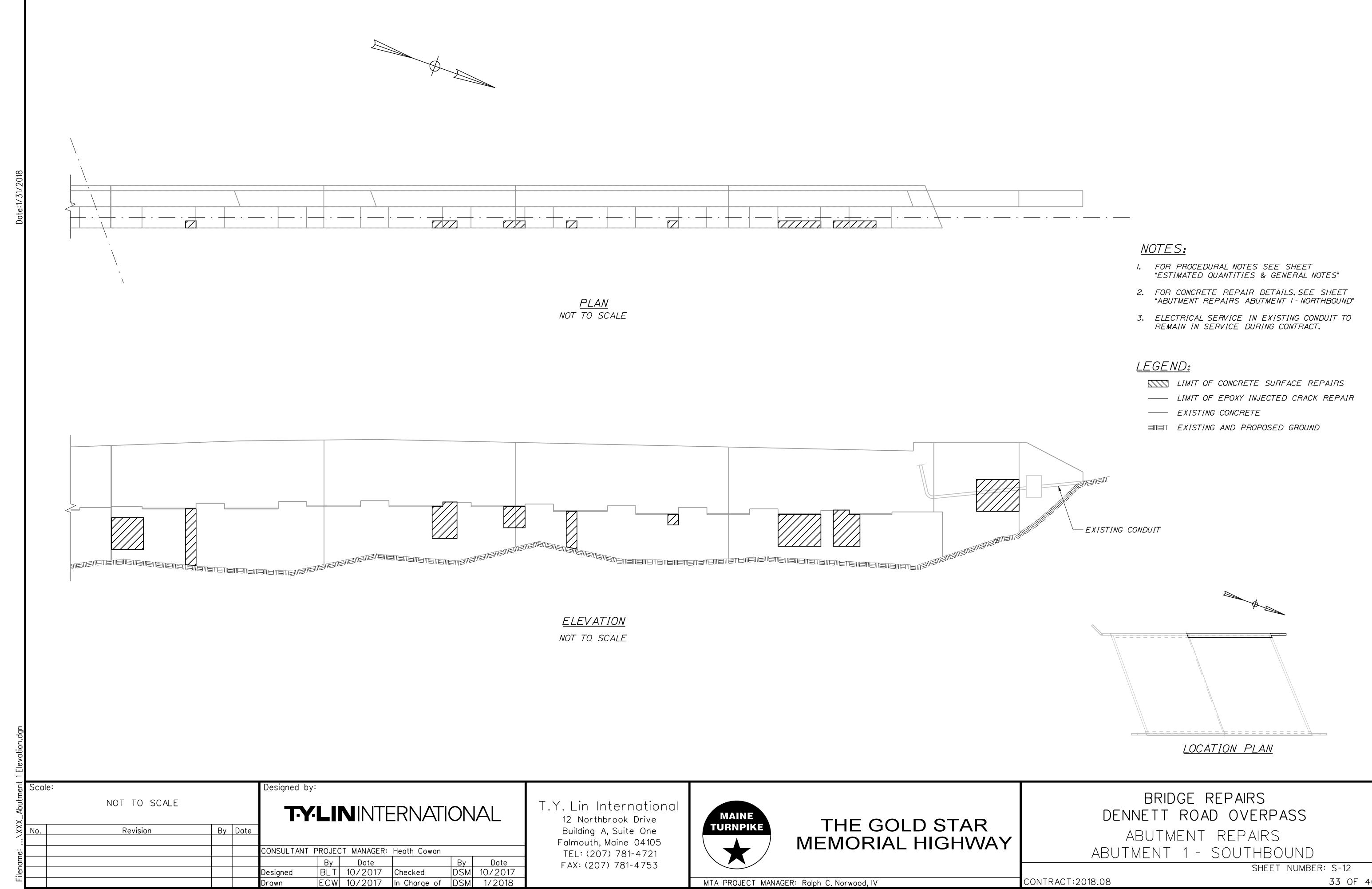
THE GOLD STAR MEMORIAL HIGHWAY

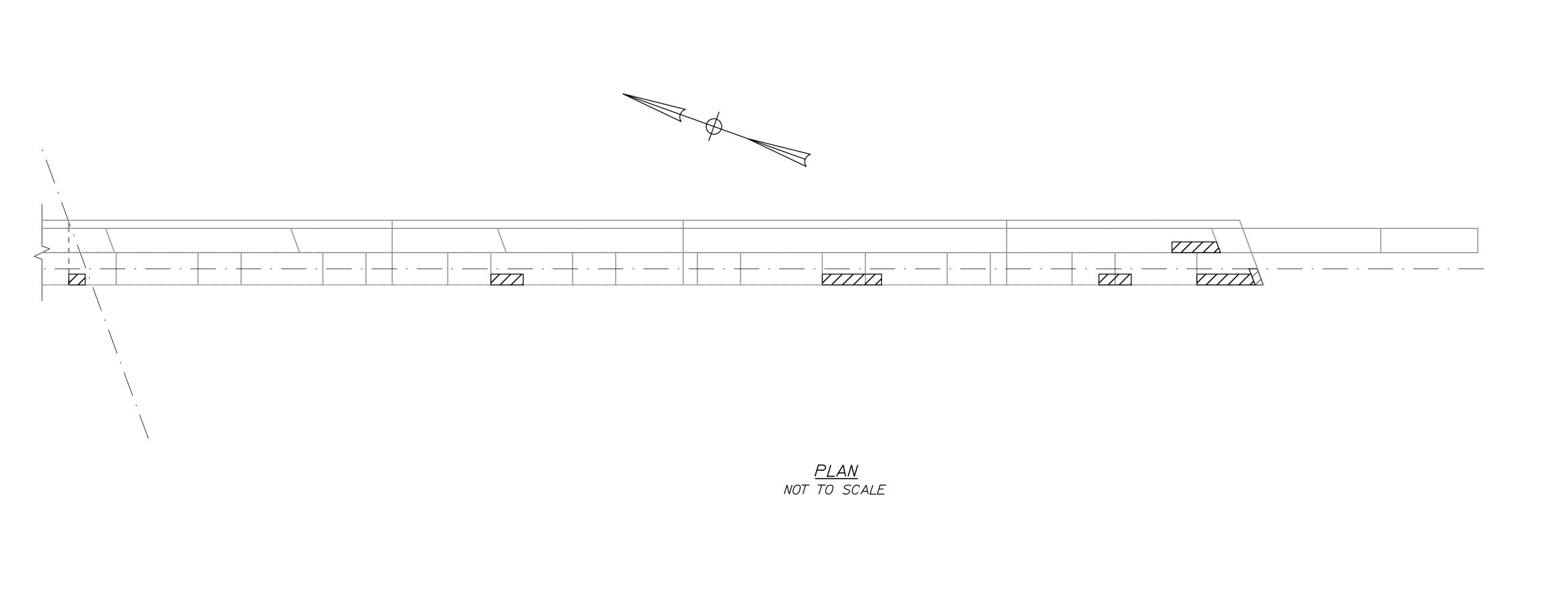
BRIDGE REPAIRS DENNETT ROAD OVERPASS

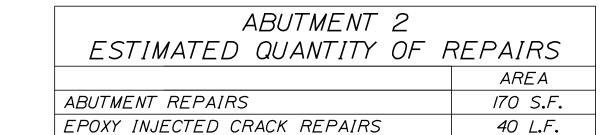
ABUTMENT REPAIRS ABUTMENT 1 - NORTHBOUND

SHEET NUMBER: S-11

CONTRACT:2018.08







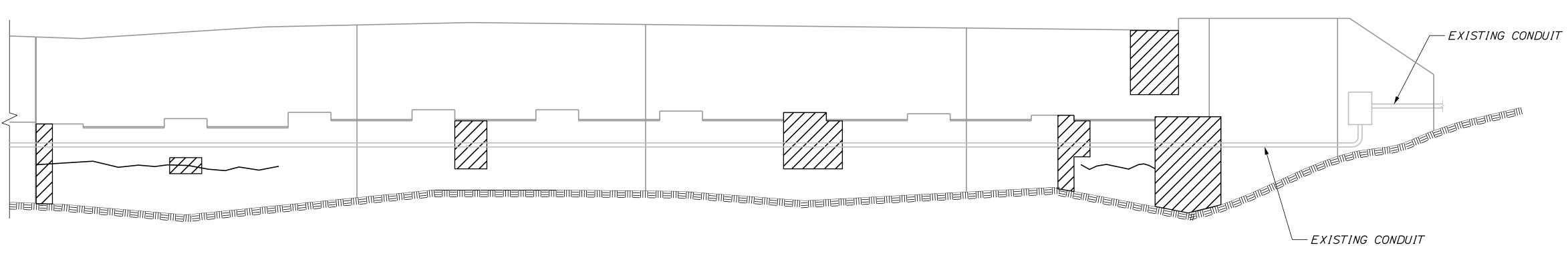
# NOTES:

- I. FOR PROCEDURAL NOTES SEE SHEET "ESTIMATED QUANTITIES & GENERAL NOTES"
- 2. FOR CONCRETE REPAIR DETAILS, SEE SHEET "ABUTMENT REPAIRS ABUTMENT I - NORTHBOUND"
- 3. ELECTRICAL SERVICE IN EXISTING CONDUIT TO REMAIN IN SERVICE DURING CONTRACT.

# <u>LEGEND:</u>

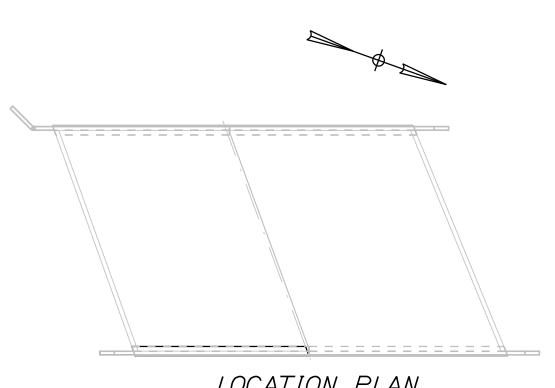
LIMIT OF CONCRETE SURFACE REPAIRS

- ---- LIMIT OF EPOXY INJECTED CRACK REPAIR
- —— EXISTING CONCRETE
- EXISTING AND PROPOSED GROUND



**ELEVATION** 

NOT TO SCALE



LOCATION PLAN

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ilen					Designed	BLT	10/2017	Checked	DSM	10/2017
ᅩ					Drawn	ECW	10/2017	In Charge of	DSM	1/2018

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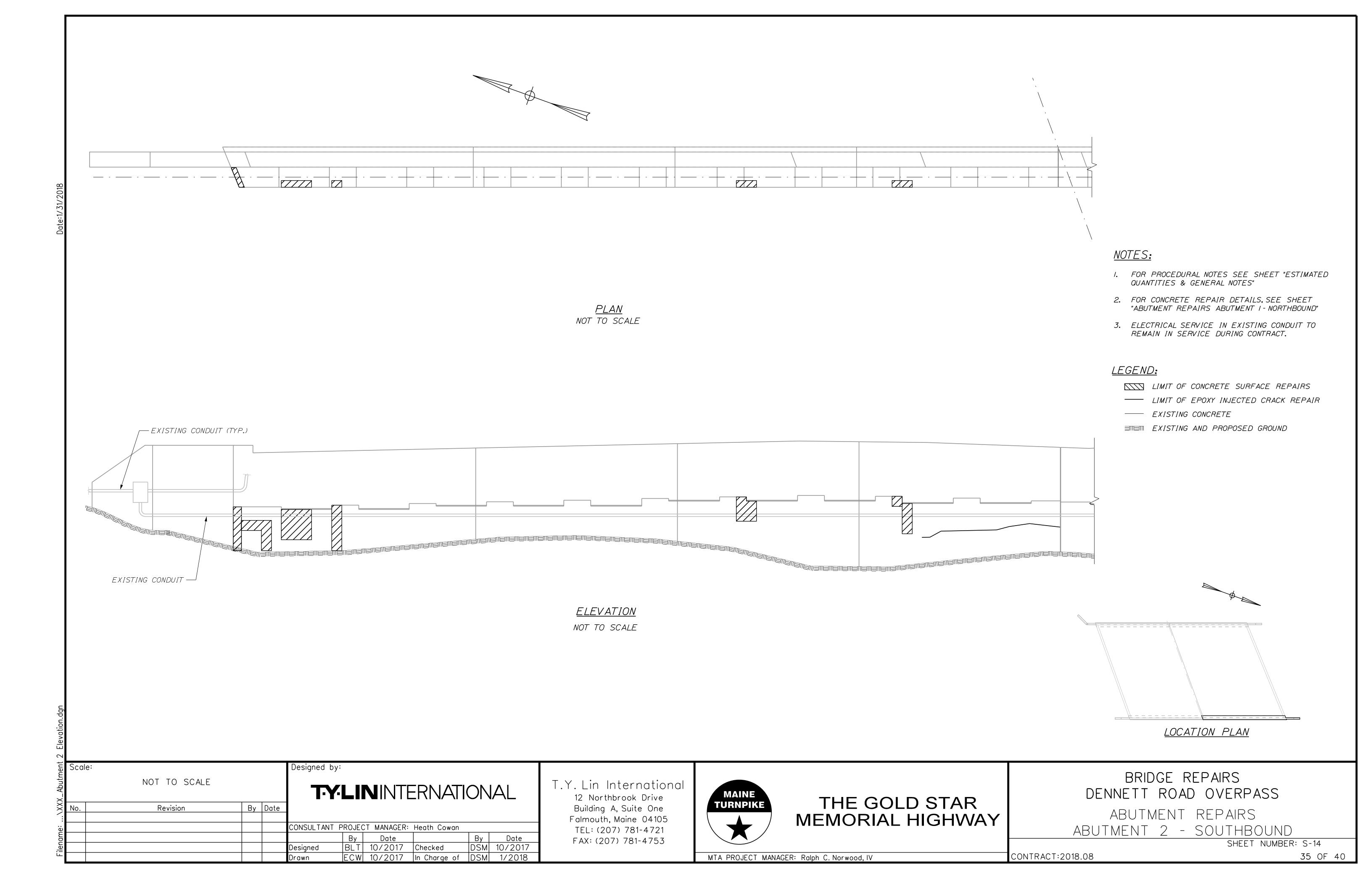
THE GOLD STAR MEMORIAL HIGHWAY

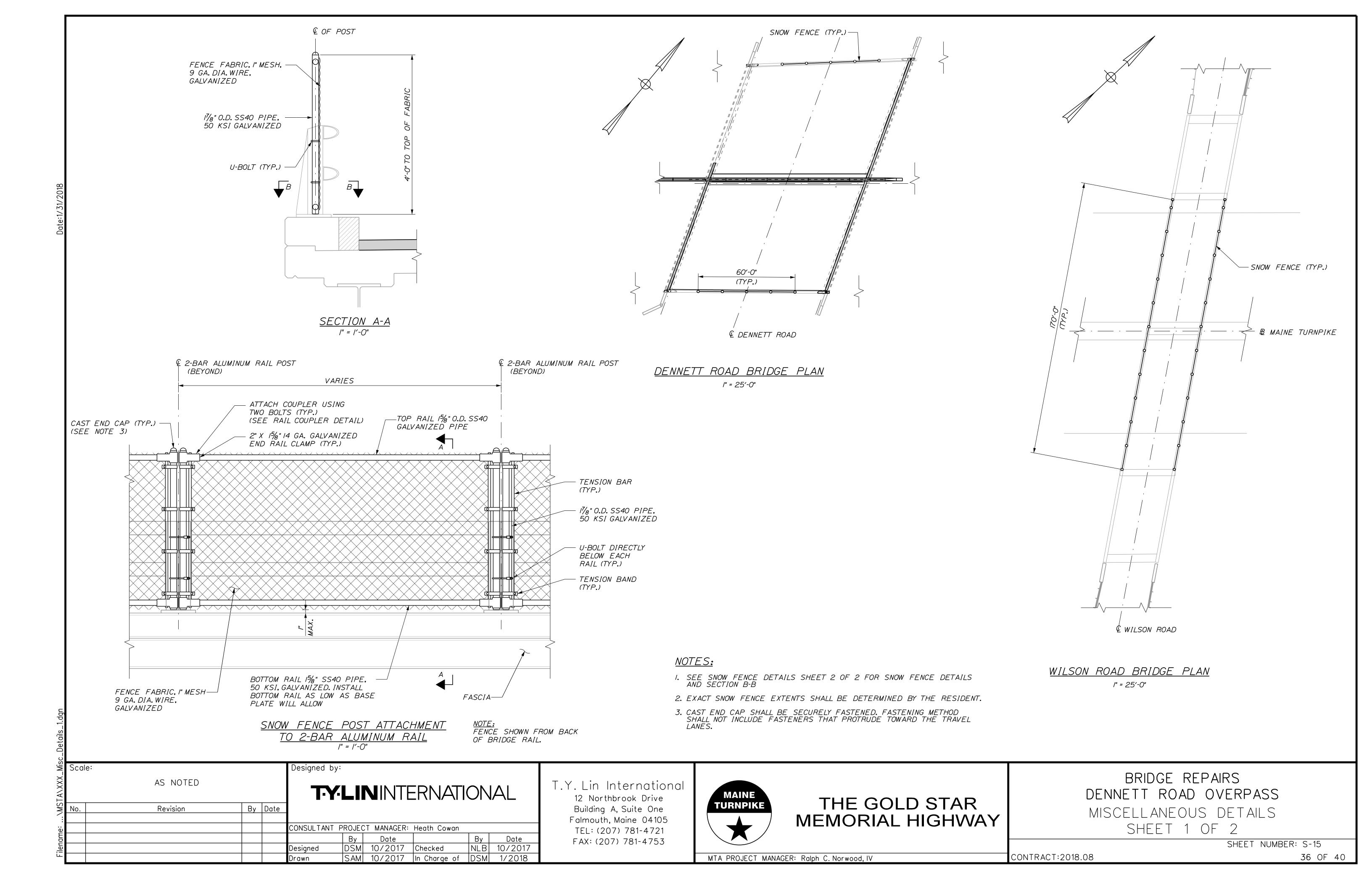
BRIDGE REPAIRS DENNETT ROAD OVERPASS

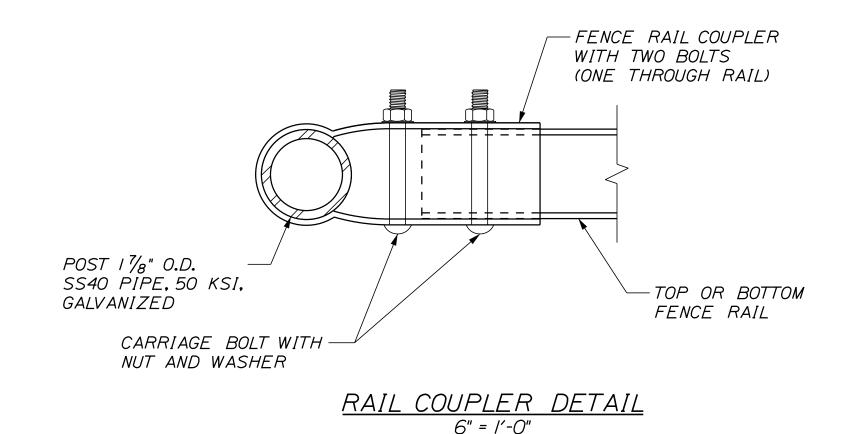
ABUTMENT REPAIRS ABUTMENT 2 - NORTHBOUND

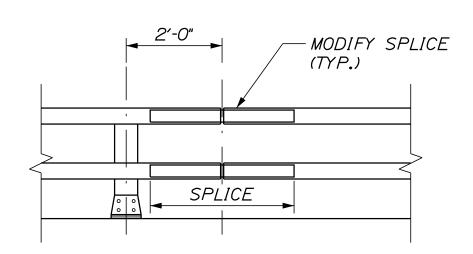
SHEET NUMBER: S-13

CONTRACT:2018.08









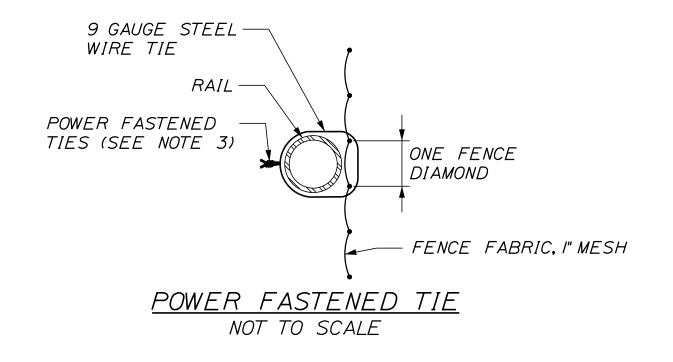
SPLICE MODIFICATION RAILING - ELEVATION (TWO BAR RAILING SHOWN, THREE BAR RAILING SIMILAR) 1/2" = 1'-0"

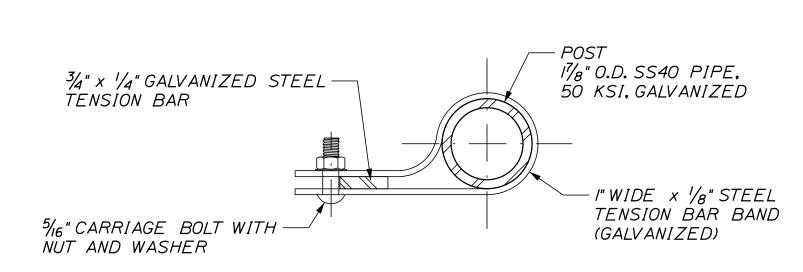
—— € SPLICE

l'-6"

MAX. PROJECTION 3/8" (MAY BE MISSING)

- EXIST. S.S. SET SCREW 1/4" \$\overline{X}\frac{3}{4}" LG. 20 UNC FLAT POINT, SOCKET HEAD.





TENSION BAND DETAIL

6" = /'-0"

(TWO LOCATIONS) -SPLICE MODIFICATION DETAIL (ELEVATION VIEW FROM BACK SIDE OF RAIL) 11/2" = 1'-0"

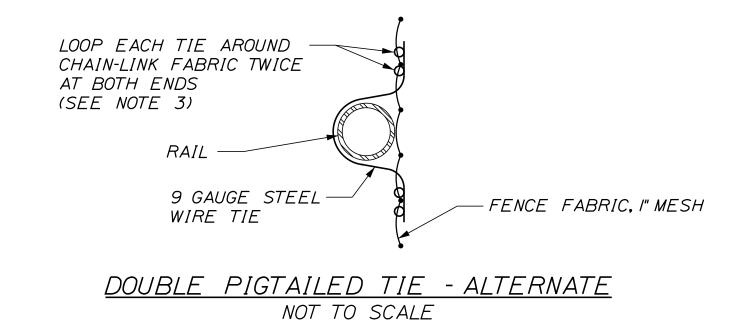
PROPOSED 5/16" \$

AND SPLICE BAR

HOLES IN RAIL

PROPOSED 5/16" \$

HOLE IN RAIL



# NOTES:

- I.INSTALL FENCE FABRIC BETWEEN ALUMINUM BRIDGE RAILS AND SNOW FENCE FRAME.
- 2. INSTALL CHAIN LINK FENCE FABRIC WITH TWISTED BARBS AT THE BOTTOM RAIL.
- 3. ROUND WIRE TIES SHALL BE 9 GAUGE ZINC-COATED STEEL PREFORMED TO THE RADIUS OF THE POST AND POWER-FASTENED TO WRAP 360 DEGREES AROUND THE POST AND ONE COMPLETE DIAMOND OF THE CHAIN-LINK FENCE. THE TWO ENDS SHALL BE TWISTED TOGETHER IN A CLOSE HELIX OF 1/2 MACHINE TURNS (3 FULL TWISTS) TIGHTLY AROUND THE POST AND CHAIN-LINK FABRIC. SPACE TIES @ 6" O.C. TO BOTTOM RAIL AND @ 12" O.C. TO ALL POSTS AND OTHER RAILS. TWISTED ENDS SHALL BE BENT DOWN UPON COMPLETION. ALTERNATIVELY, WIRE TIES MAY BE STANDARD ROUND 9 GAUGE ZINC-COATED STEEL. ALL TIES SHALL BE WRAPPED AROUND CHAIN-LINK FABRIC TWICE (DOUBLE PIGTAILED) AT BOTH ENDS. SPACE TIES @ 6" O.C. TO BOTTOM RAIL AND @ 12" O.C. TO ALL POSTS AND OTHER RAILS.

/'-O" ±

- 4. ALL BOLTS AND NUTS SHALL BE STEEL CONFORMING TO ASTM A307 AND ASTM A563 GRADE A RESPECTIVELY. WASHERS SHALL BE HARDENED STEEL COMMERCIAL TYPE A PLAIN AND SHALL MEET THE DIMENSIONAL REQUIREMENTS OF ANSI B18.22. ALL HARDWARE SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO MIII (ASTM A 123) OR AASHTO M232 (ASTM A153) AS APPLICABLE.
- 5. SEE SHEET SF-01 FOR SNOW FENCE LIMITS.
- 6. THE EXISTING RAILING SPLICES ON DENNETT ROAD OVERRPASS SHALL BE REPAIRED BASED ON THE SPLICE MODIFICATION DETAIL PRESENTED. THIS WORK SHALL BE PAID FOR UNDER ITEM 507.095, "ALUMINUM BRIDGE RAILING - SPLICE MODIFICATION."

CONTRACT:2018.08

- 1	Scal	e:	Designed by:									
\MSTA\XXX_		AS NOTED	AS NOTED			T-Y-LININTERNATIONAL						
·\MS	No.	Revision	Ву	Date	1							
: e:					CONSULTANT	PROJEC	CT MANAGER:	Heath Cowan			1	
g						Ву	Date		Ву	Date		
ilename:					Designed	DSM	10/2017	Checked	NLB	10/2017		
لـــا					Drawn	SAM	10/2017	In Charge of	DSM	1/2018	1	

T.Y. Lin International 12 Northbrook Drive Building A, Suite One Falmouth, Maine 04105 TEL: (207) 781-4721 FAX: (207) 781-4753



THE GOLD STAR

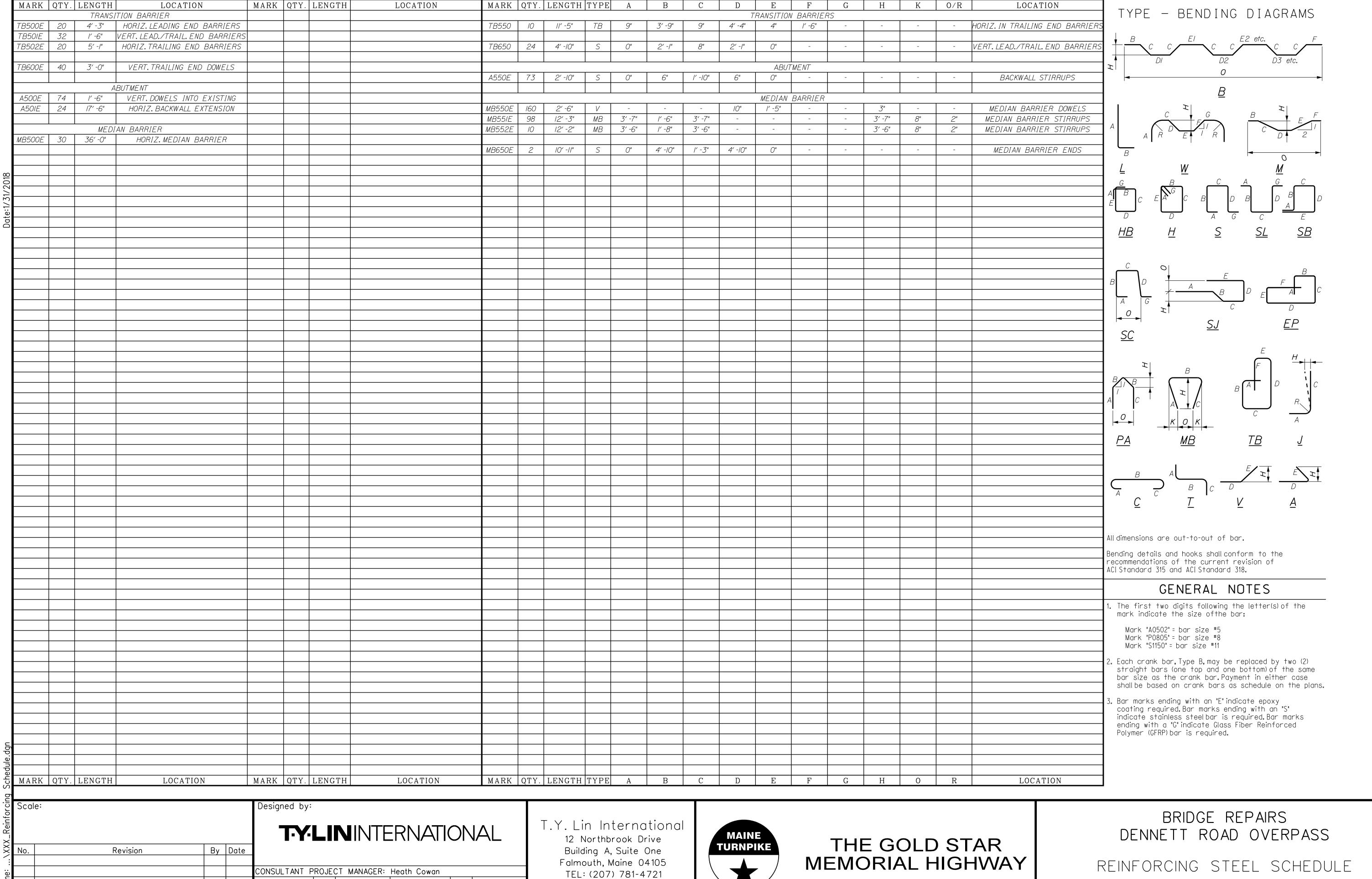
BRIDGE REPAIRS DENNETT ROAD OVERPASS MISCELLANEOUS DETAILS SHEET 2 OF 2

SHEET NUMBER: S-16

MTA PROJECT MANAGER: Ralph C. Norwood, IV

37 OF 40

MEMORIAL HIGHWAY



By Date

DSM 1/2018

BLT 12/2017 Checked

BLT 12/2017 In Charge of DSM 1/2018

Designed

Drawn

FAX: (207) 781-4753

MTA PROJECT MANAGER: Ralph C. Norwood, IV

SHEET NUMBER: S-17

CONTRACT:2018.08 38 OF 40

