

LOCATION MAP
N.T.S.

CONSTRUCTION PLANS

FOR

REPLACEMENT OF BRIDGE NO.68-002 VALLEY ROAD OVER MASHENTUCK BROOK
REPLACEMENT OF BRIDGE NO.68-003 VALLEY ROAD OVER WHETSTONE BROOK
REPLACEMENT OF BRIDGE NO.68-009 BEAR HILL ROAD OVER UNNAMED BROOK

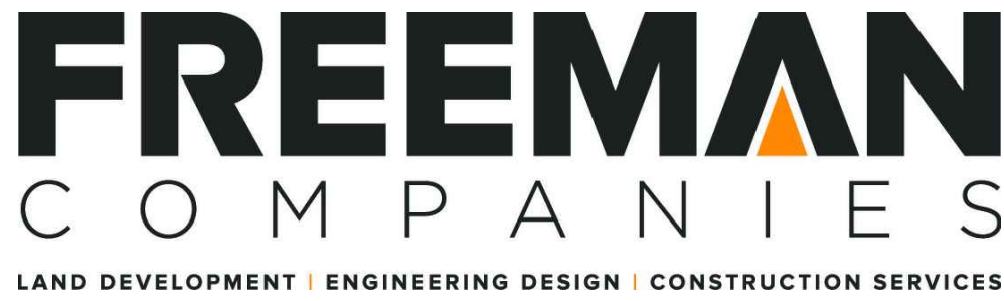
TOWN OF KILLINGLY, CT

FINAL DESIGN PLANS

PREPARED FOR:

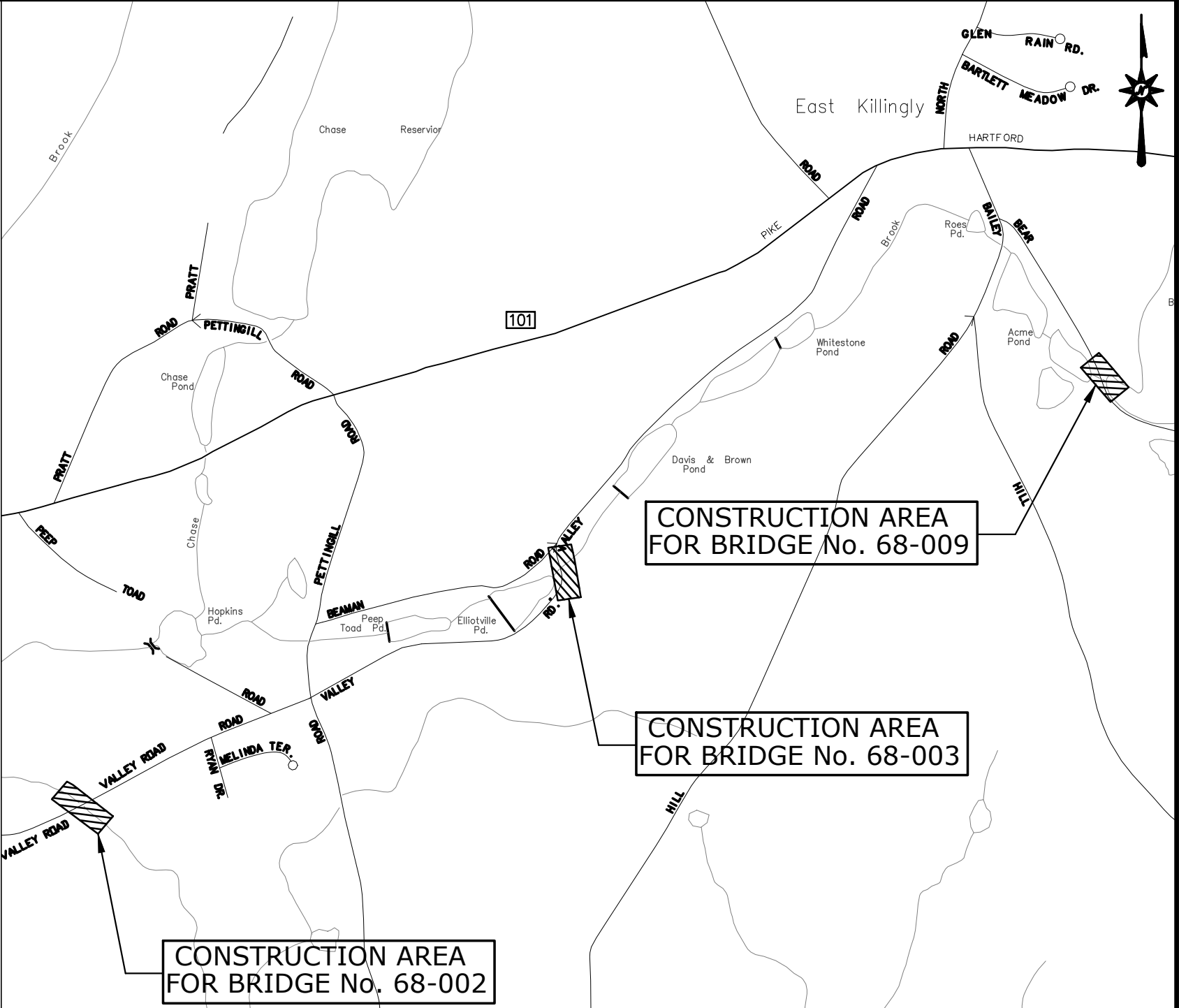
TOWN OF KILLINGLY
172 MAIN STREET
KILLINGLY, CONNECTICUT 06239

PREPARED BY:



LAND DEVELOPMENT ENGINEERING DESIGN CONSTRUCTION SERVICES

36 JOHN STREET
HARTFORD, CONNECTICUT 06106
(860) 251-9550
(860) 986-7161 Fax



VICINITY MAP
SCALE: 1"=1000'

GENERAL NOTES:

CONNECTICUT DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION, FORM 818, DATED 2020; SUPPLEMENTAL SPECIFICATIONS, DATED JANUARY 2022; AND SPECIAL PROVISIONS.

ALL HORIZONTAL GEOMETRY ON THIS PROJECT IS BASED ON HORIZONTAL DATUM NAD83.

ALL ELEVATIONS ON THIS PROJECT BASED ON NAVD88.

DESIGN STANDARDS:

TOWN OF KILLINGLY DESIGN STANDARDS

CONNECTICUT DEPARTMENT OF TRANSPORTATION HIGHWAY DESIGN MANUAL, 2003 EDITION.

A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS 2011 EDITION, PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO).

CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL, 2003 EDITION.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

TOWN OF KILLINGLY, CONNECTICUT

APPROVED BY:

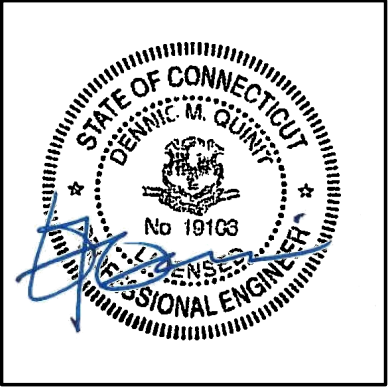
MARY CALORIO
TOWN MANAGER

DATE

DESIGN BY: **FREEMAN**
COMPANIES
LAND DEVELOPMENT | ENGINEERING DESIGN | CONSTRUCTION SERVICES

DENNIS M. QUNIT, P.E.
CT. PROFESSIONAL ENGINEER REG. NO. 19106

DATE: 10/20/2022



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TITLE SHEET	
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SUBSET - 02	BRIDGE NO. 68-003 (SITE NO.2)
SUBSET - 03	BRIDGE NO. 68-009 (SITE NO.3)
MDS-1-3	MISCELLANEOUS DETAILS

STANDARD STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION DETAILS

HW-815_01	BITUMINOUS CONCRETE CURBING
HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB
HW-822_02a	TEMPORARY PRECAST CONCRETE BARRIER - DETAILS
HW-910_01	W-BEAM METAL BEAM RAIL HARDWARE
HW-910_05	METAL BEAM RAIL R-B 350 SPAN TYPE I, II, III SECTIONS
HW-910_07	R-B 350 BRIDGE ATTACHMENT VERTICAL SHAPE PARAPET
HW-911_01	R-B END ANCHORAGE TYPE I AND II
TR-1208_01	SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS
TR-1208_02	METAL SIGN POSTS AND SIGN MOUNTING DETAILS
TR-1210_04	PAVEMENT MARKING LINES AND SYMBOLS
TR-1220_01	SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS
TR-1220_02	CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES

SUBCONSULTANTS:

GIBSON ENVIRONMENTAL SERVICES

DATES

ISSUE DATE: OCTOBER 20, 2022
REVISION:

[illegible]

A = **SEE SPECIAL PROVISIONS**

**REPLACEMENT OF BRIDGE No. 68-002
VALLEY ROAD OVER MASHENTUCK BROOK
KILLINGLY, CONNECTICUT**

			DESIGNED:	LB
			DRAFTED:	LB
			CHECKED:	DQ
			APPROVED:	PAR
			SCALE:	AS NOTED
			PROJECT NO.:	2017-0507
			DATE:	10/20/2022
-	-	-		
NO.	DATE	DESCRIPTION		
REVISIONS			CAD: 20187-0507_DETACHED ESTIMATE	

Freeman Companies, LLC - R:\2017\2017-0507 Killingly Bridges\DWG\HW_MSH_2017_0507_INX.dwg Oct 20, 2022 - 5:00pm Plotted By: LBuchel

SUBSET - 01 BRIDGE NO. 68-002 (SITE NO.1)	
INDEX OF DRAWINGS	
DRAWING NUMBER	DRAWING TITLE
EX-1.1	TOPOGRAPHIC SURVEY
TYP-1.1	TYPICAL SECTION
HWY-1.1	ROADWAY PLAN
PRO-1.1	ROADWAY PROFILE
S-1.1	GENERAL PLAN
S-1.2	LAYOUT PLAN
S-1.3	BORING LOGS
S-1.4	WATER HANDLING PLAN
DTR-1.1	DETOUR PLAN

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COMPANIES

LEAD DEVELOPER | ENGINEERING DESIGN | CONSULTING SERVICES

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CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL

FREEMAN COMPANIES, LLC

34 JOHN STREET

HARTFORD, CT 06106

WWW.FREEMANCO.COM

(860)251-1900

TOLL FREE (800)604-5141

FAX (860)251-7151

ELEVATE YOUR EXPECTATIONS

PREPARED FOR

TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

OWNER FOR

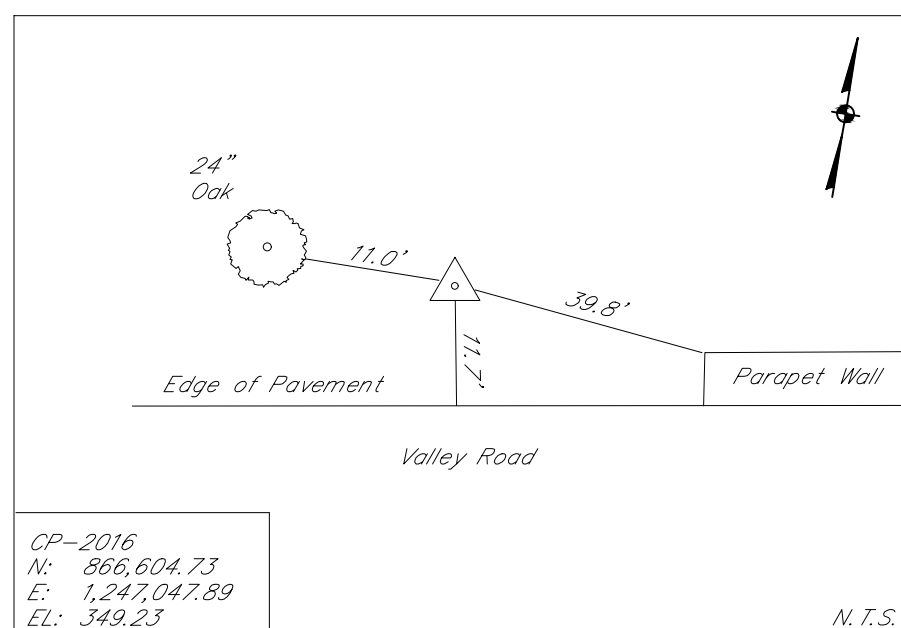
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

REPLACEMENT OF KILLINGLY BRIDGES KILLINGLY, CONNECTICUT

DESIGNED:	LB
DRAFTED:	LB
CHECKED:	DQ
APPROVED:	PAR
SCALE:	NOT TO SCALE
PROJECT NO.:	2017-0507
DATE:	10/20/2022
CAD FILE:	HW_MSH_2017_0507_INX
REVISIONS	
NO.	DATE DESCRIPTION

TITLE:	INDEX SHEET
SHEET NUMBER:	INX-1

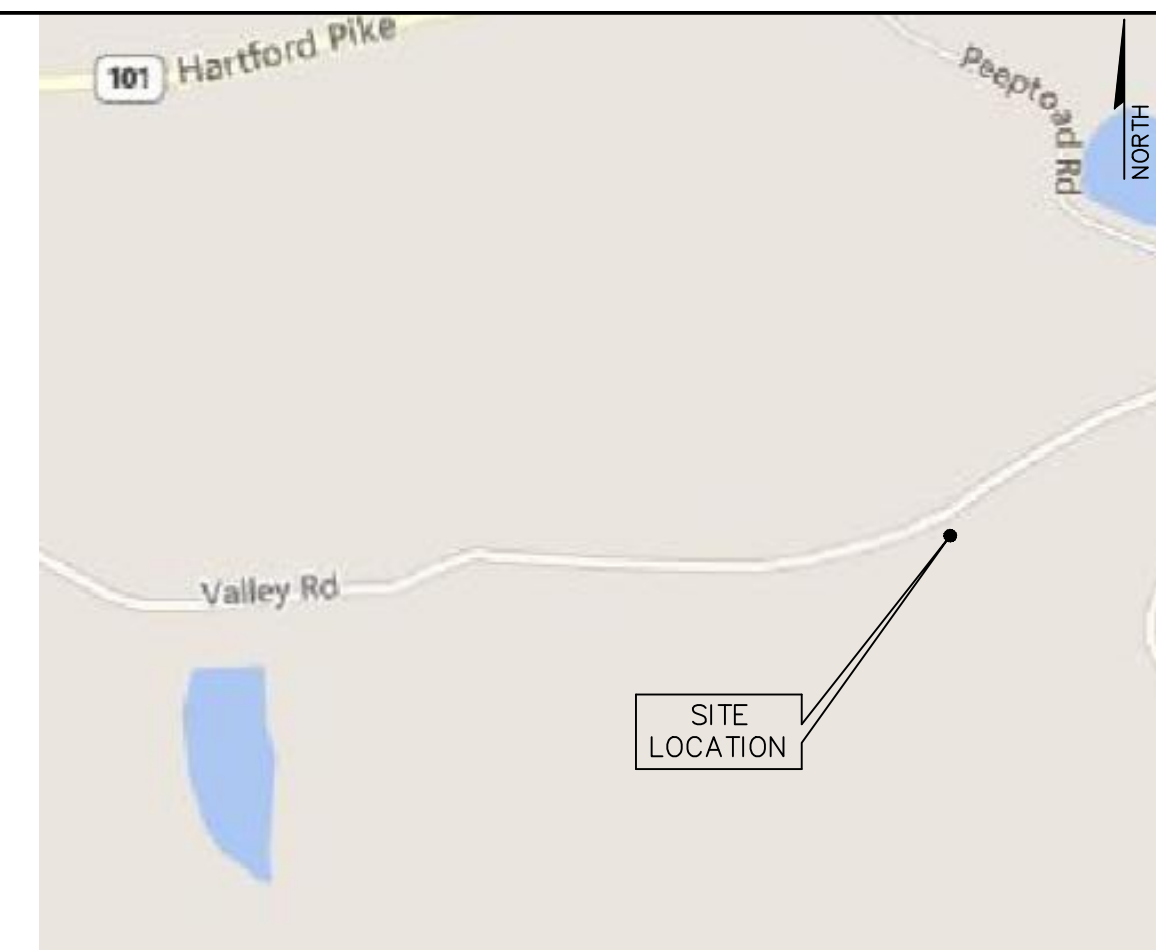
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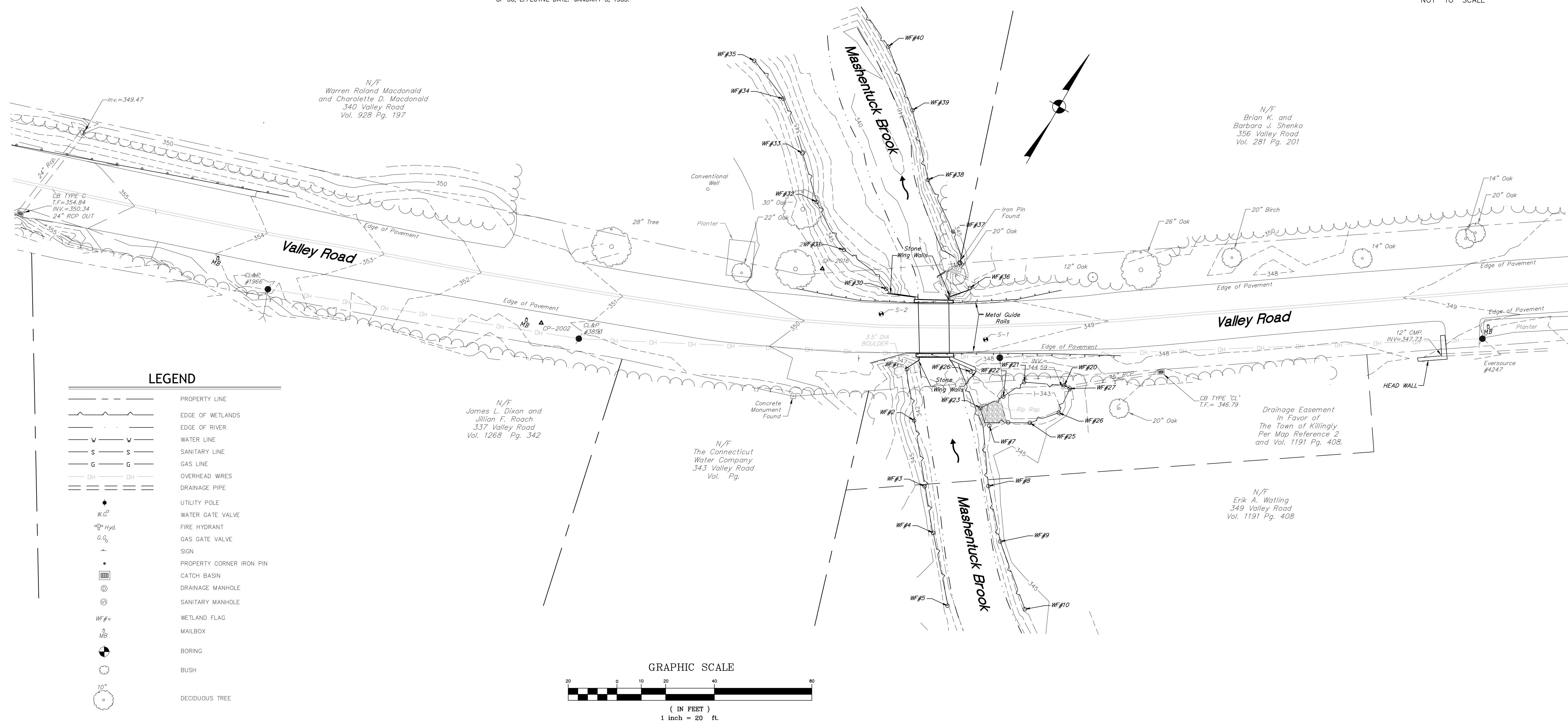
MAP REFERENCES

STREET SURFACE IS LOCATED IN FLOOD HAZARD AREA ZONE A2 'AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS ARE DETERMINED', AS DEPICTED ON FLOOD INSURANCE RATE MAP FOR THE TOWN OF KILLINGLY, COMMUNITY PANEL NUMBER 090136 0016 B, PANEL 16 OF 30, EFFECTIVE DATE: JANUARY 3, 1985.

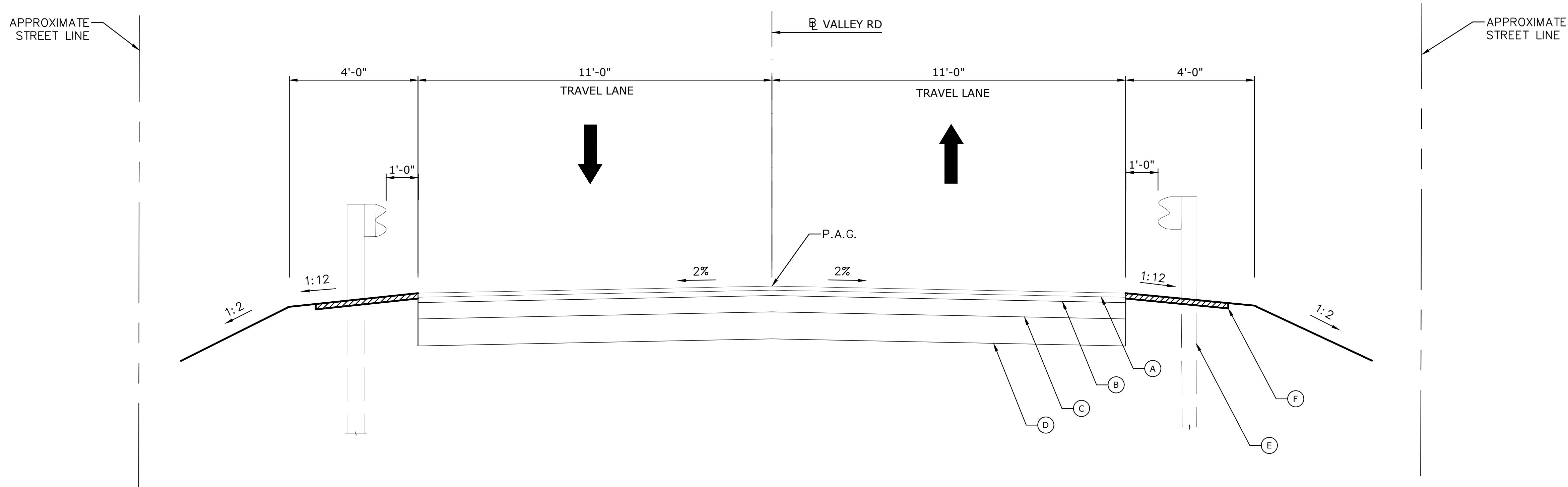
1. CONNECTICUT STATE HIGHWAY DEPARTMENT RIGHT OF WAY MAP
TOWN OF KILLINGLY
ELMVILLE-EAST KILLINGLY ROAD FROM COOK ROAD EASTERLY ABOUT 7700
Feet.
NUMBER 68-19 JUNE 30 1939
2. PLAN TITLED (OAK VALLEY CREEK) DATED AUG. 20, 1984 SCALE 1"=20'
3. PLAN TITLED (EASTWOOD HILLS SUBDIVISION KILLINGLY CONNECTICUT)
DATED MARCH 2007 SCALE 1"=100'



NOT TO SCALE



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VALLEY ROAD TYPICAL SECTION
STA . 20+50 - STA. 21+90
SCALE: 1" = 2'

LEGEND

- (A) 1.5" HMA S0.5
- (B) 2.0" HMA S1.0
- (C) 6" PROCESS AGGREGATE BASE
- (D) 12" SUBBASE
- (E) METAL BEAM RAIL R-B 350
- (F) PAVEMENT FOR RAILING

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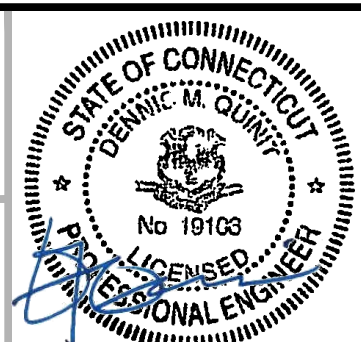
ELEVATE YOUR EXPECTATIONS

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TOWN OF KILLINGLY
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KILLINGLY,
CONNECTICUT 06239

OWNER FOR

TOWN OF KILLINGLY
VALLEY ROAD
KILLINGLY,
CONNECTICUT 06239

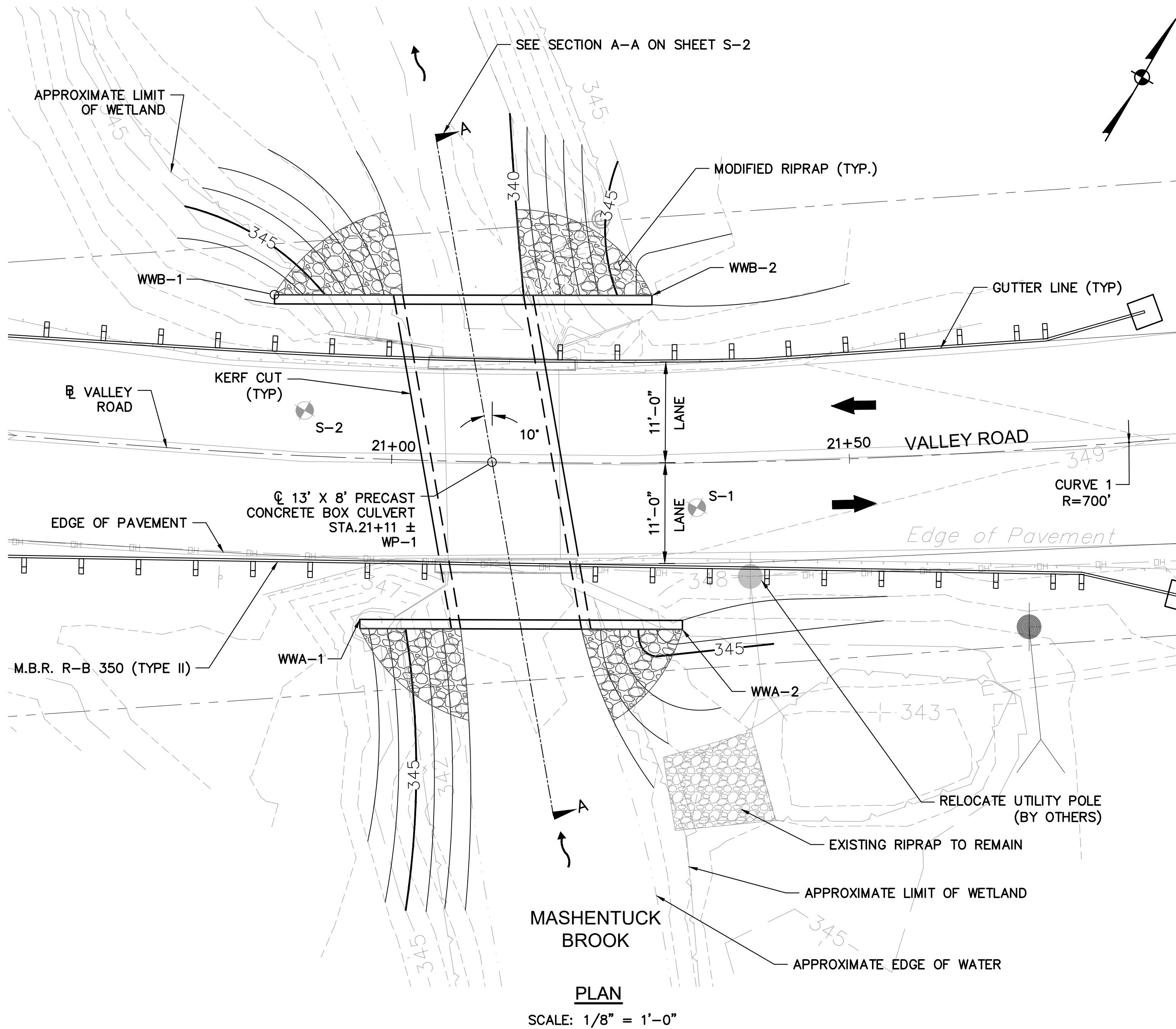


DENNIS M. QUINN, P.E. NO. 19168

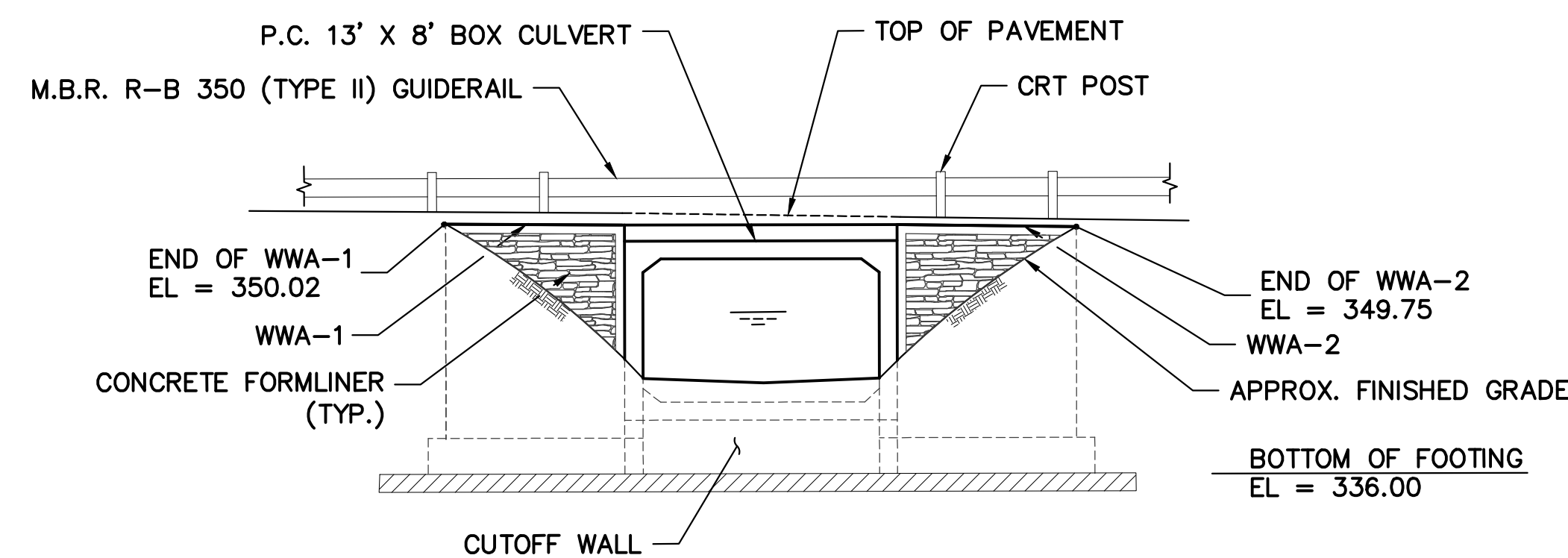
**REPLACEMENT OF BRIDGE No. 68-002
VALLEY ROAD OVER MASHENTUCK BROOK
KILLINGLY, CONNECTICUT**

TITLE:	TYPICAL SECTION
SHEET NUMBER:	TYP-1.1

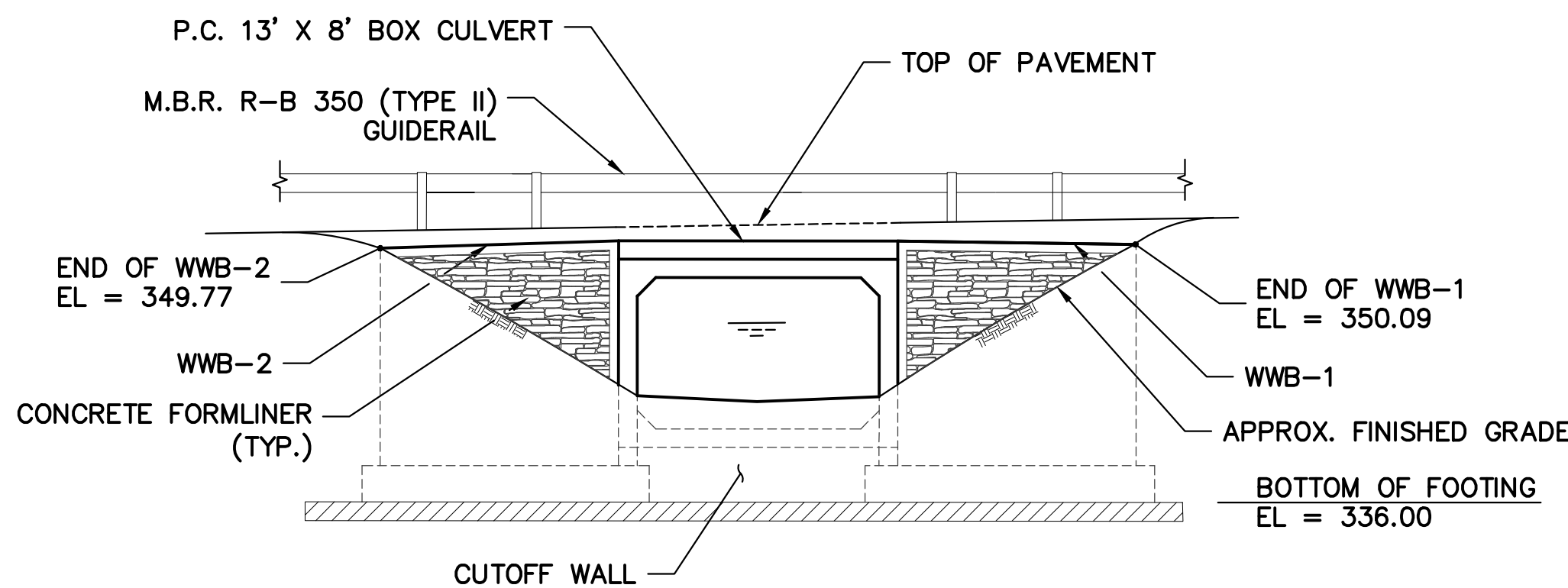
Freeman Companies, LLC - R: 2017\2017-0507_Killingly Bridges\0602_GEN\BRIDGE 68-002\HW_MSH_2017_0507_BR0002_GEN.dwg Nov 07, 2022 - 10:49am Plotted By: L.Buchell



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



UPSTREAM ELEVATION
SCALE: 1/8" = 1'-0"



DOWNSTREAM ELEVATION
SCALE: 1/8" = 1'-0"

UTILITY NOTES

1. THIS PROJECT INVOLVES THE PRESENCE OF OVERHEAD UTILITY LINES WITHIN THE LIMITS AND FOOTPRINT OF THE PROJECT. WHILE NO WORK INVOLVING OR IMPACTING THESE UTILITIES ARE ANTICIPATED, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK WITH THE APPROPRIATE UTILITY COMPANY (EVERSOURCE) AND FOR PROVIDING TEMPORARY PROTECTION AND/OR SUPPORT OF THESE FACILITIES IF AND AS REQUIRED BY THE UTILITY COMPANY.
2. THE CONTRACTOR SHALL DEVELOP ITS ERECTION SCHEME IN CONFORMANCE WITH LIMITATIONS AND RESTRICTIONS ASSOCIATED WITH THE OVERHEAD UTILITY LINES AND AS REQUIRED BY THE APPROPRIATE UTILITY COMPANY.
3. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY WITH REGARDS TO POTENTIAL RELOCATION OR TEMPORARY SUPPORT OF THEIR FACILITIES. THE CONTRACTOR SHALL IDENTIFY POTENTIAL UTILITY IMPACTS ASSOCIATED WITH THEIR WORK, IF ANY, PRIOR TO START OF CONSTRUCTION AND NOTIFY THE APPROPRIATE UTILITY COMPANY ACCORDINGLY.

NOTICE TO BRIDGE INSPECTORS

IT IS RECOMMENDED THAT CONNDOT'S BRIDGE SAFETY PROCEDURES BE FOLLOWED WHEN INSPECTING THIS BRIDGE FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING OF COMPONENTS FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE.) THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE MANAGER OF BRIDGE SAFETY AND EVALUATIONS.

COMPONENT OR DETAIL	STRUCTURE SHEET REFERENCE
NONE	-
	-

HYDRAULIC DATA

HYDRAULIC AREA	4.1 SQ MI
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	920 CFS
AVERAGE DAILY FLOW	7.5 CFS
AVERAGE DAILY FLOW ELEVATION	341.69
UPSTREAM DESIGN WATER SURFACE ELEVATION	349.38
DOWN STREAM DESIGN WATER SURFACE ELEVATION	345.01
2 YEAR DESIGN STORM WATER ELEVATION	343.37

TRANSPORTATION DATA

MEMBER	SHIPPING LENGTH	SHIPPING HEIGHT	SHIPPING WIDTH	SHIPPING WEIGHT
BOX CULVERT	15'-0"	10'-0"	8'-0"	55,800 lbs
WINGWALL	15'-0"	10'-0"	8'-0"	24,000 lbs

BORING LEGEND

S-1 APPROXIMATE BORING LOCATION

GENERAL NOTES

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION INCLUDING FORM 818, SUPPLEMENTAL SPECIFICATIONS DATED JANUARY, 2022 AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (9TH EDITION) WITH INTERIM REVISIONS UP TO AND INCLUDING 2020, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003 EDITION), WITH REVISIONS UP TO AND INCLUDING DECEMBER 2019.

ALLOWABLE DESIGN STRESSES:

CLASS "PCC03340" CONCRETE: $f'_c = 3,000$ psi
CLASS "PCC05581" CONCRETE: $f'_c = 5,000$ psi
REINFORCEMENT (ASTM 615 GRADE 60) $f_y = 60,000$ psi

THE SPECIFIED CONCRETE STRENGTH USED IN DESIGN, f'_c , OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTION COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 6.01-"CONCRETE FOR STRUCTURES" AND M.03-"PORTLAND CEMENT CONCRETE".

LIVE LOAD:

STANDARD DESIGN VEHICLE: AASHTO HL93
OPERATING (PERMIT) VEHICLES: CTDOT P204 (8-AXLE)
CTDOT P380 (19-AXLE)

FOUNDATION PRESSURES AND PILE LOADS: THE VARIOUS GROUP LOADINGS NOTED ON THE SUBSTRUCTURE PLAN SHEETS REFER TO THE LIMIT STATES AS PROVIDED FOR IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

DIMENSIONS AND ELEVATIONS: WHEN DECIMAL DIMENSIONS AND ELEVATIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZERO. ALL ELEVATIONS ARE GIVEN IN DECIMAL FEET AND ARE BASED ON NAVD 88.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

UTILITIES: THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES LOCATED WITHIN THE VICINITY OF THE SITE DURING CONSTRUCTION. THE METHOD OF SUPPORTING AND PROTECTING UTILITIES SELECTED BY THE CONTRACTOR MUST BE APPROVED BY THE UTILITY COMPANY. UTILITY MODIFICATIONS SHALL BE MADE BY THE RESPECTIVE UTILITY COMPANIES EXCEPT WHERE NOTED OTHERWISE.

CONCRETE NOTES

CLASS PCC 03340: CLASS PCC 03340 CONCRETE SHALL BE USED FOR THE CUT-OFF WALLS, RETURN WALLS, HEADWALLS AND WINGWALL FOOTINGS.

CLASS PCC 05581: CLASS PCC 05581 SHALL BE USED FOR THE PRECAST CONCRETE BOX CULVERT AND PRECAST WINGWALL STEMS.

REINFORCEMENT: ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. ALL REINFORCEMENT IN THE PRECAST CONCRETE BOX CULVERT SHALL BE INCLUDED IN THE COST OF THE ITEM "13' X 8' PRECAST CONCRETE BOX CULVERT." ALL REINFORCEMENT IN THE PRECAST CONCRETE WINGWALLS SHALL BE INCLUDED IN THE COST OF THE ITEM "PRECAST CONCRETE WINGWALLS." ALL REINFORCEMENT IN THE CUT-OFF WALLS, RETURN WALLS AND FOOTINGS SHALL BE INCLUDED IN THE COST OF THE ITEM "DEFORMED STEEL BARS." ALL REINFORCEMENT IN THE HEADWALL SHALL BE GALVANIZED AND INCLUDED IN THE COST OF THE ITEM "DEFORMED STEEL BARS - GALVANIZED."

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1", UNLESS DIMENSIONED OTHERWISE.

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE 2" COVER UNLESS DIMENSIONED OTHERWISE.

PREFORMED EXPANSION JOINT FILLER: THE COST OF FURNISHING AND INSTALLING PREFORMED EXPANSION JOINT FILLERS SHALL BE INCLUDED IN THE ITEM "1/2" JOINT FILLER FOR BRIDGES".

ITEM	BRIDGE COMPONENTS	CLASS
PRECAST CONCRETE	BOX CULVERT AND WINGWALLS	PCC 05581
PARAPET CONCRETE	HEADWALLS	PCC 03340
FOOTING CONCRETE	WINGWALL FOOTINGS, CUT-OFF WALLS AND RETURN WALLS	PCC 03340

REPLACEMENT OF BRIDGE No. 68-002 VALLEY ROAD OVER MASHENTUCK BROOK KILLINGLY, CONNECTICUT

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CONNECTICUT 06239

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KILLINGLY,
CONNECTICUT 06239



DENNIS M. GURNEY, PE NO. 19106

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TITLE:

GENERAL PLAN

SHEET NUMBER:

S-1.1

DESIGNED: LB

DRAFTED: LB

CHECKED: DQ

APPROVED: PAR

SCALE: AS NOTED

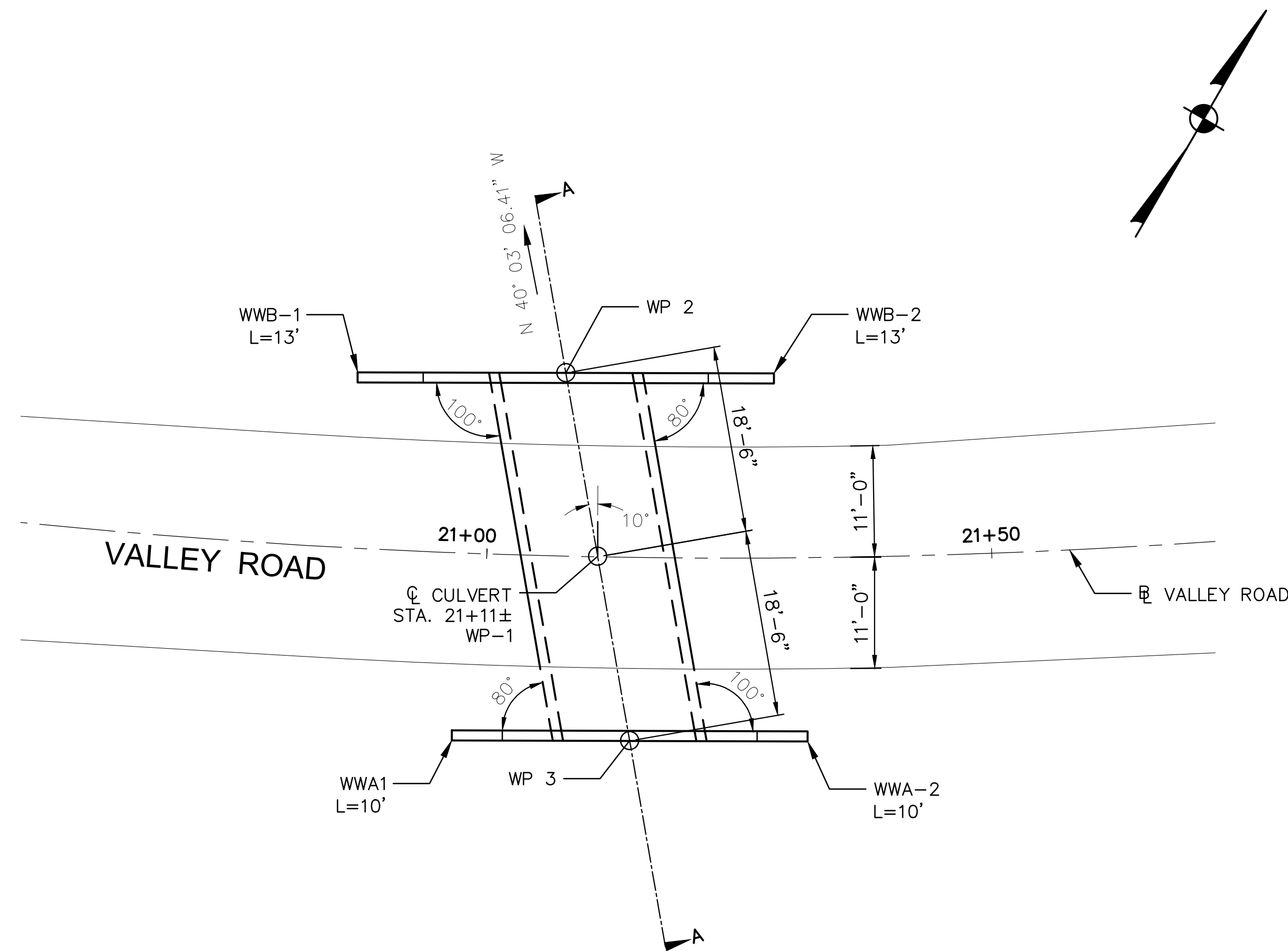
PROJECT NO.: 2017-0507

DATE: 10/20/2022

CAD: HW_MSH_2017_0507_BR0002_GEN

NO. DATE DESCRIPTION

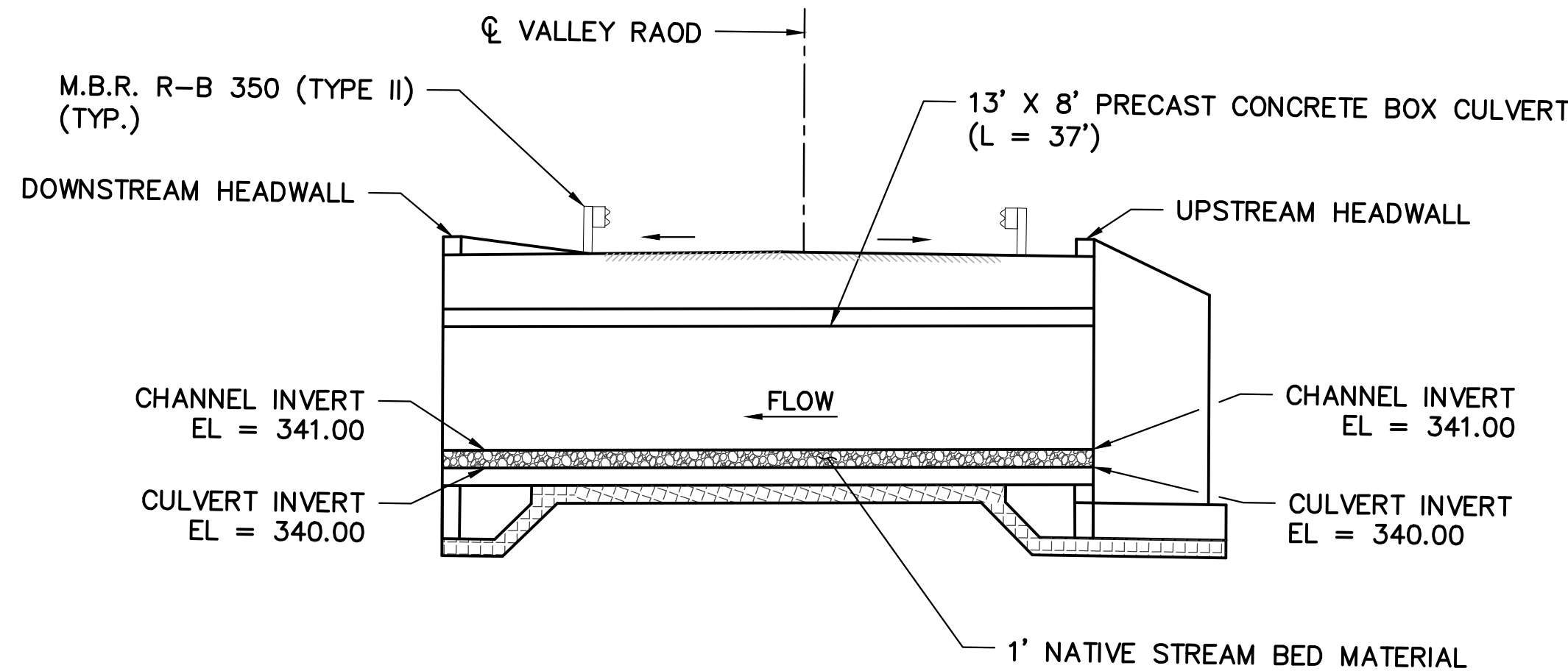
REVISIONS



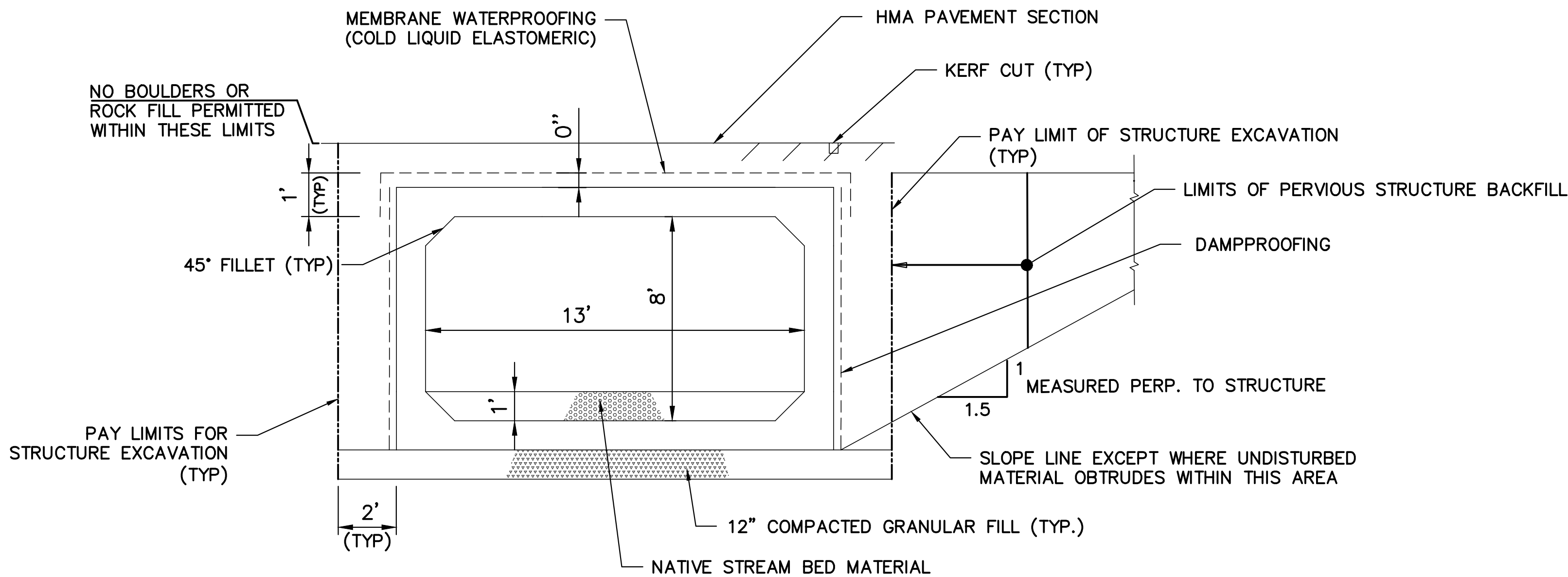
LAYOUT PLAN
SCALE: 1" = 10'-0"

WP	NORTHING	EASTING
WP-1	126971.8336	1513318.9746
WP-2	126953.6666	1513322.1783
WP-3	126935.3957	1513325.3999

- NOTES:
- FOR COMPLETE BASELINE GEOMETRY, SEE SHEET NO. HWY-1.
 - ROADWAY PROFILE TO MATCH EXISTING.
 - FOR WINGWALL SECTION DETAILS SEE SHEET MDS-3.
 - CUT BITUMINOUS OVERLAY WITH $\frac{3}{8}$ " WIDE BY $1\frac{3}{4}$ " DEEP KERF AND FILL WITH POURABLE SEALANT. TO BE PAID FOR UNDER THE ITEM "SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT."



SECTION A-A
SCALE: 1/8" = 1'-0"

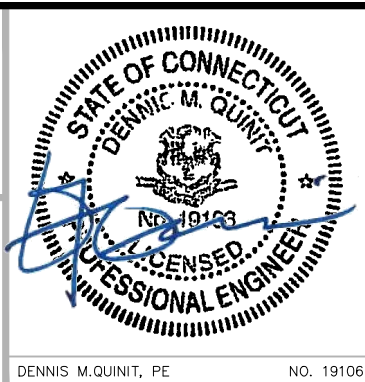


TYPICAL CULVERT SECTION
N.T.S.

REPLACEMENT OF BRIDGE No. 68-002 VALLEY ROAD OVER MASHENTUCK BROOK KILLINGLY, CONNECTICUT

**FREEMAN
COMPANIES**
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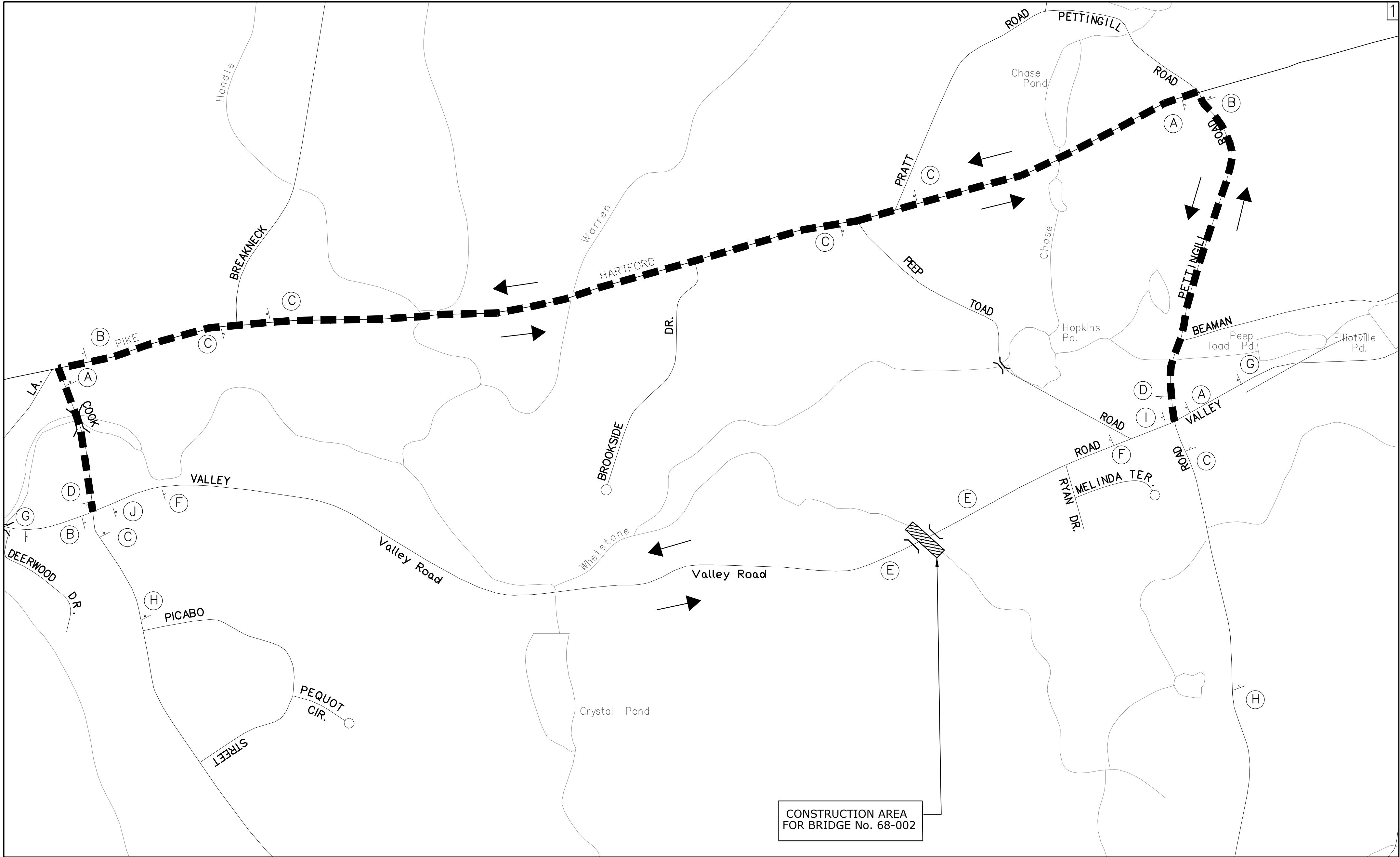
DESIGNED: LB
DRAFTED: LB
CHECKED: DQ
APPROVED: PAR
SCALE: AS NOTED
PROJECT NO.: 2017-0507
DATE: 10/20/2022
CAD: HW_MSH_2017_0507_BR0002_ALN

TITLE:
LAYOUT PLAN
SHEET NUMBER:
S-1.2

BORING S-1
N.T.S

BORING S-2
N.T.S.

Freeman Companies, LLC - R: 2017\2017-0507 Killingly Bridges\DWG\BRIDGE 68-002\HW_MSH_2017_0507_BRG002.DWG Nov 07, 2022-11:34am Plotted By: lbauchel



DETOUR PLAN

SCALE: 1" = 200'

LEGEND

- DIRECTION OF TRAVEL
- DETOUR ROUTE

SIGNING STANDARD CONVENTIONS:

—	SINGLE POST MOUNTING	REGULATORY, WARNING, OR GUIDE SIGN INSTALLATION
— —	DOUBLE POST MOUNTING	
⊥	SPAN WIRE MOUNTING	
000 00-0000	LOCATION NO. SIGN NO.	

GENERAL NOTES

- PLAN TO BE IN EFFECT ONLY WHEN ACTIVELY WORKING ON BRIDGE No. 68-002. SEE SECTION 1.08 PROSECUTION AND PROGRESS FOR OTHER TIME RESTRICTION.
- ALL CONFLICTING SIGNS SHALL BE COVERED OR REMOVED WHEN THE DETOUR IS IN EFFECT. UPON COMPLETION OF THE DETOUR, ALL SIGNS SHALL BE UNCOVERED OR REINSTALLED IN THEIR ORIGINAL LOCATIONS. THIS WORK IS PAYABLE UNDER ITEM NO. 0971001A-MAINTENANCE AND PROTECTION OF TRAFFIC.
- ALL SIGNS USED FOR DETOUR ACTIVITIES SHALL BE PAID FOR UNDER ITEM NO. 0971001A-MAINTENANCE AND PROTECTION OF TRAFFIC.
- CONTRACTOR TO NOTIFY THE TOWN OF KILLINGLY EMERGENCY SERVICES AT LEAST TWO WEEKS PRIOR TO THE ROAD CLOSURE.
- SIGN LOCATIONS ARE TO BE VERIFIED BY THE ENGINEER. DETOUR SIGNS ARE TO BE INSTALLED SO THAT THEY DO NOT BLOCK OR ARE NOT BLOCKED BY EXISTING SIGNS.

SIGNING LEGEND

A	DETOUR	80-9707	E*	ROAD CLOSED	80-9080
	VALLEY ROAD	80-9913			
	DETOUR	80-9710 (R)			
B	DETOUR	80-9707	F*	ROAD CLOSED TO THRU TRAFFIC	80-9081
	VALLEY ROAD	80-9913			
	DETOUR	80-9710 (L)			
C	DETOUR	80-9707	G	CONSTRUCTION AHEAD	80-1613
	VALLEY ROAD	80-9913			
	DETOUR	80-9710 (ST)			
D	END DETOUR	80-9704	H	VALLEY ROAD	80-9913
				CONSTRUCTION AHEAD	
I	BRIDGE CLOSED	80-9078	I	BRIDGE CLOSED 0.3 MILES AHEAD LOCAL TRAFFIC ONLY	80-9078
J	BRIDGE CLOSED	80-9078	J	BRIDGE CLOSED 1.2 MILES AHEAD LOCAL TRAFFIC ONLY	80-9078

* SIGN TO BE MOUNTED ON CONSTRUCTION BARRICADE

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WWW.FREEMANCO.COM
(860)251-1900
TOLL FREE: (800)604-5141
FAX: (860)251-7151

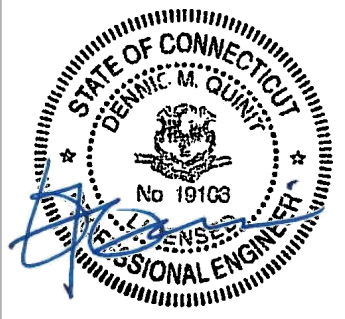
ELEVATE YOUR EXPECTATIONS

PREPARED FOR

TOWN OF KILLINGLY
VALLEY ROAD
KILLINGLY,
CONNECTICUT 06239

OWNER FOR

TOWN OF KILLINGLY
VALLEY ROAD
KILLINGLY,
CONNECTICUT 06239



DENNIS M. GURNEY, P.E. NO. 19103

REPLACEMENT OF BRIDGE No. 68-002
VALLEY ROAD OVER MASHENTUCK BROOK
KILLINGLY, CONNECTICUT

DESIGNED:	LB
DRAFTED:	LB
CHECKED:	DQ
APPROVED:	PAR
SCALE:	AS NOTED
PROJECT NO.:	2017-0507
DATE:	10/20/2022
CAD:	HW_MSH_2017_0507_BRG002.DWG

TITLE:

DETOUR PLAN

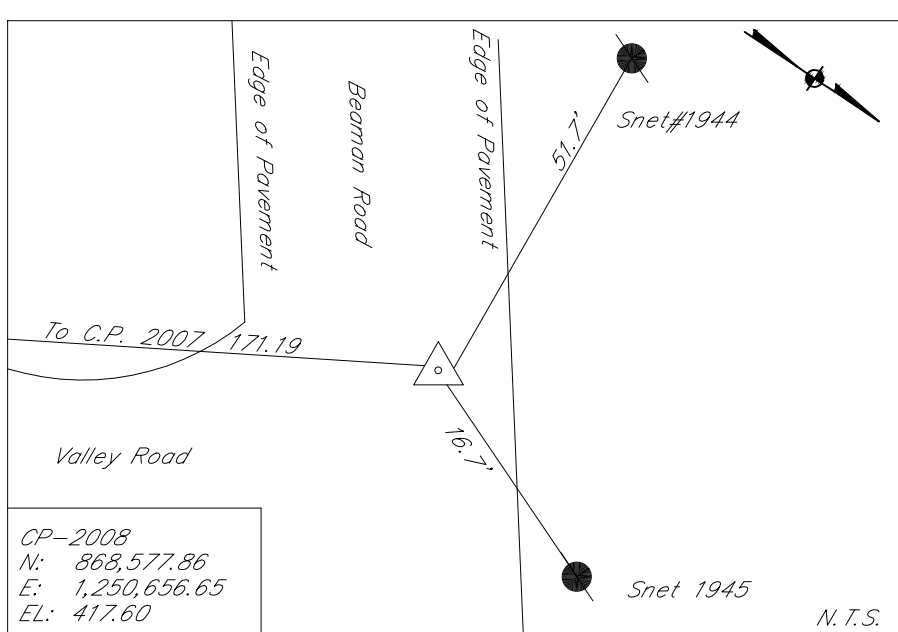
SHEET NUMBER:

DTR-1.1

SUBSET - 02 BRIDGE NO. 68-003 (SITE NO.2)
INDEX OF DRAWINGS

Drawing Number	Drawing Title
EX-2.1	Topographic Survey
TYP-2.1	Typical Section
HWY-2.1	Roadway Plan
PRO-2.1	Roadway Profile
S-2.1	General Plan
S-2.2	Layout Plan
S-2.3	Boring Logs
S-2.4	Water Handling Plan
S-2.5	Concrete Sidewalk Details
DTR-2.1	Detour Plan

FREEMAN COMPANIES <small>LAND DEVELOPMENT ENGINEERING DESIGN CONSTRUCTION SERVICES</small> DBE DAS MBE GHASDC CERTIFIED CIVIL GEOTECHNICAL SURVEY ENVIRONMENTAL FREEMAN COMPANIES, LLC <small>34 JOHN STREET HARTFORD, CT 06106 WWW.FREEMANCS.COM (860) 251-9550 TOLL FREE (800) 604-5141 FAX (860) 698-7141</small> ELEVATE YOUR EXPECTATIONS	PREPARED FOR TOWN OF KILLINGLY BEAR HILL ROAD KILLINGLY, CONNECTICUT 06239		<h1>REPLACEMENT OF KILLINGLY BRIDGES</h1> <h2>KILLINGLY, CONNECTICUT</h2>	<table border="1"> <tr><td>DESIGNED:</td><td>LB</td></tr> <tr><td>DRAFTED:</td><td>LB</td></tr> <tr><td>CHECKED:</td><td>DQ</td></tr> <tr><td>APPROVED:</td><td>PAR</td></tr> <tr><td>SCALE:</td><td>NOT TO SCALE</td></tr> <tr><td>PROJECT NO.:</td><td>2017-0507</td></tr> <tr><td>DATE:</td><td>10/20/2022</td></tr> <tr><td>CAD FILE:</td><td>HW_MSH_2017_0507_INX</td></tr> </table>	DESIGNED:	LB	DRAFTED:	LB	CHECKED:	DQ	APPROVED:	PAR	SCALE:	NOT TO SCALE	PROJECT NO.:	2017-0507	DATE:	10/20/2022	CAD FILE:	HW_MSH_2017_0507_INX	TITLE: <h3>INDEX SHEET</h3>
	DESIGNED:				LB																
DRAFTED:	LB																				
CHECKED:	DQ																				
APPROVED:	PAR																				
SCALE:	NOT TO SCALE																				
PROJECT NO.:	2017-0507																				
DATE:	10/20/2022																				
CAD FILE:	HW_MSH_2017_0507_INX																				
OWNER FOR TOWN OF KILLINGLY BEAR HILL ROAD KILLINGLY, CONNECTICUT 06239	SHEET NUMBER: <h2>INX-2</h2>																				



THIS SURVEY HAS BEEN PREPARED BY FREEMAN COMPANIES, LLC. IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996.

THE TYPE OF SURVEY IS TOPOGRAPHIC SURVEY AND IS INTENDED TO DEPICT THE EXISTING CONDITIONS AND TOPOGRAPHIC FEATURES OF THE PROJECT SITE.

THE SURVEY ACCURACY CONFORMS TO HORIZONTAL CLASS A-2,
TOPOGRAPHIC ACCURACY CLASS T-2.

NORTH ARROW REFERS TO THE CONNECTICUT COORDINATE SYSTEM (NAD83) AND IS BASED UPON GPS OBSERVATIONS PERFORMED BY FREEMAN COMPANIES.

ELEVATIONS REFER TO NAVD88 AND ARE BASED ON GPS OBSERVATIONS PERFORMED BY FREEMAN COMPANIES.

THE UNDERGROUND FEATURES DEPICTED HEREON ARE THE RESULT OF
COMPILATION OF EXISTING MAPPING AND LOCATION OF UTILITY PAINT.
ACTUAL LOCATION OF UNDERGROUND UTILITIES IS TO BE CONSIDERED TO BE
APPROXIMATE AT BEST. OTHER UTILITIES MAY EXIST WHICH FREEMAN
COMPANIES ARE UNAWARE OF. VERIFY INFORMATION IN THE FIELD. BEFORE
ANY DIGGING OR SITE EXCAVATION CALL "CALL BEFORE YOU DIG"
1-800-922-4455.

A PORTION OF THE PROJECT AREA IS LOCATED IN FLOOD HAZARD ZONE 'A', AREAS OF 100-YEAR FLOOD BASE ELEVATIONS. FLOOD HAZARD FACTORS HAVE NOT BEEN DETERMINED .a PORTION OF THIS PROJECT IS LOCATED IN FLOOD HAZARD ZONE 'C', AREAS OF MINIMAL FLOODING . A VISUAL INSPECTION OF THE FEMA MAP PANEL 20 OF 30 COMMUNITY-PANEL NUMBER 090136 0020 B

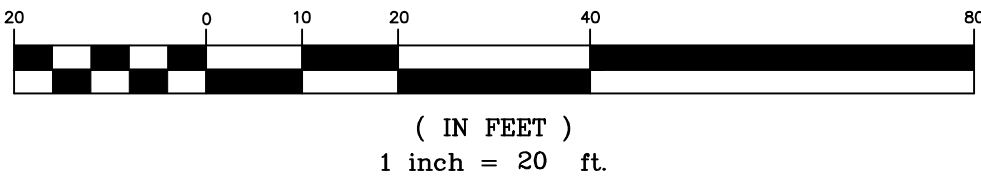


NOT TO SCALE



	PROPERTY LINE
	EASEMENT LINE
	CHAIN LINK FENCE
	EDGE OF WETLANDS
	EDGE OF RIVER
	WATER LINE
	SANITARY LINE
	GAS LINE
	OVERHEAD WIRES
	DRAINAGE PIPE
	UTILITY POLE
	WATER GATE VALVE
	FIRE HYDRANT
	GAS GATE VALVE
	SIGN
	PROPERTY CORNER IRON PIN
	CATCH BASIN
	SANITARY MANHOLE
	WETLAND FLAG
	MAILBOX
	BORING
	BUSH
	DECIDUOUS TREE
	SINGLE YELLOW LINE
	SPOTGRADE
	VOLUME
	PAGE

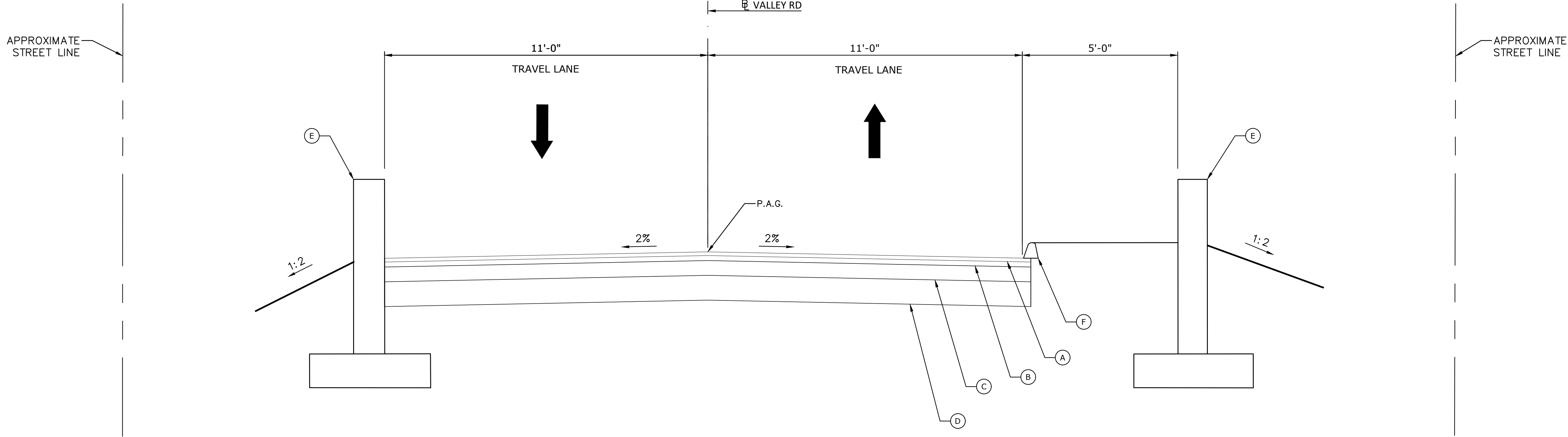
GRAPHIC SCALE



REPLACEMENT OF BRIDGE No. 68-003 VALLEY ROAD OVER WHETSTONE BROOK KILLINGLY, CONNECTICUT

FREEMAN COMPANIES <small>LAND SURVEYING ENGINEERING DESIGN CONSTRUCTION SERVICES</small> DBE DAS MBE GHASDC CERTIFIED <small>CIVIL GEOTECHNICAL SURVEY ENVIRONMENTAL</small> FREEMAN COMPANIES, LLC 36 JOHN STREET HARTFORD, CT 06106 WWW.FREEMANCO.COM (860)251-9500 TOLL FREE (800)684-5141 FAX: (860)686-7165 ELEVATE YOUR EXPECTATIONS	PREPARED FOR TOWN OF KILLINGLY BEAR HILL ROAD KILLINGLY, CONNECTICUT 06239		<h1>REPLACEMENT OF BRIDGE No. 68-003</h1> <h2>VALLEY ROAD OVER WHETSTONE BROOK</h2> <h3>KILLINGLY, CONNECTICUT</h3>	SURVEYED: R.J.C./N.I.C. DRAFTED: R.J.C. CHECKED: R.G. APPROVED: M.J.G. SCALE: 1" = 20' PROJECT NO.: 2017-0507 DATE: 12/15/2017 CAD: 2017-0507 WHETSTONE EX	TITLE: TOPOGRAPHIC SURVEY SHEET NUMBER: EX-2.1
	OWNER FOR TOWN OF KILLINGLY BEAR HILL ROAD KILLINGLY, CONNECTICUT 06239			NO. DATE DESCRIPTION REVISIONS	

Freeman Companies, LLC - R:\2017\2017-0507_Killingly Bridges\DWG\BRIDGE_68-003\Archive\HW_MSH_2017_0507_BRG003_TYP.dwg Oct 20, 2022-5:45pm Plotted By: LBuchell



LEGEND

- (A) 1.5" HMA S0.5
- (B) 2.0" HMA S1.0
- (C) 6" PROCESS AGGREGATE BASE
- (D) 12" SUBBASE
- (E) BARRIER WALL
- (F) BITUMINOUS CONCRETE LIP CURBING

VALLEY ROAD TYPICAL SECTION

STA. 19+50 - STA. 21+10
SCALE: 1" = 2'

FREEMAN
COMPANIES

DBE | DAS | MBE | GNSSDC CERTIFIED
CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL

FREEMAN COMPANIES, LLC

38 JOHN STREET
HARTFORD, CT 06106

WWW.FREEMANCO.COM

(860) 551-9500

TOLL FREE: (800) 648-5141

FAX: (860) 551-7161

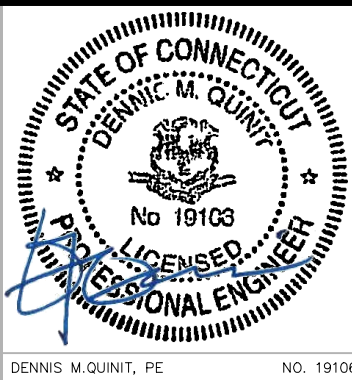
ELEVATE YOUR EXPECTATIONS

PREPARED FOR

TOWN OF KILLINGLY
VALLEY ROAD
KILLINGLY,
CONNECTICUT 06239

OWNER FOR

TOWN OF KILLINGLY
VALLEY ROAD
KILLINGLY,
CONNECTICUT 06239

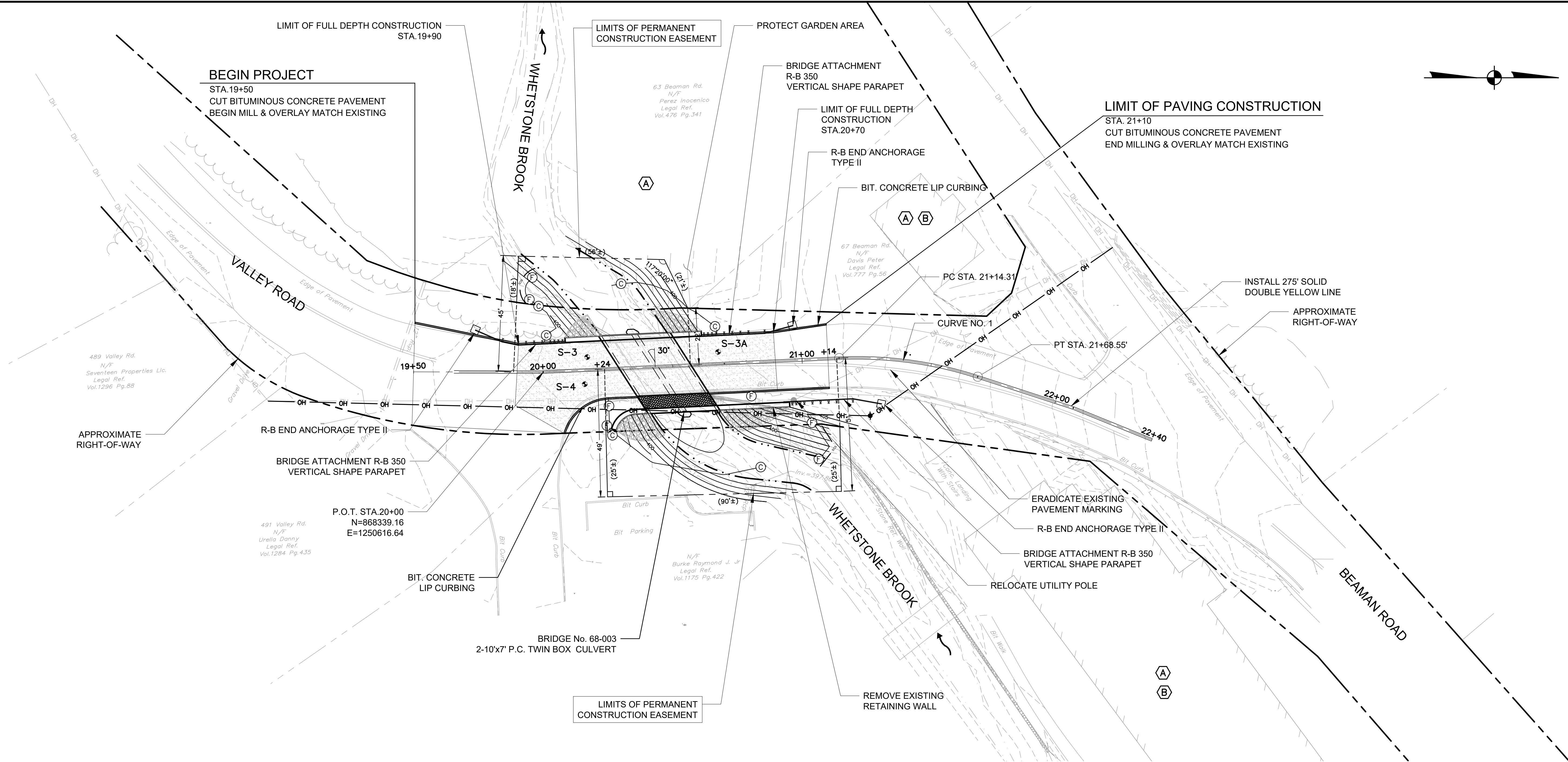


DENNIS M. QUINT, P.E. NO. 19103

REPLACEMENT OF BRIDGE No. 68-003
VALLEY ROAD OVER WHETSTONE BROOK
KILLINGLY, CONNECTICUT

TITLE:	TYPICAL SECTION
SHEET NUMBER:	TYP-2.1

Freeman Companies, LLC - R: 12017\2017-0507_Killingly Bridges\DWG\BRIDGE 68-003\Archive\HWY\MSH_2017_0507_BRG003_HWY.dwg Nov 07, 2022-2:31pm Plotted By: LBuchell



NOTES

1. ALL SOIL DISTURBANCES SHALL BE TREATED WITH 4" TOP SOIL & TURF ESTABLISHMENT.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER REGARDING THE LIMITS OF RESTORATION TO ENSURE A SMOOTH TRANSITION FROM NEW CONSTRUCTION TO EXISTING CONDITIONS.
4. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (CBYD) 1-800-922-4455 PRIOR TO COMMENCING CONSTRUCTION.
5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. REFER TO STRUCTURAL (S SERIES) DRAWINGS FOR PROPOSED CULVERT DETAILS, GRADING, AND METAL BEAM RAIL POST DETAILS.
7. COST OF REMOVAL OF TREES AND OTHER VEGETATION SHALL BE INCLUDED IN THE COST OF THE ITEM "CLEARING AND GRUBBING".
8. THE CONTRACTOR SHALL PERFORM A TEST PIT TO DETERMINE THE DEPTH OF THE WATER MAIN LOCATED NORTH OF THE BRIDGE. TEST PIT SHALL BE PAID FOR UNDER THE ITEM "SPECIAL TEST PIT-WATER MAIN."

CURVE DATA

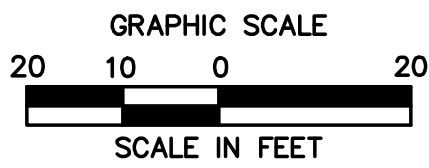
No.		Northing	Easting	Delta(Δ)	Length	Radius
CURVE NO. 1	PC	868449.54	1250582.50	N20°43'0"E	53.94'	150.0'
	PI	868476.02	1250575.37			
	PT	868503.30	1250578.07			

SCHEDULE OF RIGHTS & EASEMENTS

- (A) CONSTRUCTION EASEMENT
- (B) EASEMENT TO INSTALL, CONSTRUCT & MAINTAIN METAL BEAM RAIL END ANCHORAGE

LEGEND

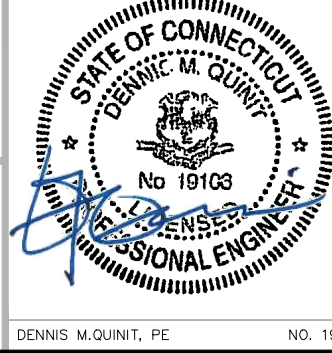
- [Hatched Box] FULL DEPTH PAVEMENT RECONSTRUCTION / PROPOSED WIDENING
- (C)(F)— FILL/CUT APPROXIMATE SLOPE LIMITS
- SCS— SEDIMENTATION CONTROL SYSTEM
- ~~~ APPROXIMATE WETLAND LIMITS
- EASEMENT LINE



FREEMAN COMPANIES
LEAD DEVELOPMENT | ENGINEERING DESIGN | CONSULTING SERVICES
DBE | DAS | MBE | GNAGSC CERTIFIED
CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
FREEMAN COMPANIES, LLC
36 JOHN STREET
HARTFORD, CT 06106
WWW.FREEMANCO.COM
(860)251-1900
TOLL FREE: (800)604-5141
FAX: (860)251-7151
ELEVATE YOUR EXPECTATIONS

PREPARED FOR
TOWN OF KILLINGLY
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CONNECTICUT 06239

OWNER FOR
TOWN OF KILLINGLY
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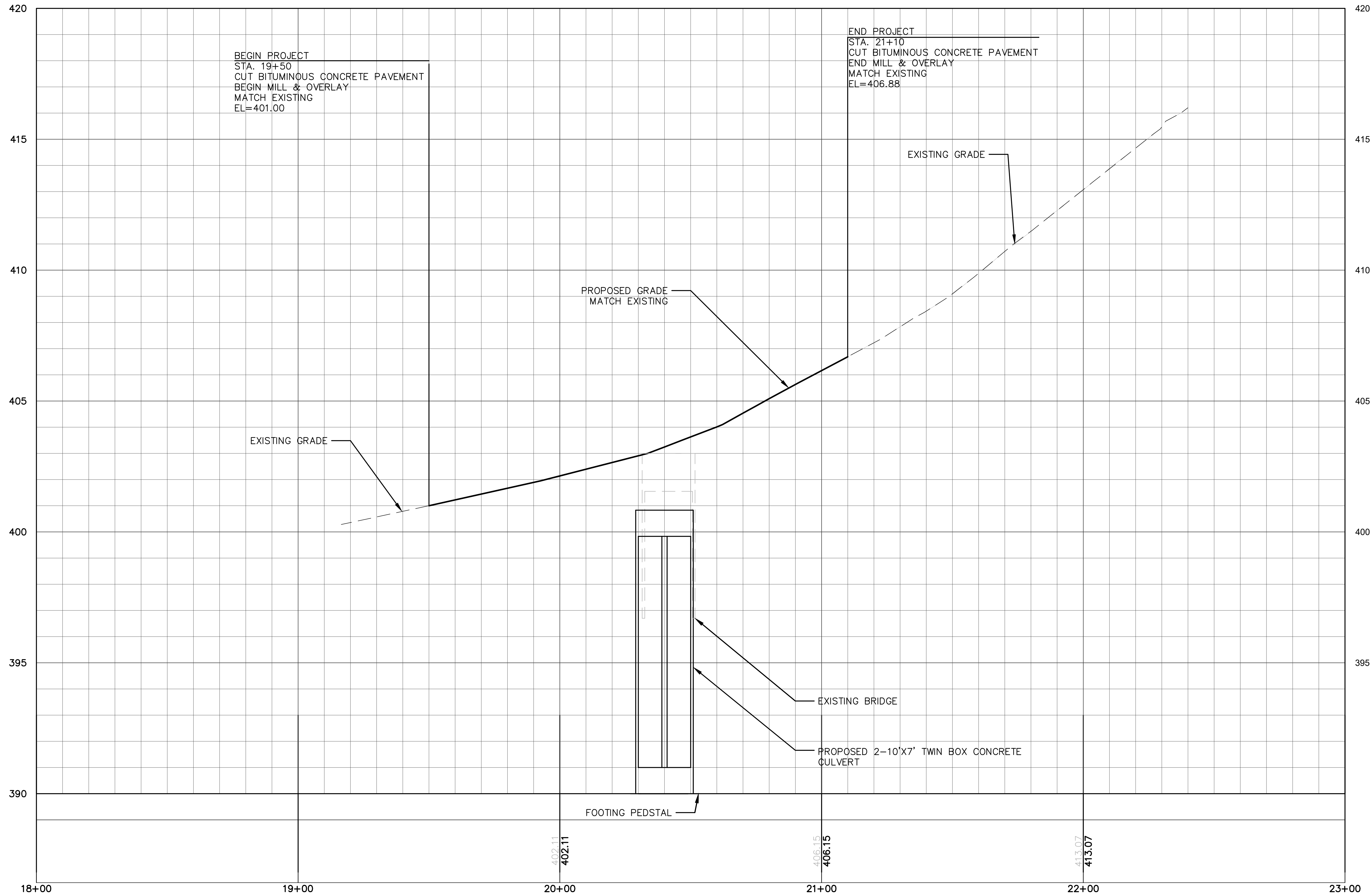
THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF FREEMAN COMPANIES, LLC.

REPLACEMENT OF BRIDGE No. 68-003
VALLEY ROAD OVER WHETSTONE BROOK
KILLINGLY, CONNECTICUT

NO.	DATE	DESCRIPTION
REVISIONS		

DESIGNED: LB	TITLE:
DRAFTED: LB	ROADWAY PLAN
CHECKED: DQ	
APPROVED: PAR	
SCALE: AS NOTED	SHEET NUMBER:
PROJECT NO.: 2017-0507	HWY-2.1
DATE: 10/20/2022	
CAD: HW_MSH_2017_0507_BRG003_HWY	

Freeman Companies, LLC - R: \\2017\\2017-0507 Killingly Bridges\\DWG\\Bridges\\68-003\\Archive\\HW_MSH_2017_0507_BRG003_PRO.dwg Oct 20, 2022--5:35pm Plotted By: LBuchell



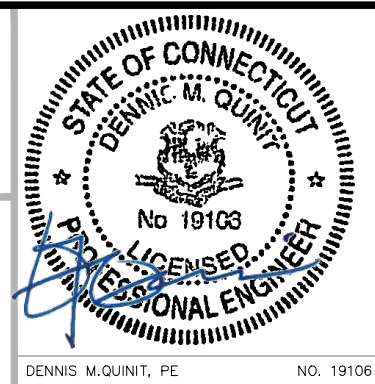
VALLEY ROAD PROFILE
H: 1"=10'
V: 1"=2'

**REPLACEMENT OF BRIDGE No. 68-003
VALLEY ROAD OVER WHETSTONE BROOK
KILLINGLY, CONNECTICUT**

**FREEMAN
COMPANIES**
LAW | DEVELOPMENT | ENGINEERING DESIGN | CONSULTING SERVICES
DBE | DAS | MBE | GNASDC CERTIFIED
CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
FREEMAN COMPANIES, LLC
36 JOHN STREET
HARTFORD, CT 06106
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PREPARED FOR
TOWN OF KILLINGLY
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CONNECTICUT 06239

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CONNECTICUT 06239

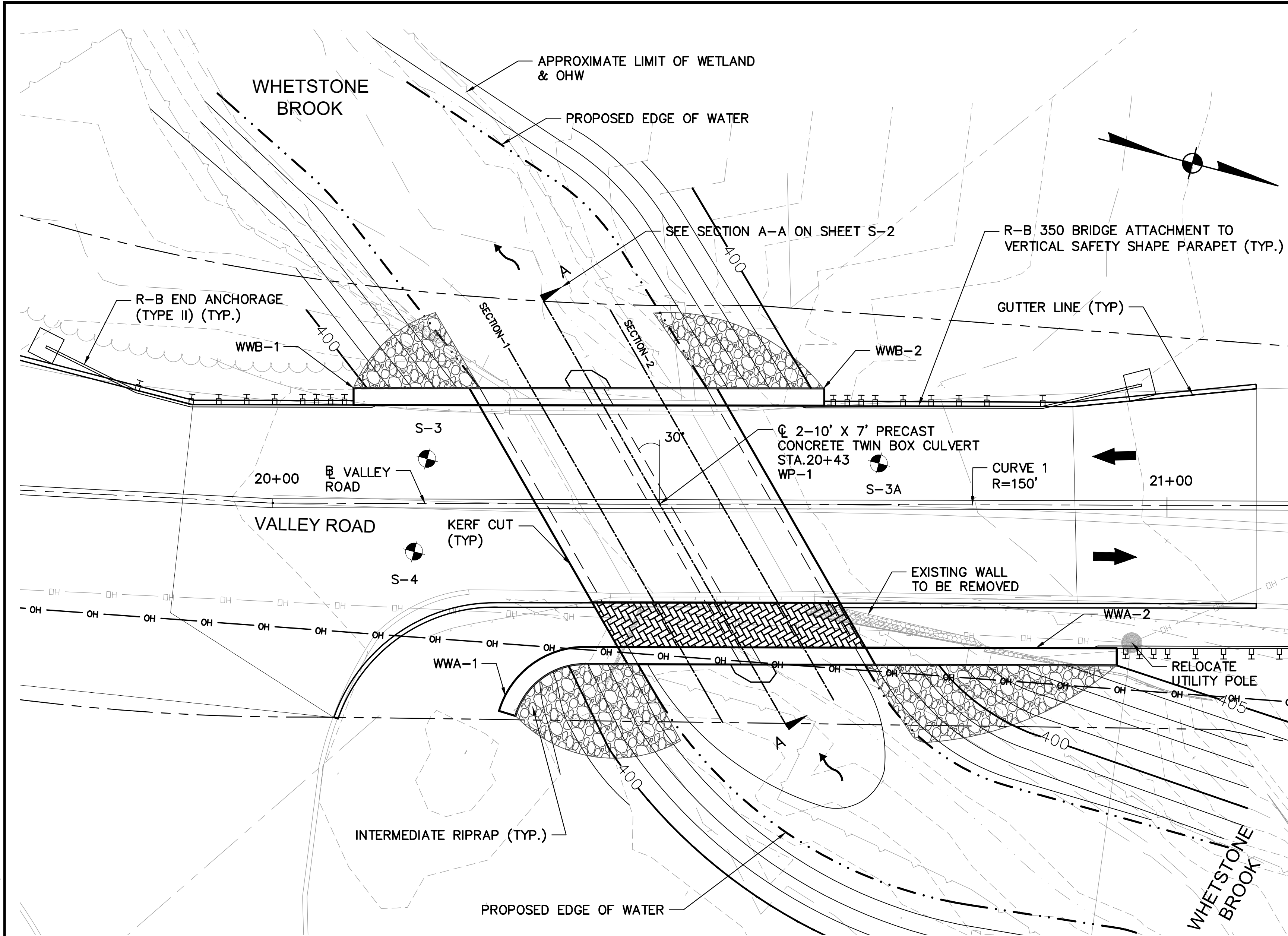


DENNIS M. GURNEY, P.E. NO. 19103

NO.	DATE	DESCRIPTION
REVISIONS		

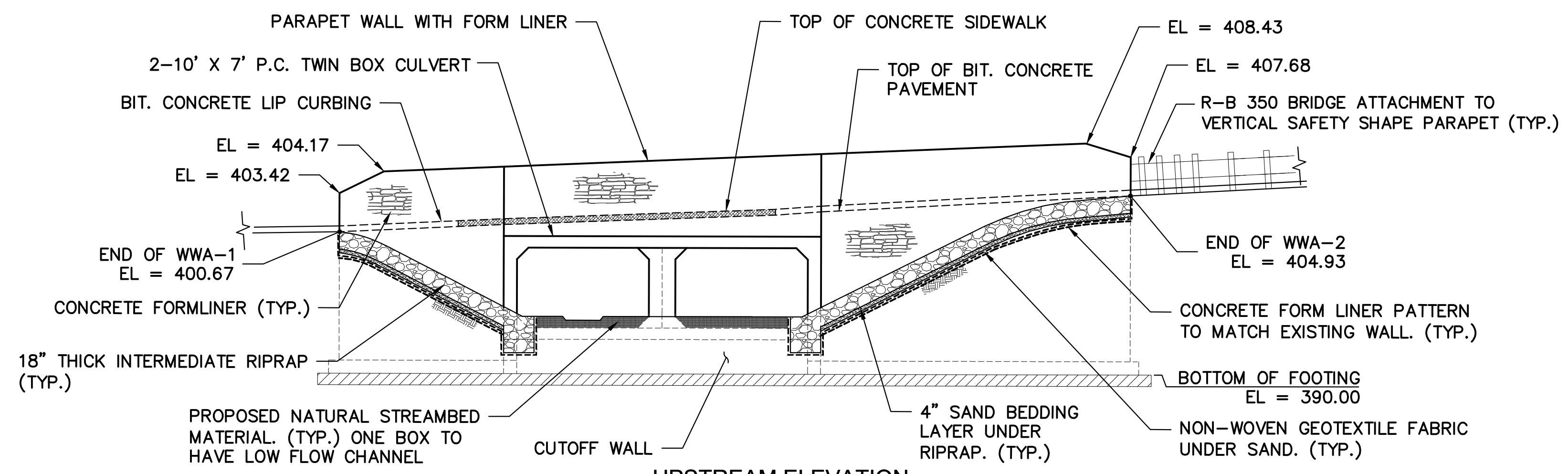
DESIGNED: LB
DRAFTED: LB
CHECKED: DQ
APPROVED: PAR
SCALE: AS NOTED
PROJECT NO.: 2017-0507
DATE: 10/20/2022
CAD: HW_MSH_2017_0507_BRG003_PRO

TITLE:
ROADWAY PROFILE
SHEET NUMBER:
PRO-2.1

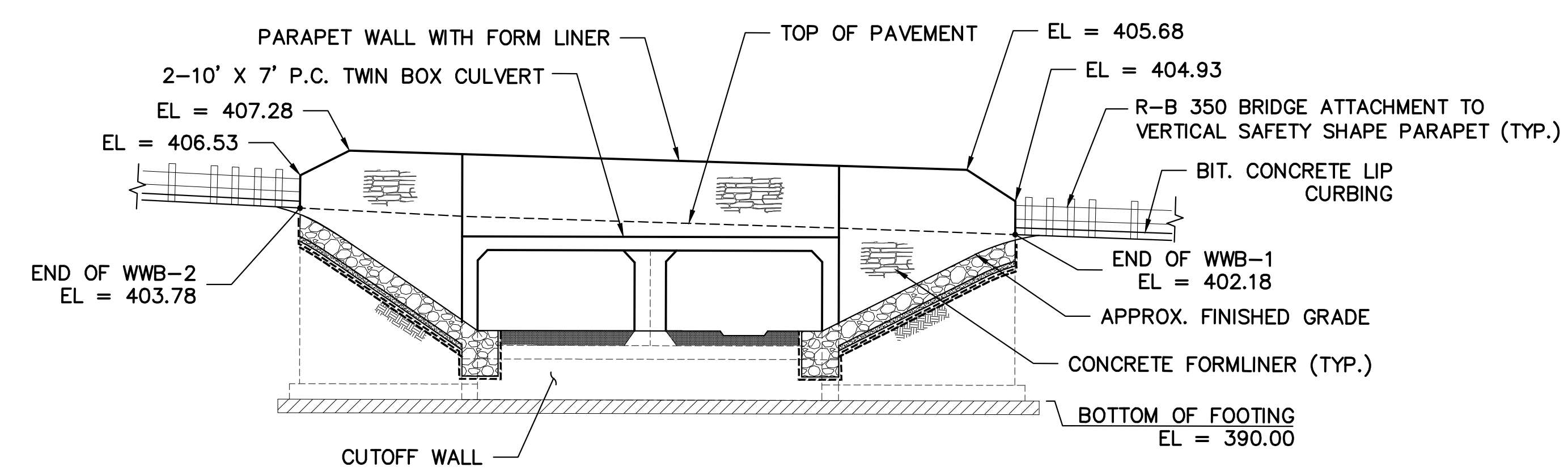


PLAN
SCALE: 1/8" = 1'-0"

BORING LEGEND	
	S-1 APPROXIMATE BORING LOCATION



UPSTREAM ELEVATION
SCALE: 1/8" = 1'-0"



DOWNSTREAM ELEVATION
SCALE: 1/8" = 1'-0"

UTILITY NOTES

1. THIS PROJECT INVOLVES THE PRESENCE OF OVERHEAD UTILITY LINES WITHIN THE LIMITS AND FOOTPRINT OF THE PROJECT. WHILE NO WORK INVOLVING OR IMPACTING THESE UTILITIES ARE ANTICIPATED, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK WITH THE APPROPRIATE UTILITY COMPANY (EVER SOURCE) AND FOR PROVIDING TEMPORARY PROTECTION AND/OR SUPPORT OF THESE FACILITIES IF AND AS REQUIRED BY THE UTILITY COMPANY.
2. THE CONTRACTOR SHALL DEVELOP ITS ERECTION SCHEME IN CONFORMANCE WITH LIMITATIONS AND RESTRICTIONS ASSOCIATED WITH THE OVERHEAD UTILITY LINES AND AS REQUIRED BY THE APPROPRIATE UTILITY COMPANY.
3. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY WITH REGARDS TO POTENTIAL RELOCATION OR TEMPORARY SUPPORT OF THEIR FACILITIES. THE CONTRACTOR SHALL IDENTIFY POTENTIAL UTILITY IMPACTS ASSOCIATED WITH THEIR WORK, IF ANY, PRIOR TO START OF CONSTRUCTION AND NOTIFY THE APPROPRIATE UTILITY COMPANY ACCORDINGLY.
4. THERE IS A 10" ABANDONED WATER MAIN NORTH OF THE BRIDGE THAT HAS NOT BEEN LOCATED BUT CAN BE REMOVED, IF AND NECESSARY, TO FACILITATE CONSTRUCTION OPERATION. CONTRACTOR SHALL COORDINATE WITH CT WATER ACCORDINGLY.

CONCRETE NOTES

CLASS PCC 03340: CLASS PCC 03340 CONCRETE SHALL BE USED FOR THE CUT-OFF WALLS, RETURN WALLS, HEADWALLS AND WINGWALL FOOTINGS.

CLASS PCC 04462: CLASS PCC 04462 CONCRETE SHALL BE USED FOR THE CONCRETE SIDEWALK.

CLASS PCC 05581: CLASS PCC 05581 SHALL BE USED FOR THE PRECAST CONCRETE BOX CULVERT AND PRECAST WINGWALLS.

REINFORCEMENT: ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. ALL REINFORCEMENT IN THE PRECAST CONCRETE BOX CULVERT SHALL BE INCLUDED IN THE COST OF THE ITEM "13' X 8' PRECAST CONCRETE BOX CULVERT." ALL REINFORCEMENT IN THE PRECAST CONCRETE WINGWALLS SHALL BE INCLUDED IN THE COST OF THE ITEM "PRECAST CONCRETE WINGWALLS." ALL REINFORCEMENT IN THE CUT-OFF WALLS, RETURN WALLS AND FOOTINGS SHALL BE INCLUDED IN THE COST OF THE ITEM "DEFORMED STEEL BARS." ALL REINFORCEMENT IN THE HEADWALL SHALL BE GALVANIZED AND INCLUDED IN THE COST OF THE ITEM "DEFORMED STEEL BARS - GALVANIZED."

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1", UNLESS DIMENSIONED OTHERWISE.

CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE 2" COVER UNLESS DIMENSIONED OTHERWISE.

PREFORMED EXPANSION JOINT FILLER: THE COST OF FURNISHING AND INSTALLING PREFORMED EXPANSION JOINT FILLERS SHALL BE INCLUDED IN THE ITEM "1/2" JOINT FILLER FOR BRIDGES".

GENERAL NOTES

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION INCLUDING FORM 818, SUPPLEMENTAL SPECIFICATIONS DATED JANUARY, 2022 AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (9TH EDITION) WITH INTERIM REVISIONS UP TO AND INCLUDING 2020, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003 EDITION), WITH REVISIONS UP TO AND INCLUDING DECEMBER 2019.

ALLOWABLE DESIGN STRESSES:

CLASS "PCC03340" CONCRETE:	f'_c = 3,000 psi
CLASS "PCC04462" CONCRETE:	f'_c = 4,000 psi
CLASS "PCC05581" CONCRETE:	f'_c = 5,000 psi
REINFORCEMENT (ASTM 615 GRADE 60)	f_y = 60,000 psi

THE SPECIFIED CONCRETE STRENGTH USED IN DESIGN, f'_c , OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTION COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 6.01-"CONCRETE FOR STRUCTURES" AND M.03-"PORTLAND CEMENT CONCRETE".

LIVE LOAD:

STANDARD DESIGN VEHICLE:	AASHTO HL93
OPERATING (PERMIT) VEHICLES:	CTDOT P204 (8-AXLE) CTDOT P380 (19-AXLE)

FOUNDATION PRESSURES AND PILE LOADS: THE VARIOUS GROUP LOADINGS NOTED ON THE SUBSTRUCTURE PLAN SHEETS REFER TO THE LIMIT STATES AS PROVIDED FOR IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

DIMENSIONS AND ELEVATIONS: WHEN DECIMAL DIMENSIONS AND ELEVATIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZERO. ALL ELEVATIONS ARE GIVEN IN DECIMAL FEET AND ARE BASED ON NAVD 88.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

UTILITIES: THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES LOCATED WITHIN THE VICINITY OF THE SITE DURING CONSTRUCTION. THE METHOD OF SUPPORTING AND PROTECTING UTILITIES SELECTED BY THE CONTRACTOR MUST BE APPROVED BY THE UTILITY COMPANY. UTILITY MODIFICATIONS SHALL BE MADE BY THE RESPECTIVE UTILITY COMPANIES EXCEPT WHERE NOTED OTHERWISE.

HYDRAULIC DATA	
HYDRAULIC AREA	5.7 SQ MI
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	1180 CFS
AVERAGE DAILY FLOW	10.4 CFS
AVERAGE DAILY FLOW ELEVATION	395.63
UPSTREAM DESIGN WATER SURFACE ELEVATION	402.49
DOWN STREAM DESIGN WATER SURFACE ELEVATION	399.70
2 YEAR DESIGN STORM WATER ELEVATION	397.59

REPLACEMENT OF BRIDGE No. 68-003 VALLEY ROAD OVER WHETSTONE BROOK KILLINGLY, CONNECTICUT

FREEMAN COMPANIES
DBE | DAS | MBE | GNASDC CERTIFIED
CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
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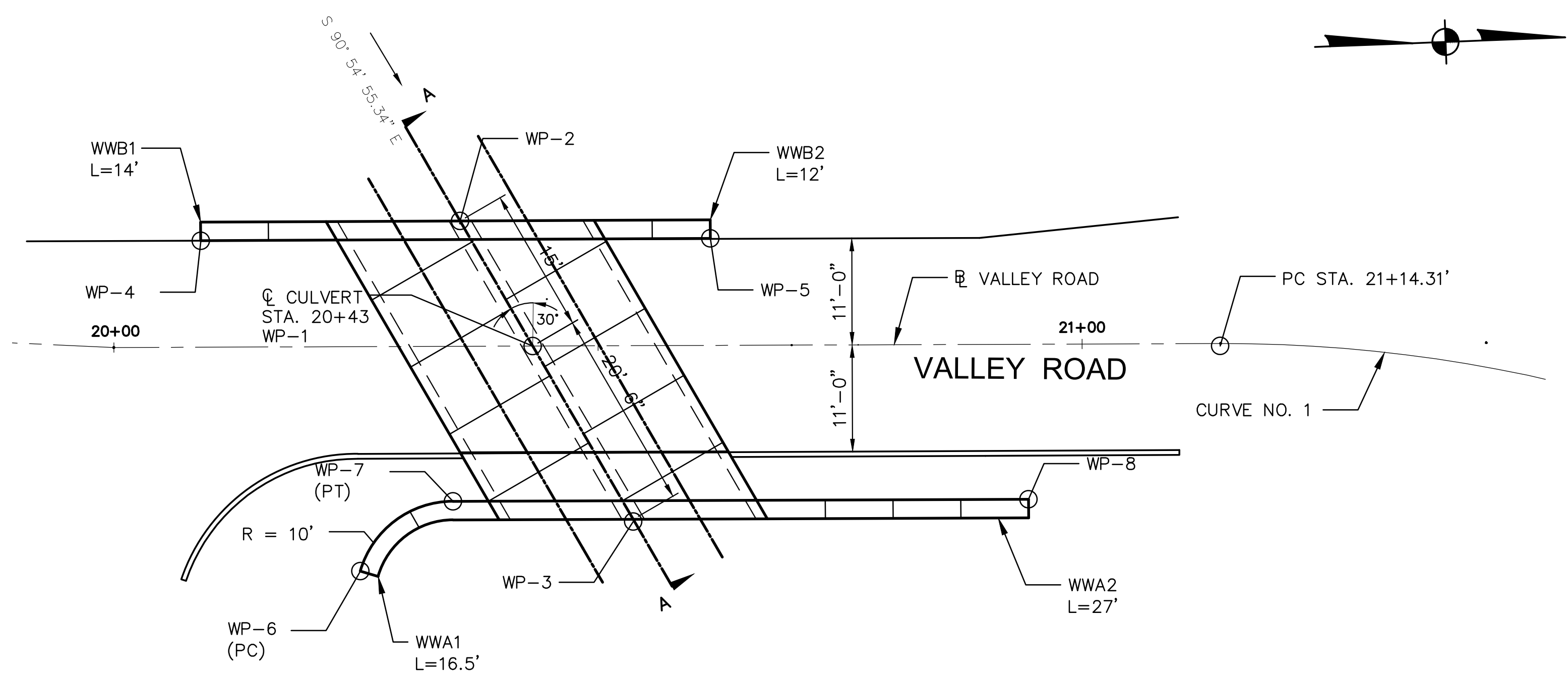
OWNER FOR
TOWN OF KILLINGLY
VALLEY ROAD
KILLINGLY,
CONNECTICUT 06239

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
No. 19106
PROFESSIONAL ENGINEER
DENNIS M. GURNEY, P.E.
NO. 19106

TITLE:
GENERAL PLAN

SHEET NUMBER:
S-2.1

Freeman Companies, LLC - R: \\2017\\2017-0507_Killingly Bridges\\DWG\\BRIDGE 68-003\\Archive\\HW_MSH_2017_0507_BRG003_ALN.dwg Oct 25, 2022--1:35pm Plotted By: LBuchell



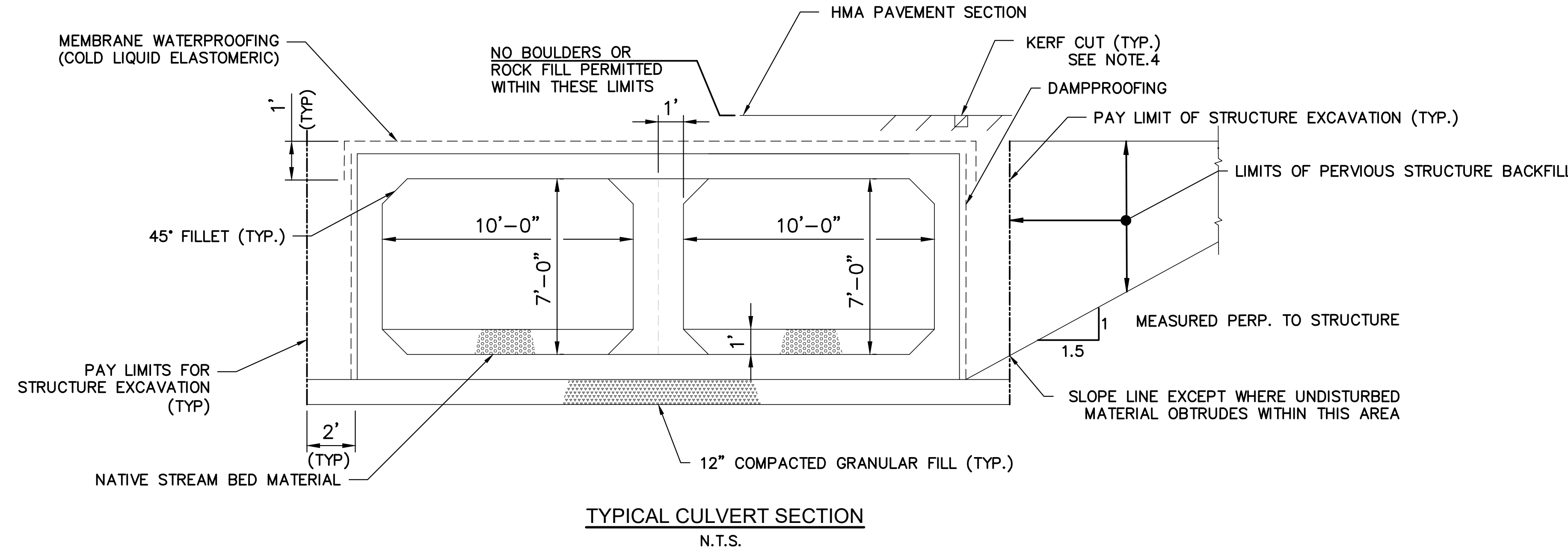
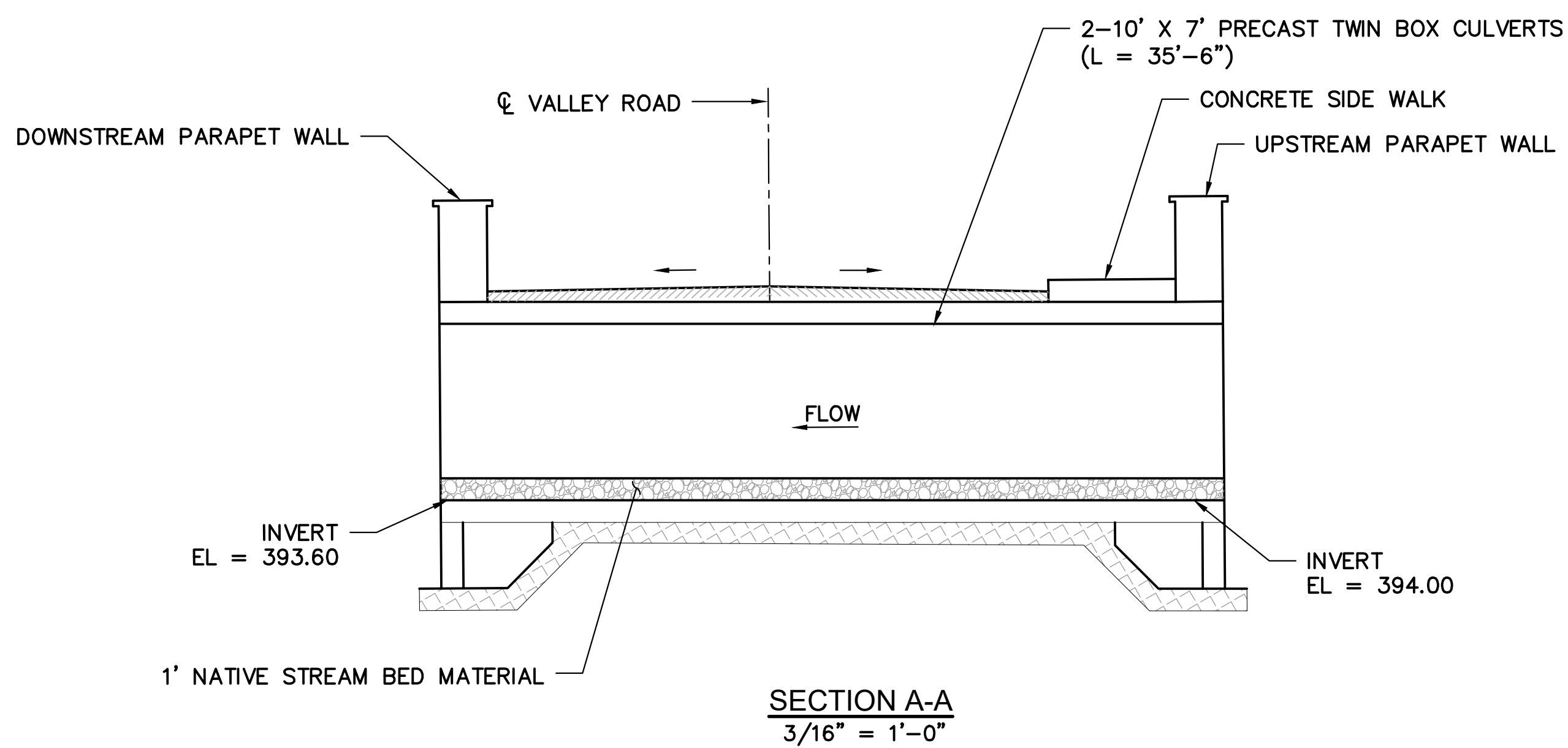
LAYOUT PLAN
SCALE: 1" = 10'-0"

WORKING POINT COORDINATES		
WP	NORTHING	EASTING
WP-1	868379.2226	1250594.5198
WP-2	868370.3781	1250590.4256
WP-3	868395.5243	1250615.5987
WP-4	868344.9940	1250599.2626
WP-5	868395.8103	1250585.5193
WP-6	868377.0778	1250618.5760
WP-7	868369.6815	1250627.9522
WP-8	868434.3781	1250603.1484

- NOTES:
- FOR COMPLETE BASELINE GEOMETRY, SEE SHEET NO. HWY-1.
 - ROADWAY PROFILE TO MATCH EXISTING.
 - FOR WINGWALL SECTION DETAILS SEE SHEET MDS-3.
 - CUT BITUMINOUS OVERLAY WITH $\frac{3}{8}$ " WIDE BY $1\frac{3}{4}$ " DEEP KERF AND FILL WITH POURABLE SEALANT. TO BE PAID FOR UNDER THE ITEM "SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT."

NOTICE TO BRIDGE INSPECTORS	
IT IS RECOMMENDED THAT CTDOT'S BRIDGE SAFETY PROCEDURES BE FOLLOWED WHEN INSPECTING THIS BRIDGE FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING OF COMPONENTS FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE.) THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE MANAGER OF BRIDGE SAFETY AND EVALUATIONS.	
COMPONENT OR DETAIL	STRUCTURE SHEET REFERENCE
NONE	-
	-

TRANSPORTATION DATA				
MEMBER	SHIPPING LENGTH	SHIPPING HEIGHT	SHIPPING WIDTH	SHIPPING WEIGHT
BOX CULVERT SECTION-1	12'-0"	8'-0"	9'-0"	46,500 lbs
BOX CULVERT SECTION-2	12'-0"	9'-0"	9'-0"	34,900 lbs
WINGWALL	13'-0"	7'-0"	9'-0"	37,000 lbs



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TOLL FREE: (800)604-5141
FAX: (860)251-7151
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PREPARED FOR
TOWN OF KILLINGLY
VALLEY ROAD
KILLINGLY,
CONNECTICUT 06239

OWNER FOR
TOWN OF KILLINGLY
VALLEY ROAD
KILLINGLY,
CONNECTICUT 06239

**REPLACEMENT OF BRIDGE No. 68-003
VALLEY ROAD OVER WHETSTONE BROOK
KILLINGLY, CONNECTICUT**

DESIGNED:	LB	TITLE:
DRAFTED:	LB	LAYOUT PLAN
CHECKED:	DQ	
APPROVED:	PAR	
SCALE:	AS NOTED	
PROJECT NO.:	2017-0507	SHEET NUMBER:
DATE:	10/20/2022	S-2.2
CAD:	HW_MSH_2017_0507_BRG003_ALN	

THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF FREEMAN COMPANIES, LLC.

Driller: T. Roe		Connecticut DOT Boring Report				Hole No.: S-3		
Inspector: Thiet Ta		Town: Killingly				Stat./Offset:		
Engineer: A. McCauliffe		Project No.: 2017-0507				Northing: 868354.5125		
Start Date: 8-15-17		Route No.: Valley Road over Whetstone Brook				Easting: 1250602.9059		
Finish Date: 8-15-17		Bridge No.: 68-003				Surface Elevation: 402.72		
Project Description: Valley Road and Bear Hill Road Over Brooks								
Casing Size/Type: 4-in. Casing				Sampler Type/Size: 1-3/8 inch ID			Core Barrel Type:	
Hammer Wt.: 140lb Fall: 30in.				Hammer Wt.: 140lb Fall: 30in.				
Groundwater Observations:								
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches	Pen. (in.)	Rec. (in.)	RDD %			
0						Asphalt	PAVEMENT (6")	
	S-1	19 100/4"	10	2		Base	Gray c-f SAND, little c-f gravel, trace silt, (BASE)	
						Fill	Brown to tan c-f SAND, some c-f gravel, trace silt	
							Large flat boulder at 2.5ft	400
5							END OF BORING 2.5ft	
								395
10								390
								385
20								380
								375
25								
30								
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%								
Total Penetration In		NOTES: Auger refusal on boulder at 2.5 and was offset 3ft north. Boring terminated on a boulder at 2.5ft again so boring was offset 3ft south of the original location. Boring terminated on a boulder at 2ft. Boring was offset to B-3A on opposite side of culvert						Sheet 1 of 1
Earth: 2.5ft Rock: ft								
No. of Soil Samples: 1 No. of Core Runs: 0								SM-001-W REV. 1/02

BORING S-3
N.T.S

Driller: T. Roe		Connecticut DOT Boring Report				Hole No.: S-3A			
Inspector: Thiet Ta		Town: Killingly				Stat./Offset:			
Engineer: A. McCauliffe		Project No.: 2017-0507				Northing: 868403.3931			
Start Date: 8-15-17		Route No.: Valley Road over Whetstone Brook				Easting: 1250590.1517			
Finish Date: 8-16-17		Bridge No.: 68-003				Surface Elevation: 404.68			
Project Description: Valley Road and Bear Hill Road Over Brooks									
Casing Size/Type: 4-in. Casing				Sampler Type/Size: 1-3/8 inch ID			Core Barrel Type: NX		
Hammer Wt.: 140lb Fall: 30in.				Hammer Wt.: 140lb Fall: 30in.					
Groundwater Observations: Ø8.5 ATD									
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)	
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)
0						Asphalt Base Fill	PAVEMENT (6") Brown c-f SAND, little c-f gravel, trace silt, (BASE)		
5	S-1	7	6	4	5	24	10	Brown to tan c-f SAND, little m-f gravel, trace silt	400
	S-2	4	9	4	9	24	12	Brown c-f SAND, little c-f gravel, little silt	
	S-3	12	11	9	8	24	16	Gray c-f SAND, little c-f gravel, trace silt	
10	S-4	100/2"				2	0	Gray c-f SAND, little m-f gravel, trace silt No Recovery ; gray c-f SAND, some gravel from wash cuttings	395
15	S-5	22 100/2"				8	6	Frequent cobbles and boulders while augering to 15ft Brown c-f GRAVEL and c-f SAND, little silt	390
20	S-6	26 17 100/5"				17	12	Frequent cobbles and boulders while augering to 20ft Brown to gray c-f SAND, little c-f gravel, trace silt	385
25								Weathered Rock	
								Bedrock	
30	C-1					60	60	Gray GNEISS, thinly bedded, highly fractured, medium strong, with quartz	380

BORING S-3A
N.T.S

Driller: T. Roe		Connecticut DOT Boring Report				Hole No.: S-4				
Inspector: Thiet Ta		Town: Killingly				Stat./Offset:				
Engineer: A. McCauliffe		Project No.: 2017-0507				Northing: 868355.8274				
Start Date: 8-16-17		Route No.: Valley Road over Wheelstone Brook				Easting: 1205613.3111				
Finish Date: 8-16-17		Bridge No.: 68-003				Surface Elevation: 402.45				
Project Description: Valley Road and Bear Hill Road Over Brooks										
Casing Size/Type: 4-in. Casing				Sampler Type/Size: 1-3/8 inch ID			Core Barrel Type: NX			
Hammer Wt.: 140lb Fall: 30in.				Hammer Wt.: 140lb Fall: 30in.						
Groundwater Observations: Ø8.5 ATD										
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)		
	Sample Type/No.	Blows on Sampler per 6 inches							Pen. (in.)	Rec. (in.)
0							Asphalt Base	PAVEMENT (6") Brown c-f SAND, little c-f gravel, little silt (BASE) Brown to orange c-f SAND, some c-f gravel, trace silt Encountered boulder @ 3ft	400	
	S-1	19	20	18	16	24	4			Fill
	S-2	7	7	5		18	4		Gray c-f SAND, little c-f gravel, trace silt	
5	S-3	6	8	5	2	24	10		Brown to dark brown c-f SAND, some m-f gravel	
	S-4	25	7	4	4	24	12		Brown f-m SAND, little c-f gravel, trace silt	395
									Brown f SAND and SILT	
10	S-5	24 100/4"				10	6	Alluvium	Grinding of augers , harder drilling Brown c-f SAND, little c-f gravel, little silt	390
15	S-6	34	44	77	65	24	8		Gray c-f SAND, some c-f gravel, little silt	385
20								Weathered Bedrock	WEATHERED BEDROCK (steady grinding drill rate)	
25									END OF BORING 21ft	380
30										375

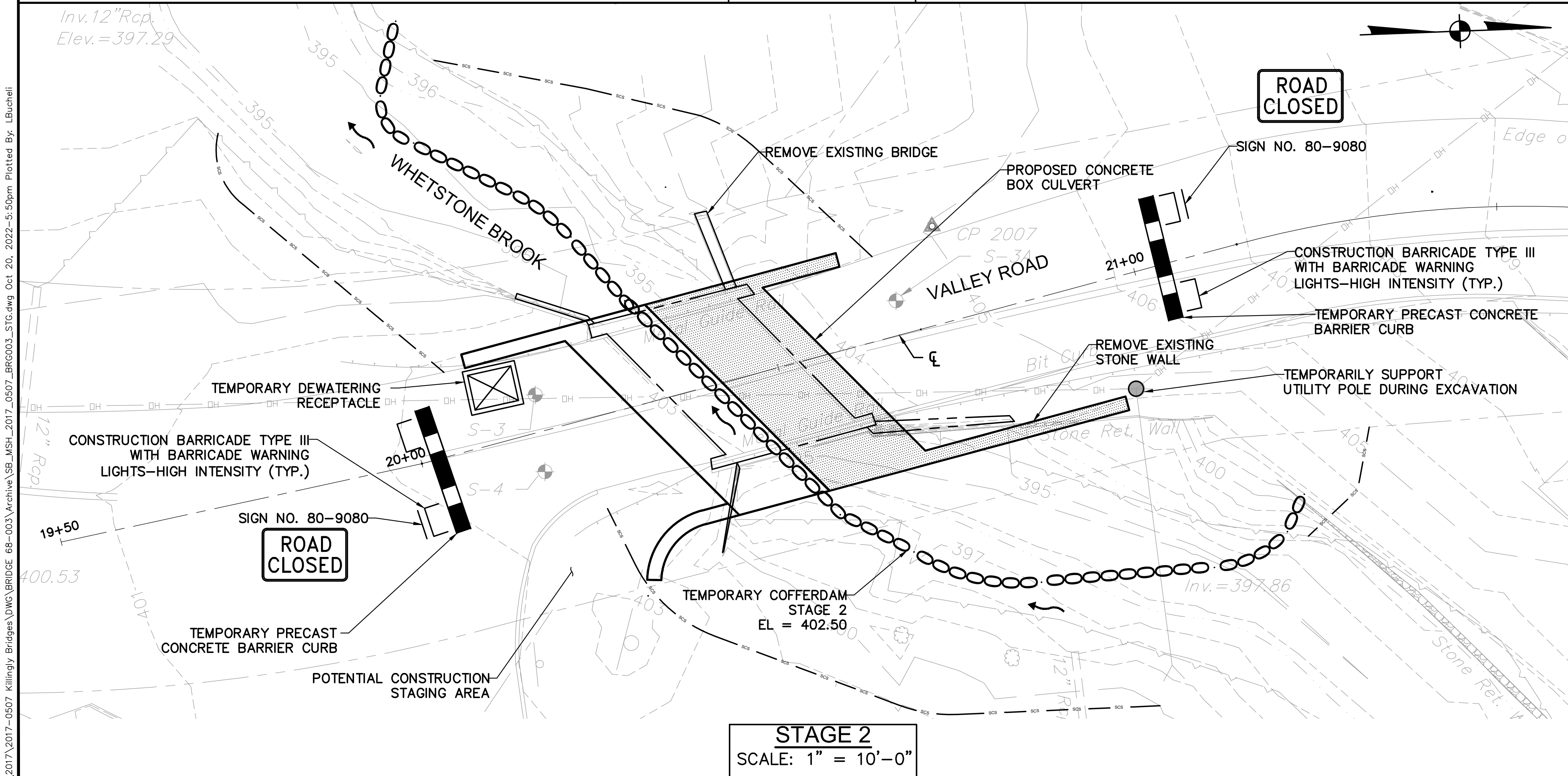
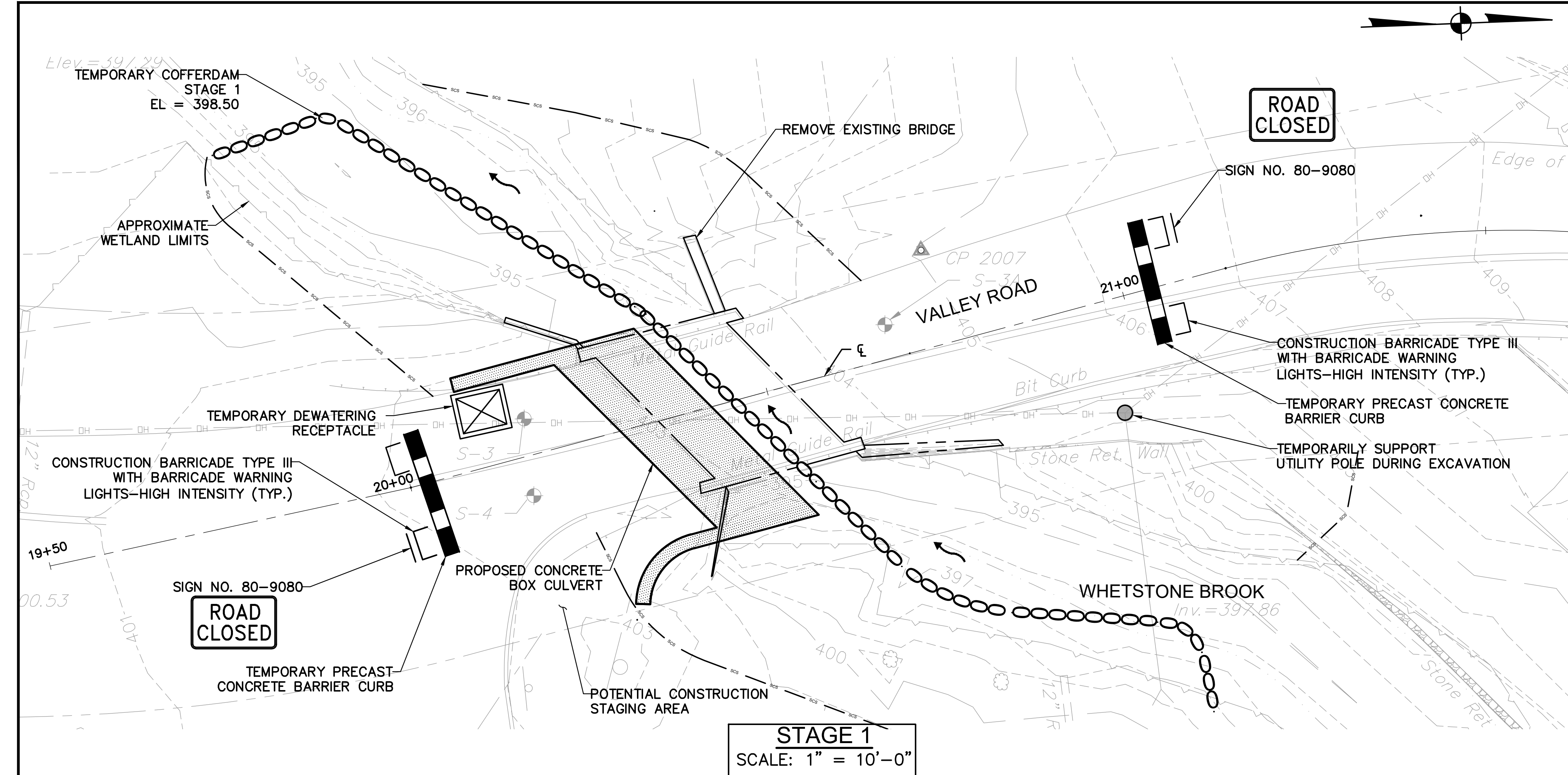
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test

Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%

Total Penetration in		NOTES:	Sheet 1 of 1
Earth: 10.8ft	Rock: ft		
No. of Soil Samples: 6	No. of Core Runs: 0		

SM-001-M REV. 1/02

BORING S-4
N.T.S



VALLEY ROAD OVER WHETSTONE WATER HANDLING PLAN

GENERAL NOTES

1. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A DETAILED PLAN AND NARRATIVE DESCRIBING ITS PROPOSED CONSTRUCTION SEQUENCE INCLUDING DETAILED INFORMATION RELATING TO THE WATER HANDLING.
2. BEST MANAGEMENT PRACTICES (BMP) SHALL BE UTILIZED AS APPROPRIATE AND SHALL BE CONSISTENT WITH THE CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL.
3. CONSTRUCTION ACTIVITIES SHALL CONFORM TO SECTION 1.10, ENVIRONMENTAL COMPLIANCE OF THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION, FORM 817.
4. DE WATERING, IF AND AS NEEDED, SHALL UTILIZE BMP'S AS APPLICABLE AND AS APPROVED AND ACCEPTABLE BY THE ENGINEER AND THE TOWN OF KILLINGLY.
5. BASE STREAM FLOWS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. PROVISIONS TO ALLOW SAFE PASSAGE OF A 2-YEAR STORM EVENT SHALL ALSO BE IMPLEMENTED AS REQUIRED.
6. MATERIAL EXCAVATED FROM THE RIVERBED SHALL BE STOCKPILED AND USED AS BACKFILL MATERIAL DURING RESTORATION OF THE RIVERBED.
7. THE CONTRACTOR MAY PUMP THE BASE FLOW OF THE EXISTING WATERCOURSE AS DEPICTED ON THE PLANS OR INSTALL A GRAVITY FED BYPASS PIPE TO CONVEY FLOW.
8. THE CONTRACTOR IS REQUIRED TO SUBMIT A PLAN AND EQUIPMENT SPECIFICATIONS FOR THE PUMP OR BYPASS PIPE FOR APPROVAL BY THE ENGINEER.
9. REGARDLESS OF WATER HANDLING METHOD UTILIZED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND PROVIDING SAFE PASSAGE OF FLOW AT ALL TIMES INCLUDING INCLEMENT WEATHER.
10. DETOUR PLAN MUST BE ESTABLISHED BY THE TOWN.
11. ALL MATERIAL EQUIPMENT AND PROCEDURES SHALL BE PRE APPROVED BY THE ENGINEER AND THE TOWN.
12. REMOVAL OF EXISTING WALL SHALL BE PAID FOR UNDER THE PAY ITEM "REMOVAL OF EXISTING MASONRY".

SUGGESTED SEQUENCE OF CONSTRUCTION

PRE-CONSTRUCTION STAGE

1. CONTACT "CALL-BEFORE-YOU-DIG" AND PERFORM UTILITY MARK-OUTS IF AND AS NECESSARY.
2. CLOSE VALLEY ROAD, INSTALL CONSTRUCTION BARRICADES, AND DETOUR TRAFFIC OVER LOCAL STREETS.
3. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES AS REQUIRED.

SUGGESTED SEQUENCE OF OPERATION:

PRE-CONSTRUCTION STAGE

1. CONTACT "CALL-BEFORE-YOU-DIG" AND PERFORM UTILITY MARK-OUTS IF AND AS NECESSARY..
2. CLOSE VALLEY ROAD, INSTALL CONSTRUCTION BARRICADES, AND DETOUR TRAFFIC OVER LOCAL STREETS.
3. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES AS REQUIRED.

STAGE 1

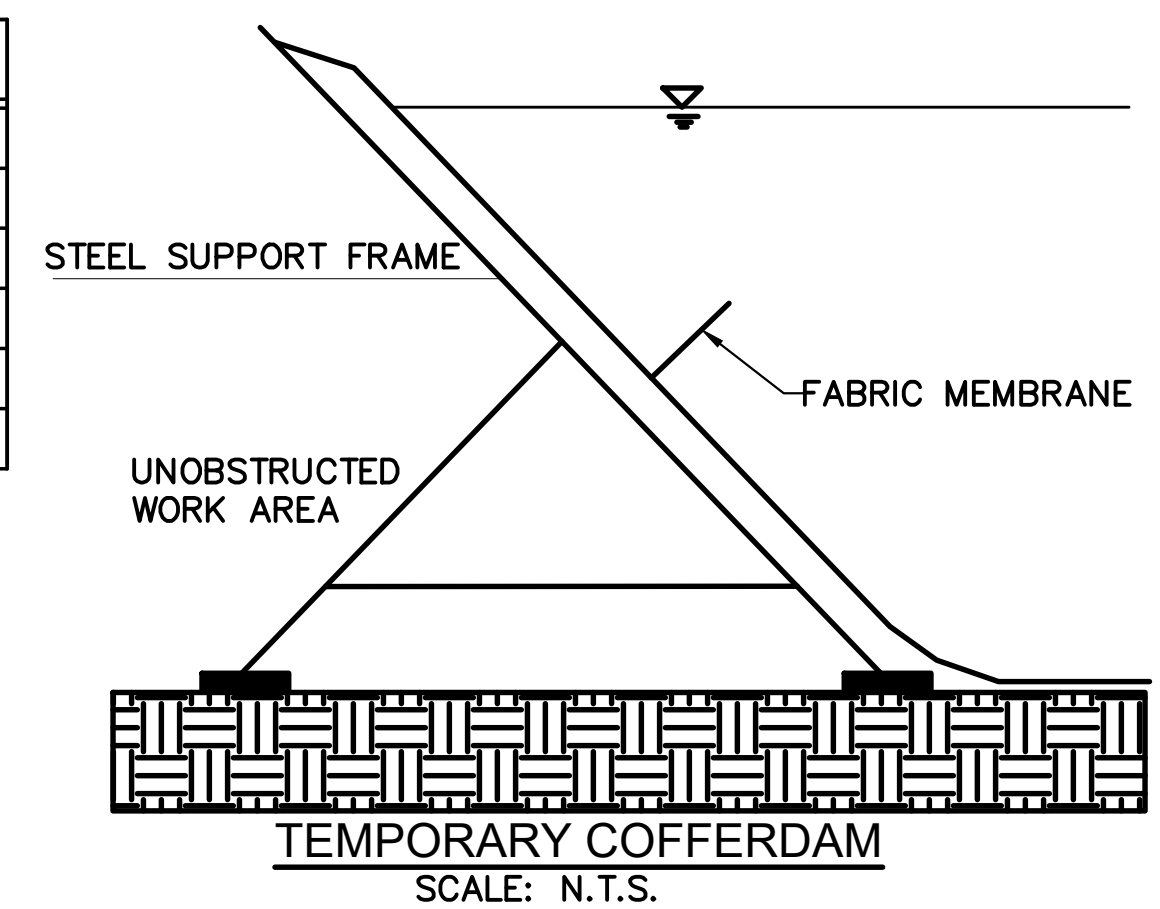
1. INSTALL DEBRIS SHIELD AND REMOVE EXISTING BRIDGE DECK / SUPERSTRUCTURE.
2. INSTALL TEMPORARY COFFERDAM AND INSTALL TEMPORARY DEWATERING RECEPTACLE WHERE SHOWN ON THE PLANS.
3. INSTALL SUMP PUMP AND DEWATER AS NECESSARY TO ESTABLISH A DRY WORK AREA. EXCAVATE AND REMOVE EXISTING ABUTMENT 1.
4. PREPARE SUBGRADE FOUNDATION BENEATH CULVERT AND CONSTRUCT CUT-OFF WALLS AND RETURN WALLS.
5. PLACE GRANULAR FILL AND INSTALL CONCRETE BOX CULVERT.
6. CONSTRUCT WINGWALL FOOTINGS AND INSTALL PRECAST CONCRETE WINGWALLS.
7. PLACE NATURAL STREAMBED MATERIAL INSIDE BOX CULVERT AND INSTALL RIPRAP ON THE TOE OF SLOPE.
8. PLACE PERVIOUS BACKFILL BEHIND CULVERT WALL AND GRADE AROUND THE STRUCTURE AS SHOWN ON THE PLANS.

STAGE 2

1. INSTALL STAGE 2 TEMPORARY COFFERDAM AS SHOWN ON THE PLANS AND INSTALL TEMPORARY DEWATERING RECEPTACLE WHERE SHOWN.
2. DIVERT STREAM FLOW INTO NEW BOX CULVERT.
3. INSTALL SUMP PUMP AND DEWATER AS NECESSARY TO ESTABLISH A DRY WORK AREA. EXCAVATE AND REMOVE EXISTING ABUTMENT 2.
4. PREPARE SUBGRADE FOUNDATION AND CONSTRUCT CUT-OFF WALLS AND RETURN WALLS.
5. PLACE GRANULAR FILL AND INSTALL CONCRETE BOX CULVERT.
6. CONSTRUCT CONCRETE NOSING AND CONSTRUCT WINGWALL FOOTINGS. INSTALL PRECAST CONCRETE WINGWALLS.
7. PLACE NATURAL STREAMBED MATERIAL INSIDE BOX CULVERT AND COMPLETE INSTALLATION OF RIPRAP AT THE TOE OF SLOPE.
8. PLACE REQUIRED GRADING AROUND THE STRUCTURE AS SHOWN ON THE PLANS.
9. INSTALL MEMBRANE WATERPROOFING AS SHOWN ON THE PLANS.
10. PLACE PERVIOUS BACKFILL BEHIND CULVERT WALL AND COMPLETE GRADING AROUND THE NEW BRIDGE AS SHOWN ON THE PLANS.
11. REMOVE TEMPORARY COFFERDAM AND COMPLETE INSTALLATION OF RIPRAP TO LIMITS SHOWN.
12. PLACE REMAINING REQUIRED BACKFILL OVER THE CULVERT AND CONSTRUCT ROADWAY APPROACHES AND OTHER ROADWAY ITEMS TO LIMITS SHOWN.
13. REPAVE VALLEY ROAD AND RE-ESTABLISH TURF.
14. REMOVE SEDIMENTATION AND EROSION CONTROL MEASURES.
15. PERFORM SITE RESTORATION, SITE CLEAN-UP, REMOVE CONSTRUCTION BARRICADES, AND OPEN ROAD TO TRAFFIC.

TEMPORARY HYDRAULIC DATA	
TEMPORARY DESIGN FREQUENCY	2-YEAR
TEMPORARY DESIGN DISCHARGE	241 CFS
AVERAGE DAILY FLOW	10.4 CFS
AVERAGE DAILY FLOW ELEVATION	398.58 FT
TEMPORARY WSEL UPSTREAM	401.95 FT
TEMPORARY WSEL DOWNSTREAM	397.92 FT

LEGEND	
	- PROPOSED CULVERT
	- SEDIMENTATION CONTROL SYSTEM
	- TEMPORARY COFFERDAM



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KILLINGLY,
CONNECTICUT 06239

OWNER FOR

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VALLEY ROAD
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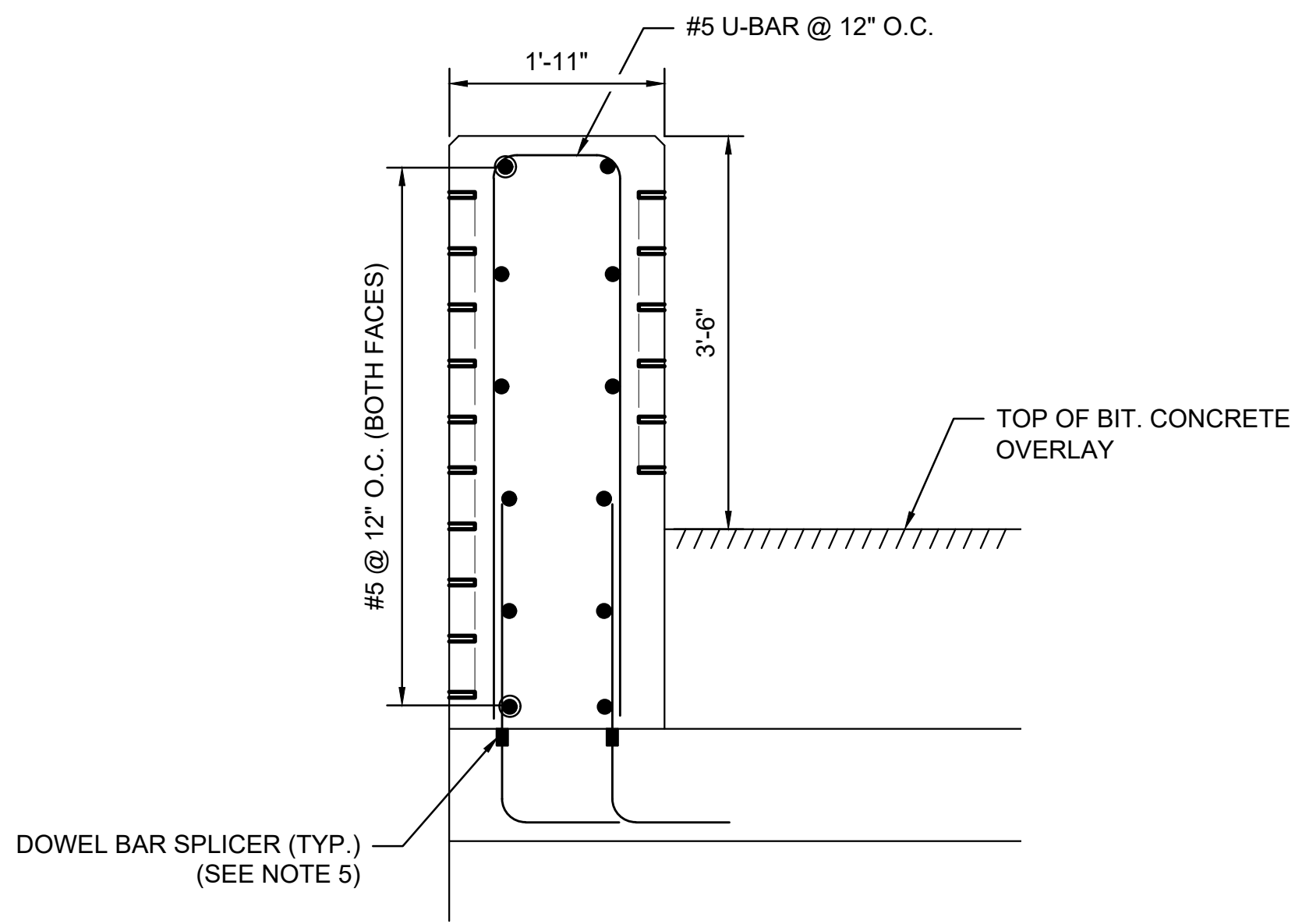
DENNIS M. GURNEY, PE
NO. 19103

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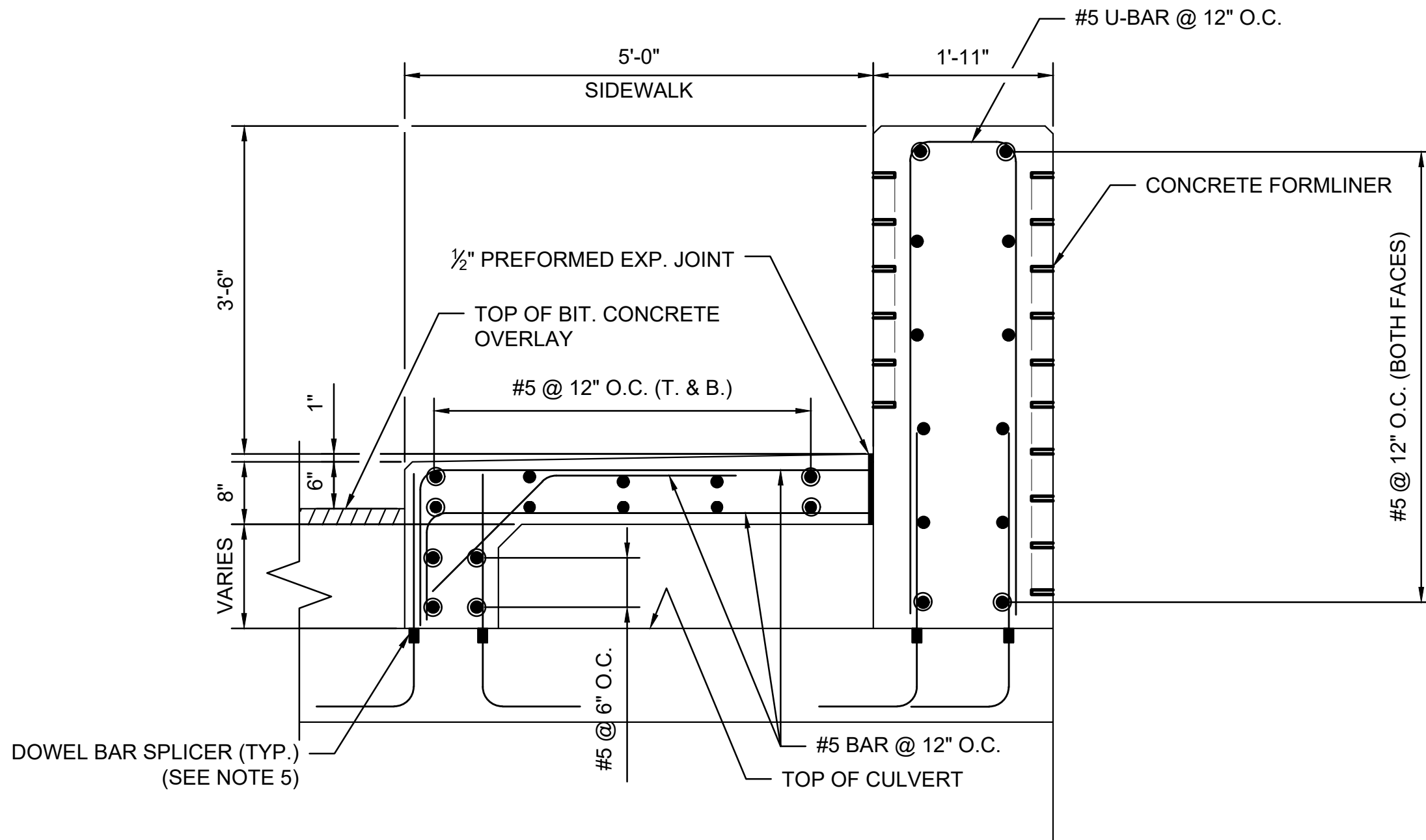
REPLACEMENT OF BRIDGE No. 68-003 VALLEY ROAD OVER WHETSTONE BROOK KILLINGLY, CONNECTICUT

DESIGNED: LB	TITLE: WATER HANDLING PLAN
DRAFTED: LB	SHEET NUMBER: S-2.4
CHECKED: DQ	
APPROVED: PAR	
SCALE: AS NOTED	
PROJECT NO.: 2017-0507	
DATE: 10/20/2022	
CAD: SB_MSH_2017_0507_BRG003_STG	
NO. DATE DESCRIPTION	REVISIONS

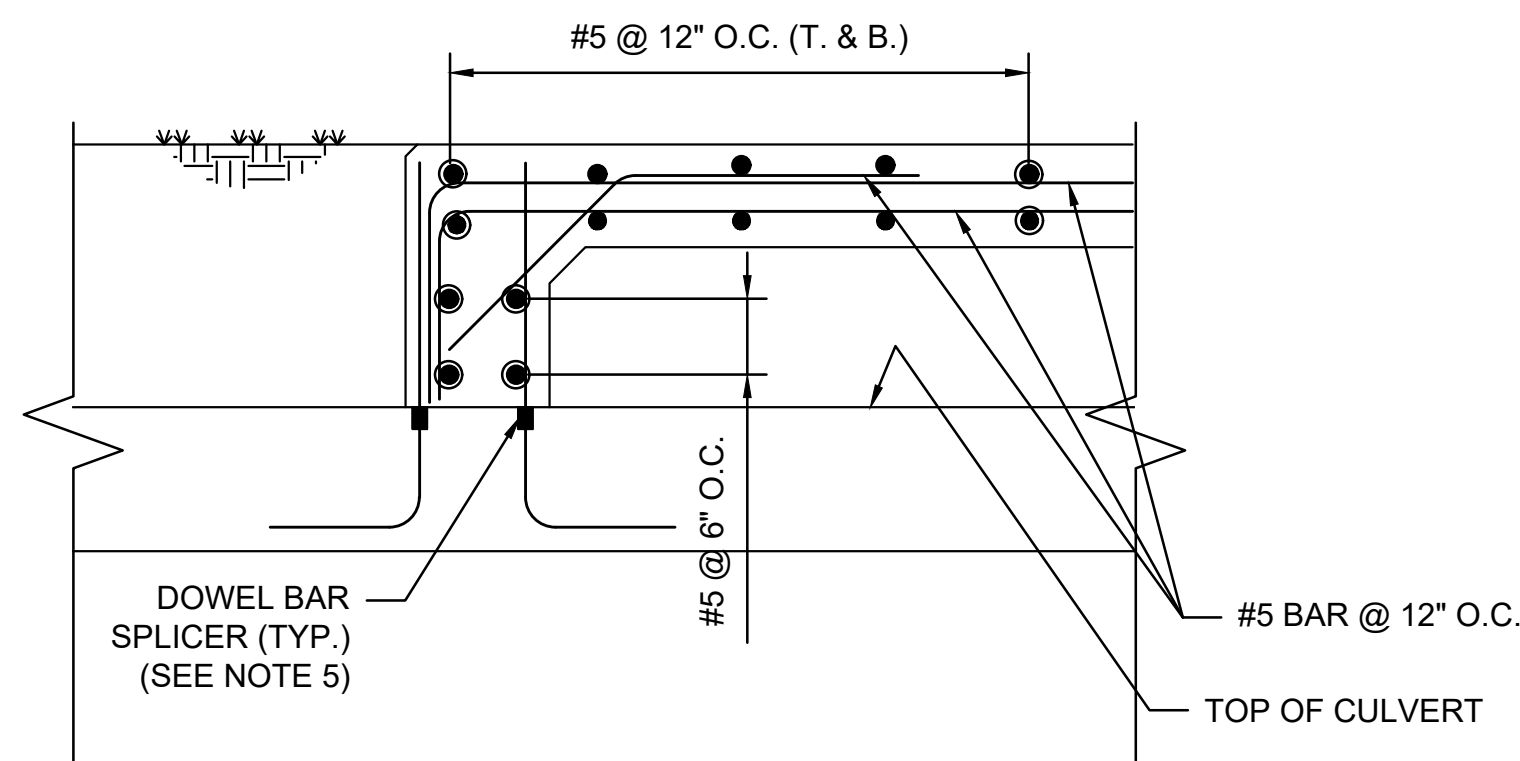
Freeman Companies, LLC - R: 2017\2017-0507 Killingly Bridges\DWG\BRIDGE 68-003\Archive\HW_MSH_2017_0507_BRG003_S-5.dwg Nov. 07, 2022-2:44pm Plotted By: LBuchell



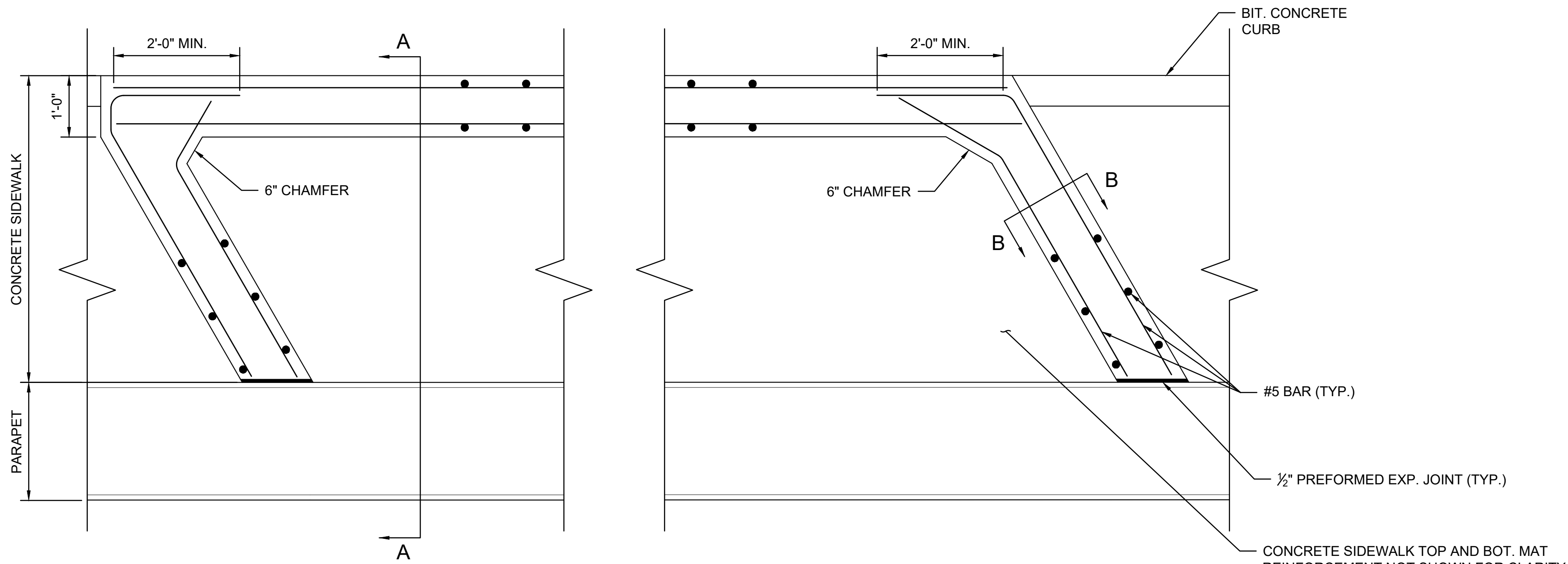
NORTH PARAPET REINFORCEMENT SECTION DETAIL
SCALE: 3/4" = 1'-0"



SOUTH PARAPET REINFORCEMENT - SECTION A
SCALE: 3/4" = 1'-0"



CONCRETE SIDEWALK - SECTION B
SCALE: 3/4" = 1'-0"

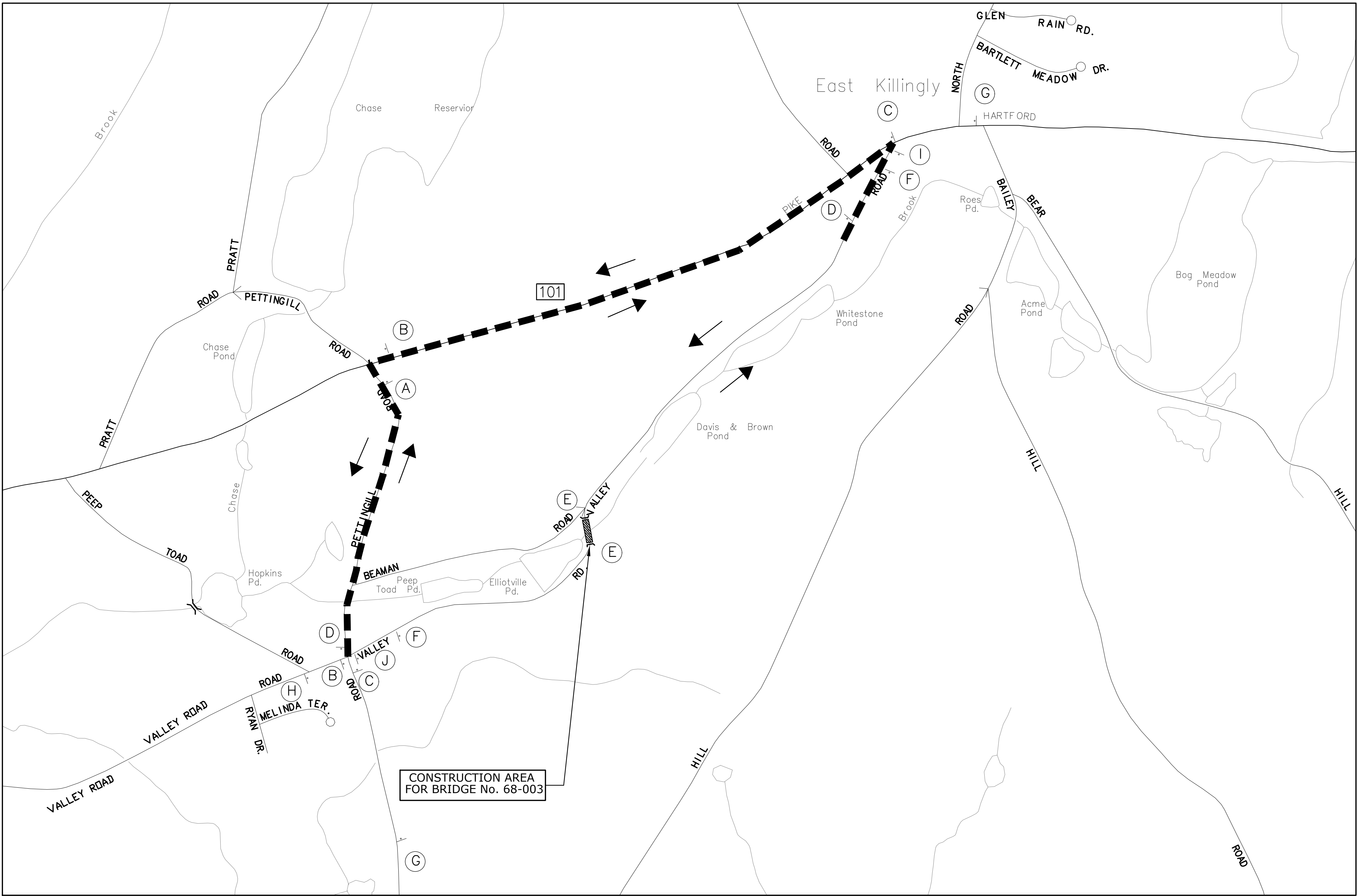


CONCRETE SIDEWALK REINFORCEMENT PLAN
SCALE: 3/4" = 1'-0"

NOTES:

1. CLASS PCC 04462 CONCRETE SHALL BE USED FOR THE CONCRETE SIDEWALK.
2. CLASS PCC 03340 CONCRETE SHALL BE USED FOR THE PARAPET HEADWALLS.
3. MINIMUM COVER FOR ALL REINFORCEMENT SHALL BE 2", UNLESS DIMENSIONED OTHERWISE.
4. MINIMUM BAR SPLICE LENGTH SHALL BE 2'-0", UNLESS DIMENSIONED OTHERWISE.
5. THE COST OF FURNISHING AND INSTALLING INSERTS SHALL BE INCLUDED IN THE COST OF THE ITEM "10' X 7' PRECAST CONCRETE BOX CULVERT"

Freeman Companies, LLC - R: 12017\2017-0507_Killingly Bridges\DWG\BRIDGE 68-003\Archive\HW_MSH_2017_0507_BRG003_DTR.dwg Nov. 07, 2022--3:04pm Plotted By: LBuchtel



DETOUR PLAN
SCALE: 1" = 500'

LEGEND

- DIRECTION OF TRAVEL
- DETOUR ROUTE

SIGNING STANDARD CONVENTIONS:

—	SINGLE POST MOUNTING	REGULATORY, WARNING, OR GUIDE SIGN INSTALLATION
==	DOUBLE POST MOUNTING	
⊥	SPAN WIRE MOUNTING	
<div>000 00—0000</div>	<div>LOCATION NO. SIGN NO.</div>	

GENERAL NOTES

1. PLAN TO BE IN EFFECT ONLY WHEN ACTIVELY WORKING ON BRIDGE No. 68-003. SEE SECTION 1.08 PROSECUTION AND PROGRESS FOR OTHER TIME RESTRICTION.
2. ALL CONFLICTING SIGNS SHALL BE COVERED OR REMOVED WHEN THE DETOUR IS IN EFFECT. UPON COMPLETION OF THE DETOUR, ALL SIGNS SHALL BE UNCOVERED OR REINSTALLED IN THEIR ORIGINAL LOCATIONS. THIS WORK IS PAYABLE UNDER ITEM NO. 0971001A-MAINTENANCE AND PROTECTION OF TRAFFIC.
3. ALL SIGNS USED FOR DETOUR ACTIVITIES SHALL BE PAID FOR UNDER ITEM NO. 0971001A-MAINTENANCE AND PROTECTION OF TRAFFIC.
4. CONTRACTOR TO NOTIFY THE TOWN OF KILLINGLY EMERGENCY SERVICES AT LEAST TWO WEEKS PRIOR TO THE ROAD CLOSURE.
5. SIGN LOCATIONS ARE TO BE VERIFIED BY THE ENGINEER. DETOUR SIGNS ARE TO BE INSTALLED SO THAT THEY DO NOT BLOCK OR ARE NOT BLOCKED BY EXISTING SIGNS.

SIGNING LEGEND

A	DETOUR VALLEY ROAD DETOUR →	80-9707 80-9913 80-9710 (R)	E*	ROAD CLOSED	80-9080
B	DETOUR VALLEY ROAD DETOUR ←	80-9707 80-9913 80-9710 (L)	F*	ROAD CLOSED TO THRU TRAFFIC	80-9081
C	DETOUR VALLEY ROAD DETOUR ↑	80-9707 80-9913 80-9710 (ST)	G	CONSTRUCTION AHEAD	80-1613
D	END DETOUR	80-9704	H	VALLEY ROAD CONSTRUCTION AHEAD	80-9913 80-1613
I			J	BRIDGE CLOSED 0.7 MILES AHEAD LOCAL TRAFFIC ONLY	80-9078
J			K	BRIDGE CLOSED 0.4 MILES AHEAD LOCAL TRAFFIC ONLY	80-9078

* SIGN TO BE MOUNTED ON CONSTRUCTION BARRICADE

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OWNER FOR

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DENNIS M. GURNEY, P.E. NO. 19103

**REPLACEMENT OF BRIDGE No. 68-003
VALLEY ROAD OVER WHETSTONE BROOK
KILLINGLY, CONNECTICUT**

DESIGNED:	LB
DRAFTED:	LB
CHECKED:	DQ
APPROVED:	PAR
SCALE:	AS NOTED
PROJECT NO.:	2017-0507
DATE:	10/20/2022
CAD:	HW_MSH_2017_0507_BRG003_DTR

TITLE:

DETOUR PLAN

SHEET NUMBER:

DTR-2.1

Freeman Companies, LLC - R:\2017\2017-0507 Killingly Bridges\DWG\HW_MSH_2017_0507_INX.dwg Oct 20, 2022 6:20pm Plotted By: LBuchel

SUBSET - 03 BRIDGE NO. 68-009 (SITE NO.3)	
INDEX OF DRAWINGS	
DRAWING NUMBER	DRAWING TITLE
EX-3.1	TOPOGRAPHIC SURVEY
TYP-3.1	TYPICAL SECTION
HWY-3.1	ROADWAY PLAN
PRO-3.1	ROADWAY PROFILE
S-3.1	GENERAL PLAN
S-3.2	LAYOUT PLAN
S-3.3	BORING LOGS
S-3.4	WATER HANDLING PLAN
DTR-3.1	DETOUR PLAN

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CONNECTICUT 06239

DENNIS M. GURNEY, P.E. NO. 19103

REPLACEMENT OF KILLINGLY BRIDGES
KILLINGLY, CONNECTICUT

DESIGNED:	LB
DRAFTED:	LB
CHECKED:	DQ
APPROVED:	PAR
SCALE:	NOT TO SCALE
PROJECT NO.:	2017-0507
DATE:	10/20/2022
CAD FILE:	HW_MSH_2017_0507_INX
REVISIONS	
NO.	DATE DESCRIPTION

TITLE:	INDEX SHEET
SHEET NUMBER:	INX-3

SURVEY NOTES

THIS SURVEY HAS BEEN PREPARED BY FREEMAN COMPANIES, LLC. IN ACCORDANCE WITH THE REGULATIONS OF CONNECTICUT STATE AGENCIES, SECTIONS 20-300b-1 THRU 20-300b-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1986.

THE TYPE OF SURVEY IS A TOPOGRAPHIC SURVEY AND IS INTENDED TO DEPICT THE EXISTING CONDITIONS AND TOPOGRAPHIC FEATURES OF THE PROJECT SITE.

THE SURVEY ACCURACY CONFORMS TO HORIZONTAL CLASS A-2, AND TOPOGRAPHIC ACCURACY CLASS T-2. PROPERTY LINES CONFORM TO HORIZONTAL CLASS D.

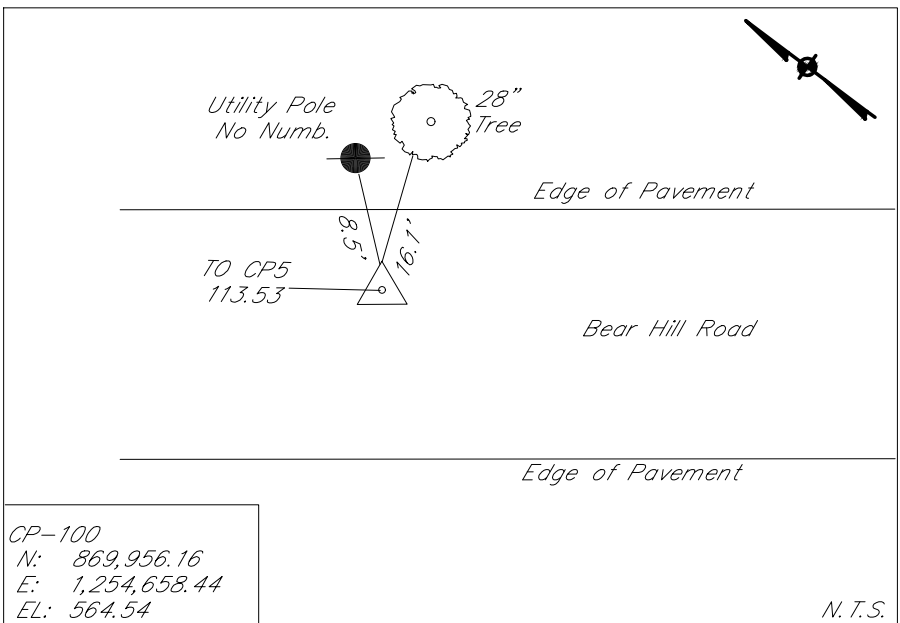
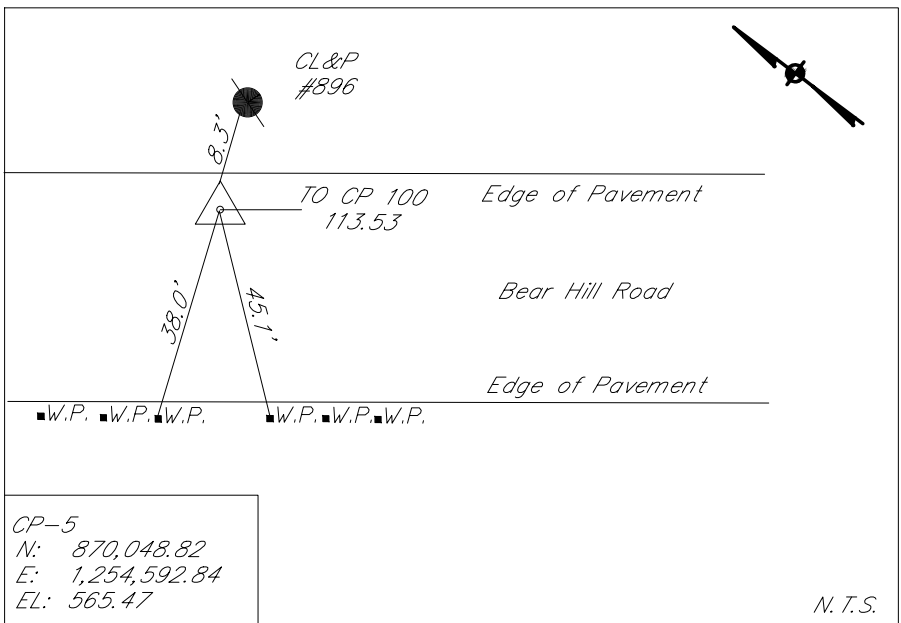
PROPERTY LINES DEPICTED ON THIS PLAN ARE COMPILED FROM OTHER MAPS, RECORD RESEARCH OR OTHER SOURCES OF INFORMATION.

NORTH ARROW REFERS TO THE CONNECTICUT COORDINATE SYSTEM (NAD83) AND IS BASED UPON GPS OBSERVATIONS PERFORMED BY FREEMAN COMPANIES.

ELEVATIONS REFER TO NAVD88 AND ARE BASED ON GPS OBSERVATIONS PERFORMED BY FREEMAN COMPANIES.

THE UNDERGROUND FEATURES DEPICTED HEREON ARE THE RESULT OF COMPILED OF EXISTING MAPPING AND LOCATION OF UTILITY POINT. ACTUAL LOCATION OF UNDERGROUND UTILITIES IS TO BE CONSIDERED TO BE APPROXIMATE AT BEST. OTHER UTILITIES MAY EXIST WHICH FREEMAN COMPANIES ARE UNAWARE OF. VERIFY INFORMATION IN THE FIELD. BEFORE ANY DIGGING OR SITE EXCAVATION CALL "CALL BEFORE YOU DIG" 1-800-922-4455.

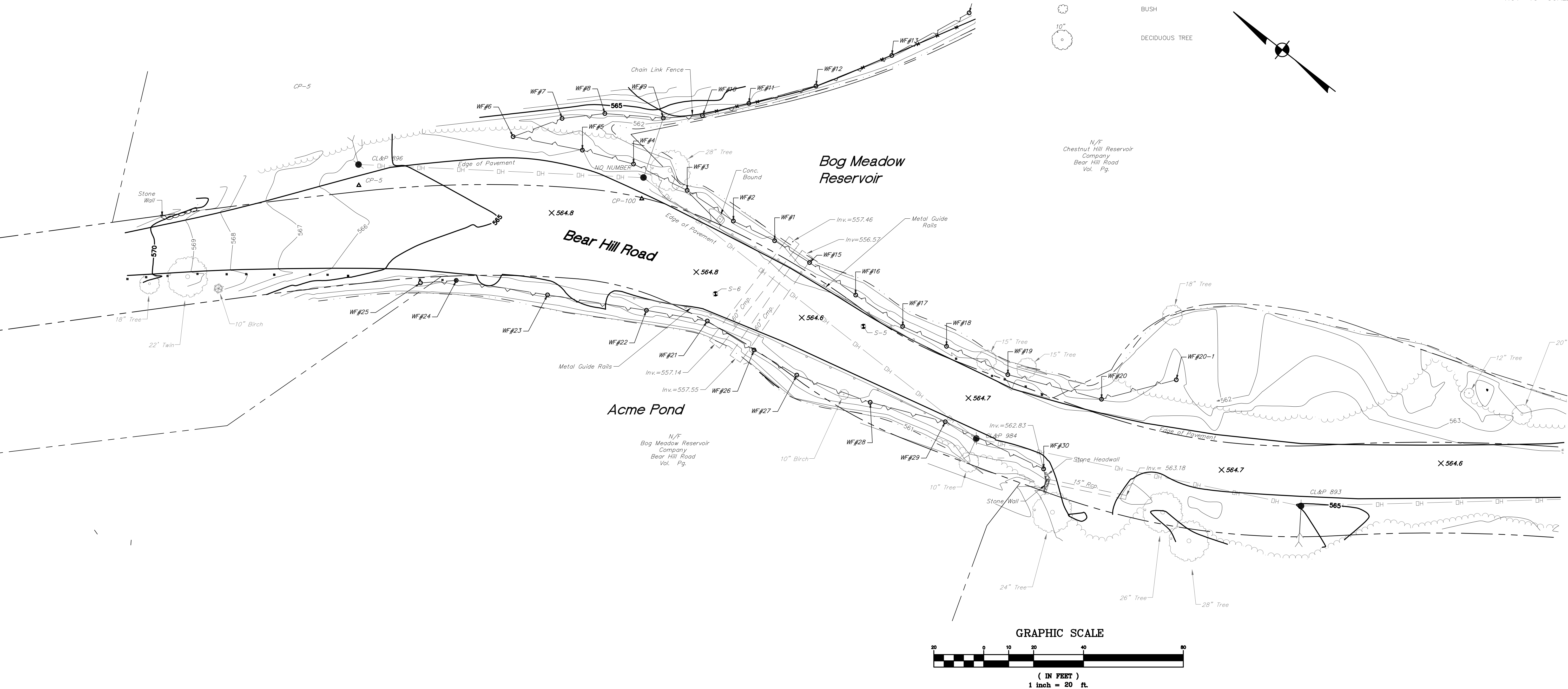
STREET SURFACE IS LOCATED IN FLOOD HAZARD AREA ZONE C 'AREAS OF MINIMAL FLOODING'. POND AREAS ARE LOCATED WITHIN FLOOD HAZARD AREA A 'AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS NOT DETERMINED', AS DEPICTED ON FLOOD INSURANCE RATE MAP FOR THE TOWN OF KILLINGLY, COMMUNITY PANEL NUMBER 090136 0020 B, PANEL 20 OF 30, EFFECTIVE DATE: JANUARY 3, 1985.



LEGEND	
	PROPERTY LINE
	EDGE OF WETLANDS
	EDGE OF RIVER
	WATER LINE
	SANITARY LINE
	GAS LINE
	OVERHEAD WIRES
	DRAINAGE PIPE
	UTILITY POLE
	WATER GATE VALVE
	FIRE HYDRANT
	GAS GATE VALVE
	SIGN
	PROPERTY CORNER IRON PIN
	CATCH BASIN
	DRAINAGE MANHOLE
	SANITARY MANHOLE
	WETLAND FLAG
	MAILBOX
	BORING
	BUSH
	DECIDUOUS TREE



LOCATION MAP
NOT TO SCALE



Freeman Companies, LLC - R: 2017-0507 Killingly Bridges\DWG\SURVEY\2D\2017-0507 BEAR HILL EX.dwg Oct 20, 2022-6:18pm Plotted By: LBunell

FREEMAN
COMPANIES
LAND DEVELOPMENT | ENGINEERING DESIGN | CONSULTING SERVICES

DBE | DAS | MBE | GNASDC CERTIFIED
CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL

FREEMAN COMPANIES, LLC
34 JOHN STREET
HARTFORD, CT 06106
WWW.FREEMANCO.COM
(860)251-1900
TOLL FREE: (800)604-5141
FAX: (860)251-7151

ELEVATE YOUR EXPECTATIONS

PREPARED FOR

TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

OWNER FOR

TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

STATE OF CONNECTICUT
DENNIS M. GURNEY, P.E.
No. 19106
LICENSED PROFESSIONAL ENGINEER

REPLACEMENT OF BRIDGE No. 68-009
BEAR HILL ROAD OVER UNNAMED BROOK
KILLINGLY, CONNECTICUT

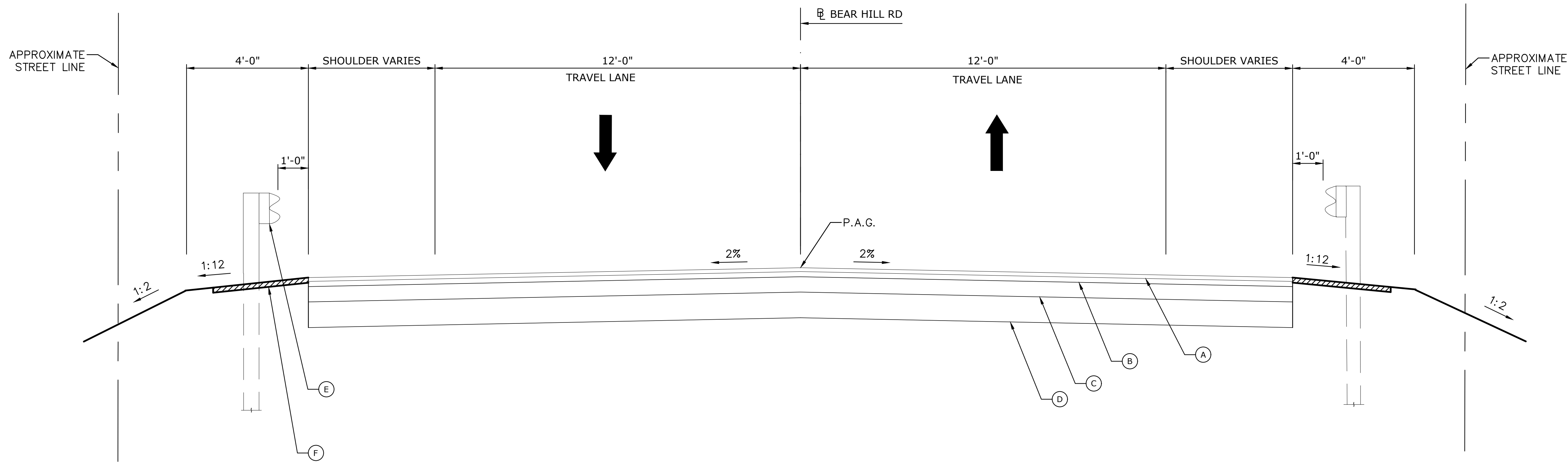
NO.	DATE	DESCRIPTION
REVISIONS		

SURVEYED:	R.J.C./N.J.C.
DRAFTED:	R.J.C.
CHECKED:	RG
APPROVED:	M.J.G.
SCALE:	1" = 20'
PROJECT NO.:	2017-0507
DATE:	09/15/2017
CAD:	2017-0507 BEAR HILL EX

TITLE:
**TOPOGRAPHIC
SURVEY**

SHEET NUMBER:
EX-3.1

Freeman Companies, LLC - R:\2017\2017-0507 Killingly Bridges\DWG\BRIDGE_68-009\HW_MSH_2017_0507_BRG009_TYP.dwg Oct 20, 2022 6:11pm Plotted By: LBucheli



LEGEND

- (A) 1.5" HMA S0.5
- (B) 2.0" HMA S1.0
- (C) 6" PROCESS AGGREGATE BASE
- (D) 12" SUBBASE
- (E) METAL BEAM RAIL R-B 350
- (F) PAVEMENT FOR RAILING

BEAR HILL ROAD TYPICAL SECTION

STA. 20+00 - STA. 21+50
SCALE: 1" = 2'

FREEMAN
COMPANIES

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CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL

FREEMAN COMPANIES, LLC

38 JOHN STREET
HARTFORD, CT 06106

WWW.FREEMANCO.COM

(860) 551-9550

FAX: (860) 551-9141

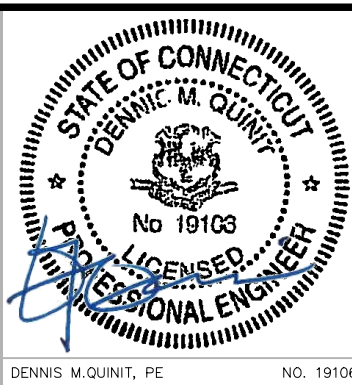
ELEVATE YOUR EXPECTATIONS

PREPARED FOR

TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY
CONNECTICUT 06239

OWNER FOR

TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY
CONNECTICUT 06239

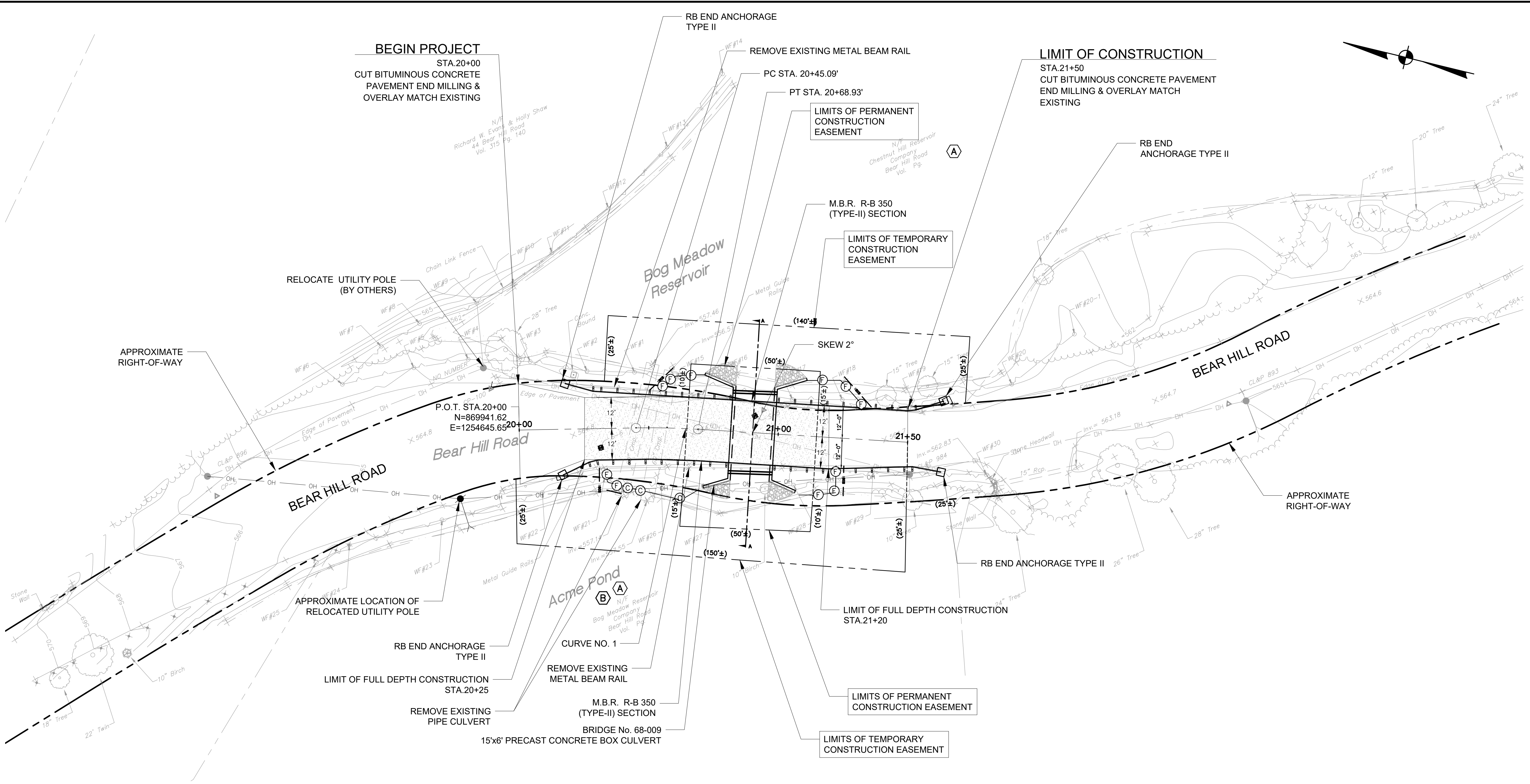


DENNIS M. QUINN, P.E. NO. 19103

REPLACEMENT OF BRIDGE No. 68-009
BEAR HILL ROAD OVER UNNAMED BROOK
KILLINGLY, CONNECTICUT

TITLE:	TYPICAL SECTION
SHEET NUMBER:	TYP-3.1

Freeman Companies, LLC - R:\2017\2017-0507_Killingly Bridges\DWG\BRIDGE 68-009\HW_MSH_2017_0507_BRG009_HWY.dwg Nov 07, 2022 4:06pm Plotted By: LBuchell



NOTES

1. ALL SOIL DISTURBANCES SHALL BE TREATED WITH 4" TOP SOIL & TURF ESTABLISHMENT.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND ELEVATIONS PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE WITH THE ENGINEER REGARDING THE LIMITS OF RESTORATION TO ENSURE A SMOOTH TRANSITION FROM NEW CONSTRUCTION TO EXISTING CONDITIONS.
4. CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" (CBYD) 1-800-922-4455 PRIOR TO COMMENCING CONSTRUCTION.
5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. REFER TO STRUCTURAL (S SERIES) DRAWINGS FOR PROPOSED CULVERT DETAILS, GRADING, AND METAL BEAM RAIL POST DETAILS.
7. COST OF REMOVAL OF TREES AND OTHER VEGETATION SHALL BE INCLUDED IN THE COST OF THE ITEM "CLEARING AND GRUBBING".

CURVE DATA						
No.		Northing	Easting	Delta(Δ)	Length	Radius
CURVE NO. 1	PC	869898.06	1254657.30	N04°34'8"E	23.923'	300.0'
	PI	869886.50	1254660.34			
	PT	869874.72	1254662.55			

SCHEDULE OF RIGHTS & EASEMENTS

- (A)

CONSTRUCTION EASEMENT
- (B)

EASEMENT TO INSTALL, CONSTRUCT & MAINTAIN METAL BEAM RAIL END ANCHORAGE

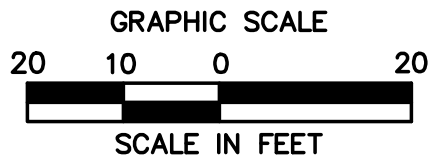
LEGEND

- FULL DEPTH PAVEMENT RECONSTRUCTION / PROPOSED WIDENING
- (C) (F)—

FILL/CUT APPROXIMATE SLOPE LIMITS
- scs—

SEDIMENTATION CONTROL SYSTEM
- w—

APPROXIMATE WETLAND LIMITS
- EASEMENT LINE



FREEMAN
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FREEMAN COMPANIES, LLC
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ELEVATE YOUR EXPECTATIONS

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CONNECTICUT 06239

OWNER FOR

TOWN OF KILLINGLY
BEAR HILL ROAD
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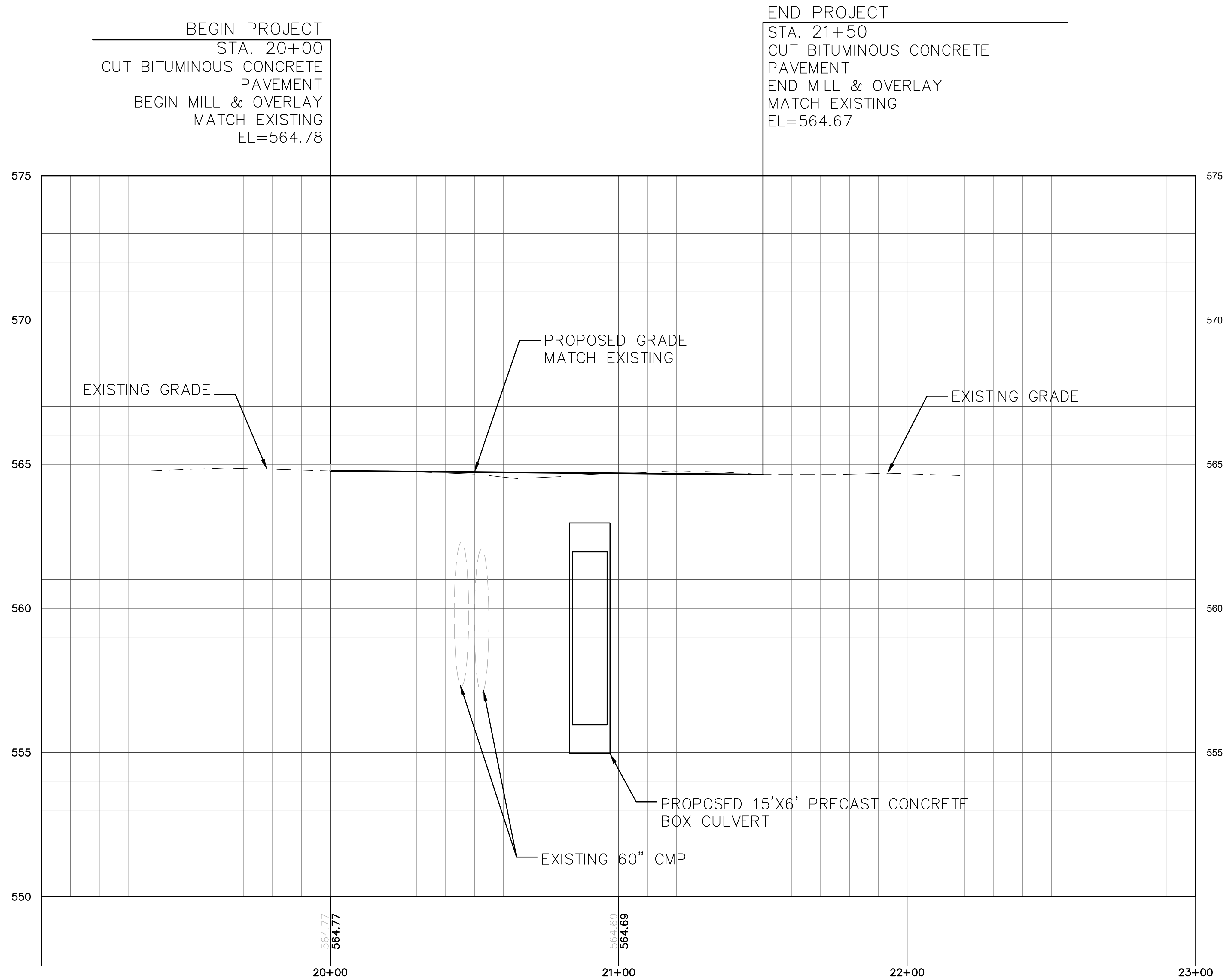
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
No. 19103
PROFESSIONAL ENGINEER
DENNIS M. GURNEY, P.E.

REPLACEMENT OF BRIDGE No. 68-009
BEAR HILL ROAD OVER UNNAMED BROOK
KILLINGLY, CONNECTICUT

NO.	DATE	DESCRIPTION	REVISIONS

DESIGNED: LB	TITLE:
DRAFTED: LB	ROADWAY PLAN
CHECKED: DQ	
APPROVED: PAR	
SCALE: AS NOTED	SHEET NUMBER:
PROJECT NO.: 2017-0507	HWY-3.1
DATE: 10/20/2022	
CAD: HW_MSH_2017_0507_BRG009_HWY	

Freeman Companies, LLC - R: 2017\2017-0507 Killingly Bridges\DWG\BRIDGE 68-009\HW_MSH_2017_0507_BRG009_PRO.dwg Oct 20, 2022 - 6:09pm Plotted By: LBuchell



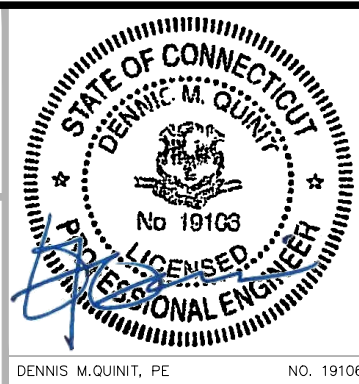
BEAR HILL ROAD PROFILE

H: 1"=10'
V: 1"=2'

**REPLACEMENT OF BRIDGE No. 68-009
BEAR HILL ROAD OVER UNNAMED BROOK
KILLINGLY, CONNECTICUT**

**FREEMAN
COMPANIES**
LAW DEVELOPMENT ENGINEERING DESIGN CONSULTING SERVICES
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BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

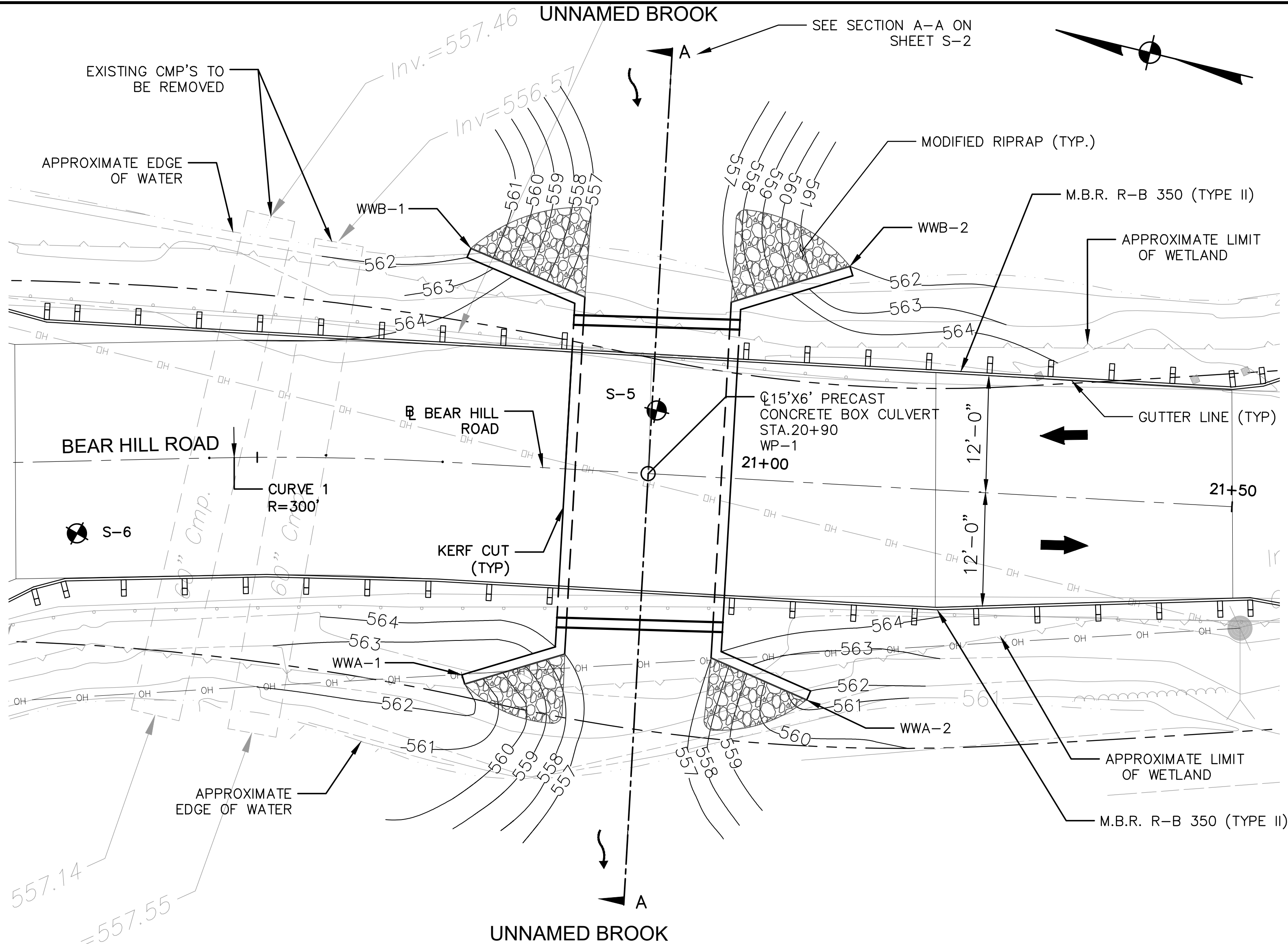


NO.	DATE	DESCRIPTION
REVISIONS		

DESIGNED: LB
DRAFTED: LB
CHECKED: DQ
APPROVED: PAR
SCALE: AS NOTED
PROJECT NO.: 2017-0507
DATE: 10/20/2022
CAD: HW_MSH_2017_0507_BRG009_PRO

TITLE:
ROADWAY PROFILE
SHEET NUMBER:
PRO-3.1

Freeman Companies, LLC - R: 12017\2017-0507_Killingly Bridges\060 BRIDGE 68-009\17-msh_2017_0507_brg009_gen.dwg Nov 07, 2022-4:36pm Plotted By: LBuchell



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

BORING LEGEND
B-1 APPROXIMATE BORING LOCATION

UTILITY NOTES

- THIS PROJECT INVOLVES THE PRESENCE OF OVERHEAD UTILITY LINES WITHIN THE LIMITS AND FOOTPRINT OF THE PROJECT. WHILE NO WORK INVOLVING OR IMPACTING THESE UTILITIES ARE ANTICIPATED, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL WORK WITH THE APPROPRIATE UTILITY COMPANY (EVERSOURCE) AND FOR PROVIDING TEMPORARY PROTECTION AND/OR SUPPORT OF THESE FACILITIES IF AND AS REQUIRED BY THE UTILITY COMPANY.
- THE CONTRACTOR SHALL DEVELOP ITS ERECTION SCHEME IN CONFORMANCE WITH LIMITATIONS AND RESTRICTIONS ASSOCIATED WITH THE OVERHEAD UTILITY LINES AND AS REQUIRED BY THE APPROPRIATE UTILITY COMPANY.
- THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY WITH REGARDS TO POTENTIAL RELOCATION OR TEMPORARY SUPPORT OF THEIR FACILITIES. THE CONTRACTOR SHALL IDENTIFY POTENTIAL UTILITY IMPACTS ASSOCIATED WITH THEIR WORK, IF ANY, PRIOR TO START OF CONSTRUCTION AND NOTIFY THE APPROPRIATE UTILITY COMPANY ACCORDINGLY.

NOTICE TO BRIDGE INSPECTORS

IT IS RECOMMENDED THAT CONNDOT'S BRIDGE SAFETY PROCEDURES BE FOLLOWED WHEN INSPECTING THIS BRIDGE FOR, BUT NOT LIMITED TO, ALL APPROPRIATE COMPONENTS INDICATED IN THE GOVERNING MANUALS FOR BRIDGE INSPECTION. ATTENTION MUST BE GIVEN TO INSPECTING THE FOLLOWING SPECIAL COMPONENTS AND DETAILS. (THE LISTING OF COMPONENTS FOR SPECIFIC ATTENTION SHALL NOT BE CONSTRUED TO REDUCE THE IMPORTANCE OF INSPECTION OF ANY OTHER COMPONENT OF THE STRUCTURE.) THE FREQUENCY OF INSPECTION OF THIS STRUCTURE SHALL BE IN ACCORDANCE WITH THE GOVERNING MANUALS FOR BRIDGE INSPECTION, UNLESS OTHERWISE DIRECTED BY THE MANAGER OF BRIDGE SAFETY AND EVALUATIONS.

COMPONENT OR DETAIL	STRUCTURE SHEET REFERENCE
NONE	-
	-

HYDRAULIC DATA

HYDRAULIC AREA	5.0 SQ MI
DESIGN FREQUENCY	100 YEAR
DESIGN DISCHARGE	950 CFS
AVERAGE DAILY FLOW	9.1 CFS
AVERAGE DAILY FLOW ELEVATION	558.30
UPSTREAM DESIGN WATER SURFACE ELEVATION	565.26
DOWN STREAM DESIGN WATER SURFACE ELEVATION	558.30
2 YEAR DESIGN STORM WATER ELEVATION	561.91

TRANSPORTATION DATA

MEMBER	SHIPPING LENGTH	SHIPPING HEIGHT	SHIPPING WIDTH	SHIPPING WEIGHT
BOX CULVERT	17'-0"	8'-0"	8'-0"	55,800 lbs
WINGWALL	13'-0"	8'-0"	8'-0"	16,000 lbs

GENERAL NOTES

SPECIFICATIONS: CONNECTICUT DEPARTMENT OF TRANSPORTATION INCLUDING FORM 818, SUPPLEMENTAL SPECIFICATIONS DATED JANUARY, 2022 AND SPECIAL PROVISIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS (9TH EDITION) WITH INTERIM REVISIONS UP TO AND INCLUDING 2020, AS SUPPLEMENTED BY THE CONNECTICUT DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN MANUAL (2003 EDITION), WITH REVISIONS UP TO AND INCLUDING DECEMBER 2019.

ALLOWABLE DESIGN STRESSES:

CLASS "PCC03340" CONCRETE: $f'_c = 3,000$ psi
CLASS "PCC05581" CONCRETE: $f'_c = 5,000$ psi
REINFORCEMENT (ASTM 615 GRADE 60) $f_y = 60,000$ psi

THE SPECIFIED CONCRETE STRENGTH USED IN DESIGN, f'_c , OF THE CONCRETE COMPONENTS IS NOTED ABOVE. THE MINIMUM COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTION COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 6.01-"CONCRETE FOR STRUCTURES" AND M.03-"PORTLAND CEMENT CONCRETE".

LIVE LOAD:

STANDARD DESIGN VEHICLE: AASHTO HL93
OPERATING (PERMIT) VEHICLES: CTDOT P204 (8-AXLE)
CTDOT P380 (19-AXLE)

FOUNDATION PRESSURES AND PILE LOADS: THE VARIOUS GROUP LOADINGS NOTED ON THE SUBSTRUCTURE PLAN SHEETS REFER TO THE LIMIT STATES AS PROVIDED FOR IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

DIMENSIONS AND ELEVATIONS: WHEN DECIMAL DIMENSIONS AND ELEVATIONS ARE GIVEN TO LESS THAN THREE DECIMAL PLACES, THE OMITTED DIGITS SHALL BE ASSUMED TO BE ZERO. ALL ELEVATIONS ARE GIVEN IN DECIMAL FEET AND ARE BASED ON NAVD 88.

EXISTING DIMENSIONS: DIMENSIONS OF THE EXISTING STRUCTURE SHOWN ON THESE PLANS ARE FOR GENERAL REFERENCE ONLY AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL TAKE ALL FIELD MEASUREMENTS NECESSARY TO ASSURE PROPER FIT OF THE FINISHED WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THEIR ACCURACY. WHEN SHOP DRAWINGS BASED ON FIELD MEASUREMENTS ARE SUBMITTED FOR APPROVAL, THE FIELD MEASUREMENTS SHALL ALSO BE SUBMITTED FOR REFERENCE BY THE REVIEWER.

UTILITIES: THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES LOCATED WITHIN THE VICINITY OF THE SITE DURING CONSTRUCTION. THE METHOD OF SUPPORTING AND PROTECTING UTILITIES SELECTED BY THE CONTRACTOR MUST BE APPROVED BY THE UTILITY COMPANY. UTILITY MODIFICATIONS SHALL BE MADE BY THE RESPECTIVE UTILITY COMPANIES EXCEPT WHERE NOTED OTHERWISE.

CONCRETE NOTES

CLASS PCC 03340: CLASS PCC 03340 CONCRETE SHALL BE USED FOR THE CUT-OFF WALLS, RETURN WALLS, HEADWALLS AND WINGWALL FOOTINGS.

CLASS PCC 05581: CLASS PCC 05581 SHALL BE USED FOR THE PRECAST CONCRETE BOX CULVERT AND PRECAST WINGWALL STEMS.

REINFORCEMENT: ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A767, CLASS 1, INCLUDING SUPPLEMENTAL REQUIREMENTS. ALL REINFORCEMENT IN THE PRECAST CONCRETE BOX CULVERT SHALL BE INCLUDED IN THE COST OF THE ITEM "15' X 6' PRECAST CONCRETE BOX CULVERT." ALL REINFORCEMENT IN THE PRECAST CONCRETE WINGWALLS SHALL BE INCLUDED IN THE COST OF THE ITEM "PRECAST CONCRETE WINGWALLS." ALL REINFORCEMENT IN THE CUT-OFF WALLS, RETURN WALLS AND FOOTINGS SHALL BE INCLUDED IN THE COST OF THE ITEM "DEFORMED STEEL BARS." ALL REINFORCEMENT IN THE HEADWALL SHALL BE GALVANIZED AND INCLUDED IN THE COST OF THE ITEM "DEFORMED STEEL BARS - GALVANIZED."

EXPOSED EDGES: EXPOSED EDGES OF CONCRETE SHALL BE BEVELED 1" X 1", UNLESS DIMENSIONED OTHERWISE.

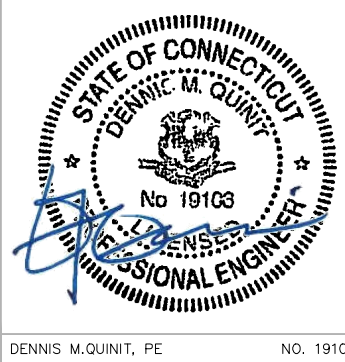
CONCRETE COVER: ALL REINFORCEMENT SHALL HAVE 2" COVER UNLESS DIMENSIONED OTHERWISE.

PREFORMED EXPANSION JOINT FILLER: THE COST OF FURNISHING AND INSTALLING PREFORMED EXPANSION JOINT FILLERS SHALL BE INCLUDED IN THE ITEM "1/2" JOINT FILLER FOR BRIDGES".

ITEM	BRIDGE COMPONENTS	CLASS
PRECAST CONCRETE	BOX CULVERT AND WINGWALLS	PCC 05581
PARAPET CONCRETE	HEADWALLS	PCC 03340
FOOTING CONCRETE	WINGWALL FOOTINGS, CUT-OFF WALLS AND RETURN WALLS	PCC 03340

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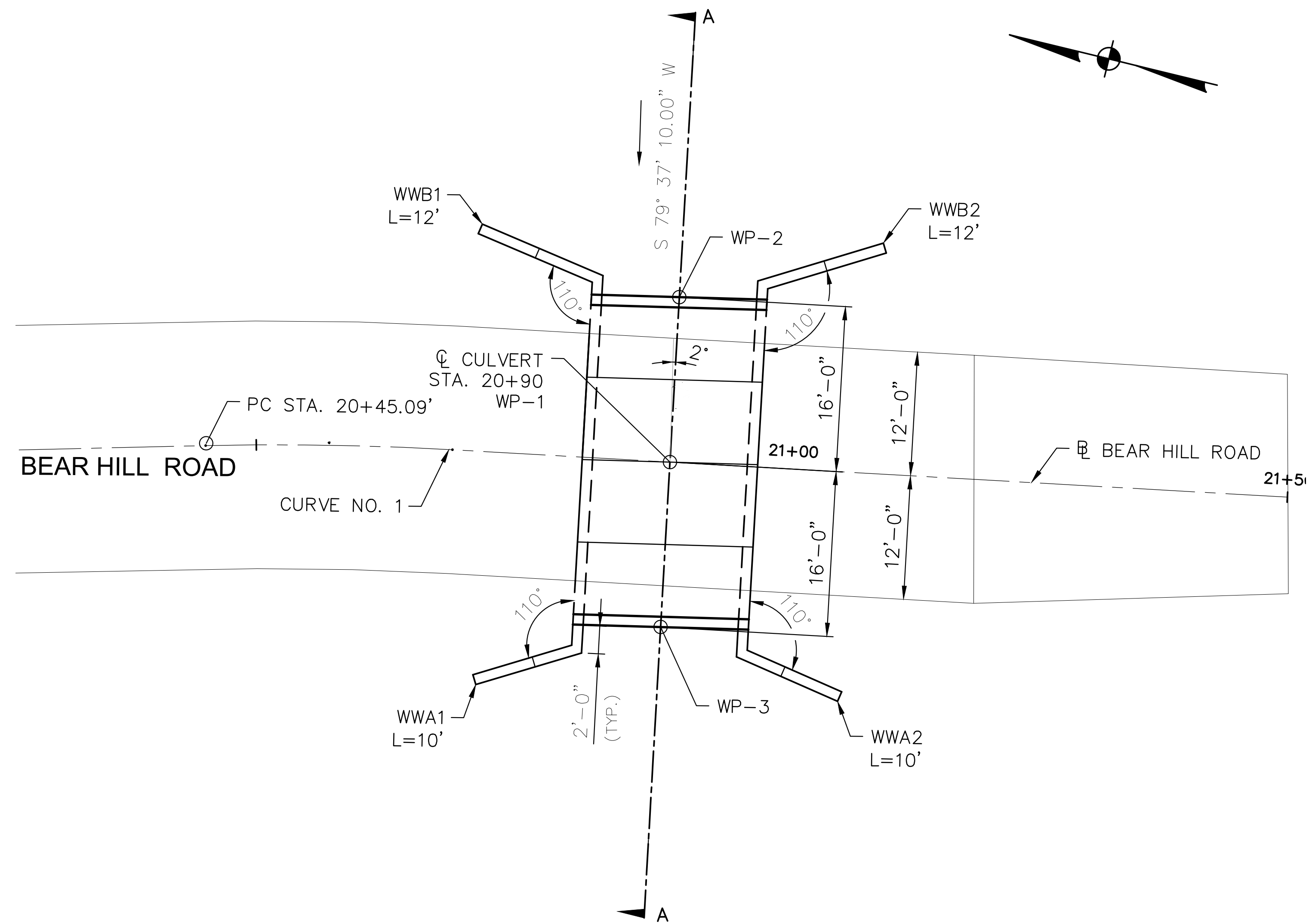
PREPARED FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239
OWNER FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239



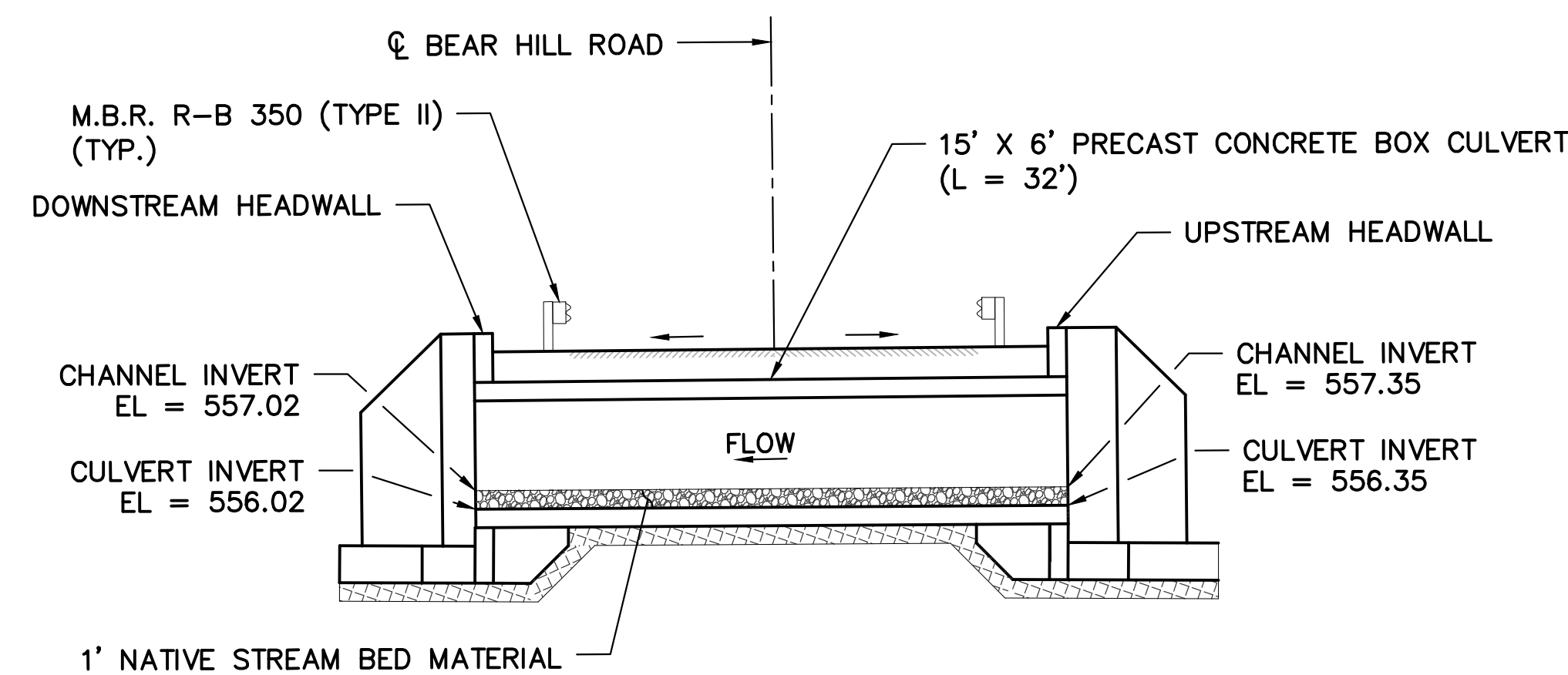
THESE DRAWINGS SHALL NOT BE UTILIZED BY ANY PERSON, FIRM OR CORPORATION WITHOUT THE SPECIFIC WRITTEN PERMISSION OF FREEMAN COMPANIES, LLC.

REPLACEMENT OF BRIDGE No. 68-009 BEAR HILL ROAD OVER UNNAMED BROOK KILLINGLY, CONNECTICUT

DESIGNED:	LB	TITLE:
DRAFTED:	LB	GENERAL PLAN
CHECKED:	DO	
APPROVED:	PAR	
SCALE:	AS NOTED	SHEET NUMBER:
PROJECT NO.:	2017-0507	S-3.1
DATE:	10/20/2022	
CAD:	hw_msh_2017_0507_brg009_gen	
NO.	DATE	DESCRIPTION
		REVISIONS



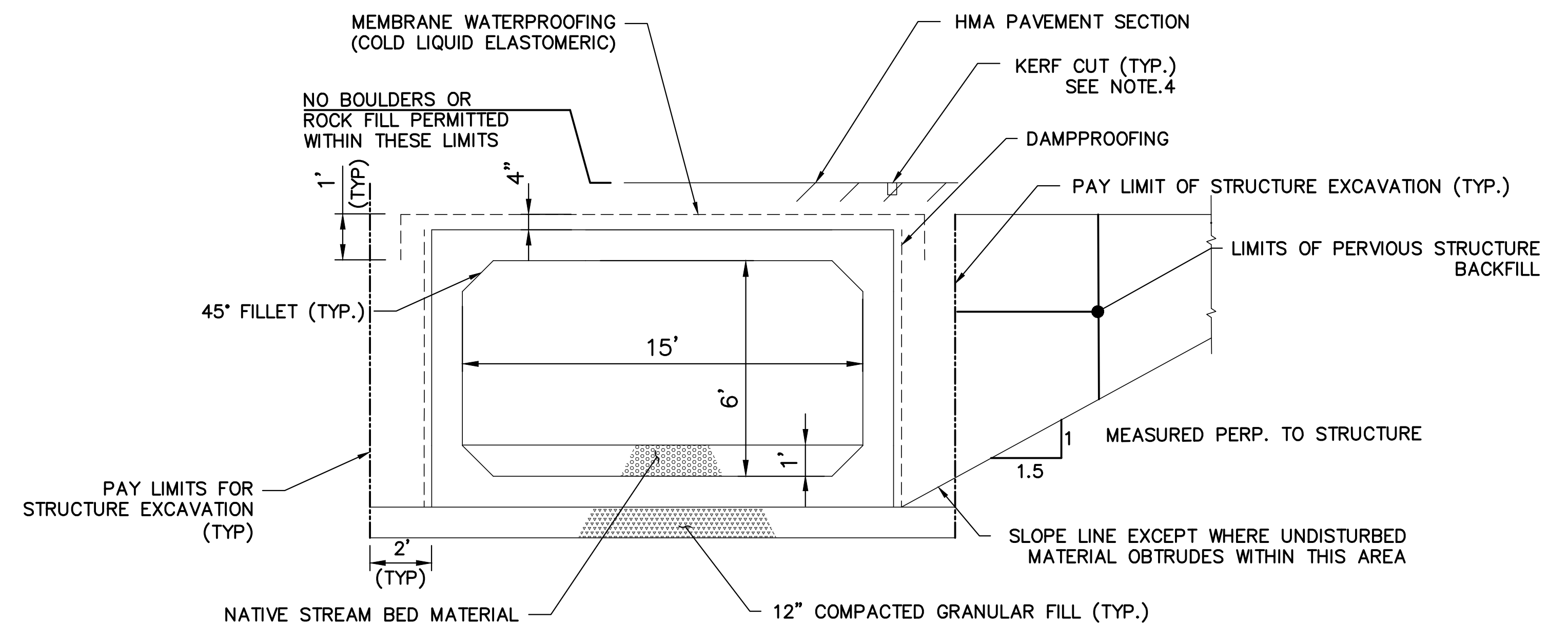
LAYOUT PLAN
SCALE: 1/8" = 1'-0"



SECTION A-A
SCALE: 1/8" = 1'-0"

WP	NORTHING	EASTING
WP-1	869851.0942	1254650.6114
WP-2	869856.8715	1254682.0981
WP-3	869853.9828	1254666.3548

- NOTES:
- FOR COMPLETE BASELINE GEOMETRY, SEE SHEET NO. HWY-1.
 - ROADWAY PROFILE TO MATCH EXISTING.
 - FOR WINGWALL SECTION DETAILS SEE SHEET MDS-3.
 - CUT BITUMINOUS OVERLAY WITH $\frac{3}{8}$ " WIDE BY $1\frac{3}{4}$ " DEEP KERF AND FILL WITH POURABLE SEALANT. TO BE PAID FOR UNDER THE ITEM "SAWING AND SEALING JOINTS IN BITUMINOUS PAVEMENT."

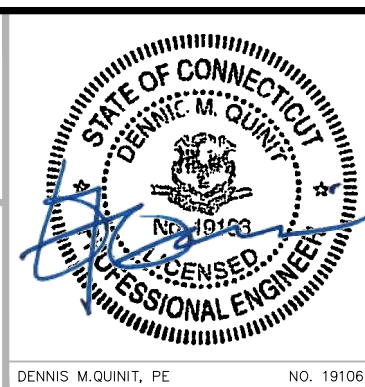


TYPICAL CULVERT SECTION
N.T.S.

FREEMAN
COMPANIES
LAND DEVELOPMENT | ENGINEERING DESIGN | CONSTRUCTION SERVICES
DBE | DAS | ABE | GANSOC CERTIFIED
CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
FREEMAN COMPANIES, LLC
9 JOHN STREET
HARTFORD, CT 06106
WWW.FREEMANCO.COM
(860)331-9550
TOLL FREE: (800)904-5141
FAX: (860)986-7161
ELEVATE YOUR EXPECTATIONS

PREPARED FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

OWNER FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239



REPLACEMENT OF BRIDGE No. 68-009 BEAR HILL ROAD OVER UNNAMED BROOK KILLINGLY, CONNECTICUT

NO. DATE DESCRIPTION
REVISIONS

DESIGNED: LB
DRAFTED: LB
CHECKED: DQ
APPROVED: PAR
SCALE: AS NOTED
PROJECT NO.: 2017-0507
DATE: 10/20/2022
CAD: HW_MSH_2017_0507_BRG009_ALN

TITLE:
LAYOUT PLAN
SHEET NUMBER:
S-3.2

Freeman Companies, LLC - R:\2017\2017-0507 Killingly Bridges\DWG\Bridges\68-009\HW_MSH_2017_0507_BRG009_BOR.dwg Oct 20, 2022-6:07pm Plotted By: LBuchell

Driller: T. Roe		Connecticut DOT Boring Report				Hole No.: S-5						
Inspector: Thiet Ta		Town: Killingly		Stat./Offset:								
Engineer: A. McCauliffe		Project No.: 2017-0507		Northing: 869909.4046								
Start Date: 8-16-17		Route No.: Bear Hill Road Over Culvert		Easting: 1254646.5967								
Finish Date: 8-16-17		Bridge No.: 68-009		Surface Elevation: 564.86								
Project Description: Valley Road and Bear Hill Road Over Brooks												
Casing Size/Type: 4-in. Casing		Sampler Type/Size: 1-3/8 Inch ID			Core Barrel Type:							
Hammer Wt.: 140lb		Fall: 30in.		Hammer Wt.: 140lb		Fall: 30in.						
Groundwater Observations: Ø3.5 ATD												
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)				
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)				Rec. (in.)	RQD %		
0						Asphalt Fill	PAVEMENT (1")					
	S-1	21	28	25	25	24	12				Brown to tan c-f SAND, some m-f gravel, trace silt	
	S-2	35	8	8	6	24	4				Brown to gray c-f SAND and c-f GRAVEL, little silt	
5	S-3	5	9	11	6	24	12				Gray c-f SAND, little c-f gravel, trace silt	560
	S-4	7	9	8	6	24	8				Dark brown c-f GRAVEL, some c-f sand, trace silt	
10	S-5	1	1	50/4"		16	4				Dark brown c-f SAND, little c-f gravel, little silt, trace wood	555
								Organics			Drilling action similar to grinding through cobbles and boulders	
								Alluvium			WEATHERED BEDROCK	550
15								Weathered Rock Bedrock				
	C-1	6-7-8-10-10				60	55	51			Gray, fresh, GNEISS, thinly banded, moderately fractured, medium strong to strong, with quartz	550
20											END OF BORING 19ft	545
25												540
30												535
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test												
Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%												
Total Penetration In						NOTES:			Sheet 1 of 1			
Earth: 14ft Rock: 5ft												
No. of Soil Samples: 5 No. of Core Runs: 1									SM-001-M REV. 1/02			

BORING S-5
N.T.S

Driller: T. Roe		Connecticut DOT Boring Report				Hole No.: S-6		
Inspector: Thiet Ta		Town: Killingly				Stat./Offset:		
Engineer: A. McCauliffe		Project No.: 2017-0507				Northing: 869854.6541		
Start Date: 8-16-17		Route No.: Bear Hill Road Over Culvert				Easting: 1254672.8319		
Finish Date: 8-17-17		Bridge No.: 68-009				Surface Elevation: 564.53		
Project Description: Valley Road and Bear Hill Road Over Brooks								
Casing Size/Type: 4-in. Casing		Sampler Type/Size: 1-3/8 inch ID				Core Barrel Type:		
Hammer Wt.: 140lb		Fall: 30in.		Hammer Wt.: 140lb		Fall: 30in.		
Groundwater Observations: Ø3.5 ATD								
Depth (ft)	SAMPLES					Generalized Strata Description	Material Description and Notes	Elevation (ft)
	Sample Type/No.	Blows on Sampler per 6 inches			Pen. (in.)			
0						Asphalt Fill		
	S-1	15	23	19	17	24	14	
	S-2	12	8	12	34	24	6	
5	S-3	10	7	8	11	24	12	
	S-4	1	2	7	18	24	12	
10	S-5	100/s"				5	4	
						Organics		
						Alluvium		
						Weathered Rock		
15								
20								
25								
30								
Sample Type: S = Split Spoon C = Core UP = Undisturbed Piston V = Vane Shear Test Proportions Used: Trace = 1 - 10%, Little = 10 - 20%, Some = 20 - 35%, And = 35 - 50%								
Total Penetration In			NOTES:				Sheet 1 of 1	
Earth: 14ft Rock: ft								
No. of Soil Samples: 5								
No. of Core Runs: 0								
SM-001-M REV. 1/02								

BORING S-6
N.T.S

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(860)251-1900
TOLL FREE (800)604-5141
FAX (860)251-7151

PREPARED FOR

TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

OWNER FOR

TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239



EDDENS M. GURNEY, P.E.
NO. 19103

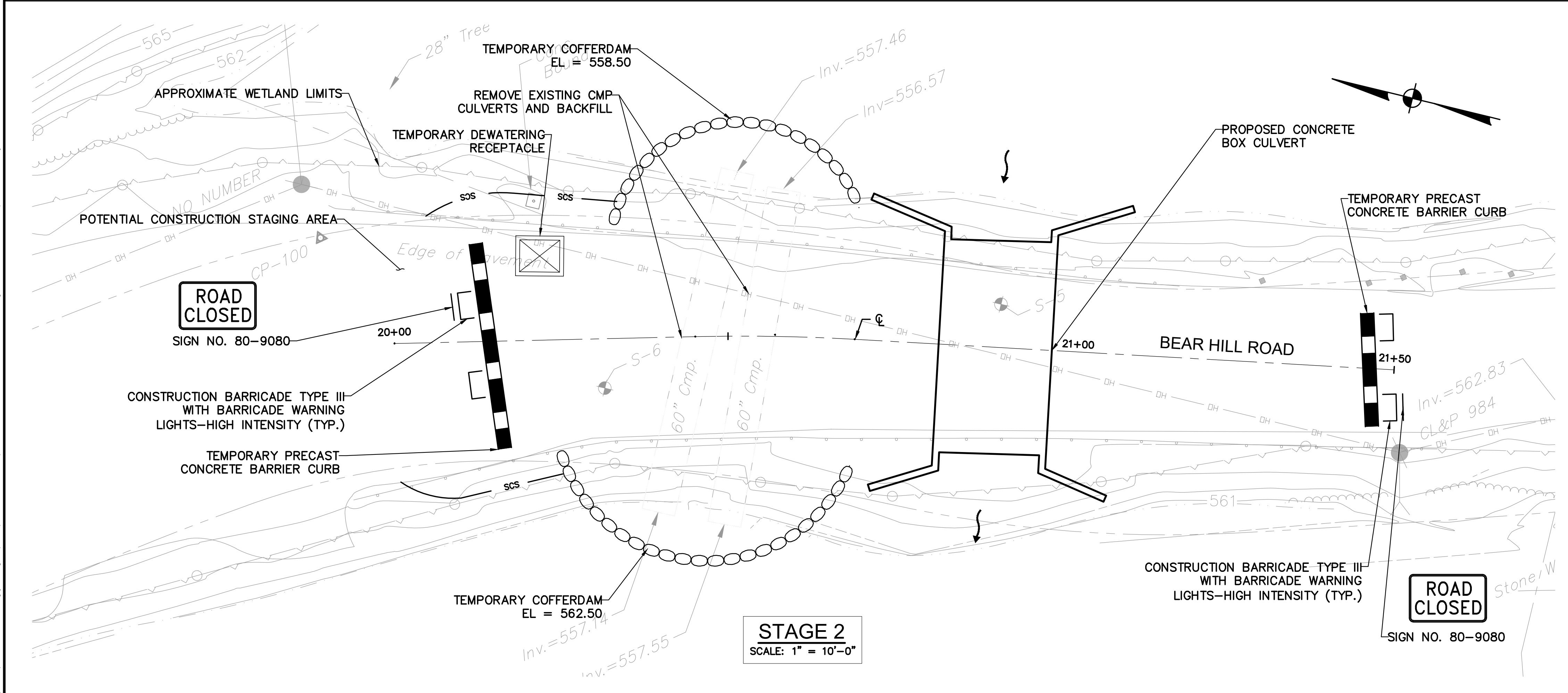
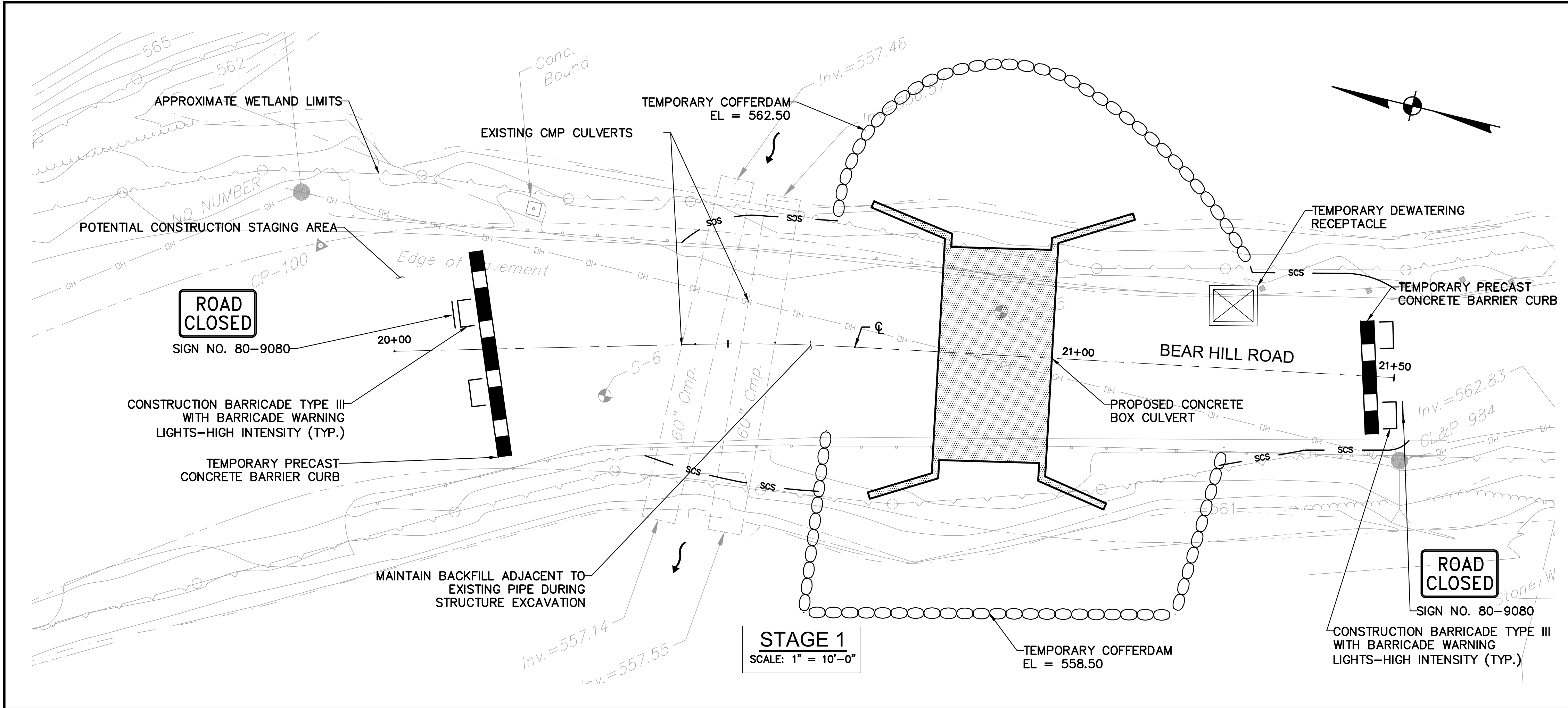
ELEVATE YOUR EXPECTATIONS

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REPLACEMENT OF BRIDGE No. 68-009
BEAR HILL ROAD OVER UNNAMED BROOK
KILLINGLY, CONNECTICUT

DESIGNED:	LB	TITLE:
DRAFTED:	LB	BORING LOGS
CHECKED:	DQ	
APPROVED:	PAR	
SCALE:	AS NOTED	
PROJECT NO.:	2017-0507	SHEET NUMBER:
DATE:	10/20/2022	S-3.3
CAD:	HW_MSH_2017_0507_BRG009_BOR	
NO. DATE DESCRIPTION		REVISIONS

Freeman Companies, LLC - R: 12017\2017-0507_Killingly Bridges\UNQ BRIDGE 68-009\SB_MSH_2017_0507_BRG009_STG.dwg Nov 08, 2022-1:07pm Plotted By: LBuchell



BEAR HILL ROAD WATER HANDLING PLAN

GENERAL NOTES

1. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A DETAILED PLAN AND NARRATIVE DESCRIBING ITS PROPOSED CONSTRUCTION SEQUENCE INCLUDING DETAILED INFORMATION RELATING TO THE WATER HANDLING.
2. BEST MANAGEMENT PRACTICES (BMP) SHALL BE UTILIZED AS APPROPRIATE AND SHALL BE CONSISTENT WITH THE CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL.
3. CONSTRUCTION ACTIVITIES SHALL CONFORM TO SECTION 1.10, ENVIRONMENTAL COMPLIANCE OF THE STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION, FORM 818.
4. DEWATERING, IF AND AS NEEDED, SHALL UTILIZE BMP'S AS APPLICABLE AND AS APPROVED AND ACCEPTABLE BY THE ENGINEER AND THE TOWN OF KILLINGLY.
5. FLOW WILL BE MAINTAINED THROUGH THE EXISTING PIPE CULVERTS DURING CONSTRUCTION OF THE PROPOSED REPLACEMENT CONCRETE BOX CULVERT.
6. DETOUR SHALL BE ESTABLISHED BY THE TOWN.

SUGGESTED SEQUENCE OF CONSTRUCTION

PRE-CONSTRUCTION STAGE

1. CONTACT "CALL-BEFORE-YOU-DIG" AND PERFORM UTILITY MARK-OUTS IF AND AS NECESSARY.
2. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES AS REQUIRED.
3. CLOSE BEAR HILL ROAD, INSTALL CONSTRUCTION BARRICADES, AND DETOUR TRAFFIC.
4. INSTALL TEMPORARY COFFER DAMS AROUND PROPOSED CULVERT AND INSTALL TEMPORARY DEWATERING RECEPTACLES AS SHOWN.

STAGE 1

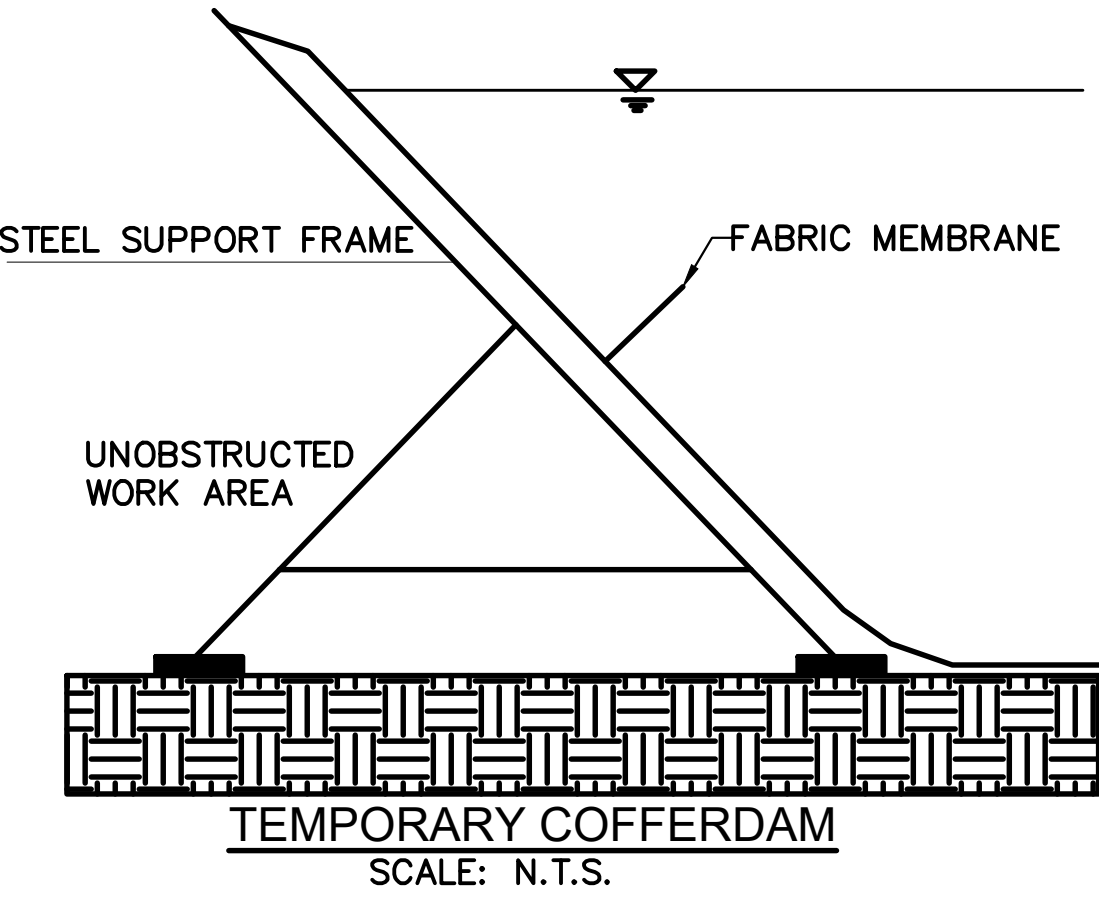
1. EXCAVATE SITE AND DEWATER AS NECESSARY.
NOTE: THE CONTRACTOR IS ADVISED TO MAINTAIN BACKFILL ADJACENT TO THE PIPES TO MAINTAIN STABILITY OF CORRUGATED METAL PIPE.
2. CONSTRUCT CUT-OFF WALLS AND RETURN WALLS.
3. INSTALL CONCRETE BOX CULVERT, PRECAST CONCRETE WING WALLS, AND CONSTRUCT HEADWALLS.
4. INSTALL RIPRAP TO LIMITS SHOWN ON THESE PLANS.
5. APPLY MEMBRANE WATERPROOFING OVER TOP SLAB TO LIMITS SHOWN.
6. BACKFILL STRUCTURE AS SHOWN ON THESE PLANS AND PER SPECIFICATIONS.

STAGE 2

1. RELOCATE TEMPORARY COFFERDAM AROUND EXISTING CORRUGATED METAL PIPES AND DIVERT WATER FLOW INTO NEW CULVERT.
2. RELOCATED TEMPORARY DEWATERING RECEPTACLE AS SHOWN.
3. DEWATER SITE OF EXISTING CULVERT.
4. EXCAVATE AND REMOVE EXISTING CORRUGATED METAL PIPES.
5. BACKFILL AND REMOVE TEMPORARY COFFERDAM.
6. CONSTRUCT ROADWAY APPROACHES AND OTHER ROADWAY ITEMS TO LIMITS SHOWN.
7. REPAVE BEAR HILL ROAD AND RE-ESTABLISH TURF.
8. REMOVE SEDIMENTATION AND EROSION CONTROL MEASURES.
9. PERFORM SITE CLEAN-UP, REMOVE CONSTRUCTION BARRICADES, AND OPEN ROAD TO TRAFFIC.

LEGEND	
	PROPOSED CULVERT
	SEDIMENTATION CONTROL SYSTEM
	TEMPORARY COFFERDAM

TEMPORARY HYDRAULIC DATA	
TEMPORARY DESIGN FREQUENCY	2-YEAR
TEMPORARY DESIGN DISCHARGE	192 CFS
AVERAGE DAILY FLOW	9.1 CFS
AVERAGE DAILY FLOW ELEVATION	558.30 FT
TEMPORARY WSEL UPSTREAM	561.91 FT
TEMPORARY WSEL DOWNSTREAM	558.01 FT



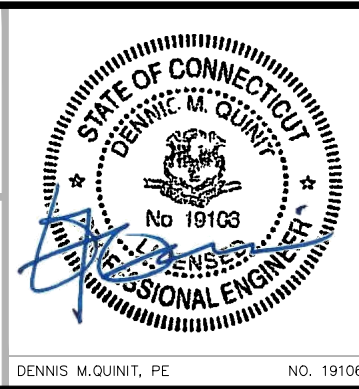
NOTES:

TEMPORARY COFFERDAM SHOWN ABOVE BASED ON PORTADAM SYSTEM. THE CONTRACTOR MAY CHOOSE TO PROVIDE A DIFFERENT TEMPORARY COFFERDAM SYSTEM AS APPROVED BY THE ENGINEER.

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PREPARED FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

OWNER FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239



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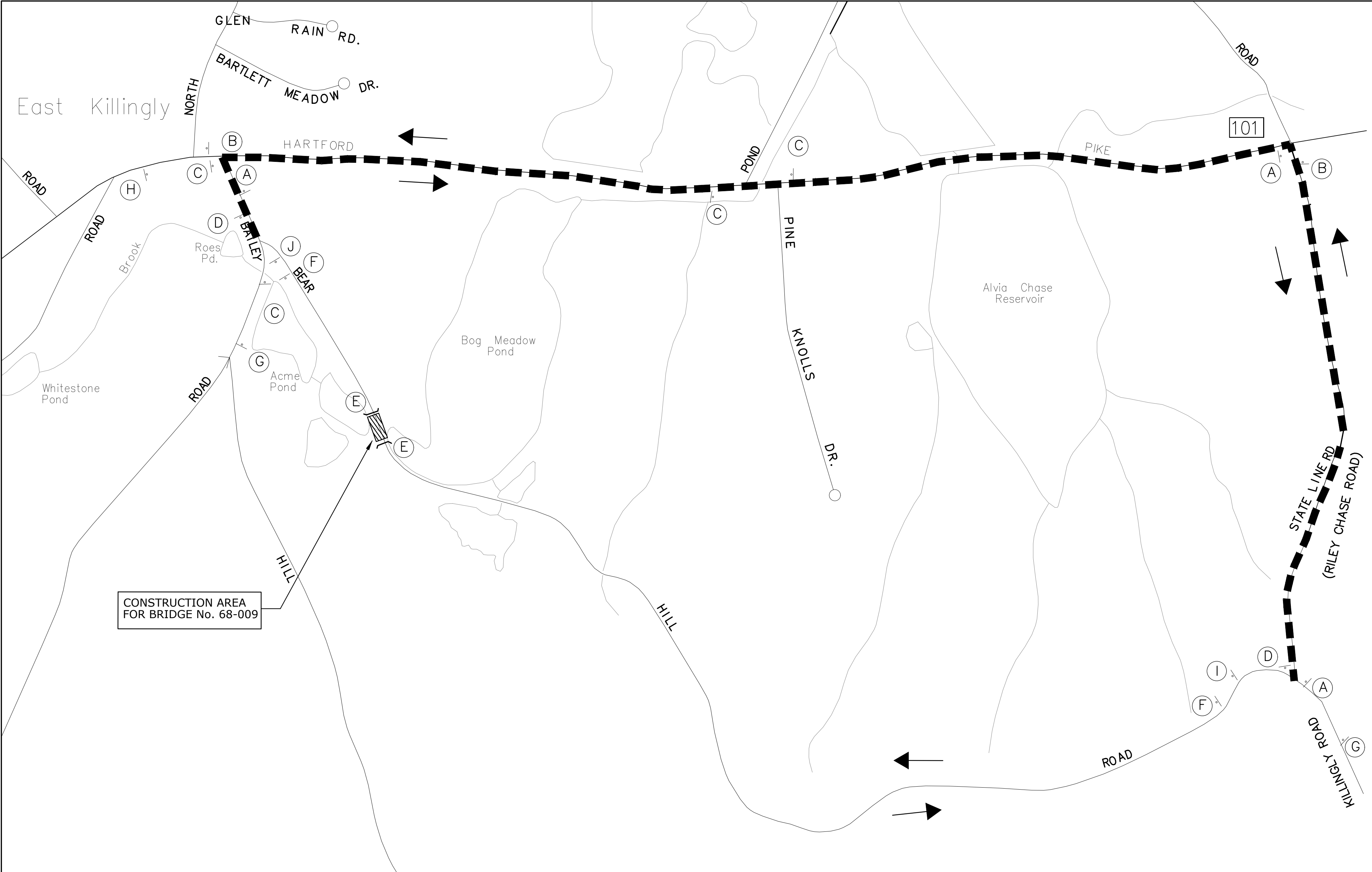
REPLACEMENT OF BRIDGE No. 68-009 BEAR HILL ROAD OVER UNNAMED BROOK KILLINGLY, CONNECTICUT

NO.	DATE	DESCRIPTION
REVISIONS		

DESIGNED: LB	PROJECT NO.: 2017-0507	CAD: SB_MSH_2017_0507_BRG009_STG
DRAFTED: LB	DATE: 10/20/2022	
CHECKED: DQ		
APPROVED: PAR		

TITLE: WATER HANDLING PLAN
SHEET NUMBER: S-3.4

Freeman Companies, LLC - R: \2017\2017-0507 Killingly Bridges\DWG\Bridges\68-009\HW_MSH_2017_0507_BRG009_DTR.dwg Nov 07, 2022 - 4:56pm Plotted By: LBuchell



DETOUR PLAN
SCALE: 1" = 200'

LEGEND

- DIRECTION OF TRAVEL
- DETOUR ROUTE

SIGNING STANDARD CONVENTIONS:

—	SINGLE POST MOUNTING	REGULATORY, WARNING, OR GUIDE SIGN INSTALLATION
—	DOUBLE POST MOUNTING	
⊥	SPAN WIRE MOUNTING	
000 00-0000	LOCATION NO. SIGN NO.	

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BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239
OWNER FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

STATE OF CONNECTICUT
DENNIS M. GURNEY, P.E.
No. 19103
PROFESSIONAL ENGINEER

**REPLACEMENT OF BRIDGE No. 68-009
BEAR HILL ROAD OVER UNNAMED BROOK
KILLINGLY, CONNECTICUT**

GENERAL NOTES

- PLAN TO BE IN EFFECT ONLY WHEN ACTIVELY WORKING ON BRIDGE No. 68-009. SEE SECTION 1.08 PROSECUTION AND PROGRESS FOR OTHER TIME RESTRICTION.
- ALL CONFLICTING SIGNS SHALL BE COVERED OR REMOVED WHEN THE DETOUR IS IN EFFECT. UPON COMPLETION OF THE DETOUR, ALL SIGNS SHALL BE UNCOVERED OR REINSTALLED IN THEIR ORIGINAL LOCATIONS. THIS WORK IS PAYABLE UNDER ITEM NO. 0971001A-MAINTENANCE AND PROTECTION OF TRAFFIC.
- ALL SIGNS USED FOR DETOUR ACTIVITIES SHALL BE PAID FOR UNDER ITEM NO. 0971001A-MAINTENANCE AND PROTECTION OF TRAFFIC.
- CONTRACTOR TO NOTIFY THE TOWN OF KILLINGLY EMERGENCY SERVICES AT LEAST TWO WEEKS PRIOR TO THE ROAD CLOSURE.
- SIGN LOCATIONS ARE TO BE VERIFIED BY THE ENGINEER. DETOUR SIGNS ARE TO BE INSTALLED SO THAT THEY DO NOT BLOCK OR ARE NOT BLOCKED BY EXISTING SIGNS.

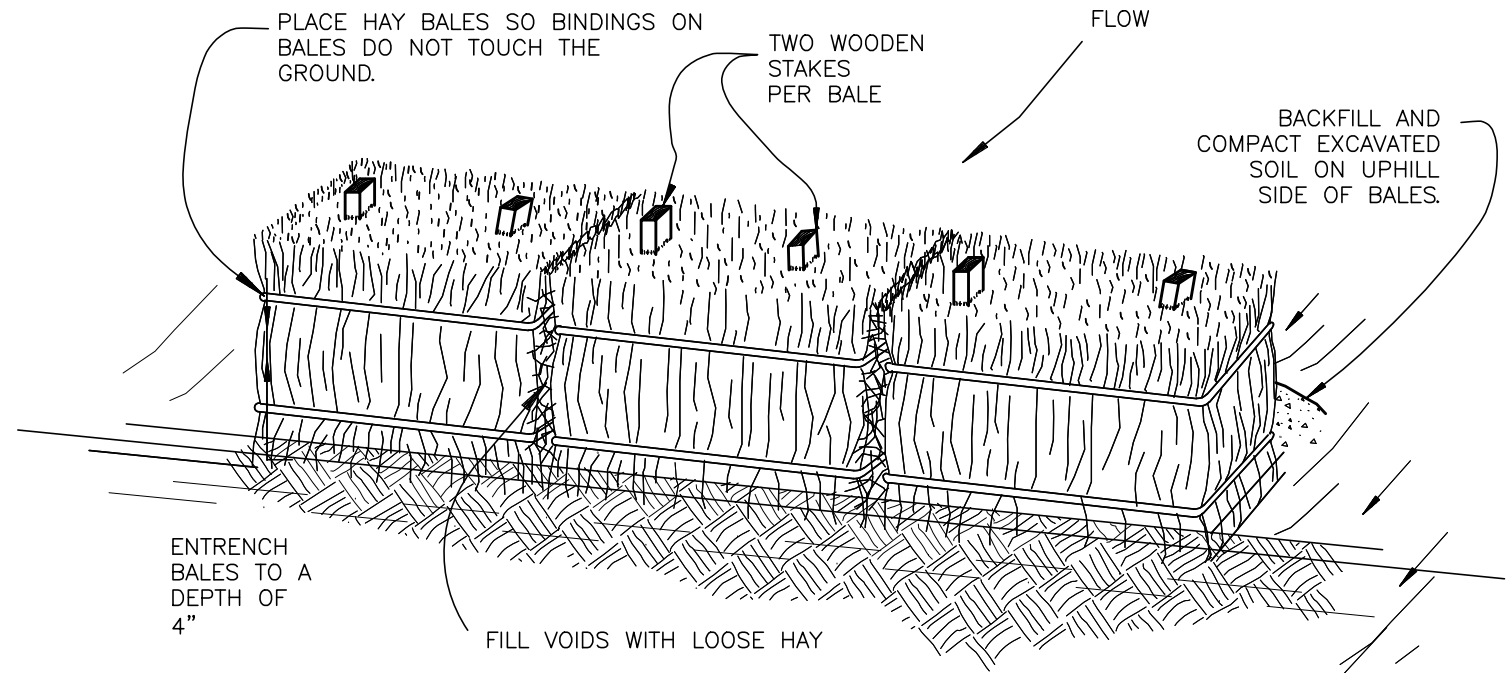
SIGNING LEGEND

(A) [DETOUR BEAR HILL RD] [DETOUR →] 80-9707 80-9913 80-9710 (R)	(E*) [ROAD CLOSED] 80-9080
(B) [DETOUR BEAR HILL RD] [DETOUR ←] 80-9707 80-9913 80-9710 (L)	(F*) [ROAD CLOSED TO THRU TRAFFIC] 80-9081
(C) [DETOUR BEAR HILL RD] [DETOUR ↑] 80-9707 80-9913 80-9710 (ST)	(G) [CONSTRUCTION AHEAD] 80-1613
(D) [END DETOUR] 80-9704	(H) [BEAR HILL RD] [CONSTRUCTION AHEAD] 80-9913 80-1613
	(I) [BRIDGE CLOSED 1.4 MILES AHEAD LOCAL TRAFFIC ONLY] 80-9078
	(J) [BRIDGE CLOSED 0.22 MILES AHEAD LOCAL TRAFFIC ONLY] 80-9078

* SIGN TO BE MOUNTED ON CONSTRUCTION BARRICADE

DESIGNED: LB	TITLE: DETOUR PLAN
DRAFTED: LB	
CHECKED: DQ	
APPROVED: PAR	
SCALE: AS NOTED	
PROJECT NO.: 2017-0507	SHEET NUMBER: DTR-3.1
DATE: 10/20/2022	
CAD: HW_MSH_2017_0507_BRG009_DTR	

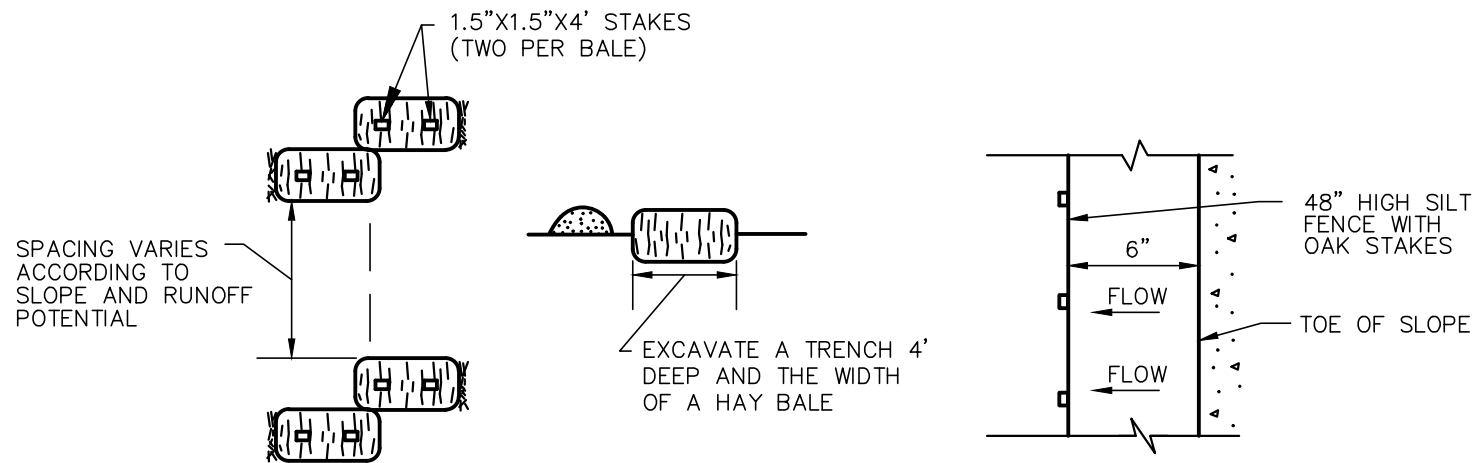
Freeman Companies, LLC - R: \2017\2017-0507 Killingly Bridges\DWG\HW_MSH_2017_0507.MDS.dwg Oct 20, 2022 - 6:28pm Plotted By: LBuchell



HAY BALE SYSTEM

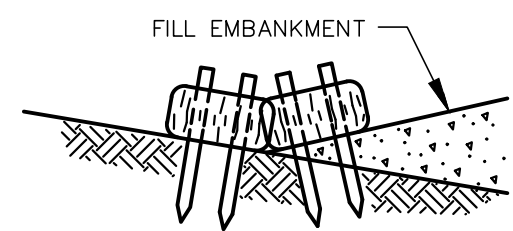
N.T.S.

- NOTES:
- HAY BALES SHALL NOT BE USED IN A WATERCOURSE.
 - HAY BALES SHALL BE ENTRENCHED 4" AND TIGHTLY BUTTED TOGETHER. REMOVE HEAVY BRUSH AND FILL ALL VOIDS WITH LOOSE HAY.
 - WOOD STAKES SHALL HAVE A MINIMUM CROSS-SECTION SIZE OF AT LEAST 1.5" x 1.5" AND A MINIMUM LENGTH OF 4'.
 - CLEAN OUT ACCUMULATED SEDIMENT WHEN ONE-HALF (1/2) OF THE ORIGINAL HEIGHT OF THE HAY BALE FENCE, AS INSTALLED, BECOMES FILLED WITH SEDIMENT OR AS DIRECTED BY THE ENGINEER.



PLAN VIEW

PLAN VIEW



SECTION VIEW

SECTION VIEW

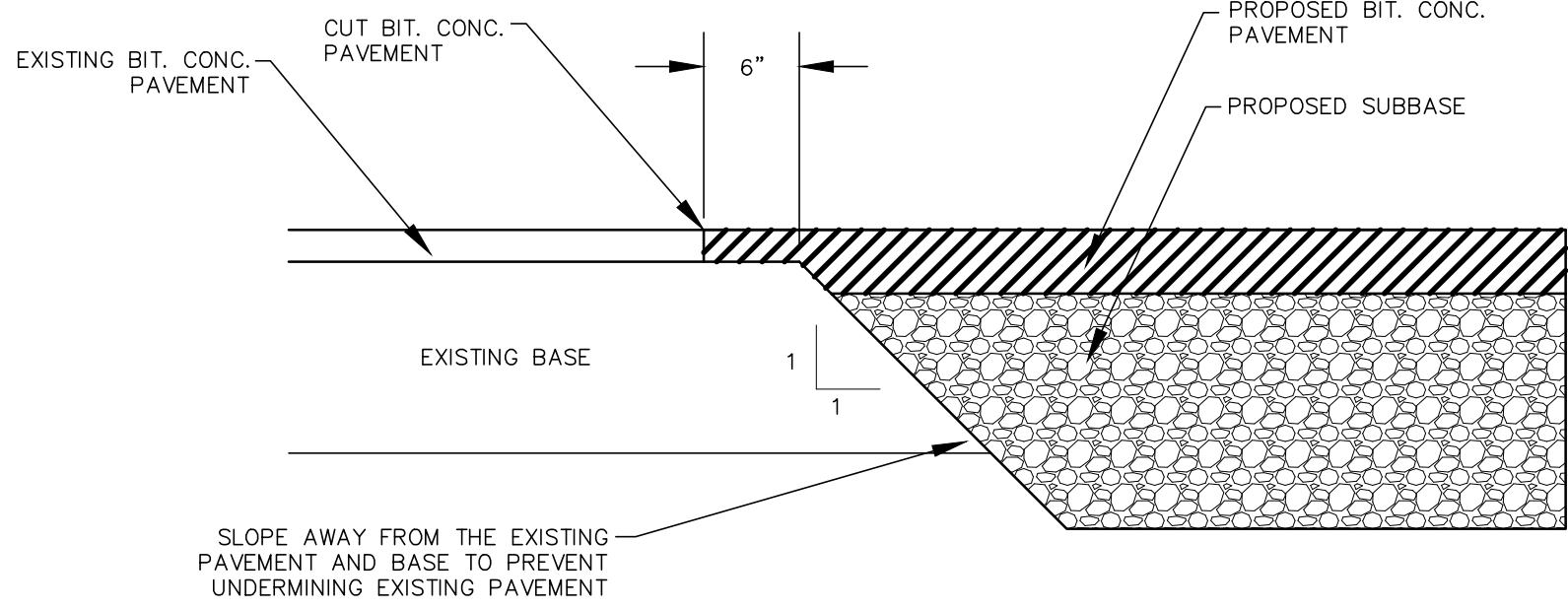
HAY BALE BERM DETAIL

SILT FENCE DETAIL

EROSION PROTECTION DEVICES

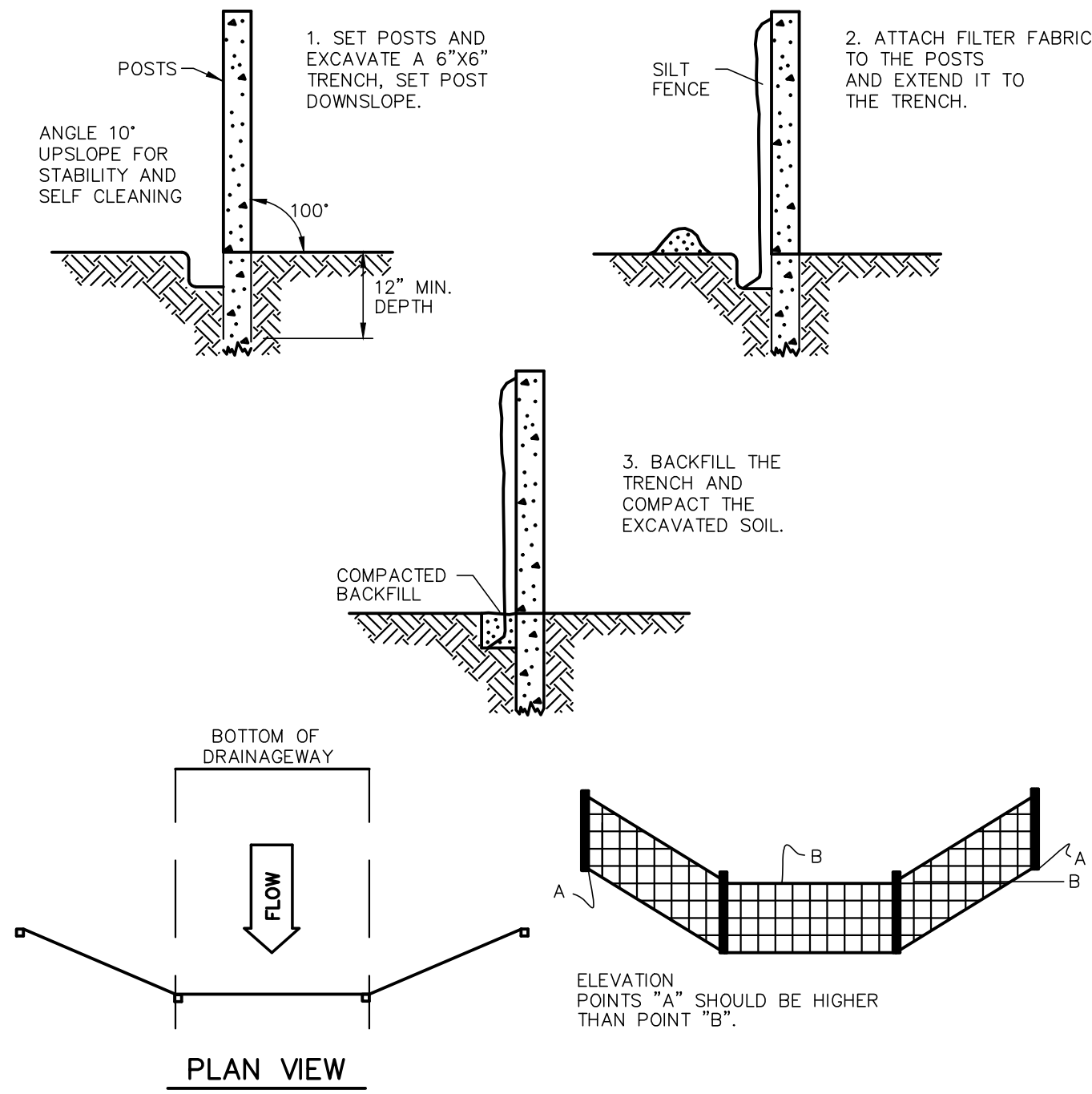
N.T.S. CTEC-002

- NOTES:
- GEOTEXTILE FENCE SHOULD BE PLACED SO THE FENCE LEANS TOWARD THE SOURCE OF SEDIMENT.
 - MAXIMUM SPACING FOR WOODEN STAKES OR STEEL POSTS IS 10.0'.
 - WOOD STAKES SHALL HAVE A MINIMUM CROSS-SECTION SIZE OF 1.5" X 1.5" AND A MINIMUM LENGTH OF 4 FT. STEEL POSTS SHALL BE AT LEAST 0.5 LB. PER FOOT WITH A MINIMUM LENGTH OF 4 FT.
 - WOODEN STAKES OR STEEL POSTS SHALL BE DRIVEN TO A MINIMUM OF 1 FT. INTO THE GROUND.
 - 6" OF GEOTEXTILE SHALL BE BURIED BY BACKFILLING OR TRENCHING AND AT LEAST 2.5 FT. IN HEIGHT OF GEOTEXTILE SHALL BE EXPOSED.
 - FABRIC SHALL BE JOINED ONLY AT A SUPPORT POST WITH A MINIMUM OF 6" OVERLAP AND SECURELY SEALED.
 - UPON RE-REESTABLISHMENT OF GROUND COVER IN DISTURBED AREAS AND WHEN DIRECTED BY THE ENGINEER, OR UPON FINAL INSPECTION FENCE AND ANY SEDIMENT SHALL BE REMOVED. AT NO TIME WILL THE FENCE REMAIN IN PLACE AFTER PROJECT COMPLETION.
 - GEOTEXTILE FENCE SHALL NOT BE USED IN A WATER COURSE.
 - ONLY GEOTEXTILE FROM THE CONNECTICUT DEPARTMENT OF TRANSPORTATION APPROVED PRODUCT LIST SHALL BE USED.
 - BACKFILLING OF GEOTEXTILE SHALL ONLY BE USED WHEN GROUND IS FROZEN OR WHERE OTHER OBSTRUCTIONS ARE ENCOUNTERED THAT PROHIBIT TRENCHING, IE. STUMPS OR ROCKS.
 - CLEAN OUT ACCUMULATED SEDIMENT WHEN ONE-HALF (1/2) OF THE ORIGINAL HEIGHT OF THE GEOTEXTILE FENCE, AS INSTALLED, BECOMES FILLED WITH SEDIMENT OR AS DIRECTED BY THE ENGINEER.



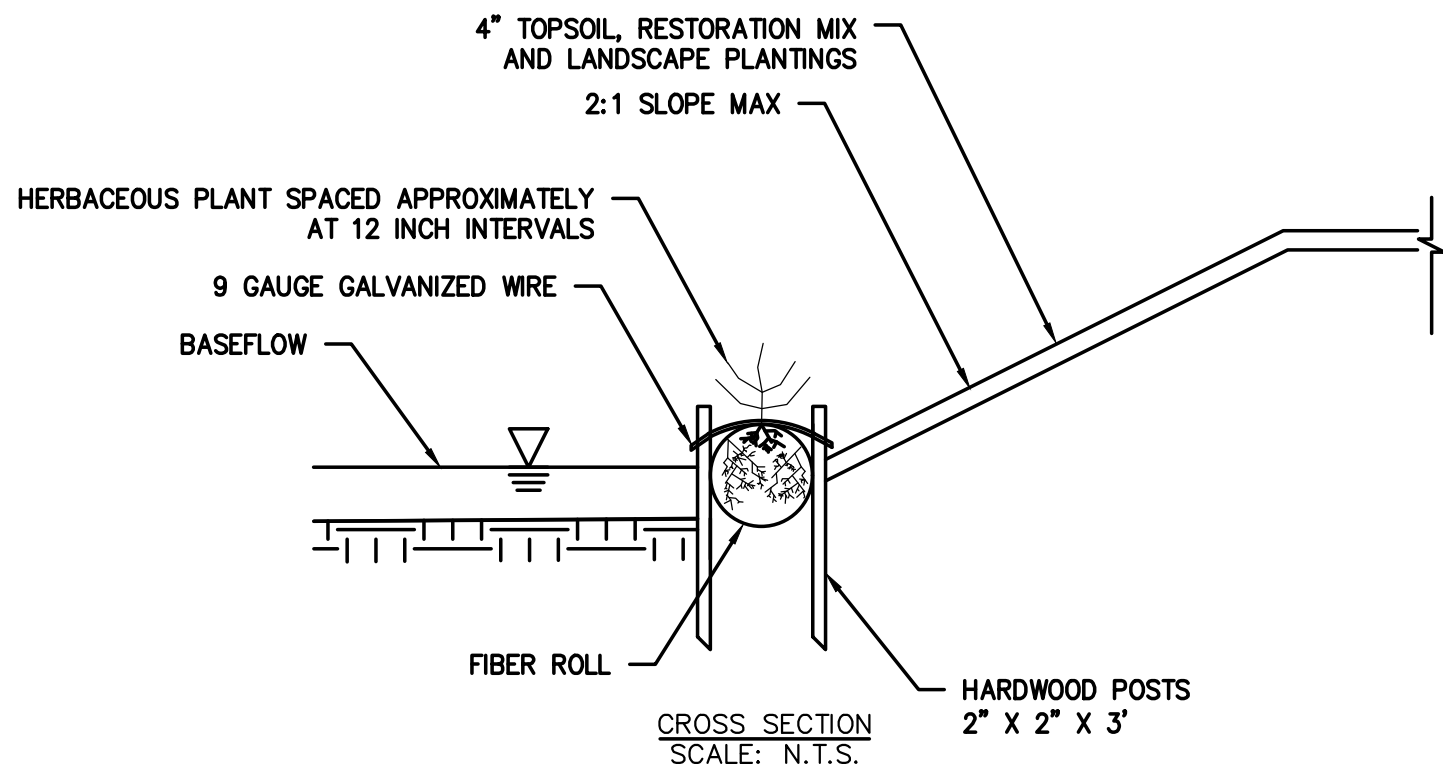
PAVEMENT TRANSITION DETAIL FOR PLACEMENT AT EXISTING PAVEMENT

N.T.S.



SILT FENCE BARRIER

N.T.S.

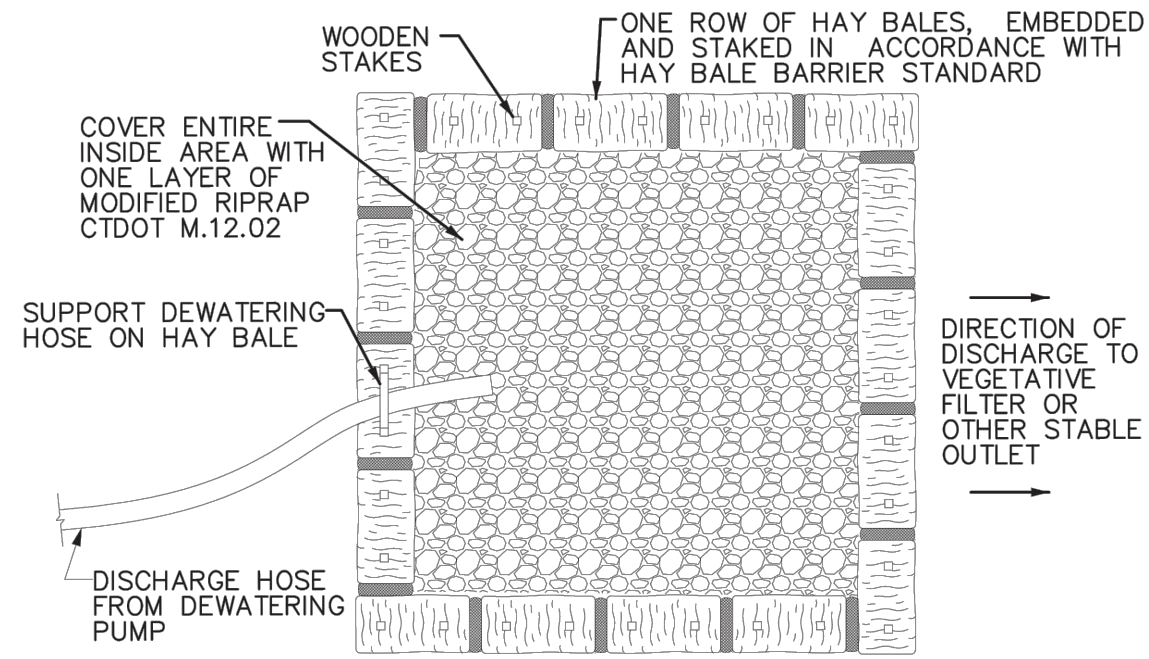


CONSTRUCTION SPECIFICATIONS:

- EXCAVATE A SHALLOW TRENCH SLIGHTLY BELOW BASEFLOW OR A 4" TRENCH ON SLOPE CONTOURS.
- PLACE THE ROLL IN THE TRENCH AND ANCHOR WITH 2" X 2" POSTS PLACED ON BOTH SIDES OF THE ROLL AND SPACED Laterally ON 2' TO 4' CENTERS. TRIM THE TOP OF THE POSTS EVEN WITH THE EDGE OF THE ROLL, IF NECESSARY.
- NOTCH THE POSTS AND TIE TOGETHER, ACROSS THE ROLL, WITH 9 GAUGE GALVANIZED WIRE OR 1/8" DIAMETER BRAIDED NYLON ROPE.
- PLACE SOIL EXCAVATED FROM THE TRENCH BEHIND THE ROLL AND HAND TAMP. PLANT WITH SUITABLE HERBACEOUS OR WOODY VEGETATION AS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS. VEGETATION SHALL BE PLACED IMMEDIATELY ADJACENT TO THE ROLL TO PROMOTE ROOT GROWTH INTO THE FIBER. HERBACEOUS VEGETATION, IF SPECIFIED, SHALL BE PLANTED INTO THE FIBER ROLL.

FIBER ROLL

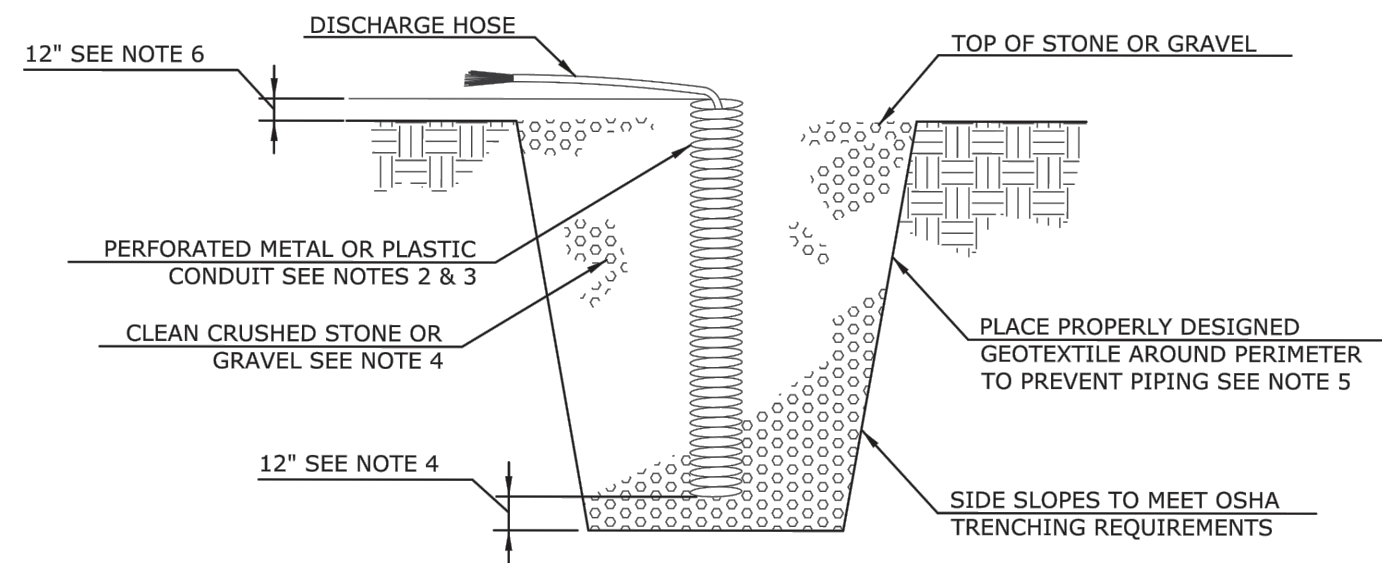
N.T.S.



- NOTES:
- INSTALL HAYBALES ACCORDING TO HAYBALE BARRIER DETAIL.
 - SIZE OF BASIN SHALL BE DETERMINED BY THE FOLLOWING: STORAGE (CUBIC FEET) = PUMP DISCHARGE (GPM) x 16
 - MINIMUM INSPECTION RATE SHALL BE EVERY TWO HOURS DURING CONTINUOUS OPERATION. REMOVE ACCUMULATED SEDIMENTS WHEN EQUAL TO ONE HALF OF THE REQUIRED STORAGE VOLUME. DISPOSE OF SEDIMENTS PROPERLY OFF-SITE.
 - OVERFLOW DISCHARGE FROM THE BASIN SHALL FOLLOW THE GENERAL DIRECTION EXISTING DRAINAGE PATTERNS AND SHALL ONLY FLOW OVER AREAS PERMANENTLY STABILIZED.
 - CONTRACTOR SHALL DISCHARGE INTO TYPE I PUMPING SETTLING BASIN FOR THE DEWATERING OF HIS EXCAVATION OPERATIONS. AT NO TIME SHALL THE CONTRACTOR DISCHARGE EXCAVATION DEWATERING DIRECTLY INTO TOWN STORM SEWER.

TYPE I PUMPING SETTLING BASIN

N.T.S.



REFER TO PAGE 5-13-3 "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL".

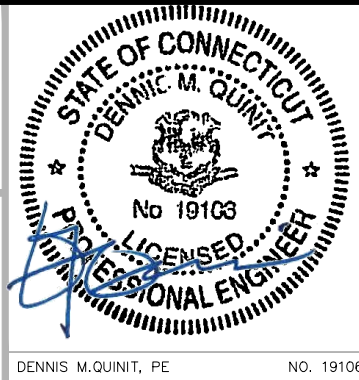
- NOTE:
- OVERALL SUMP PIT DIMENSIONS SHALL BE COMPATIBLE WITH ANTICIPATED SEEPAGE RATES AND PUMP SIZE TO BE USED.
 - THE STANDPIPE DIAMETER AND NUMBER OF PERFORATIONS SHALL BE COMPATIBLE WITH THE PUMP SIZE BEING USED.
 - PERFORATIONS IN THE STANDPIPE SHALL BE EITHER CIRCULAR OR SLOTS. PERFORATION SIZE SHALL NOT EXCEED 1/2" IN DIAMETER.
 - CRUSHED STONE OR GRAVEL SHALL BE NO SMALLER THAN CT DOT #8 SIZE NOR LARGER THAN CT DOT #3 SIZE. CRUSHED STONE SHALL EXTEND A MINIMUM OF 12" BELOW THE BOTTOM OF THE STANDPIPE.
 - IF EXCESSIVE MOVEMENT OF FINE SOIL PARTICLES FROM THE SURROUNDING EXISTING SOILS IS ANTICIPATED, A PROPERLY DESIGNED GEOTEXTILE SHALL BE PLACED BETWEEN THE EXISTING SOILS AND THE CRUSHED STONE OR GRAVEL BACKFILL.
 - THE STANDPIPE SHALL EXTEND A MINIMUM OF 12" ABOVE THE SURROUNDING GROUND.

PUMP INTAKE – TYPICAL SECTION OF SUMP PIT

N.T.S.

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BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239
OWNER FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239

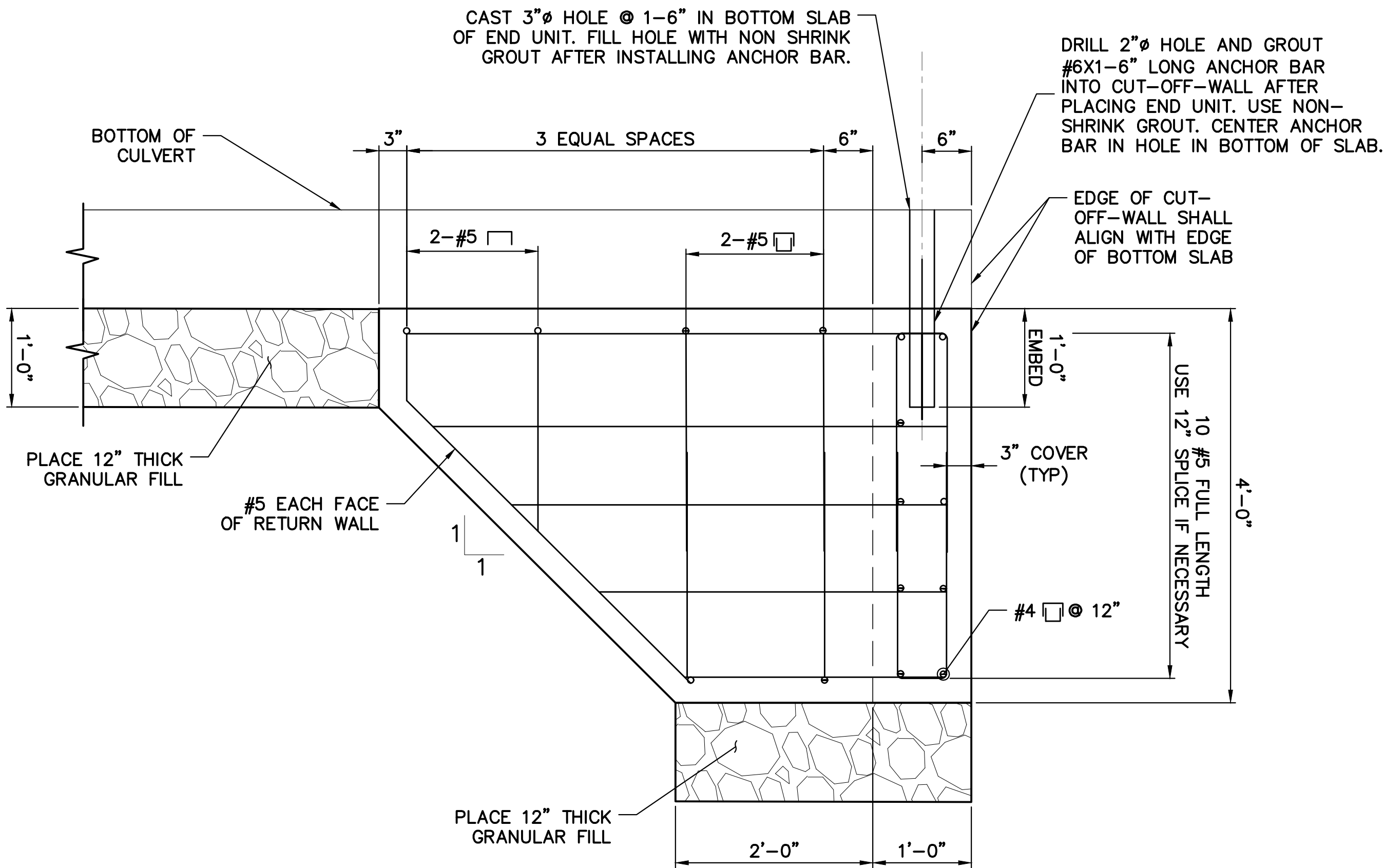


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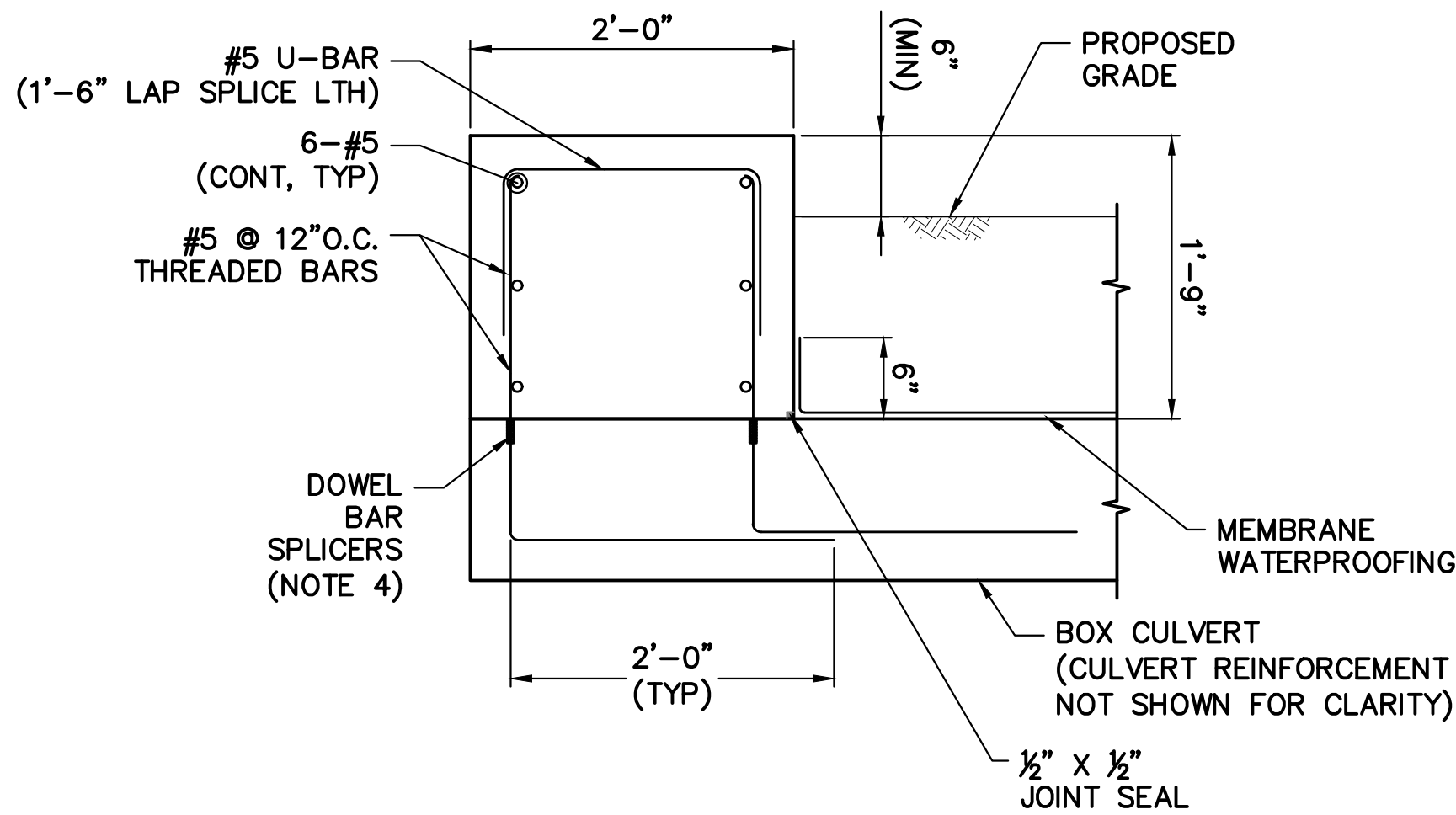
REPLACEMENT OF KILLINGLY BRIDGES KILLINGLY, CONNECTICUT

	DESIGNED:	LB
	DRAFTED:	LB
	CHECKED:	DQ
	APPROVED:	PAR
	SCALE:	NOT TO SCALE
	PROJECT NO.:	2017-0507
	DATE:	10/20/2022
	CAD FILE:	HW_MSH_2017_0507_MDS
	REVISIONS	

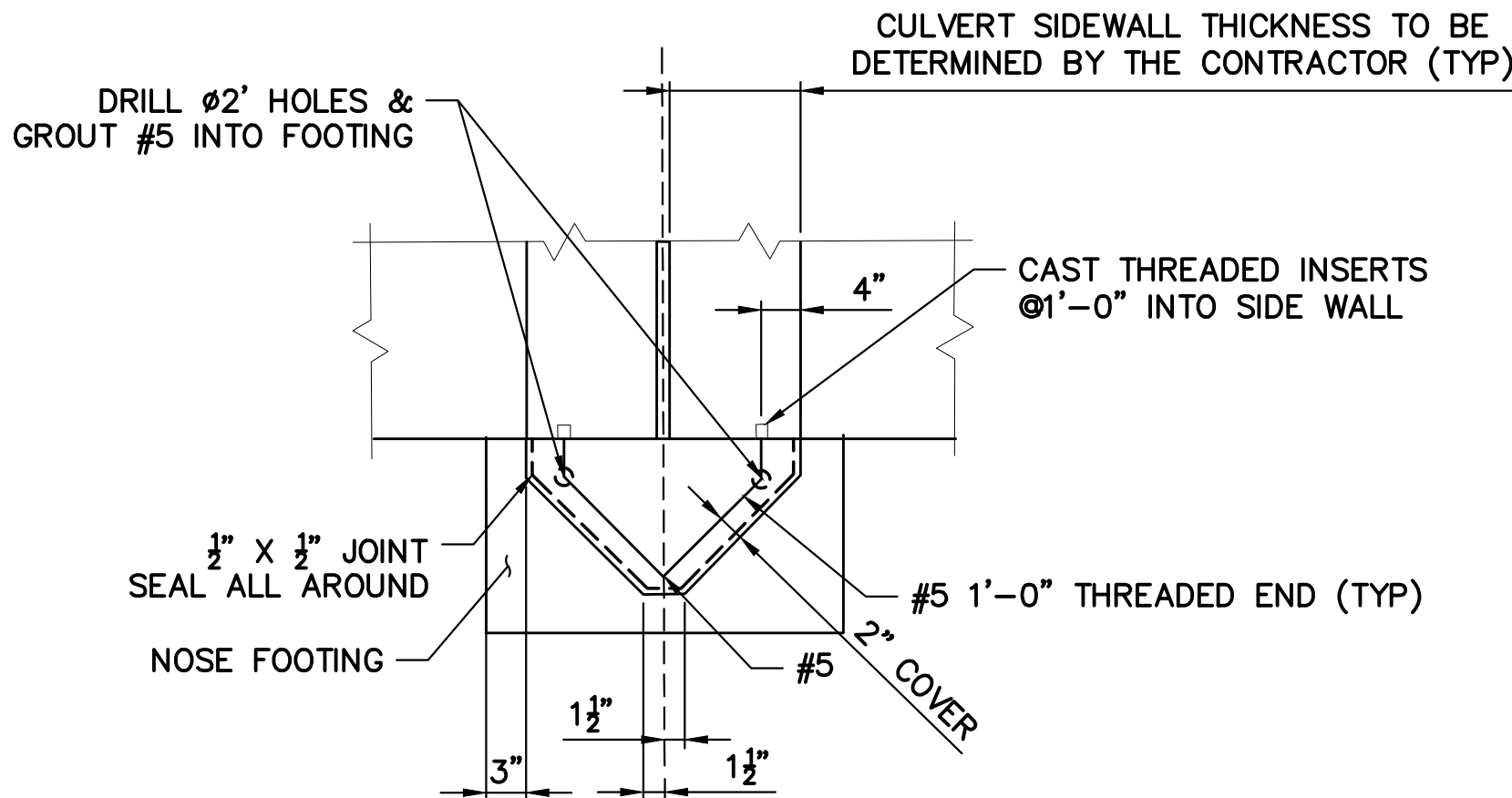
	TITLE:
	MISCELLANEOUS DETAILS
	SHEET NUMBER:
	MDS-1



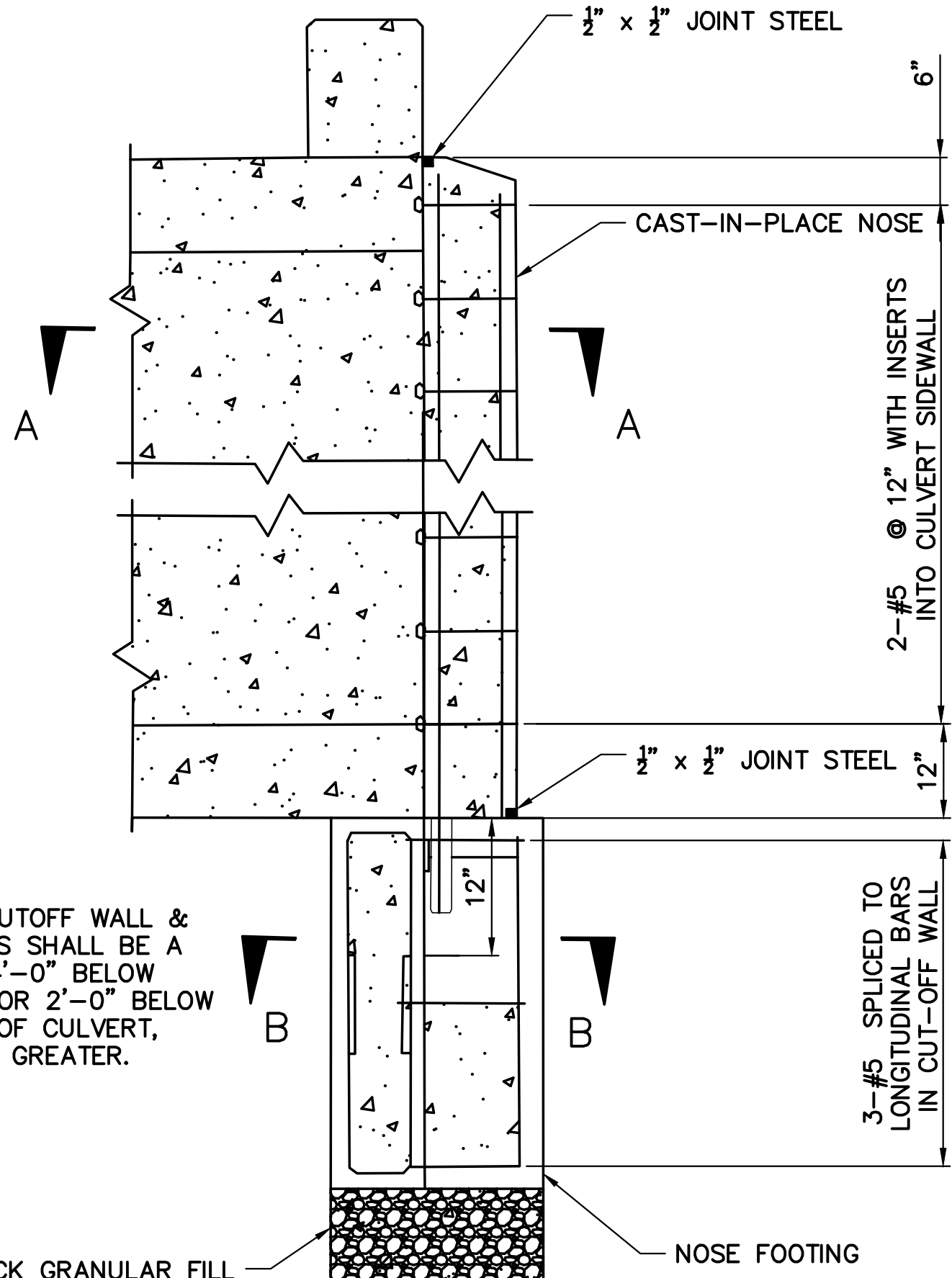
CUTOFF & RETURN WALL DETAIL
SCALE: 1" = 1'-0"



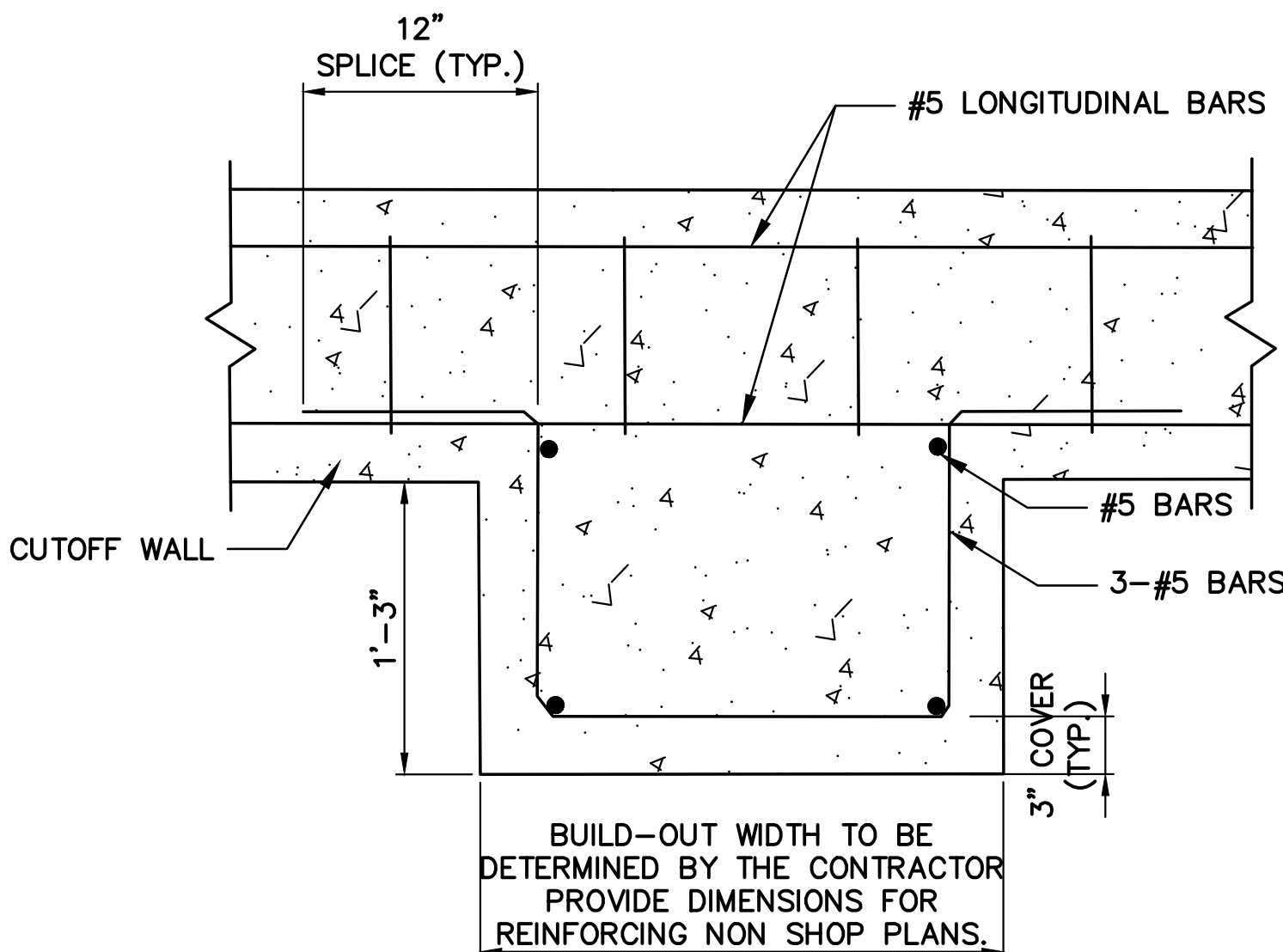
HEADWALL DETAIL
SCALE: 1" = 1'-0"



PRECAST BOX CULVERT CAST-IN-PLACE NOSE SECTION A-A
N.T.S.



PRECAST BOX CULVERT CAST-IN-PLACE NOSE & FOOTING DETAIL
N.T.S.



PRECAST BOX CULVERT CAST-IN-PLACE NOSE SECTION B-B
N.T.S.

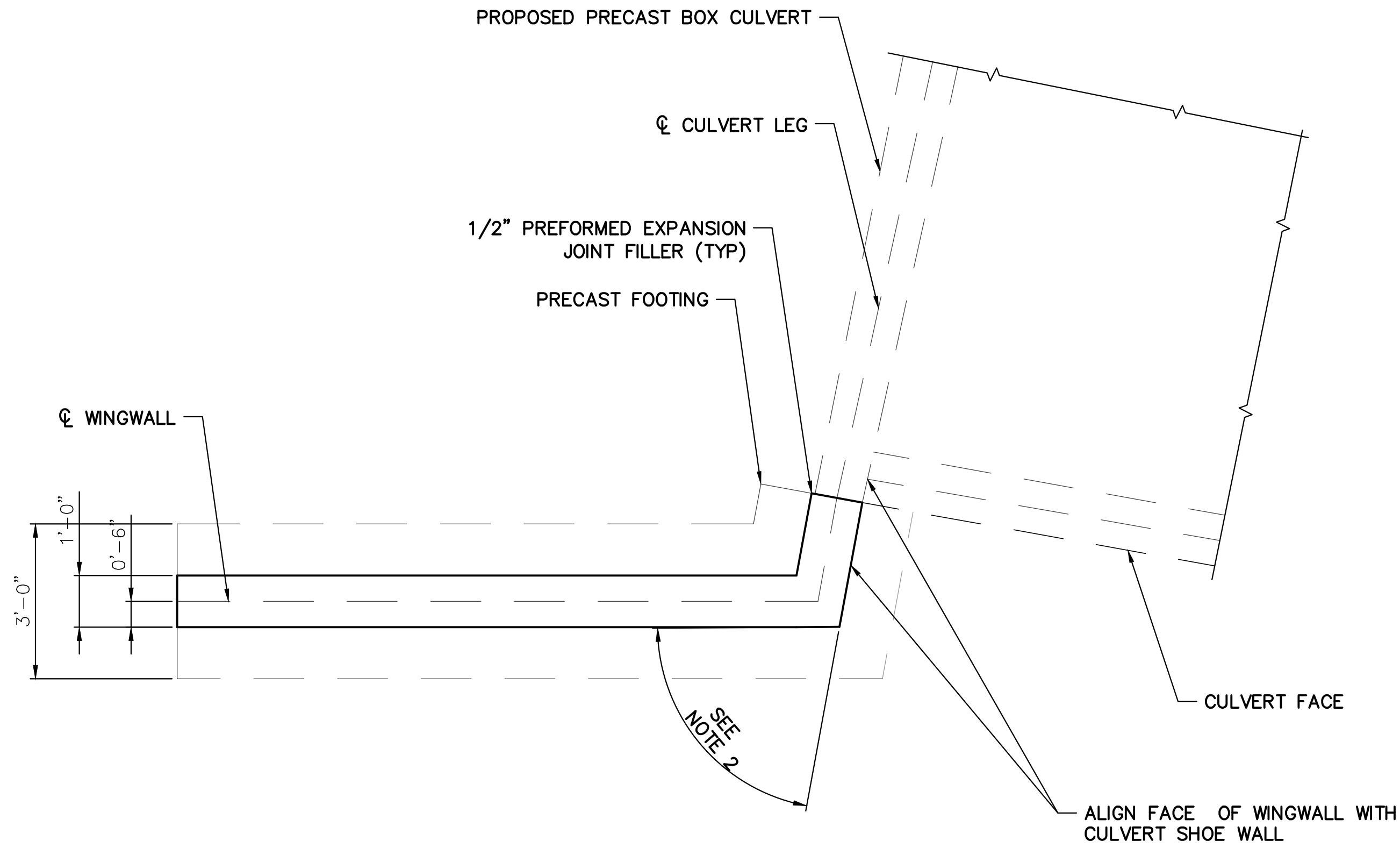
GENERAL NOTES

1. THE CONTRACTOR SHALL DESIGN, MANUFACTURE AND CONSTRUCT THE PRECAST CONCRETE BOX CULVERT IN ACCORDANCE WITH THE SPECIAL PROVISIONS FOR THE "(SIZE) PRECAST CONCRETE BOX CULVERT" AND TO THE INSIDE DIMENSION, LENGTH AND DETAILS AS SHOWN ON THESE PLANS.
 2. ALL INSERTS OR HOLES CAST INTO THE CULVERT SECTIONS FOR THE SOLE PURPOSE OF HANDLING AND SETTING THE UNITS SHALL BE GROUTED OVER TO A SMOOTH FINISH UPON THE COMPLETION OF THE WORK.
 3. NON-SHRINK GROUT SHALL BE USED TO GROUT THE REINFORCEMENT.
 4. THE COST OF FUNISHING AND INSTALLING INSERTS SHALL BE INCLUDED IN THE COST OF THE ITEM "13' X 8' PRECAST CONCRETE BOX CULVERT" AND SHALL BE ONE OF THE FOLLOWING:
 - A. STAR EXPANSION INDUSTRIES CORP. TYPE P-35-T
 - B. RICHMOND SCREW ANCHOR CO. TYPE LF
 - C. DAYTON SUPERIOR CORP. TYPE F-57
- ALL INSERTS SHALL HAVE A CORROSIVE RESISTANT COATING.
5. THE #5 BARS WITH THREADED END SHALL BE COMPATIBLE WITH THE THREADED INSERTS (SEE NOTE 4). THREADS SHALL BE LONG ENOUGH TO FULLY ENGAGE THE INSERTS. THE THREADED BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60.
 6. ALL REINFORCEMENT SHALL HAVE 2" COVER UNLESS OTHERWISE NOTED.

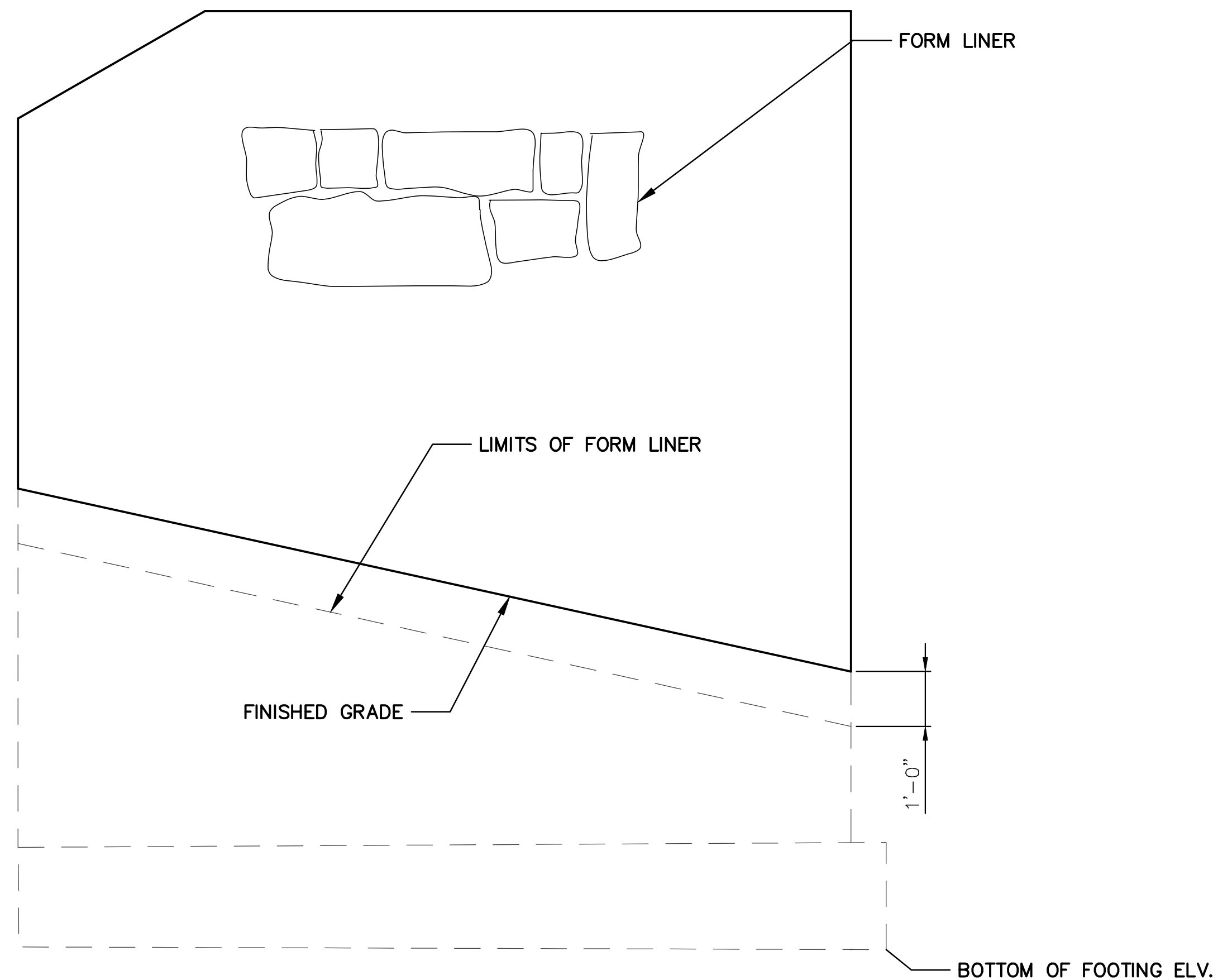
- NOTES:
1. BOTTOM OF CUTOFF WALL & RETURN WALLS SHALL BE A MINIMUM OF 4'-0" BELOW STREAM BED OR 2'-0" BELOW THE BOTTOM OF CULVERT, WHICHEVER IS GREATER.

REPLACEMENT OF KILLINGLY BRIDGES
KILLINGLY, CONNECTICUT

Freeman Companies, LLC - R: \\2017\\2017-0507 Killingly Bridges\\DWG\\HW_MSH_2017_0507.MDS.dwg Nov 07, 2022-5:26pm Plotted By: LBuchell



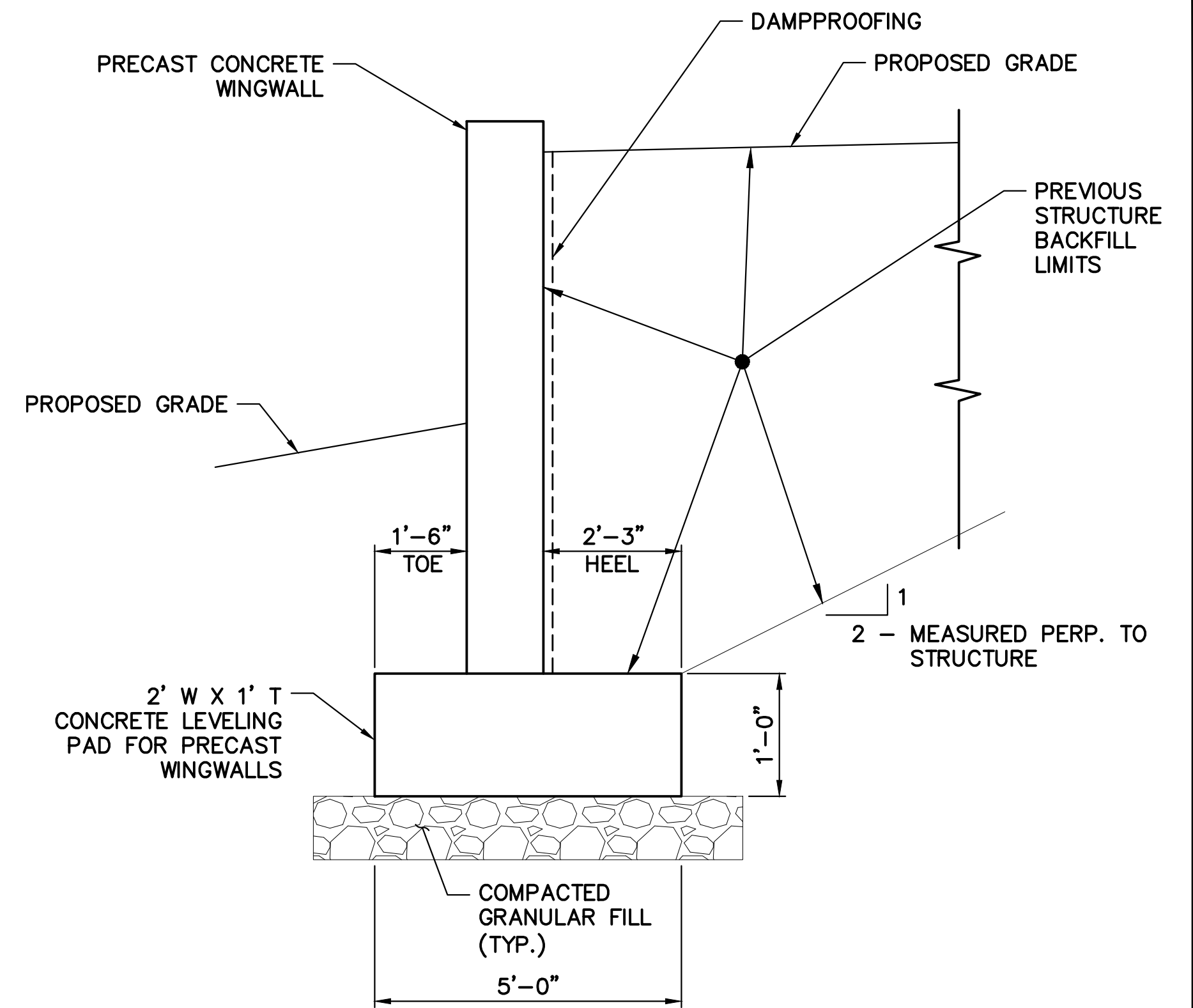
LAYOUT
N.T.S.



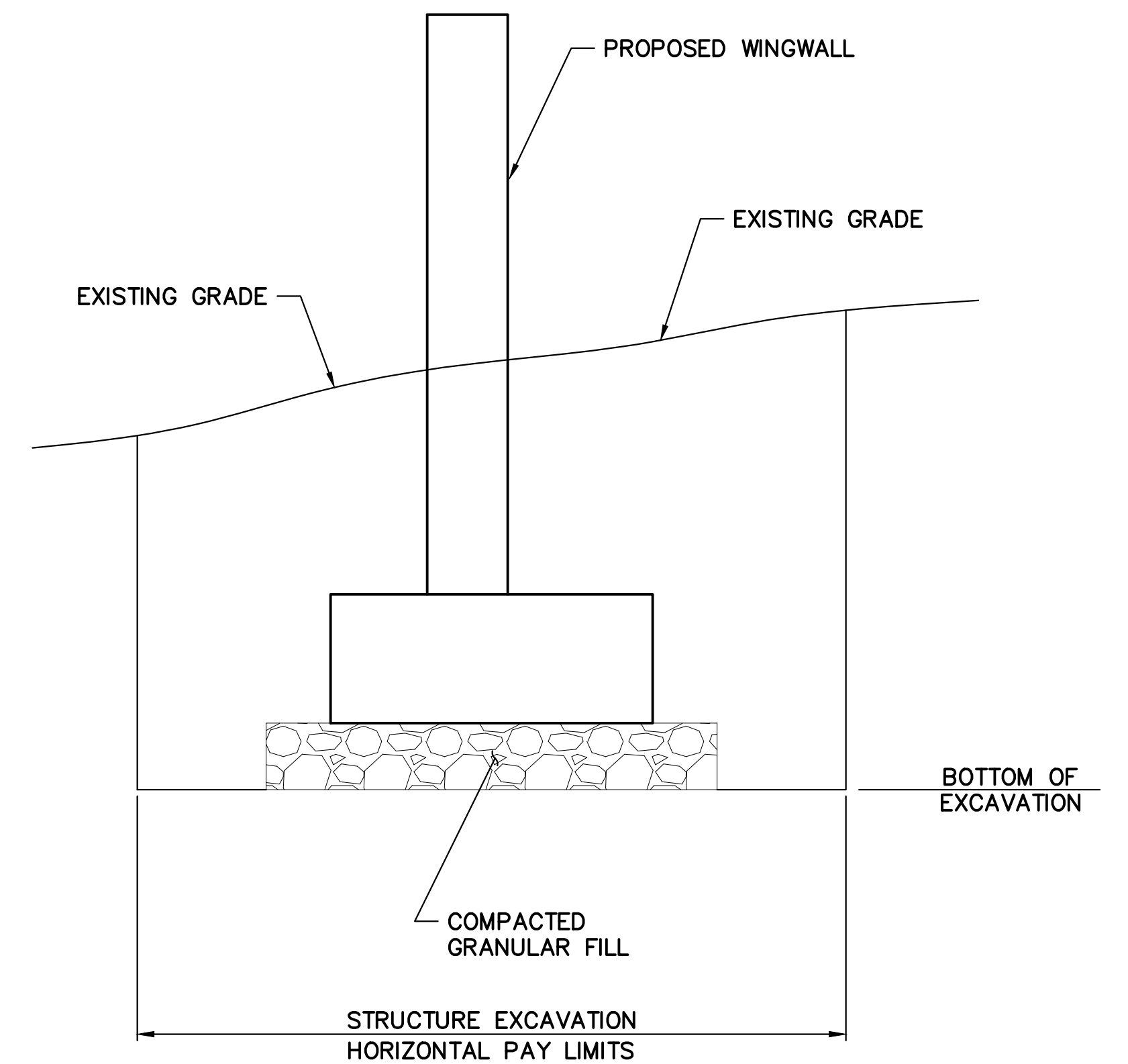
TYPICAL PRECAST WINGWALL
N.T.S.

NOTES

1. SEE DRAWING NO. S-1 FOR WINGWALL ELEVATION INFORMATION.
2. SEE DRAWING NO. S-2 FOR PROPOSED WINGWALL LAYOUTS.
3. THE WINGWALL FOOTING SHOWN ON THIS SHEET MAY BE MODIFIED SLIGHTLY AS APPROVED BY THE ENGINEER.
4. CONTRACTOR SHALL PROVIDE THE MAXIMUM SOIL BEARING PRESSURES CONFORMING TO THE AASHTO LRFD LIMIT STATES FOR THE PRECAST CONCRETE WINGWALL DESIGN.



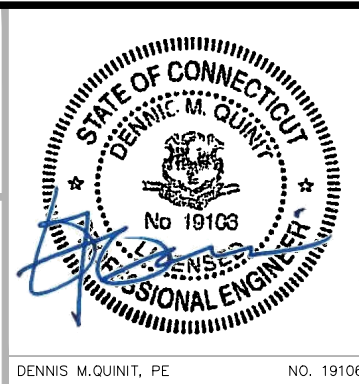
TYP. PRECAST WINGWALL SECTION
SCALE: 1/2" = 1'-0"



PRECAST WINGWALL PAY LIMITS
N.T.S.

FREEMAN
COMPANIES
LAW | DEVELOPMENT | ENGINEERING DESIGN | CONSTRUCTION SERVICES
DBE | DAS | MBE | GNASDC CERTIFIED
CIVIL | GEOTECHNICAL | SURVEY | ENVIRONMENTAL
FREEMAN COMPANIES, LLC
30 JOHN STREET
HARTFORD, CT 06106
WWW.FREEMANCOS.COM
(860)251-1900
TOLL FREE (800)604-5141
FAX (860)251-7151
ELEVATE YOUR EXPECTATIONS

PREPARED FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239
OWNER FOR
TOWN OF KILLINGLY
BEAR HILL ROAD
KILLINGLY,
CONNECTICUT 06239



DENNIS M. GURNEY, P.E. NO. 19105

REPLACEMENT OF KILLINGLY BRIDGES KILLINGLY, CONNECTICUT

TITLE:	MISCELLANEOUS DETAILS
SHEET NUMBER:	MDS-3

*ONLY STANDARD SHEETS MARKED WITH AN "✓" ARE IN THIS PROJECT # 2017-0507

**REVISED OR ADDED

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-286_01	DRAINAGE TRENCH EXCAVATION	7-15-20
	HW-506_01	ENDWALLS, SLOPE PAVED INLETS AND OUTLETS	1-26-12
	HW-506_02	TYPE "D-G" & "L" ENDWALLS	7-13-12
	HW-506_03	ENDWALLS FOR PIPE - ARCH	9-18-09
	HW-586_01	CATCH BASIN AND DROP INLET TYPES "C" AND "C-L"	7-15-20
	HW-586_02	CATCH BASIN TOPS (TYPES "C" AND "C-L") FOR DOUBLE GRATE TYPE I	7-15-20
	HW-586_03	CATCH BASIN TOPS (TYPES "C" AND "C-L") FOR DOUBLE GRATE TYPE II	7-15-20
	HW-586_04	PRECAST CATCH BASIN AND ROUND STRUCTURE	7-15-20
	HW-586_05	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE I	7-15-20
	HW-586_06	PRECAST CATCH BASIN TYPES FOR DOUBLE GRATE TYPE II	7-15-20
	HW-586_07	CATCH BASIN TOPS TYPE "C" AND "C-L"	7-15-20
	HW-586_08	CATCH BASIN FRAMES AND GRATES	7-15-20
	HW-586_09	CATCH BASIN LOCK DOWN TOPS	7-15-20
	HW-586_10a	MANHOLE FRAME AND COVER	7-15-20
	HW-586_10b	MANHOLE FRAME AND GRATE	7-15-20
	HW-586_10c	REINFORCED PRECAST CONCRETE MANHOLE	7-15-20
	HW-586_10d	MANHOLE NON-PRECAST CONCRETE UNIT	7-15-20
	HW-686_01	C.C.M. PIPE INSTALLATION	7-15-20
	HW-686_02	PIPE ENDS	7-15-20
	HW-751_01	UNDERDRAINS AND UNDERDRAIN OUTLETS	7-12-12
	HW-803_01a	PAVED APRONS	6-07-17
	HW-803_01b	PAVED DITCHES AND PAVED CHANNELS	6-07-17
	HW-811_01	CONCRETE CURBING	6-07-17
	HW-813_01	GRANITE STONE TRANSITION CURBING	7-24-13
	HW-813_02	STONE CURBING	6-07-17
✓	HW-815_01	BITUMINOUS CONCRETE CURBING	6-07-17
	HW-821_01a	TRANSITION - 45" (1145) F-SHAPE TO 45" (1145) VERTICAL SHAPE SHEET 1	1-26-12
	HW-821_01b	TRANSITION - 45" (1145) F-SHAPE TO 45" (1145) VERTICAL SHAPE SHEET 2	10-18-10
	HW-821_01c	TRANSITION - 45" (1145) F-SHAPE TO 45" (1145) VERTICAL SHAPE SHEET 3	1-26-12
	HW-821_02a	45" F-SHAPE PRECAST CONCRETE BARRIER CURB SHEET 1	1-27-20
	HW-821_02b	45" F-SHAPE PRECAST CONCRETE BARRIER CURB SHEET 2	1-27-20
	HW-821_03a	TRANSITION - 32" (813) JERSEY SHAPE TO 45" (1145) VERTICAL SHAPE SHEET 1	1-26-12

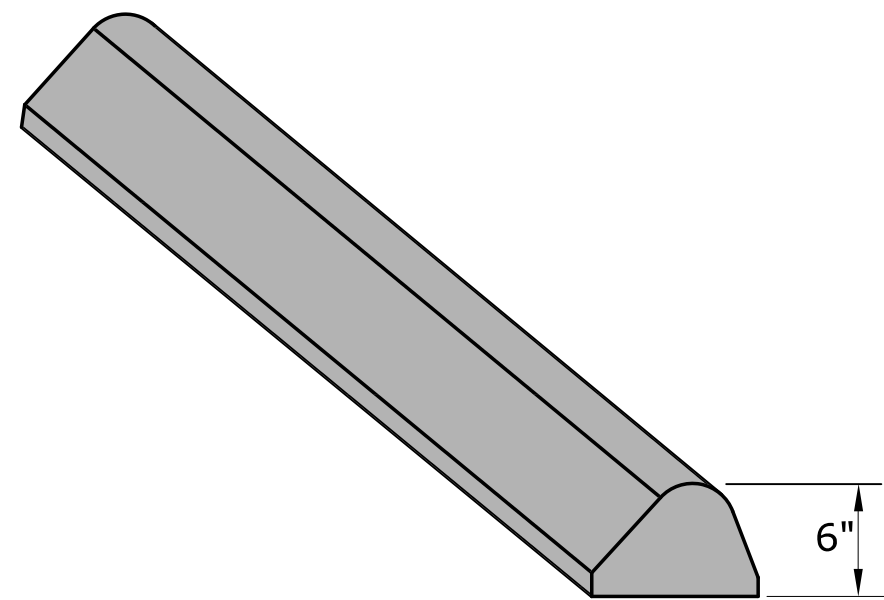
✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-821_03b	TRANSITION - 32" (813) JERSEY SHAPE TO 45" (1145) VERTICAL SHAPE SHEET 2	10-18-10
	HW-821_03c	TRANSITION - 32" (813) JERSEY SHAPE TO 45" (1145) VERTICAL SHAPE SHEET 3	10-18-10
	HW-821_03d	TRANSITION - 32" (813) JERSEY SHAPE TO 45" (1145) VERTICAL SHAPE SHEET 4	10-18-10
	HW-821_03e	TRANSITION - 32" (813) JERSEY SHAPE TO 45" (1145) F-SHAPE	7-24-13
	HW-821_04a	MERRITT PARKWAY NARROW MEDIAN BARRIER	6-09-11
	HW-821_04b	MERRITT PARKWAY - 2' (610) WIDE MEDIAN BARRIER AND ROADSIDE BARRIER	7-24-13
	HW-821_05a	TRANSITION - 45" (1145) F-SHAPE TO 54" (1372) VERTICAL SHAPE SHEET 1	1-26-12
	HW-821_05b	TRANSITION - 45" (1145) F-SHAPE TO 54" (1372) VERTICAL SHAPE SHEET 2	1-26-12
	HW-821_06	54" (1372) VERTICAL SHAPE BARRIER	2-06-12
	HW-821_07	MISCELLANOUS DETAILS FOR BARRIER TRANSITIONS	7-12-12
	HW-821_08a	F-SHAPE CONC. BARRIER CURB (21"x45") TRANSITION FOR THRIE-BEAM	1-09-20
	HW-821_08b	F-SHAPE CONC. BARRIER CURB (21"x45") TRANSITION FOR THRIE-BEAM - REINF.	1-09-20
	HW-821_09a	SINGLE SLOPE CONC. BARRIER CURB (20"x42") TRANS. FOR THRIE-BEAM	1-09-20
	HW-821_09b	SINGLE SLOPE CONC. BARRIER CURB (20"x42") TRANS. FOR THRIE-BEAM - REINF.	1-09-20
	HW-821_10a	VERTICAL FACE CONC. (21"x54") TRANSITION FOR THRIE-BEAM	1-09-20
	HW-821_10b	VERTICAL FACE CONC. (21"x54") TRANSITION FOR THRIE-BEAM REINF	1-09-20
	HW-821_11a	42" SINGLE SLOPE PRECAST CONCRETE BARRIER CURB -SHEET 1	1-27-20
	HW-821_11b	42" SINGLE SLOPE PRECAST CONCRETE BARRIER CURB -SHEET 2	1-27-20
✓	HW-822_01	TEMPORARY PRECAST CONCRETE BARRIER CURB	7-24-13
✓	HW-822_02a	TEMPORARY TRAFFIC BARRIER - DETAILS	3-18-21
	HW-822_02b	TEMPORARY TRAFFIC BARRIER (BOLTED)	3-18-21
	HW-822_02c	TEMPORARY TRAFFIC BARRIER & TEMPORARY TRAFFIC BARRIER (PINNED)	3-18-21
	HW-905_01	STONE WALL FENCE	1-25-19
	HW-906_01	WIRE FENCE	1-25-19
✓	HW-910_01	W-BEAM METAL BEAM RAIL HARDWARE	6-09-11
	HW-910_02	METAL BEAM RAIL (TYPE R-B 350) GUIDERAIL	6-09-11
	HW-910_03	METAL BEAM RAIL (TYPE MD-B 350) GUIDERAIL	6-09-11
	HW-910_04	METAL BEAM RAIL (TYPE R-B 350) SYSTEMS 5, 5A, & 6	6-09-11
✓	HW-910_05	METAL BEAM RAIL R-B 350 SPAN TYPE I, II, III SECTIONS	7-24-13
	HW-910_06	R-B 350 BRIDGE ATTACHMENT SAFETY SHAPE PARAPET	6-09-11
✓	HW-910_07	R-B 350 BRIDGE ATTACHMENT VERTICAL SHAPE PARAPET	1-25-19
	HW-910_08	R-B 350 BRIDGE ATTACHMENT TRAILING END	6-09-11

***ONLY STANDARD SHEETS MARKED WITH AN "✓" ARE IN THIS PROJECT # 2017-0507**

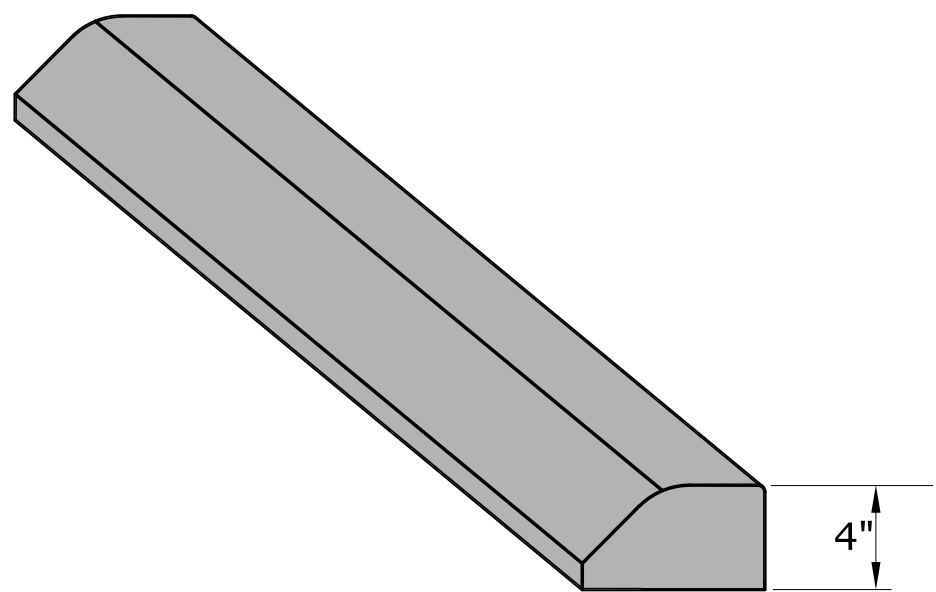
****REVISED OR ADDED**

✓*	SHEET NO.	TITLE	APPROVAL DATE**
	HW-910_09a	MISCELLANEOUS GUIDERAIL TRANSITIONS SHEET 1	7-15-20
	HW-910_09b	MISCELLANEOUS GUIDERAIL TRANSITIONS SHEET 2	7-15-20
	HW-910_10	METAL BEAM RAIL 8" (203) x 6" (152) BOX BEAM	7-24-13
	HW-910_11	CURVED GUIDERAIL TREATMENT DETAIL	7-25-12
	HW-910_12a	MERRITT PARKWAY GUIDERAIL LEADING END ATTACHMENTS AND SYSTEMS 2&3	7-24-13
	HW-910_12b	MERRITT PARKWAY GUIDERAIL HARDWARE DETAILS	7-24-13
	HW-910_12c	MERRITT PARKWAY GUIDERAIL TRAILING END ATTACHMENTS	7-24-13
	HW-910_12d	MERRITT PARKWAY MEDIAN GUIDERAIL AND END ANCHOR	6-09-11
	HW-910_13a	THRIE-BEAM METAL BEAM RAIL HARDWARE	7-24-13
	HW-910_13b	THRIE-BEAM TRANSITIONS	7-24-13
	HW-910_14a	THRIE-BEAM 350 BRIDGE ATTACHMENT	6-09-11
	HW-910_14b	THRIE-BEAM 350 GUIDERAIL TRANSITION TO R-B 350 GUIDERAIL	6-09-11
	HW-910_15	MD-B 350 MEDIAN BARRIER SAFETY SHAPE ATTACHMENT TYPE I	6-09-11
	HW-910_16	MD-B 350 MEDIAN BARRIER SAFETY SHAPE ATTACHMENT TYPE II	6-09-11
	HW-910_17	R-B TERMINAL SECTION	7-24-13
	HW-910_18	METAL BEAM RAIL (TYPE MD-I) GUIDERAIL	10-18-10
	HW-910_19a	METAL BEAM RAIL (MODIFIED TYPE R-I) AND END ANCHORAGE TYPE I	7-24-13
	HW-910_19b	METAL BEAM RAIL (MODIFIED TYPE R-I) AND END ANCHORAGE TYPE II	7-24-13
	HW-910_19c	METAL BEAM RAIL (MODIFIED TYPE R-I) SYSTEMS 2 AND 3	7-24-13
	HW-910_20	MASH W-BEAM HARDWARE	1-05-18
	HW-910_21	METAL BEAM RAIL (R-B MASH) GUIDERAIL	1-25-19
	HW-910_22	METAL BEAM RAIL (MD-B MASH) GUIDERAIL	1-05-18
	HW-910_23	METAL BEAM RAIL (R-B MASH) HALF & QUARTER POST SPACING GUIDERAIL	1-05-18
	HW-910_24	METAL BEAM RAIL SPAN SECTION TYPES II AND III	1-05-18
	HW-910_25	METAL BEAM RAIL TRANSITION 350 TO MASH	1-05-18
	HW-910_26	THRIE-BEAM ATTACHMENT HARDWARE	1-09-20
	HW-910_27	THRIE-BEAM ATTACHMENT	1-09-20
✓	HW-911_01	R-B END ANCHORAGE TYPE I AND II	1-25-19
	HW-911_02	MD-B END ANCHORAGE TYPE I	1-05-18
	HW-911_03	ANCHOR IN EARTH CUT SLOPE & ANCHOR IN ROCK CUT SLOPE	10-18-10
	HW-911_05	MERRITT PARKWAY GUIDERAIL END ANCHORS	7-24-13

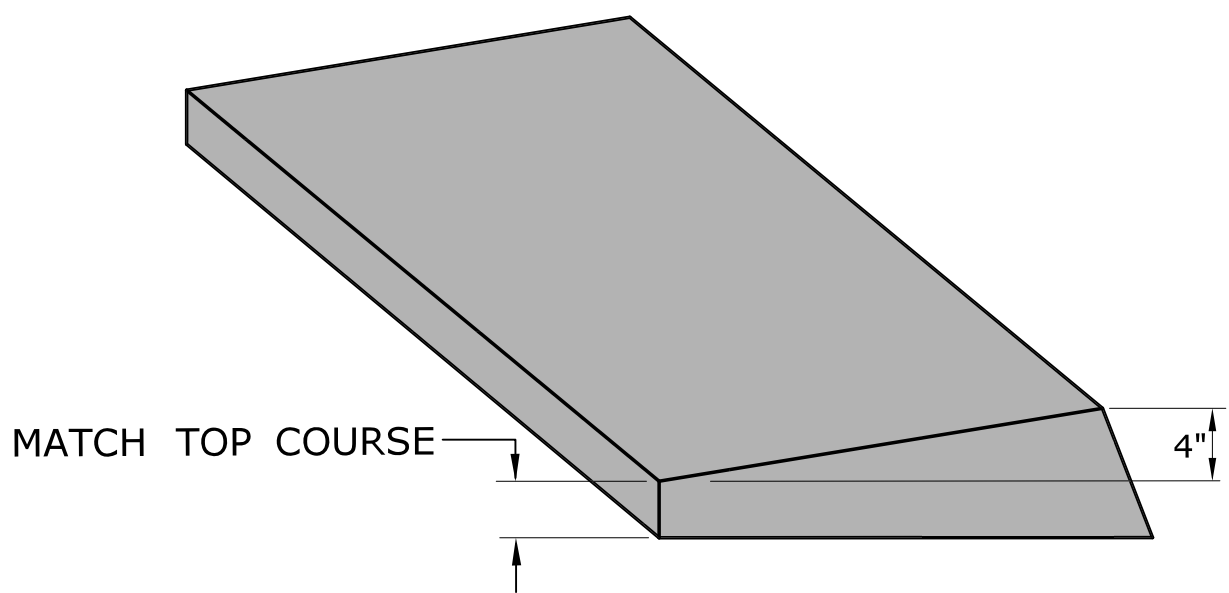
[illegible]



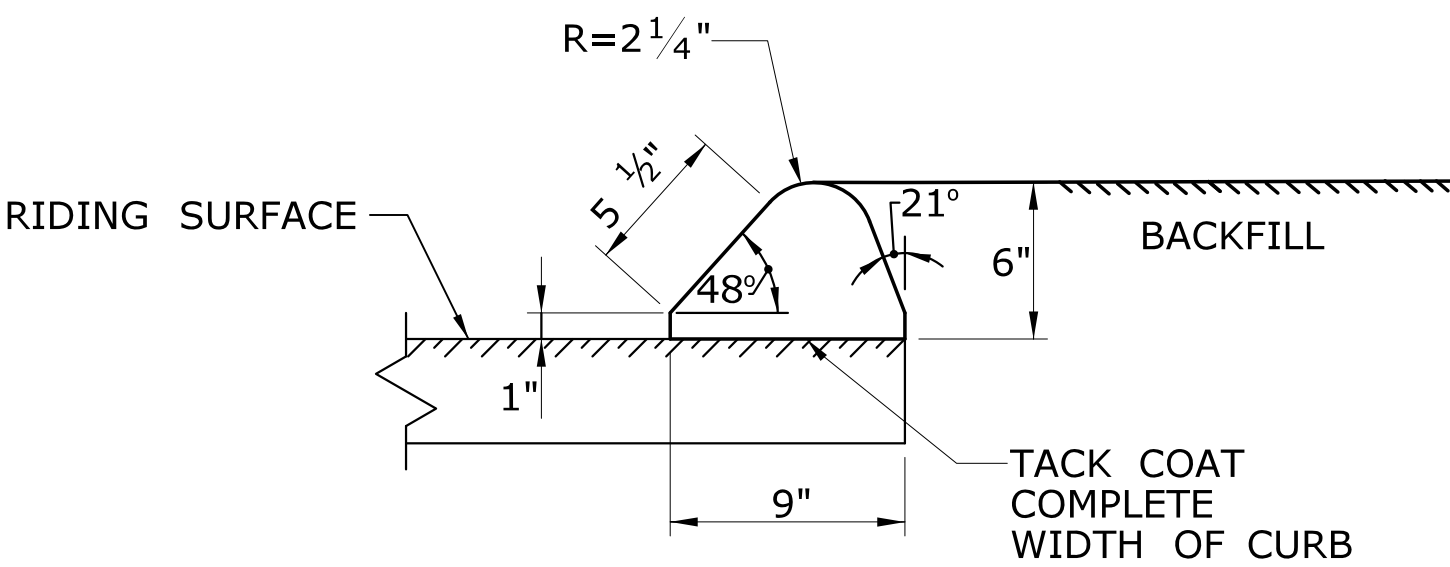
BITUMINOUS CONCRETE LIP CURBING
(6" HIGH)



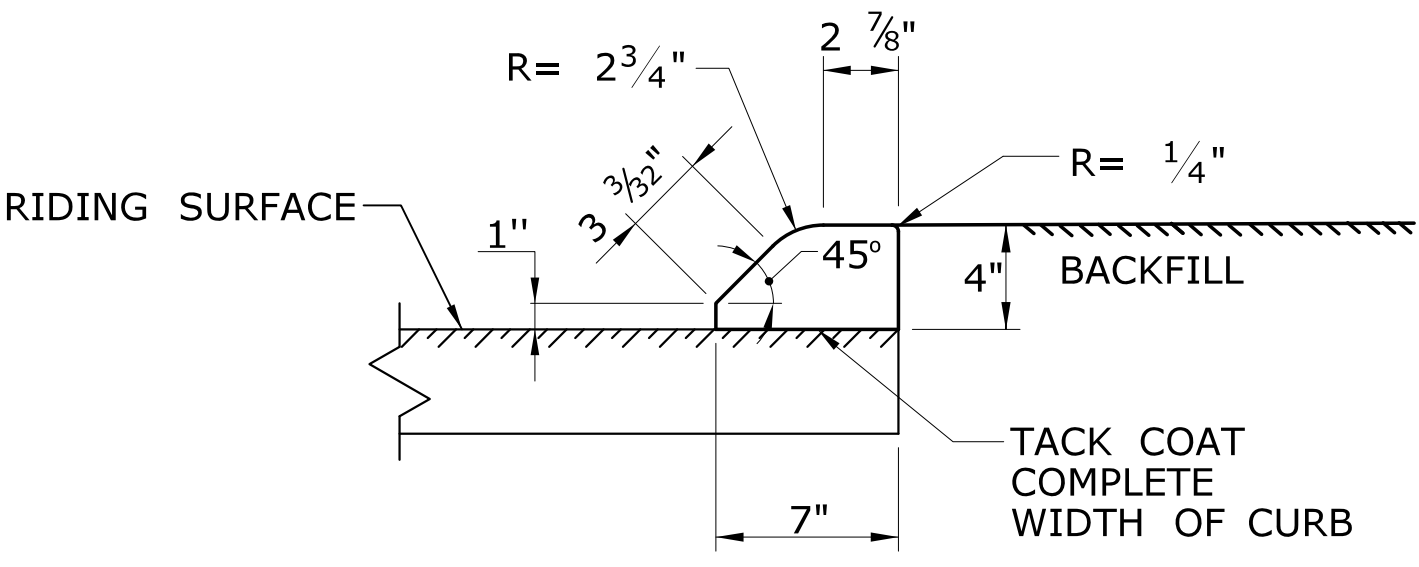
BITUMINOUS CONCRETE PARK CURBING
(4" HIGH)



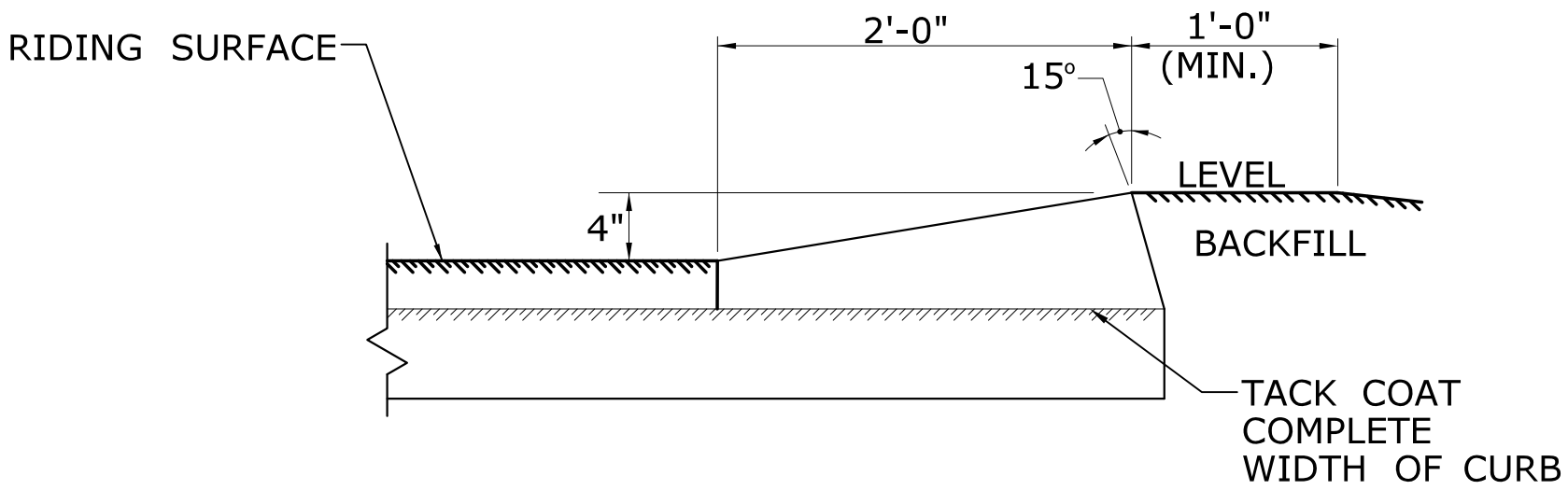
BITUMINOUS CONCRETE BERM CURBING
(4" HIGH)



SECTION



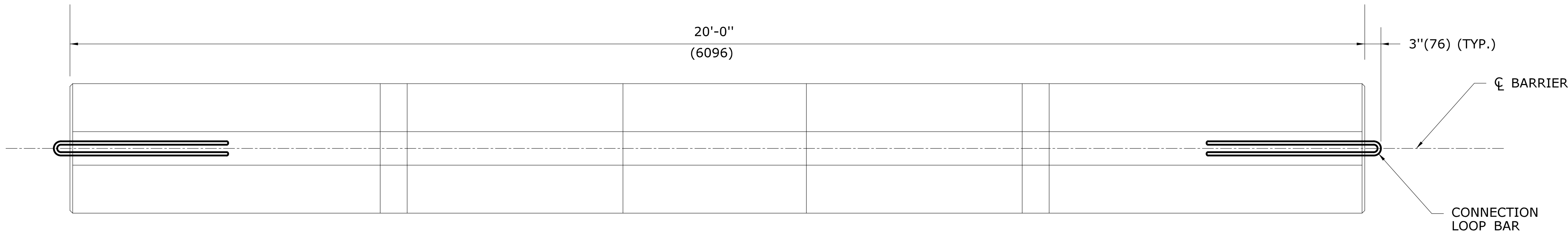
SECTION



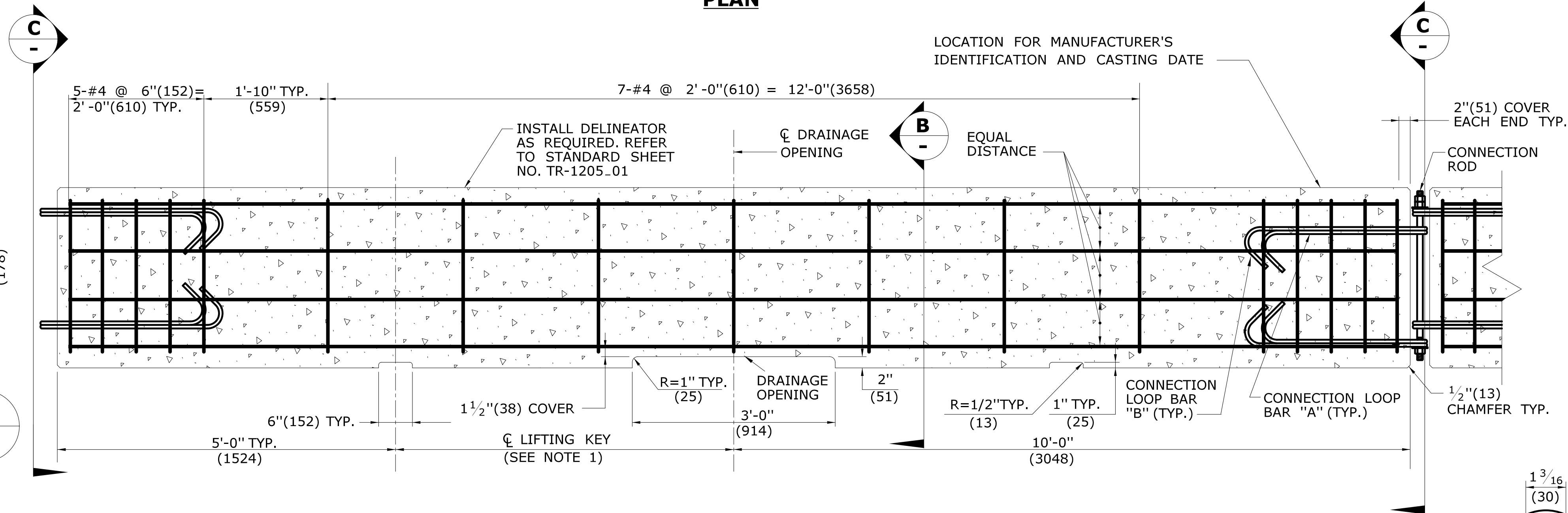
SECTION

GENERAL NOTES:

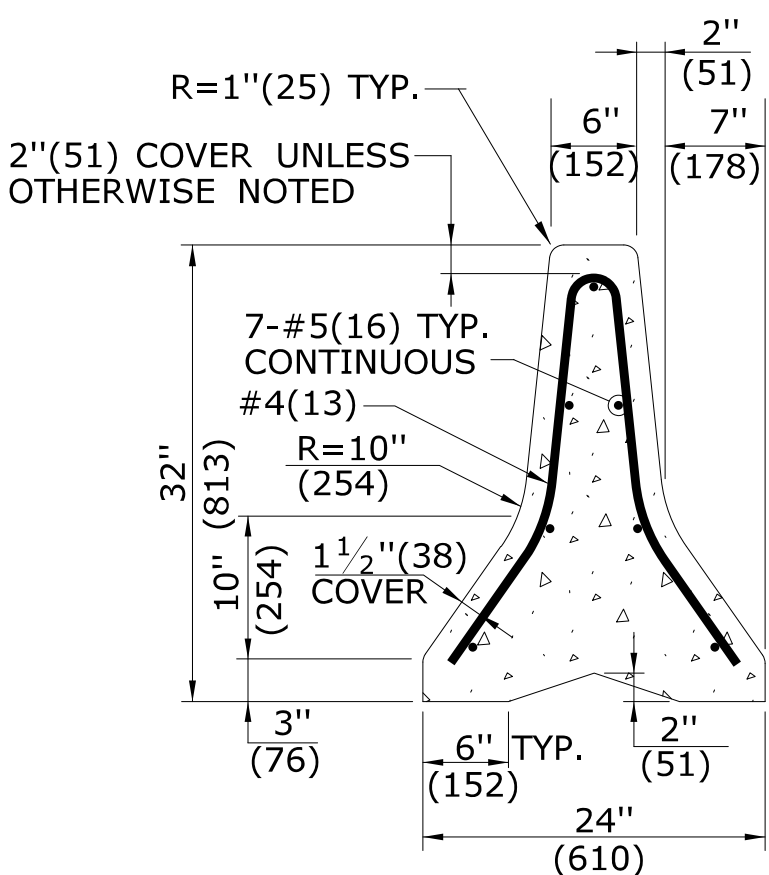
1. ALTERNATE DESIGNS FOR LIFTING KEYS, HOLES OR OTHER HANDLING DEVICES MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. EXPECTED PERMANENT DYNAMIC DEFLECTION IS 3'-6" (1148) BASED ON TL-3 CRASH TESTS WITH 240' (73152) OF TPCBC.



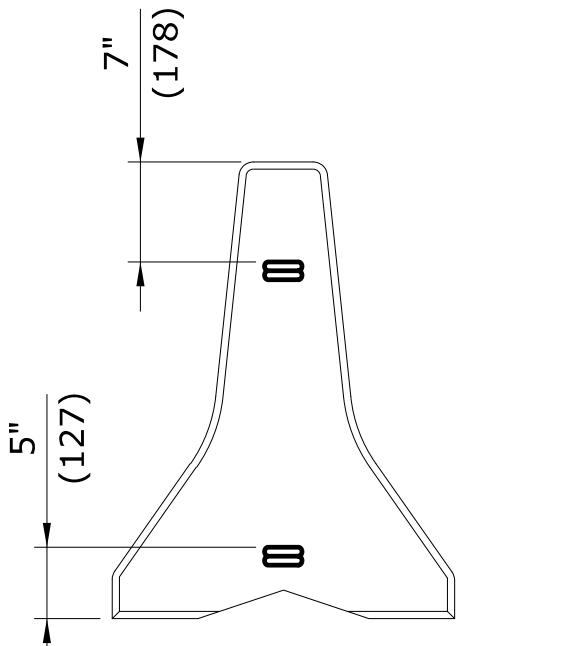
PLAN



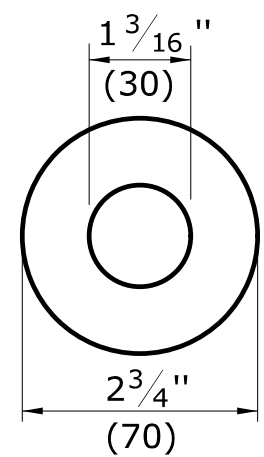
ELEVATION



SECTION B



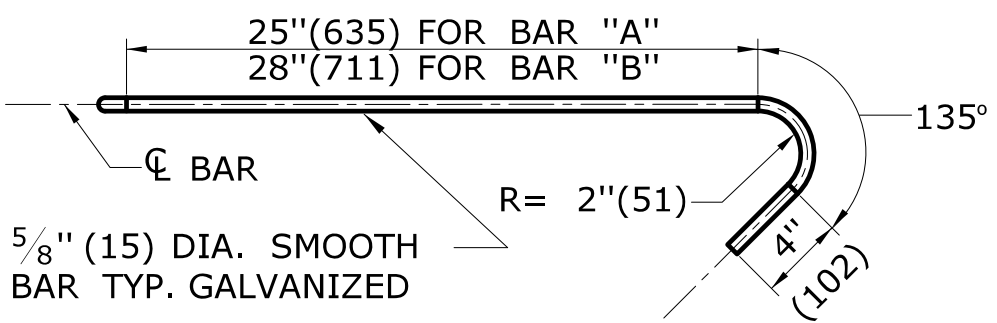
END VIEW C



WASHER DETAIL



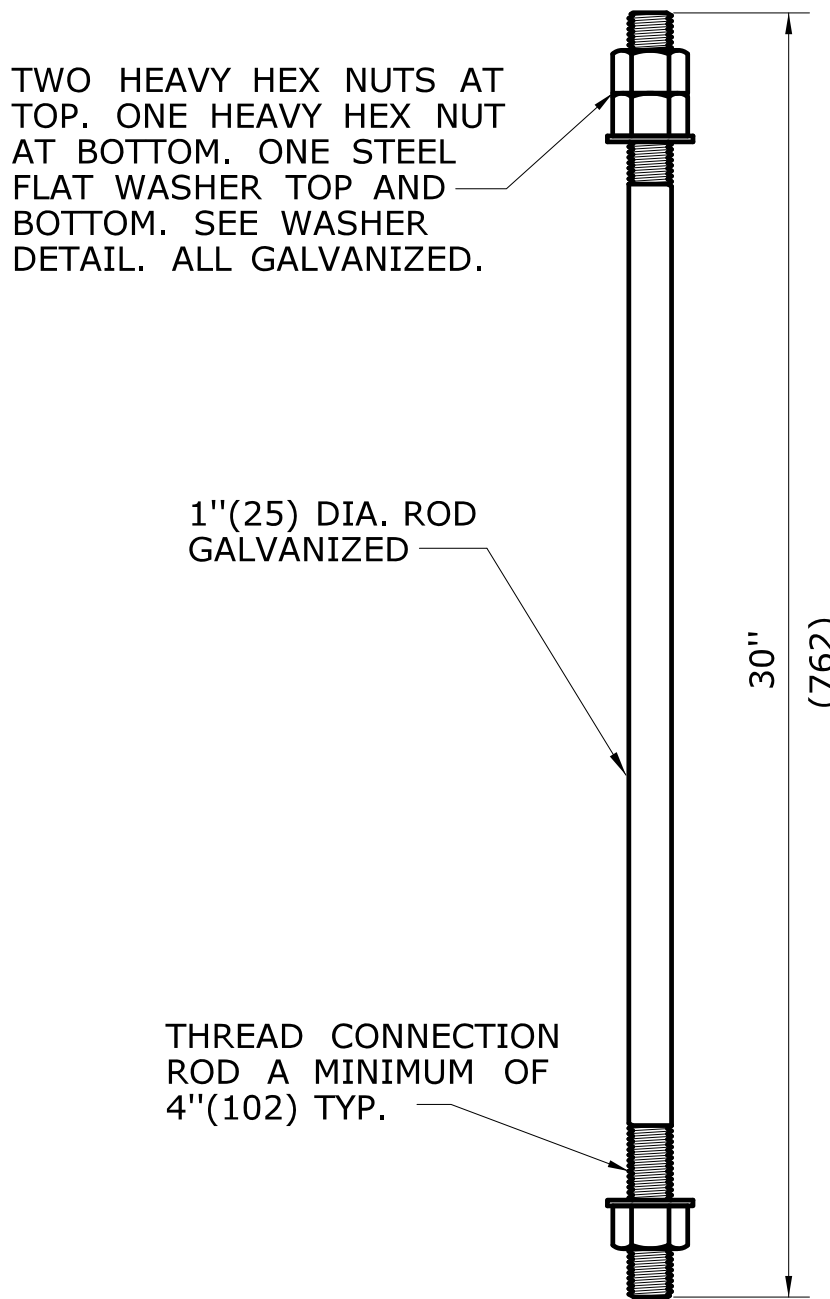
PLAN



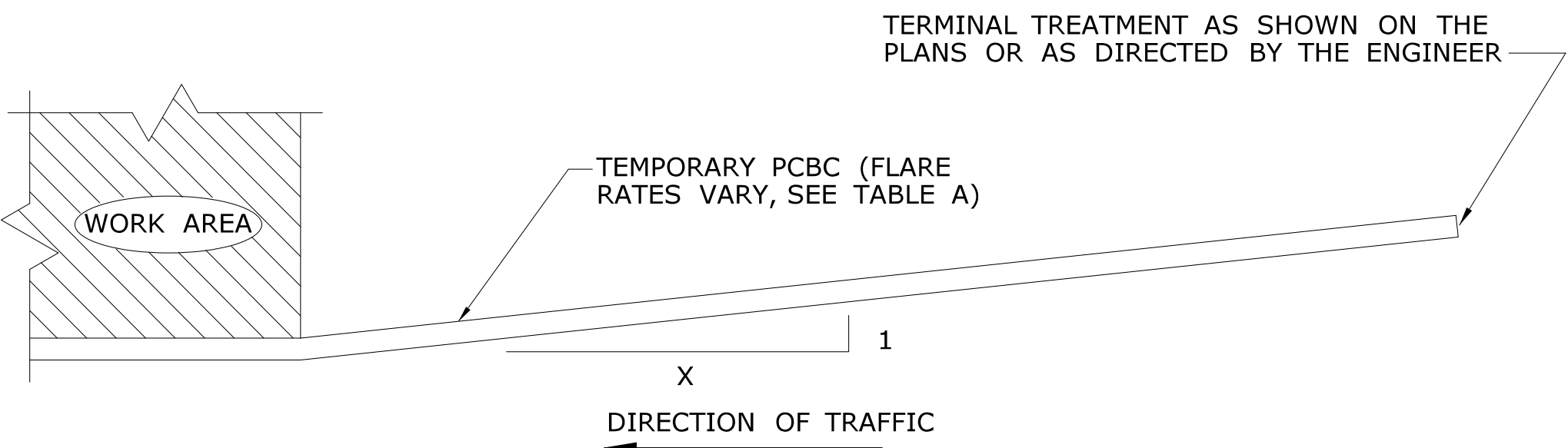
ELEVATION

BAR "A" = 6'-0" (1829) TOTAL
BAR "B" = 6'-6" (1981) TOTAL

CONNECTION LOOP BAR



CONNECTION ROD



PLAN - TYPICAL INSTALLATION

TABLE A	
FLARE RATES	
* SPEED	FLARE RATE (X : 1)
≤ 30MPH(48KPH)	4 : 1
> 30MPH(48KPH) <45MPH(72KPH)	6 : 1
≥ 45MPH(72KPH) NON-LIMITED ACCESS HIGHWAYS	8 : 1
ALL LIMITED ACCESS HIGHWAYS	10 : 1

* DESIGN SPEED THROUGH THE WORK AREA.

TWO HEAVY HEX NUTS AT TOP. ONE HEAVY HEX NUT AT BOTTOM. ONE STEEL FLAT WASHER TOP AND BOTTOM. SEE WASHER DETAIL. ALL GALVANIZED.

1"(25) DIA. ROD GALVANIZED

THREAD CONNECTION ROD A MINIMUM OF 4"(102) TYP.

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

NOT TO SCALE
####

SIGNATURE BLOCK:
OFFICE OF ENGINEERING
2800 BERLIN TURNPIKE
NEWINGTON, CT 06111

SUBMITTED BY:
Leo Fontaine, P.E.
2020.07.08
09:56:23-04'00'

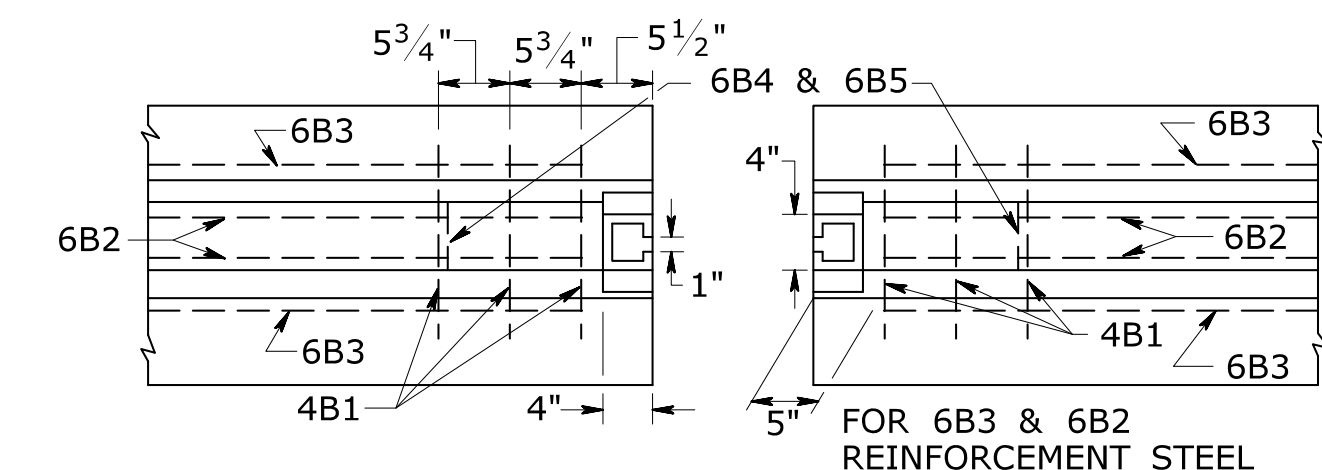
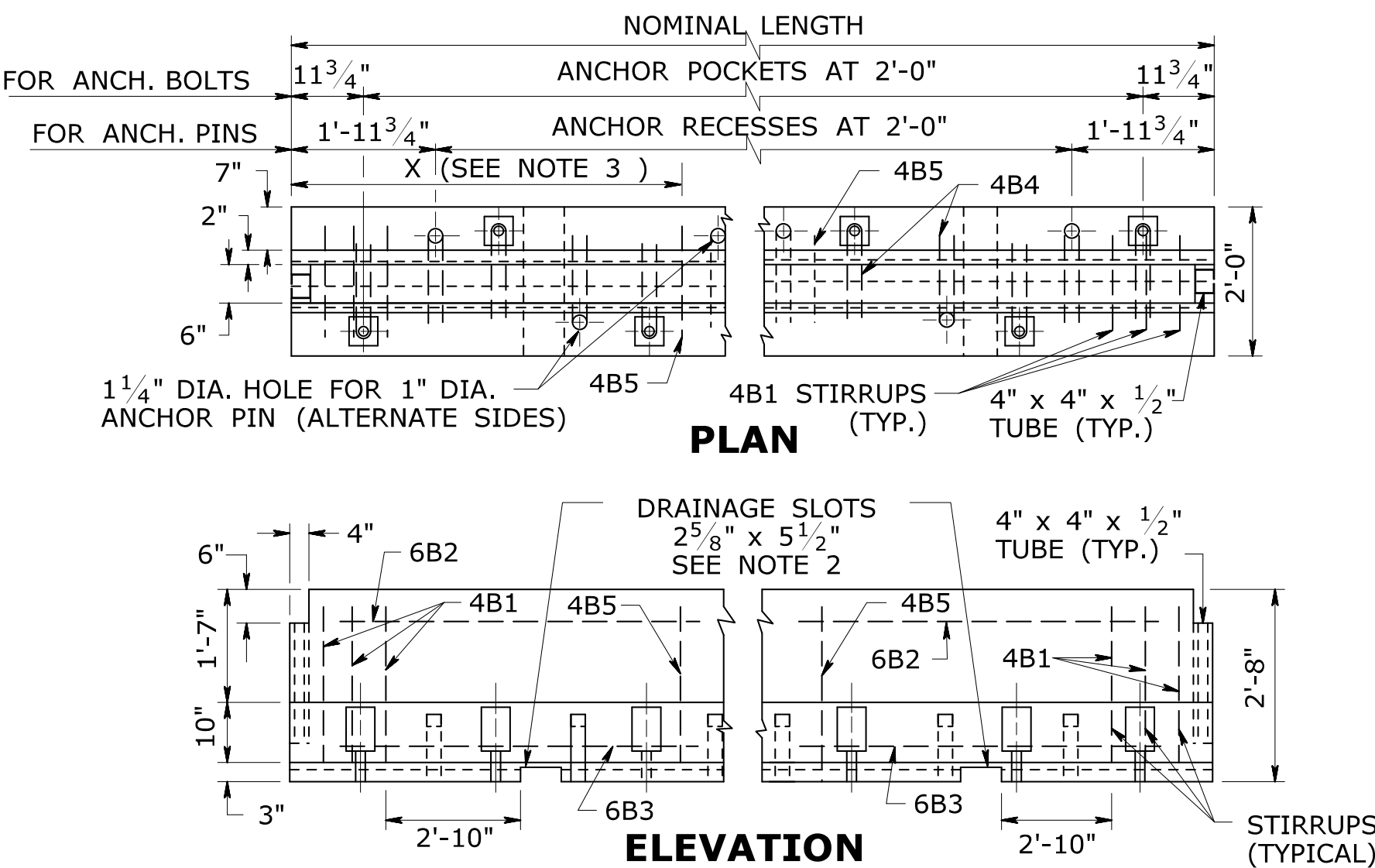
APPROVED BY:
James Fallon, P.E.
2020.07.15
09:55:49-04'00'



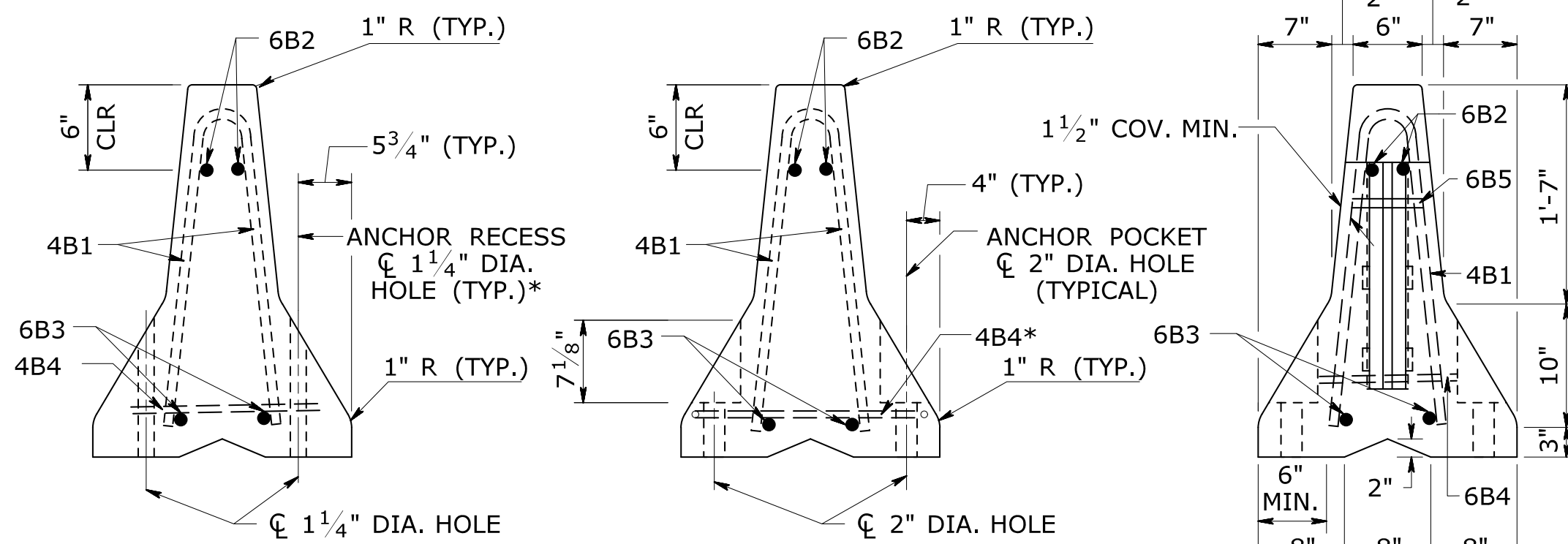
CTDOT
STANDARD SHEET

STANDARD SHEET TITLE:
TEMPORARY PRECAST CONCRETE BARRIER CURB

STANDARD SHEET NO.:
HW-822_01



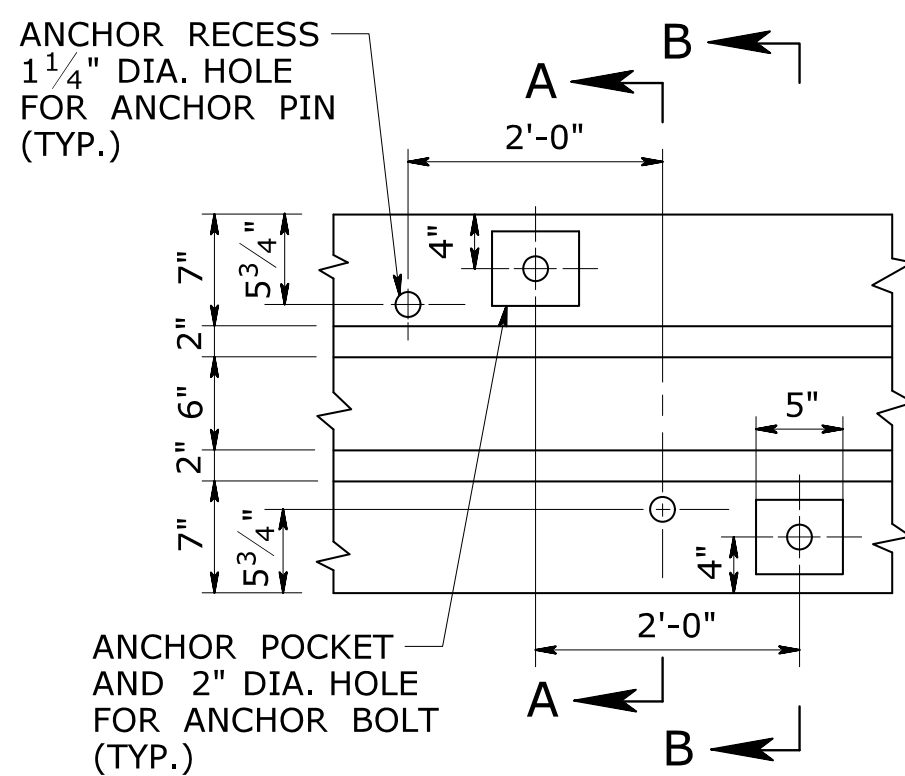
PLAN - BARRIER END



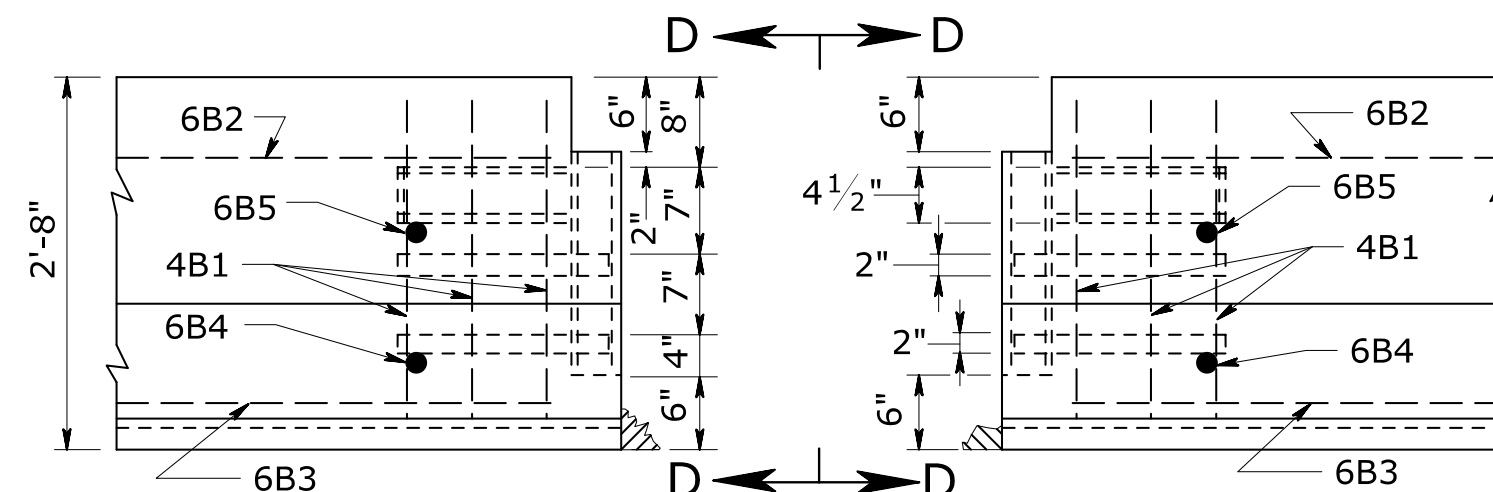
SECTION A-A

SECTION B-B

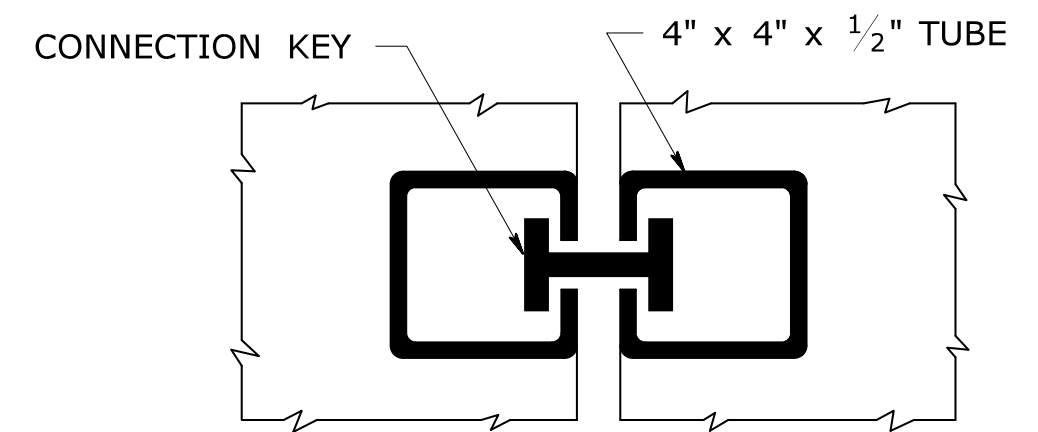
SECTION D-D



PLAN-ANCHOR RECESS/POCKET



ELEVATION

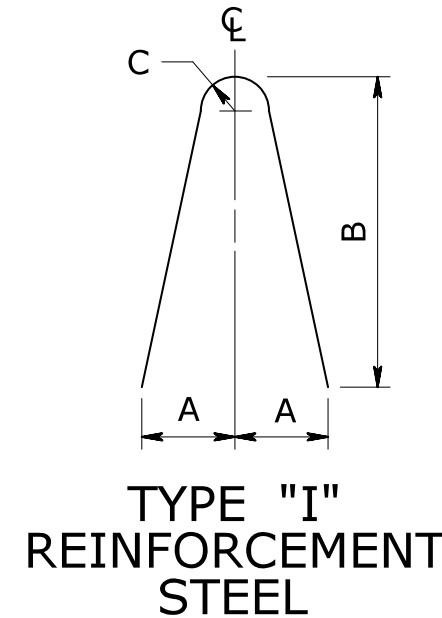


KEY IN PLACE

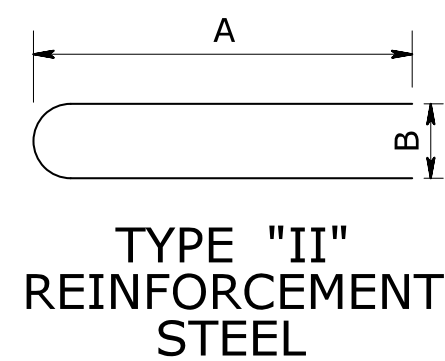
TABLE OF VARIABLE REINFORCEMENT STEEL			
NOMINAL LENGTH OF BARRIER UNIT	MARK	"X"	NO. EACH SECTION
20'	4B4	N.A.	19
20'	4B5	6'-11"	2
18'	4B4	N.A.	17
18'	4B5	6'-5"	2
16'	4B4	N.A.	15
16'	4B5	5'-11"	2
14'	4B4	N.A.	13
14'	4B5	7'-0"	1
12'	4B4	N.A.	11
12'	4B5	6'-0"	1
10'	4B4	N.A.	9
10'	4B5	5'-0"	1
8'	4B4	N.A.	7
8'	4B5	-	0

"X" DISTANCE FROM END OF BARRIER TO 4B5 REINFORCEMENT STEEL

TEMPORARY TRAFFIC BARRIER

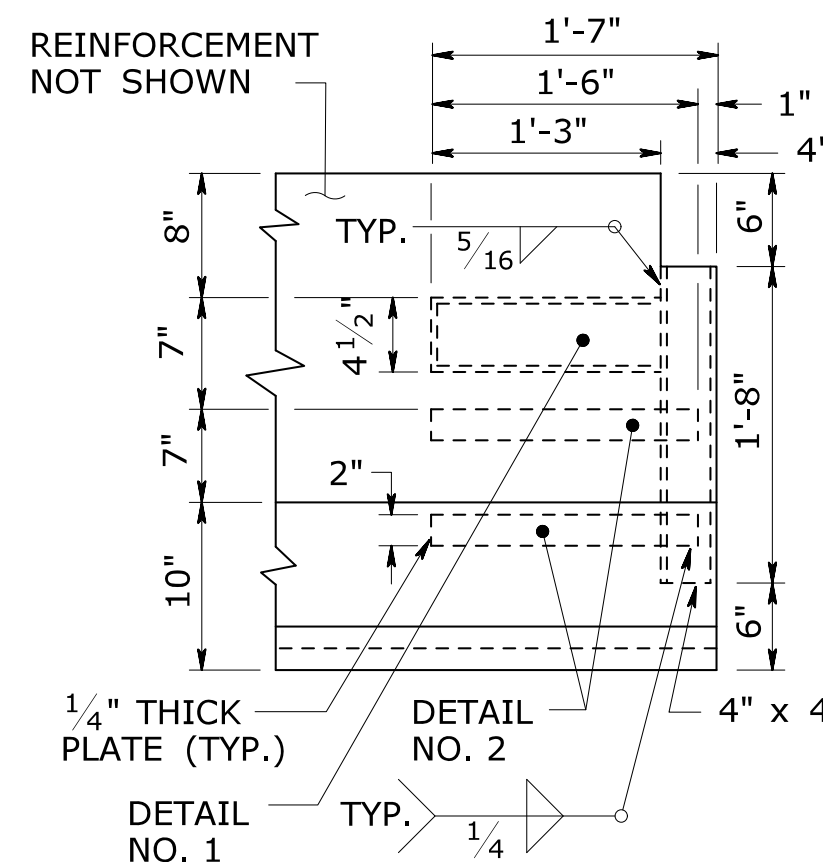


TYPE "I" REINFORCEMENT STEEL

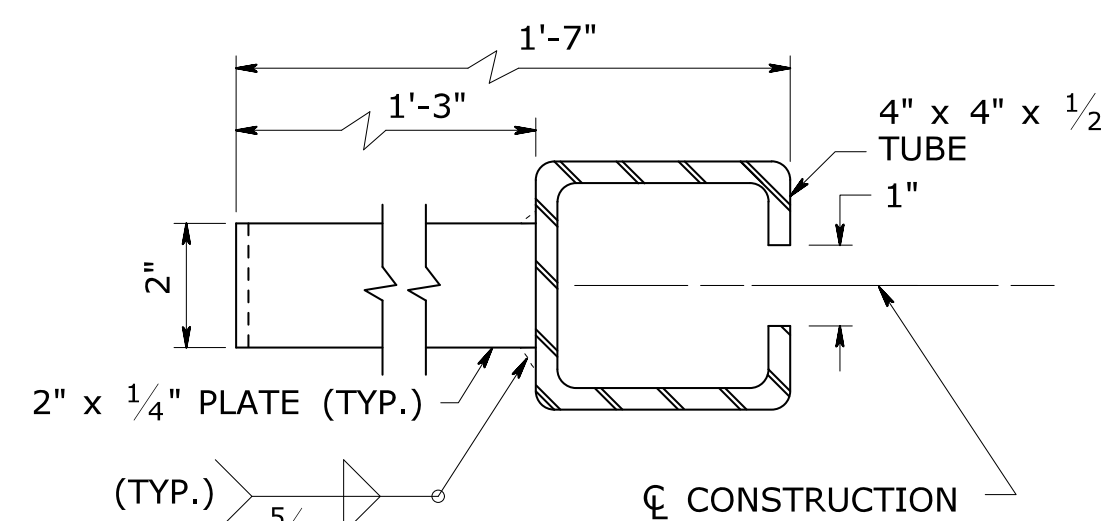


TYPE "II" REINFORCEMENT STEEL

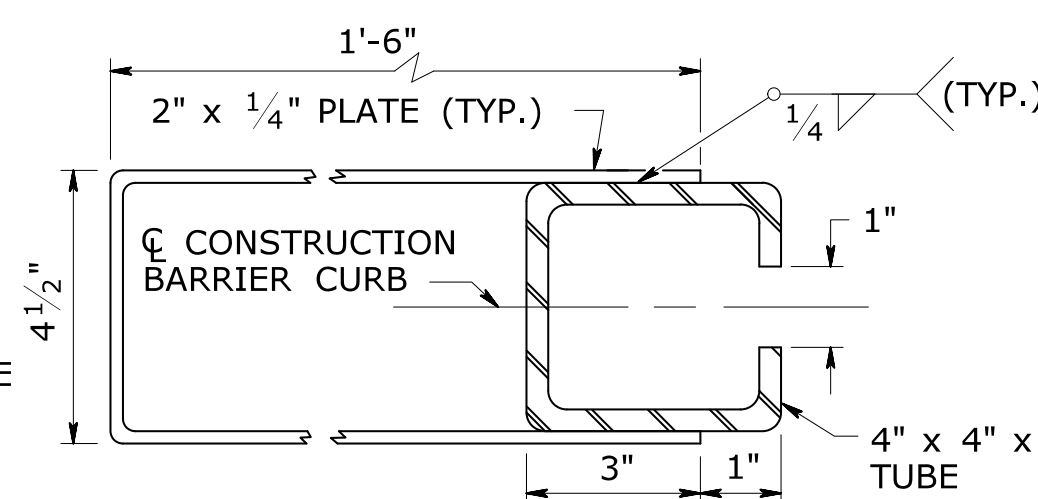
REINFORCEMENT STEEL LIST (EACH BARRIER SECTION)							
MARK	SIZE	NUMBER IN EACH SECTION	LENGTH	TYPE	A	B	C
4B1	#4	6	4'-11"	I	5"	26"	2"
4B4	#4	SEE NOTE 3	3'-1"	II	15 1/2"	4"	
4B5	#4	SEE NOTE 3	4'-11"	I	5"	26"	2"
6B2	#6	2	SEE NOTE 3	STR.			
6B3	#6	2	SEE NOTE 3	STR.			
6B4	#6	2	1'-2"	STR.			
6B5	#6	2	0'-6"	STR.			



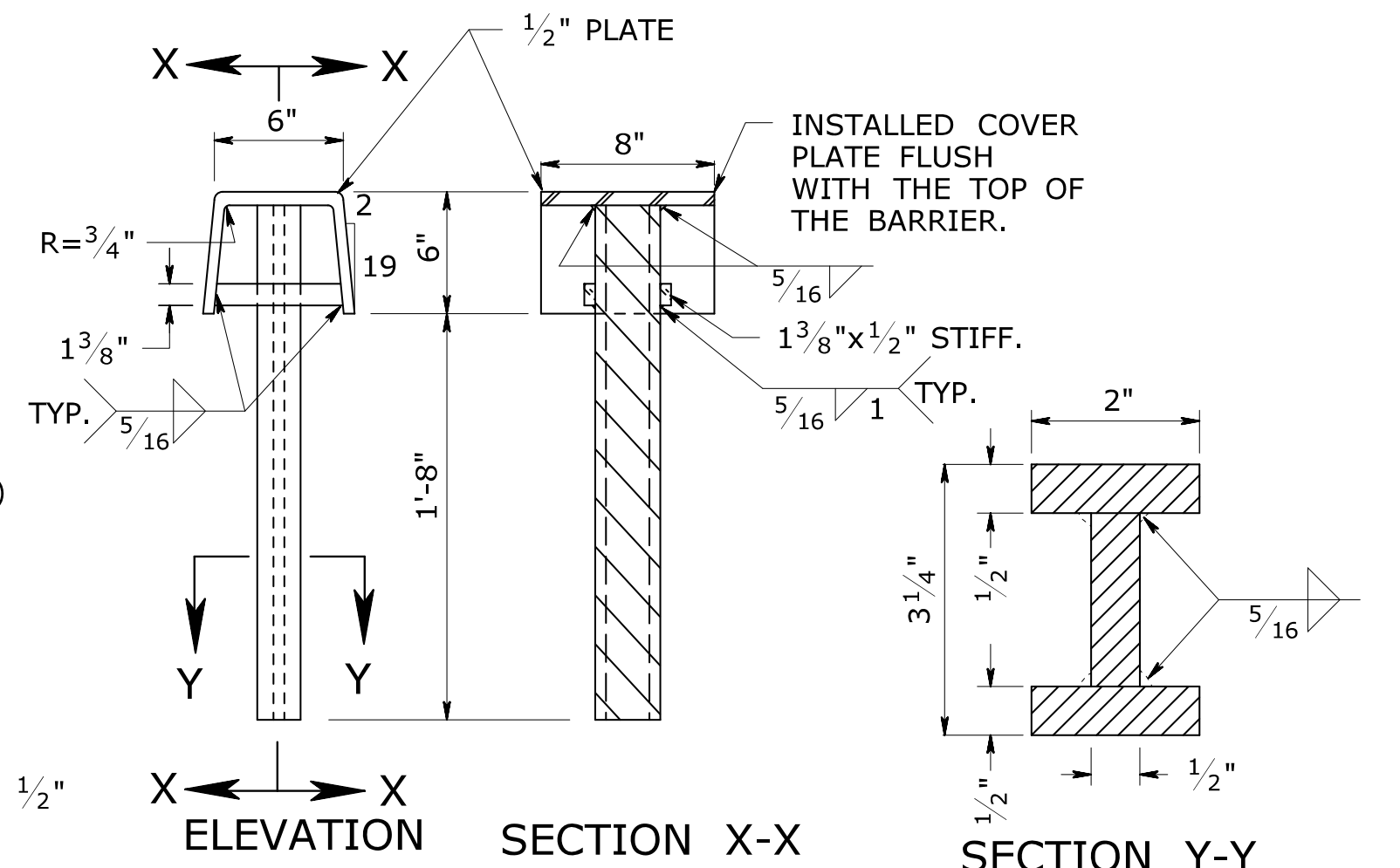
ELEVATION



PLAN VIEW DETAIL NO. 1



PLAN VIEW DETAIL NO. 2



ELEVATION

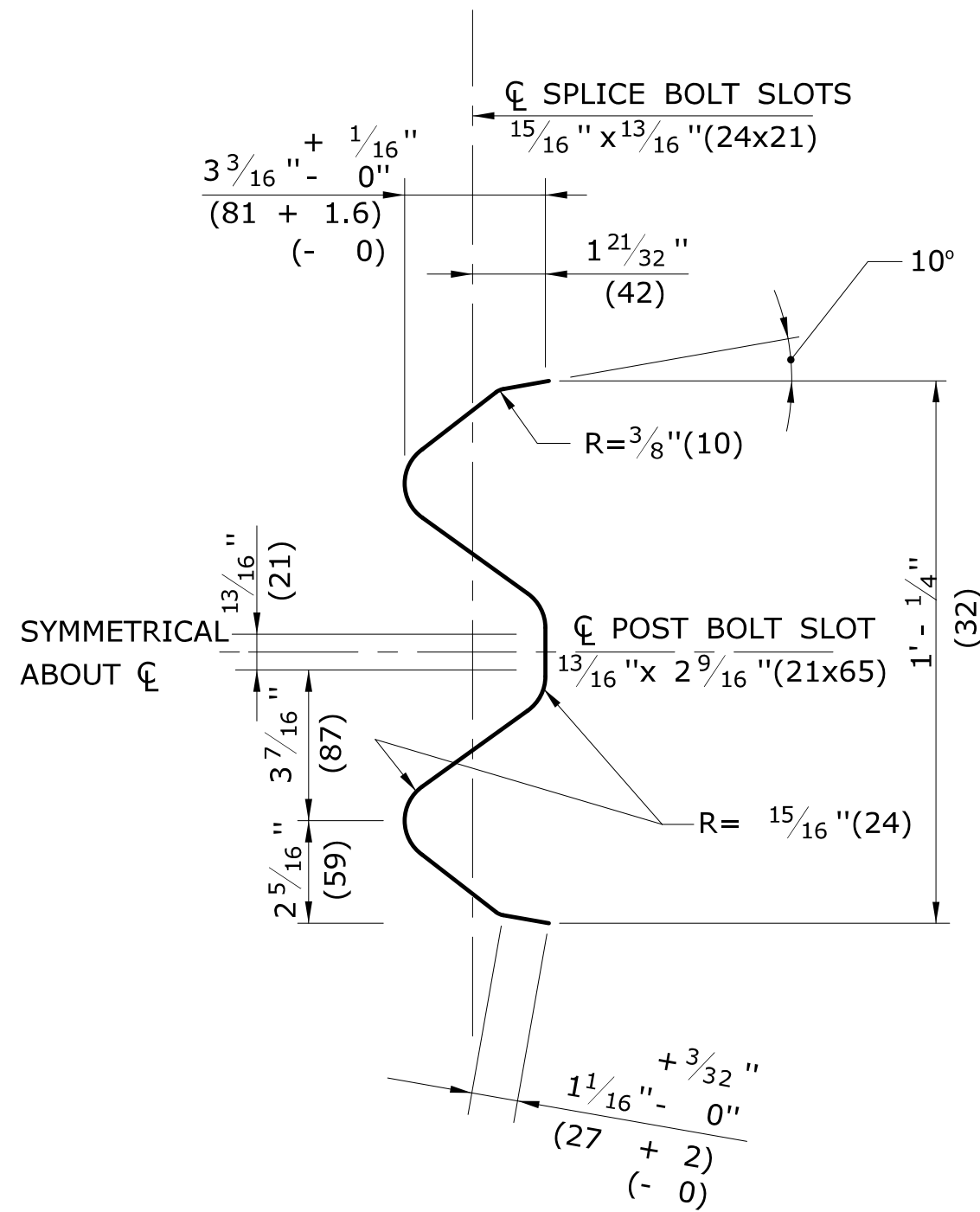
SECTION X-X

SECTION Y-Y

CONNECTION KEY

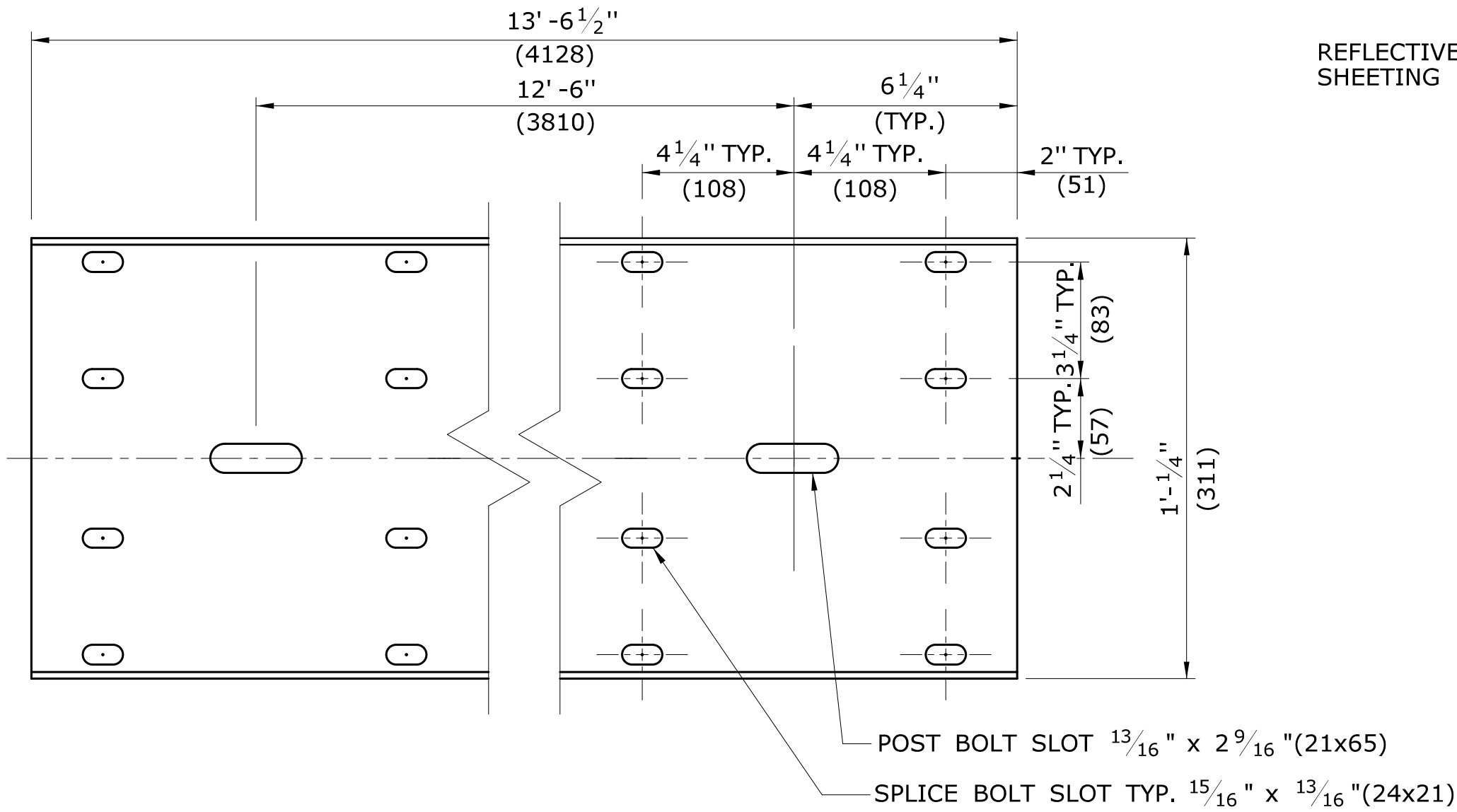
TEMPORARY TRAFFIC BARRIER CONNECTION DETAILS

MASH 2016 COMPLIANT
APPROVAL ID. 2021-01

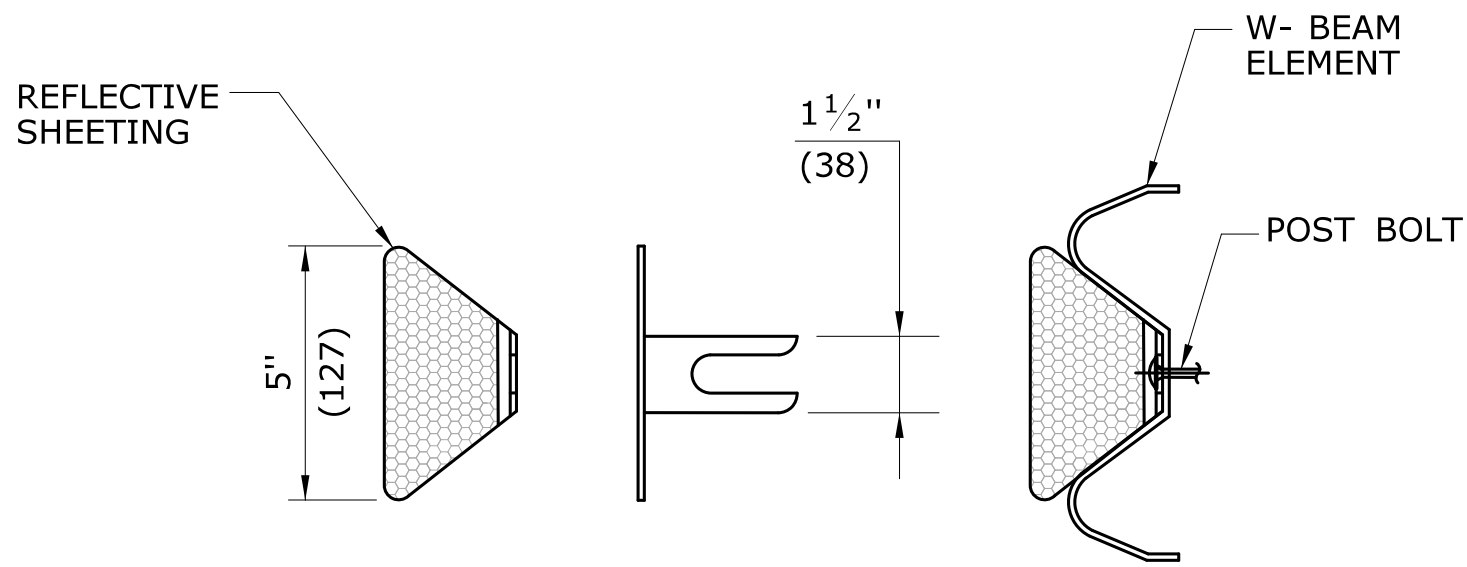


**SELECTION THRU RAIL ELEMENT
END VIEW**

NOTE: ALL DIMENSIONS SUBJECT TO
MANUFACTURING TOLERANCES



**TYPICAL W-BEAM RAIL ELEMENT
CLASS A, TYPE II**



DELINEATOR DETAIL

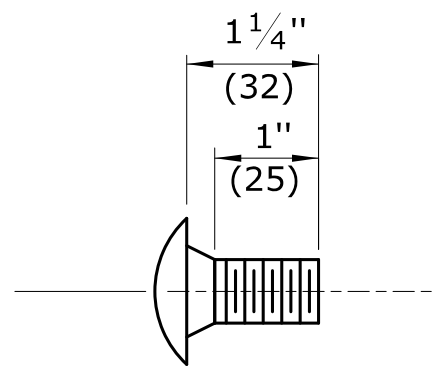
GENERAL NOTES:

1. NEW R-B 350 GUIDERAIL INCLUDING SYSTEMS, ANCHORS AND TRANSITIONS INSTALLED ON EXPRESSWAYS AND RAMPS SHALL USE CLASS B TYPE II (10 GAUGE) W-BEAM RAIL ELEMENTS.
2. W6x9 (W150x14) POSTS MAY BE USED IN PLACE OF W6 x 8.5(W150x13) POSTS.
3. W8x13 (W200x19) POSTS, 7'-6"(2286) LONG, ARE USED WITH TRANSITIONS TO VERTICAL OR SAFETY SHAPE PARAPETS (POSTS 1 AND 2) AND SYSTEM 6.
4. W6x8.5 (W150x13) POSTS, 6'-0"(1829) LONG, ARE USED WITH TRANSITIONS TO VERTICAL OR SAFETY SHAPE PARAPETS (POSTS 3 THROUGH 6), MD-B 350, SYSTEM 5 & 5A, AND STANDARD R-B 350 GUIDERAIL.

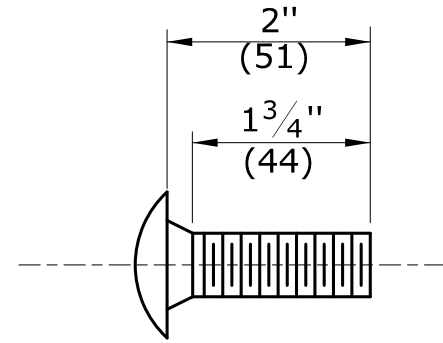
DELINEATOR NOTES:

1. DELINEATORS SHALL BE FORMED OF .080 POLY-CARBONATE OR .080 SHEET ALUMINUM IN ACCORDANCE WITH M.18.13.
2. REFLECTIVE SHEETING SHALL CONFORM TO M.18.09.2.
3. DELINEATORS SHALL BE INSTALLED ON THE POST CLOSEST TO THE DESIGNATED SPACING.
4. REFLECTIVE SHEETING SHALL BE WHITE EXCEPT ON THE LEFT SIDE OF DIVIDED STREETS, HIGHWAYS, RAMPS, AND ONE WAY ROADS IN THE DIRECTION OF TRAVEL WHERE IT SHALL BE YELLOW.
5. INSTALL DELINEATORS ON RAIL THAT IS PARALLEL TO AND NOT GREATER THAN 6'(1829) FROM THE EDGE OF THE ROADWAY. A MINIMUM OF THREE DELINEATORS MUST BE INSTALLED ON ANY RUN OF RAIL.

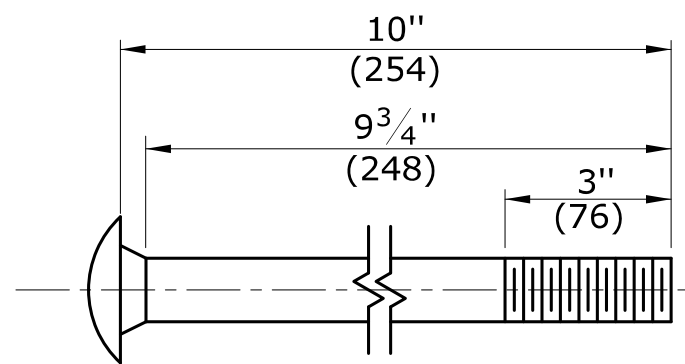
DELINEATOR SPACING:
RADIUS \geq 300'(91440) - SPACE EVERY 50'(15.24m)
RADIUS $<$ 300'(91440) - SPACE EVERY 25'(7.62m)



**W-BEAM SPLICE
BOLT DETAIL**

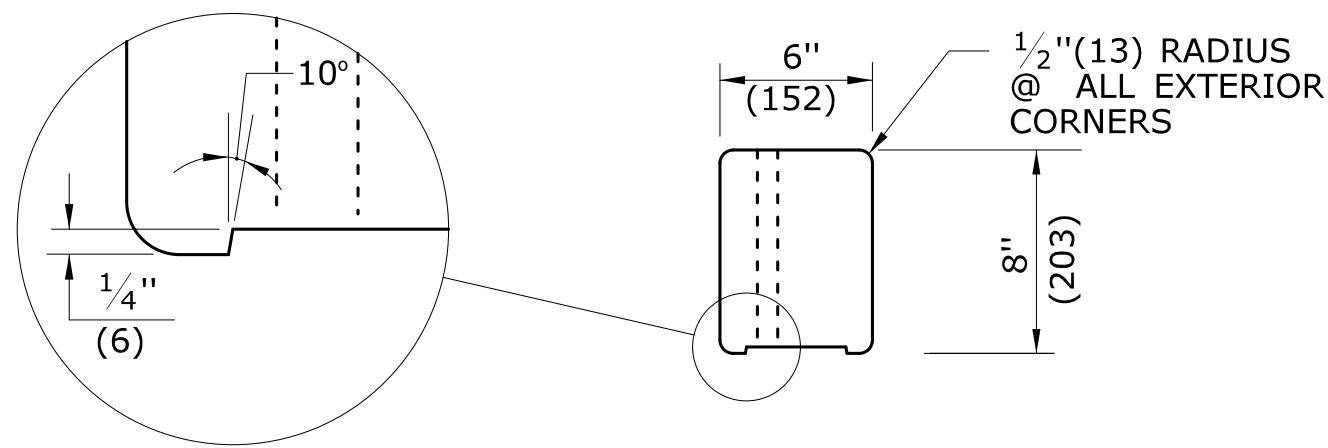


**POST BOLT DETAIL
FOR R-B 350
SYSTEM 6 RUBRAIL**

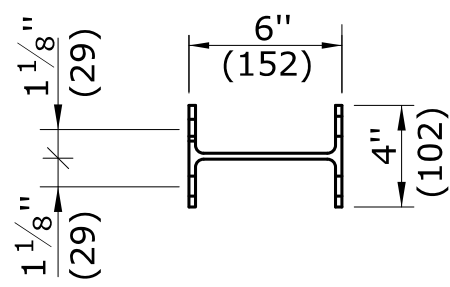


**POST BOLT DETAIL FOR R-B 350
AND MD-B 350 GUIDERAIL**

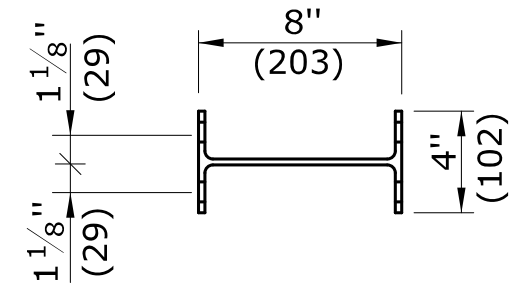
(UNTHREADED PORTION NOT TO EXCEED 6 3/4"(171))



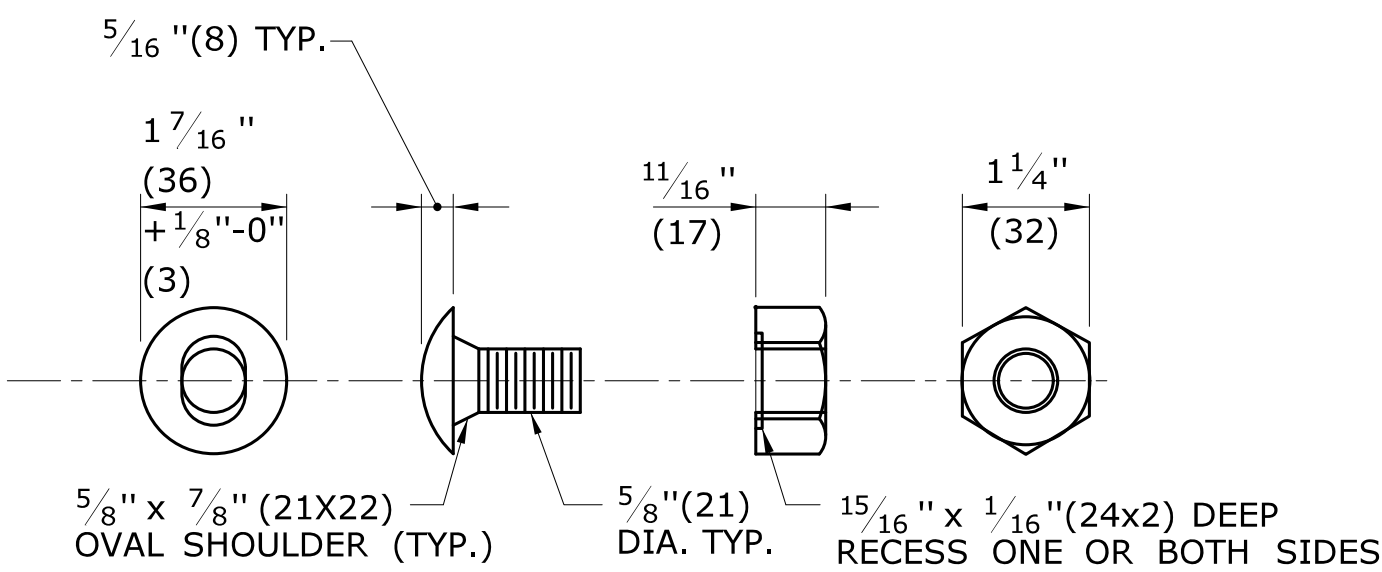
PLAN



**W6x8.5 POST
(W150x13)
6'-0"(1829) LONG**



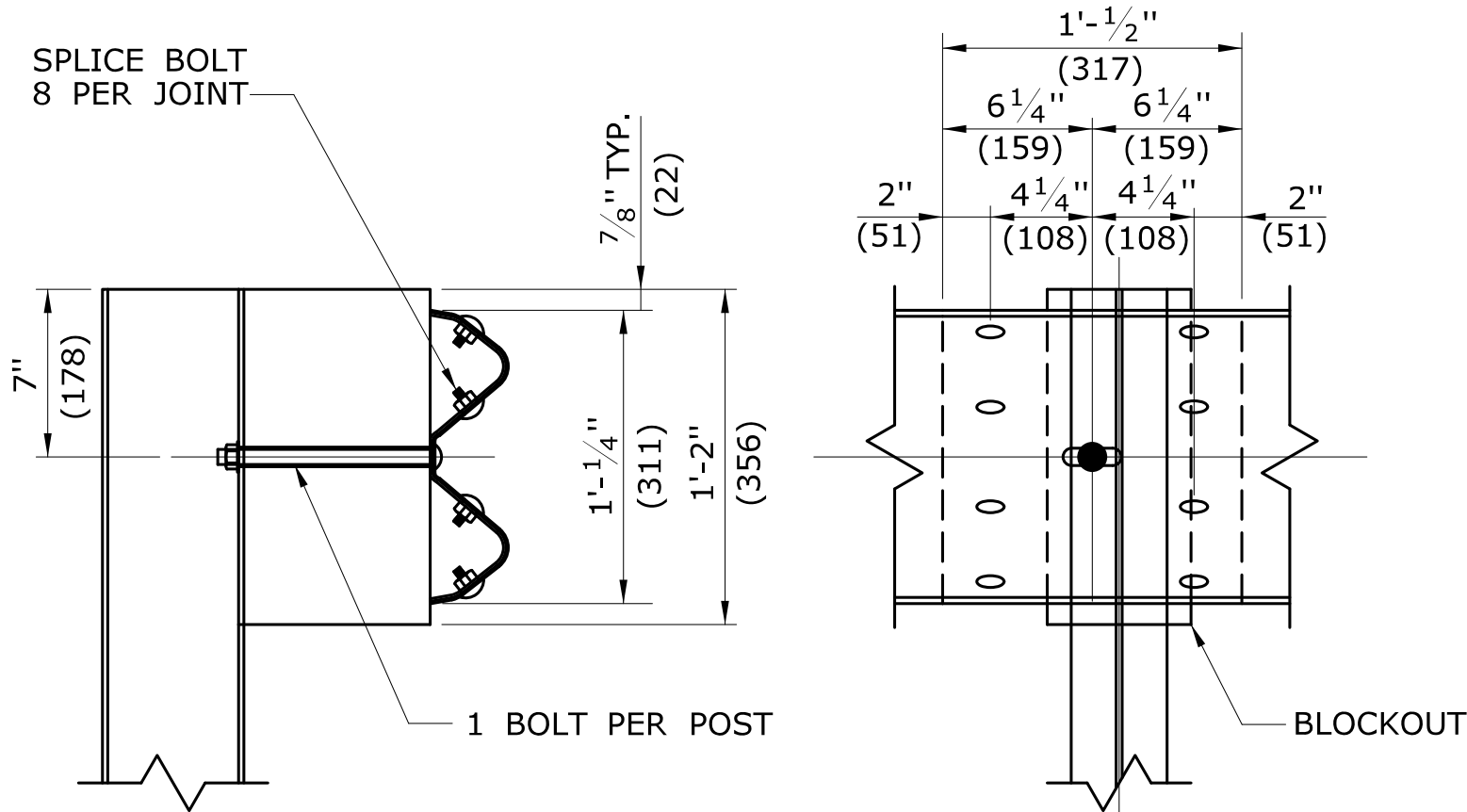
**W8x13 POST
(W200x19)
7'-6"(2286) LONG**



BUTTONHEAD BOLT

HEX NUT

NOTE: AFTER GALVANIZING, THE NUT SHALL BE FREE RUNNING ON THE BOLT. DIAMETER SHOWN IS TYPICAL FOR ALL GUIDERAIL BOLTS. SEE DETAILS ABOVE FOR SPECIFIC LENGTHS.

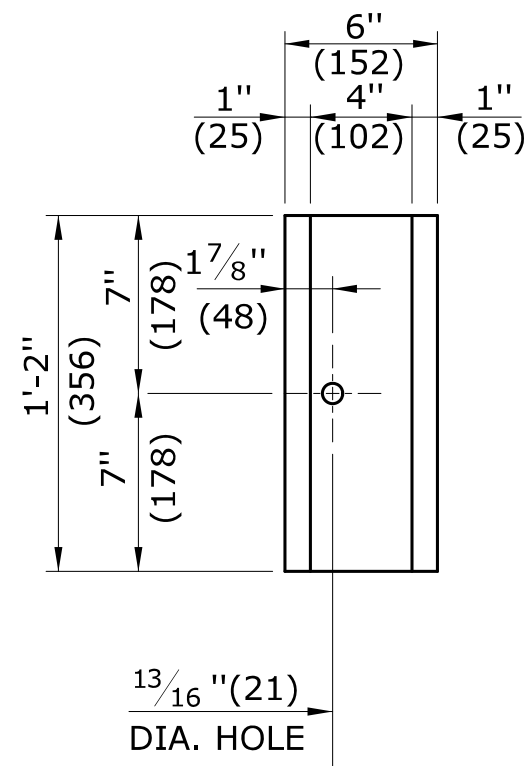


SECTION

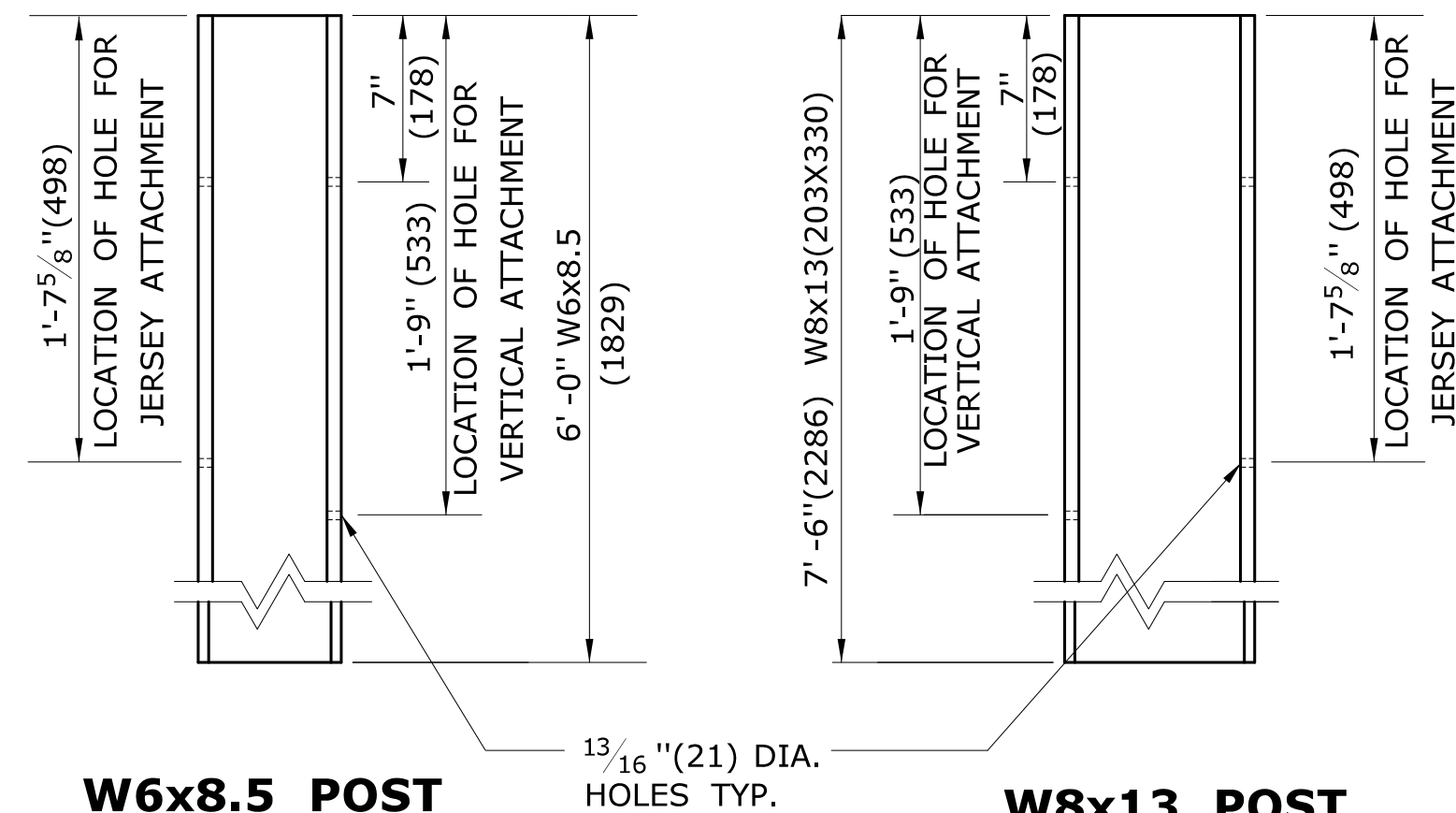
ELEVATION

LAP DETAIL

NOTE:
LAP RAIL SECTION IN DIRECTION OF TRAFFIC



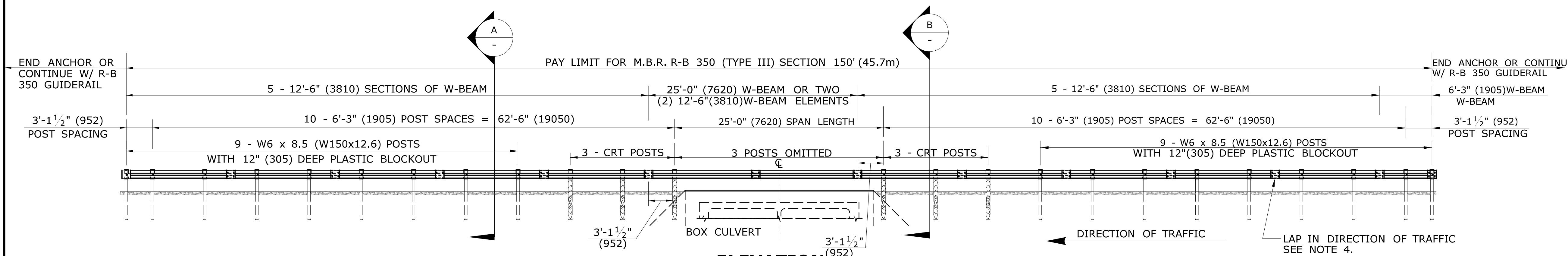
**ELEVATION
R-B 350 PLASTIC
BLOCKOUT DETAIL**



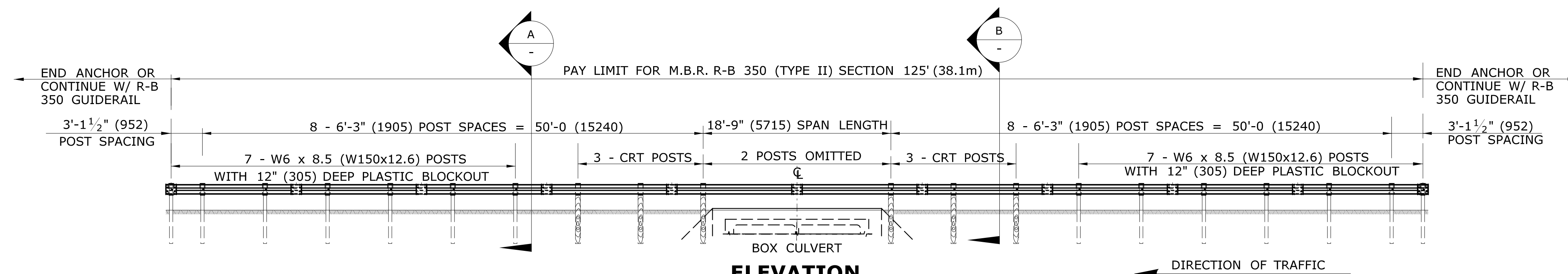
**BOLT HOLE LAYOUT FOR W8x13(W200x19)
AND W6x8.5 (W150x13)UNIFORM POST**

(REFER TO GENERAL NOTES)

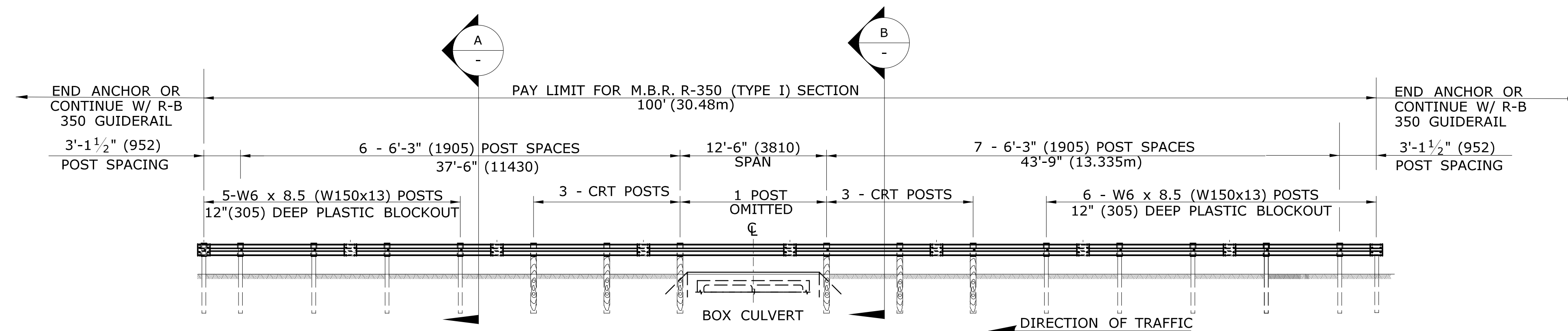
ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.



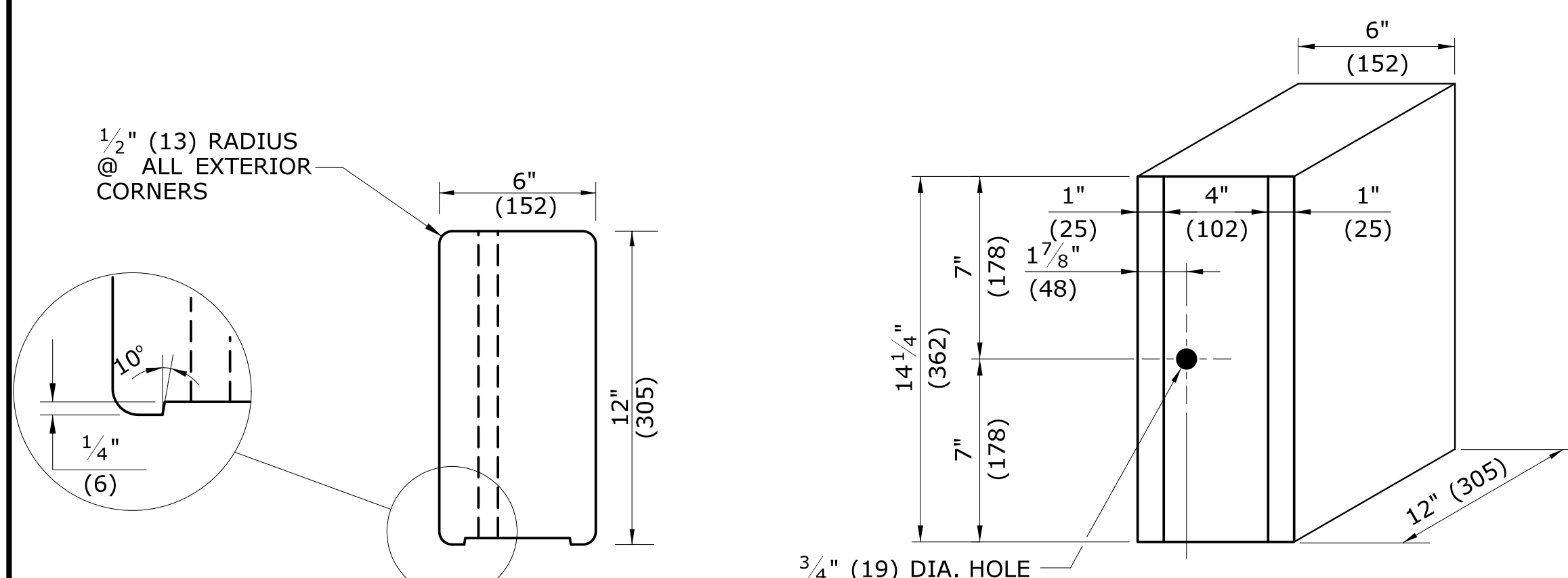
ELEVATION
3 POST OMITTED 25'-0" (7620) LONG SPAN



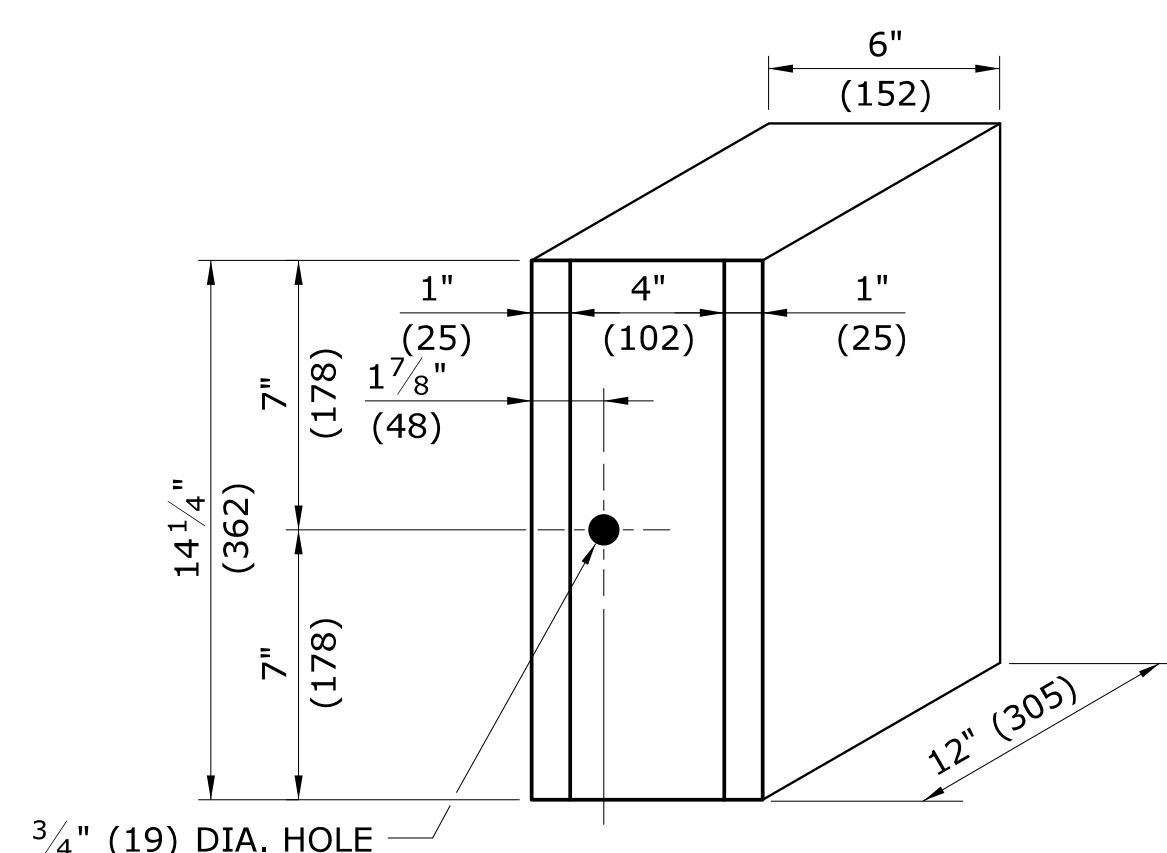
ELEVATION
2 POST OMITTED 18'-9" (5715) LONG SPAN



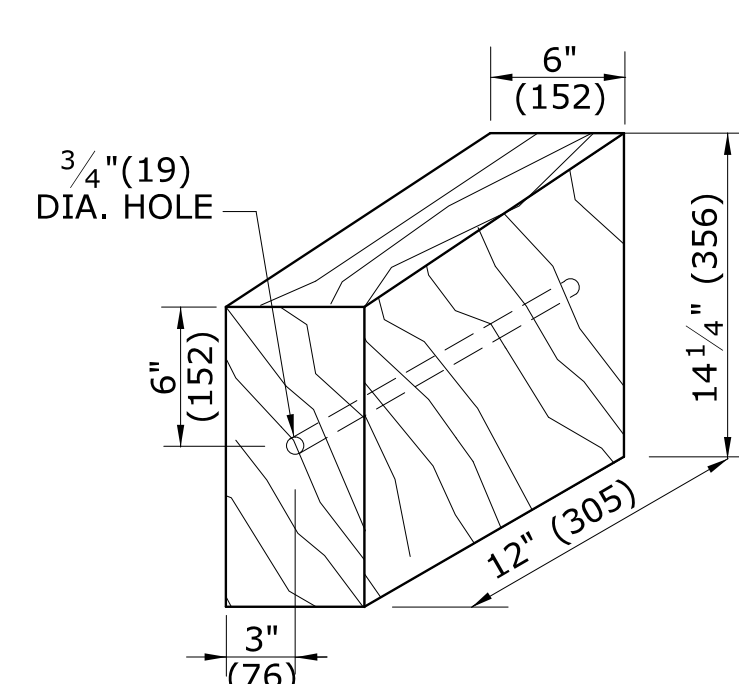
ELEVATION
1 POST OMITTED 12'-6" (3810) LONG SPAN



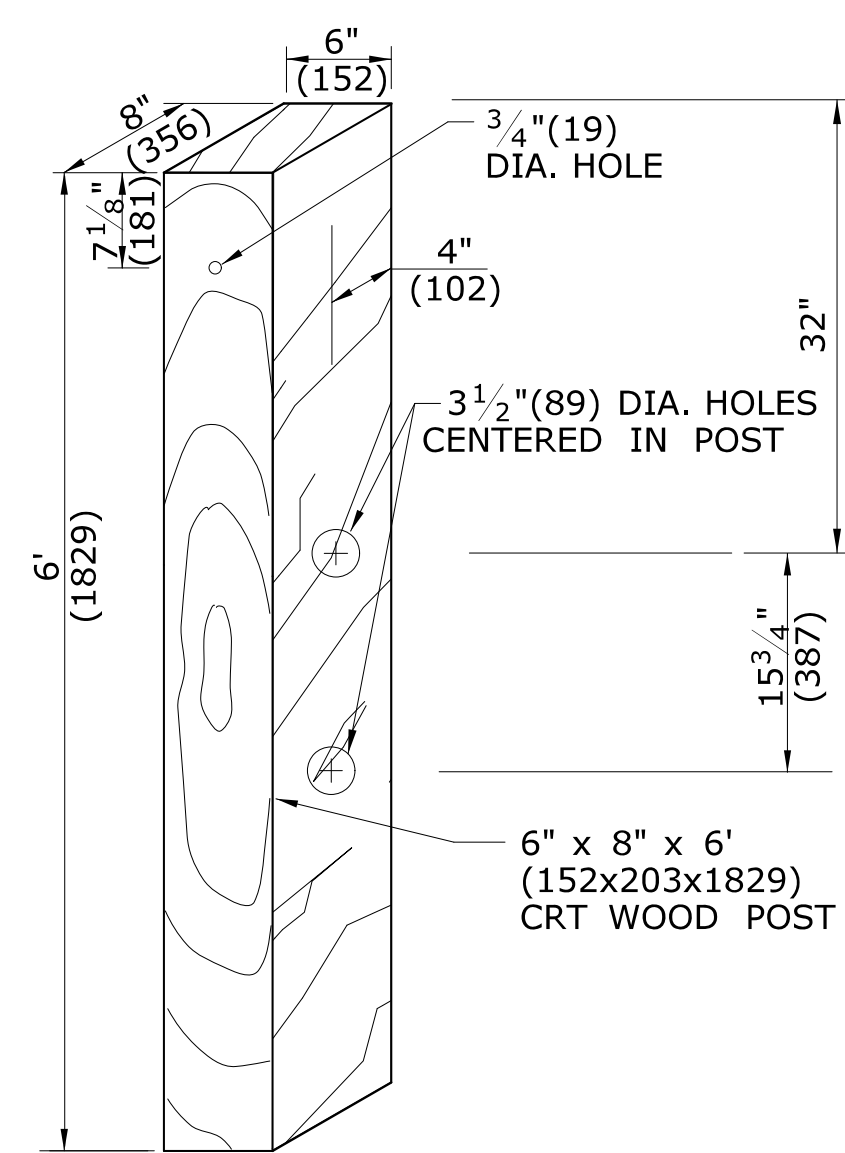
PLAN
12" (305) DEEP PLASTIC BLOCKOUT DETAIL



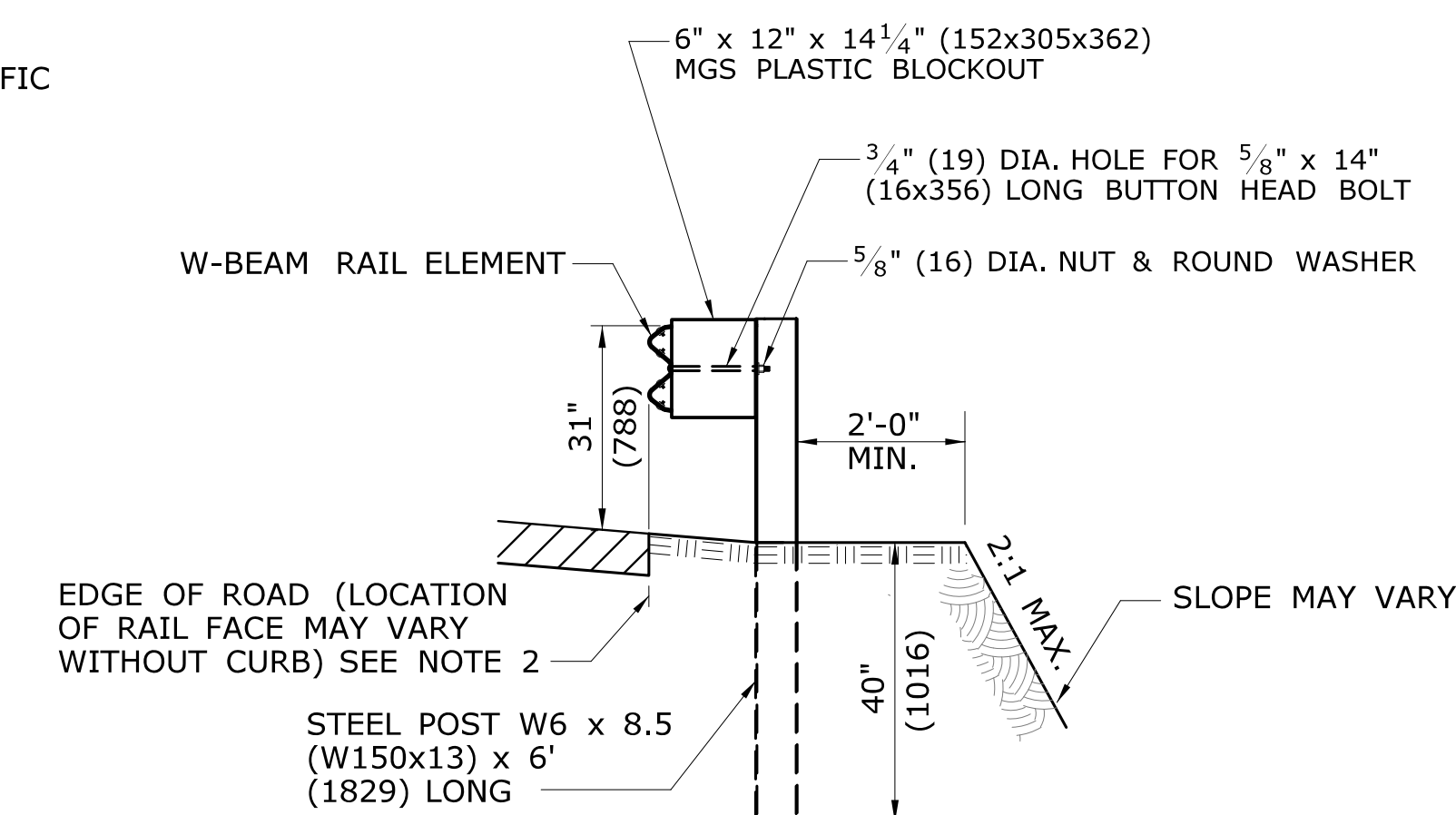
ELEVATION ISOMETRIC



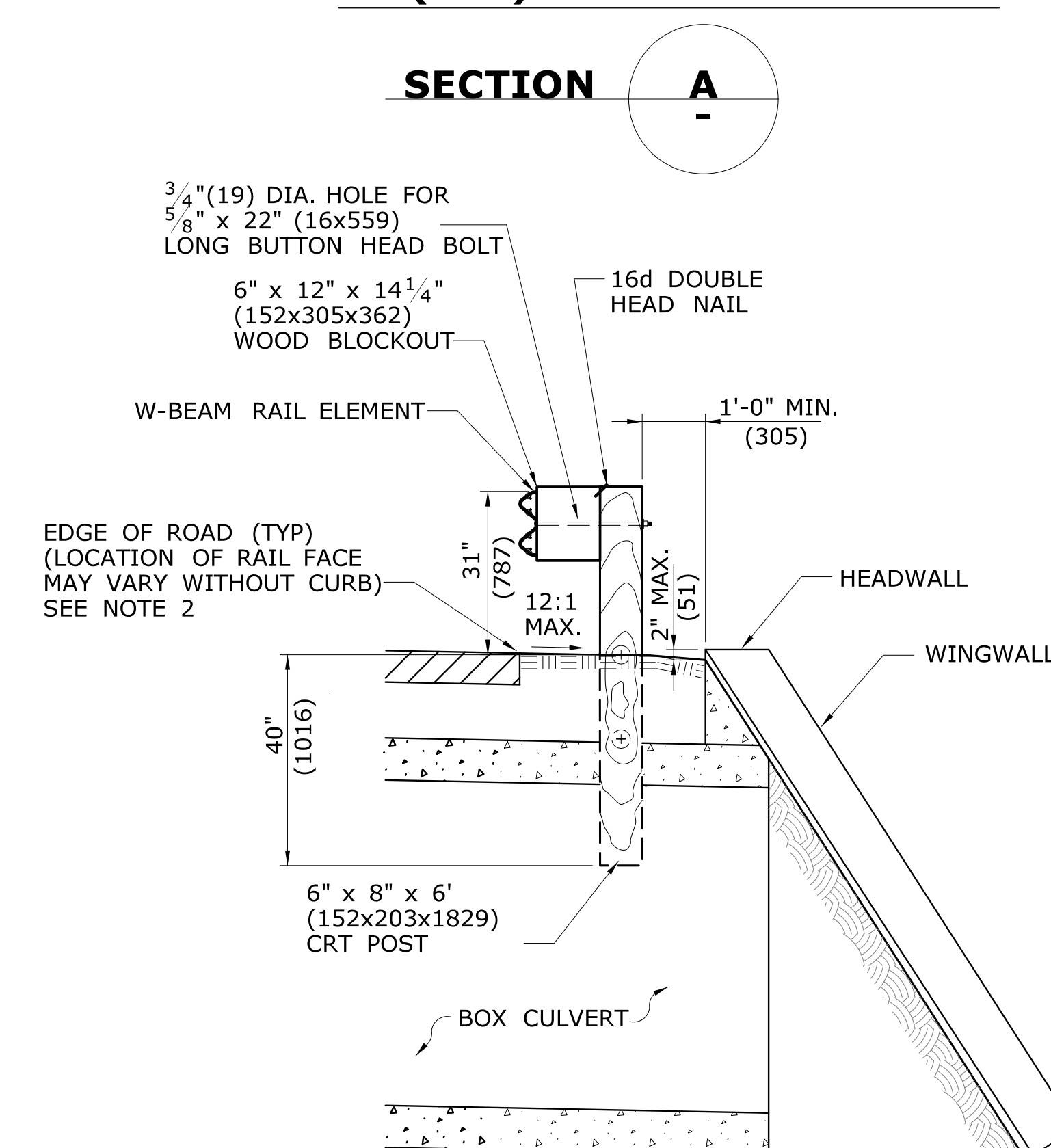
WOOD BLOCKOUT
6"x12"x14 1/4"
(152x305x362)



CRT POST



STEEL POST W/
12" (305) PLASTIC BLOCKOUT



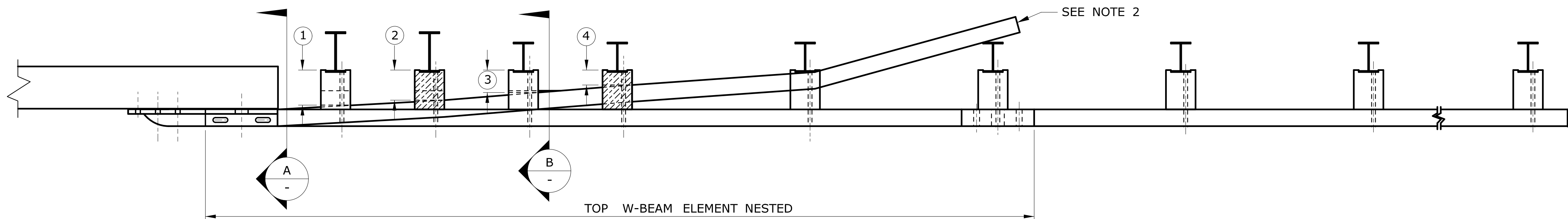
CONTROL RELEASE TIMBER (CRT) POST

GENERAL NOTES:

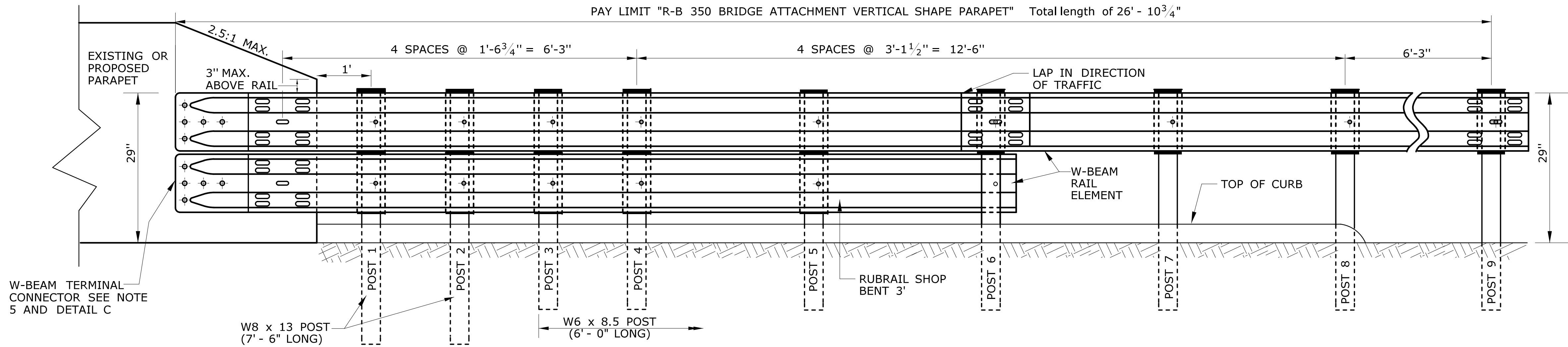
1. THIS DETAIL WAS DEVELOPED FROM MWRSF RESEARCH REPORT NO. TRP-03-187-07 FOR USE WITH THE MIDWEST GUIDERAIL SYSTEM (MGS).
2. THIS SYSTEM IS NOT FOR USE IN-CONJUNCTION WITH ANY CURB TYPE.
3. W-BEAM RAIL ELEMENTS SHALL BE FABRICATED WITH 3'-1 1/2" POST HOLES.
4. W-BEAM RAIL SPLICES SHALL BE BOLTED TOGETHER WITHIN THE PAY LIMITS.
@ NON-POST LOCATIONS.
5. THIS SYSTEM IS NOT INTENDED FOR USE ON A RADIUS.

ALL METRIC DIMENSIONS ARE IN MILLIMETERS (mm) UNLESS OTHERWISE NOTED.

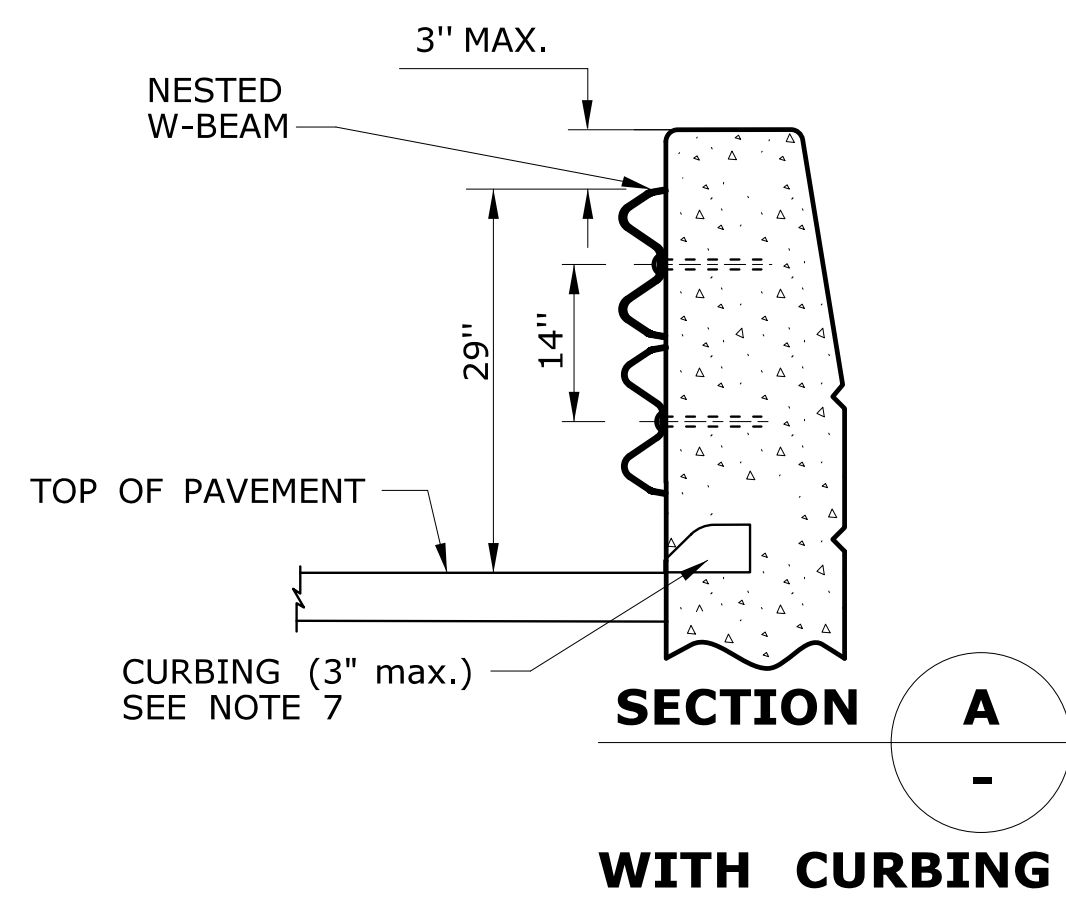
NOT TO SCALE ####	SIGNATURE BLOCK: OFFICE OF ENGINEERING 2800 BERLIN TURNPIKE NEWINGTON, CT 06111	SUBMITTED BY: Leo Fontaine, P.E. 2020.07.08 09:59:04-04'00'	APPROVED BY: James Fallon, P.E. 2020.07.15 09:58:09-04'00'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: METAL BEAM RAIL R-B 350 SPAN TYPE I, II, III SECTIONS	STANDARD SHEET NO.: HW-910_05
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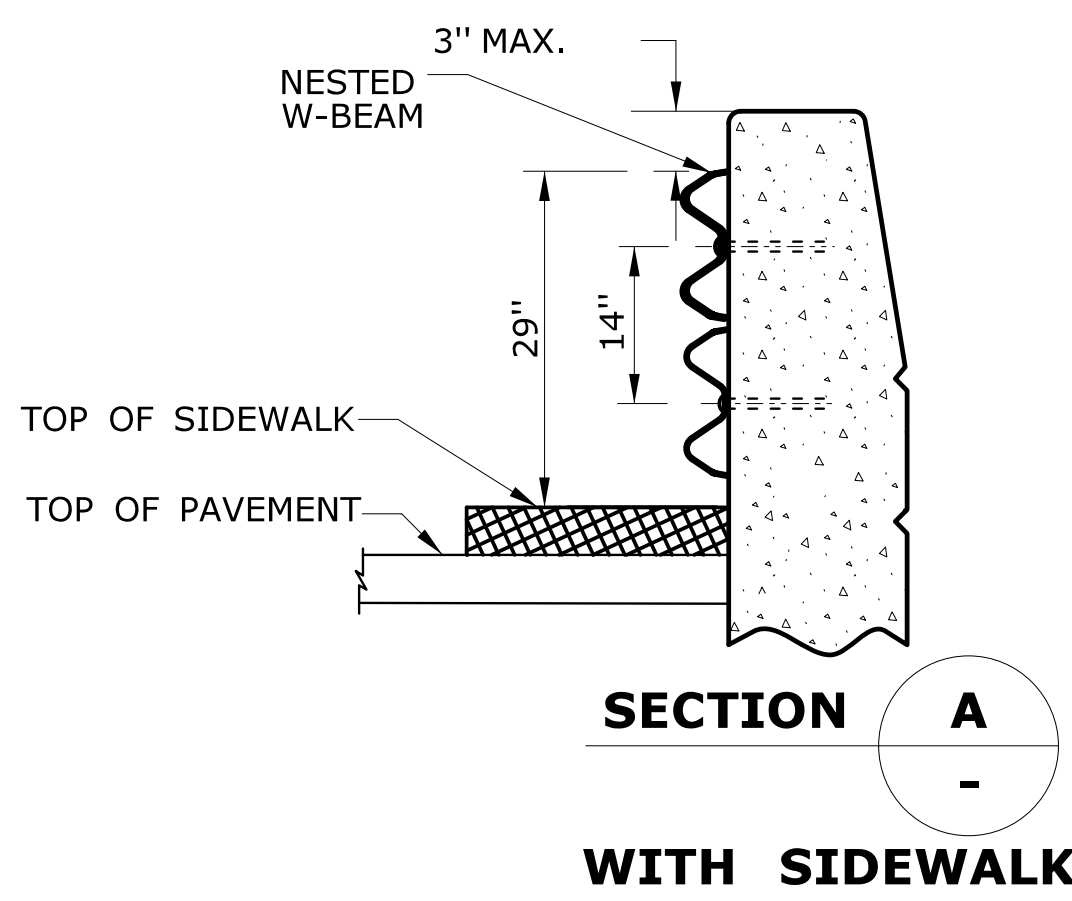
PLAN



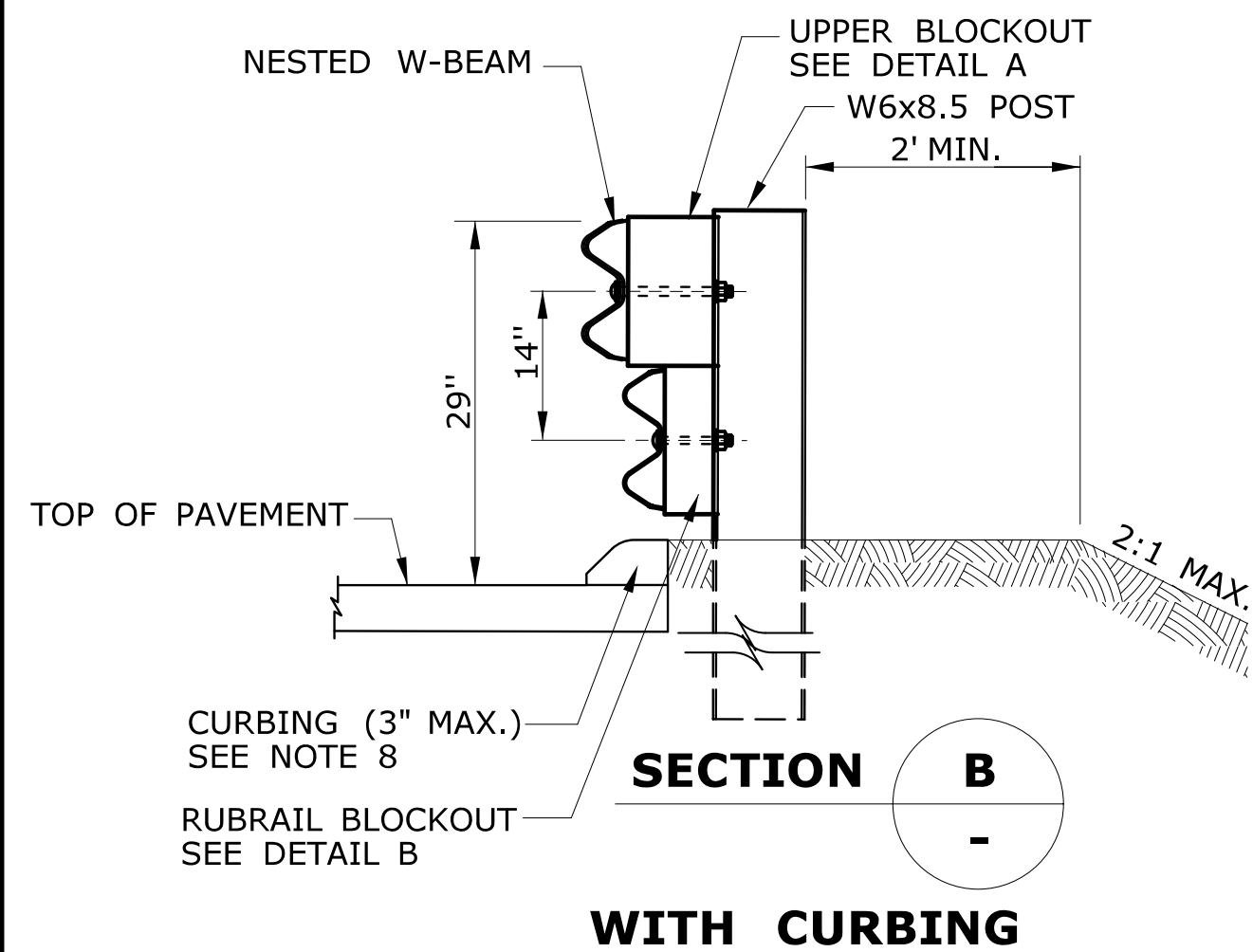
ELEVATION



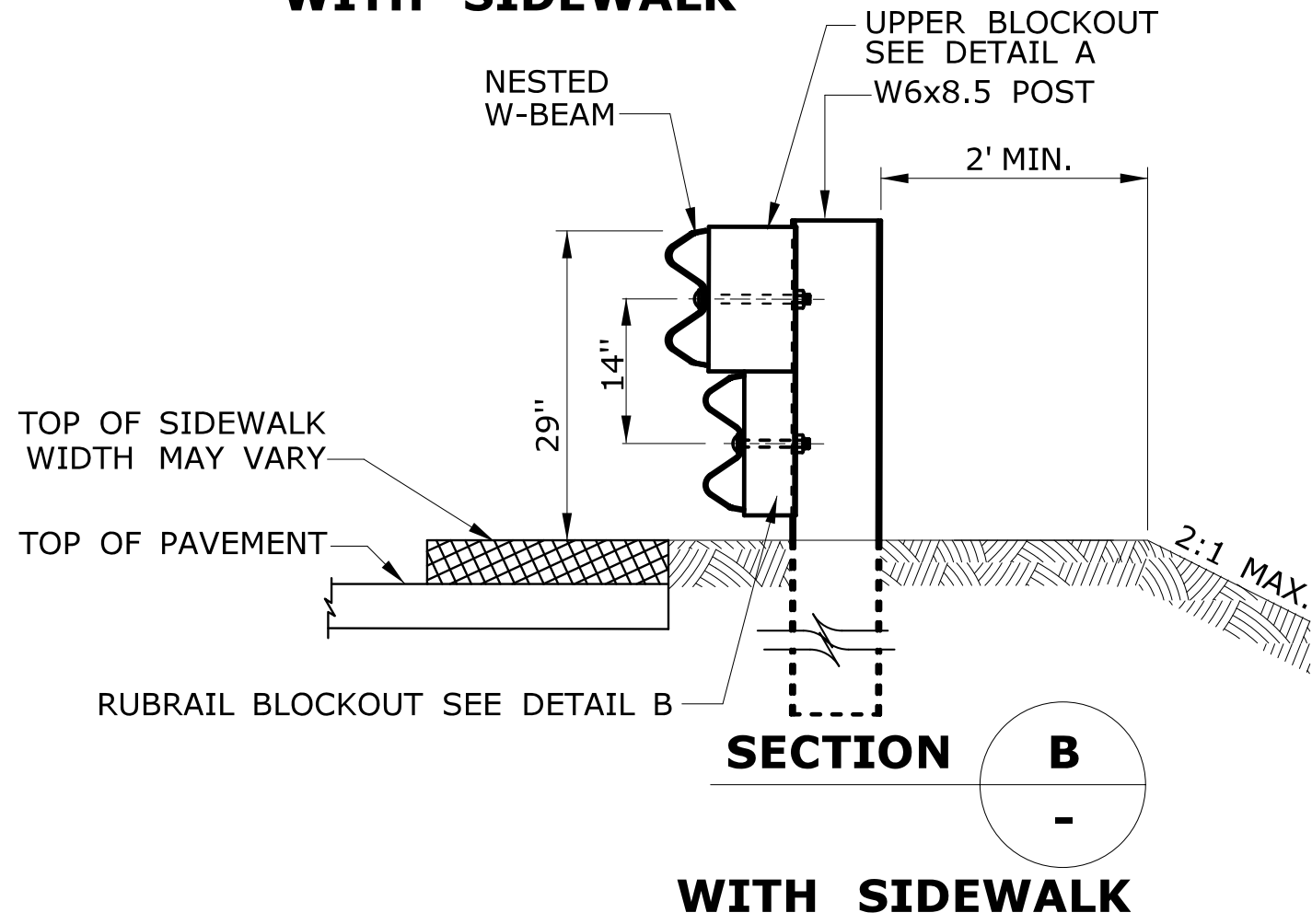
SECTION A
-
WITH CURBING



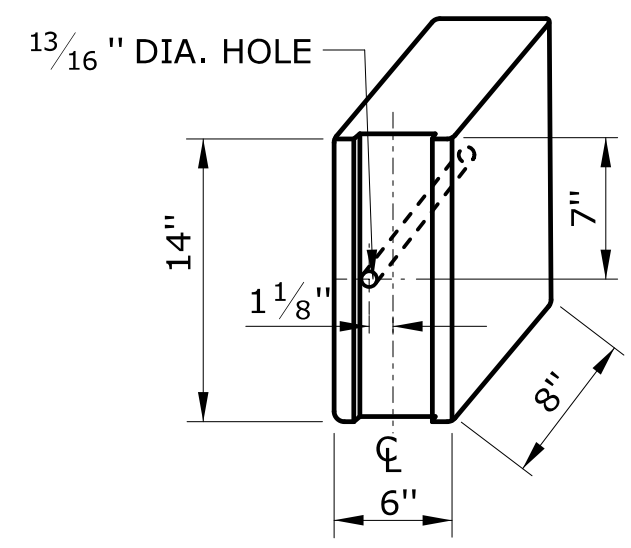
SECTION A
-
WITH SIDEWALK



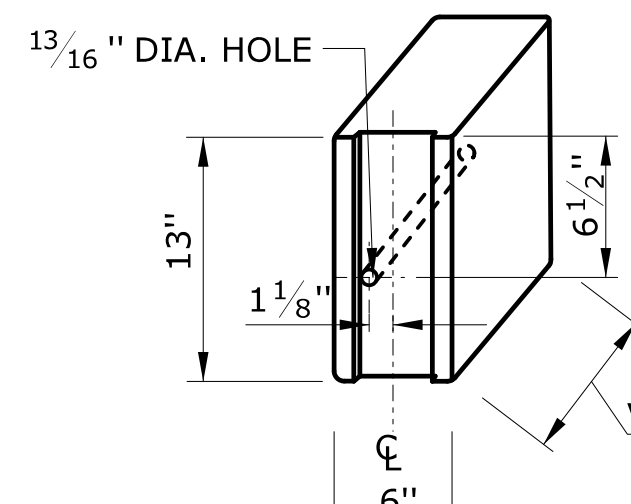
SECTION B
-
WITH CURBING



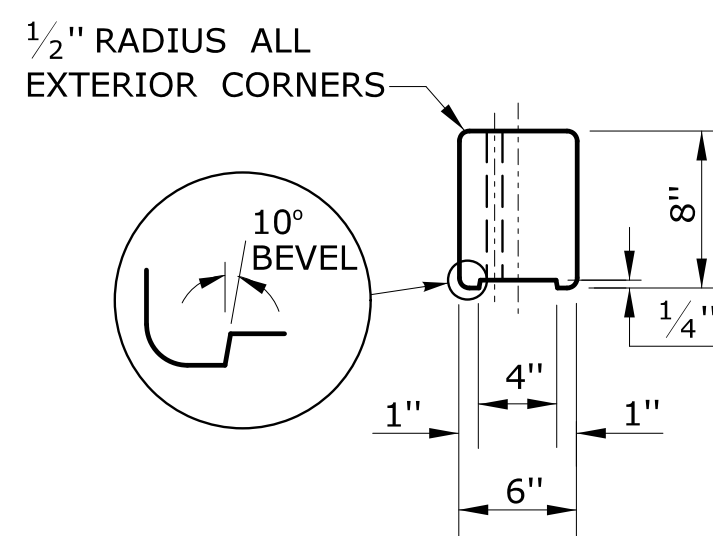
SECTION B
-
WITH SIDEWALK



DETAIL A
UPPER BLOCKOUT

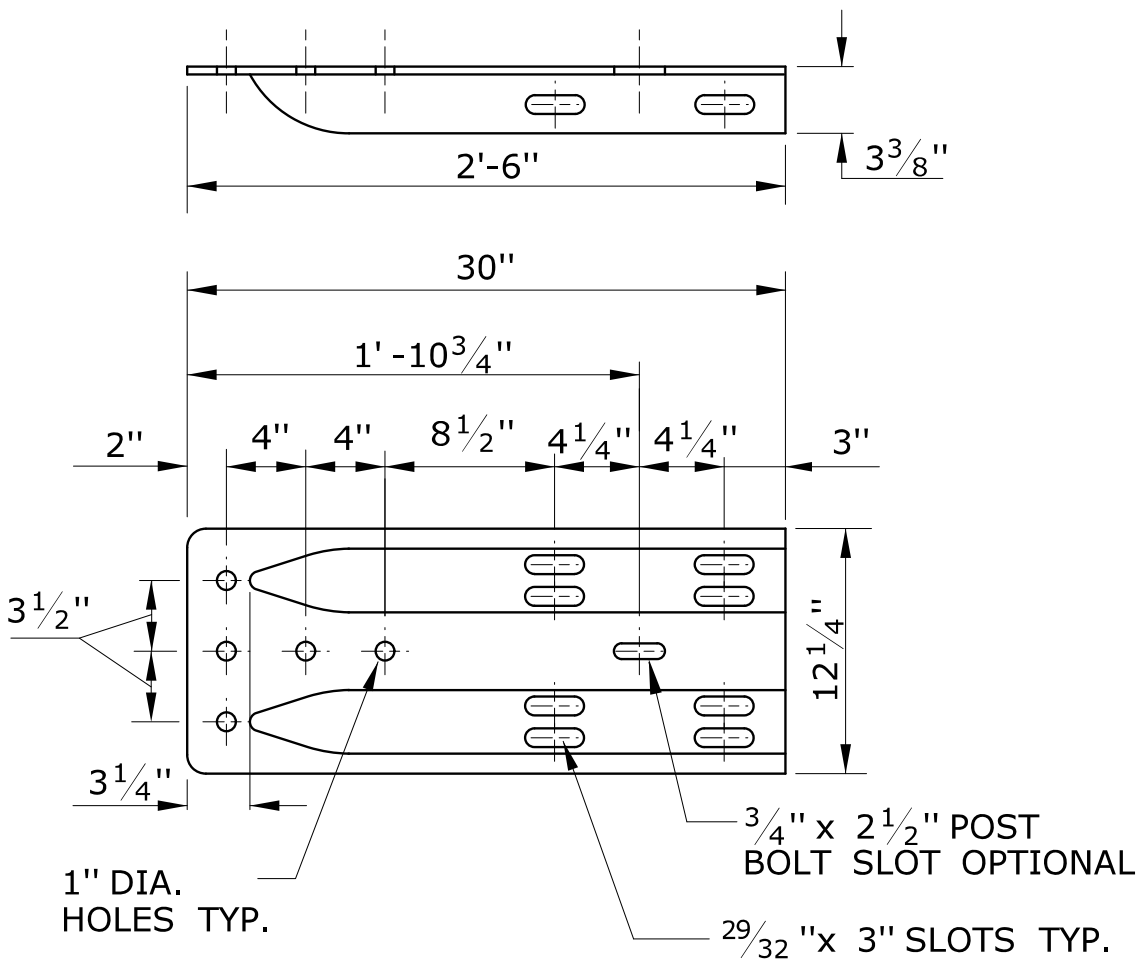


DETAIL B
RUBRAIL BLOCKOUT



TOP

RUBRAIL BLOCKOUTS 13" HIGH x 6" WIDE		
POST	THICKNESS	BOLT LENGTH
①	7"	9"
②	6"	8"
③	4 1/2"	6"
④	3"	5"

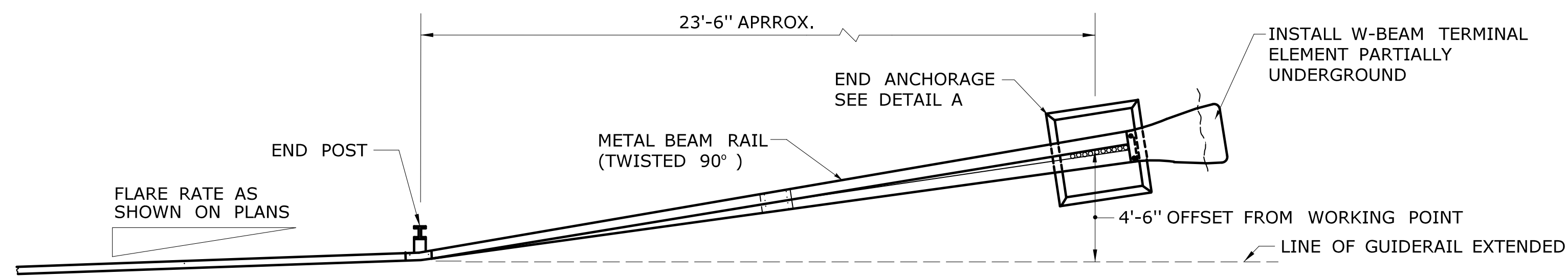


DETAIL C
W-BEAM TERMINAL CONNECTOR
CLASS B TYPE II
SEE NOTE 5

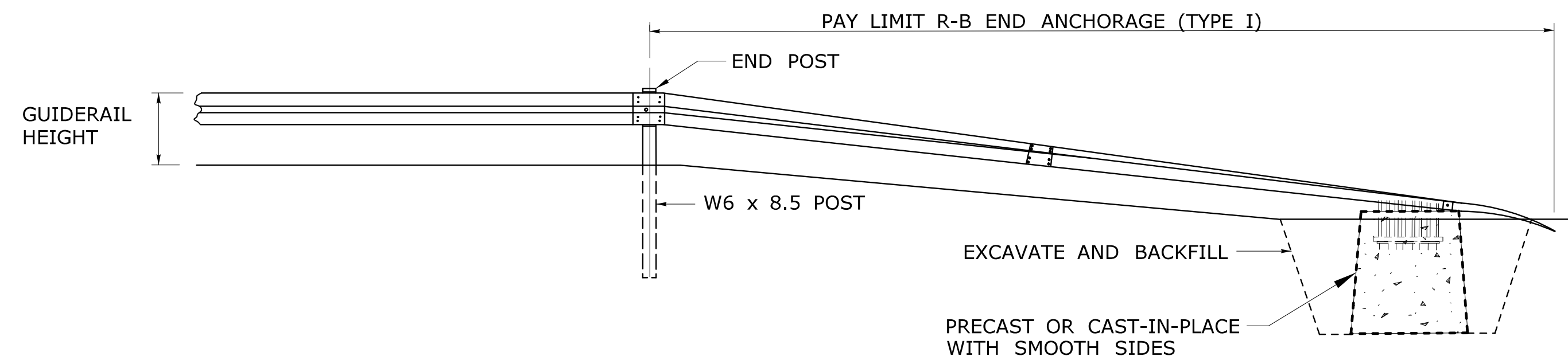
GENERAL NOTES:

- RUBRAIL BLOCKOUTS FOR POSTS 1 THROUGH 4 ARE ATTACHED TO POST AND RAIL WITH A 5/8" BUTTONHEAD BOLTS (SEE CHART FOR BOLT LENGTH). RUBRAIL ONLY IS ATTACHED TO POST 5 WITH A 5/8" x 1 1/4" BUTTONHEAD BOLT.
- THE RUBRAIL SHALL BE SHOP BENT IN THE LAST 3' TO FACILITATE INSTALLATION. DO NOT ATTACH RUBRAIL TO BACK OF POST 6.
- ANCHORAGE:
(A) AT EXISTING PARAPETS EACH W-BEAM TERMINAL CONNECTOR SHALL BE ANCHORED USING FOUR 7/8" x 12" CHEMICALLY ANCHORED BOLTS WITH WASHERS OR AS DETAILED ON STRUCTURE SHEETS. MAXIMUM BOLT PROJECTION BEYOND THE NUT SHALL BE 1/2". THE 12" MINIMUM LENGTH OF CHEMICALLY ANCHORED BOLTS SHALL INCLUDE A MINIMUM EMBEDMENT DEPTH OF 10" INTO SUITABLY REINFORCED CONCRETE OR AS RECOMMENDED BY THE MANUFACTURER OF BONDING MATERIAL.
(B) FOR NEW PARAPETS OR BARRIERS, THE W-BEAM TERMINAL CONNECTORS SHALL BE ANCHORED AS DETAILED ON THE STRUCTURE SHEETS.
- ADDITIONAL BLOCKOUTS WITH POSTS 1 THROUGH 6 SHOULD BE AVOIDED.
- FOR SINGLE DIRECTION ROADWAY:
INSTALL W-BEAM TERMINAL CONNECTOR BETWEEN NESTED GUIDE RAIL ELEMENTS.
FOR DUAL DIRECTION ROADWAY FOR APPROACHING TRAFFIC:
INSTALL W-BEAM TERMINAL CONNECTOR BETWEEN NESTED GUIDE RAIL ELEMENTS.
FOR TRAILING END:
INSTALL W-BEAM TERMINAL CONNECTOR OUTSIDE OF THE NESTED GUIDE RAIL ELEMENTS.
- MINIMUM RAIL HEIGHT FOR NEW CONSTRUCTION SHALL BE 29" +/- 1".
- USE MODIFIED 4" BITUMINOUS CONCRETE PARK CURBING REDUCED TO A 3 INCH REVEAL BENEATH THE RUBRAIL IF CURBING IS REQUIRED.

- GENERAL NOTES:**
1. J-HOOK BOLTS MAY BE SUBSTITUTED FOR BOTTOM PLATE ANCHORAGE IN CONCRETE END ANCHORS USING THE SAME SIZE, STRENGTH, AND LENGTH AS NOTED ON THE PLANS.
 2. INSTALLATION OF RADII DIFFERENT THAN WHAT IS SHOWN IN DETAIL "C" FOR R-B END ANCHORAGE TYPE II MUST BE APPROVED BY THE ENGINEER.

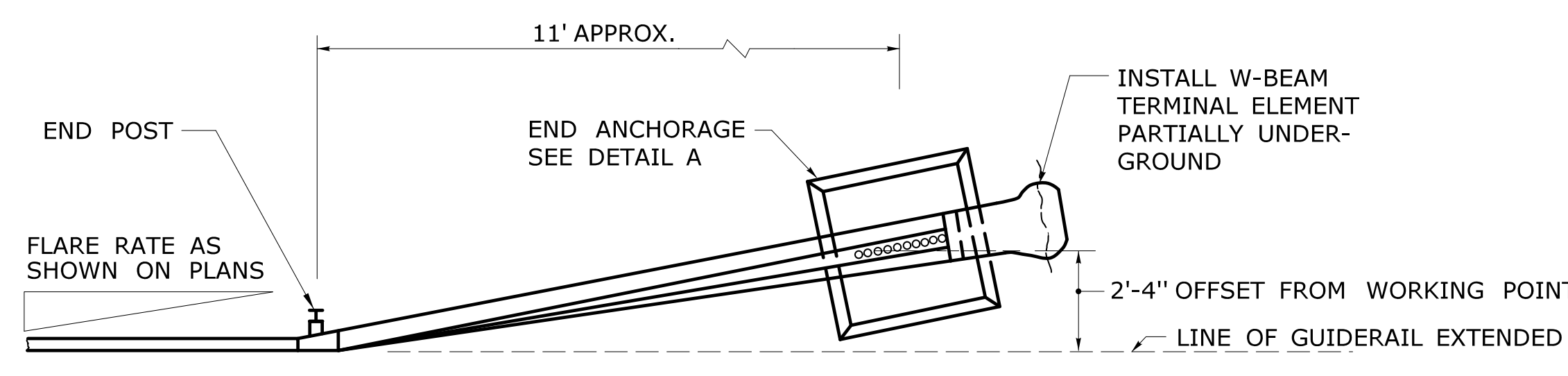


PLAN

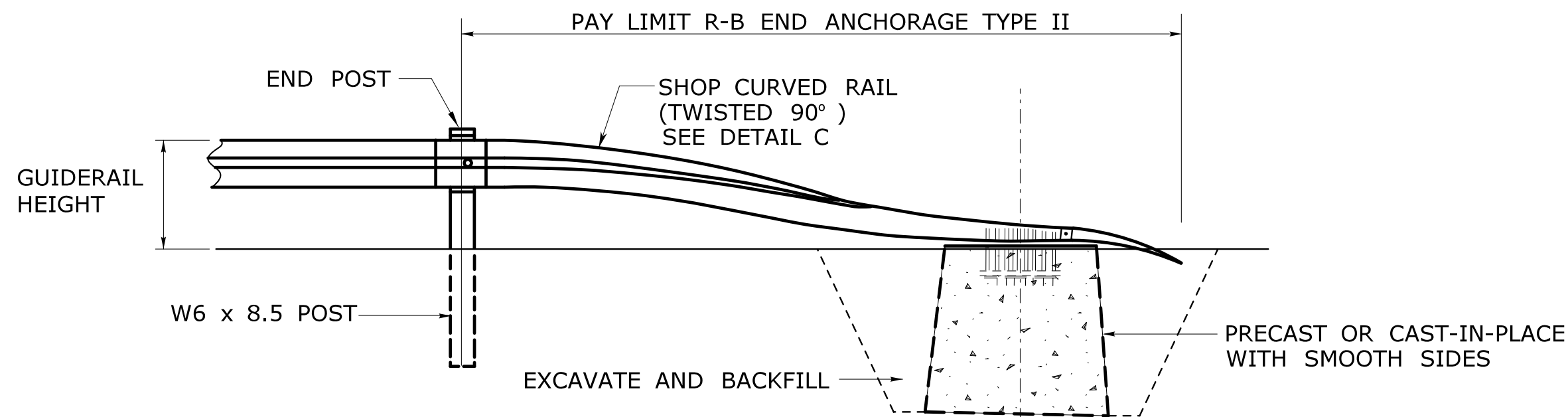


ELEVATION

R-B END ANCHORAGE TYPE I

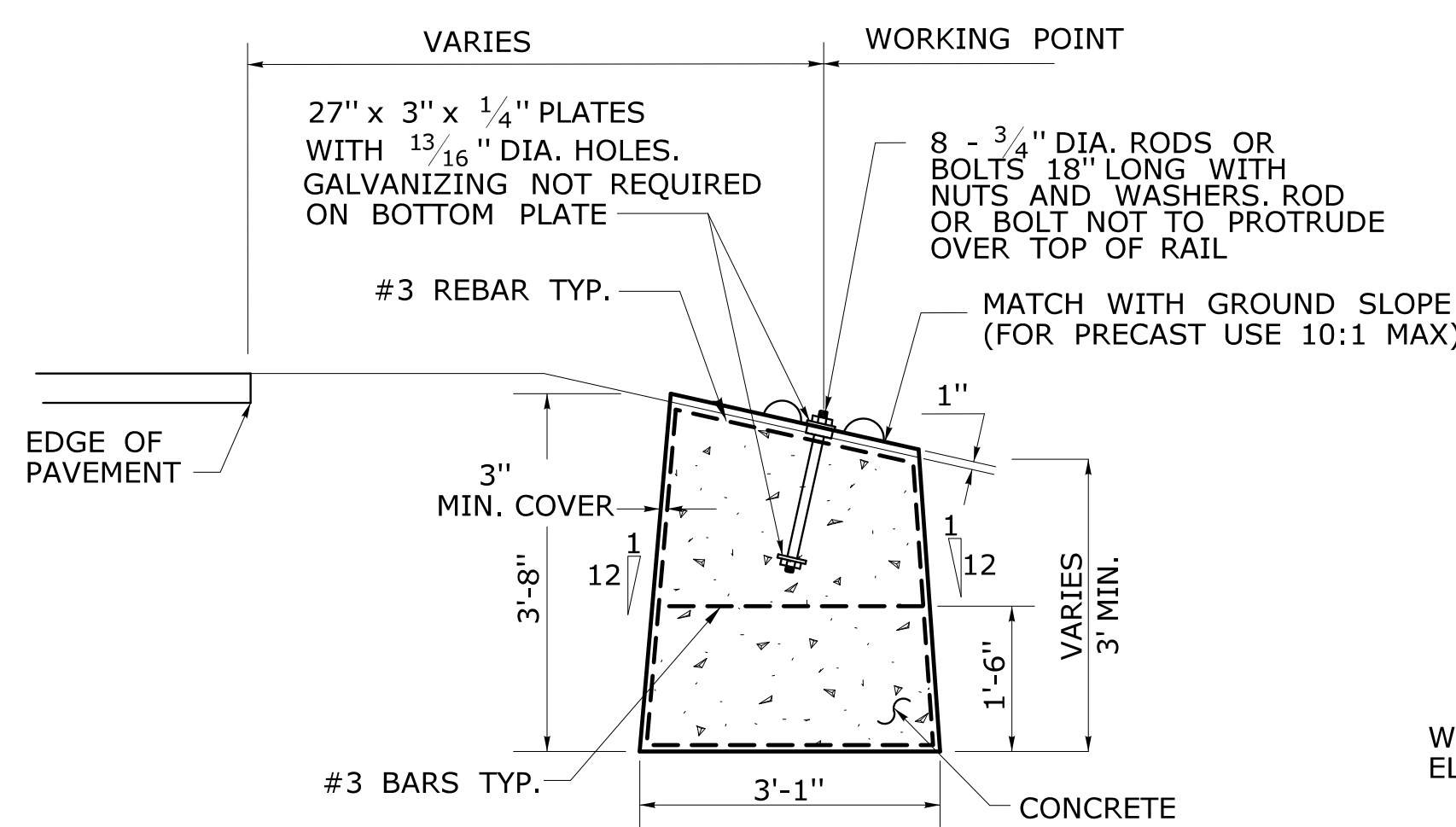


PLAN

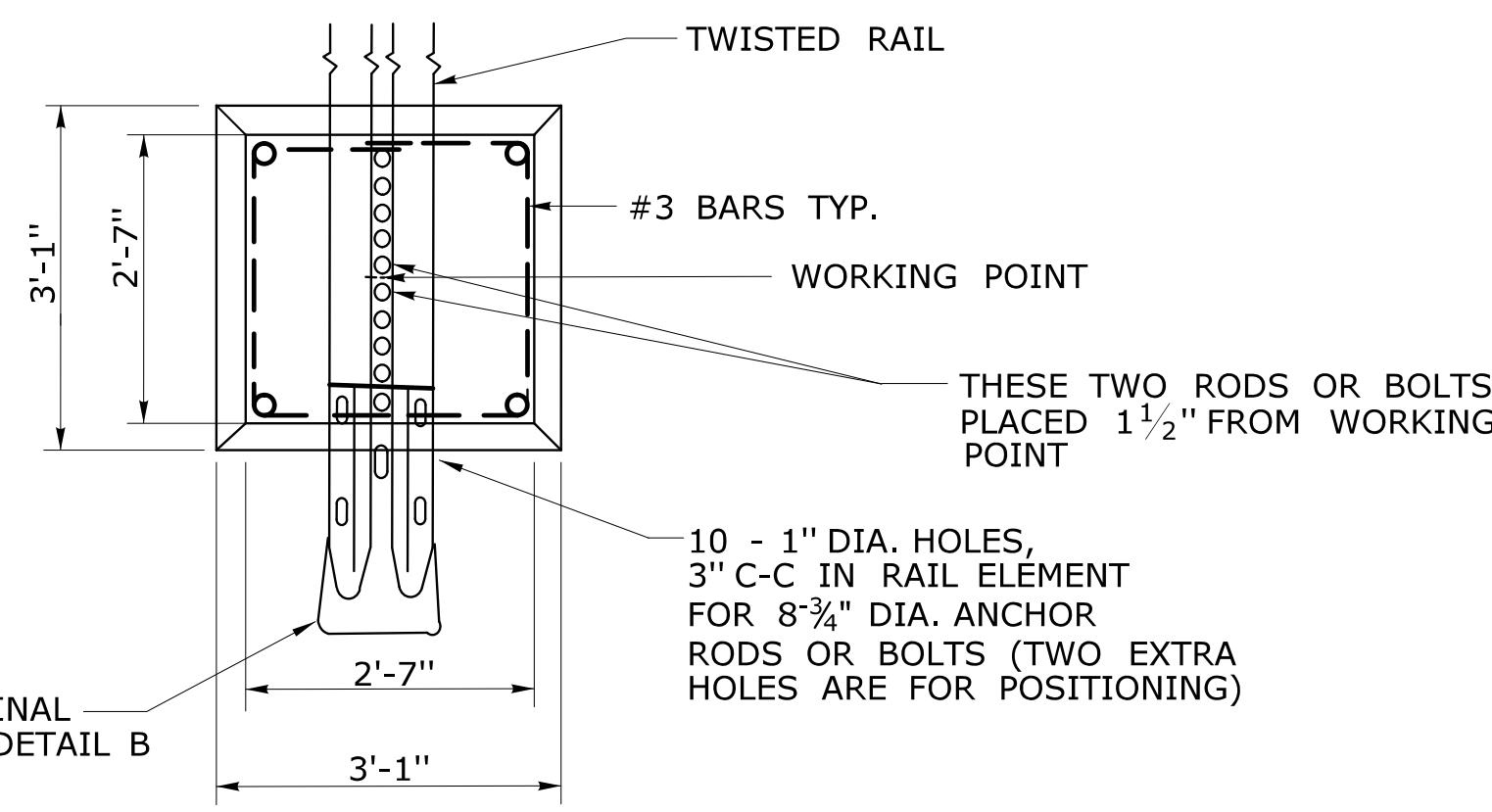


ELEVATION

R-B END ANCHORAGE TYPE II



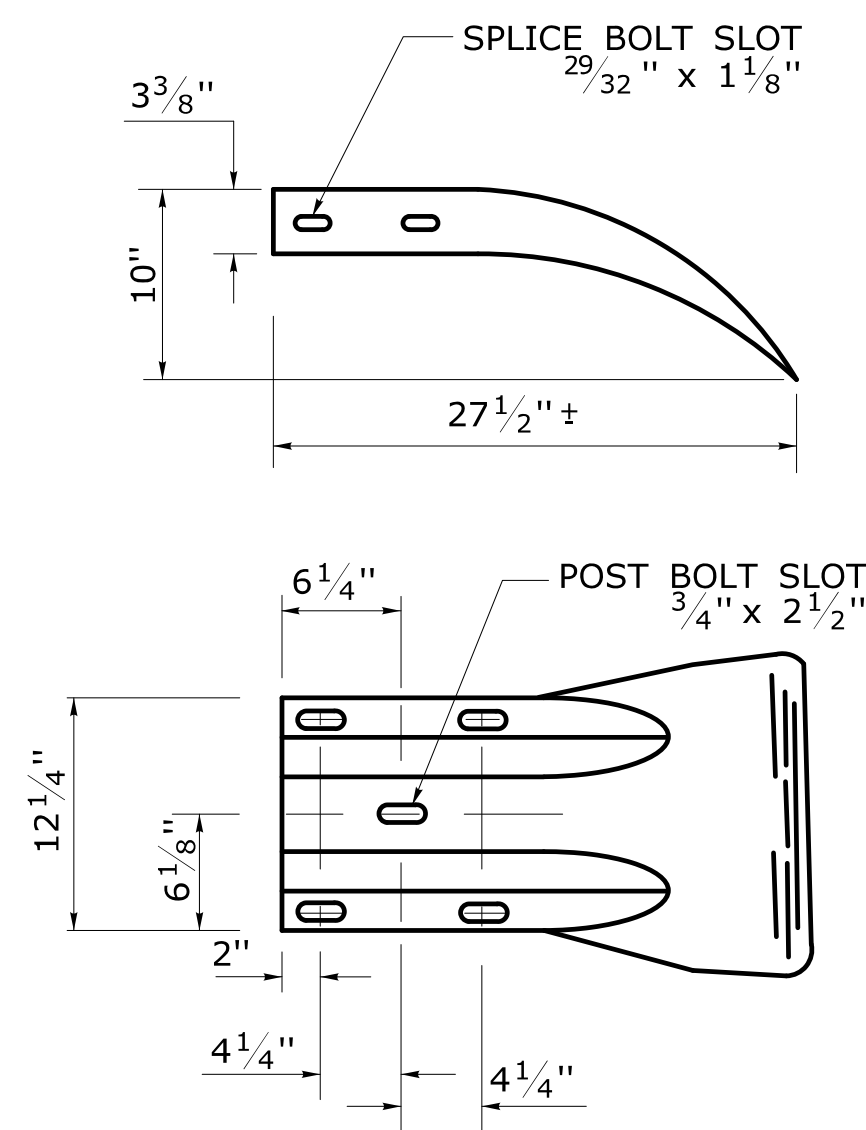
ELEVATION



PLAN

DETAIL A
ROADSIDE CONCRETE END ANCHOR

SEE NOTE 2



DETAIL B


W-BEAM TERMINAL ELEMENT

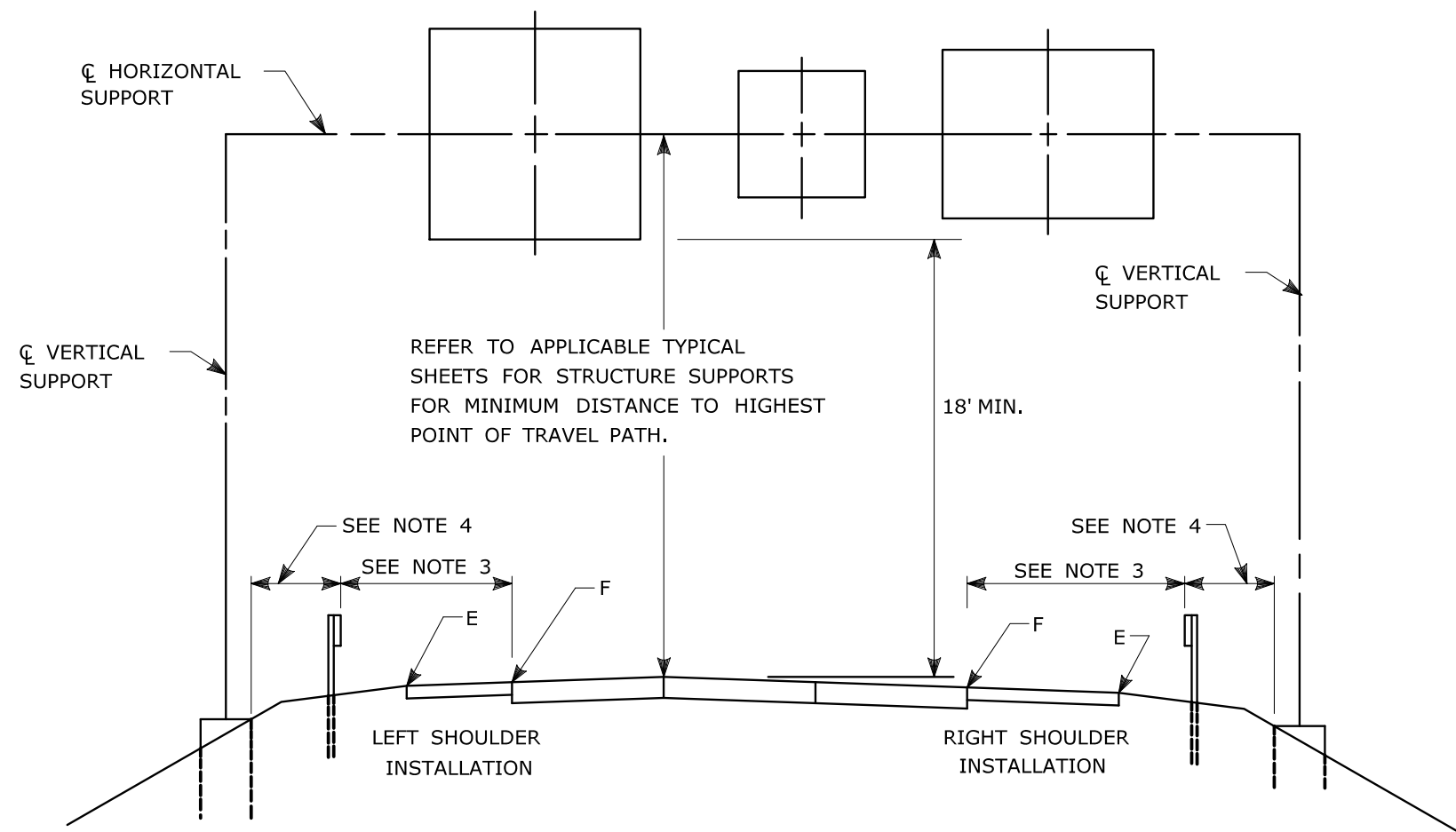
DETAIL C
SHOP CURVED RAIL
SEE NOTE 2

ONLY STANDARD SHEETS MARKED WITH AN "✓" ARE IN THIS PROJECT # 2017-0507

[illegible][illegible]

STANDARD SHEETS SHALL BE USED WITH STANDARD SPECIFICATIONS

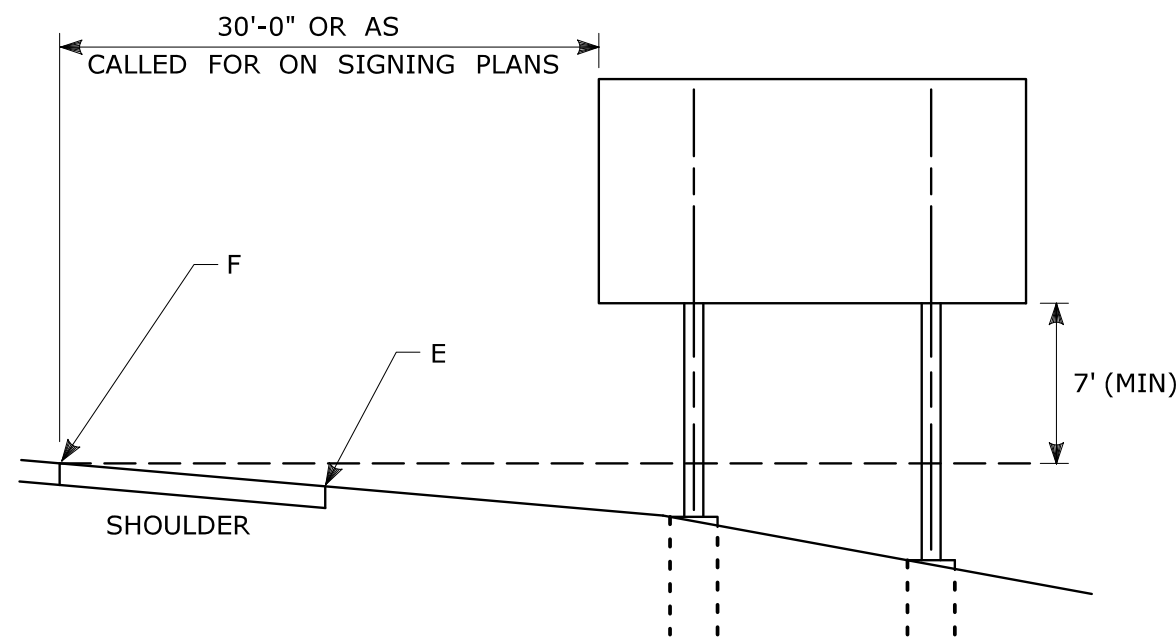
				THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	NOT TO SCALE	<div><div></div><div>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</div><div><div>Filename: CTDOT-TRAFFIC_STD_DGN.DGN</div><div>Model: TR-01-STD_INDEX</div></div></div> <div><div>SUBMITTED BY:</div><div>NAME/DATE/TIME:</div></div> <div><div>CTDOT STANDARD SHEET</div><div>OFFICE OF ENGINEERING</div></div> <div>STANDARD SHEET TITLE:</div> <div>STANDARD SHEET NO.:</div>								
4	4-2017	REMOVED TR-1210_01 TO TR-1210_03. ADDED TR-1210_04 TO TR-1210_09												
3	4-2014	REMOVED TR-1111_02.												
2	1-2014	REMOVED TR-1103_01.												
1	4-2012	RENUMBERED TR-1107_02 TO TR-1114_01. REMOVED TR-1116_01.												
REV.	DATE	REVISION DESCRIPTION	Plotted Date: 8/16/2018											



TYPICAL PLACEMENT OF OVERHEAD SIGNS ON SIGN SUPPORTS

NOTES:

- 1) FOR PLACEMENT OF CANTILEVER SIGN SUPPORT USE APPLICABLE PORTION OF ABOVE DETAIL.
- 2) BARRIER SYSTEMS MAY BE REQUIRED FOR BOTH SIDES OF SUPPORTS IN MEDIANS.
- 3) IMPACT PROTECTION SHALL BE PROVIDED FOR THE SIGN SUPPORTS LOCATED WITHIN CLEAR ZONE.
- 4) SIGN SUPPORT FOUNDATIONS SHALL BE LOCATED OUTSIDE OF BARRIER SYSTEMS DEFLECTION AREA.
- 5) ALL SIGNS ARE TO BE LEVEL, REGARDLESS OF CAMBER IN SUPPORT.



TYPICAL PLACEMENT OF SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

NOTES:

- 1) MIN. VERTICAL CLEARANCE ABOVE SIDEWALKS SHALL BE 7'.
- 2) WHERE GUIDE RAIL IS USED, THE OFFSET TO THE NEAR EDGE OF SIGN FACE SHALL BE AS SHOWN ELSEWHERE IN THE CONTRACT PLANS.
- 3) ON INTERSECTING ROADS AT RAMP TERMINI, THE OFFSET TO THE NEAR EDGE OF OF SIGN FACE SHALL BE 6' MIN. FROM POINT "E".
- 4) IF 30'-0" MIN. CANNOT BE MET, PLEASE CONTACT THE ENGINEER.

FOR MAXIMUM EFFECTIVENESS, POSITION SIDE MOUNTED SIGNS ON STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS AS FOLLOWS:

ON A TANGENT SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH THE TRAFFIC LANE WHICH THE SIGN SERVES. SIGNS LOCATED 30 FT OR MORE FROM THE EDGE OF THE ROAD SHALL BE TURNED APPROXIMATELY 3° TOWARD THE ROAD.

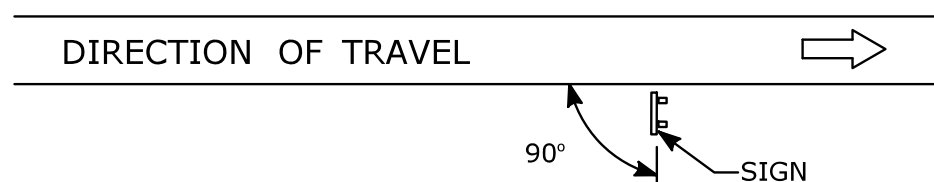


DIAGRAM "A"

ON A HORIZONTAL CURVE SECTION, POSITION THE SIGN SO THE VERTICAL AXIS IS PLUMB AND THE HORIZONTAL AXIS IS AT AN ANGLE OF 90° WITH A STRAIGHT LINE BETWEEN THE SIGN AND THE POINT AT WHICH THE SIGN SHALL BE READ.

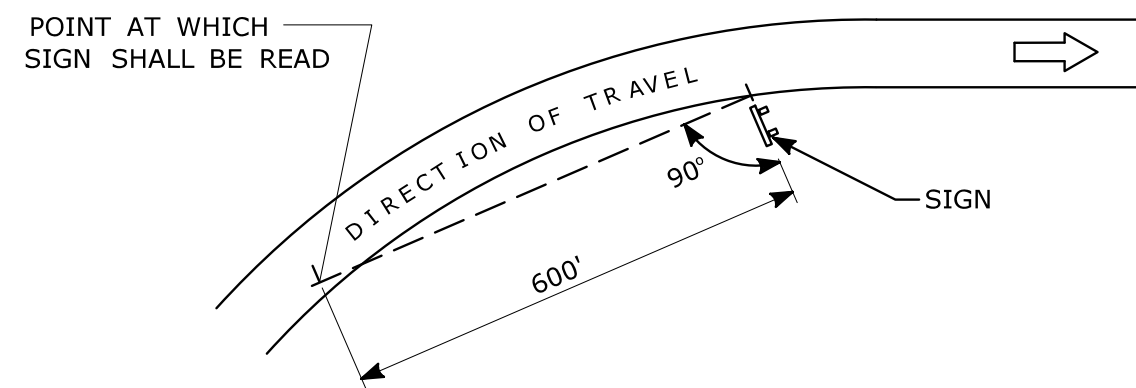


DIAGRAM "B"

SIGN ORIENTATION DETAILS

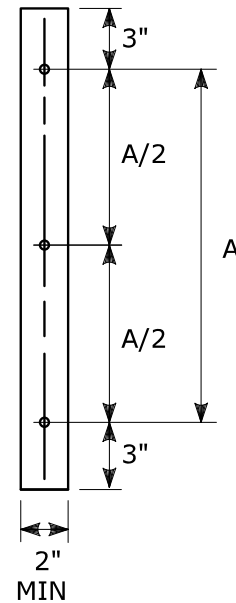
FOR SIDE MOUNTED SIGNS ON

STRUCTURAL STEEL BREAKAWAY SIGN SUPPORTS

RETROREFLECTIVE STRIPS
48" LONG OR LESS:



RETROREFLECTIVE STRIPS
OVER 48" LONG:

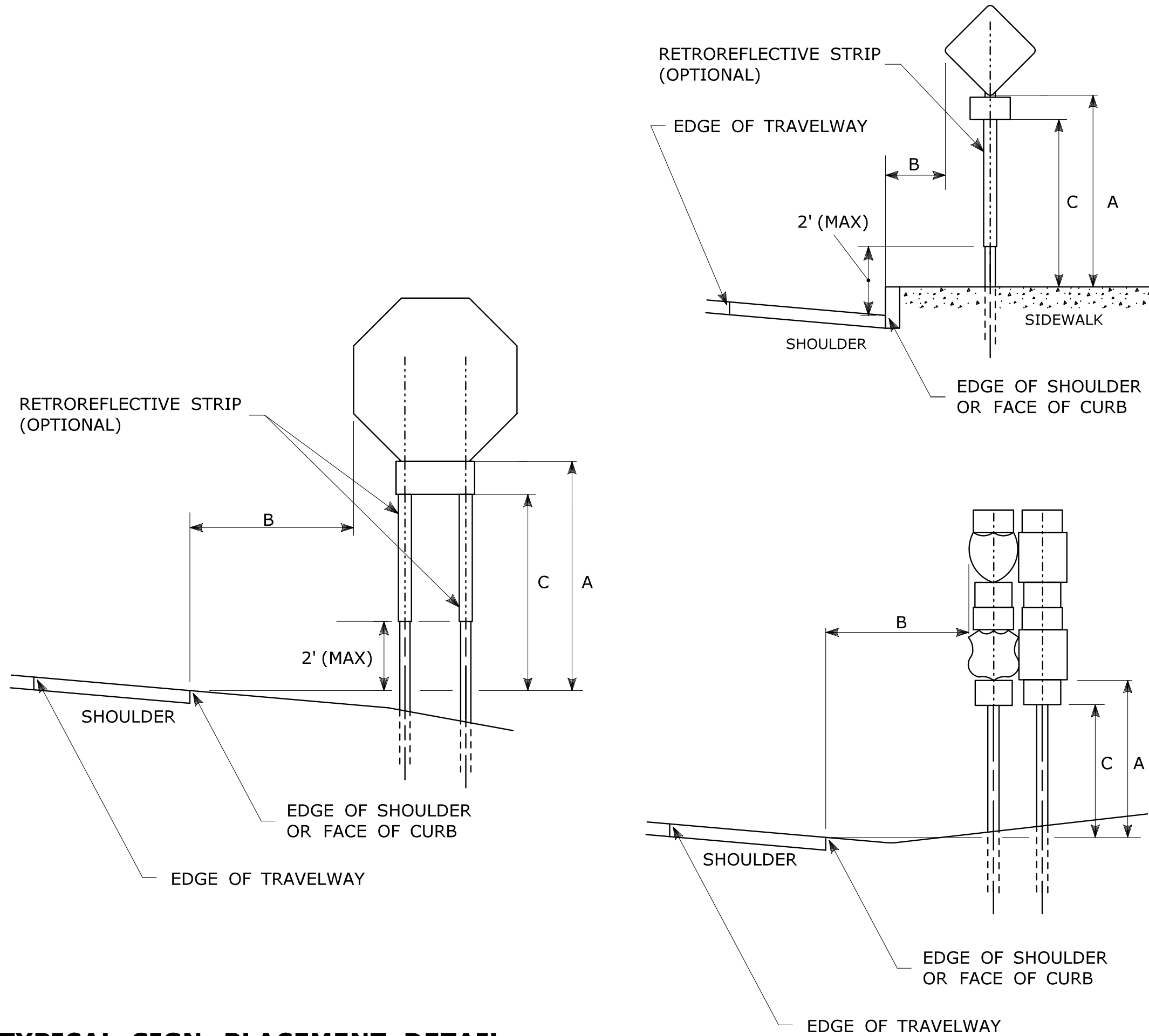


RETROREFLECTIVE STRIP DETAIL

NOTES:

RETROREFLECTIVE STRIPS WHICH ARE 48 IN LONG OR LESS SHALL BE ATTACHED USING 2 BOLTS AND RETROREFLECTIVE STRIPS OVER 48 IN LONG SHALL BE ATTACHED USING 3 BOLTS AS SHOWN ON THE DETAILS ABOVE.
REFER TO STANDARD SHEET No. TR-1208-02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR MOUNTING DETAILS.

RETROREFLECTIVE STRIP COLOR SHALL MATCH THE BACKGROUND COLOR OF THE SIGN, EXCEPT THAT THE COLOR OF THE STRIP FOR "YIELD" AND "DO NOT ENTER" SIGNS SHALL BE RED.



TYPICAL SIGN PLACEMENT DETAIL

NOTES:

ALL SIGNS AND SHIELDS ON DIRECTIONAL ASSEMBLIES SHALL ABUT VERTICALLY.

REFER TO STANDARD SHEET No. TR-1208-02 "METAL SIGN POSTS AND SIGN MOUNTING DETAILS" FOR SIGN POSTS AND SIGN MOUNTING.

IF A RETROREFLECTIVE STRIP IS USED ON SIGN SUPPORT, IT SHALL BE PLACED FOR THE FULL LENGTH OF THE SUPPORT FROM THE BOTTOM OF THE SIGN TO WITHIN 2 FT ABOVE THE EDGE OF THE ROADWAY.

PARKING SIGNS TYPICALLY USE 45° MOUNTING BRACKET.

DIM."A" MIN SIGN HEIGHT	DIM."B" MIN LATERAL OFFSET ①	DIM."C" MIN PLAQUE HEIGHT ①	ASSEMBLY LOCATION
7' ②	6' 12' ③	5'	SIGNS ON FREEWAYS AND EXPRESSWAYS EXCEPT CHEVRON ALIGNMENT SIGNS, ONE-DIRECTION LARGE ARROW SIGNS, DO NOT ENTER SIGNS, AND WRONG WAY SIGNS
5'	2'	4'	• SIGNS IN RURAL AREAS • DO NOT ENTER AND WRONG WAY SIGNS ALONG EXIT RAMP • DO NOT ENTER AND WRONG WAY SIGNS ON LIMITED ACCESS HIGHWAYS
5'	2'	N/A	• CHEVRON ALIGNMENT SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMPS, AND IN RURAL AREAS • ONE-DIRECTION LARGE ARROW SIGNS LOCATED ON FREEWAYS, EXPRESSWAYS, RAMPS, AND IN RURAL AREAS
4'	6' 12' ③	N/A	INCIDENT MANAGEMENT SIGNS AND MILE POST MARKER ASSEMBLIES LOCATED ON FREEWAYS AND EXPRESSWAYS
4'	2'	4'	CENTRAL ISLANDS OF ROUNDABOUTS
7'	2' ④	6'	BUSINESS & RESIDENTIAL AREAS WHERE PARKING OR OTHER OBSTRUCTIONS LIMIT VISIBILITY
7'	2' ④	7'	SIDEWALKS ⑤

① OR AS DIRECTED BY THE ENGINEER

② 8 FT MINIMUM HEIGHT REQUIRED IF A SUPPLEMENTAL PLAQUE IS SUBMOUNTED BELOW THE MAJOR SIGN.

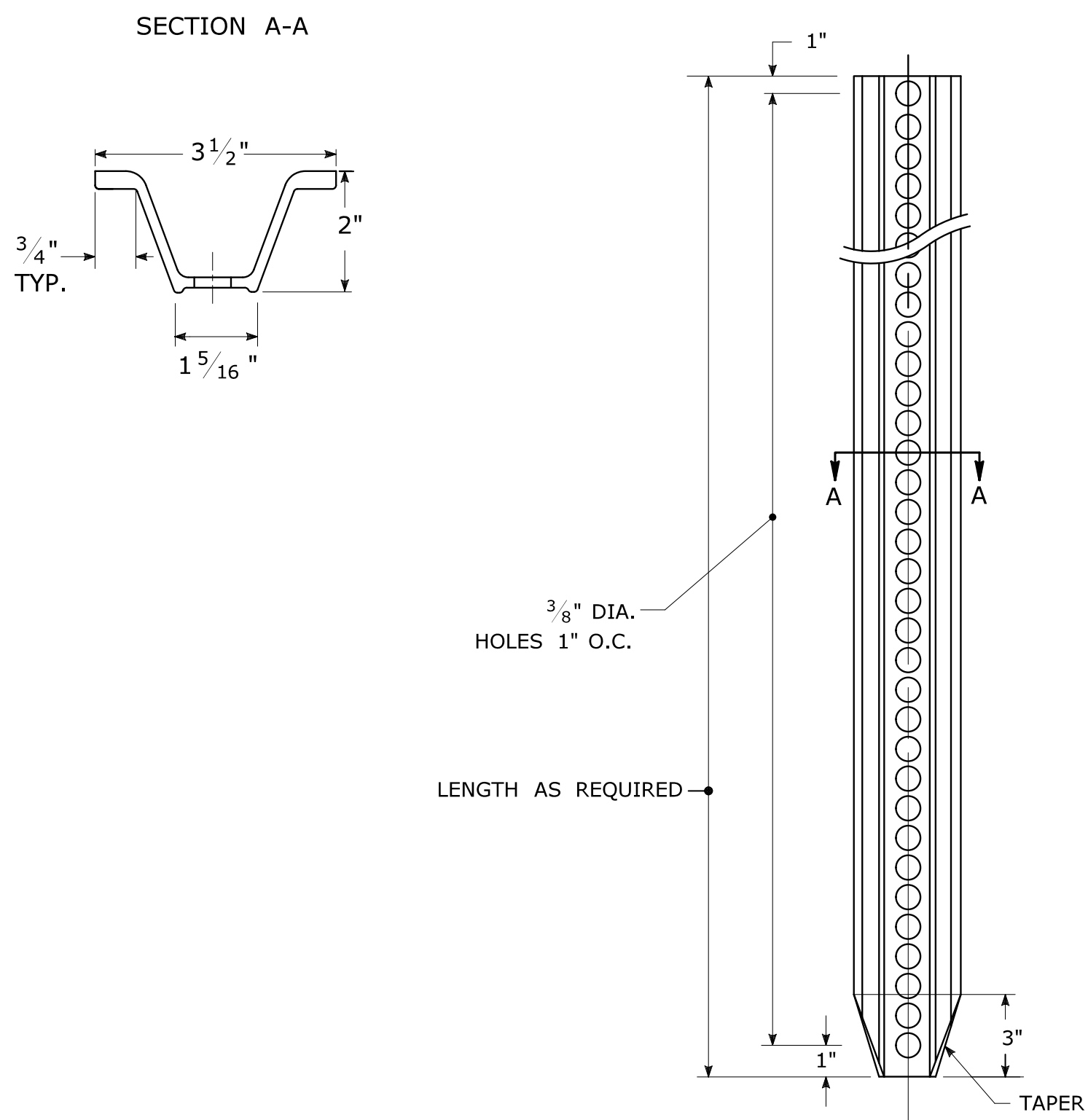
③ 6 FT FROM EDGE OF SHOULDER, WHEN SHOULDER IS OVER 6 FT WIDE
12 FT FROM EDGE OF TRAVELWAY, WHEN SHOULDER IS LESS THAN 6 FT WIDE.

④ A LATERAL OFFSET OF AT LEAST 1 FT FROM THE FACE OF THE CURB MAY BE USED WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING UTILITY POLES ARE CLOSE TO THE CURB.

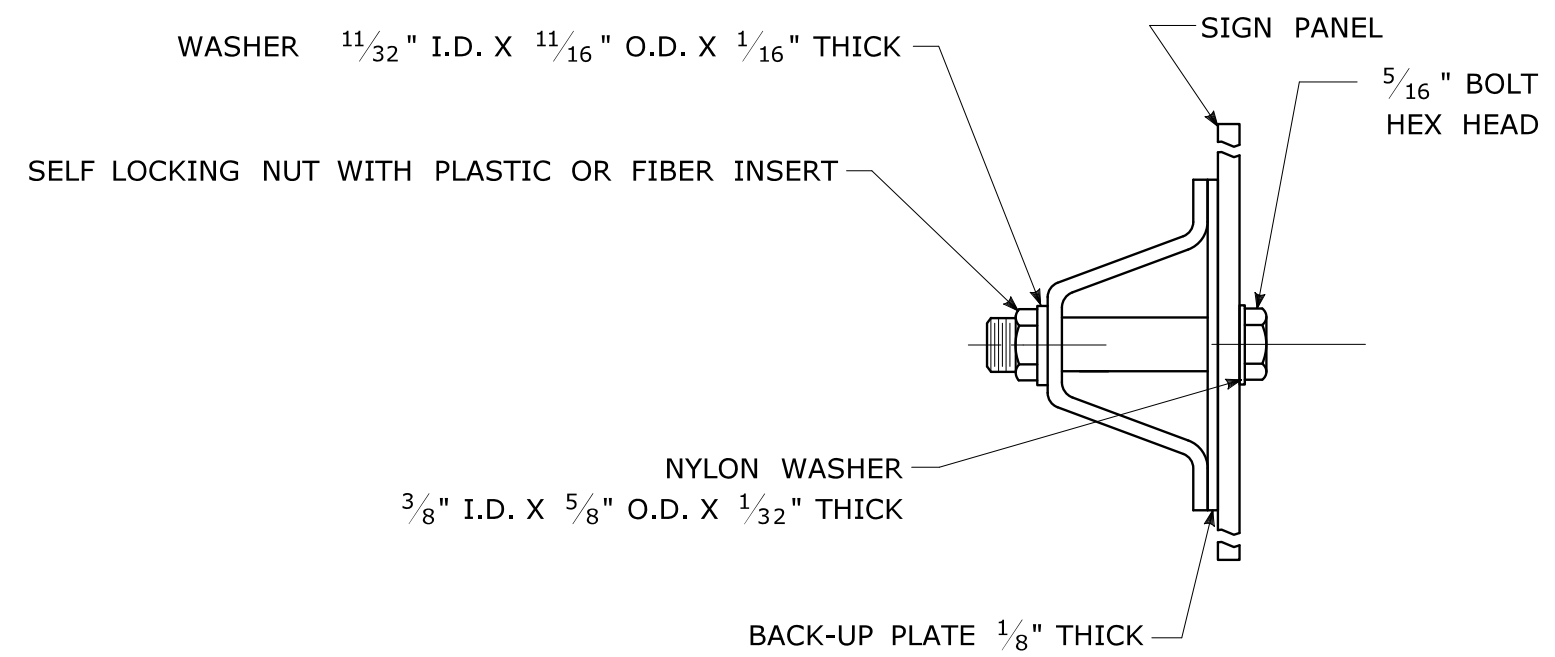
⑤ A CLEAR PATH OF NOT LESS THAN 4 FT SHALL BE PROVIDED IN SIDEWALK AREAS.

			THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.			SUBMITTED BY: <i>Mark F. Makuch</i> NAME/DATE/TIME: Mark F. Makuch, P.E. 2018.08.17 09:06:06-04'00' NAME/DATE/TIME:	CTDOT STANDARD SHEET OFFICE OF ENGINEERING	STANDARD SHEET TITLE: SIGN PLACEMENT AND RETROREFLECTIVE STRIP DETAILS	STANDARD SHEET NO.: TR-1208_01
3	8-2018	INCLUDED INCIDENT MANAGEMENT AND MILE MARKER SIGNS.				APPROVED BY: <i>Mark F. Carlino</i> Mark F. Carlino, P.E. 2018.08.21 07:48:06-04'00' NAME/DATE/TIME:			
2	4-2017	MINOR REVISIONS.							
1	2-2011	MINOR REVISIONS.							
REV.	DATE	REVISION DESCRIPTION	Plotted Date: 8/10/2018	NOT TO SCALE	Filename: TR-1208-01-1-2018.dgn Model: TR-1208-01				

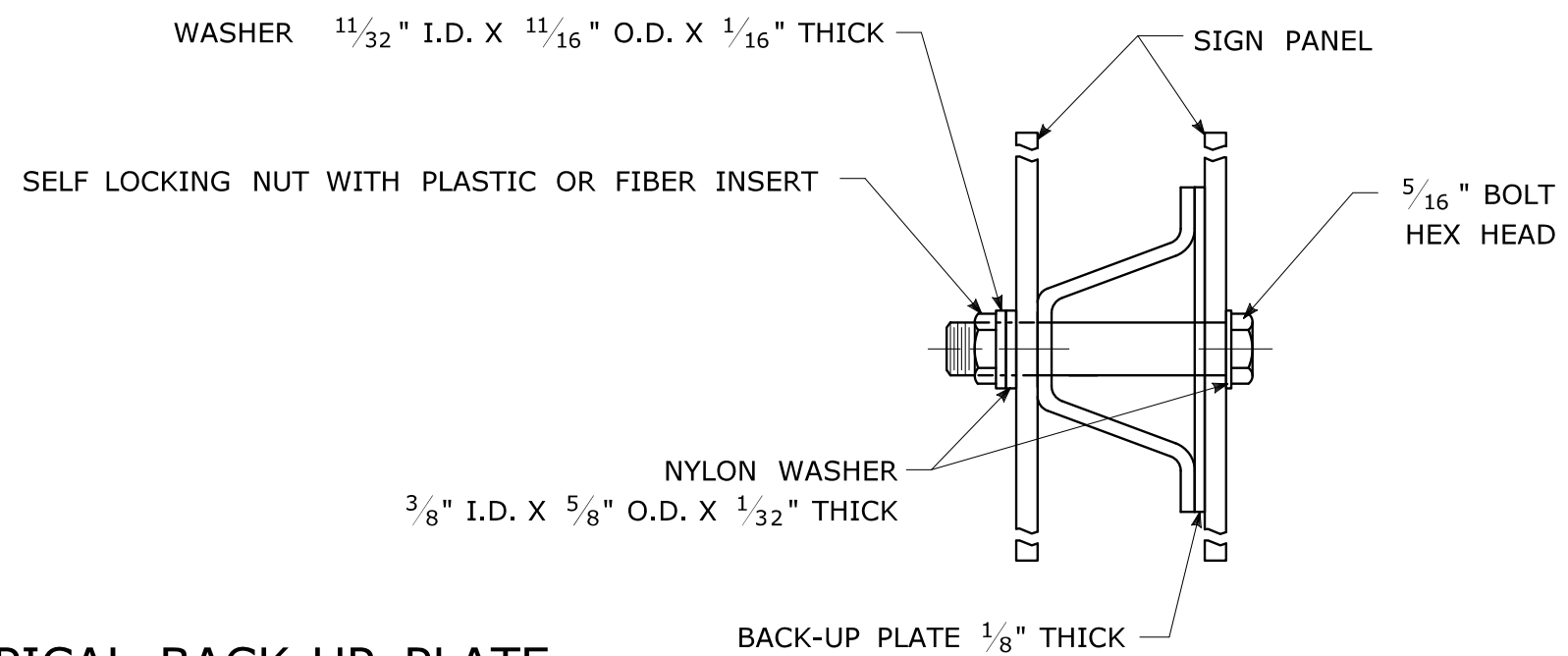
TYPICAL METAL SIGN POSTS



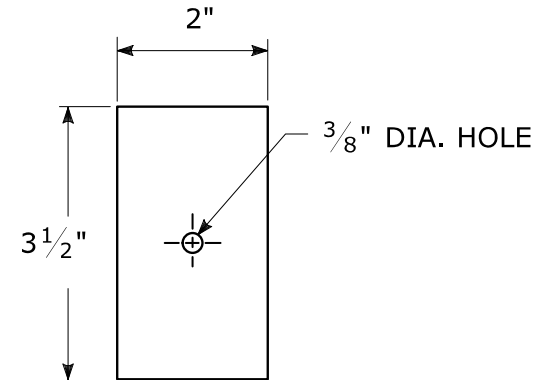
TYPICAL SIGN PANEL ATTACHMENT



TYPICAL BACK TO BACK SIGN PANEL ATTACHMENT

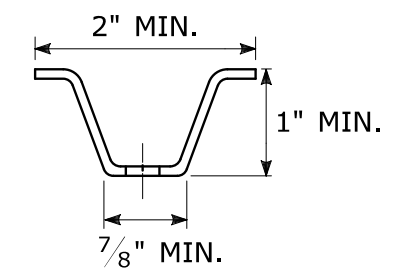


TYPICAL BACK-UP PLATE

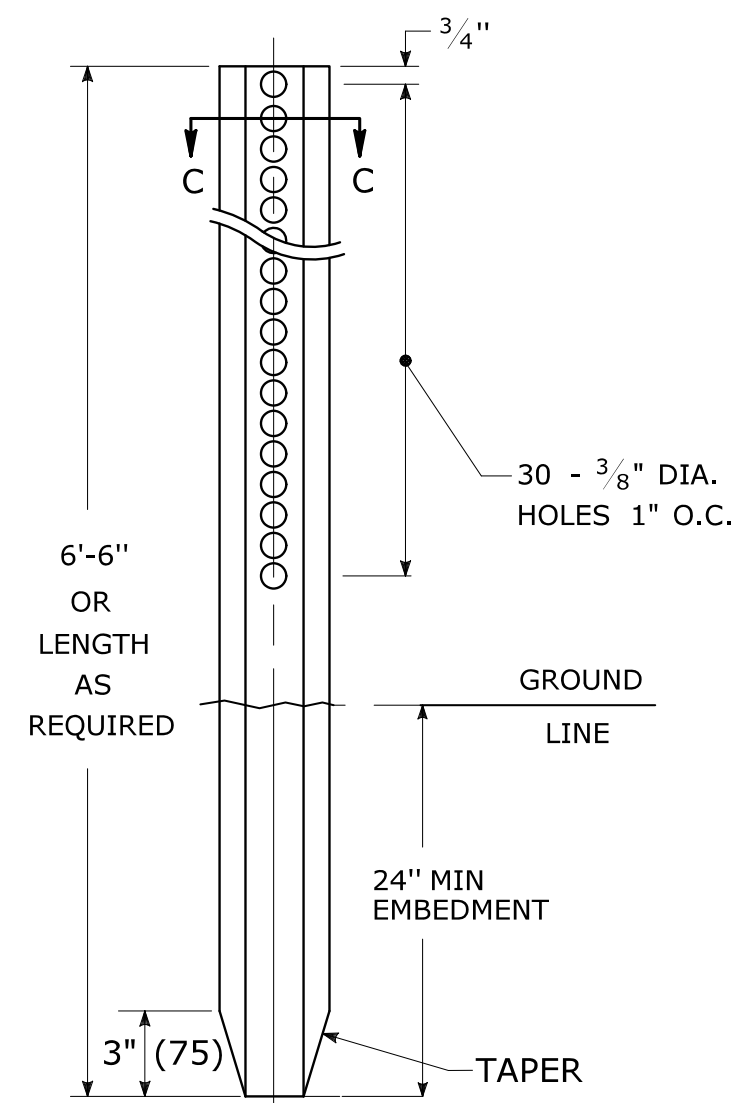


BOLTS - STAINLESS STEEL CONFORMING TO ASTM F593,
ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
SELF LOCKING NUTS - STAINLESS STEEL CONFORMING TO ASTM F594,
ALLOY GROUP 1 OR 2 (ALLOY TYPES 304 OR 316).
WASHERS - STAINLESS STEEL CONFORMING TO ASTM A240,
(ALLOY TYPES 304 OR 316).

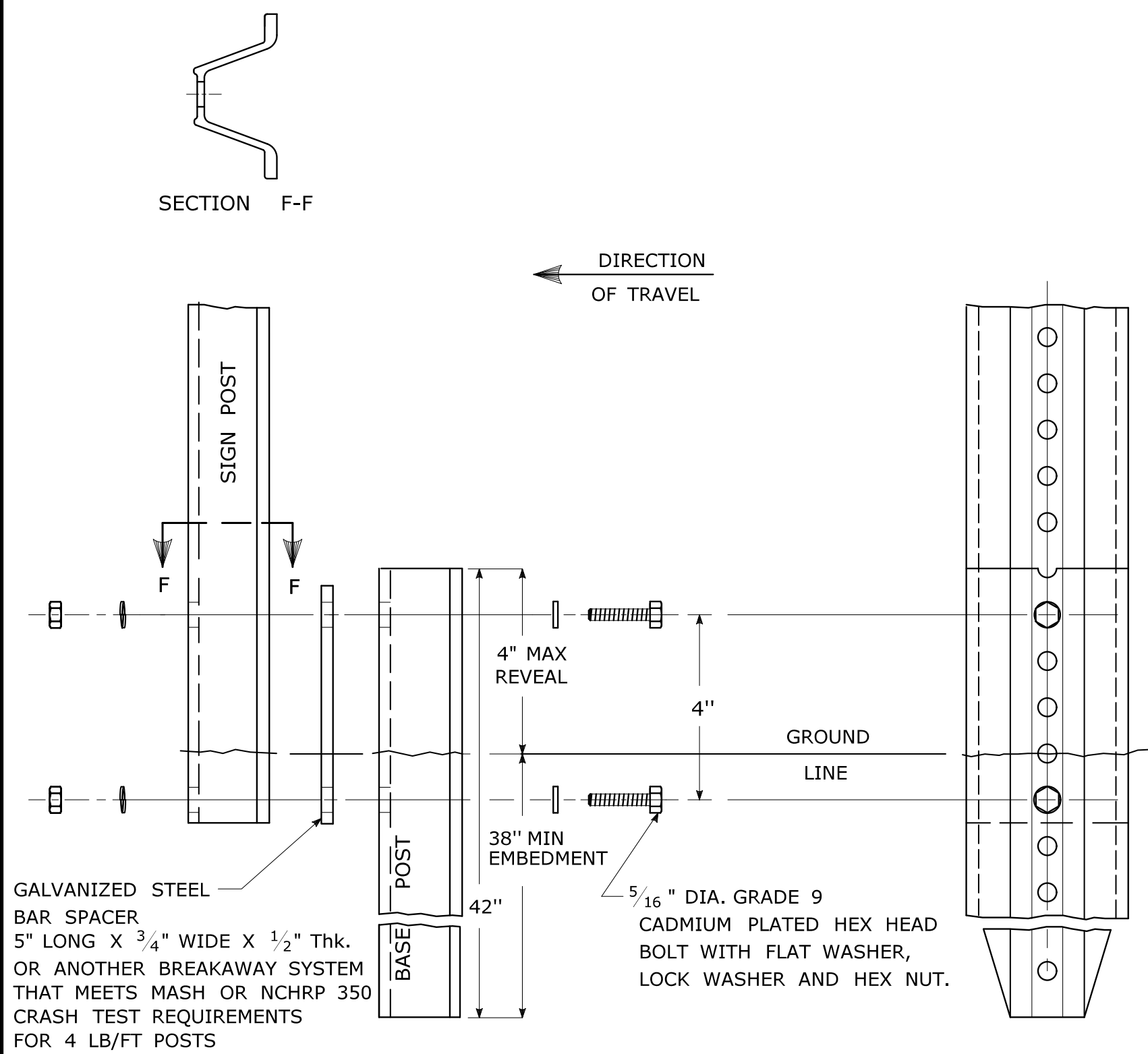
METAL DELINEATOR POST

$$\text{WT./FT.} = 1.12 \text{ LBS./FT. MIN.}$$


SECTION C-C

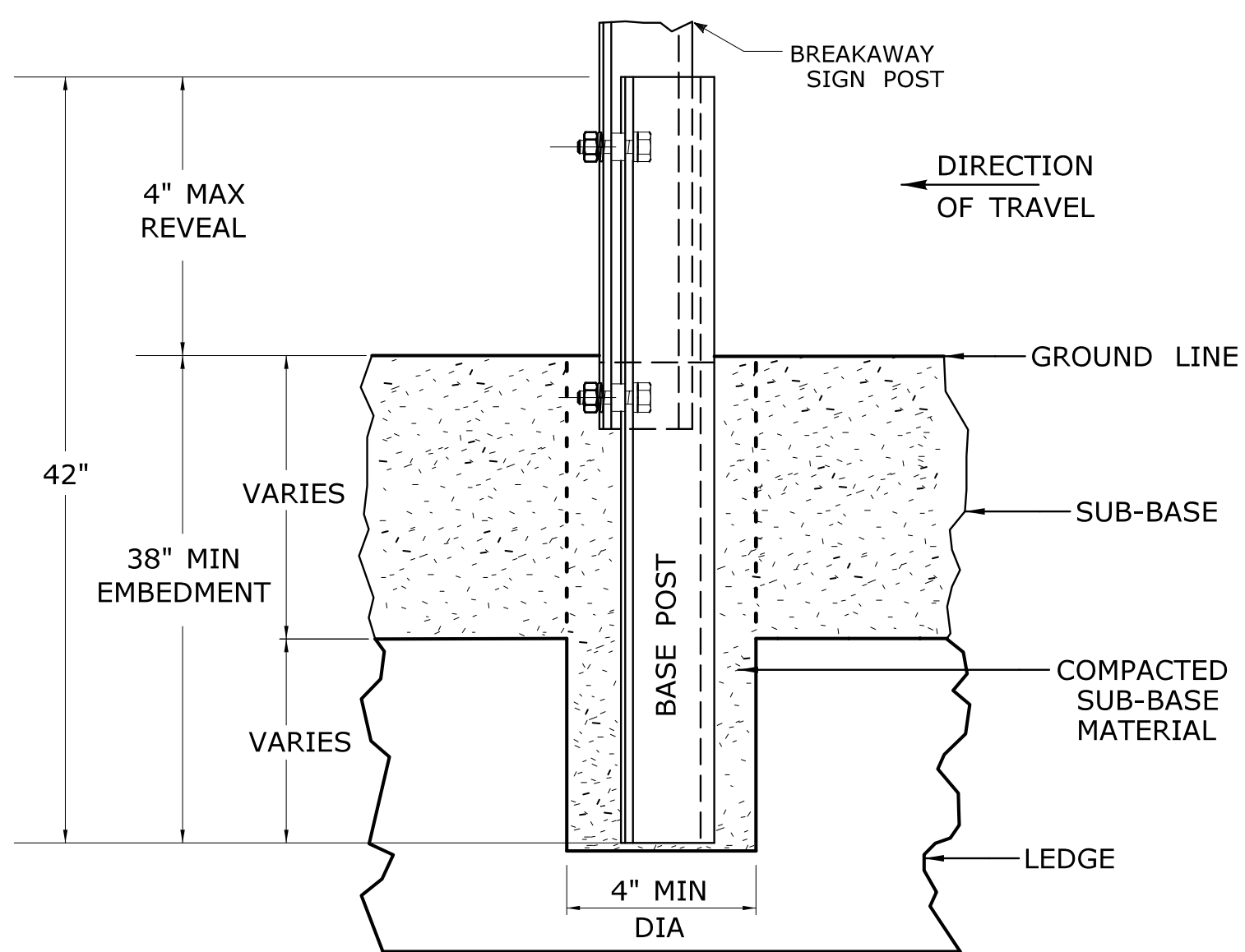


BREAKAWAY INSTALLATION

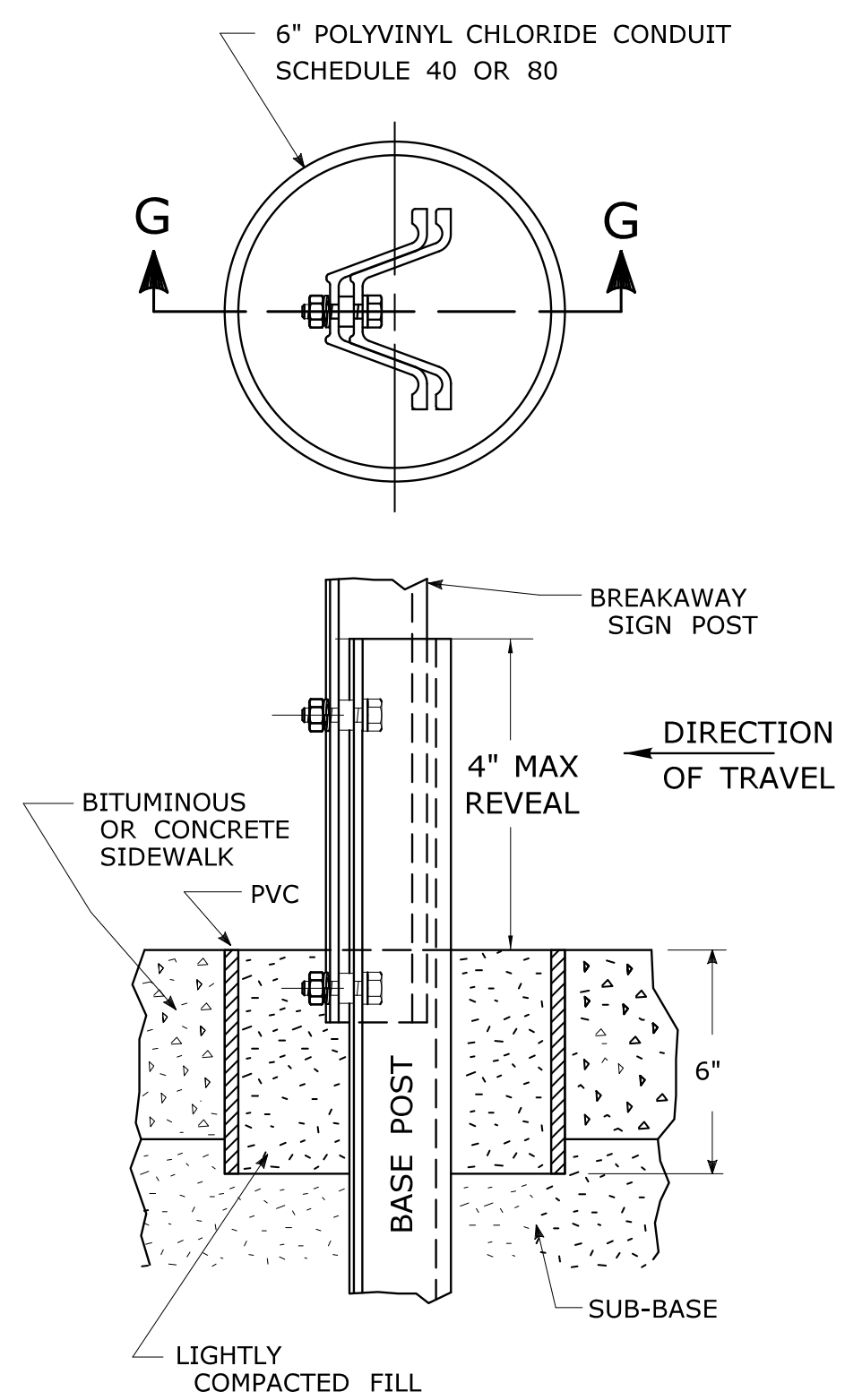


TYPICAL SIGN POST INSTALLATION IN LEDGE

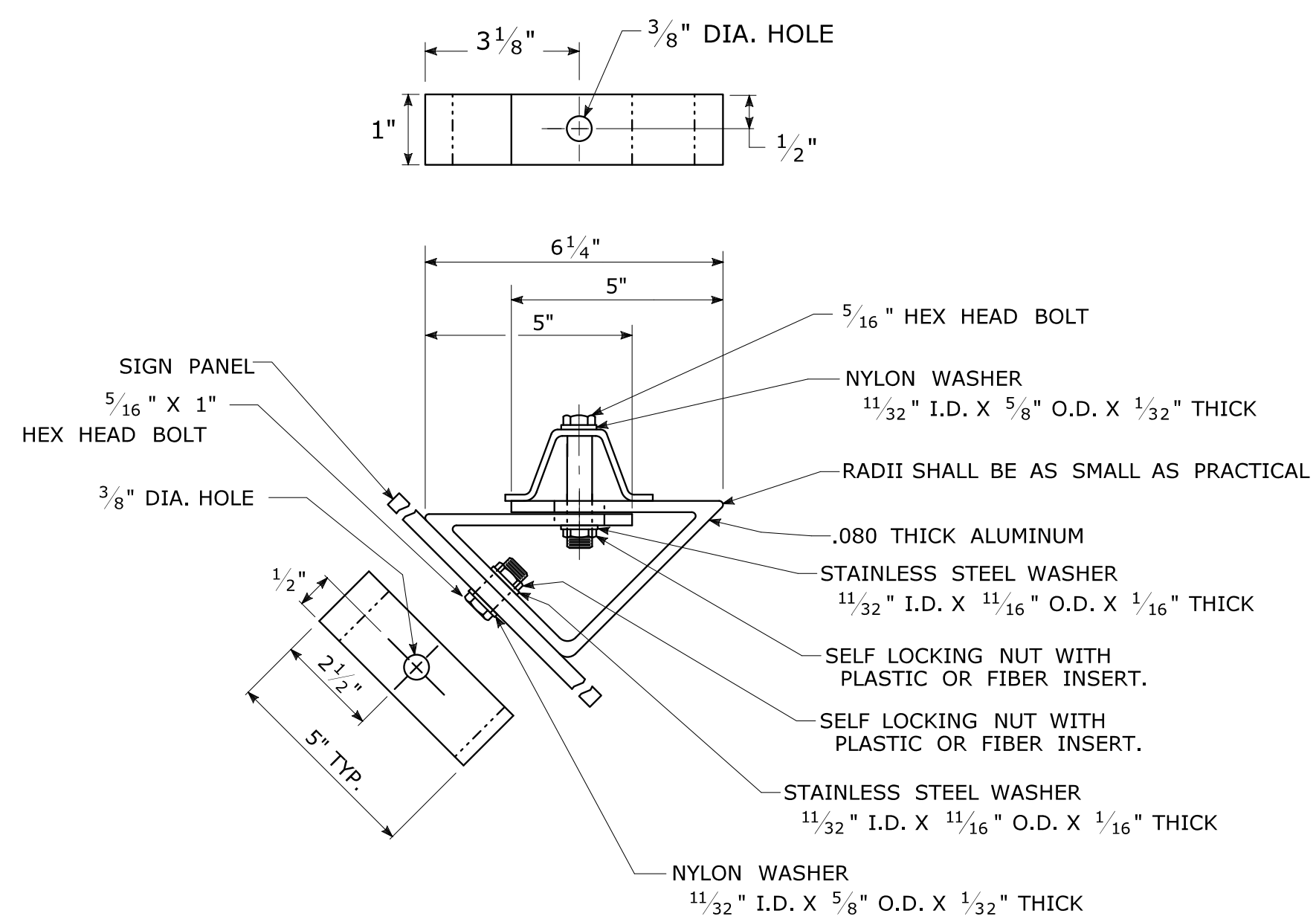
HOLE SHALL BE FILLED WITH SUB-BASE MATERIAL AND COMPACTED WITH A TAMPING BAR, OR TECHNIQUE APPROVED BY THE ENGINEER, PRIOR TO BASE POST INSTALLATION.





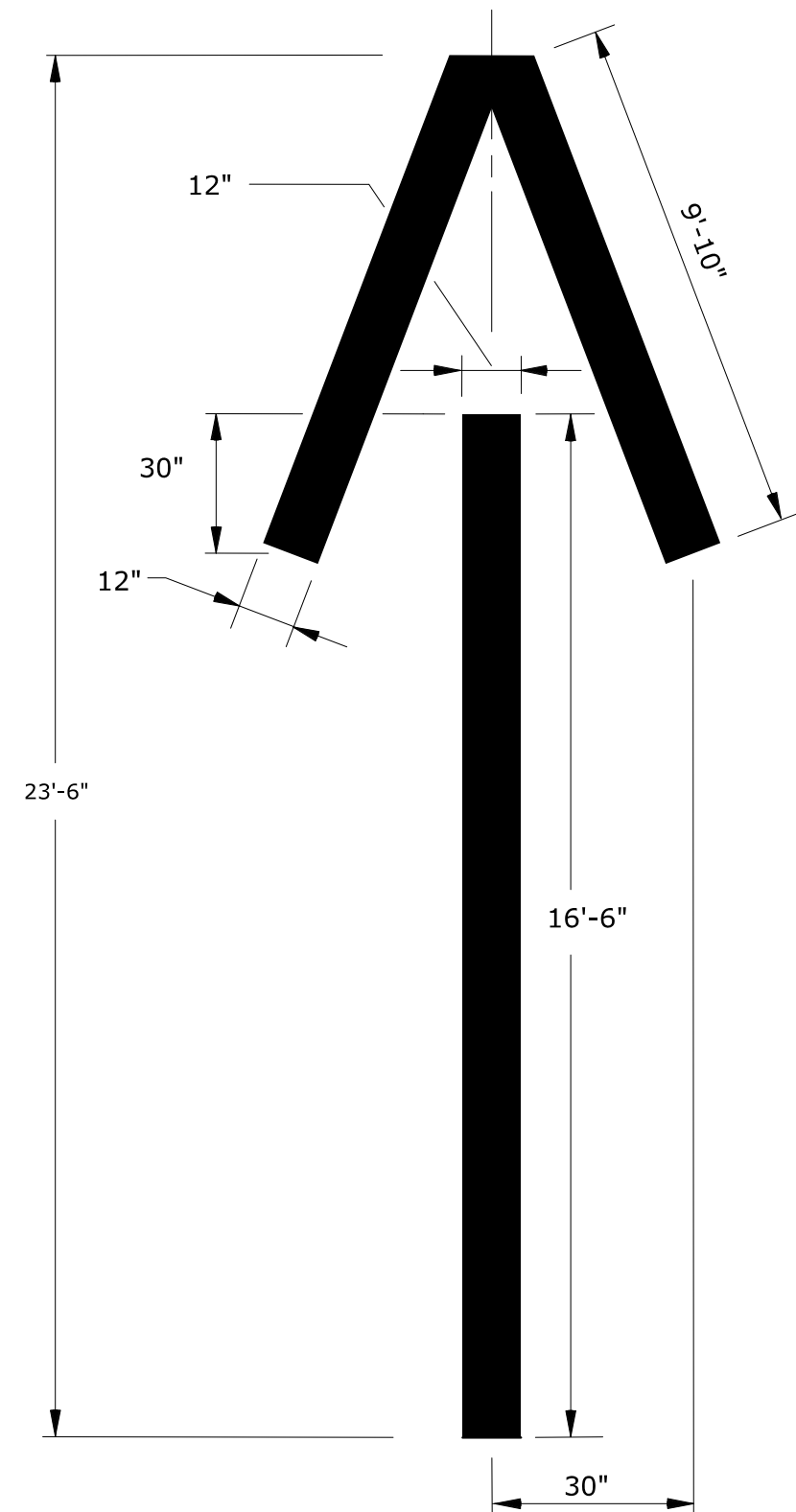
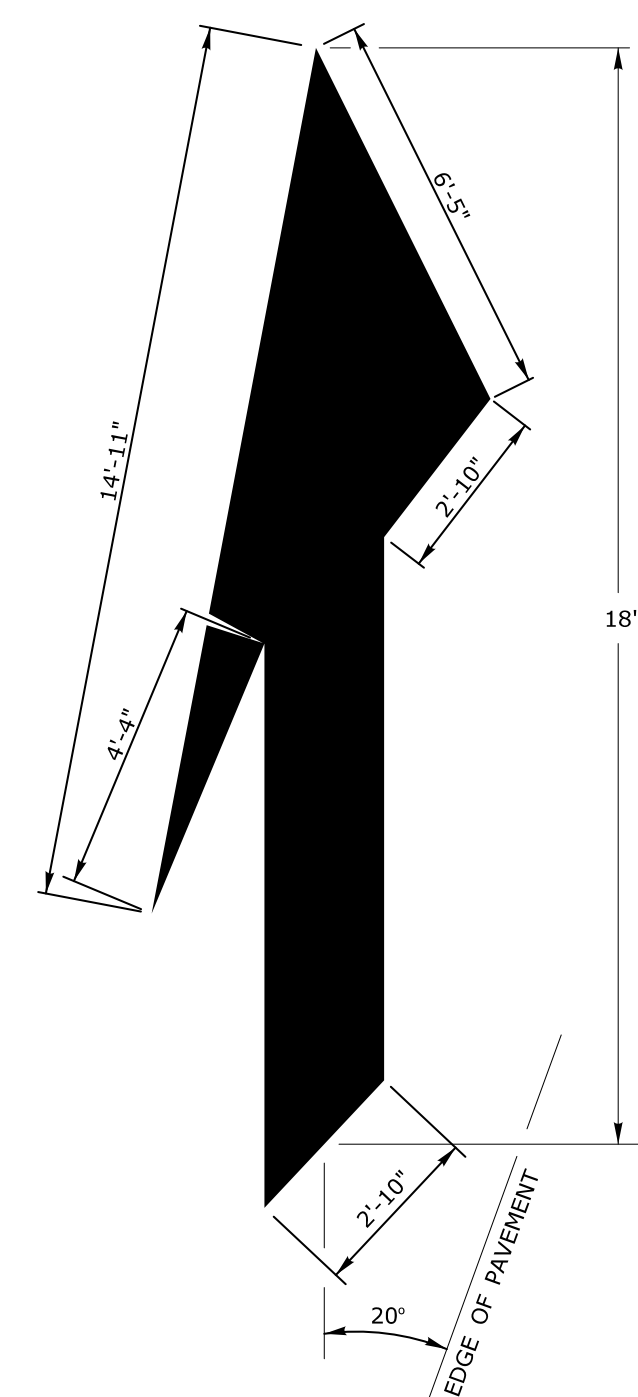
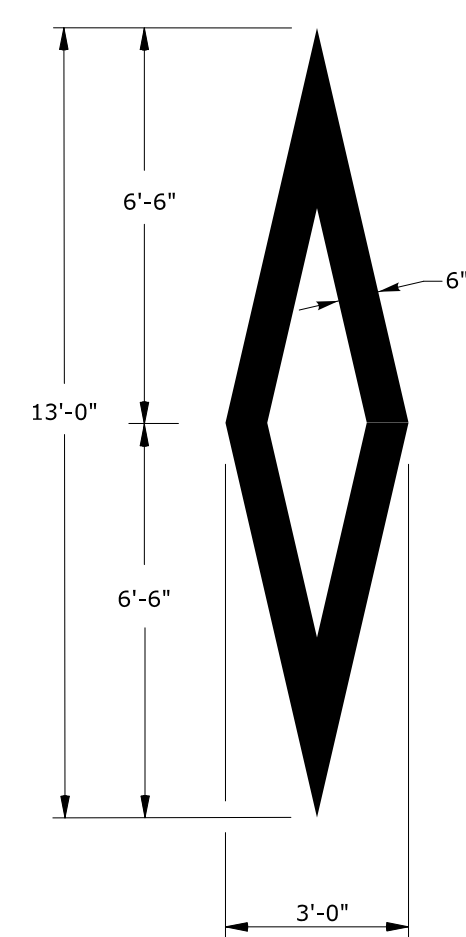
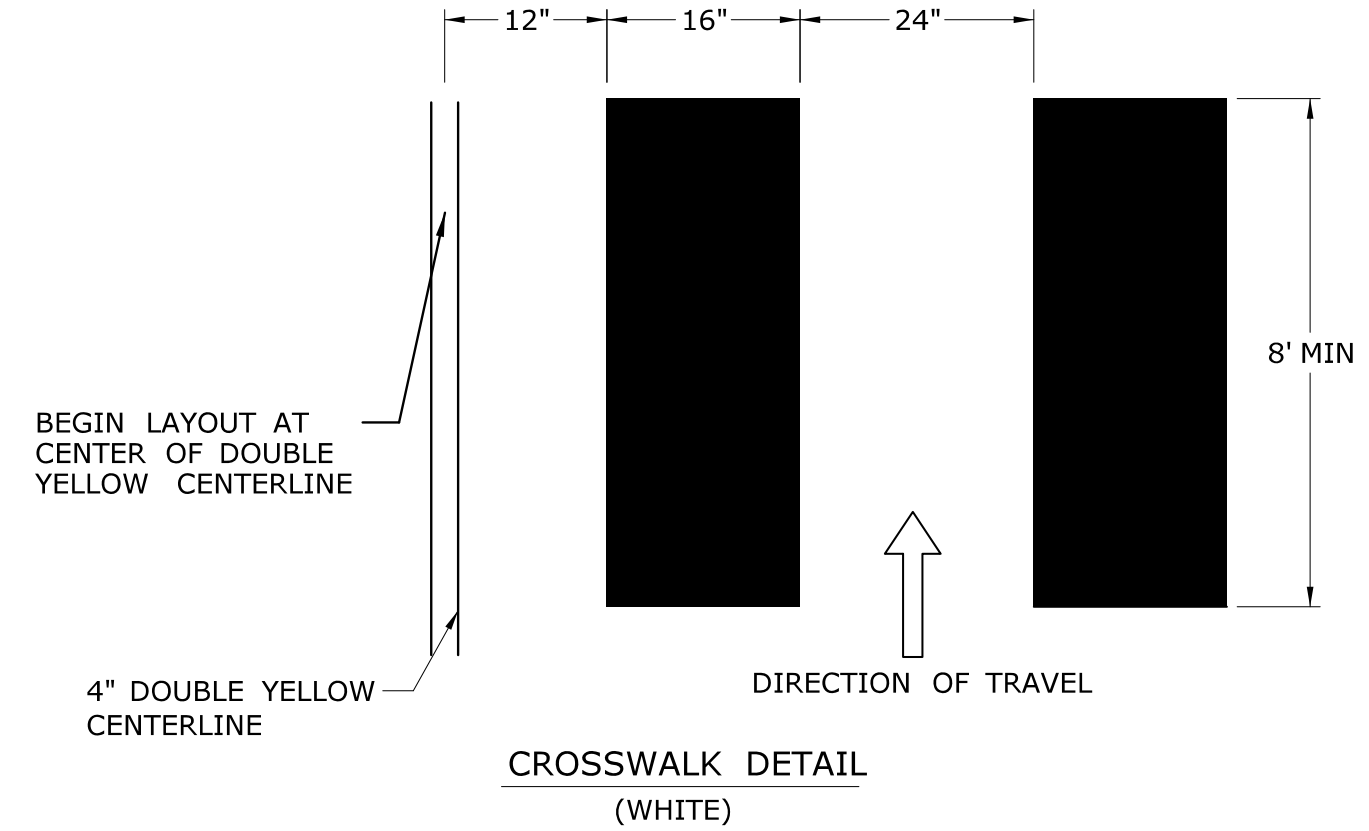
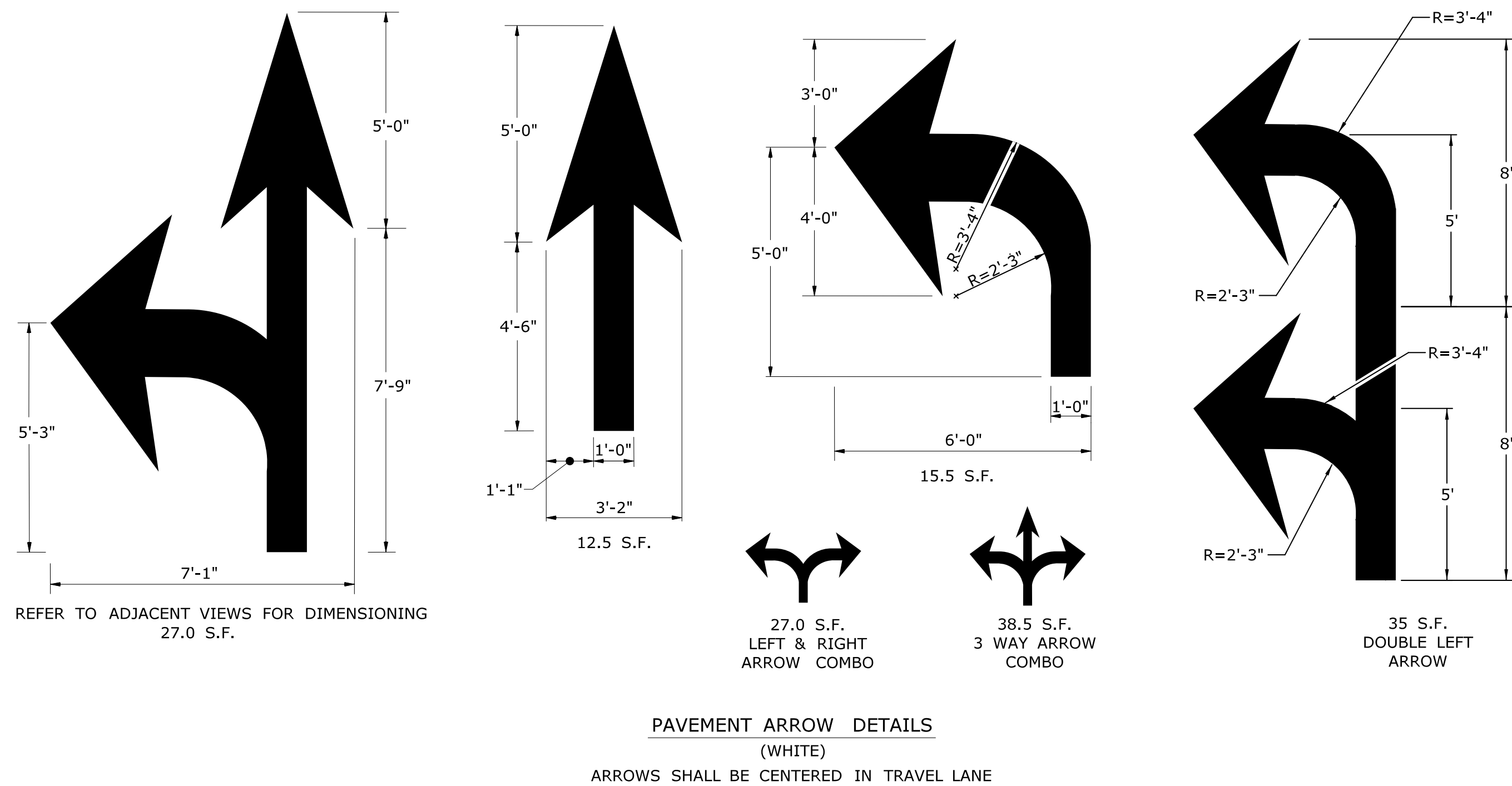
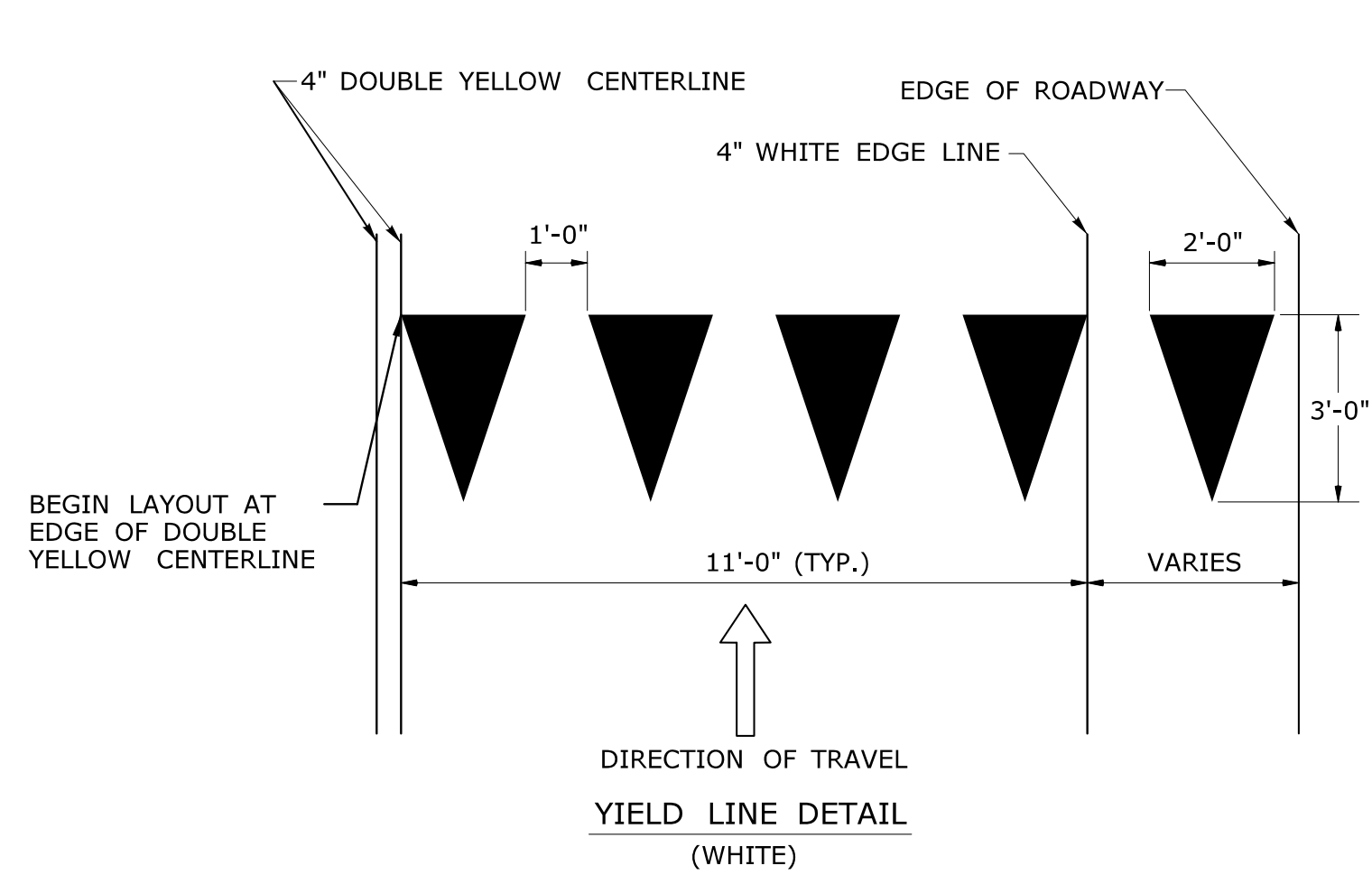
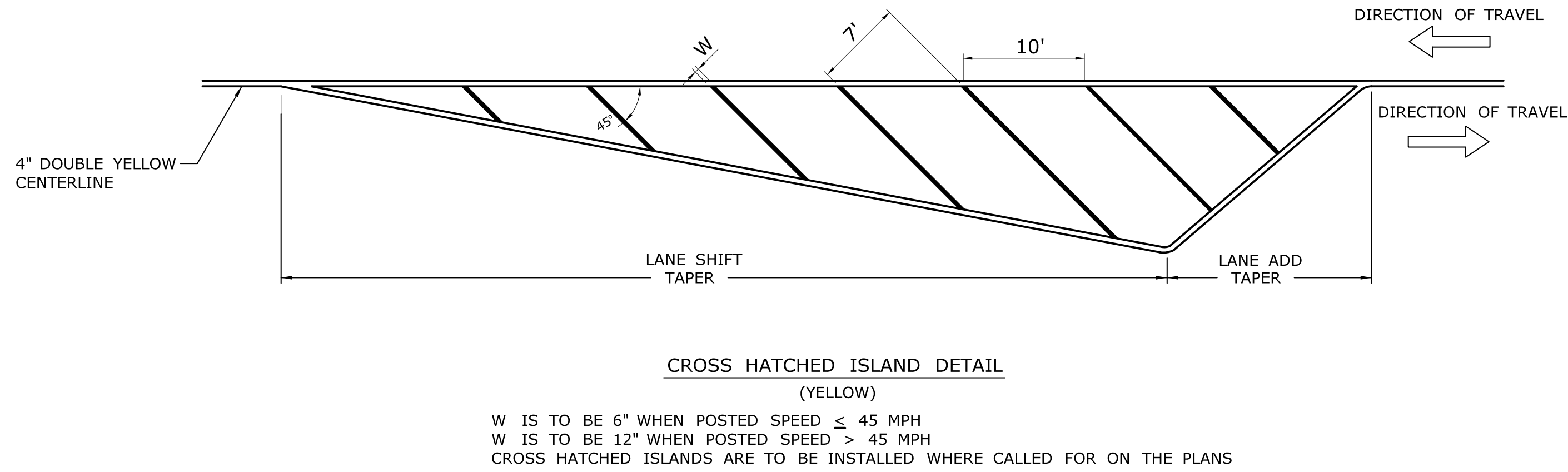
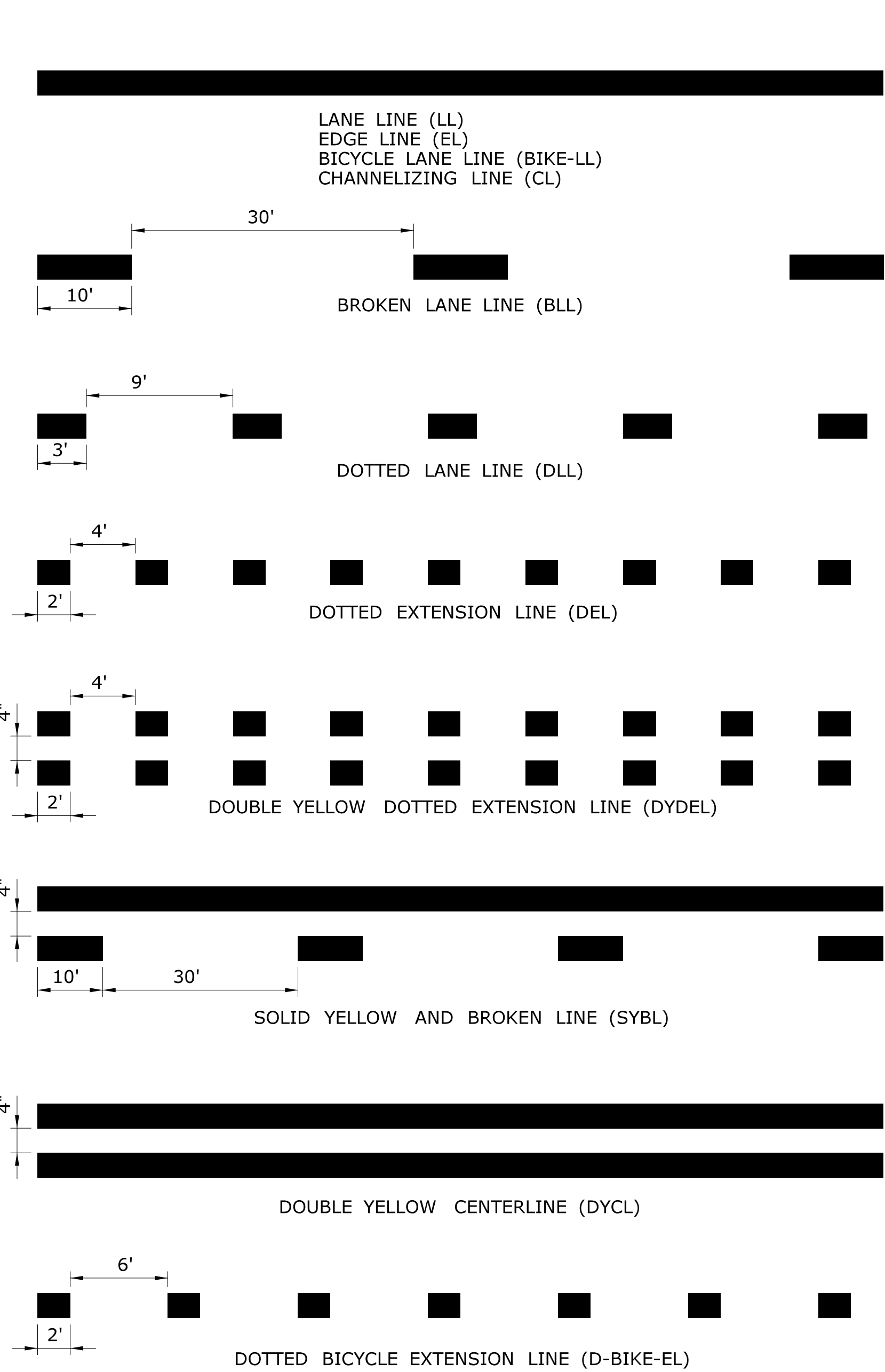
TYPICAL SLEEVE FOR PAVED AREAS



45° MOUNTING BRACKET FOR INSTALLATION OF PARKING SIGNS






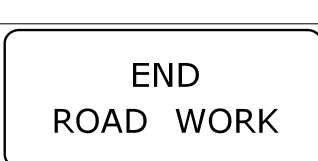
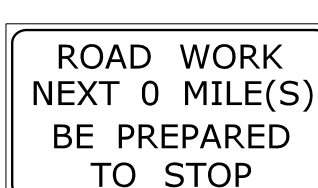



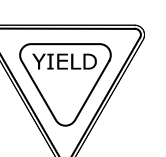

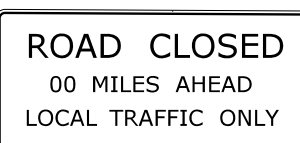


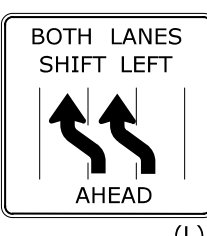
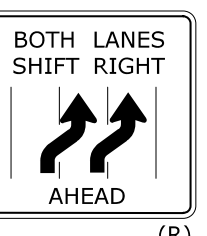
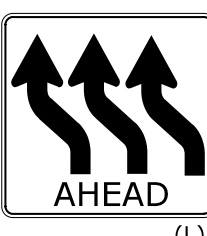

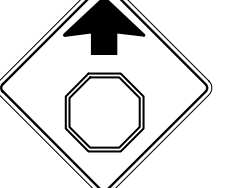
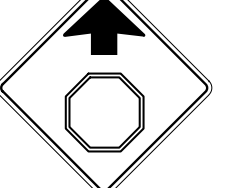
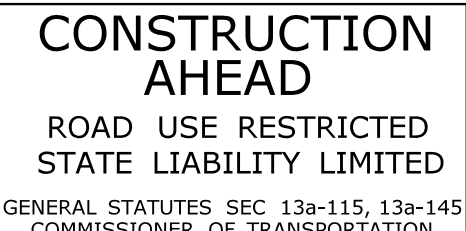
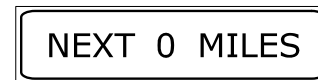










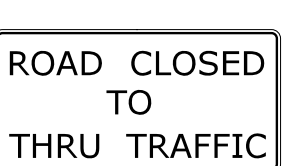





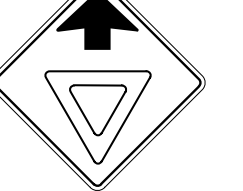
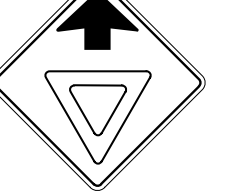





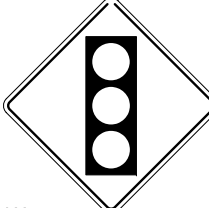
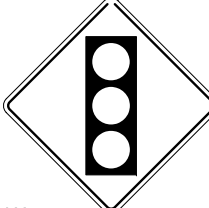
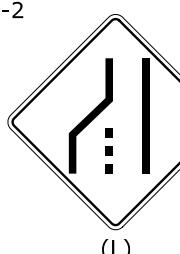
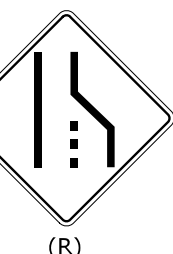
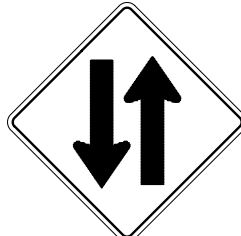


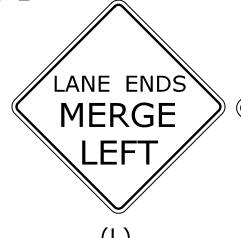
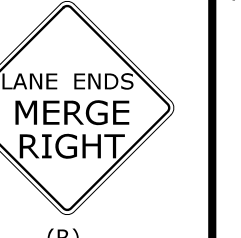
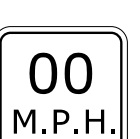
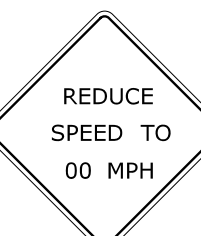


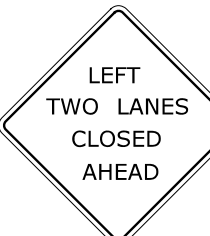

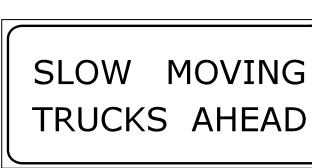

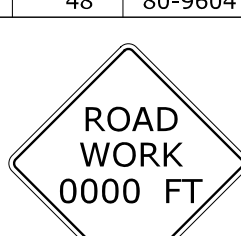



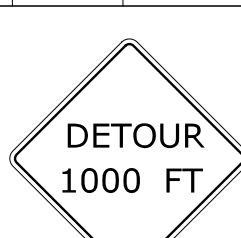
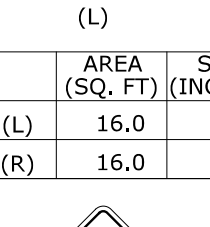
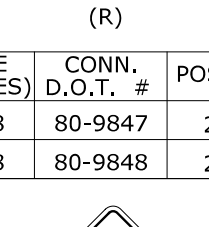






			THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	NOT TO SCALE	 <div>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</div> 	SUBMITTED BY: <i>Mark F. Makuch</i> NAME/DATE/TIME: Mark F. Makuch, P.E. 2017.06.07 07:30:30-04'00"	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: METAL SIGN POSTS AND SIGN MOUNTING DETAILS	GUIDE SHEET NO.: TR-1208_02
2	6-2017	SIGN POST REVISIONS.	APPROVED BY: <i>Mary E. Baker</i> NAME/DATE/TIME: Mary E. Baker, P.E. 2017.06.13 15:28:14-04'00"			OFFICE OF ENGINEERING			
1	2-2011	MINOR REVISIONS.	Plotted Date: 6/6/2017			Filename: TR-1208_02_May_2017_Revision.dgn Model: TR-1208_02			
REV.	DATE	REVISION DESCRIPTION							



NOTES :

1. AREA OF PAVEMENT MARKINGS AS INDICATED IS APPROXIMATE.
2. RIGHT TURN PAVEMENT MARKING ARROWS ARE MIRROR IMAGE OF LEFT TURN PAVEMENT MARKING ARROWS.

			THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		SUBMITTED BY: <i>Mark F. Makuch</i> Mark F. Makuch, P.E. 2018.08.17 09:07:44-04'00'	NAME/DATE/TIME:	CTDOT STANDARD SHEET	STANDARD SHEET TITLE: PAVEMENT MARKING LINES AND SYMBOLS	STANDARD SHEET NO.: TR-1210_04
1	8-2018	REMOVED ROUNDABOUT MARKINGS.	Plotted Date: 8/10/2018	NOT TO SCALE	Filename: TR-1210_04.dgn	Model: CT-Civil 2D-Sheet	APPROVED BY: <i>Mark F. Carino</i> Mark F. Carino, P.E. 2018.08.21 07:48:45-04'00'	NAME/DATE/TIME:			

E5 - SERIES				G20 - SERIES				M4 - SERIES				R1 - SERIES				R9 & R11 - SERIES				W1 - SERIES				W3 - SERIES																																																																																																																																							
<div>ES-1</div> <div></div> <div>COPY & BORDER - WHITE BACKGROUND - GREEN</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>16.0</td><td>48</td><td>51-6147</td><td>2</td></tr></tbody></table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	16.0	48	51-6147	2	<div>G20-2a</div> <div></div> <div></div> <div>VARIABLE MILEAGE</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>8.0</td><td>48X24</td><td>80-9612</td><td>2</td></tr><tr><td>90.0</td><td>120X108</td><td>80-9728</td><td></td></tr></tbody></table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	8.0	48X24	80-9612	2	90.0	120X108	80-9728		<div>M4-8</div> <div></div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>2.0</td><td>24X12</td><td>80-9707</td><td>1</td></tr></tbody></table> <div>M4-9b</div> <div></div> <div>VARIABLE ARROW</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>5.0</td><td>30X24</td><td>80-9703</td><td>1</td></tr></tbody></table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	2.0	24X12	80-9707	1	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	5.0	30X24	80-9703	1	<div>R1-1</div> <div></div> <div>COPY & BORDER - WHITE BACKGROUND - RED</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>5.19</td><td>30</td><td>31-0552</td><td>1</td></tr><tr><td>13.30</td><td>48</td><td>31-0557</td><td>2</td></tr></tbody></table> <div>R1-2</div> <div></div> <div>COPY & BORDER - RED BACKGROUND - WHITE</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>3.90</td><td>36</td><td>31-0523</td><td>1</td></tr><tr><td>10.83</td><td>60</td><td>31-0528</td><td>2</td></tr></tbody></table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	5.19	30	31-0552	1	13.30	48	31-0557	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	3.90	36	31-0523	1	10.83	60	31-0528	2	<div>R9-9</div> <div></div> <div>COPY & BORDER - BLACK BACKGROUND - WHITE</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>3.75</td><td>30X18</td><td>80-9076</td><td>1</td></tr><tr><td>12.5</td><td>60X30</td><td>80-9077</td><td>2</td></tr></tbody></table> <div>R11-3a</div> <div></div> <div>VARIABLE MILEAGE COPY & BORDER - BLACK BACKGROUND - WHITE</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>9.0</td><td>36</td><td>80-9432L</td><td>1</td></tr><tr><td>9.0</td><td>36</td><td>80-9431R</td><td>1</td></tr><tr><td>16.0</td><td>48</td><td>80-9452L</td><td>2</td></tr><tr><td>16.0</td><td>48</td><td>80-9451R</td><td>2</td></tr></tbody></table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	3.75	30X18	80-9076	1	12.5	60X30	80-9077	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	9.0	36	80-9432L	1	9.0	36	80-9431R	1	16.0	48	80-9452L	2	16.0	48	80-9451R	2	<div>W1-4</div> <div></div> <div>(L)</div> <div></div> <div>(R)</div> <div></div> <div>(L)</div> <div></div> <div>(R)</div> <div></div> <div>(L)</div> <div></div> <div>(R)</div> <div></div> <div>W3-1</div> <div></div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>9.0</td><td>36</td><td>80-9050</td><td>1</td></tr><tr><td>16.0</td><td>48</td><td>80-9051</td><td>2</td></tr></tbody></table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	9.0	36	80-9050	1	16.0	48	80-9051	2																																
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90.0	120X108	80-9728																																																																																																																																																													
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
2.0	24X12	80-9707	1																																																																																																																																																												
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
5.0	30X24	80-9703	1																																																																																																																																																												
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
5.19	30	31-0552	1																																																																																																																																																												
13.30	48	31-0557	2																																																																																																																																																												
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
3.90	36	31-0523	1																																																																																																																																																												
10.83	60	31-0528	2																																																																																																																																																												
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
3.75	30X18	80-9076	1																																																																																																																																																												
12.5	60X30	80-9077	2																																																																																																																																																												
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
9.0	36	80-9432L	1																																																																																																																																																												
9.0	36	80-9431R	1																																																																																																																																																												
16.0	48	80-9452L	2																																																																																																																																																												
16.0	48	80-9451R	2																																																																																																																																																												
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
9.0	36	80-9050	1																																																																																																																																																												
16.0	48	80-9051	2																																																																																																																																																												
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D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>9.0</td><td>36</td><td>50-5934</td><td>2</td></tr></tbody></table> <div>16-S</div> <div></div> <div>GENERAL STATUTES SEC 13a-115, 13a-145 COMMISSIONER OF TRANSPORTATION</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>10.0</td><td>48X30</td><td>80-1619</td><td>2</td></tr></tbody></table>				AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	9.0	36	80-9711	1	16.0	48	80-9712	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	9.0	36	80-9711	1	16.0	48	80-9712	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	9.0	36	50-5934	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	10.0	48X30	80-1619	2	<div>M4-8a</div> <div></div> <div>M4-9b</div> <div></div> <div>VARIABLE ARROW</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>6.25</td><td>30X30</td><td>80-9706</td><td>1</td></tr></tbody></table> <div>M4-10</div> <div></div> <div>(R)</div> <div></div> <div>(L)</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>6.0</td><td>48X18</td><td>80-9701R</td><td>2</td></tr><tr><td>6.0</td><td>48X18</td><td>80-9702L</td><td>2</td></tr></tbody></table> <div>R4 - SERIES</div> <div>R4-7</div> <div></div> <div>COPY & BORDER - BLACK BACKGROUND - WHITE</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. D.O.T. #</th><th>POSTS</th></tr></thead><tbody><tr><td>5.0</td><td>24X30</td><td>31-1526</td><td>1</td></tr></tbody></table> <div>R4-9</div> <div></div> <div>COPY & BORDER - BLACK BACKGROUND - WHITE</div> <table><thead><tr><th>AREA (SQ. FT)</th><th>SIZE (INCHES)</th><th>CONN. 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D.O.T. #	POSTS	5.0	24X30	31-1517	1	12.0	36X48	31-1518	1	20.0	48X60	31-1519	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	2.0	24X12	80-9075	1	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	10.0	48X30	80-9080	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	12.5	60X30	80-9081	2	12.5	60X30	80-9423	2	8.0	48X24	80-9424	2	12.5	60X30	80-9423	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	16.0	48	80-9434L	2	16.0	48	80-9436R	2	25.0	60	80-9484L	2	25.0	60	80-9486R	2	AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS	9.0	36	80-9052	1	16.0	48	80-9053	2
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
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16.0	48	80-9434L	2																																																																																																																																																												
16.0	48	80-9436R	2																																																																																																																																																												
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16.0	48	80-9804	2																																																																																																																																																												
32.0	96X48	80-9815	2																																																																																																																																																												
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
2.0	24X12	80-9870																																																																																																																																																													
3.75	30X18	80-9871																																																																																																																																																													
AREA (SQ. FT)	SIZE (INCHES)	CONN. D.O.T. #	POSTS																																																																																																																																																												
2.5	30X12	80-9872																																																																																																																																																													
4.5	36X18	80-9873																																																																																																																																																													



NOTES FOR PORTABLE SIGN SUPPORTS:

- * FOR E5-1 (EXIT SIGNS) USE MIN 48"



NOTES:

- # TRAFFIC CONE

NOTES:

- ## TYPE II BARRICADE





NOTES:

- ## RURAL AREA

URBAN AREA



NOTES:

- | | | | | | | | | | |
|------|--------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| | | | <p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p> |  <p>STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION</p> | <p>FILENAME: TR-1220_02_3_2018.dgn MODEL: TR-1220_02</p> | <p>SUBMITTED BY: NAME/DATE/TIME:</p> <p>Mark F. Makuch, P.E.
2018.08.17
09:12:43-04'00'</p> | <p>CTDOT
STANDARD SHEET</p> | <p>STANDARD SHEET TITLE:</p> <p>CONSTRUCTION SIGN SUPPORTS AND CHANNELIZING DEVICES</p> | <p>STANDARD SHEET NO.:</p> <p>TR-1220_02</p> |
| 3 | 8-2018 | UPDATED SHEETING TYPE AND COLOR. | <p>NOT TO SCALE</p> |  <p>APPROVED BY: NAME/DATE/TIME:</p> <p>Mark F. Carlinio, P.E.
2018.08.21 07:49:51-04'00'</p> | <p>OFFICE OF ENGINEERING</p> | | | | |
| 2 | 8-2015 | UPDATED PER MUTCD AND FORM 816 JAN 2015 REVISION. | | | | | | | |
| 1 | 2-2011 | MINOR REVISIONS. | | | | | | | |
| REV. | DATE | REVISION DESCRIPTION | Plotted Date: 8/10/2018 | | | | | | |