

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLAN AND PROFILE OF
ROUTE 79
(BRIDGE NO. F-02-087)

IN THE CITY OF
FALL RIVER
BRISTOL COUNTY

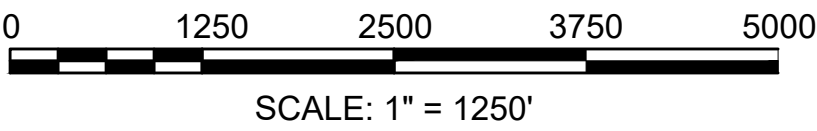
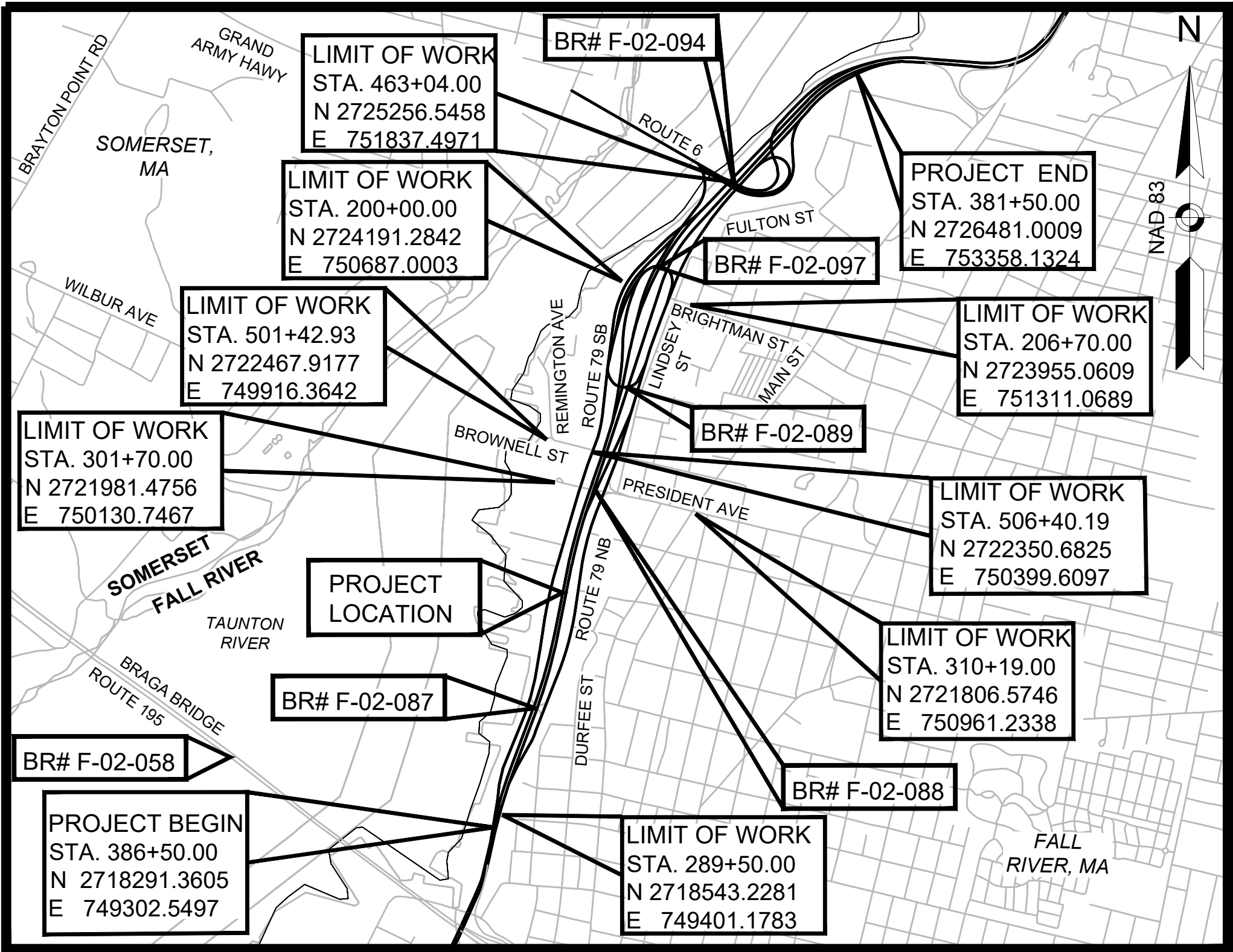
FEDERAL AID PROJECT NO. NHP(IM)/TAP/HIP(BR)/STP-003S(191)

VOLUME 4:
ISSUED FOR CONSTRUCTION

NOTE:
SEE SHEET NO. 2 FOR INDEX.

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1	1094
PROJECT FILE NO.		608049	
TITLE SHEET			

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.



LENGTH OF PROJECT (ROUTE 79 NB) = 9200.00 FEET = 1.742 MILES
LENGTH OF PROJECT (ROUTE 79 SB) = 7654.00 FEET = 1.449 MILES
LENGTH OF PROJECT (DAVOL ST) = 1686.73 FEET = 0.319 MILES
LENGTH OF PROJECT (PRESIDENT AVE) = 849.00 FEET = 0.161 MILES
LENGTH OF PROJECT (BRIGHTMAN ST) = 670.00 FEET = 0.127 MILES
LENGTH OF PROJECT (BROWNELL ST) = 640.19 FEET = 0.121 MILES
LENGTH OF PROJECT (LINDSEY ST) = 453.00 FEET = 0.086 MILES
LENGTH OF PROJECT (LINDSEY ST NORTH) = 230.00 FEET = 0.044 MILES

DESIGN DESIGNATION

	(ROUTE 79 SB)	(ROUTE 79 NB)	(PRESIDENT AVE)	(BRIGHTMAN ST)
DESIGN SPEED	40 MPH	40 MPH	35 MPH	30 MPH
ADT (2016)	8000	8600	17600	2900
ADT (2025)	13100	14800	13700	5800
ADT (2040)	14100	14800	13800	8500
K	0.10	0.10	0.10	0.10
D	100%	100%	60%	59%
T (PEAK HOUR)	10%	5%	2%	2%
T (AVERAGE DAY)	9%	4%	2%	2%
DHV	1410	1480	1380	850
DDHV	1410	1480	824	499
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL	URBAN PRINCIPAL ARTERIAL	URBAN PRINCIPAL ARTERIAL	URBAN MINOR ARTERIAL

	(DAVOL STREET)	(TURNER STREET)	(HATHAWAY STREET)
DESIGN SPEED	35 MPH	30 MPH	30 MPH
ADT (2016)	3100	2600	200
ADT (2025)	100	4600	1300
ADT (2040)	100	4800	1600
K	0.10	0.10	0.10
D	100%	54%	56%
T (PEAK HOUR)	10%	2%	2%
T (AVERAGE DAY)	9%	2%	2%
DHV	10	480	160
DDHV	10	260	90
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL	URBAN MINOR ARTERIAL	LOCAL

FOR SHEETS 1012 TO 1052

FOR SHEETS 1056 TO 1061

FOR SHEETS 1053 TO 1055, SHEETS 1062 TO 1067

31 ST. JAMES AVE.
SUITE 300
BOSTON, MASSACHUSETTS 02116

03/25/2025	LANDSCAPE IFC, DCN/FDC/RFI UPDATES, SEE INDEX.	1
01/19/2024	ISSUED FOR CONSTRUCTION	0
DATE	DESCRIPTION	REV #
APPROVED		
CHIEF ENGINEER		DATE

FALL RIVER DAVOL ST/ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HIP(BR)/STP-003S(191)	2	1094
PROJECT FILE NO.		608049	
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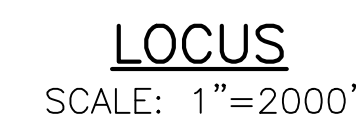
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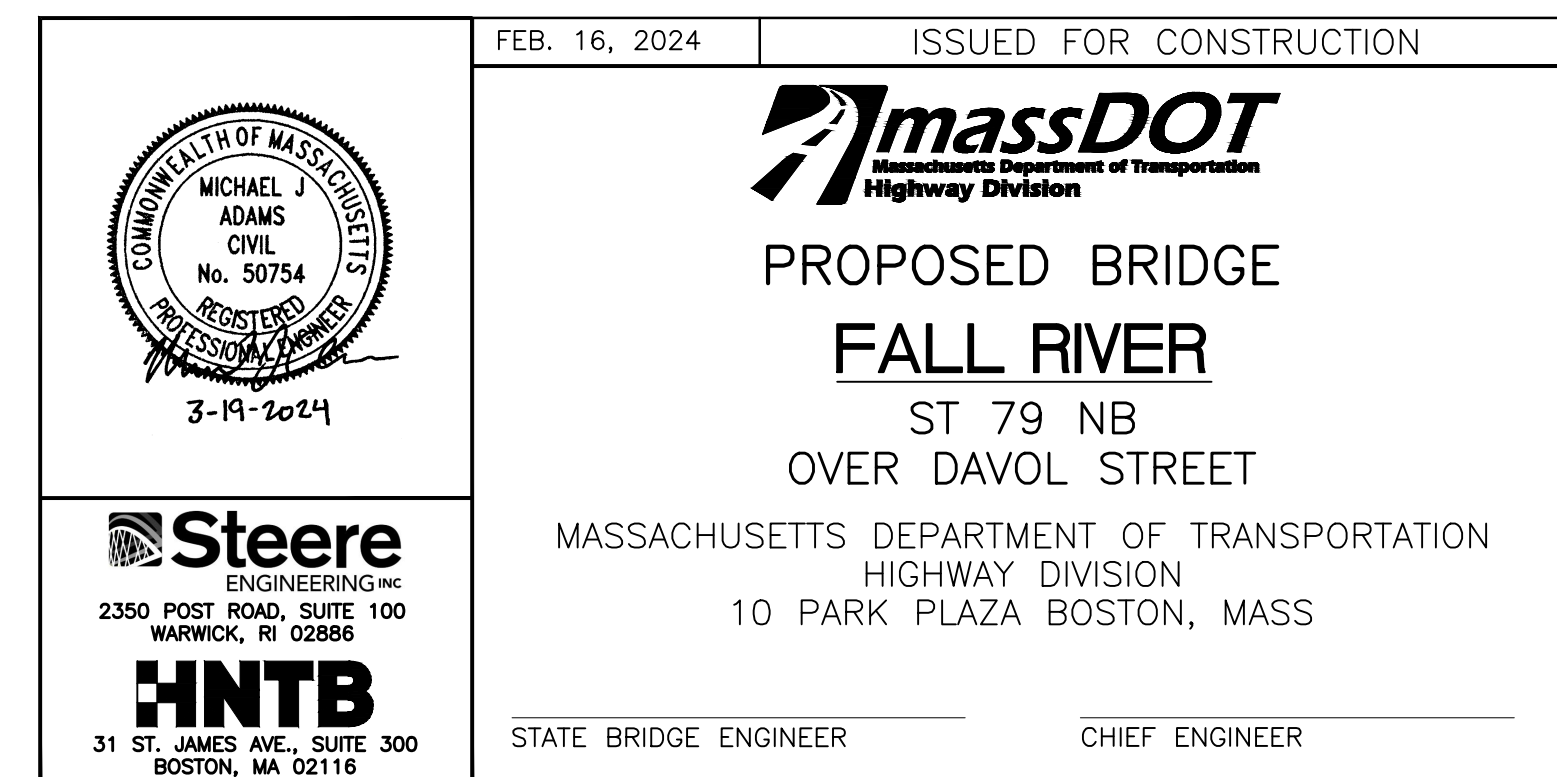
		SHEETS 33, 52, 53, 80, 119, 120, 121, 138, 139, 153, 156, 157, 184, 185, 186, 202, 213, 214, 215, 216, 217, 218, 226, 282, 283, 299, 310, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 362, 363, 364, 365, 366, 375, 376, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 1031 REVISED
1	03/25/2025	SHEETS 226A, 585A, 602A, 626A ADDED
0	01/19/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IMP/TAP/HIP/BR)/STP-0035(191)	1012	1094
PROJECT FILE NO.		608049	

KEY PLAN, PROFILES, & LOCUS

<u>INDEX OF SHEETS:</u>	
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GENERAL NOTES:

DESIGN:

IN ACCORDANCE WITH THE 2020 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS FOR HL-93 LOADING.

MASSDOT BENCHMARK:

STAKE & NAIL; NORTHING = 2719537.651, EASTING = 749815.481 (NAD83). BENCHMARK ELEVATION = 10.51. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

SCALES:

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZE PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

FOUNDATIONS:

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

UNSUITABLE MATERIAL:

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

ANCHOR BOLTS:

ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED.

STRUCTURAL STEEL:

ALL STRUCTURAL STEEL SHALL BE AASHTO M 270 GRADE 50 UNLESS NOTED OTHERWISE. ALL GIRDERS AND WELDED ATTACHMENTS SHALL BE METALIZED AND PAINTED. ALL STEEL DIAPHRAGMS AND BOLTED ATTACHMENTS SHALL BE HOT DIP GALVANIZED AND PAINTED. PAINT FINISH COAT SHALL MATCH COLOR CHIP NO. 15050 OF FEDERAL STANDARD 595B.

ALL BOLTS SHALL BE 7/8" DIAMETER, ASTM F3125 GRADE A325 HIGH STRENGTH BOLTS IN 1 1/8" DIAMETER HOLES, UNLESS NOTED OTHERWISE. NUTS AND WASHERS SHALL BE LISTED AS SUITABLE IN THE ASTM F3125 SPECIFICATION FOR GRADE A325. ALL BOLTS SHALL BE DRILLED FULL SIZE OR SUBPUNCHED AND REAMED TO SIZE UNLESS NOTED OTHERWISE.

ALL BOLTS SHALL BE FURNISHED SUCH THAT THE THREADS ARE EXCLUDED FROM THE SHEAR PLANE.

SHEAR CONNECTORS SHALL BE 3/4" DIAMETER AASHTO M 169 STUDS, UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL MAIN MEMBERS SHALL CONFORM TO THE CHARPY V-NOTCH REQUIREMENTS OF AASHTO M 270 ZONE 2.

CONCRETE:

(1)	(2)	(3)	TO BE USED IN THE CONSTRUCTION OF:
4000	3/4"	610	ABUTMENT STEMS & FOOTINGS, WINGWALLS, PIER FOOTINGS, & APPROACH SLABS
4000	3/4"	610HP	ABUTMENT BACKWALLS
4000	3/4"	585HP	DECK, KEEPER BLOCKS, END DIAPHRAGMS, PIER COLUMNS, PIER CAPS
5000	3/4"	685HP	CF-PL3 BARRIERS, PRECAST HIGHWAY GUARDRAIL TRANSITIONS

- (1) 28-DAY COMPRESSIVE STRENGTH (PSI)
(2) MAXIMUM AGGREGATE SIZE (INCHES)
(3) CEMENTITIOUS CONTENT (LB/CY)

REINFORCEMENT STEEL:

ALL REINFORCING STEEL SHALL BE EPOXY COATED, UNLESS NOTED OTHERWISE.

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 (ASTM A615) GRADE 60. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

MODIFICATION CONDITIONS:	#4 BARS	#5 BARS	#6 BARS
1. NONE	16"	19"	23"
2. 12" OF CONCRETE BELOW BAR	20"	25"	30"
3. EPOXY COATED BARS, COVER <3d _b , OR CLEAR SPACING <6d _b	23"	29"	34"
4. COATED BARS, ALL OTHER CASES	18"	23"	27"
5. CONDITION 2. AND 3.	26"	32"	39"
6. CONDITION 2. AND 4.	24"	30"	36"

ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWING.

MEMBRANE WATERPROOFING:

ALL MEMBRANE WATERPROOFING USED ON THE BRIDGE DECKS SHALL BE MEMBRANE WATERPROOFING FOR BRIDGE DECKS – SPRAY APPLIED.

DATES:

TO BE PLACED ON THE INSIDE FACE OF THE SOUTHEAST AND SOUTHWEST HIGHWAY GUARDRAIL TRANSITIONS. A SHEET SHOWING SIZE AND CHARACTER OF NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF CONTRACT COMPLETION AS OF THE DATE THE FIRST HIGHWAY GUARDRAIL TRANSITION IS CONSTRUCTED. BOTH HIGHWAY GUARDRAIL TRANSITIONS SHALL FEATURE THE SAME DATE.

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BRJ)/STP-003S(191)	1013	1094
PROJECT FILE NO.		608049	

GENERAL NOTES

TRAFFIC DATA

	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2025	2025
AVERAGE DAILY TRAFFIC – PRESENT	14800	1300
AVERAGE DAILY TRAFFIC – DESIGN YEAR	14800	200
DESIGN HOURLY VOLUME	1480	20
DIRECTIONAL DISTRIBUTION	100%	100%
TRUCK PERCENTAGE – AVERAGE DAY	4%	3%
TRUCK PERCENTAGE – PEAK HOUR	5%	0%
DESIGN SPEED	40 MPH	30 MPH
DIRECTIONAL DESIGN HOURLY VOLUME	1480	20

SEISMIC DESIGN CRITERIA

DESIGN RETURN PERIOD:	2500
DESIGN SPECTRA	
As	0.128
SDs	0.211
SD1	0.118
SITE CLASS	D
SEISMIC DESIGN CATEGORY (SDC)	A

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

BORING BB1
STA. 301+05.96
OFFSET 68.97' LT.

BORING INFORMATION		NORTHING: 2719553 EASTING: 749732 STATION: 56+00 OFFSET: ~ 50' West		BORING BB1				
GROUND SURFACE EL. (ft): 10		DATE START/END: 12/22/2020 - 12/29/2020		PAGE 1 of 4				
VERT./HORIZ. DATUMS: NAVD 88/NADES3 MA		DRILLING COMPANY: Northern Drill Service, Inc.						
TOTAL DEPTH (ft): 106.0		DRILLER NAME: T. Tucker						
LOGGED BY: H. Ghysel L. Neyman		RIG TYPE: Mobile B-59 Truck Rig						
DRILLING INFORMATION								
HAMMER TYPE: Automatic		CASING I.D./O.D.: 5 inch / 5.5 inch		CORE BARREL TYPE: NX				
AUGER I.D./O.D.: NA / NA		DRILL ROD O.D.: 2.625 inch		CORE BARREL I.D./O.D.: 2.16 inch / 2.91 inch				
DRILLING METHOD: Drive and Wash								
WATER LEVEL DEPTHS (ft): 10.7 12/29/2020 7:05 am 11.3 12/30/2020 7:00 am								
ABBREVIATIONS: Pen = Penetration Length S = Split Spoon Sample Qp = Pocket Penetrometer Strength NA, NM = Not Applicable, Not Measured Rec = Recovery Length C = Core Sample Sp = Pocket Torque Shear Strength Blows per 6 in.: 140-lb hammer falling RQD = Rock Quality Designation U = Undisturbed Sample LL = Liquid Limit 30 inches to drive a 2-inch O.D. = Length of Sound Core (in.) / Pen. % SI = Sonic Zone PI = Plasticity Index split spoon sampler WOR = Weight of Rods DP = Direct Push Sample I.D./O.D. = Inside Diameter/Outside Diameter WGR = Weight of Hammer HSA = Hollow-Stem Auger								
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S1	0 to 2	24/12	1-3-7-7	Grass Surface.		0-6" Topsoil. S1 (6"-12"): Moist, medium dense, brown, FINE TO COARSE SAND, some fine to coarse gravel up to 3/4", some non-plastic fines.
		S2	4 to 6	24/12	5-4-9-9	Resumed drilling on 12/23 at 4".	FILL	S2: Moist, medium dense, brown, FINE TO COARSE SAND, some fine to coarse gravel up to 1/2", some non-plastic fines.
		S3	9 to 11	24/16	15-11-8-7		GRAVEL	S3: Wet, medium dense, gray, FINE TO COARSE GRAVEL, some fine to coarse sand, trace non-plastic fines. Roots present.
		S4	11 to 13	24/9	5-5-4-3			S4: Wet, loose, gray, FINE TO COARSE GRAVEL, some fine to coarse sand.
		S5	13 to 15	24/6	10-6-4-5			S5: Similar to S4.
		S6	15 to 17	24/12	36-11-8-17			S6 (0'-6"): Wet, medium dense, gray, FINE TO COARSE GRAVEL. S6 (6'-12"): Wet, medium dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace non-plastic fines.
		S7	17 to 19	24/18	17-40-18-13	Spoon bent when collecting S7.		S7: Wet, very dense, gray to dark gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, some non-plastic fines.
		S8	19 to 21	24/8	15-15-16-4		SAND AND GRAVEL	S8: Wet, dense, gray, FINE TO COARSE SAND, some fine to coarse gravel, some non-plastic fines.
NOTES:						PROJECT NAME: Route 79/David Street Improvements Project CITY/STATE: Fall River, Massachusetts GEI PROJECT NUMBER: 1803206		

BOT. OF FOOTING
NORTH ABUTMENT
EL. 7.00

EL. -1.30
12/30/2020

EL. -0.70
12/29/2020

BORING INFORMATION		NORTHING: 2719553 EASTING: 749732 STATION: 56+00 OFFSET: ~ 50' West		BORING BB1				
GROUND SURFACE EL. (ft): 10		DATE START/END: 12/22/2020 - 12/29/2020		PAGE 2 of 4				
VERT./HORIZ. DATUMS: NAVD 88/NADES3 MA		DRILLING COMPANY: Northern Drill Service, Inc.						
DRILLING METHOD: Drive and Wash								
WATER LEVEL DEPTHS (ft): 10.7 12/29/2020 7:05 am 11.3 12/30/2020 7:00 am								
ABBREVIATIONS: Pen = Penetration Length S = Split Spoon Sample Qp = Pocket Penetrometer Strength NA, NM = Not Applicable, Not Measured Rec = Recovery Length C = Core Sample Sp = Pocket Torque Shear Strength Blows per 6 in.: 140-lb hammer falling RQD = Rock Quality Designation U = Undisturbed Sample LL = Liquid Limit 30 inches to drive a 2-inch O.D. = Length of Sound Core (in.) / Pen. % SI = Sonic Zone PI = Plasticity Index split spoon sampler WOR = Weight of Rods DP = Direct Push Sample I.D./O.D. = Inside Diameter/Outside Diameter WGR = Weight of Hammer HSA = Hollow-Stem Auger								
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S9	24 to 28	24/10	16-19-8-8			S9: Wet, medium dense, brownish gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, some non-plastic fines.
		S10	29 to 31	24/14	9-13-14-13	5-in casing to 29' and then telescoped 4-in casing from 29' to 34'. No recovery with 2-in spoon. Re-drove 3-in spoon.		S10: No recovery. Re-drove 3-in spoon. S10: Wet, medium dense, gray/brown, FINE TO COARSE SAND, some non-plastic fines, trace fine to medium gravel.
		S11	34 to 36	24/15	5-15-14-17		SAND AND GRAVEL	S11: Wet, medium dense, brown, FINE TO COARSE SAND, some non-plastic fines, trace fine gravel.
		S12	39 to 41	24/10	13-19-18-16			S12: Wet, dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, some non-plastic fines.
		S13	44 to 46	24/8	15-15-19-16	ECO on 12/23 at 41". Washed ahead to 44".		S13 (0'-4"): Wet, dense, light brown, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL UP TO 1", some non-plastic fines. S13 (4'-8"): Wet, dense, light brown, FINE TO COARSE SAND, some fine to medium gravel, some non-plastic fines.
		S14	49 to 51	24/18	34-48-55-60		GLACIAL TILL	S14: Wet, very dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, some non-plastic fines.
		S15	54 to 54.8	10/5	43-100/4"			S15: Similar to S14.
NOTES:						PROJECT NAME: Route 79/David Street Improvements Project CITY/STATE: Fall River, Massachusetts GEI PROJECT NUMBER: 1803206		

BORING INFORMATION		NORTHING: 2719553 EASTING: 749732 STATION: 56+00 OFFSET: ~ 50' West		BORING BB1				
GROUND SURFACE EL. (ft): 10		DATE START/END: 12/22/2020 - 12/29/2020		PAGE 3 of 4				
VERT./HORIZ. DATUMS: NAVD 88/NADES3 MA		DRILLING COMPANY: Northern Drill Service, Inc.						
DRILLING METHOD: Drive and Wash								
WATER LEVEL DEPTHS (ft): 10.7 12/29/2020 7:05 am 11.3 12/30/2020 7:00 am								
ABBREVIATIONS: Pen = Penetration Length S = Split Spoon Sample Qp = Pocket Penetrometer Strength NA, NM = Not Applicable, Not Measured Rec = Recovery Length C = Core Sample Sp = Pocket Torque Shear Strength Blows per 6 in.: 140-lb hammer falling RQD = Rock Quality Designation U = Undisturbed Sample LL = Liquid Limit 30 inches to drive a 2-inch O.D. = Length of Sound Core (in.) / Pen. % SI = Sonic Zone PI = Plasticity Index split spoon sampler WOR = Weight of Rods DP = Direct Push Sample I.D./O.D. = Inside Diameter/Outside Diameter WGR = Weight of Hammer HSA = Hollow-Stem Auger								
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S16	59 to 59.7	8/5	15-50/2"	Roller bit refusal at bottom of casing at ~59'. Pulled up roller bit with casing and re-drilled.		S16: Wet, dense, gray, FINE TO COARSE GRAVEL AND FINE TO COARSE SAND, some non-plastic fines.
		S17	64 to 65.3	16/5	11-51-100/4"	Losing water return at ~63'. Heavy rig chatter at ~63.5'.		S17: Wet, very dense, gray, FINE TO COARSE SAND, some fine to coarse gravel, some non-plastic fines.
		S18	69 to 71	24/10	27-44-40-50		GLACIAL TILL	S18: Wet, hard, gray, INORGANIC SILT, some fine to coarse sand.
		S19	74 to 75.2	14/0	52-94-60/2"			S19: No recovery. Re-drove 3-in spoon. S19: Wet, very dense, gray, FINE TO COARSE SAND, trace fine gravel.
		S20	79 to 81	24/10	25-51-56-61	ECO on 12/28 at 78". Washed ahead to 79".		S20: Wet, very dense, gray, FINE TO COARSE SAND, some non-plastic fines, some fine gravel.
		S21	84 to 84.7	8/4	100-50/2"			S21: Wet, very dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, some non-plastic fines.
NOTES:						PROJECT NAME: Route 79/David Street Improvements Project CITY/STATE: Fall River, Massachusetts GEI PROJECT NUMBER: 1803206		

BORING INFORMATION		NORTHING: 2719553 EASTING: 749732 STATION: 56+00 OFFSET: ~ 50' West		BORING BB1				
GROUND SURFACE EL. (ft): 10		DATE START/END: 12/22/2020 - 12/29/2020		PAGE 4 of 4				
VERT./HORIZ. DATUMS: NAVD 88/NADES3 MA		DRILLING COMPANY: Northern Drill Service, Inc.						
DRILLING METHOD: Drive and Wash								
WATER LEVEL DEPTHS (ft): 10.7 12/29/2020 7:05 am 11.3 12/30/2020 7:00 am								
ABBREVIATIONS: Pen = Penetration Length S = Split Spoon Sample Qp = Pocket Penetrometer Strength NA, NM = Not Applicable, Not Measured Rec = Recovery Length C = Core Sample Sp = Pocket Torque Shear Strength Blows per 6 in.: 140-lb hammer falling RQD = Rock Quality Designation U = Undisturbed Sample LL = Liquid Limit 30 inches to drive a 2-inch O.D. = Length of Sound Core (in.) / Pen. % SI = Sonic Zone PI = Plasticity Index split spoon sampler WOR = Weight of Rods DP = Direct Push Sample I.D./O.D. = Inside Diameter/Outside Diameter WGR = Weight of Hammer HSA = Hollow-Stem Auger								
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description
		S22	89 to 91	24/9	42-37-22-55		GLACIAL TILL	S22 (0'-5"): Wet, very dense, gray, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL, some non-plastic fines. S22 (5'-9"): Wet, hard, gray, INORGANIC SILT, some fine sand.
		S23	94 to 94	0/0	50/0"	Spoon refusal on bedrock.		S23: No recovery. Refusal on bedrock.
		C1	96 to 101	60/59	78	Core times: 1.0, 1.5, 2.0, 1.5, 2 min/ft.	SANDSTONE	C1: SANDSTONE: Gray, medium hard, fine to medium grain, weathered at joints at ~35 degrees from horizontal, joints spaced 0.5 to 1.3 in, soft portions along some joints, bedding mostly indistinct, gravel-size grains at ~30 to 32 in. RHOIDE ISLAND FORMATION.
		C2	101 to 106	60/60	87	Core times: 1.0, 1.0, 1.0, 1.0, 1.5 min/ft.		C2: SANDSTONE: Similar to C1 except joints at ~25 degrees from horizontal, joints spaced 2 to 15 in and no gravel-size grains.
NOTES:						PROJECT NAME: Route 79/David Street Improvements Project CITY/STATE: Fall River, Massachusetts GEI PROJECT NUMBER: 1803206		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1014	1094
PROJECT FILE NO.		608049	

BORINGS 1

BORING NOTES:

- LOCATION OF BORINGS SHOWN ON THE PLANS THUS: BB1
- BORING ARE TAKEN FOR PURPOSE OF DESIGN AND CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY REFLECT THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
- WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY REFLECT THE TRUE GROUND WATER LEVELS.
- FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 1/2" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
- BORING SAMPLES ARE STORED AT A STORAGE FACILITY LOCATED ON ROUTE 114 (219 WINTHROP AVE.) IN LAWRENCE, MA. THE CONTRACTOR MAY EXAMINE THE SOIL AND ROCK SAMPLES BY CONTACTING THE MASSDOT GEOTECHNICAL SECTION AT 10 PARK PLAZA, BOSTON, MA.
- BORINGS BB1, BB2A, AND BB2(OW) WERE MADE IN DECEMBER 2020. BORINGS WB105 AND WB114 WERE MADE IN JULY 2013. BORINGS DB-1(OW) AND WB203(OW) WERE MADE IN JUNE THRU JULY 2021. BORINGS BB-3 AND BB-4 WERE MADE IN DECEMBER 2022 THRU JANUARY 2023.
- BORINGS BB1, BB2A, BB2(OW), DB-1(OW), AND WB203(OW) WERE MADE BY NORTHERN DRILL SERVICES, INC. 130 EAST MAIN ST., BUILDING A, NORTHBOROUGH, MA 01532.
- BORINGS WB105 AND WB114 WERE MADE BY GEOLOGIC, INC. 7 DAVID RD., NORFOLK, MA 02056.
- BORINGS BB3 AND BB4 WERE MADE BY ALLSTATE DRILLING, INC. 227 WAMPANOAG TRAIL, RIVERSIDE, RI 02915.
- THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

STA. 299+97.00
OFFSET 36.95' RT.

BOT. OF FOOTING
SOUTH ABUTMENT
EL. 6.00

EL. -8.70
12/22/2020

CGE|WORK|RN STD 7.8.0.N.EJ AYER NAME BORING | LOGS 7.8.21 CB | 7/19/24

GEI WCBURN STD 7-S-O-N-E-LAYER NAME BORING LOGS 7-8-21 GPJ 7/13/21

GEI WCBURN STD 7-S-O-N-E-LAYER NAME BORING LOGS 7-8-21 GPJ 7/13/21

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1015	1094
PROJECT FILE NO.		608049	

NOTES:

1. FOR BORING NOTES SEE SHEET 3.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	
USE ONLY PRINTS OF LATEST DATE	STATE BRIDGE ENGINEER

BORING BB2(OW)

STA. 299+98.15

OFFSET 34.37' RT.

BORING INFORMATION										BORING BB2 (OW)			
NORTHING: 2719516		EASTING: 748791		STATION: 24+57 (Rte 79 Off Ramp) OFFSET: ~43' West						PAGE 1 of 2			
GROUND SURFACE EL. (ft): 11		DATE START/END: 12/14/2020 - 12/15/2020		DRILLING COMPANY: Northern Drill Service, Inc.									
VERT. HORIZ. DATUMS: NAVD 88/NADE83 MA		DRILLER NAME: T. Tucker		RIG TYPE: Mobile B-59 Truck Rig									
TOTAL DEPTH (ft): 29.0		LOGGED BY: K. Gleichauf/H. Chiyu											
DRILLING INFORMATION													
HAMMER TYPE: Automatic		CASING I.D./O.D.: 5 inch / 5.5 inch		CORE BARREL TYPE: _____									
AUGER I.D./O.D.: NA / NA		DRILL ROD O.D.: 2.625 inch		CORE BARREL I.D./O.D.: NA / NA									
DRILLING METHOD: Rotary Wash with Casing													
WATER LEVEL DEPTHS (ft): 9.5		12/30/2020 9:44 am											
ABBREVIATIONS:													
Pen = Penetration Length Rec = Recovery Length RQD = Rock Quality Designation L = Length of Sound Cores in / Pen, % Wt = Weight of Rods WtH = Weight of Hammer		S = Split Spoon Sample C = Core Sample U = Undisturbed Sample SC = Sonic Core DP = Direct Push Sample HSA = Hollow-Stem Auger		Op = Pocket Penetrometer Strength Sv = Pocket Torvane Shear Strength LL = Liquid Limit PI = Plasticity Index PD = Photoionization Detector I.D./O.D. = Inside Diameter/Outside Diameter		NA, NM = Not Applicable, Not Measured Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.							
Sample Information													
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description					
10		S1	0 to 2	24/13	1-3-4-3	Grass Surface.	0-4" Topsoil.	S1 (4"-13"): Moist, loose, dark brown, FINE TO COARSE SAND, some fine to coarse gravel up to 1", trace non-plastic fines.					
5		S2	4 to 6	24/14	11-8-5-3		FILL	S2 (0"-10"): Wet, medium dense, gray, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL. S2 (10"-14"): Wet, medium dense, black, FINE TO COARSE SAND, some non-plastic fines, trace fine gravel.					
10		S3	9 to 11	24/3	8-8-8-6		GRAVEL	S3: Wet, medium dense, gray, FINE TO COARSE GRAVEL, some fine to coarse sand.					
0		S4	11 to 13	24/0	5-6-5-4	No recovery with 2-in spoon. Redrove 3-in spoon.		S4: No recovery, gravel in tip of spoon. Redrove 3-in spoon. S4: Wet, medium dense, gray, COARSE GRAVEL UP TO 2.5", some fine to coarse sand, one 2.5" piece of asphalt.					
15		S5	13 to 15	24/4	5-7-5-5	Water return loss while drilling.		S5: Wet, medium dense, gray, FINE TO COARSE GRAVEL, some fine to coarse sand.					
		S6	15 to 17	24/14	8-9-11-9			S6 (0"-10"): Wet, medium dense, gray, FINE TO COARSE SAND, some fine gravel. S6 (10"-14"): Wet, medium dense, tan, FINE SAND, trace non-plastic fines.					
		S7	17 to 19	24/11	11-13-14-14			S7: Wet, medium dense, brown, FINE TO COARSE SAND, trace fine gravel.					
		S8	19 to 21	24/1	16-14-16-13		SAND AND GRAVEL	S8: One piece of fractured gravel -> Redrove 3-in spoon -> Wet, medium dense, gray, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL UP TO 2", trace non-plastic fines.					
NOTES: 12/14: S1-S9 collected. Attempted to drill from 26' to 29', hole started collapsing, casing shoe broke off. 12/15: Installed OW in this original boring location.										PROJECT NAME: Route 79/David Street Improvements CITY/STATE: Fall River, Massachusetts GEI PROJECT NUMBER: 1803206		GEI Consultants	

BOT. OF FOOTING
SOUTH ABUTMENT
EL. 6.00EL. 1.50
12/30/2020

GEI WORKSHEET TO 3-S-CASE LAYER NAME BORING LOGS 9-24-21 (P) 1 9/20/21

BORING INFORMATION										BORING BB2 (OW)			
NORTHING: 2719516		EASTING: 748791		STATION: 24+57 (Rte 79 Off Ramp) OFFSET: ~43' West						PAGE 2 of 2			
GROUND SURFACE EL. (ft): 11		DATE START/END: 12/14/2020 - 12/15/2020		DRILLING COMPANY: Northern Drill Service, Inc.									
VERT. HORIZ. DATUMS: NAVD 88/NADE83 MA		DRILLER NAME: T. Tucker		RIG TYPE: Mobile B-59 Truck Rig									
TOTAL DEPTH (ft): 29.0		LOGGED BY: K. Gleichauf/H. Chiyu											
DRILLING INFORMATION													
HAMMER TYPE: Automatic		CASING I.D./O.D.: 5 inch / 5.5 inch		CORE BARREL TYPE: _____									
AUGER I.D./O.D.: NA / NA		DRILL ROD O.D.: 2.625 inch		CORE BARREL I.D./O.D.: NA / NA									
DRILLING METHOD: Rotary Wash with Casing													
WATER LEVEL DEPTHS (ft): 9.5		12/30/2020 9:44 am											
ABBREVIATIONS:													
Pen = Penetration Length Rec = Recovery Length RQD = Rock Quality Designation L = Length of Sound Cores in / Pen, % Wt = Weight of Rods WtH = Weight of Hammer		S = Split Spoon Sample C = Core Sample U = Undisturbed Sample SC = Sonic Core DP = Direct Push Sample HSA = Hollow-Stem Auger		Op = Pocket Penetrometer Strength Sv = Pocket Torvane Shear Strength LL = Liquid Limit PI = Plasticity Index PD = Photoionization Detector I.D./O.D. = Inside Diameter/Outside Diameter		NA, NM = Not Applicable, Not Measured Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.							
Sample Information													
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description					
25		S9	24 to 26	24/15	12-27-25-32		SAND AND GRAVEL	S9: Wet, very dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, trace non-plastic fines.					
						Casing refusal at 27'. Washed ahead and continued driving. Rig chatter.		Abandoned hole at 29.0 ft after casing shoe broke off. Completed as well.					
NOTES: 12/14: S1-S9 collected. Attempted to drill from 26' to 29', hole started collapsing, casing shoe broke off. 12/15: Installed OW in this original boring location.										PROJECT NAME: Route 79/David Street Improvements CITY/STATE: Fall River, Massachusetts GEI PROJECT NUMBER: 1803206		GEI Consultants	

EL. 11.90
7/8/2013BOT. OF FOOTING
SOUTH ABUTMENT
EL. 6.00

BORING INFORMATION										BORING WB105			
LOCATION: Route 79 SB highspeed lane		DATE START/END: 7/8/2013 - 7/8/2013		DRILLING COMPANY: Geologic, Inc.						PAGE 1 of 1			
GROUND SURFACE EL. (ft): 29.9		VERTICAL DATUM: NAVD 88		DRILLER NAME: Matt Ferreira									
TOTAL DEPTH (ft): 26.0		LOGGED BY: Steve Dube		RIG TYPE: Mobile B-57									
DRILLING INFORMATION													
HAMMER TYPE: Donut Hammer - rope and cathode		CASING I.D./O.D.: 4 inch/ 4.5 inch		CORE BARREL TYPE: _____									
AUGER I.D./O.D.: NA / NA		DRILL ROD O.D.: _____		CORE BARREL I.D./O.D.: NA / NA									
DRILLING METHOD: Rotary Wash													
WATER LEVEL DEPTHS (ft): 18.0		7/8/2013											
ABBREVIATIONS:													
Pen = Penetration Length Rec = Recovery Length RQD = Rock Quality Designation L = Length of Sound Cores in / Pen, % Wt = Weight of Rods WtH = Weight of Hammer		S = Split Spoon Sample C = Core Sample U = Undisturbed Sample SC = Sonic Core DP = Direct Push Sample HSA = Hollow-Stem Auger		Op = Pocket Penetrometer Strength Sv = Pocket Torvane Shear Strength LL = Liquid Limit PI = Plasticity Index PD = Photoionization Detector I.D./O.D. = Inside Diameter/Outside Diameter		NA, NM = Not Applicable, Not Measured Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.							
Sample Information													
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description					
		S1	1 to 3	24/15	12-32-43-26	Rotary wash to 1'. After S1, drove 4" casing to 4'.	(0-6") ASPHALT	S1: Dry, very dense, light brown, FINE TO COARSE SAND, some inorganic silt, some fine gravel.					
5		S2	4 to 6	24/11	14-19-28-41	After S2, drove 4" casing to 9'.		S2: Similar to S1, except dense, with some ~1" pieces of quartz and gravel in spoon.					
20		S3	9 to 11	24/1	55-76-57-77	After S3, drove 4" casing to 14'.		S3: Wet, very dense, brown, FINE SAND, some inorganic silt, red fractured rock in spoon.					
15		S4	14 to 16	24/0	37-53-79-60	After S4, drove casing to 19'.		S4: No Recovery. S4 (Redrive): Wet, very dense, brown-gray, FINE TO COARSE SAND, some fine to coarse gravel, some inorganic silt, rock fragments up to ~1.5", 2.5" piece of gravel in shoe.					
		S5	19 to 21	24/9	17-15-14-17			S5: Wet, medium dense, brown-gray, FINE TO COARSE SAND, some inorganic silt, some fine gravel.					
		S6	24 to 26	24/3	29-122-80-41			S6: Wet, very dense, gray, FINE TO COARSE SAND, some inorganic silt, trace fine gravel.					
NOTES: Borehole backfilled with cuttings and asphalt patch.										PROJECT NAME: Fall River Interchange CITY/STATE: Fall River, MA GEI PROJECT NUMBER: 132083-1		GEI Consultants	

OBSERVATION WELL GROUND WATER ELEVATIONS					
BORING ID	DATE INSTALLED	GROUND SURFACE	BOTTOM OF WELL	MEASUREMENT DATE	MEASUREMENT ELEVATION
BB2(OW)	12/15/2020	11.0	-18.0	12/21/2020	1.8
				12/22/2020	0.6
				12/23/2020	0.2
				12/29/2020	-0.1
				12/30/2020	1.5

GROUND WATER:

THE WATER LEVELS RECORDED IN THE TABLE ARE THOSE MEASURED ON THE DATES GIVEN AND DO NOT NECESSARILY REPRESENT GROUND WATER LEVEL AT TIME OF CONSTRUCTION.

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1016	1094
PROJECT FILE NO.		608049	

BORINGS 3

NOTES:

- FOR BORING NOTES SEE SHEET 3.
- TABULATED GROUND WATER ELEVATIONS HAVE BEEN TAKEN FROM THE GEOTECHNICAL DATA REPORT, DATED JANUARY 19, 2022 (REVISED FEBRUARY 14, 2022).

BORING WB114

STA. 299+70.01

OFFSET 19.35' RT.

BORING INFORMATION										BORING WB114			
LOCATION: Route 79 NB right shoulder		DATE START/END: 7/2/2013 - 7/2/2013		DRILLING COMPANY: Geologic, Inc.						PAGE 1 of 1			
GROUND SURFACE EL. (ft): 30.30		VERTICAL DATUM: NAVD 88		DRILLER NAME: Matt Ferreira									
TOTAL DEPTH (ft): 26.0		LOGGED BY: Steve Dube		RIG TYPE: Mobile B-57									
DRILLING INFORMATION													
HAMMER TYPE: Donut Hammer - rope and cathode		CASING I.D./O.D.: 4 inch/ 4.5 inch		CORE BARREL TYPE: _____									
AUGER I.D./O.D.: NA / NA		DRILL ROD O.D.: _____		CORE BARREL I.D./O.D.: NA / NA									
DRILLING METHOD: Rotary Wash													
WATER LEVEL DEPTHS (ft): Not measured													
ABBREVIATIONS:													
Pen = Penetration Length Rec = Recovery Length RQD = Rock Quality Designation L = Length of Sound Cores in / Pen, % Wt = Weight of Rods WtH = Weight of Hammer		S = Split Spoon Sample C = Core Sample U = Undisturbed Sample SC = Sonic Core DP = Direct Push Sample HSA = Hollow-Stem Auger		Op = Pocket Penetrometer Strength Sv = Pocket Torvane Shear Strength LL = Liquid Limit PI = Plasticity Index PD = Photoionization Detector I.D./O.D. = Inside Diameter/Outside Diameter		NA, NM = Not Applicable, Not Measured Blows per 6 in.: 140-lb hammer falling 30 inches to drive a 2-inch-O.D. split spoon sampler.							
Sample Information													
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description					
30		S1	1 to 3	24/7	16-28-25-17	After S1, drove 4" casing to 4'.		(0-9") ASPHALT S1: Dry, medium dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, trace inorganic silt.					
5		S2	4 to 6	24/5	8-5-4-3	After S2, drove 4" casing to 9'.		S2: Wet, loose, tan, FINE TO COARSE SAND, trace fine gravel, trace inorganic silt.					
20		S3	9 to 10.5	18/0	28-58-115/6"	After S3, drove 4" casing to 14'.		S3: No Recovery, redrove 3" split spoon. S3 (Redrive): Wet, very dense, gray-light brown, FINE TO COARSE SAND AND GRAVEL, trace inorganic silt.					
15		S4	14 to 16	24/9	72-45-30-25	After S4, drove 4" casing to 19'.		S4: Wet, dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, some inorganic silt, lense of fractured granite at 2-4" from top.					
		S5	19 to 20.1	13/6	29-32-100/1"			S5: Similar to S4, except no granite.					
		S6	24 to 26	24/0	27-30-31-33			S6: No Recovery, rock lodged in shoe. Redrove 3" split spoon. S6 (Redrive): Wet, dense, brown and gray, FINE TO COARSE SAND, some fine to coarse gravel, trace inorganic silt. Recovery=8" on redrive. Bottom of boring at depth 26 ft.					
NOTES: Borehole backfilled with cuttings and asphalt patch.										PROJECT NAME: Fall River Interchange CITY/STATE: Fall River, MA GEI PROJECT NUMBER: 132083-1		GEI Consultants	

BOT. OF FOOTING
SOUTH ABUTMENT
EL. 6.00

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

BORING DB-1(OW)
STA. 302+00.06
OFFSET 30.75' LT.

BORING INFORMATION		BORING							
NORTHING: 2719728	EASTING: 749800	STATION: 302+00 (Rhs 79 NB)	OFFSET: ~30' West						
GROUND SURFACE EL. (ft): 28.8	DATE STARTED: 6/29/2021	DATE STARTED: 6/30/2021							
VERT./HORIZ. DATUMS: NAVD 88/NA83 MA	DRILLING COMPANY: Northern Drill Service, Inc.								
TOTAL DEPTH (ft): 40.0	DRILLER NAME: Z. Nader								
LOGGED BY: H. Ghaye	RIG TYPE: Mobile B-59 Truck Rig								
DRILLING INFORMATION		DB-1 (OW)							
HAMMER TYPE: Automatic	CASING I.D./O.D.: 4 inch / 4.5 inch	CORE BARREL TYPE:							
AUGER I.D./O.D.: NA / NA	DRILL ROD O.D.: 2.625 inch	CORE BARREL I.D./O.D.: NA / NA							
DRILLING METHOD: Rotary Wash with Casing									
WATER LEVEL DEPTHS (ft): 28.5 6/29/2021 1:45 pm 28.6 6/30/2021 9:20 am									
ABBREVIATIONS: Pen = Penetration Length Rec = Recovery Length RQD = Rock Quality Designation Length of Sound Cores=4 in / Pen. % WOR = Weight of Rock WCH = Weight of Hammer S = Split Spoon Sample C = Core Sample U = Undisturbed Sample SC = Sonic Core DP = Direct Push Sample HSA = Hollow-Stem Auger Qp = Pocket Penetrometer Strength Sv = Pocket Torvane Shear Strength Blows per 6 in.: 140-b hammer falling 30 inches to drive a 2-inch O.D. split spoon sampler. PDI = Photoionization Detector I.D./O.D. = Inside Diameter/Outside Diameter NA, NM = Not Applicable, Not Measured									
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description	
		S1	0 to 2	24/12	10-10-16	Advanced 4-inch-ID casing to 32'.		S1: Moist, medium dense, brown to gray brown, FINE TO COARSE SAND, some fine to medium gravel up to 1", trace inorganic silt. Asphalt present from pavement above.	
	5	S2	4 to 6	24/14	10-15-29	1.0 ppm		S2: Moist, dense, brown, FINE TO COARSE SAND, some fine to medium gravel up to 0.5", trace inorganic silt.	
	20	S3	9 to 11	24/12	14-14-15	1.1 ppm		S3: Moist, medium dense, brown, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL UP TO 0.5", trace inorganic silt.	
	15	S4	14 to 16	24/14	13-19-16	0.7 ppm		S4: Moist, dense, brown to gray brown, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL UP TO 0.5", trace inorganic silt. Gravel is mostly fine.	
	10	S5	19 to 21	24/16	17-15-18	0.1 ppm		S5: Moist, dense, dark brown to black, FINE TO COARSE SAND, some fine to medium gravel up to 0.5", trace inorganic silt.	
NOTES:		PROJECT NAME: Route 79/David Street Improvements		Project		CITY/STATE: Fall River, Massachusetts		GEI PROJECT NUMBER: 1803206	
		Project		CITY/STATE: Fall River, Massachusetts		GEI PROJECT NUMBER: 1803206		GEI Consultants	

EL. 0.20
6/29/2021

BORING INFORMATION		BORING							
NORTHING: 2719728	EASTING: 749800	STATION: 302+00 (Rhs 79 NB)	OFFSET: ~30' West						
GROUND SURFACE EL. (ft): 28.8	DATE STARTED: 6/29/2021	DATE STARTED: 6/30/2021							
VERT./HORIZ. DATUMS: NAVD 88/NA83 MA	DRILLING COMPANY: Northern Drill Service, Inc.								
TOTAL DEPTH (ft): 40.0	DRILLER NAME: Z. Nader								
LOGGED BY: H. Ghaye	RIG TYPE: Mobile B-59 Truck Rig								
DRILLING INFORMATION		DB-1 (OW)							
HAMMER TYPE: Automatic	CASING I.D./O.D.: 4 inch / 4.5 inch	CORE BARREL TYPE:							
AUGER I.D./O.D.: NA / NA	DRILL ROD O.D.: 2.625 inch	CORE BARREL I.D./O.D.: NA / NA							
DRILLING METHOD: Rotary Wash with Casing									
WATER LEVEL DEPTHS (ft): 28.5 6/29/2021 1:45 pm 28.6 6/30/2021 9:20 am									
ABBREVIATIONS: Pen = Penetration Length Rec = Recovery Length RQD = Rock Quality Designation Length of Sound Cores=4 in / Pen. % WOR = Weight of Rock WCH = Weight of Hammer S = Split Spoon Sample C = Core Sample U = Undisturbed Sample SC = Sonic Core DP = Direct Push Sample HSA = Hollow-Stem Auger Qp = Pocket Penetrometer Strength Sv = Pocket Torvane Shear Strength Blows per 6 in.: 140-b hammer falling 30 inches to drive a 2-inch O.D. split spoon sampler. PDI = Photoionization Detector I.D./O.D. = Inside Diameter/Outside Diameter NA, NM = Not Applicable, Not Measured									
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description	
		S1	0 to 2	24/12	10-10-16	Advanced 4-inch-ID casing to 32'.		S1: Moist, medium dense, brown to gray brown, FINE TO COARSE SAND, some fine to medium gravel up to 1", trace inorganic silt. Asphalt present from pavement above.	
	5	S2	4 to 6	24/14	10-15-29	1.0 ppm		S2: Moist, dense, brown, FINE TO COARSE SAND, some fine to medium gravel up to 0.5", trace inorganic silt.	
	20	S3	9 to 11	24/12	14-14-15	1.1 ppm		S3: Moist, medium dense, brown, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL UP TO 0.5", trace inorganic silt.	
	15	S4	14 to 16	24/14	13-19-16	0.7 ppm		S4: Moist, dense, brown to gray brown, FINE TO COARSE SAND AND FINE TO MEDIUM GRAVEL UP TO 0.5", trace inorganic silt. Gravel is mostly fine.	
	10	S5	19 to 21	24/16	17-15-18	0.1 ppm		S5: Moist, dense, dark brown to black, FINE TO COARSE SAND, some fine to medium gravel up to 0.5", trace inorganic silt.	
NOTES:		PROJECT NAME: Route 79/David Street Improvements		Project		CITY/STATE: Fall River, Massachusetts		GEI PROJECT NUMBER: 1803206	
		Project		CITY/STATE: Fall River, Massachusetts		GEI PROJECT NUMBER: 1803206		GEI Consultants	

BORING WB203(OW)
STA. 301+97.01
OFFSET 10.76' RT.

BORING INFORMATION		BORING							
NORTHING: 2719711	EASTING: 749838	STATION: 302+00 (Rhs 79 NB)	OFFSET: ~10' East						
GROUND SURFACE EL. (ft): 29.5	DATE STARTED: 7/1/2021	DATE STARTED: 7/1/2021							
VERT./HORIZ. DATUMS: NAVD 88/NA83 MA	DRILLING COMPANY: Northern Drill Service, Inc.								
TOTAL DEPTH (ft): 40.0	DRILLER NAME: J. Beirholm								
LOGGED BY: R. Ouel	RIG TYPE: Mobile B-57 Truck Rig								
DRILLING INFORMATION		WB203 (OW)							
HAMMER TYPE: Automatic	CASING I.D./O.D.: 4 inch / 4.5 inch	CORE BARREL TYPE:							
AUGER I.D./O.D.: NA / NA	DRILL ROD O.D.: 2.625 inch	CORE BARREL I.D./O.D.: NA / NA							
DRILLING METHOD: Rotary Wash with Casing									
WATER LEVEL DEPTHS (ft): 17.8 7/1/2021 12:20 pm									
ABBREVIATIONS: Pen = Penetration Length Rec = Recovery Length RQD = Rock Quality Designation Length of Sound Cores=4 in / Pen. % WOR = Weight of Rock WCH = Weight of Hammer S = Split Spoon Sample C = Core Sample U = Undisturbed Sample SC = Sonic Core DP = Direct Push Sample HSA = Hollow-Stem Auger Qp = Pocket Penetrometer Strength Sv = Pocket Torvane Shear Strength Blows per 6 in.: 140-b hammer falling 30 inches to drive a 2-inch O.D. split spoon sampler. PDI = Photoionization Detector I.D./O.D. = Inside Diameter/Outside Diameter NA, NM = Not Applicable, Not Measured									
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description	
		S1	3 to 5	24/10	50-43-17	1.6 ppm		S1: Wet, very dense, brown, FINE TO COARSE GRAVEL, some fine to coarse sand, trace inorganic silt.	
	5	S2	6 to 8	24/0	9-10-14	17		S2: NO RECOVERY. 1" gravel in tip of spoon. S2 (REDRIVE): Wet, medium dense, tan, FINE TO COARSE SAND, some fine to medium gravel, trace inorganic silt. Sand mostly coarse.	
	20	S3	9 to 11	24/5	10-9-8	12		S3: Wet, medium dense, FINE TO COARSE SAND, some inorganic silt, trace fine gravel.	
	15	S4	12 to 14	24/8	13-11-25	22		S4: Wet, dense, tan, FINE TO COARSE SAND, some fine to coarse gravel, trace inorganic silt.	
	10	S5	15 to 17	24/5	8-10-8	6		S5: Wet, medium dense, tan, FINE TO COARSE GRAVEL, some fine to coarse sand, trace inorganic silt.	
	5	S6	18 to 20	24/6	9-4-3	6		S6: Wet, loose, tan, FINE TO COARSE GRAVEL AND FINE TO COARSE SAND, trace inorganic silt.	
NOTES:		PROJECT NAME: Route 79/David Street Improvements		Project		CITY/STATE: Fall River, Massachusetts		GEI PROJECT NUMBER: 1803206	
		Project		CITY/STATE: Fall River, Massachusetts		GEI PROJECT NUMBER: 1803206		GEI Consultants	

EL. 11.70
7/1/2021

BORING INFORMATION		BORING							
NORTHING: 2719711	EASTING: 749838	STATION: 302+00 (Rhs 79 NB)	OFFSET: ~10' East						
GROUND SURFACE EL. (ft): 29.5	DATE STARTED: 7/1/2021	DATE STARTED: 7/1/2021							
VERT./HORIZ. DATUMS: NAVD 88/NA83 MA	DRILLING COMPANY: Northern Drill Service, Inc.								
TOTAL DEPTH (ft): 40.0	DRILLER NAME: J. Beirholm								
LOGGED BY: R. Ouel	RIG TYPE: Mobile B-57 Truck Rig								
DRILLING INFORMATION		WB203 (OW)							
HAMMER TYPE: Automatic	CASING I.D./O.D.: 4 inch / 4.5 inch	CORE BARREL TYPE:							
AUGER I.D./O.D.: NA / NA	DRILL ROD O.D.: 2.625 inch	CORE BARREL I.D./O.D.: NA / NA							
DRILLING METHOD: Rotary Wash with Casing									
WATER LEVEL DEPTHS (ft): 17.8 7/1/2021 12:20 pm									
ABBREVIATIONS: Pen = Penetration Length Rec = Recovery Length RQD = Rock Quality Designation Length of Sound Cores=4 in / Pen. % WOR = Weight of Rock WCH = Weight of Hammer S = Split Spoon Sample C = Core Sample U = Undisturbed Sample SC = Sonic Core DP = Direct Push Sample HSA = Hollow-Stem Auger Qp = Pocket Penetrometer Strength Sv = Pocket Torvane Shear Strength Blows per 6 in.: 140-b hammer falling 30 inches to drive a 2-inch O.D. split spoon sampler. PDI = Photoionization Detector I.D./O.D. = Inside Diameter/Outside Diameter NA, NM = Not Applicable, Not Measured									
Elev. (ft)	Depth (ft)	Sample No.	Depth (ft)	Pen./ Rec. (in)	Blows per 6 in. or RQD	Drilling Remarks/ Field Test Data	Layer Name	Soil and Rock Description	
		S7	23 to 25	24/9	8-15-17	15		S7: Wet, dense, tan, FINE TO COARSE SAND, some fine to medium gravel, trace inorganic silt.	
	25	S8	26 to 30	24/10	15-13-15	11		S8: Wet, medium dense, brown, FINE TO COARSE GRAVEL, some fine to coarse sand, trace inorganic silt.	
	30	S9	33 to 35	24/10	7-10-11	11		S9: Wet, medium dense, black, FINE TO COARSE SAND, trace fine to medium gravel, trace inorganic silt.	
	35	S10	38 to 40	24/11	10-17-11	10		S10 (0-9"): Wet, medium dense, gray with oxidized orange coating, FINE TO COARSE SAND, some fine to coarse gravel, trace inorganic silt. S10 (9"-11"): Wet, medium dense, gray, FINE TO COARSE SAND AND INORGANIC SILT, trace fine gravel. Sand mostly fine. [SAMPLE CHECK WITH #200 SIEVE]. SAND, SILT AND GRAVEL. Bottom of boring at 40 ft. Completed as a well.	
NOTES:		PROJECT NAME: Route 79/David Street Improvements		Project		CITY/STATE: Fall River, Massachusetts		GEI PROJECT NUMBER: 1803206	
		Project		CITY/STATE: Fall River, Massachusetts		GEI PROJECT NUMBER: 1803206		GEI Consultants	

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1017	1094
PROJECT FILE NO.		608049	

BORINGS 4

NOTES:

- FOR BORING NOTES SEE SHEET 3.
- TABULATED GROUND WATER ELEVATIONS HAVE BEEN TAKEN FROM THE GEOTECHNICAL DATA REPORT, DATED JANUARY 19, 2022 (REVISED FEBRUARY 14, 2022).

OBSERVATION WELL GROUND WATER ELEVATIONS					
BORING ID	DATE INSTALLED	GROUND SURFACE	BOTTOM OF WELL	MEASUREMENT DATE	MEASUREMENT ELEVATION
DB-1(OW)	6/30/2021	28.8	-11.2	7/7/2021	0.0
WB203(OW)	7/1/2021	29.5	-10.5	7/1/2021	0.1
				7/8/2021	0.6

GROUND WATER:

THE WATER LEVELS RECORDED IN THE TABLE ARE THOSE MEASURED ON THE DATES GIVEN AND DO NOT NECESSARILY REPRESENT GROUND WATER LEVEL AT TIME OF CONSTRUCTION.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

BORING BB3

STA. 300+54.03

OFFSET 31.64' RT.

BOT. OF FOOTING
PIER EL. 6.20

EL. 0.00
12/30/2022

		Allstate Drilling, Inc 227 Wampanoag Trail, Riverside, RI, 02915		No. BB-3 Scale: 1:20	
City/Town: Fall River, MA		Bridge Number: Davol st		Project File Number: 608049	
Location: Near East Side of pier		Date & Time Started: 12/29/2022 8:40		Total Hours: 11.3	
Groundwater Depth (Feet): 10		Date & Time: 12/30/2022 10:00		Date & Time Completed: 12/30/2022 15:30	
Coordinates (Feet): N 2719569.333 E 749808.23		Driller's Name: W. William		Helper's Name: N. Richard	
Ground Elevation (Feet): 10		Inspector's Name (PRINT): H. Osman		Inspector's Signature: H. Osman	
Inspector's Company: HNTB					
Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 1	0 - 2	5 - 8 - 9 - 9	0	0.0 - SS-1: No recovery, obtain sample from drill cuttings. Most, medium dense, black, FINE SAND, some organic silt.	10
SS - 2	2 - 4	11 - 11 - 7 - 9	11	2.0 - SS-2: Moist, medium dense, brown, FINE SAND, some fine to coarse gravel.	10
SS - 3	4 - 6	10 - 8 - 22 - 13	16	4.0 - SS-3: Moist, medium dense, black, FINE TO COARSE SAND, some fine to coarse gravel, trace of organic silt, trace of coal.	5
SS - 4	6 - 8	9 - 9 - 7 - 6	11	6.0 - SS-4: Moist, medium dense, black, FINE TO COARSE SAND, some fine to coarse gravel, trace of organic silt, trace of coal, trace of brick.	10
SS - 5	8 - 10	7 - 7 - 6 - 6	9	8.0 - SS-5: Moist, medium dense, grey, FINE TO COARSE GRAVEL, some fine to coarse sand, trace of inorganic silt (possible fill appear reworked).	10
SS - 6	10 - 12	9 - 7 - 6 - 6	8	10.0 - SS-6: Wet, medium dense, grey, FINE TO COARSE GRAVEL, some fine to coarse sand, trace of inorganic silt (possible fill appear reworked).	10
SS - 7	15 - 17	5 - 4 - 3 - 3	7	15.0 - SS-7: Wet, loose, grey, FINE TO COARSE GRAVEL, some fine to coarse sand, trace of inorganic silt (possible fill appear reworked), fine sand in tip of split spoon possible strata change.	15
				17.0 - drove 4" casing was too easy possible strata change at depth 17 to 20 feet, fine sand seen in drill cuttings.	
Remarks: Boring backfilled with drill cuttings				Arrow-Board: - Signs: - Cones: -	
Penetration Resistance (N) Guide				Type of Drill Rig: Mobile Drill Dietrich D-50	
Cohesionless Soils (Sands, Gravels)				Casing Type: Hammer Weight: 140 lb Fall: 30" Depth: 85	
Cohesive Soils (Sills, Clays)				Sampler Type: SS Automatic Hammer Weight: 140 lb Safety Hammer Weight: - Donut Hammer Weight: - Fall: 30"	
N = Sum of Second and Third 6" Blow Counts				Core Barrel Type: NX Size: 2.15" ID	
Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less					

		Allstate Drilling, Inc 227 Wampanoag Trail, Riverside, RI, 02915		No. BB-3 Scale: 1:20	
City/Town: Fall River, MA		Bridge Number: Davol st		Project File Number: 608049	
Location: Near East Side of pier		Date & Time Started: 12/29/2022 8:40		Total Hours: 11.3	
Groundwater Depth (Feet): 10		Date & Time: 12/30/2022 10:00		Date & Time Completed: 12/30/2022 15:30	
Coordinates (Feet): N 2719569.333 E 749808.23		Driller's Name: W. William		Helper's Name: N. Richard	
Ground Elevation (Feet): 10		Inspector's Name (PRINT): H. Osman		Inspector's Signature: H. Osman	
Inspector's Company: HNTB					
Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 8	20 - 20.3	100 9 - - - -	0	20.0 - SS-8: No recovery, Wobbly advance of rolled bit through possible boulders and cobbles from depth 20 to 23 feet.	10
SS - 9	25 - 27	31 - 33 - 47 - 65	18	25.0 - SS-9: Wet, very dense, grey, FINE SAND, some fine to coarse gravel, trace of inorganic silt.	25
SS - 10	30 - 32	33 - 48 - 59 - 52	18	30.0 - SS-10: Wet, very dense, grey, FINE SAND, some fine to coarse gravel, trace of inorganic silt.	30
SS - 11	35 - 35.1	60 1 - - - -	0	35.0 - SS-11: No recovery, Wobbly advance of rolled bit through possible boulders and cobbles from depth 35 to 39 feet.	35
Remarks: Boring backfilled with drill cuttings				Arrow-Board: - Signs: - Cones: -	
Penetration Resistance (N) Guide				Type of Drill Rig: Mobile Drill Dietrich D-50	
Cohesionless Soils (Sands, Gravels)				Casing Type: Hammer Weight: 140 lb Fall: 30" Depth: 85	
Cohesive Soils (Sills, Clays)				Sampler Type: SS Automatic Hammer Weight: 140 lb Safety Hammer Weight: - Donut Hammer Weight: - Fall: 30"	
N = Sum of Second and Third 6" Blow Counts				Core Barrel Type: NX Size: 2.15" ID	
Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less					

		Allstate Drilling, Inc 227 Wampanoag Trail, Riverside, RI, 02915		No. BB-3 Scale: 1:20	
City/Town: Fall River, MA		Bridge Number: Davol st		Project File Number: 608049	
Location: Near East Side of pier		Date & Time Started: 12/29/2022 8:40		Total Hours: 11.3	
Groundwater Depth (Feet): 10		Date & Time: 12/30/2022 10:00		Date & Time Completed: 12/30/2022 15:30	
Coordinates (Feet): N 2719569.333 E 749808.23		Driller's Name: W. William		Helper's Name: N. Richard	
Ground Elevation (Feet): 10		Inspector's Name (PRINT): H. Osman		Inspector's Signature: H. Osman	
Inspector's Company: HNTB					
Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches Coring Times Minutes per Foot	Recovery (inches)	Field Description	Strata Changes
SS - 12	40 - 42	17 - 14 - 11 - 25	4	40.0 - SS-12: Wet, medium dense, grey, FINE TO COARSE GRAVEL, some fine to coarse sand, trace of inorganic silt.	40
SS - 13	45 - 45.6	96 - 30 1 - -	6	45.0 - SS-13: Wet, very dense, grey, FINE SAND, some medium gravel, trace of inorganic silt. 45.6 - Boring terminated at depth 45.6 feet below ground surface.	45
Remarks: Boring backfilled with drill cuttings				Arrow-Board: - Signs: - Cones: -	
Penetration Resistance (N) Guide				Type of Drill Rig: Mobile Drill Dietrich D-50	
Cohesionless Soils (Sands, Gravels)				Casing Type: Hammer Weight: 140 lb Fall: 30" Depth: 85	
Cohesive Soils (Sills, Clays)				Sampler Type: SS Automatic Hammer Weight: 140 lb Safety Hammer Weight: - Donut Hammer Weight: - Fall: 30"	
N = Sum of Second and Third 6" Blow Counts				Core Barrel Type: NX Size: 2.15" ID	
Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less					

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1018	1094
PROJECT FILE NO.		608049	

BORINGS 5

NOTES:

1. FOR BORING NOTES SEE SHEET 3.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

STA. 301+11.26
OFFSET 32.57' RT.

BOT. OF FOOTING
NORTH ABUTMENT
EL. 7.00

EL. 0.30
1/3/2023

		Allstate Drilling, Inc. 227 Wampanoag Trail, Riverside, RI, 02915		No. BQ-18 Scale: 1:20	
City/Town: Fall River, MA		Bridge Number: Davel st		Project File Number: 608049	
Location: Near North Side of abutment.		Date & Time Started: 1/3/2023 8:30		Page 3 of 3	
Groundwater Depth (Feet): 9		Date & Time: 1/3/2023 9:45		Total Hours: 6	
Coordinates (Feet): N 2719622.83 E 749829.1		Driller's Name: W. William		Helper's Name: Corey	
Ground Elevation (Feet): 9.3		Inspector's Name (PRINT): N. Hourani		Inspector's Signature: <i>N. Hourani</i>	
				Inspector's Company: HNTB	
Sample Number	Depth Range (Feet)	Blow Counts per 6 Inches Coring Times Minutes per Foot	Recovery (Inches)	Field Description	Strata Changes
SS - 12	40 - 42	38 - 48 - 50 - 50S"	15	40.0 - SS-12: Wet, very dense, gray to red, FINE SAND AND INORGANIC SILT, some gravel, some clay.	-31
SS - 13	45 - 46	28 - 57 - -	11	45.0 - SS-13: Wet, very dense, gray to red, FINE SAND AND INORGANIC SILT, some gravel, some clay.	-35 -36
				46.0 - Boring terminated at depth 46 feet below ground surface.	-39 -41 -55 -56
Remarks: Boring backfilled with drill cuttings. Boring 9 ft from corner of N Abutment, Gas Station on other side of road. At 68 deep drove 4" casing					
Penetration Resistance (N) Guide				Arrow-Board: - Signs: - Cones: -	
Cohesionless Soils (Sands, Gravels)		Cohesive Soils (Sills, Clays)		Protective Device - Stand: - Box: -	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance	Type of Drill Rig: Mobile Drill Dietrich D-50 Casing Type: Hammer Weight: 140 lb Fall: 30" Depth: 85 Sample Type: SS Automatic Hammer Weight: 140 lb Safety Hammer Weight: - Donut Hammer Weight: - Fall: 30"	
Very Loose	0 - 4	Very Soft	0 - 2	Size 4" Size 1-3/8" ID Core Barrel Type: NX Size: 2.10" ID	
Loose	4 - 10	Soft	2 - 4		
Medium Dense	10 - 30	Medium Stiff	4 - 8		
Dense	30 - 50	Stiff	8 - 15		
Very Dense	Over 50	Very Stiff	15 - 30		
N = Sum of Second and Third 6" Blow Counts					
Terms Used for Second Entry of Description: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less					

1. FOR BORING NOTES SEE SHEET 3.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1019	1094
PROJECT FILE NO.		608049	

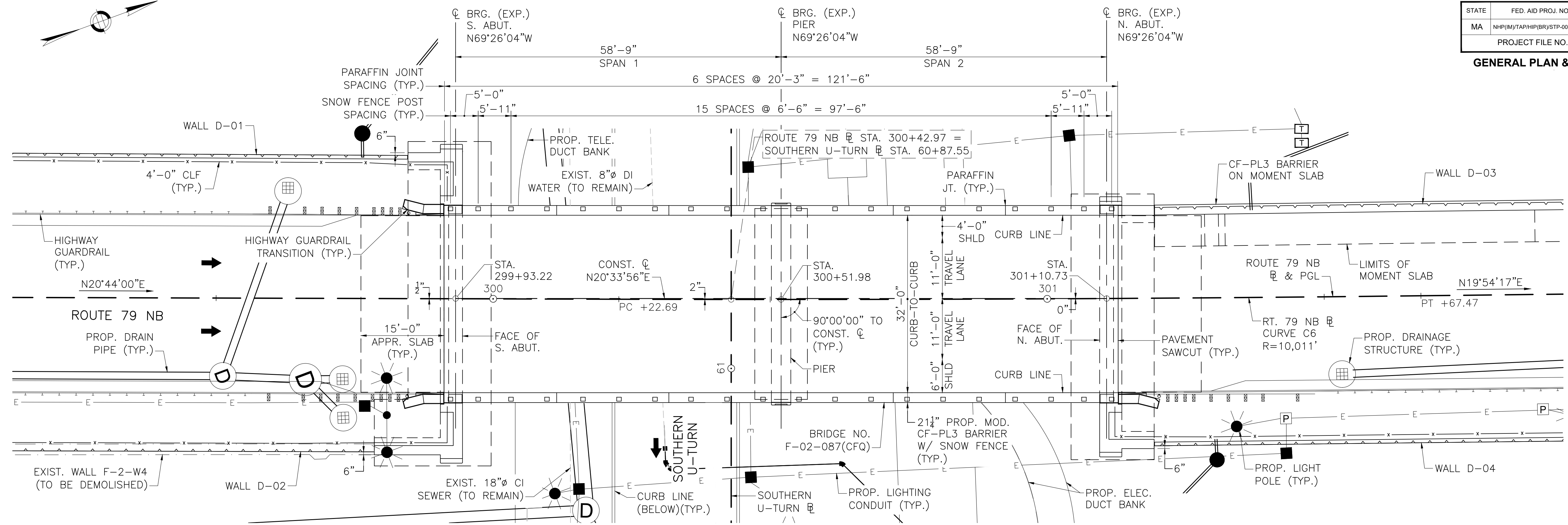
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	
USE ONLY PRINTS	STATE BRIDGE ENGINEER OF LATEST DATE

		Allstate Drilling, Inc 227 Wampanog Trail, Riverside, RI, 02915			No. BB-04 Scale: 1:20		
City/Town: Fall River, MA		Bridge Number: David st		Project File Number: 608049		Page 2 of 3	
Location: Near North Side of abutment							
Groundwater Depth (Feet): 9		Date & Time: 1/3/2023 9:45		Date & Time Completed: 1/3/2023 2:30		Total Hours: 6	
Coordinates (Feet): N 2719622.83 E 749829.1			Driller's Name: W. William		Helper's Name: Corey		
Ground Elevation (Feet): 9.3		Inspector's Name (PRINT): N. Hourani		Inspector's Signature: <i>N. Hourani</i>		Inspector's Company: HNTB	
Sample Number	Depth Range (Feet)	Blow Counts per 6 inches Coring Times Minutes per Foot	Recovery (inches)	Field Description		Strata Changes	
SS - 8	20 - 22	20 - 12 - 14 - 12	9	20.0 - SS-8: Wet, medium dense, grey, FINE TO COARSE SAND, some fine gravel.		-11	
SS - 9	25 - 26	20 - 52 - -	3	25.0 - SS-9: Wet, very dense, grey, COARSE GRAVEL, trace of fine sand, trace of silt.		-15 -16	
SS - 10	30 - 32	20 - 43 - 35 - 36	7	30.0 - SS-10: Wet, very dense, grey, INORGANIC SILT, some fine to coarse gravel.		-30 -31	
SS - 11	35 - 37	18 - 50/4" - -	6	35.0 - SS-11: Wet, very dense, grey, FINE TO COARSE SAND, some fine to medium gravel.		-35 -36	
Remarks: Boring backfilled with drill cuttings. Boring 9 ft from corner of N Abutment, Gas Station on other side of road. At 6ft deep drove 4" casing				Arrow-Board: - Signs: - Cones: -	Protective Device: - Well Depth: - Stick Up Pipe: -	Stand: - Solid Pipe: - Screen Pipe: -	Box: -
Penetration Resistance (N) Guide						Type of Drill Rig: Mobile Drill Ditch-D-50	
Cohesionless Soils (Sands, Gravels)			Cohesive Soils (Sils, Clays)			Casing Type: Hammer Weight: 140 lb Fall: 30" Depth: 65	
Relative Density	Penetration Resistance	Consistency	Penetration Resistance			Size: 4"	
Very Loose	0 - 4	Very Soft	0 - 2			Sampler Type: SS Automatic Hammer Weight: 140 lb Safety Hammer Weight: - Donut Hammer Weight: - Fall: 30"	
Loose	4 - 10	Soft	2 - 4				
Medium Dense	10 - 30	Medium Stiff	4 - 8				
Dense	30 - 50	Stiff	8 - 15				
Very Dense	Over 50	Very Stiff	15 - 30 Over 30				
N = Sum of Second and Third 6" Blow Counts						Size: 1-3/8" ID	
Terms Used for Second Entry of Descriptions: and = 35-50%, some = 12-35%, little = 5-12%, trace = 5% or less						Core Barrel Type: NX Size: 2.15" ID	

FALL RIVER ROUTE 79

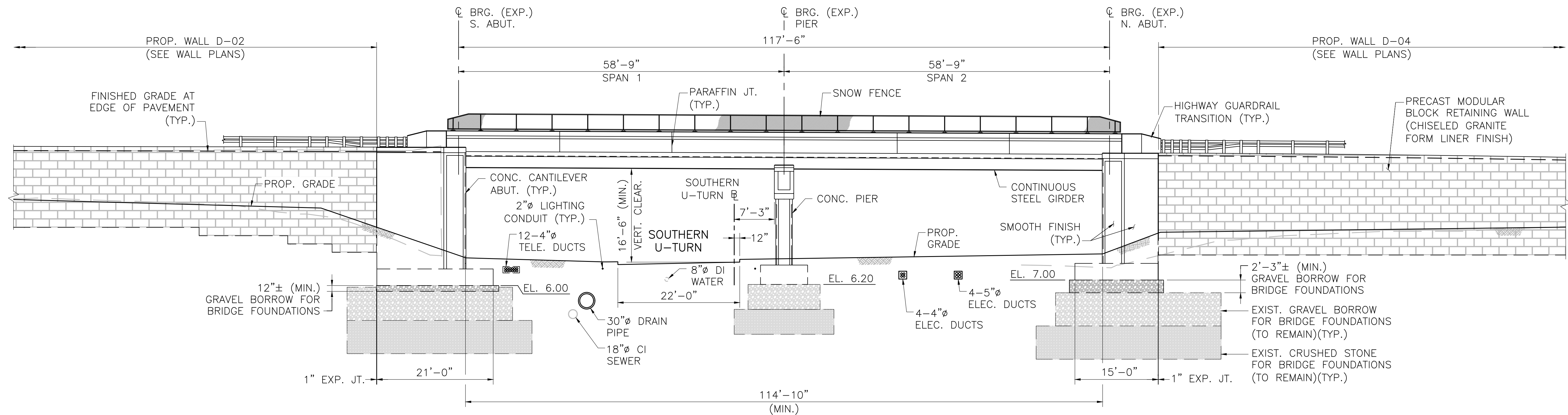
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(B)/STP-003S(191)	1020	1094
PROJECT FILE NO.		608049	

GENERAL PLAN & ELEVATION



PROPOSED PLAN

SCALE: 1" = 10'-0"



NOTE:

CHAIN LINK FENCE OMITTED FROM ELEVATION FOR CLARITY.

PROPOSED EAST ELEVATION

SCALE: 1" = 10'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

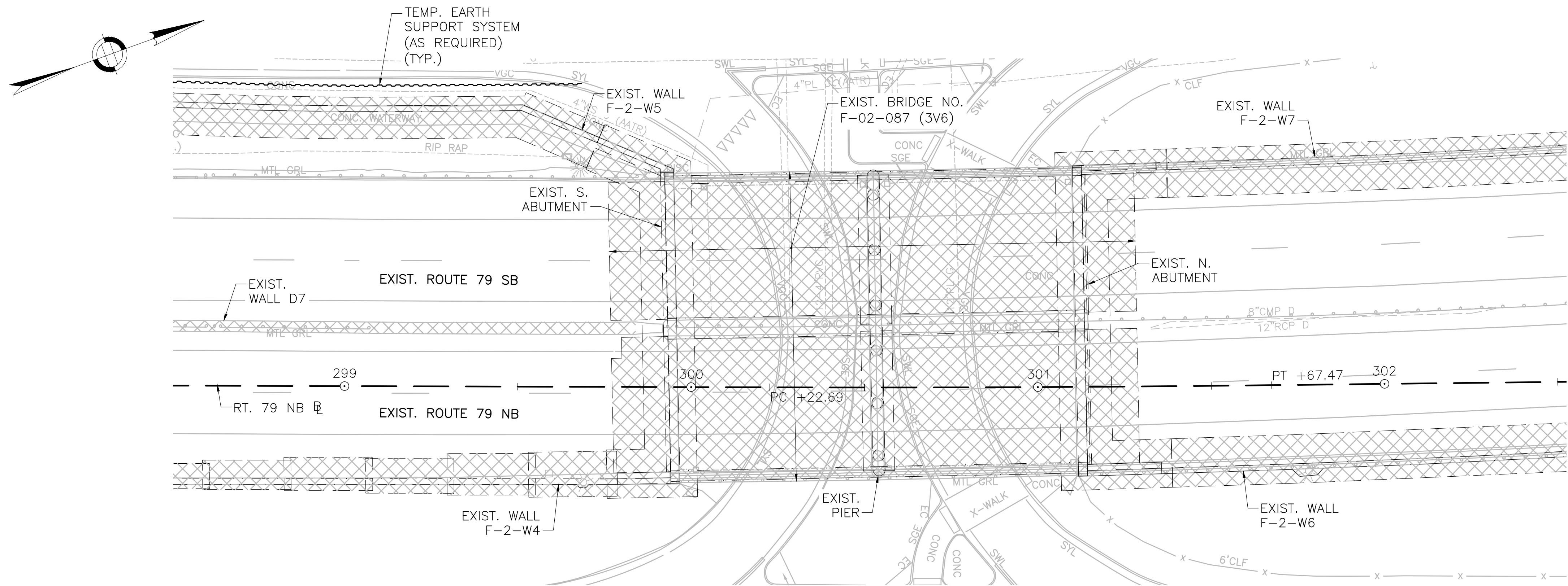
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1021	1094
PROJECT FILE NO.		608049	

STAGED CONSTRUCTION PLANS

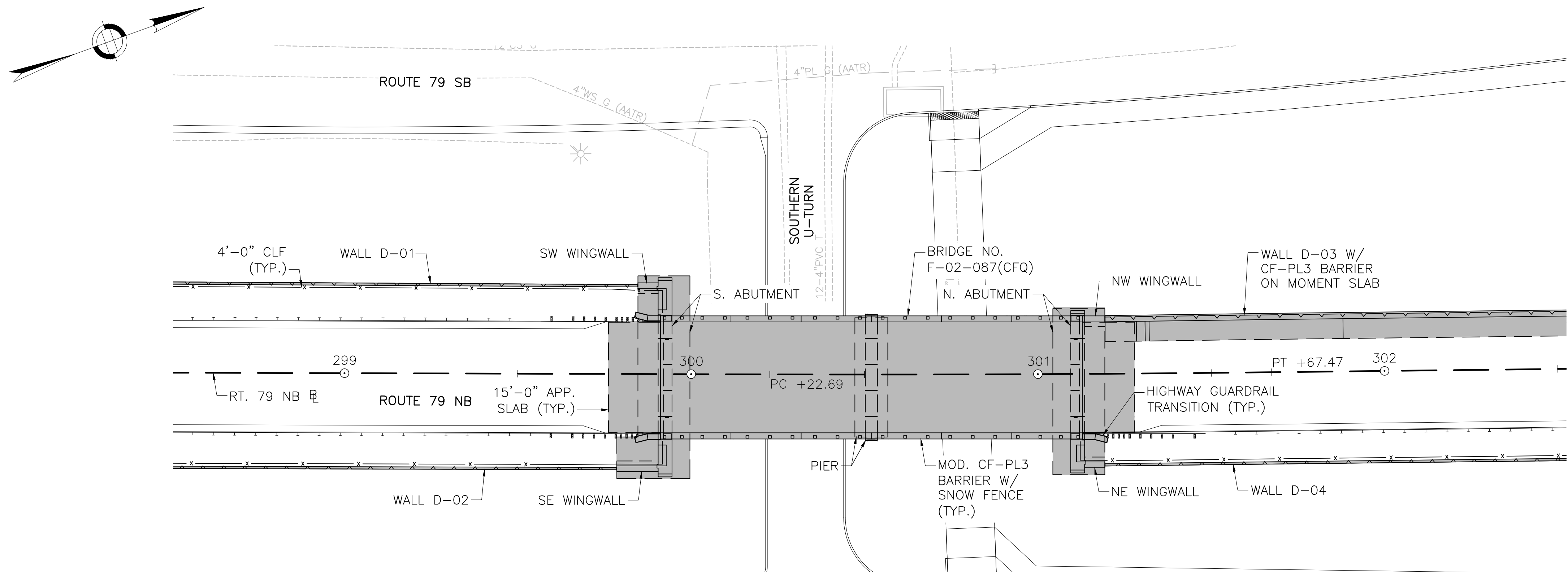
NOTES:

- U-TURN MOVEMENTS SHALL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE VOLUME 2 TEMPORARY TRAFFIC CONTROL PLANS.
- FOR STAGED CONSTRUCTION SECTIONS, SEE SHEET 11.



STAGE 1 DEMOLITION

SCALE: 1" = 20'



STAGE 1 CONSTRUCTION

SCALE: 1" = 20'

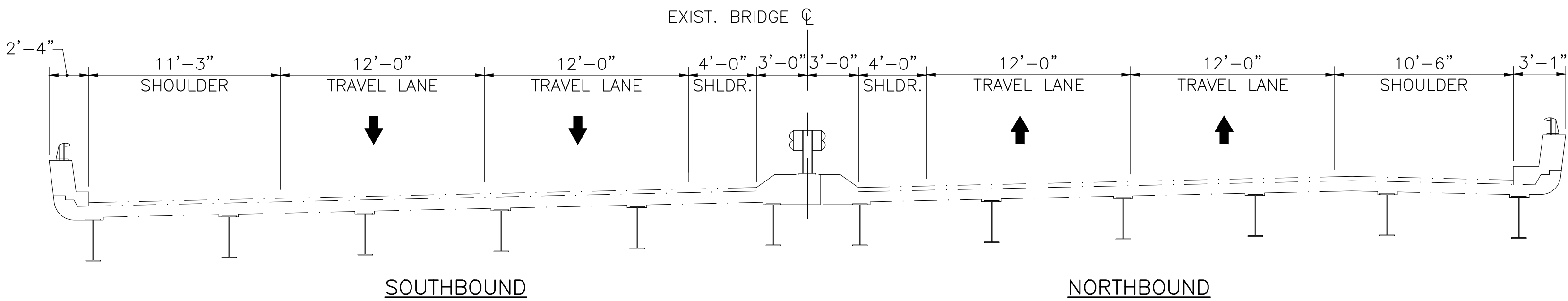
LEGEND:

- DENOTES EXISTING STRUCTURE TO BE DEMOLISHED
- DENOTES NEW STRUCTURE TO BE CONSTRUCTED

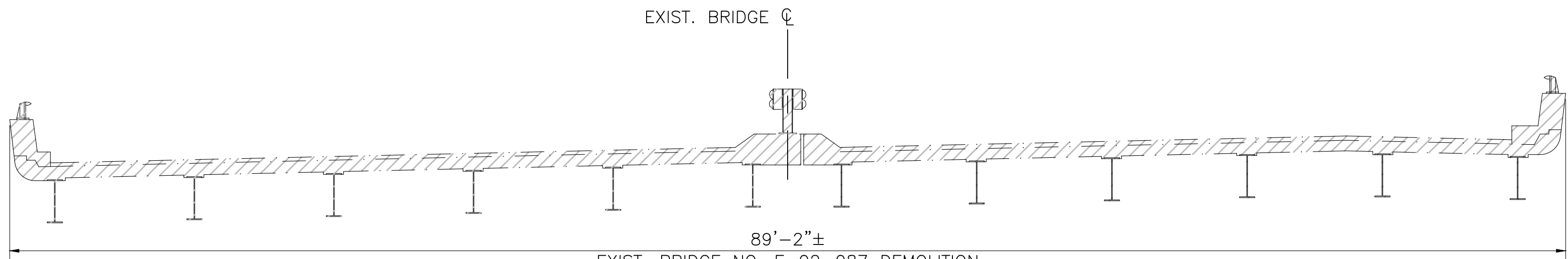
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1022	1094
PROJECT FILE NO.		608049	

STAGED CONSTRUCTION SECTIONS

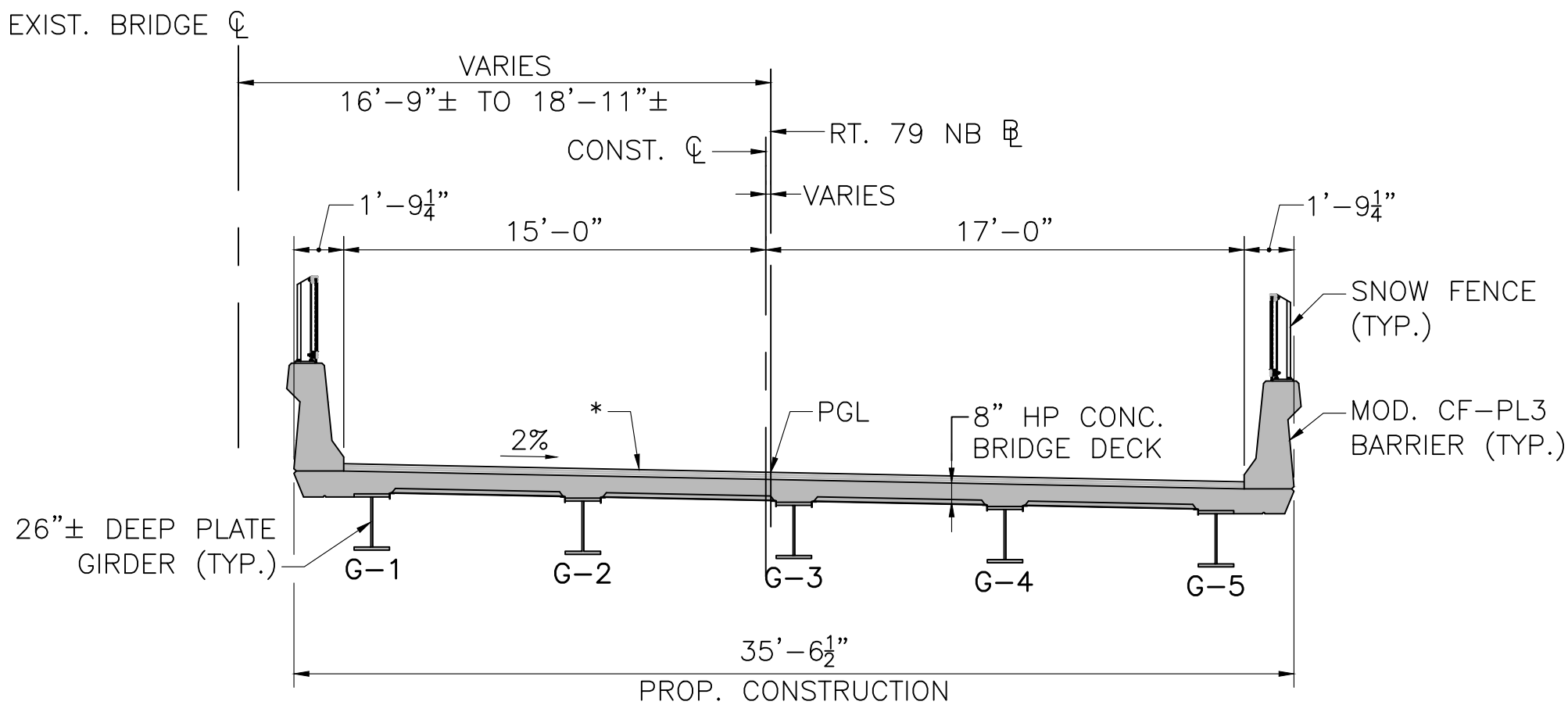


EXISTING CROSS SECTION

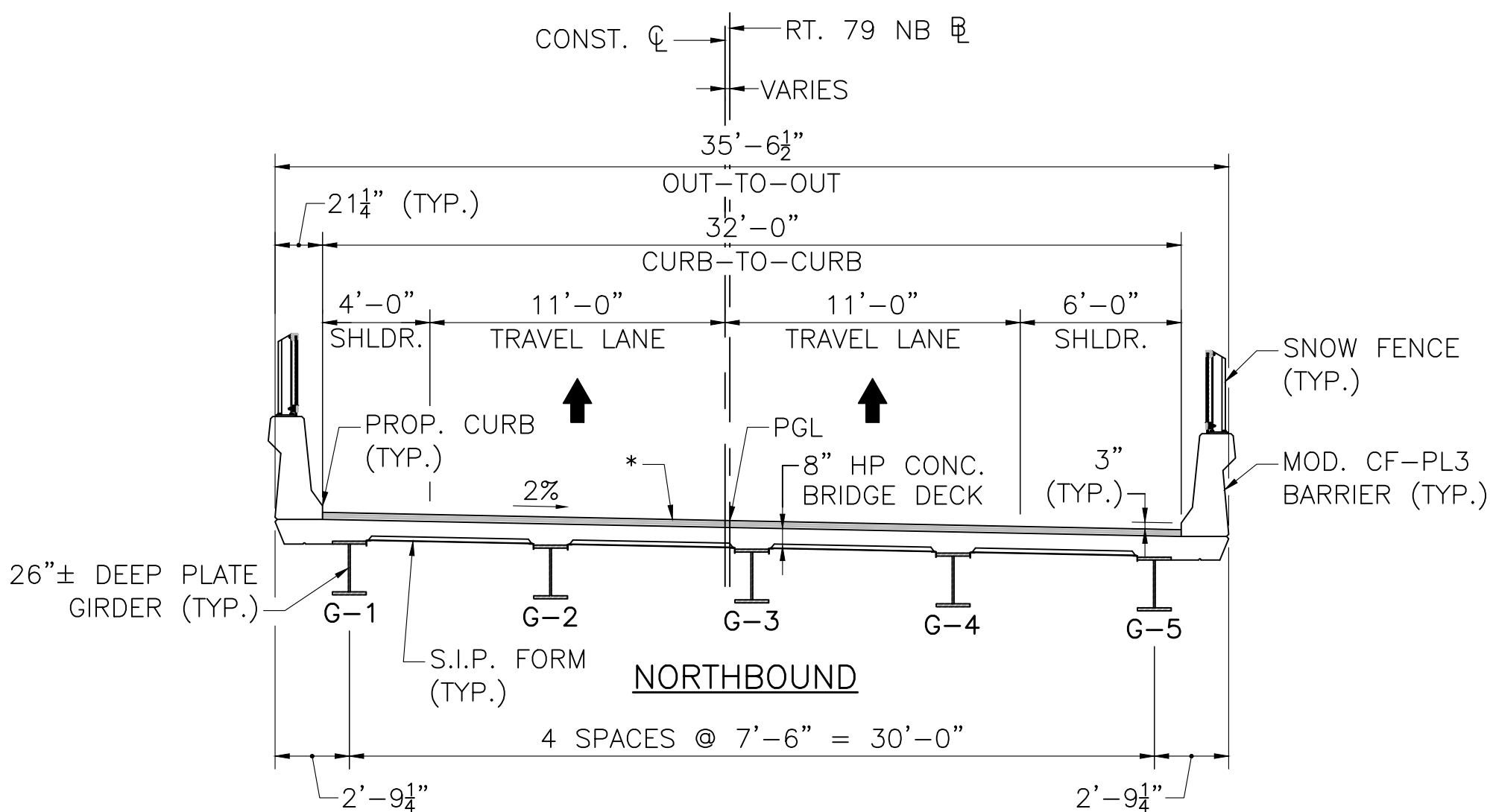


STAGE 1 DEMOLITION

* 1 1/2" SUPERPAVE BRIDGE SURFACE COURSE - 12.5 POLYMER (SSC-B-12.5-P) OVER
1 1/2" SUPERPAVE BRIDGE PROTECTIVE COURSE - 12.5 POLYMER (SPC-B-12.5-P) OVER
SPRAY APPLIED MEMBRANE WATERPROOFING



STAGE 1 CONSTRUCTION



PROPOSED CROSS SECTION

STAGED CONSTRUCTION SECTIONS

SCALE: 3/16" = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

FALL RIVER
ROUTE 79

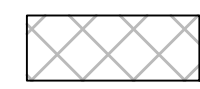
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BRJ)/STP-003S(191)	1023	1094
PROJECT FILE NO.		608049	

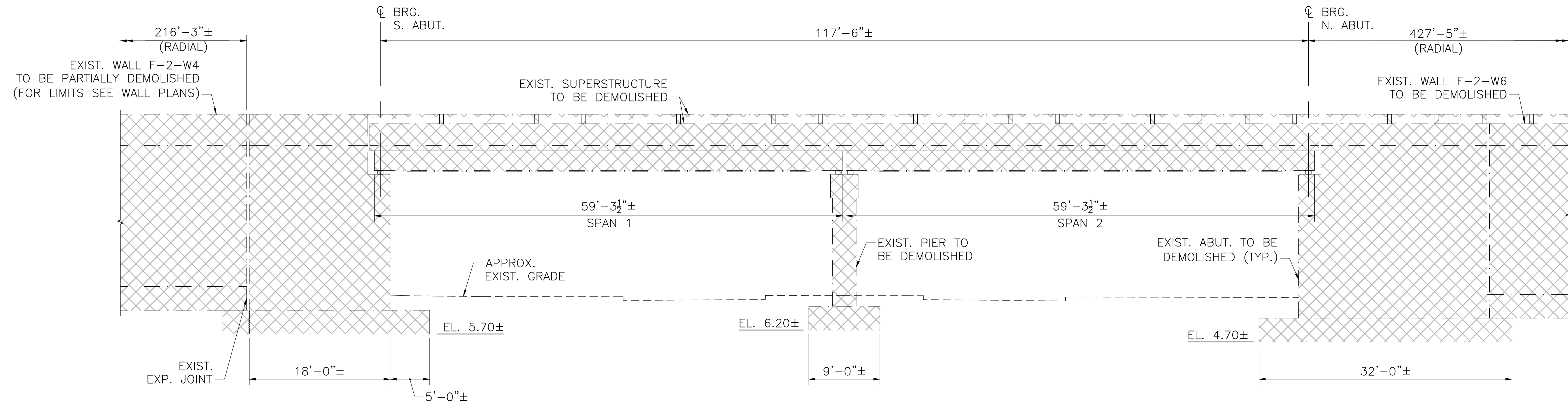
DEMOLITION ELEVATIONS

NOTES:

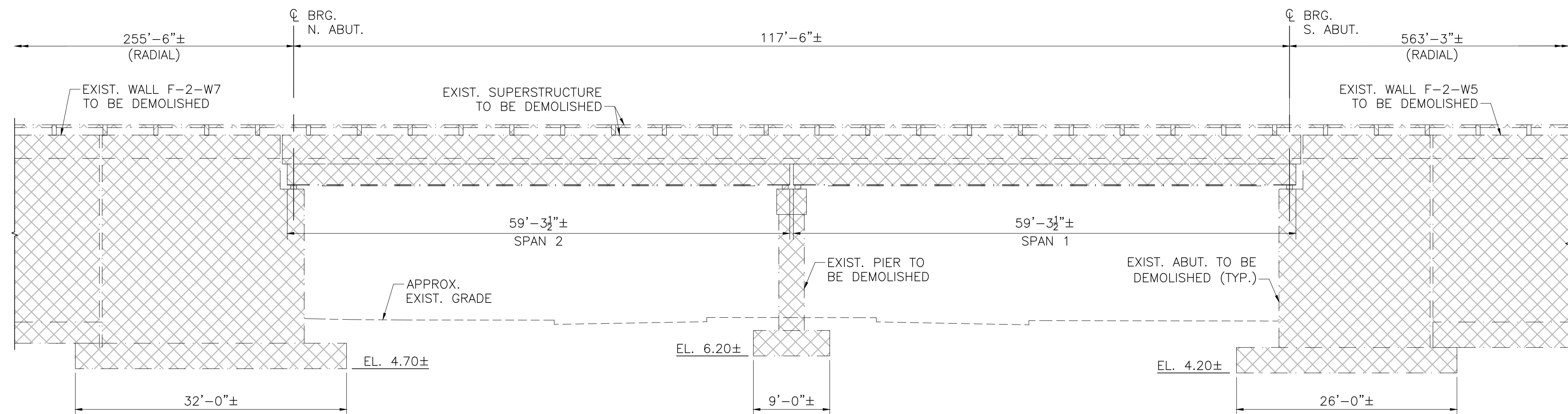
- EXISTING DIMENSIONS SHOWN ARE FROM RECORD PLANS AND ARE NOT GUARANTEED.
- DEMOLITION OF EXISTING SUBSTRUCTURES SHALL BE PERFORMED TO BOTTOM OF FOOTING UNLESS OTHERWISE NOTED.

LEGEND:

 DENOTES EXISTING STRUCTURE TO BE DEMOLISHED

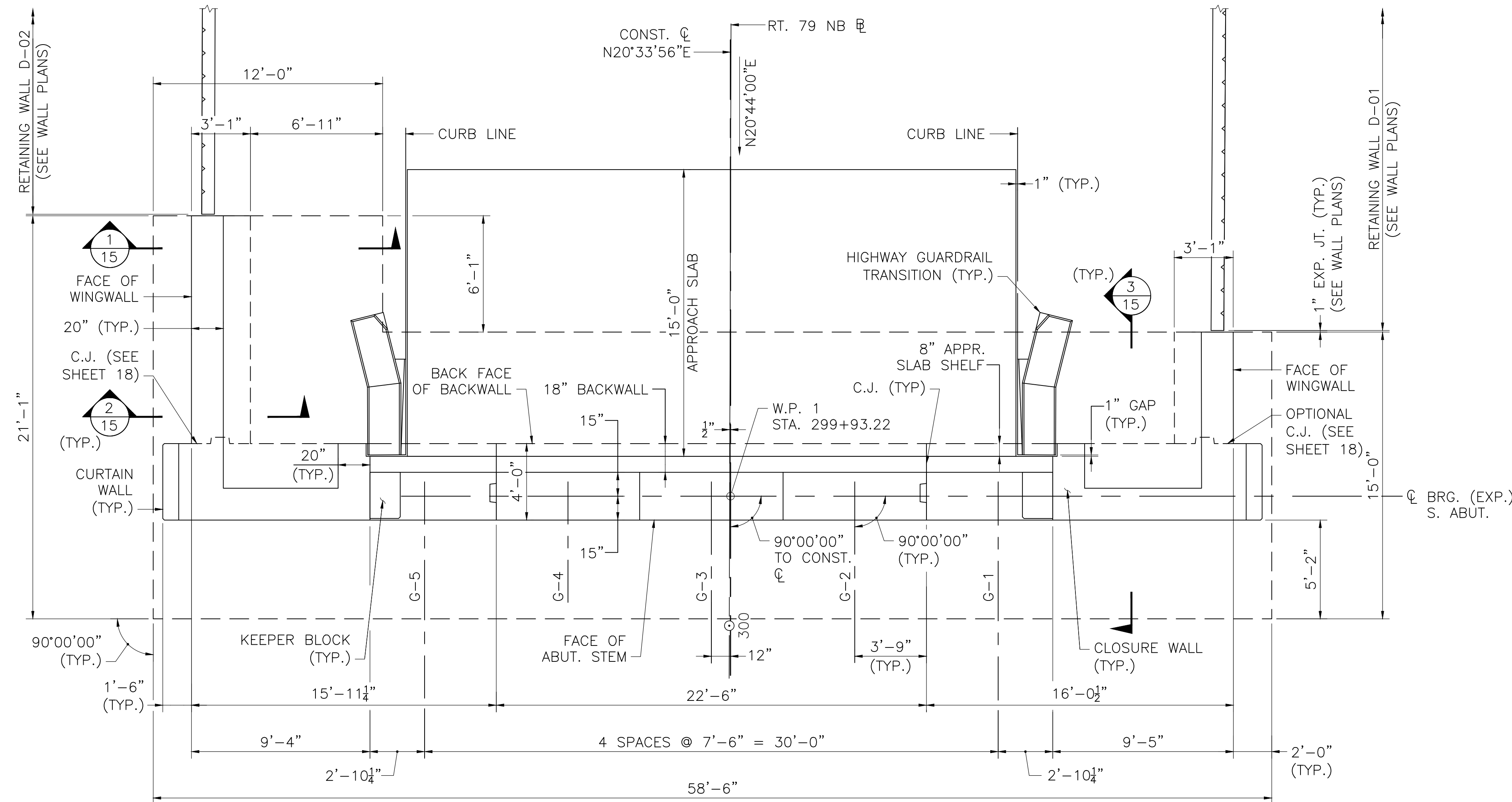
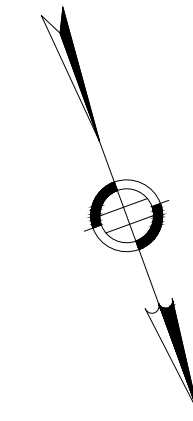


STAGE 1 DEMOLITION
EAST ELEVATION
SCALE: $\frac{1}{8}$ " = 1'-0"

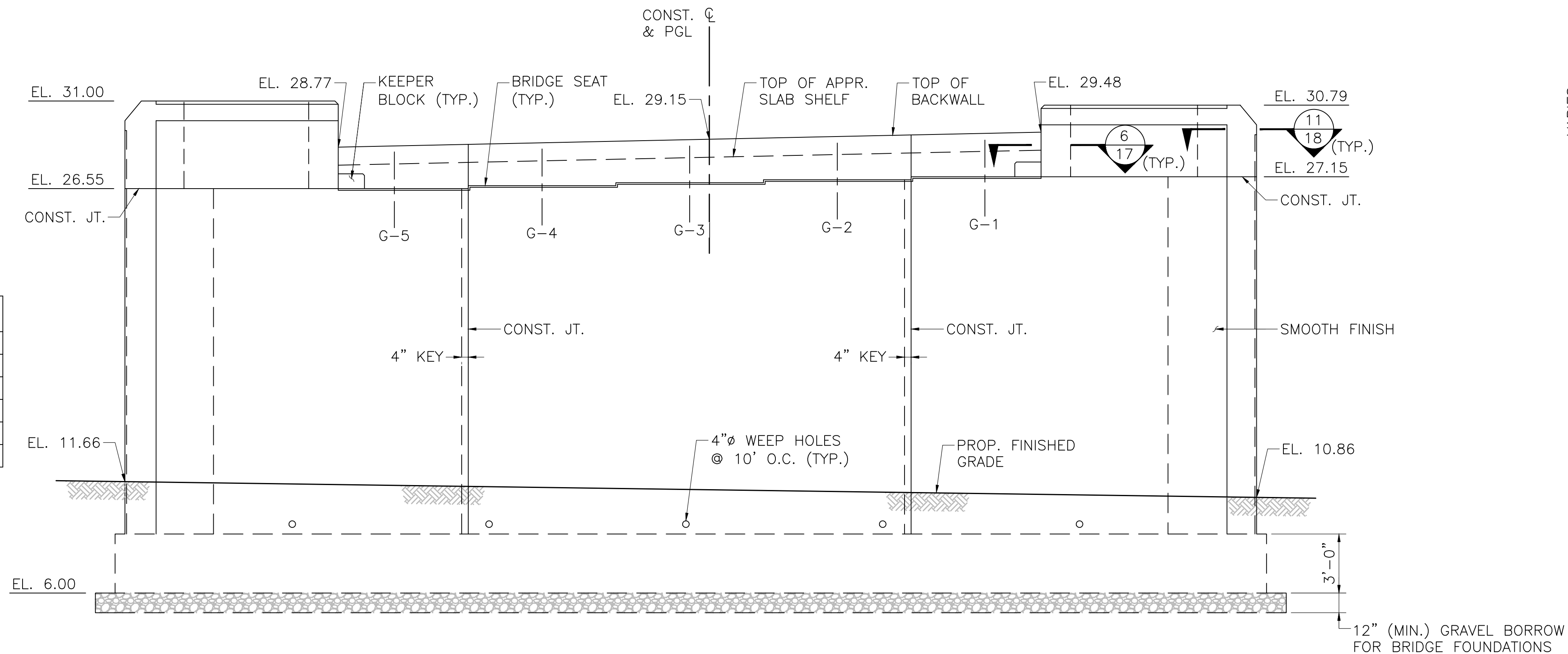


STAGE 1 DEMOLITION
WEST ELEVATION
SCALE: $\frac{1}{8}$ " = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	



SOUTH ABUTMENT PLAN
SCALE: $\frac{1}{4}$ " = 1'-0"



SOUTH ABUTMENT ELEVATION
SCALE: $\frac{1}{4}$ " = 1'-0"

NOTE:
ALL ELEVATIONS ARE PROVIDED AT THE
FRONT FACE OF BACKWALL.

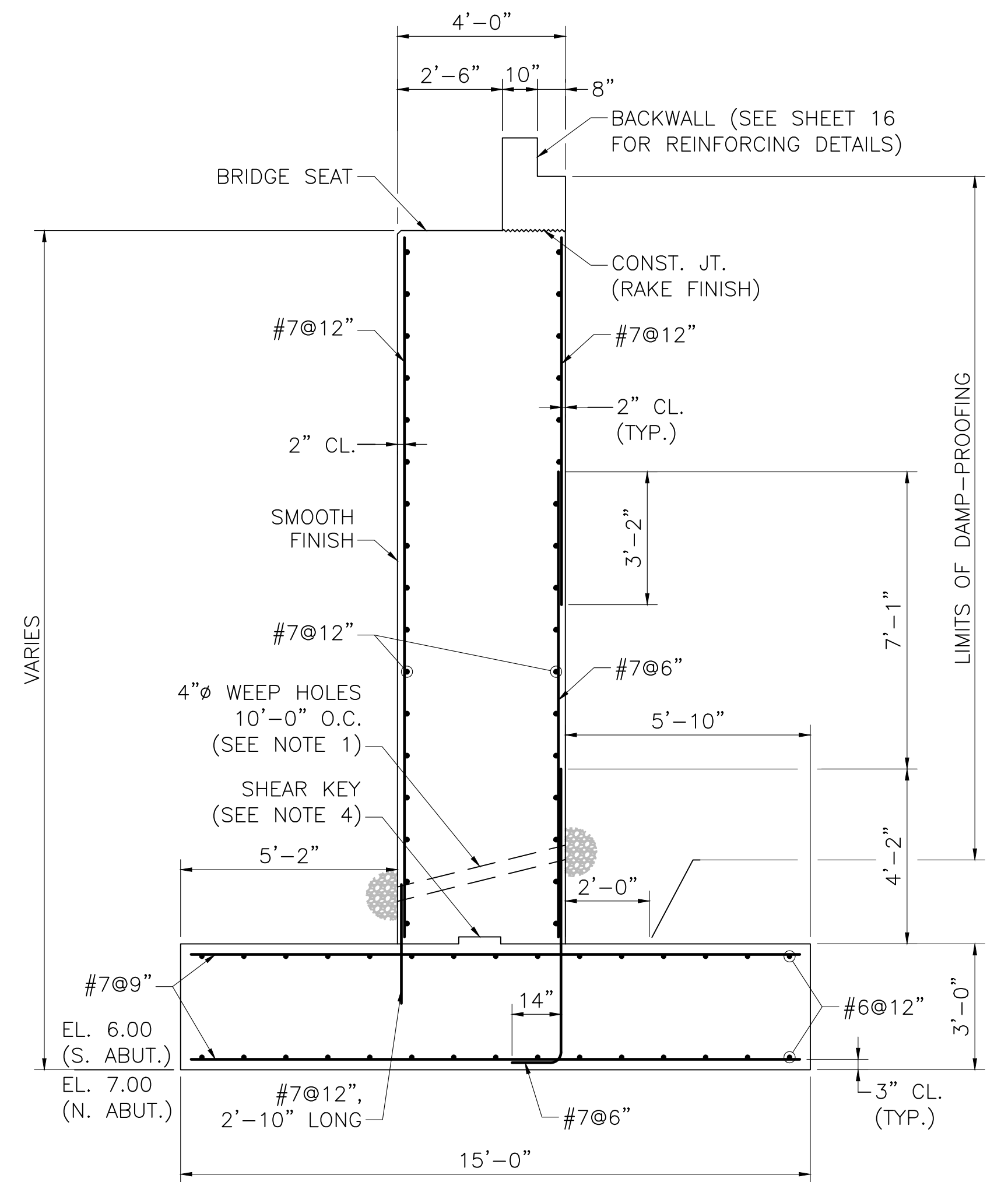
**FALL RIVER
ROUTE 79**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1024	1094
PROJECT FILE NO.		608049	

**SOUTH ABUTMENT
PLAN & ELEVATION**

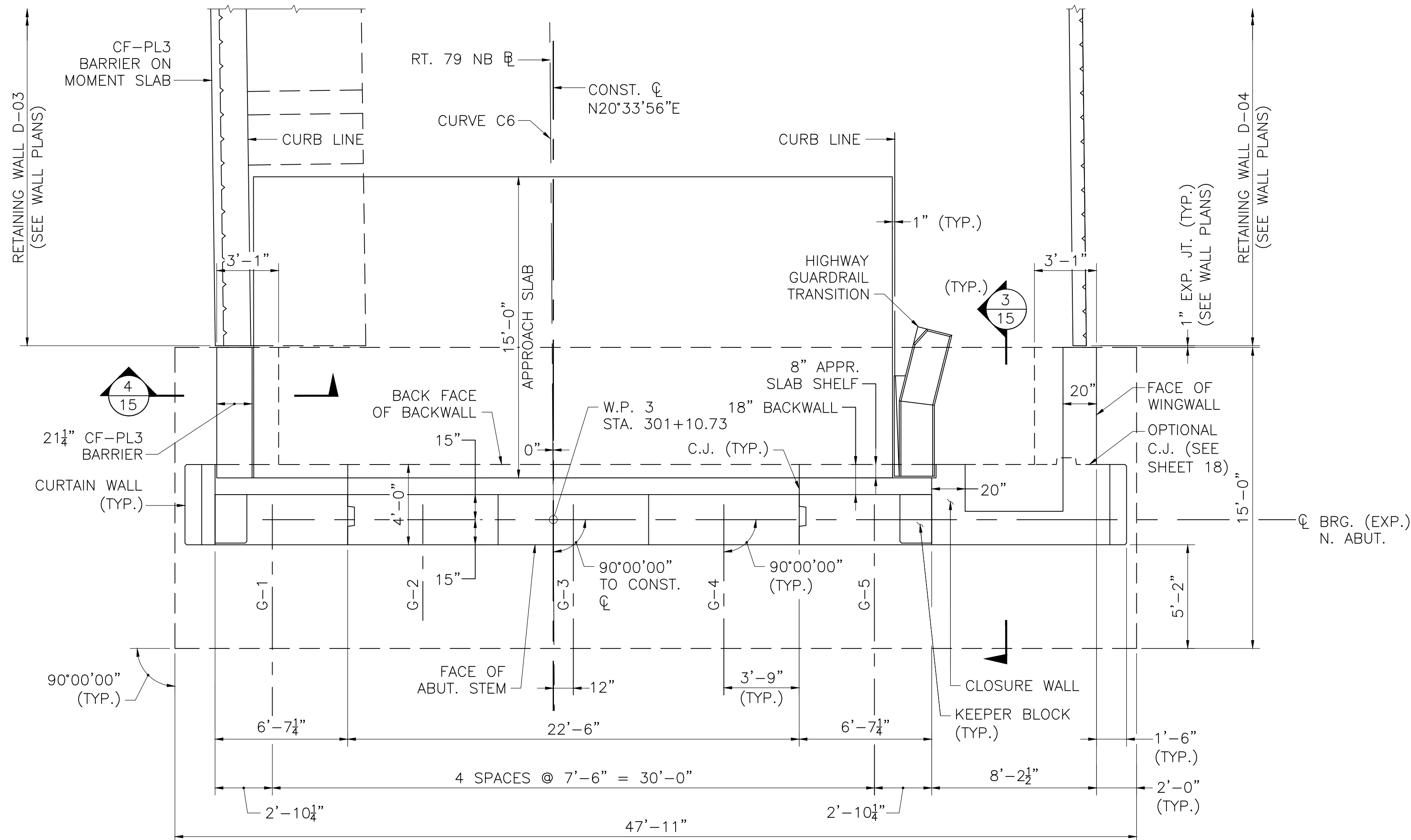
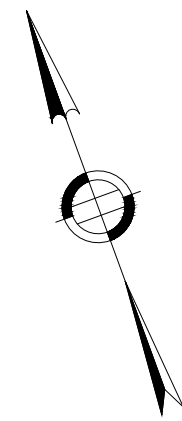
NOTES:

- PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
- ALL CONCRETE SHALL BE 4000 PSI, $\frac{3}{4}$ IN, 610 CEMENT CONCRETE.
- THE FACTORED BEARING PRESSURE = 3.96 KSF FOR THE SOUTH ABUTMENT AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION. THE FACTORED BEARING RESISTANCE = 6.3 KSF FOR THE SOUTH ABUTMENT. THE FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
- CONSTRUCTION JOINT WITH 12"x12"x2" SHEAR KEYS AT 3'-0" O.C.
- FOR FOUNDATION PREPARATION NOTES, SEE SHEET 14.

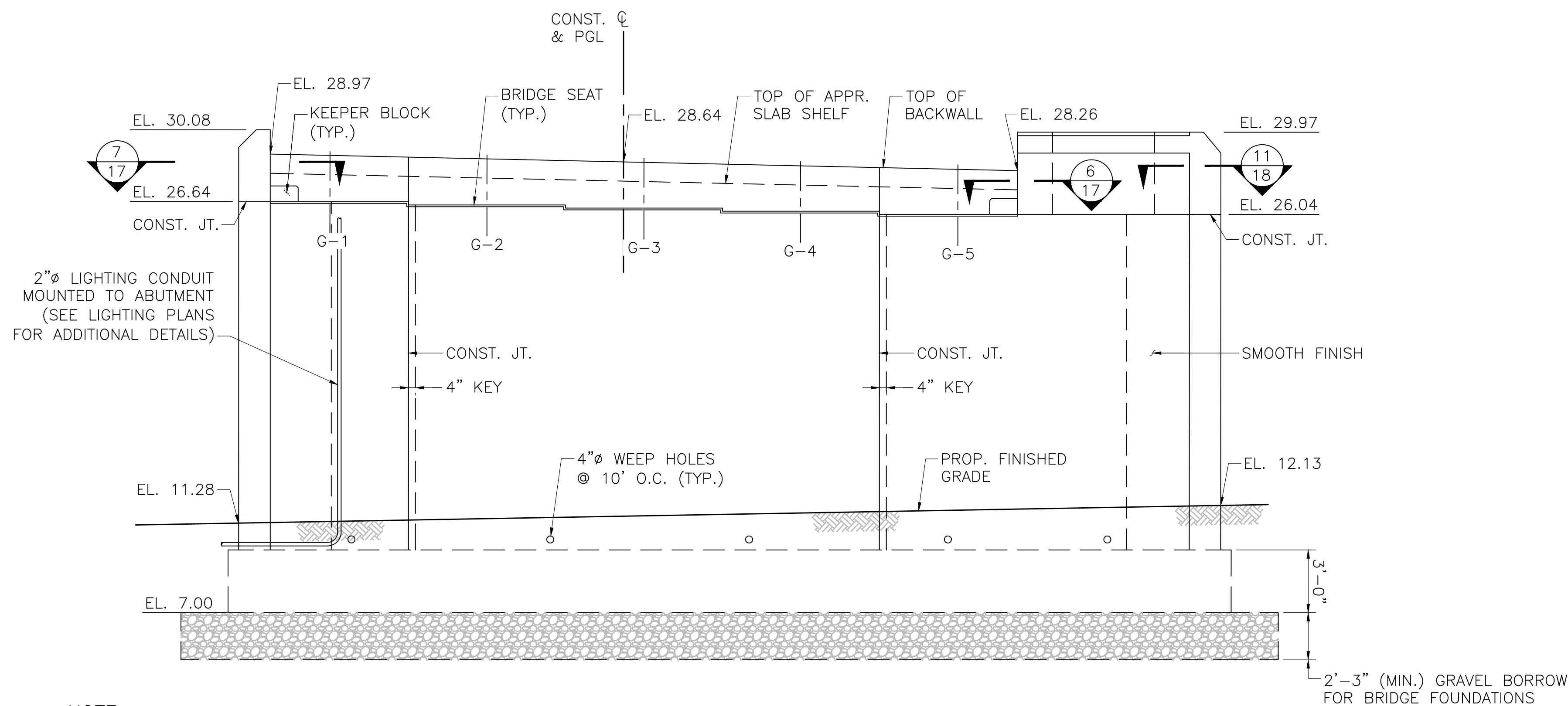


TYPICAL ABUTMENT SECTION
SCALE: $\frac{3}{8}$ " = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	



NORTH ABUTMENT PLAN
SCALE: $\frac{1}{4}" = 1'-0"$



NOTE:
ALL ELEVATIONS ARE PROVIDED AT THE FRONT FACE OF BACKWALL.

NORTH ABUTMENT ELEVATION
SCALE: $\frac{1}{4}" = 1'-0"$

**FALL RIVER
ROUTE 79**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1025	1094
PROJECT FILE NO.		608049	

**NORTH ABUTMENT
PLAN & ELEVATION**

NOTES:

1. THE FACTORED BEARING PRESSURE = 3.84 KSF FOR THE NORTH ABUTMENT AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION. THE FACTORED BEARING RESISTANCE = 6.7 KSF FOR THE NORTH ABUTMENT. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.
2. FOR TYPICAL ABUTMENT SECTION, SEE SHEET 13.

**NOTES FOR ABUTMENT & PIER FOUNDATION
PREPARATION:**

1. FOOTING SUBGRADES SHALL BE PREPARED IN ACCORDANCE WITH SECTION 150.61 OF THE MASSDOT STANDARD SPECIFICATIONS.
2. FOOTINGS SHALL BE PLACED AT ELEVATIONS SHOWN. FOOTINGS SHALL BE PLACED ON COMPACTED GRAVEL BORROW FOR BRIDGE FOUNDATIONS (M1.03 TYPE A) TO CREATE A COMPETENT BEARING SURFACE BEFORE PLACEMENT OF THE NEW FOOTING. REFER TO THE ABUTMENT ELEVATIONS FOR MINIMUM GRAVEL BORROW THICKNESS.
3. THE FOOTING BEARING SURFACE SHALL BE FREE OF STANDING WATER, FROST, AND UNSUITABLE (SUCH AS ORGANIC) SOIL.

NORTH ABUTMENT BRIDGE SEAT ELEVATIONS	
GIRDER NO.	ELEVATION
G-1	26.64
G-2	26.49
G-3	26.34
G-4	26.19
G-5	26.04

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

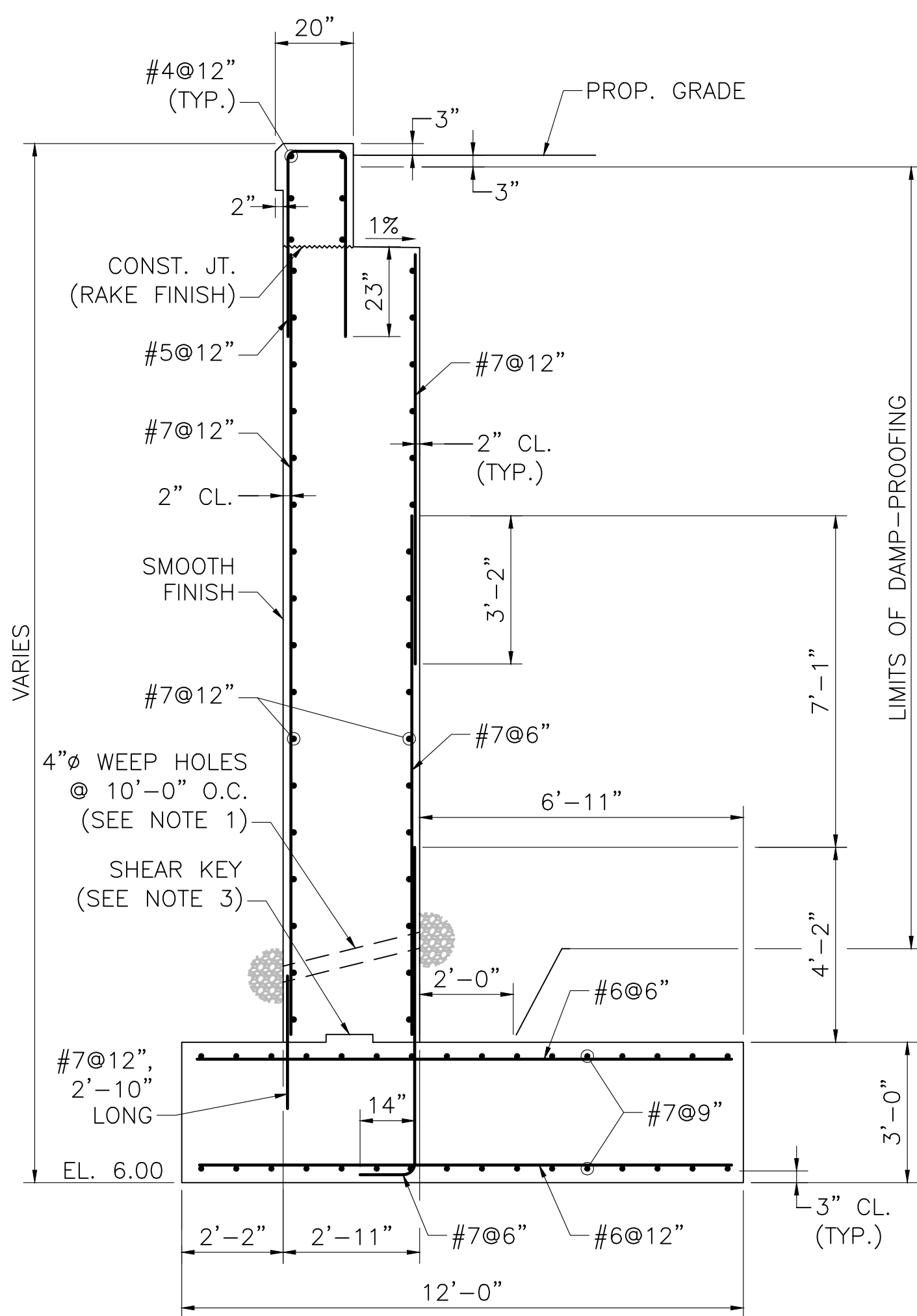
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1026	1094
PROJECT FILE NO.		608049	

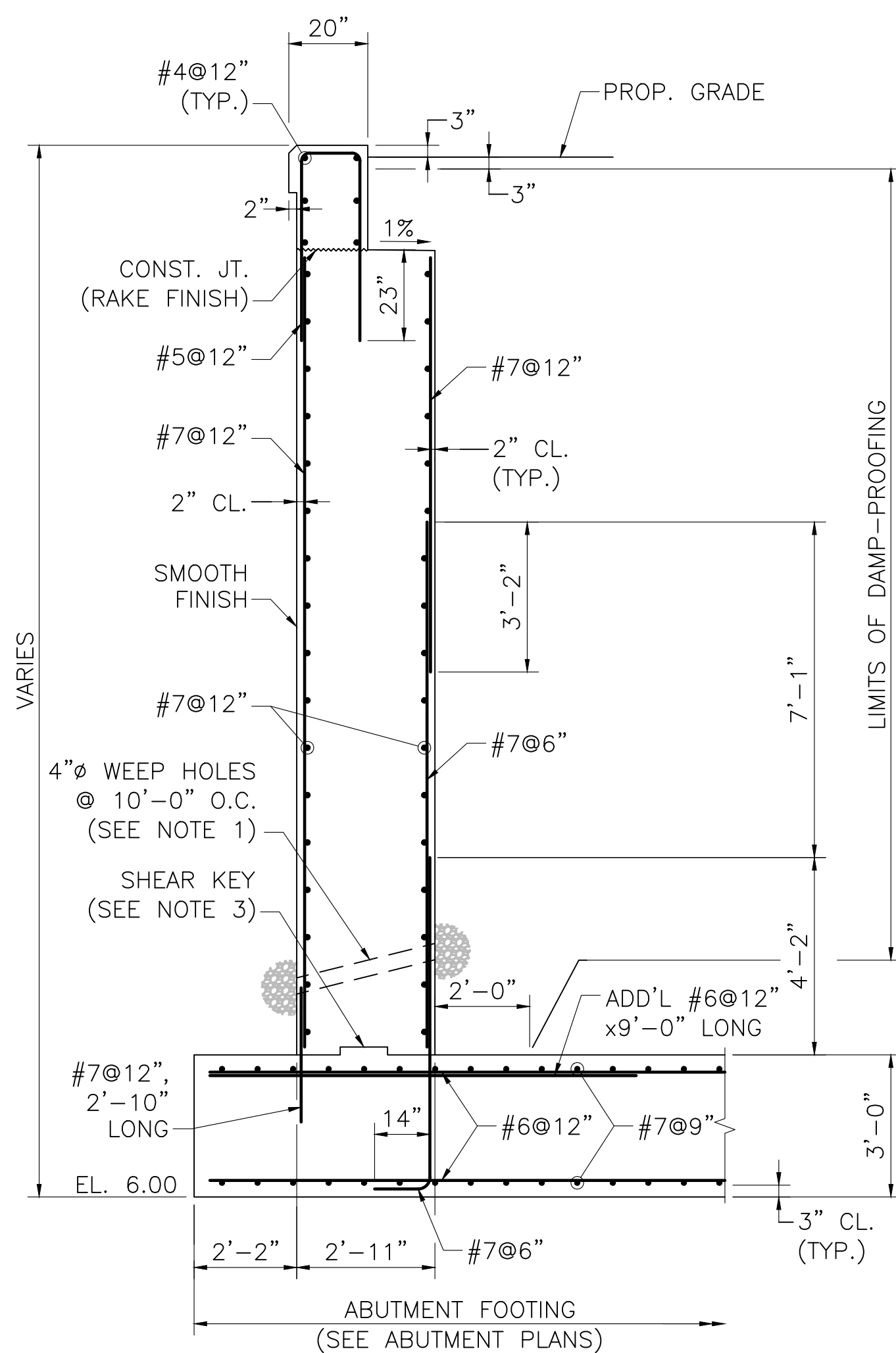
ABUTMENT & WINGWALL
SECTIONS

NOTES:

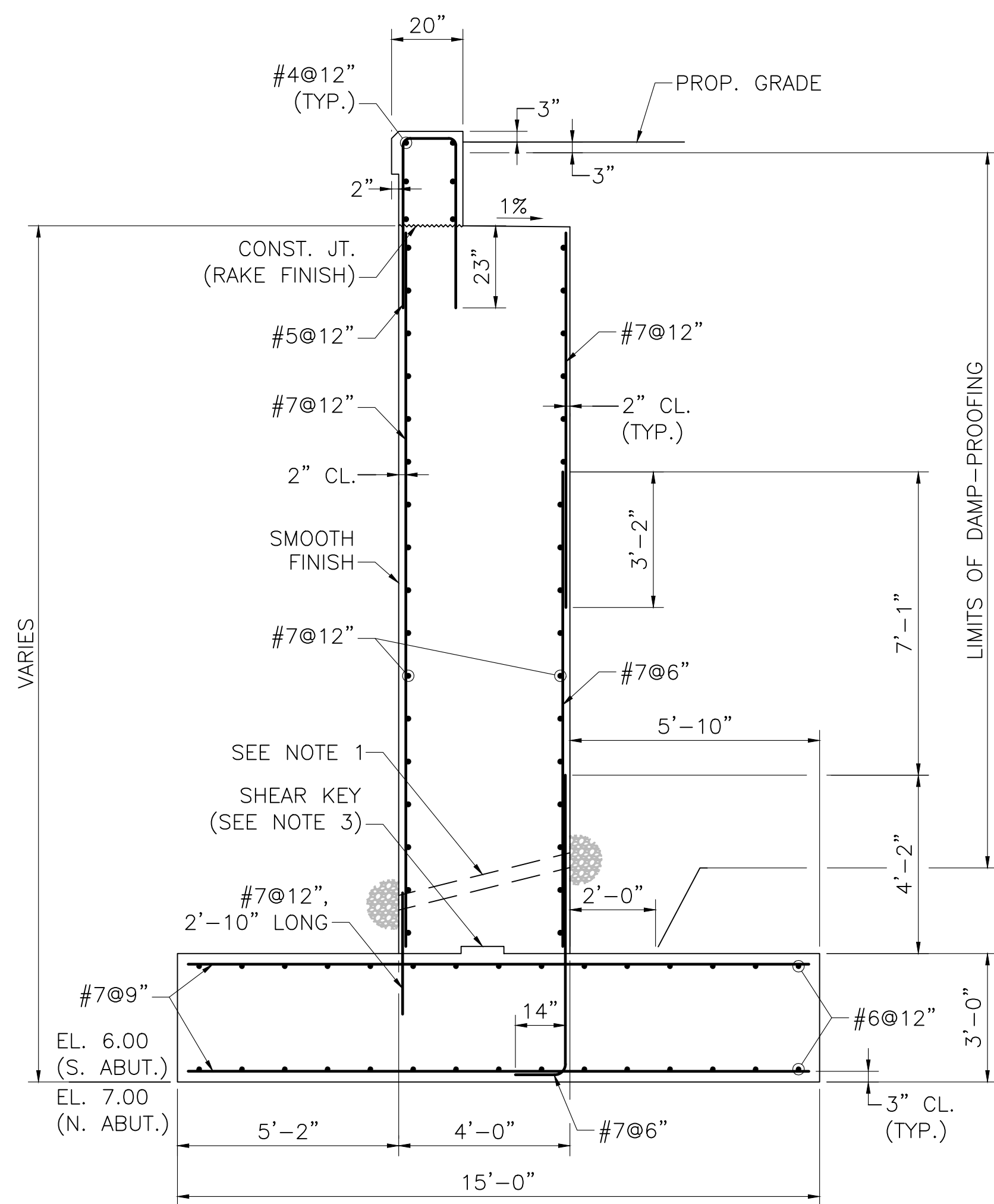
- PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
- ALL CONCRETE SHALL BE 4000 PSI, $\frac{3}{4}$ IN, 610 CEMENT CONCRETE.
- CONSTRUCTION JOINT WITH 12"x12"x2" SHEAR KEYS AT 3'-0" O.C.



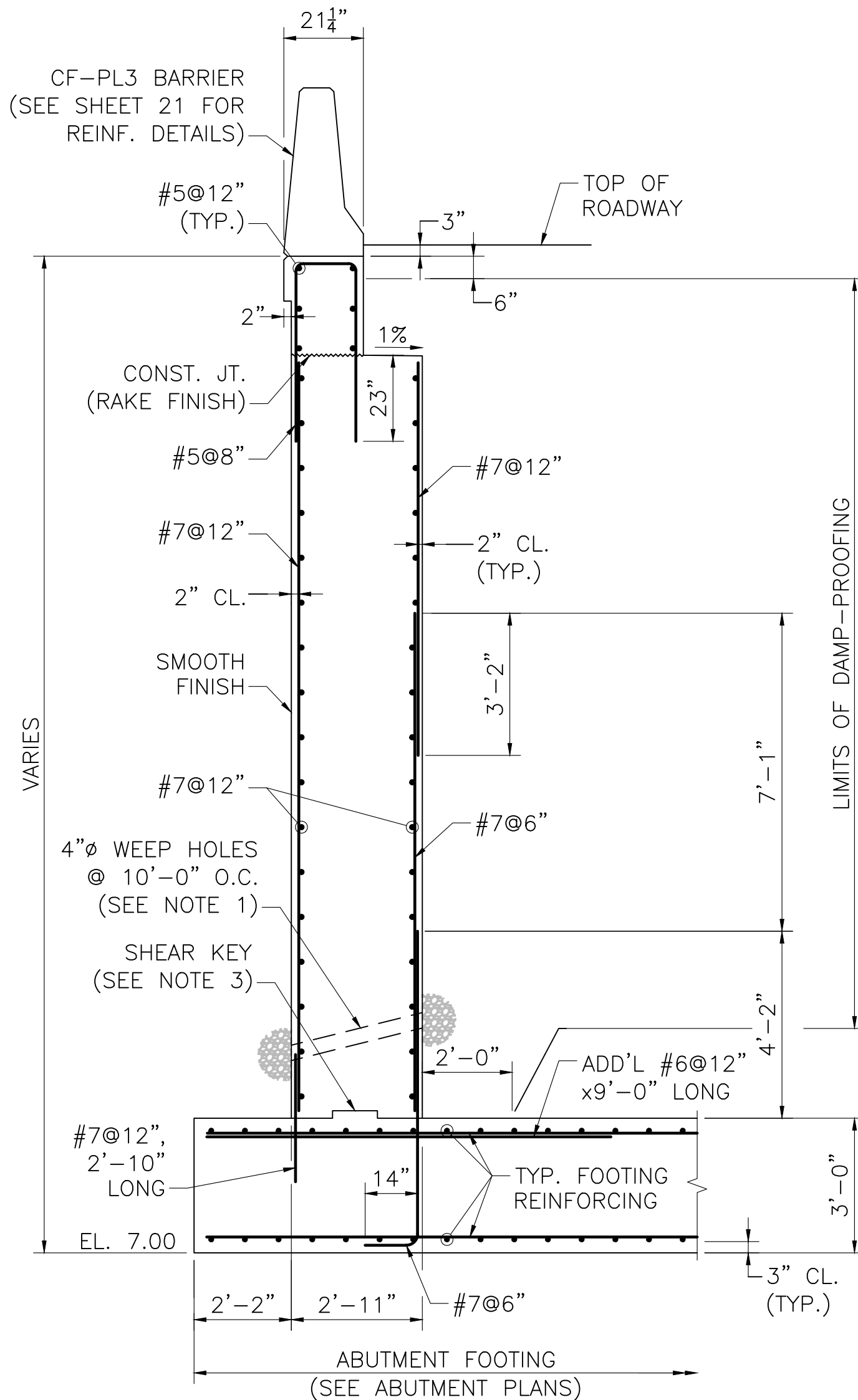
SECTION 1
SCALE: $\frac{3}{8}$ " = 1'-0"



SECTION 2
SCALE: $\frac{3}{8}$ " = 1'-0"



SECTION 3
SCALE: $\frac{3}{8}$ " = 1'-0"



SECTION 4
SCALE: $\frac{3}{8}$ " = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

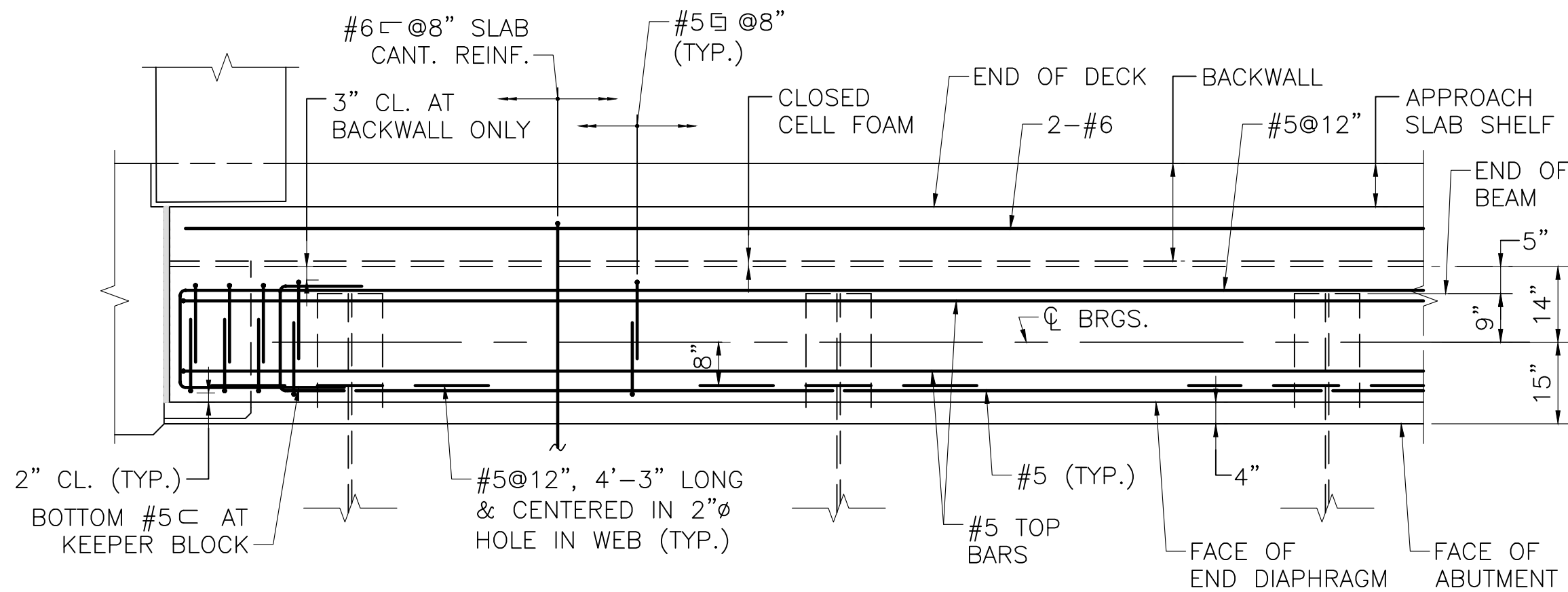
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1027	1094
PROJECT FILE NO.		608049	

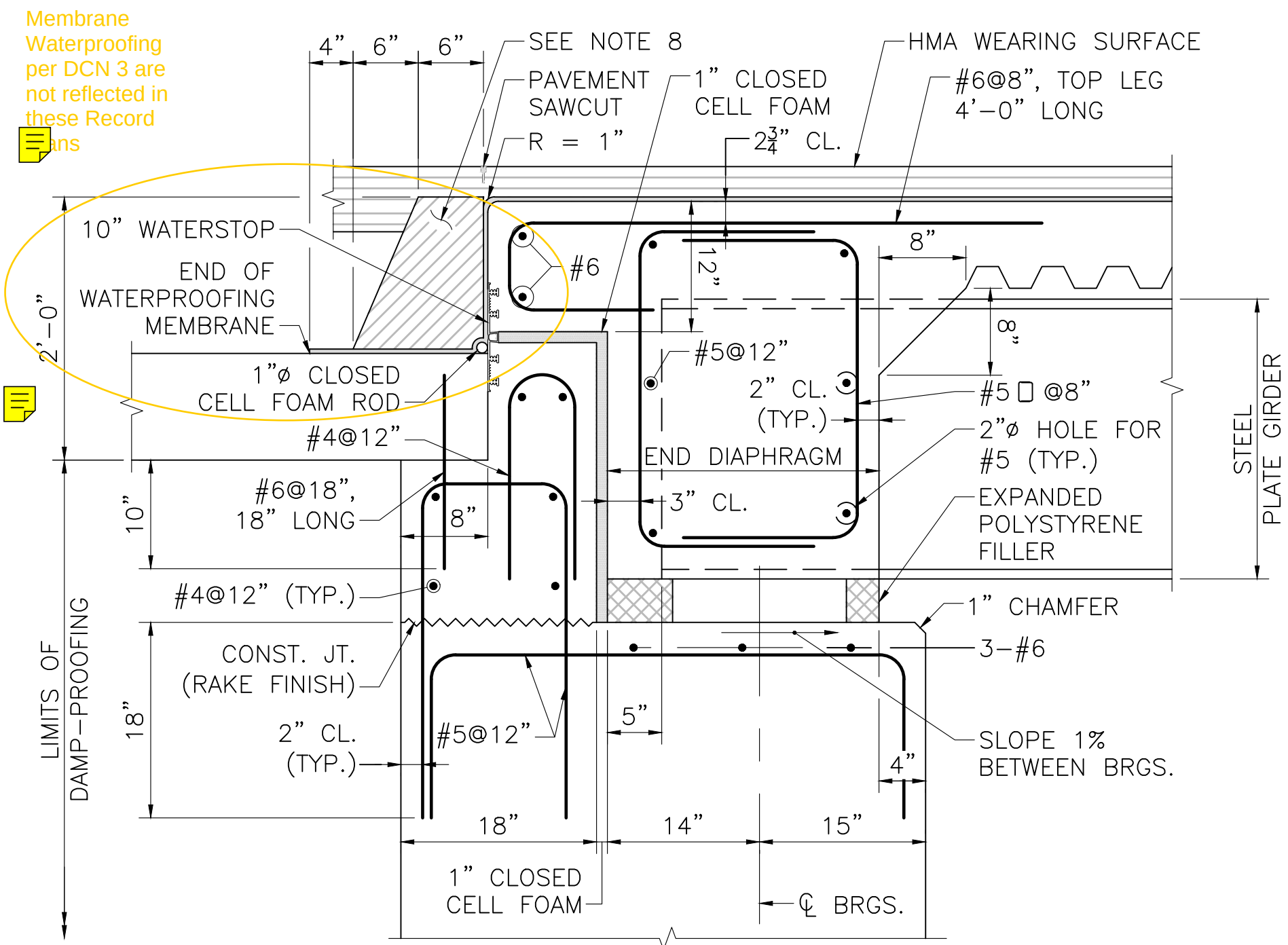
ABUTMENT DETAILS 1

ROADWAY SECTION NOTES:

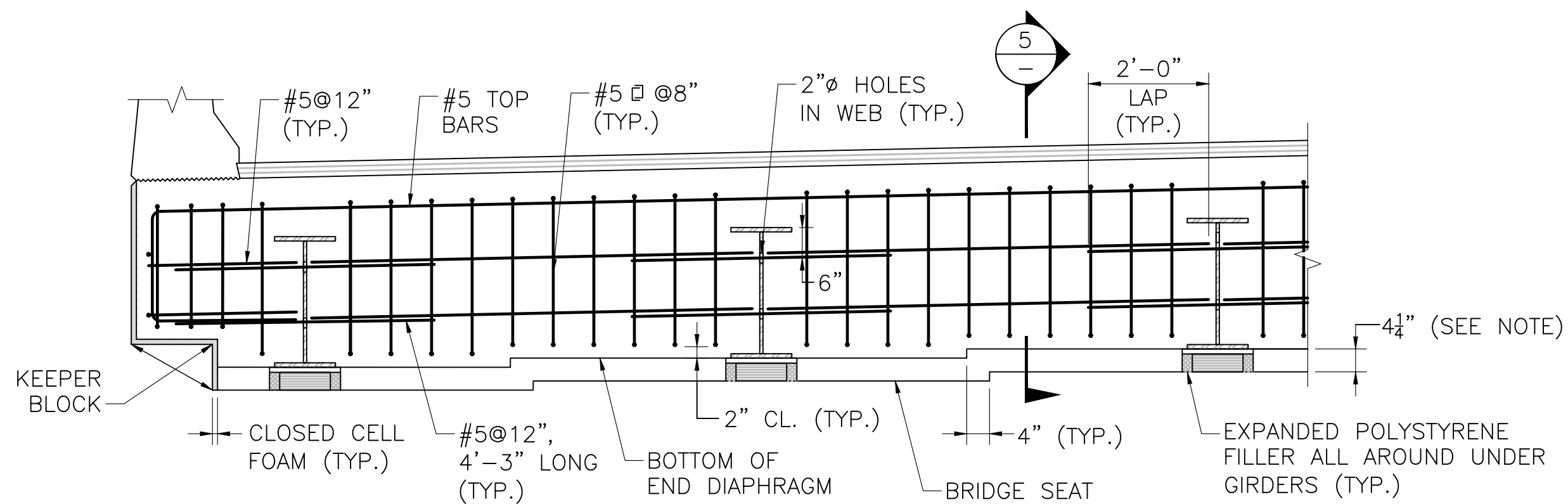
- ALL REINFORCEMENT SHOWN IN THIS DETAIL SHALL BE COATED EXCEPT FOR THE APPROACH SLAB REINFORCEMENT.
- ALL BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT LOCATED AT THE BRIDGE SEAT SHALL BE 4000 PSI, $\frac{3}{4}$ IN, 610 CEMENT CONCRETE. THE CONSTRUCTION JOINT SHALL BE GIVEN A RAKE FINISH WITH A $\frac{1}{4}$ " MINIMUM AMPLITUDE.
- TOP OF BACKWALL SHALL BE TROWELED SMOOTH PARALLEL TO THE PROFILE GRADE.
- THE BACKWALL, KEEPER BLOCK, AND CURTAIN WALL CONCRETE MUST BE PLACED AND SUFFICIENTLY CURED PRIOR TO PLACING THE END DIAPHRAGM CONCRETE.
- THE END DIAPHRAGM CONCRETE SHALL BE 4000 PSI, $\frac{3}{4}$ IN, 585 HP CEMENT CONCRETE AND SHALL BE PLACED MONOLITHICALLY WITH THE DECK.
- PRIOR TO PLACING THE END DIAPHRAGM CONCRETE, CLOSED CELL FOAM OF THE SPECIFIED THICKNESSES SHALL BE ATTACHED WITH ADHESIVE TO ALL SURFACES OF THE BACKWALL, KEEPER BLOCKS, AND CURTAIN WALLS AS SHOWN ON THE PLANS. EXPANDED POLYSTYRENE FILLER SHALL BE PLACED UNDER THE BEAM BOTTOM FLANGE AND THE BOTTOM OF THE END DIAPHRAGM SHALL BE FORMED AS SPECIFIED. THE CONTRACTOR SHALL ENSURE THAT ALL ABUTMENT CONCRETE IS PROPERLY LINED. END DIAPHRAGM CONCRETE MUST NOT COME IN DIRECT CONTACT WITH ABUTMENT CONCRETE.
- DRAPE MEMBRANE WATERPROOFING OVER CLOSED CELL FOAM BACKER ROD.
- PROTECTIVE COURSE TO BE SUPERPAVE BRIDGE PROTECTIVE COARSE (SPC-B-12.5), PLACED IN 2" LAYERS AND COMPACTED WITH A MECHANICAL HAND-GUIDED TAMPER WITHIN 12 HOURS AFTER PLACING MEMBRANE WATERPROOFING.



END DIAPHRAGM PLAN
SCALE: $\frac{1}{2}$ " = 1'-0"



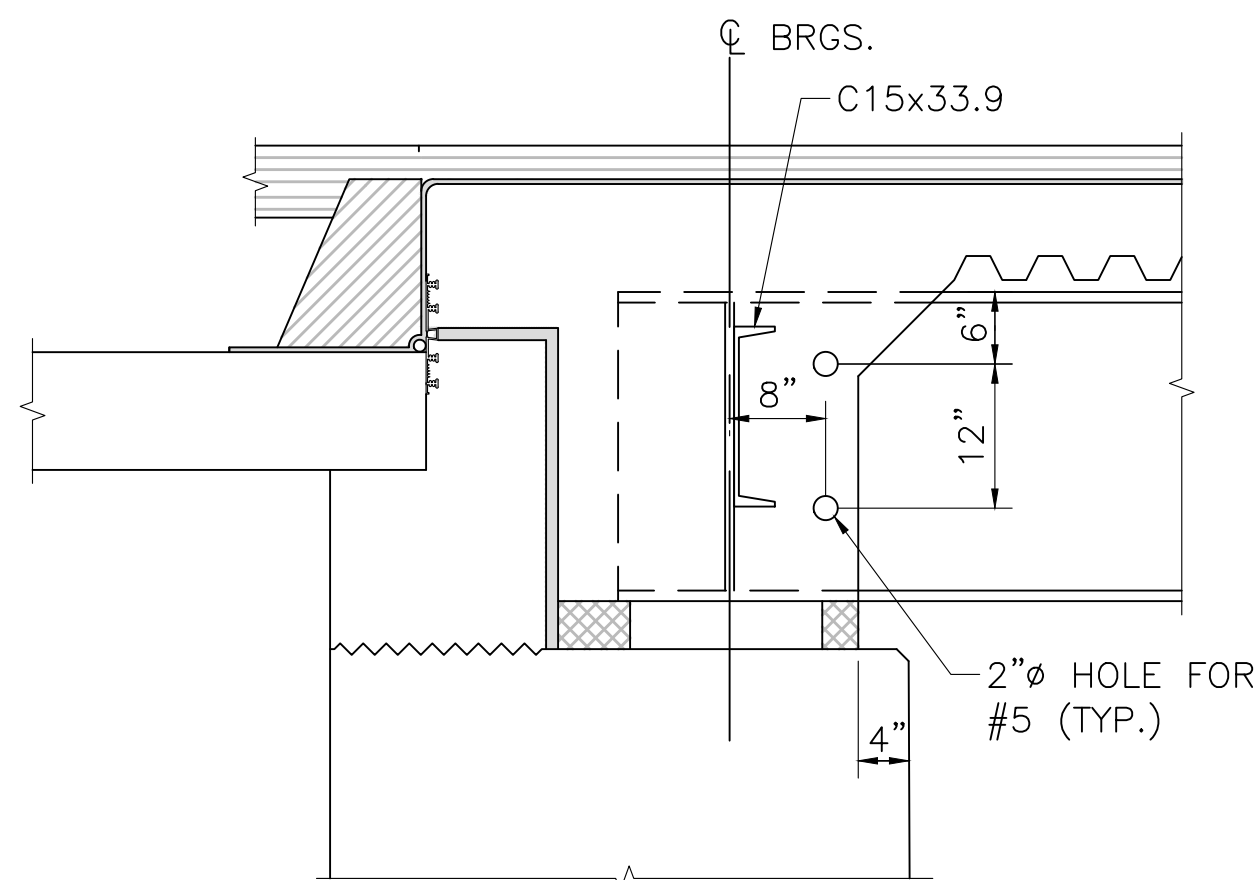
DETAIL AT ABUTMENT
ROADWAY SECTION
SCALE: 1" = 1'-0"



END DIAPHRAGM ELEVATION
SCALE: $\frac{1}{2}$ " = 1'-0"

NOTE:

THE CONTRACTOR MAY USE EXPANDED POLYSTYRENE FILLER OR A REMOVABLE FORM TO FORM THE BOTTOM OF THE END DIAPHRAGM.



SECTION 5
SCALE: $\frac{3}{4}$ " = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

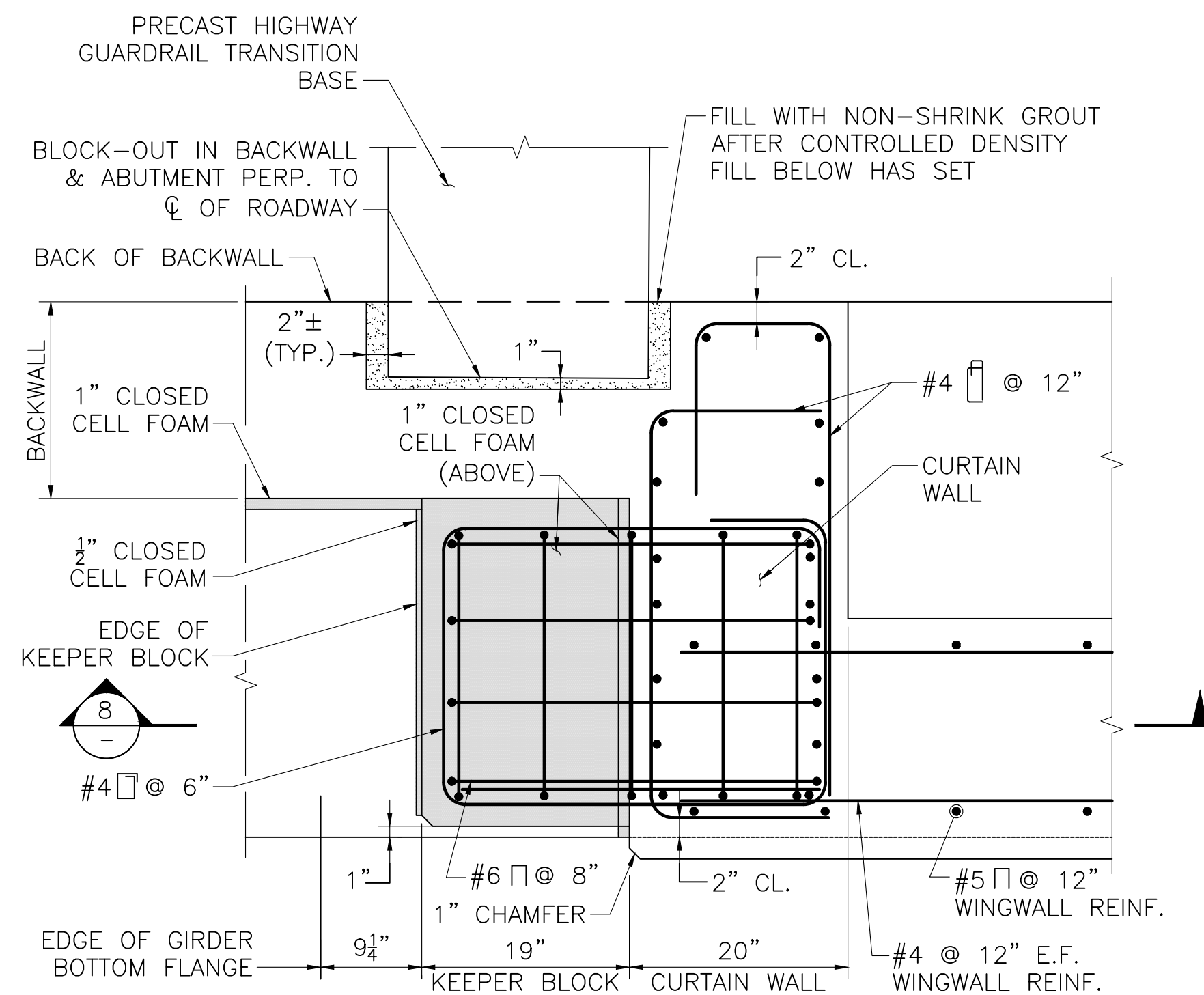
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1028	1094
PROJECT FILE NO.		608049	

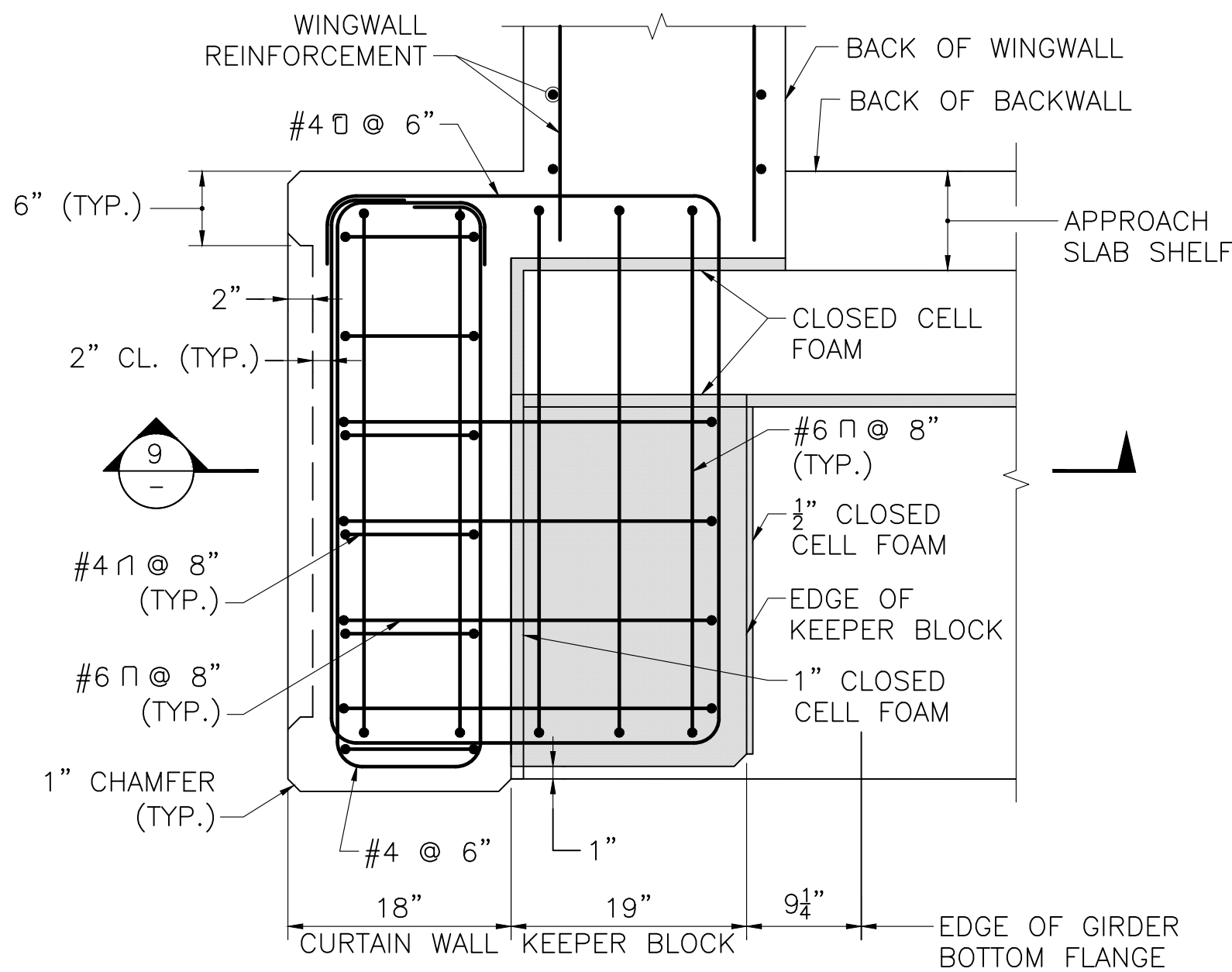
ABUTMENT DETAILS 2

NOTES:

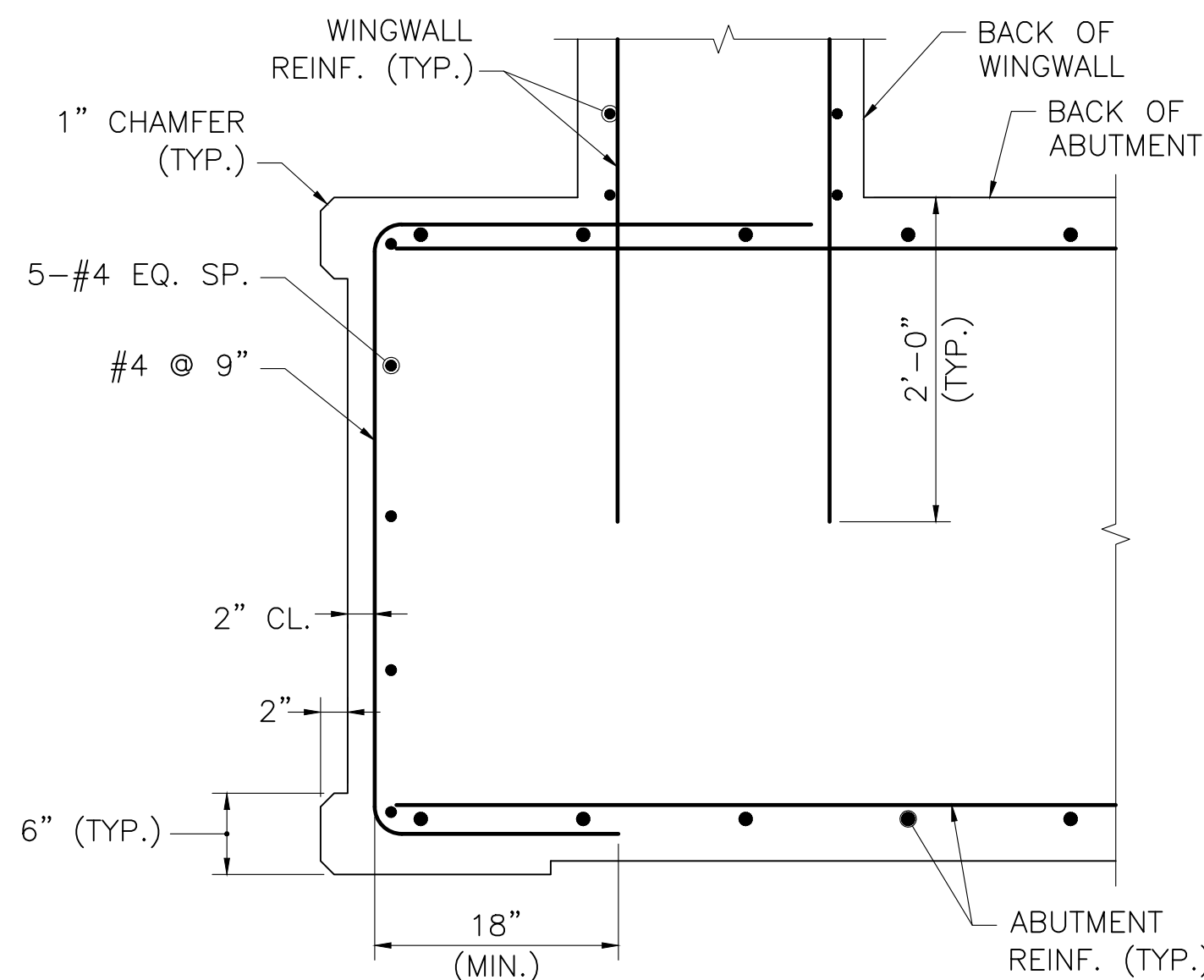
1. TOP OF KEEPER BLOCK SHALL BE TROWELED SMOOTH PARALLEL TO PROFILE GRADE.
2. ABUTMENT REINFORCEMENT BELOW CONSTRUCTION JOINT HAS BEEN OMITTED FOR CLARITY.



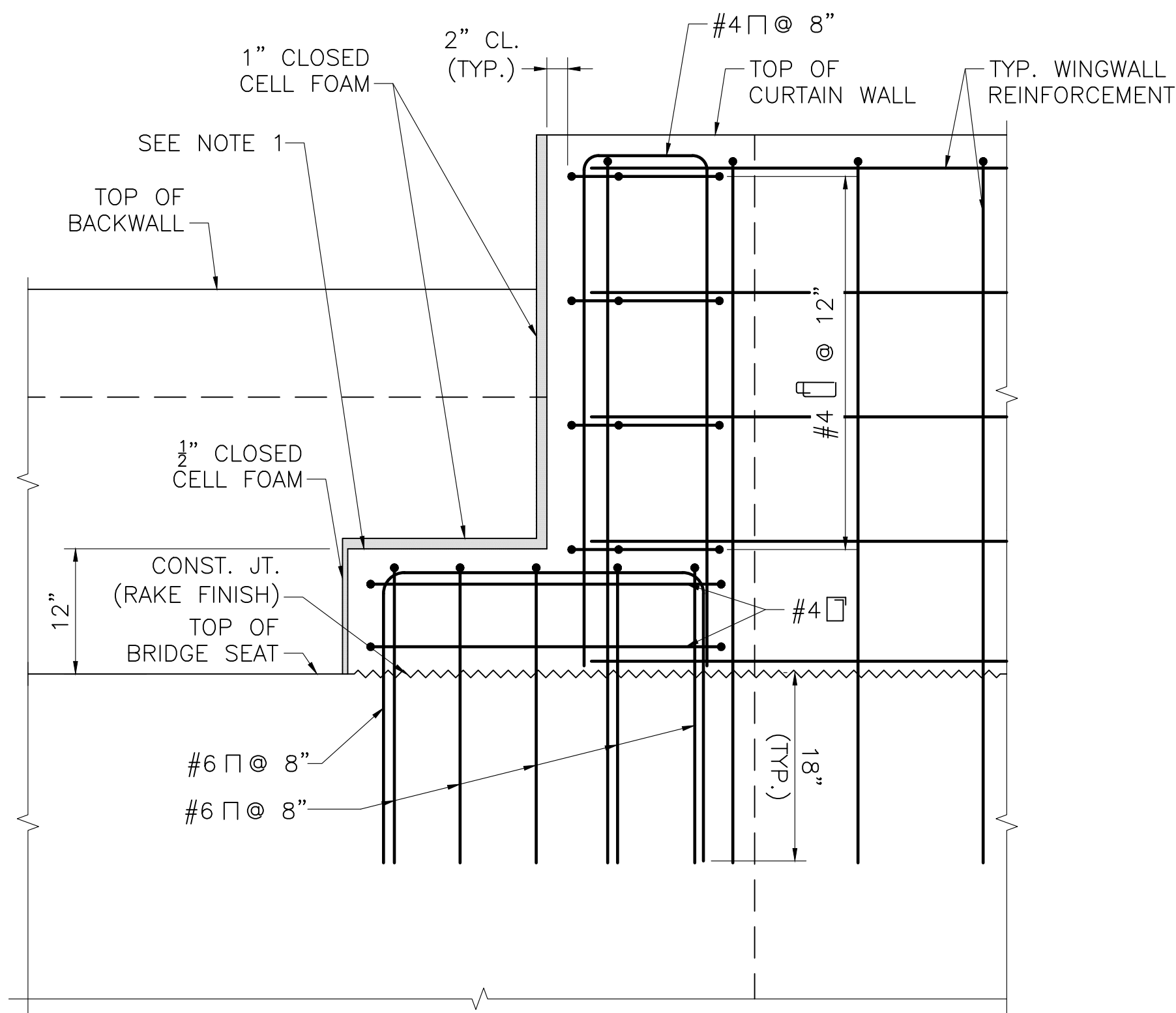
SECTION 6
SCALE: 1" = 1'-0"



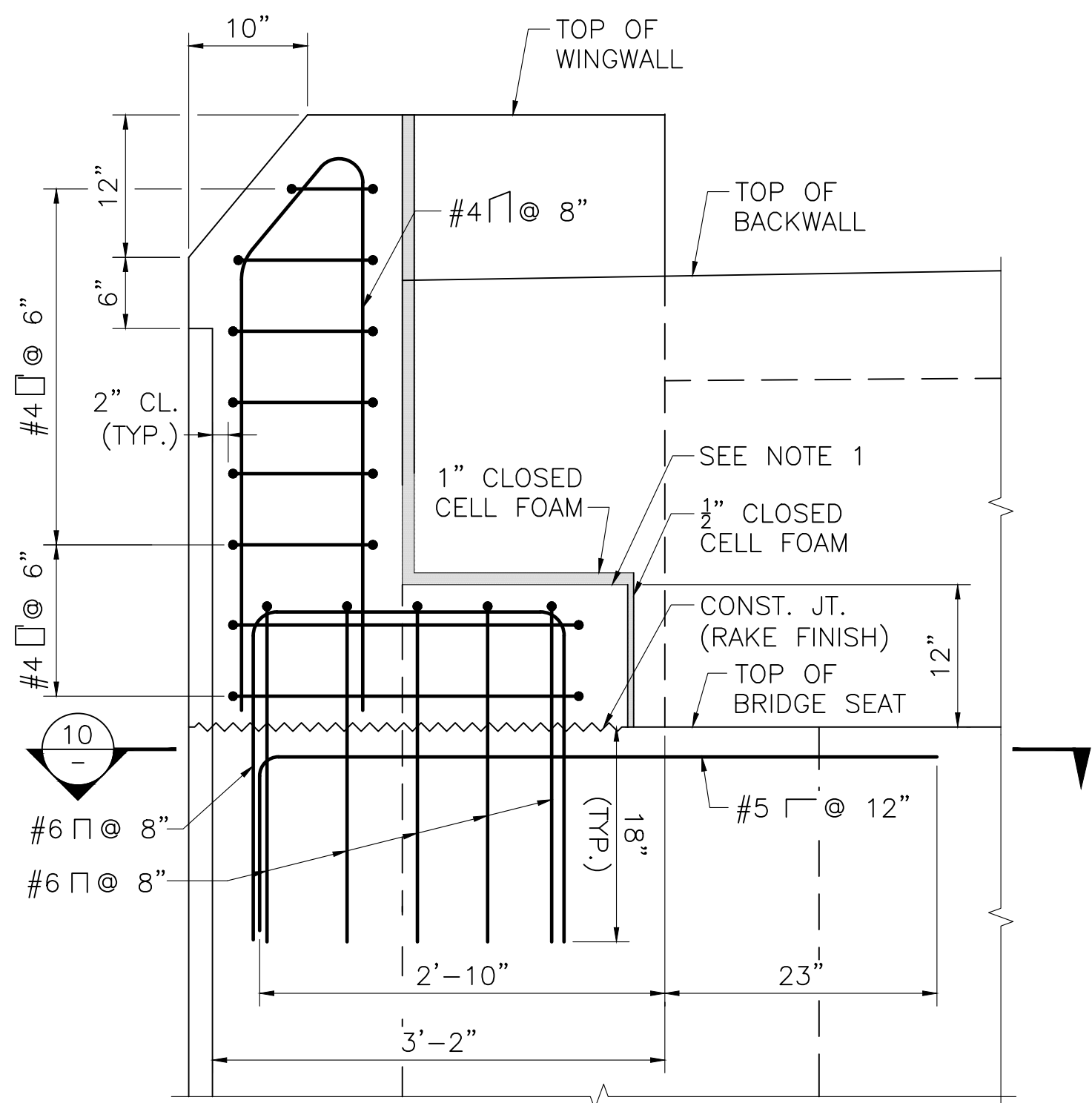
SECTION 7
SCALE: 1" = 1'-0"



SECTION 10
SCALE: 1" = 1'-0"



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



SECTION 9
SCALE: 1" = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

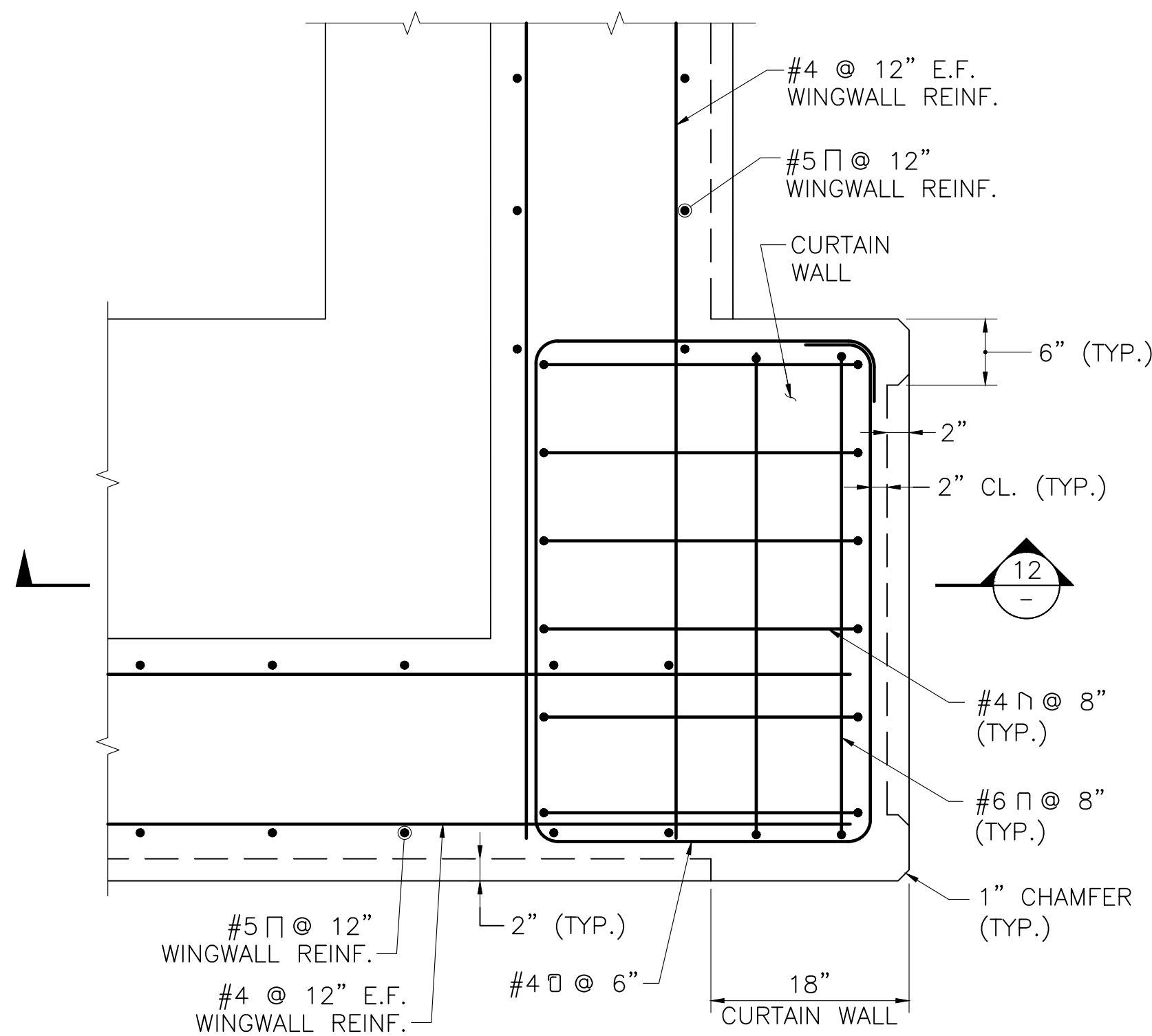
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BRY)STP-003S(191)	1029	1094
PROJECT FILE NO.		608049	

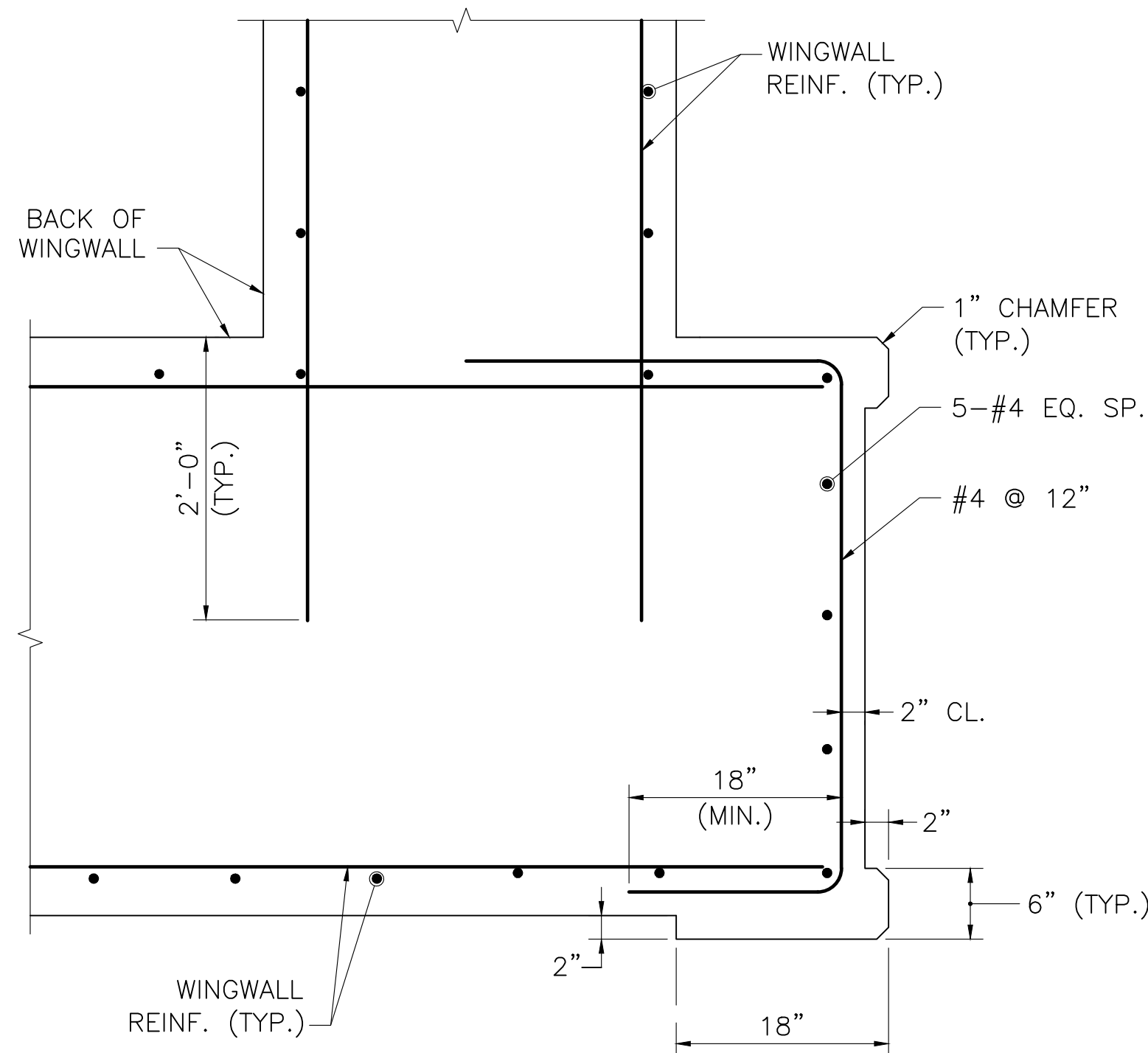
ABUTMENT DETAILS 3

NOTES:

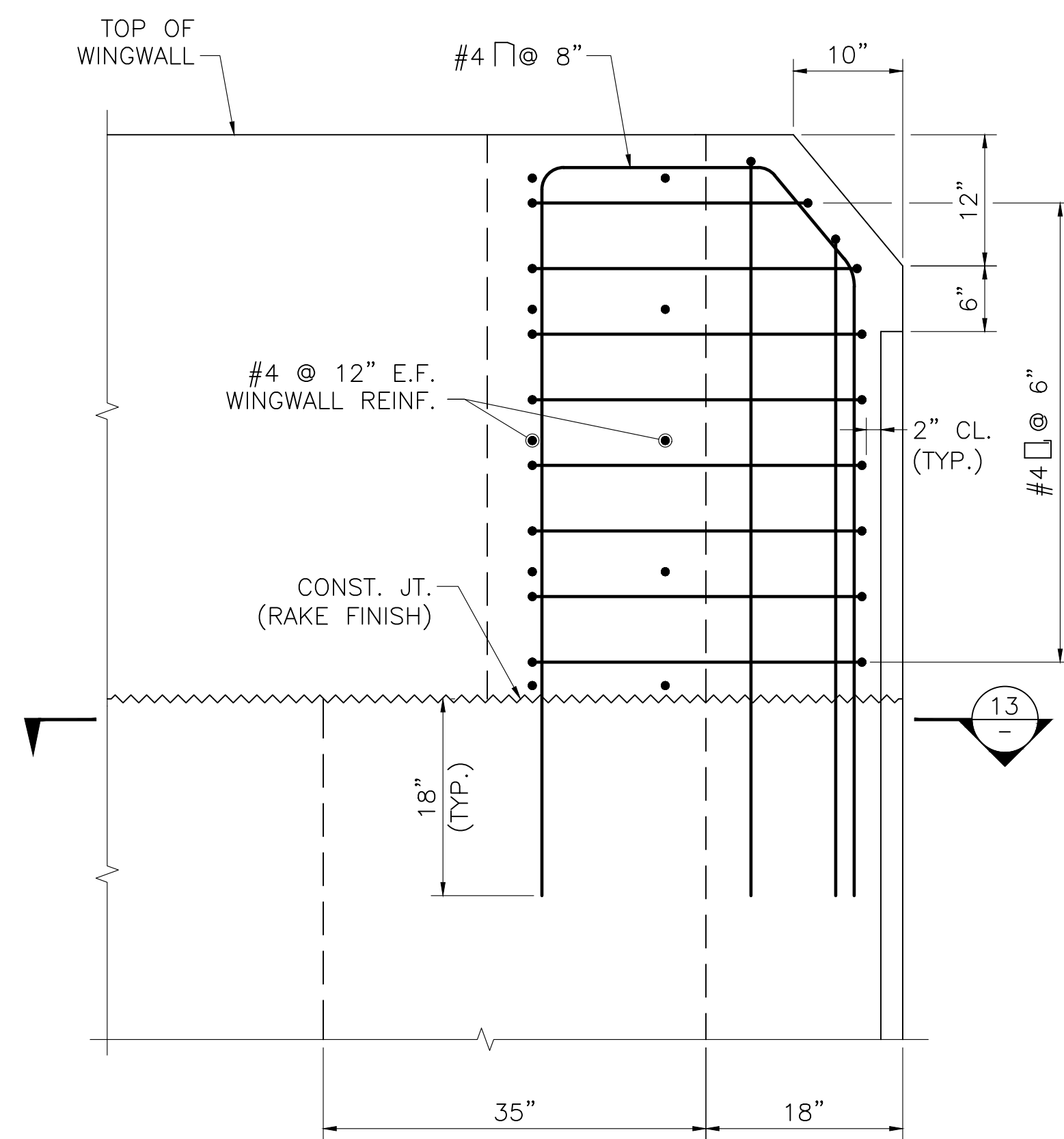
1. WINGWALL REINFORCEMENT BELOW CONSTRUCTION JOINT HAS BEEN OMITTED FOR CLARITY.



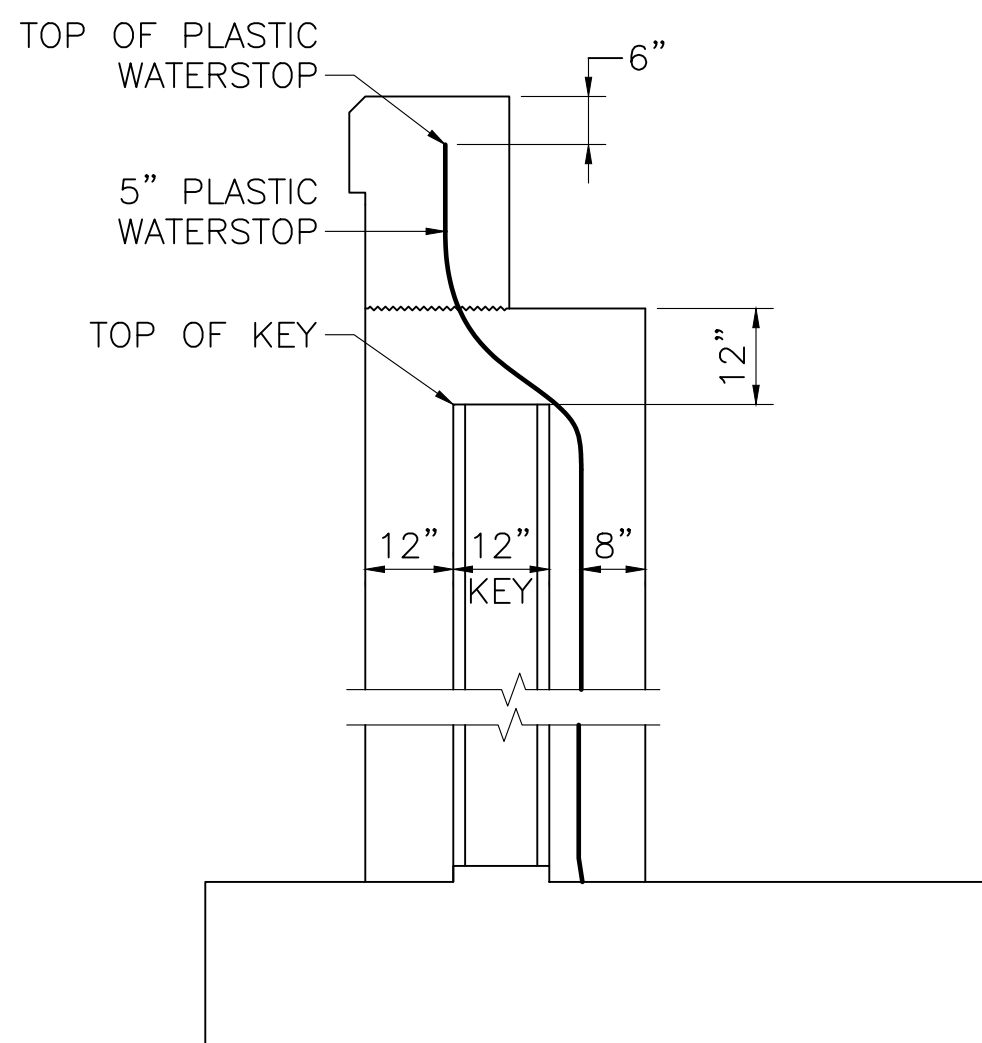
SECTION 11
SCALE: 1" = 1'-0"



SECTION 13
SCALE: 1" = 1'-0"

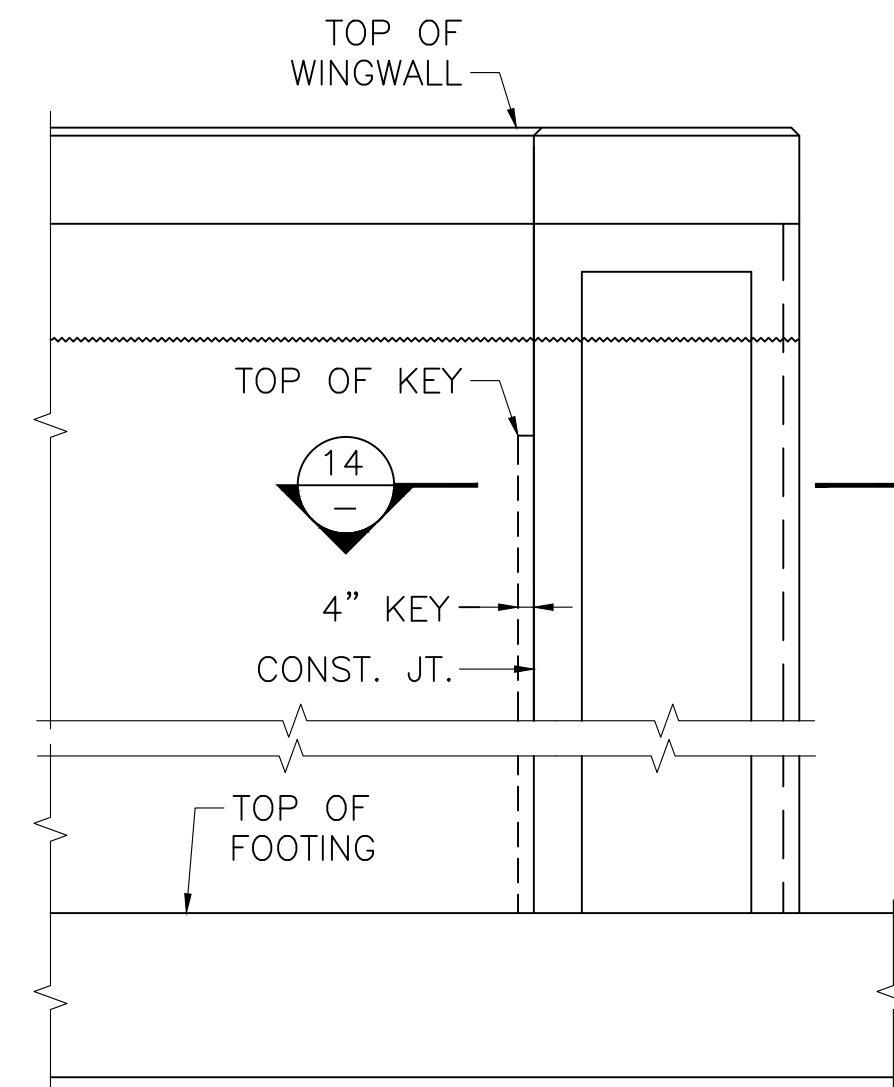


SECTION 12
SCALE: 1" = 1'-0"

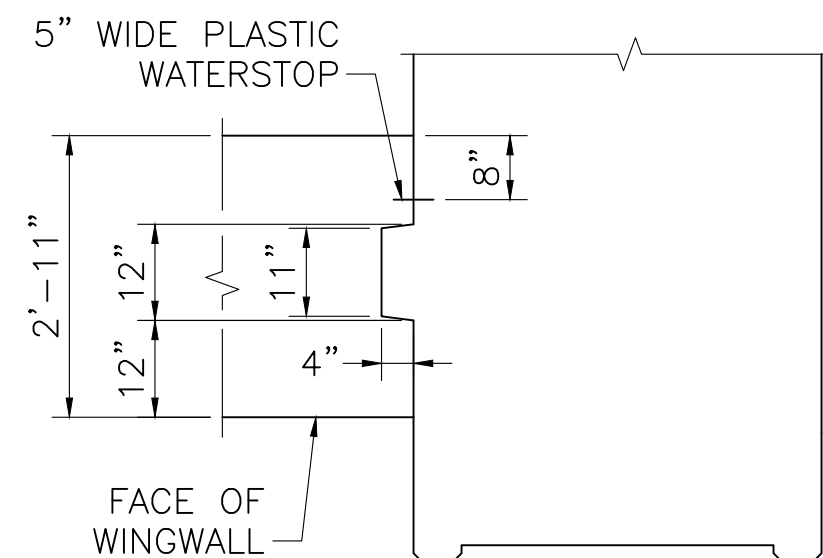


NOTE:
REINFORCEMENT SHALL BE CONTINUOUS THRU CONSTRUCTION JOINTS.

VERTICAL SECTION THRU WINGWALL
CONSTRUCTION JOINT
SCALE: 1/2" = 1'-0"



WINGWALL ELEVATION



SECTION 14

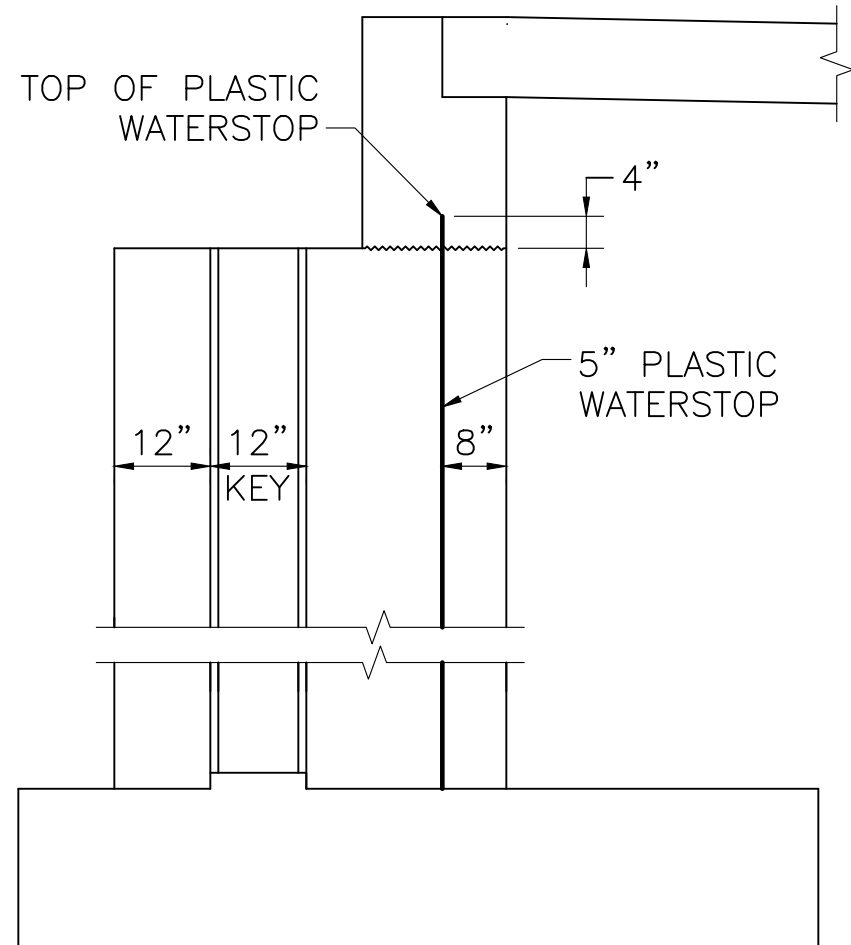
WINGWALL CONSTRUCTION JOINT DETAILS
SCALE: 1/2" = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1030	1094
PROJECT FILE NO.		608049	

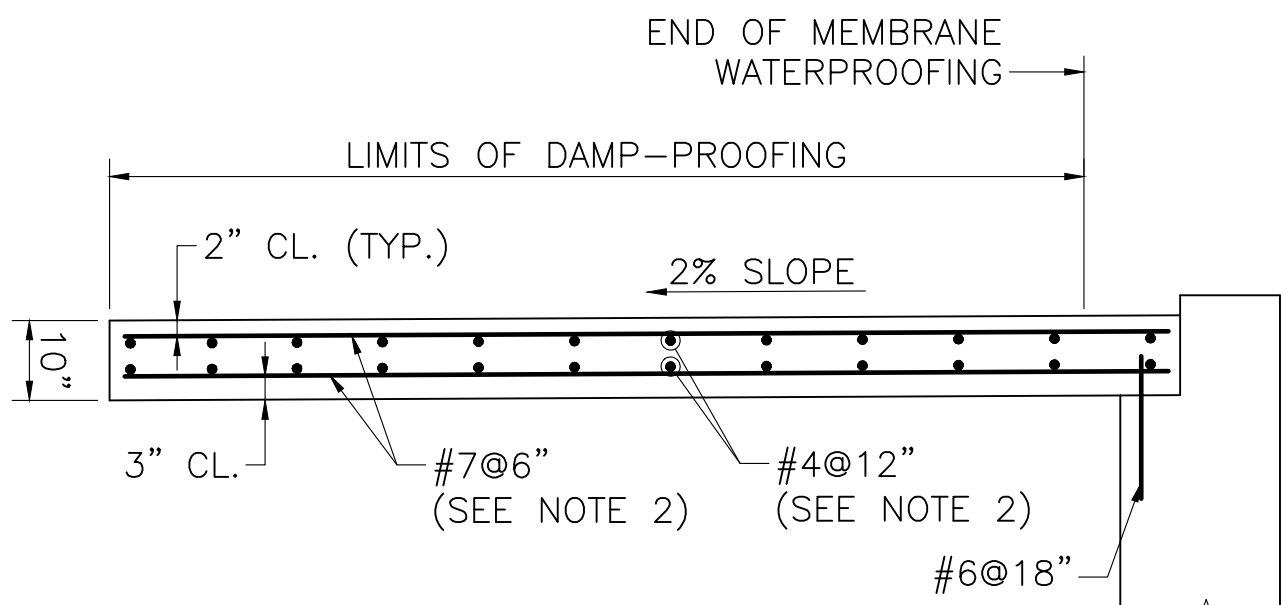
ABUTMENT DETAILS 4



NOTE:
REINFORCEMENT SHALL BE CONTINUOUS
THRU CONSTRUCTION JOINTS.

VERTICAL SECTION THRU CONSTRUCTION JOINT

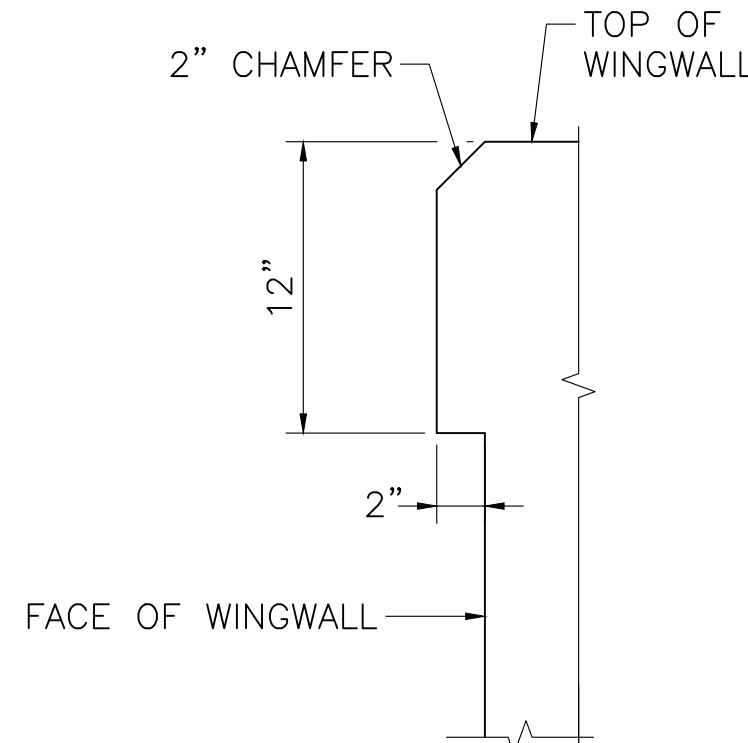
SCALE: $\frac{1}{2}$ " = 1'-0"



- NOTES:**
- APPROACH SLAB TO BE 4000 PSI, $\frac{3}{4}$ IN, 610 CEMENT CONCRETE.
 - PLACE LONGITUDINAL REINFORCEMENT ALONG CENTERLINE OF CONSTRUCTION. PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT.

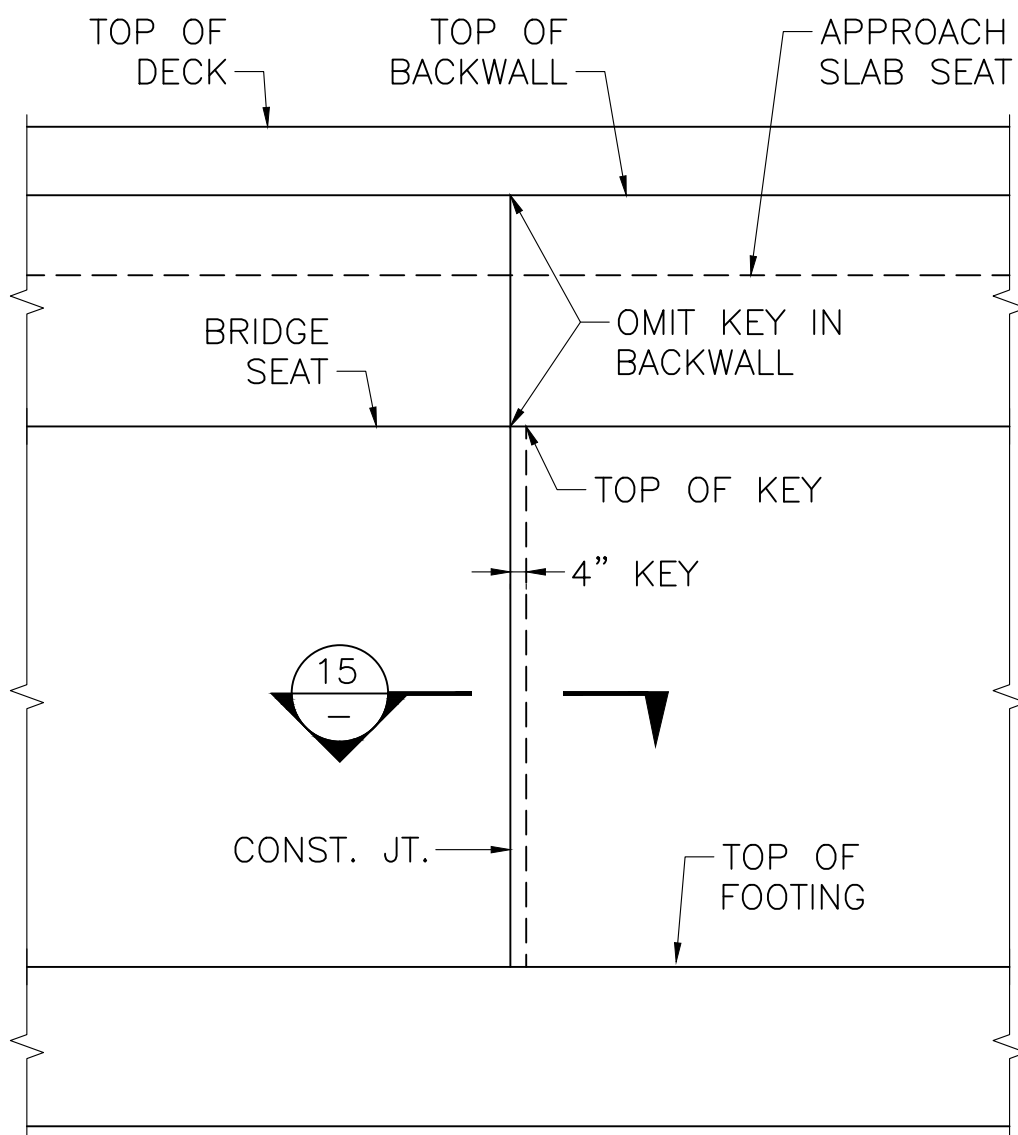
APPROACH SLAB DETAIL

SCALE: $\frac{1}{2}$ " = 1'-0"



DETAIL AT TOP OF WINGWALL

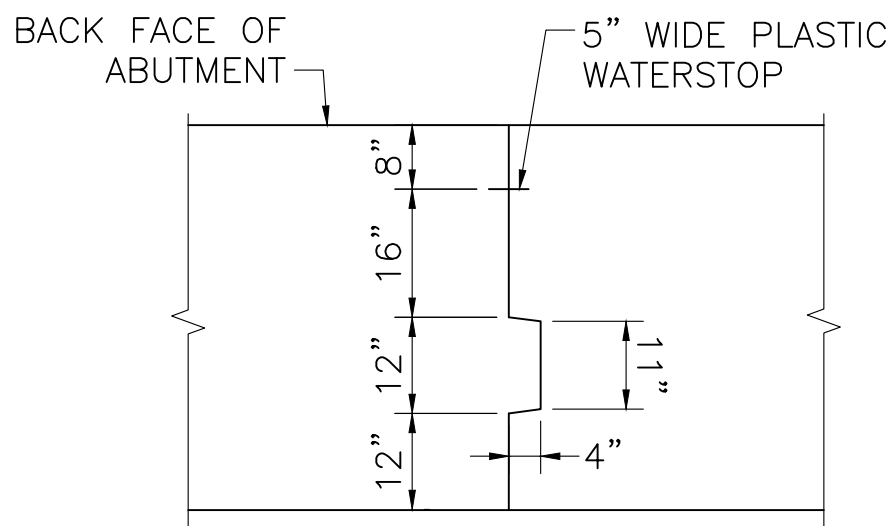
SCALE: $1\frac{1}{2}$ " = 1'-0"



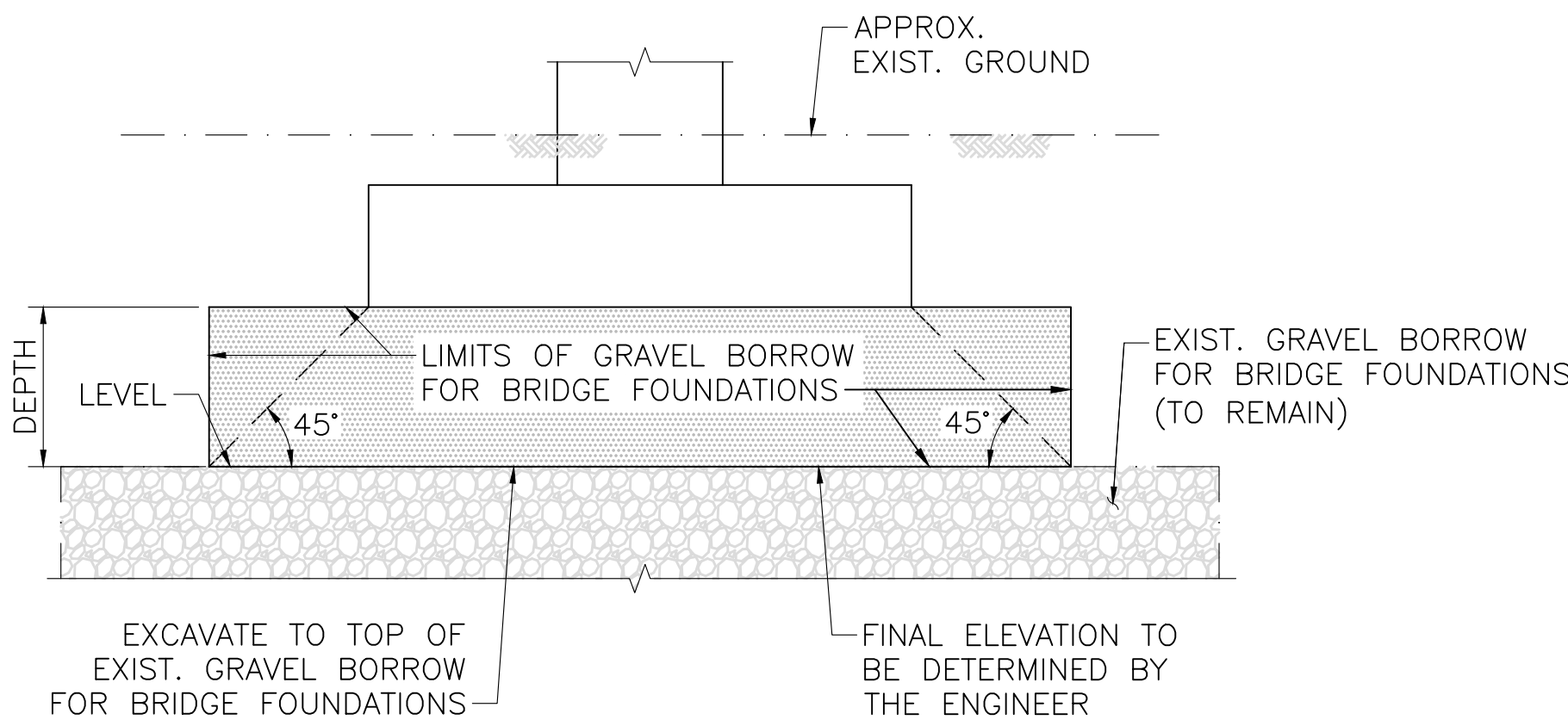
ABUTMENT ELEVATION

CONSTRUCTION JOINT DETAILS

SCALE: $\frac{1}{2}$ " = 1'-0"



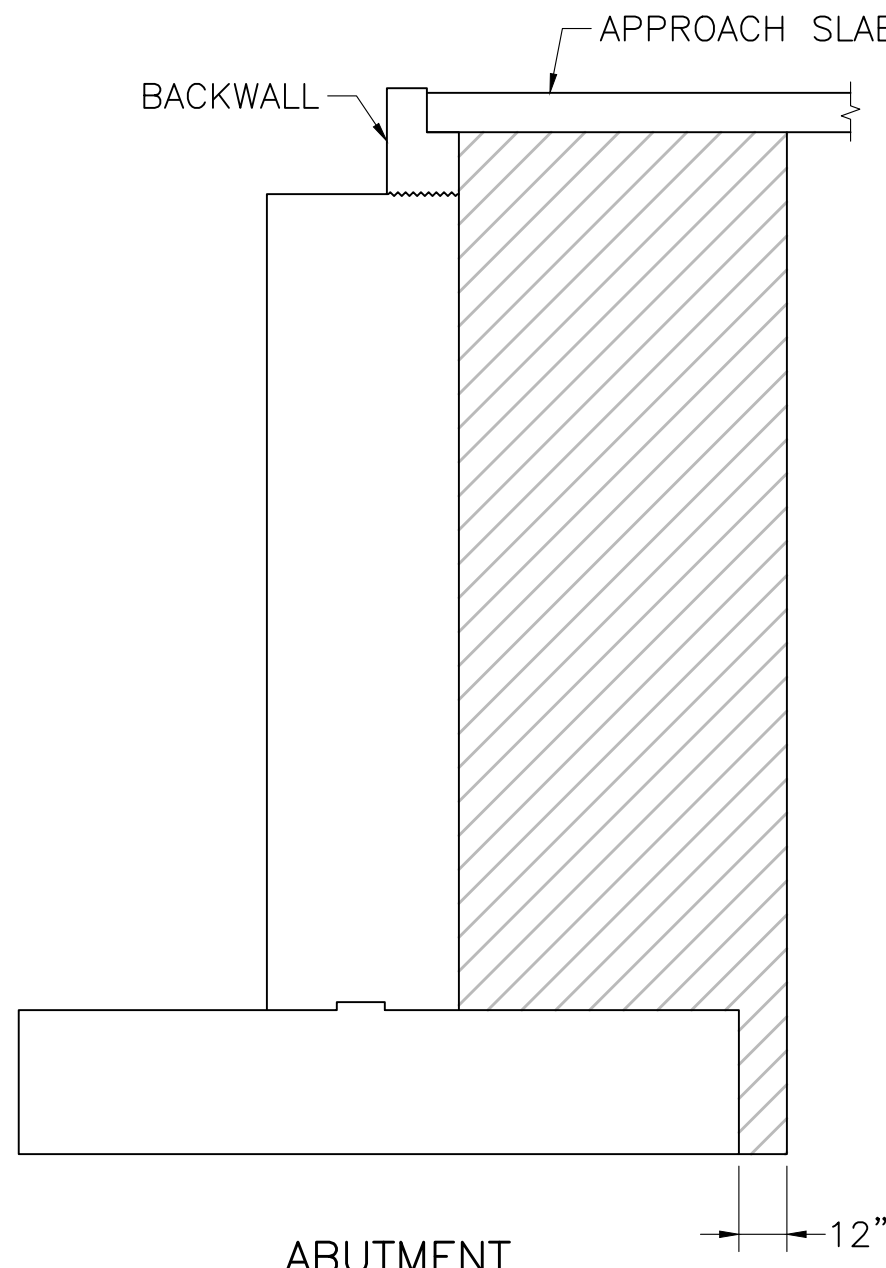
SECTION 15



- NOTES:**
- SAME TREATMENT IS TO BE USED AT ENDS OF WALLS, PIERS, AND ABUTMENTS.
 - FOR ADDITIONAL FOUNDATION PREPARATION REQUIREMENTS, SEE SHEET 14.

LIMITS OF GRAVEL BORROW FOR
BRIDGE FOUNDATIONS

NOT TO SCALE



- NOTES:**
- HATCHED AREA INDICATES LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.
 - ABUTMENT SHOWN, WINGWALLS SIMILAR.

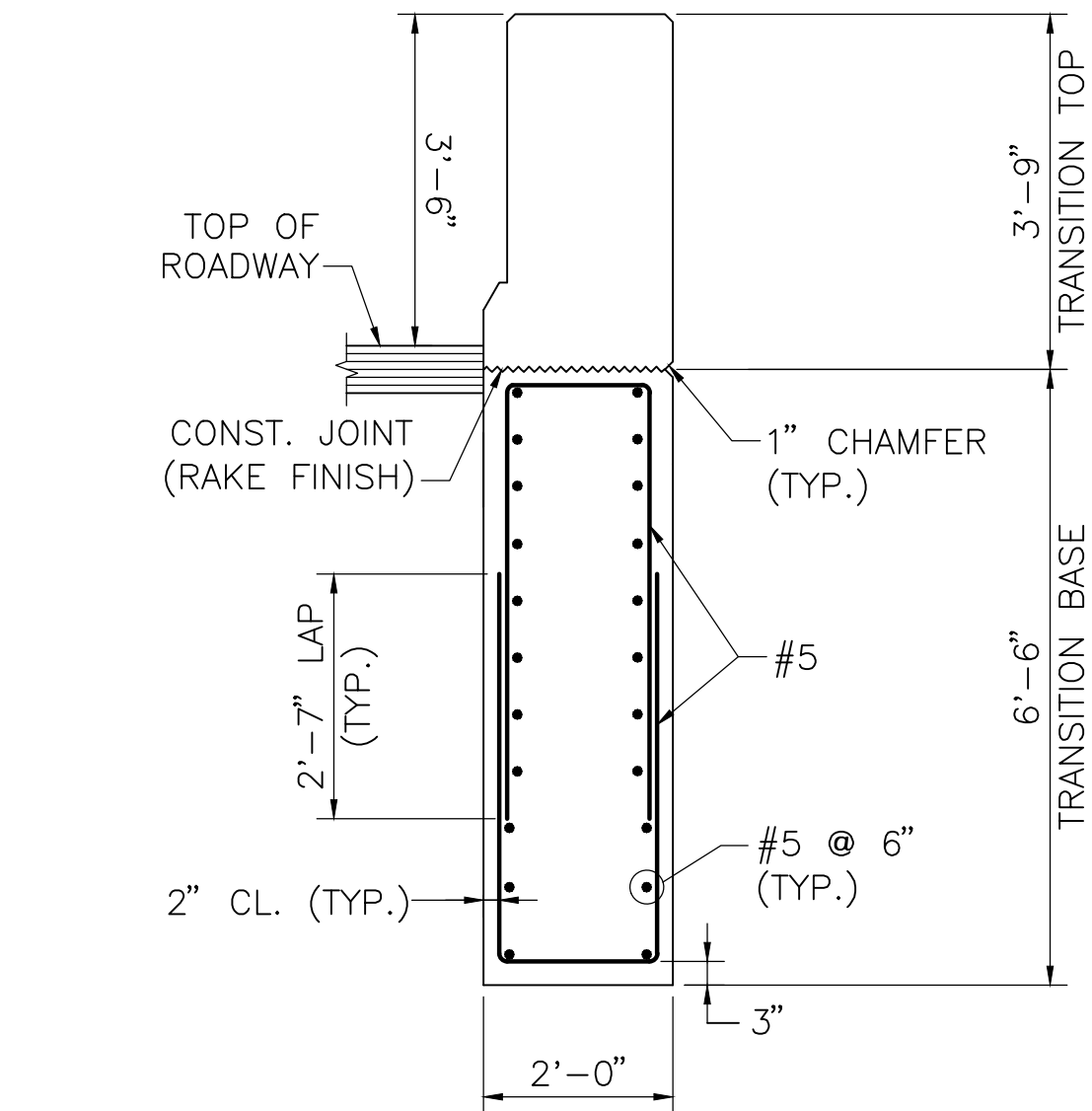
LIMITS OF GRAVEL BORROW FOR
BACKFILLING STRUCTURES

SCALE: $\frac{1}{4}$ " = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

608049_BR15-20(ABUTMENT_DETAILS2)(F02087).DWG

1. PRECAST GUARDRAIL TRANSITION SHALL BE 5000 PSI, 3' IN, 685 HP CEMENT CONCRETE.
2. GRAVEL BORROW SHALL BE PLACED AND THOROUGHLY COMPACTED TO THE GRADE OF 3" (MIN.) BELOW THE INTENDED BOTTOM OF THE PRECAST GUARDRAIL TRANSITION BASE AND TO A HEIGHT OF 2'-0" (MIN.) ON ALL SIDES OF THE TRANSITION BASE TO FORM A TRENCH IN WHICH TO SET THE TRANSITION. WHERE NO GRAVEL BORROW IS REQUIRED BELOW THE BASE, IT SHALL BE PLACED ON UNDISTURBED SOIL.
3. CONTRACTOR SHALL SET THE PRECAST GUARDRAIL TRANSITION TO THE REQUIRED ELEVATION AND ALIGNMENT, AND BACKFILL PRECAST GUARDRAIL TRANSITION WITH CONTROLLED DENSITY FILL (NON-EXCAVATABLE) TO THE ELEVATION SHOWN.
4. AFTER CONTROLLED DENSITY FILL (NON-EXCAVATABLE) HAS SET FILL THE GAPS BETWEEN GUARDRAIL TRANSITION AND BLOCK-OUT IN BACKWALL AND ABUTMENT WITH NON-SHRINK GROUT UP TO THE TOP OF BACKWALL.
5. THE REMAINDER OF THE REINFORCEMENT IS NOT SHOWN FOR CLARITY.

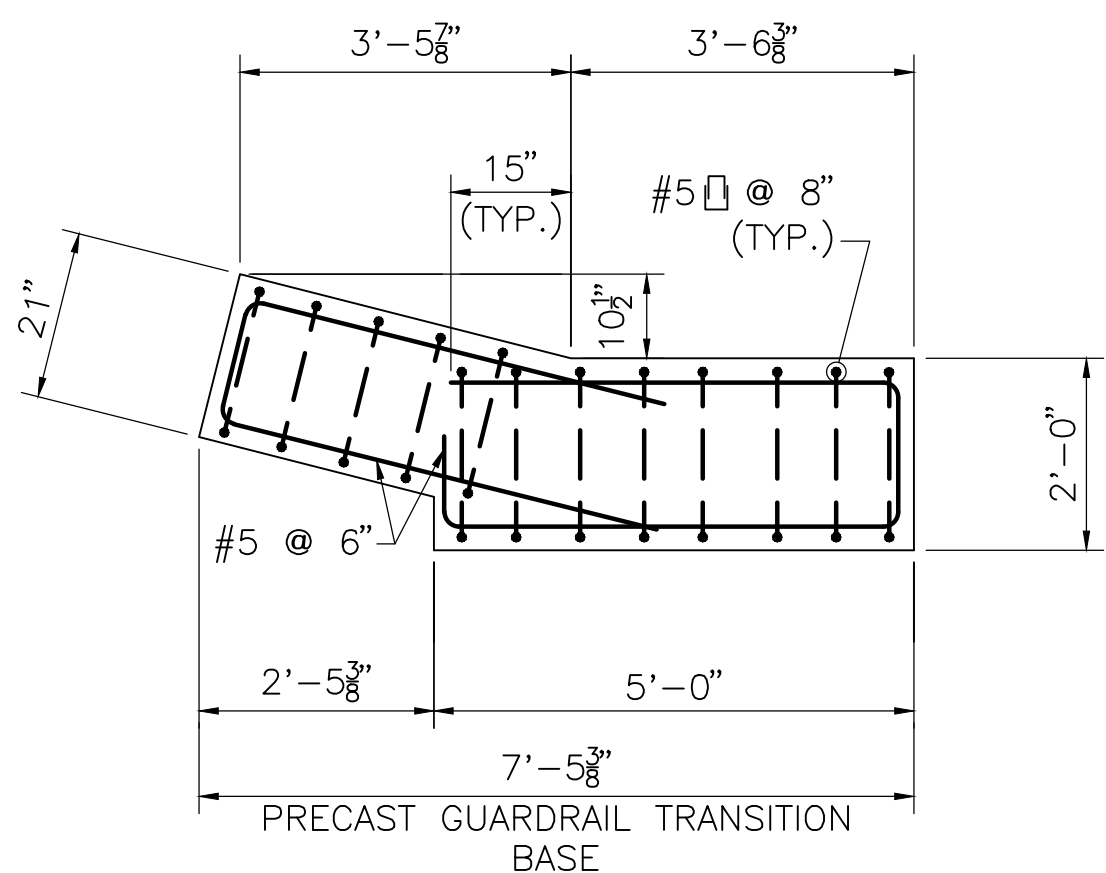


SECTION 16
SCALE: $\frac{1}{2}'' = 1'-0''$

SCALE: $\frac{1}{2}" = 1'-0"$



SCALE: $\frac{1}{2}" = 1'-0"$



SCALE: $\frac{1}{2}" = 1'-0"$

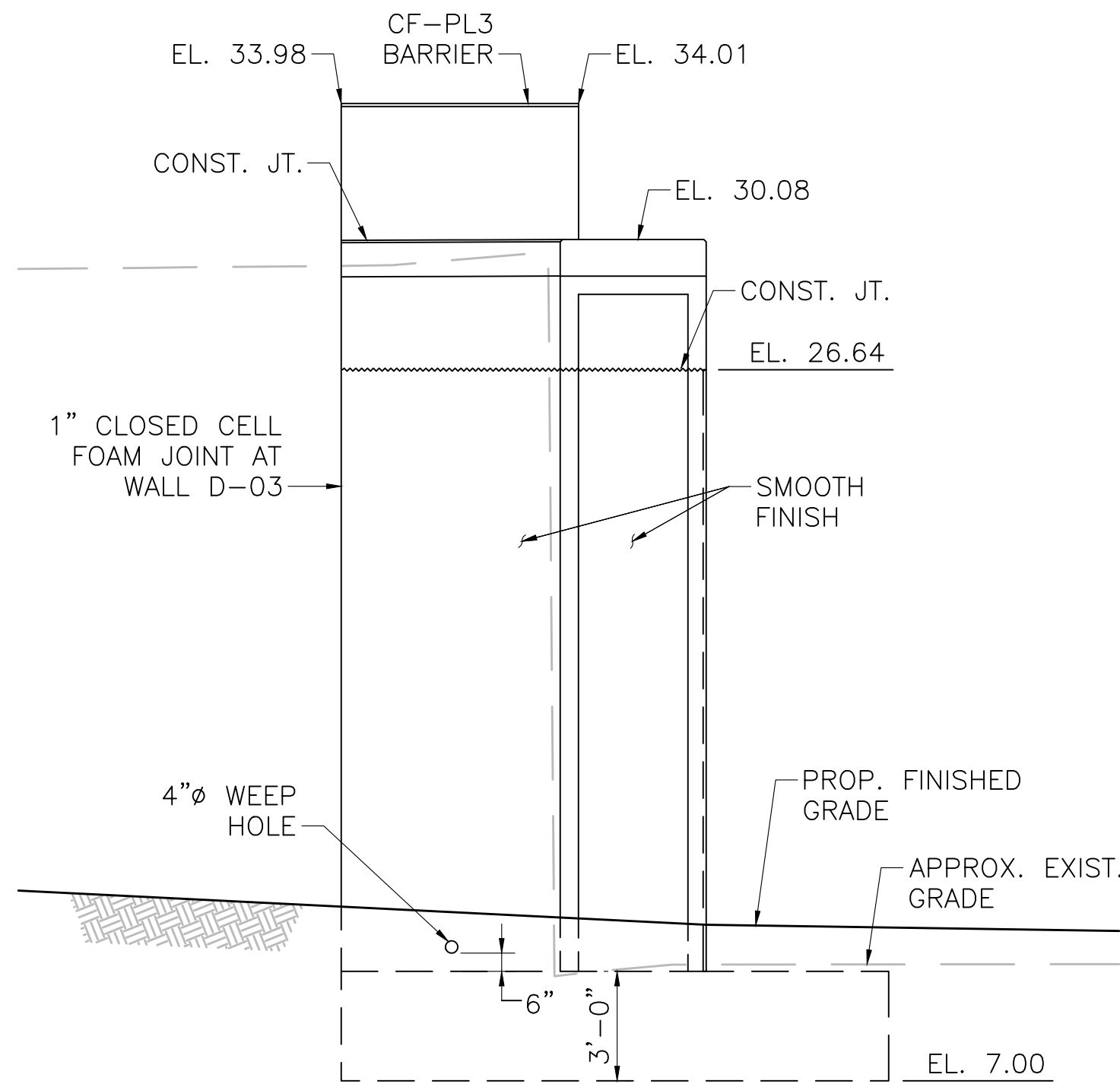
SCALE: $\frac{1}{2}" = 1'-0"$

MARCH 25, 2025	 TRANSITION BASE MODIFIED
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

FALL RIVER
ROUTE 79

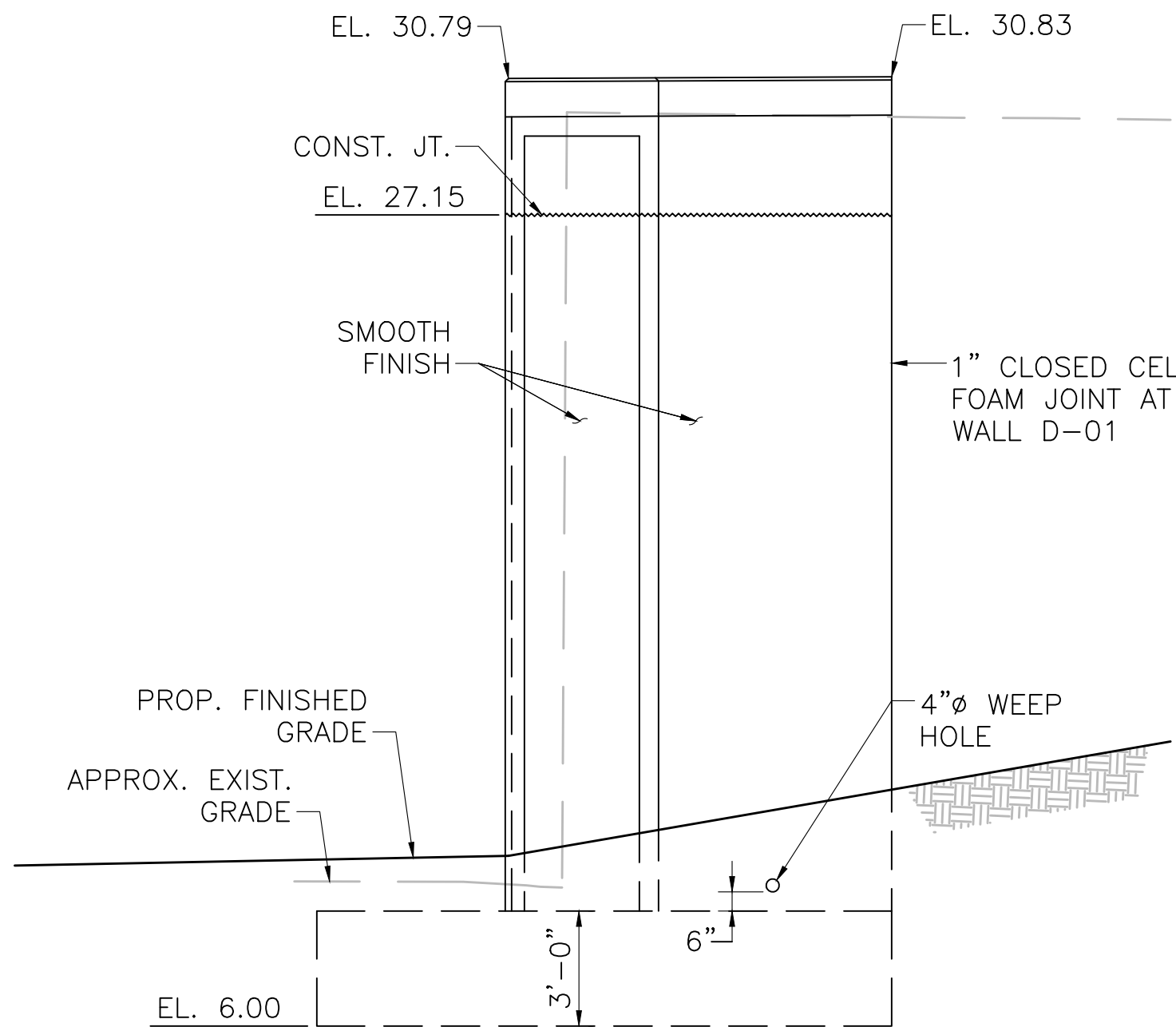
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1032	1094
PROJECT FILE NO.		608049	

WINGWALL DETAILS



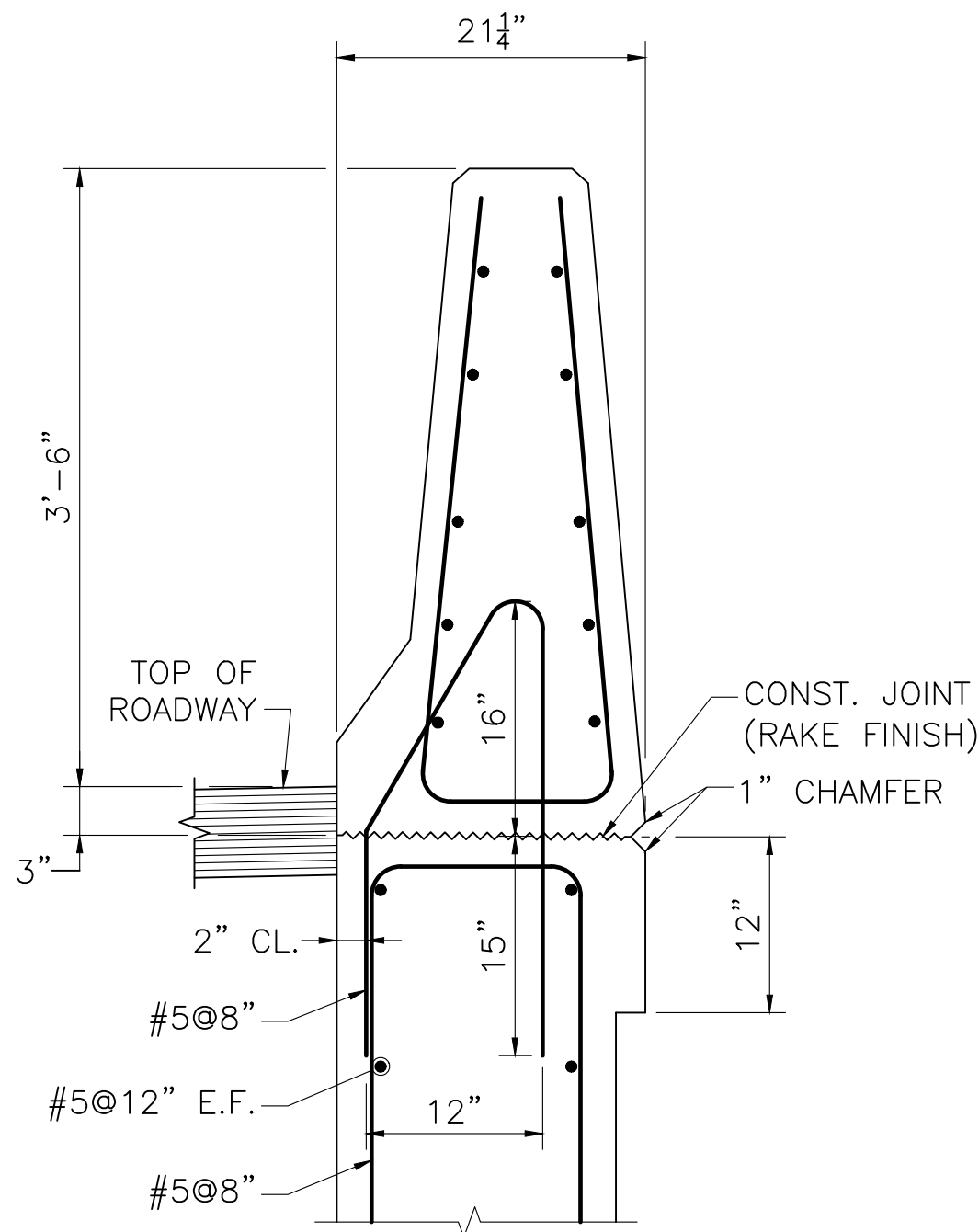
NORTHWEST WINGWALL ELEVATION

SCALE: $\frac{1}{4}" = 1'-0"$



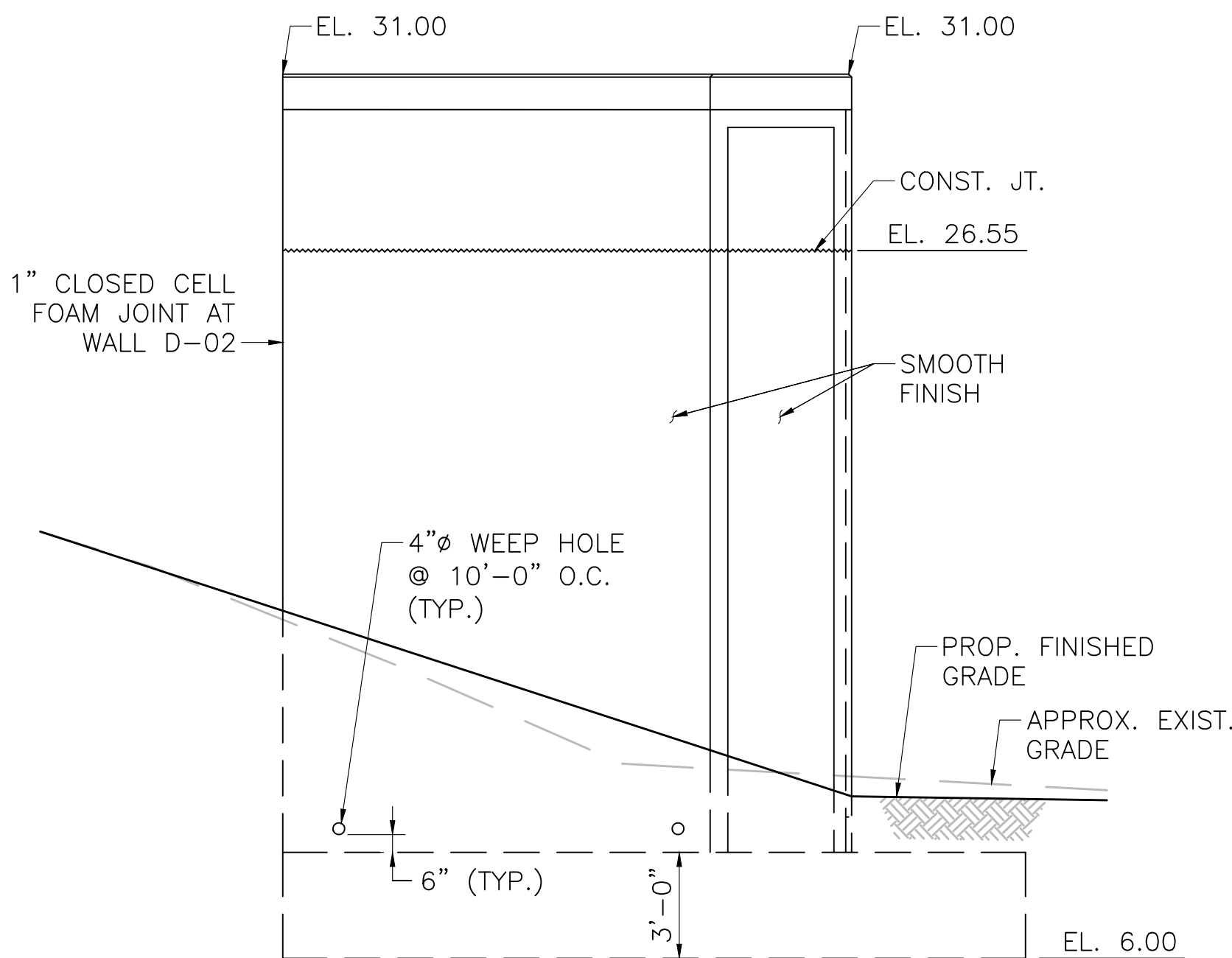
SOUTHWEST WINGWALL ELEVATION

SCALE: $\frac{1}{4}" = 1'-0"$



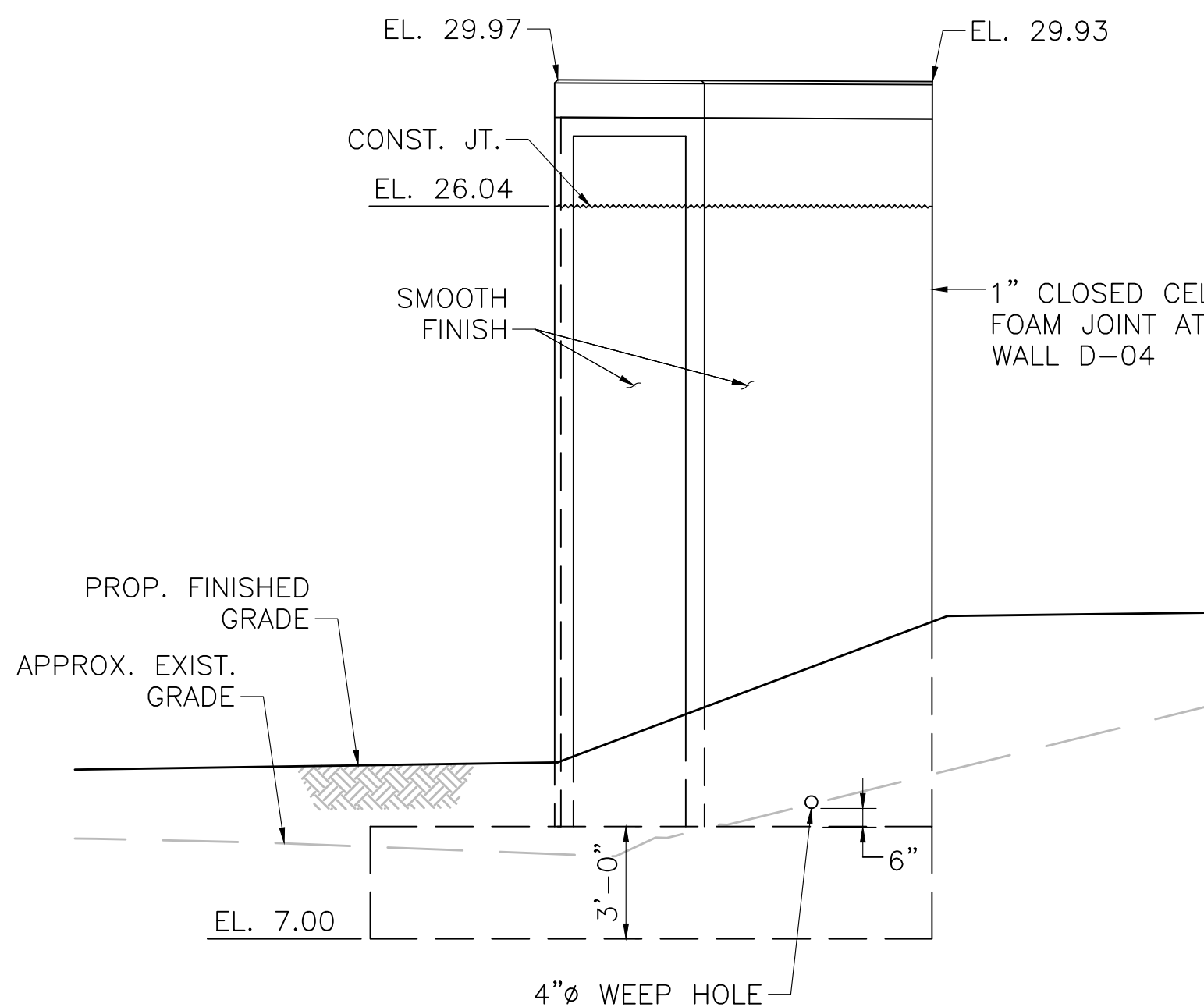
TOP OF NORTHWEST
WINGWALL DETAIL

SCALE: 1" = 1'-0"



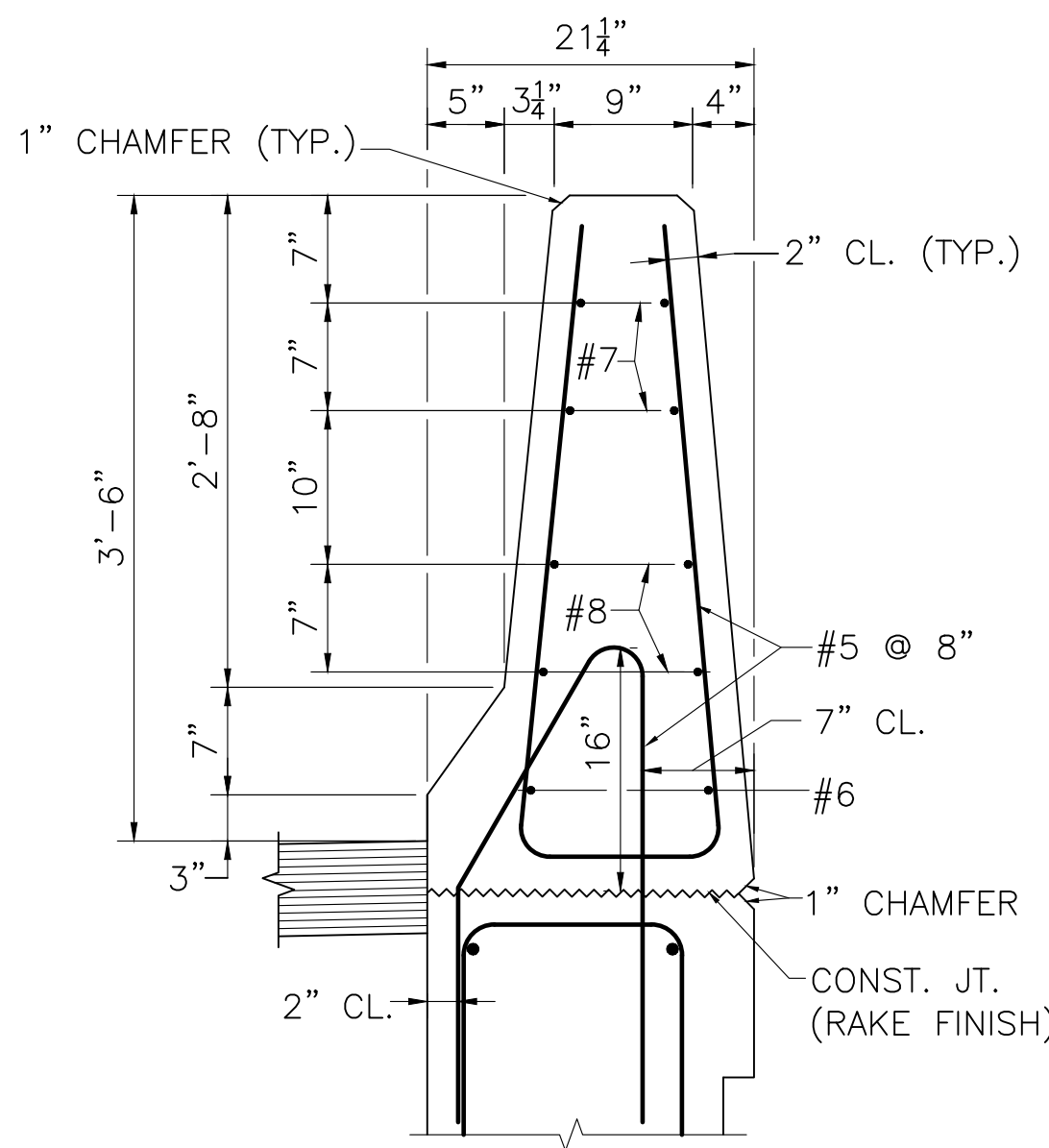
SOUTHEAST WINGWALL ELEVATION

SCALE: $\frac{1}{4}" = 1'-0"$



NORTHEAST WINGWALL ELEVATION

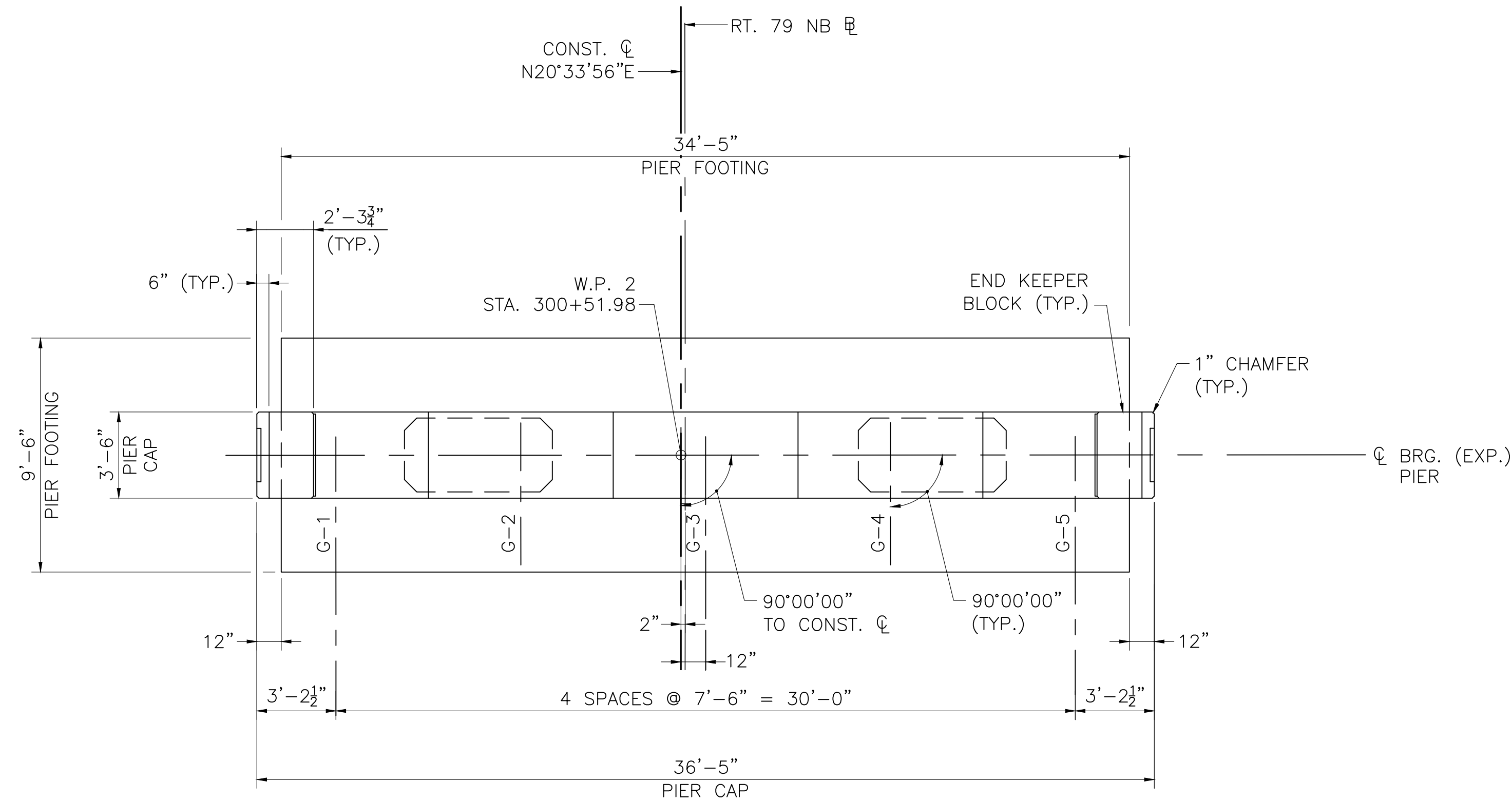
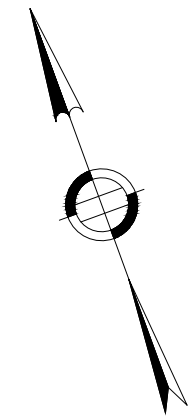
SCALE: $\frac{1}{4}" = 1'-0"$



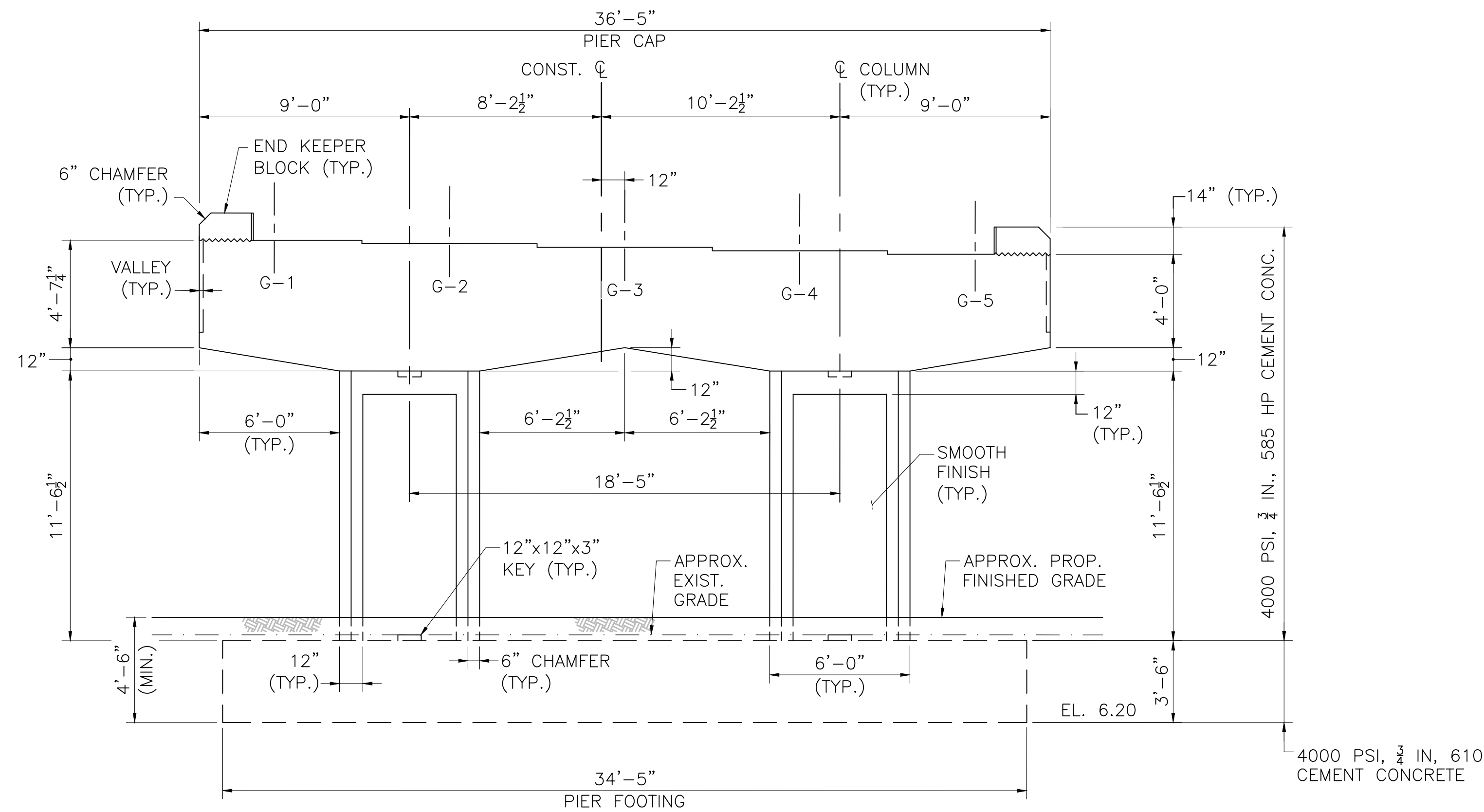
CF-PL3 BARRIER REINFORCING DETAIL

SCALE: 1" = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
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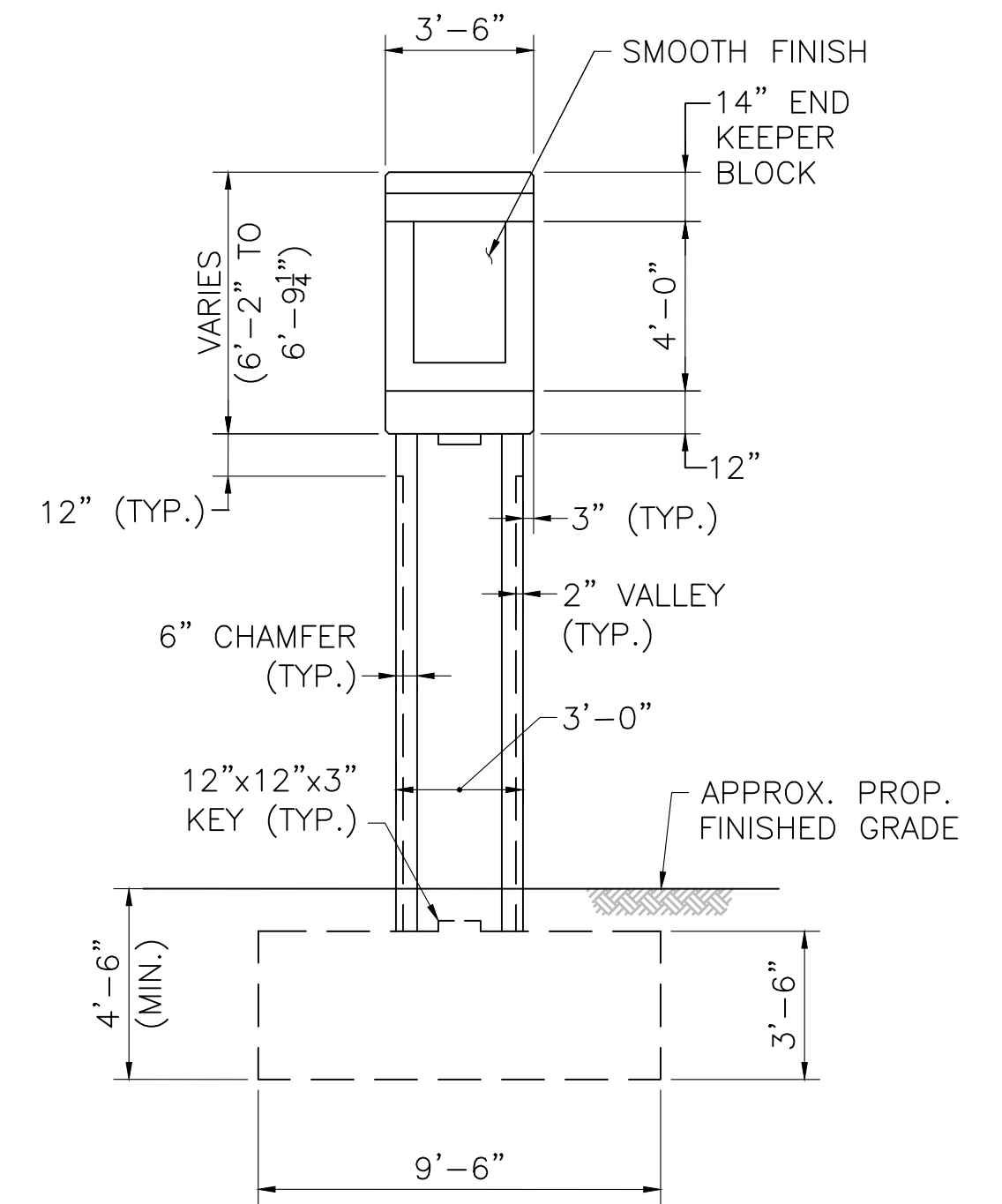
PIER PLAN
SCALE: $\frac{1}{4}$ " = 1'-0"



PIER ELEVATION
SCALE: $\frac{1}{4}$ " = 1'-0"

- NOTES:**
- ALL KEYS TO BE SLIGHTLY TAPERED.
 - FOR FOUNDATION PREPARATION NOTES, SEE SHEET 14.

PIER BRIDGE SEAT ELEVATIONS	
GIRDER NO.	ELEVATION
G-1	26.85
G-2	26.70
G-3	26.55
G-4	26.40
G-5	26.25



PIER SIDE ELEVATION
SCALE: $\frac{1}{4}$ " = 1'-0"

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AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
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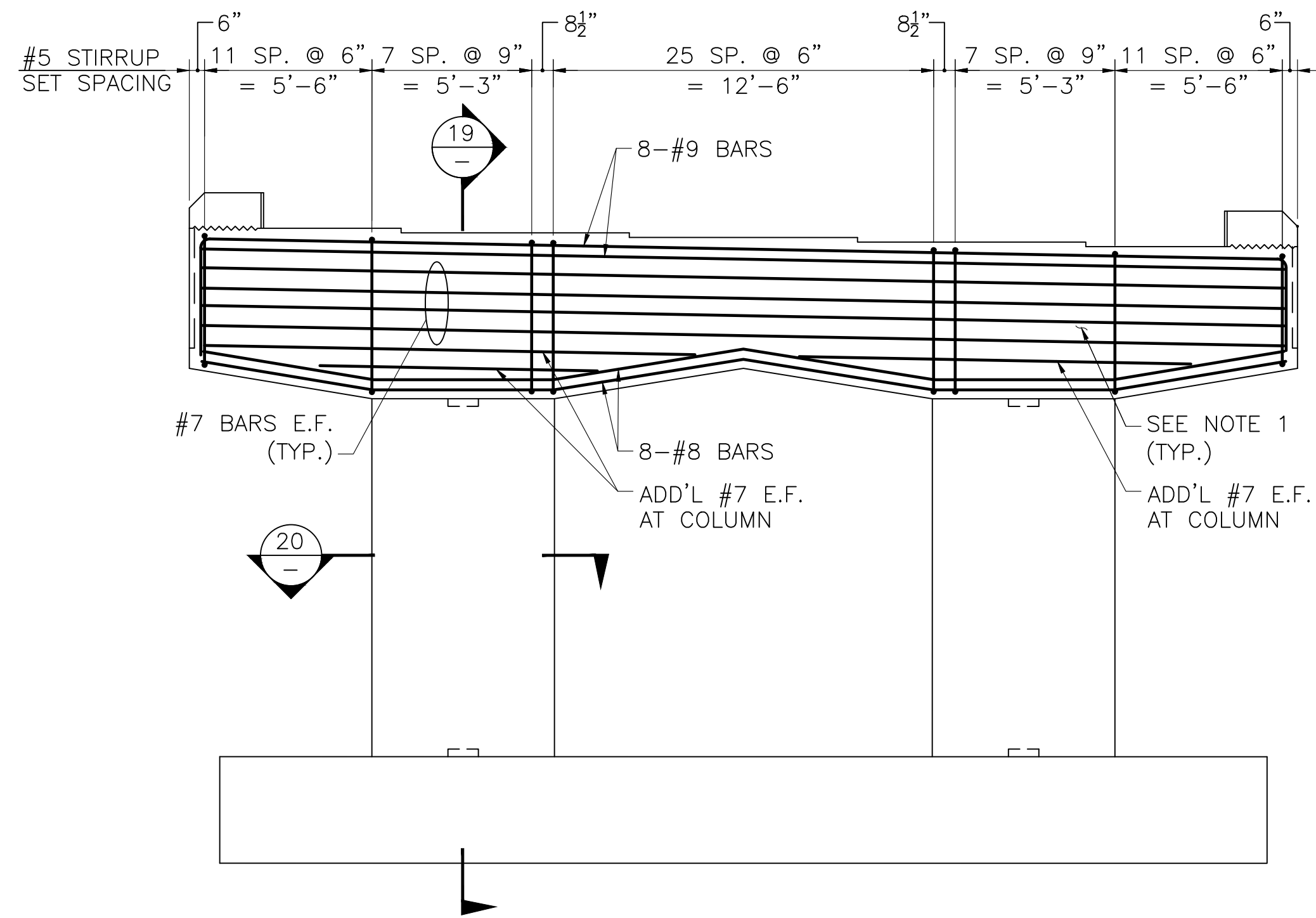
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1034	1094
PROJECT FILE NO.		608049	

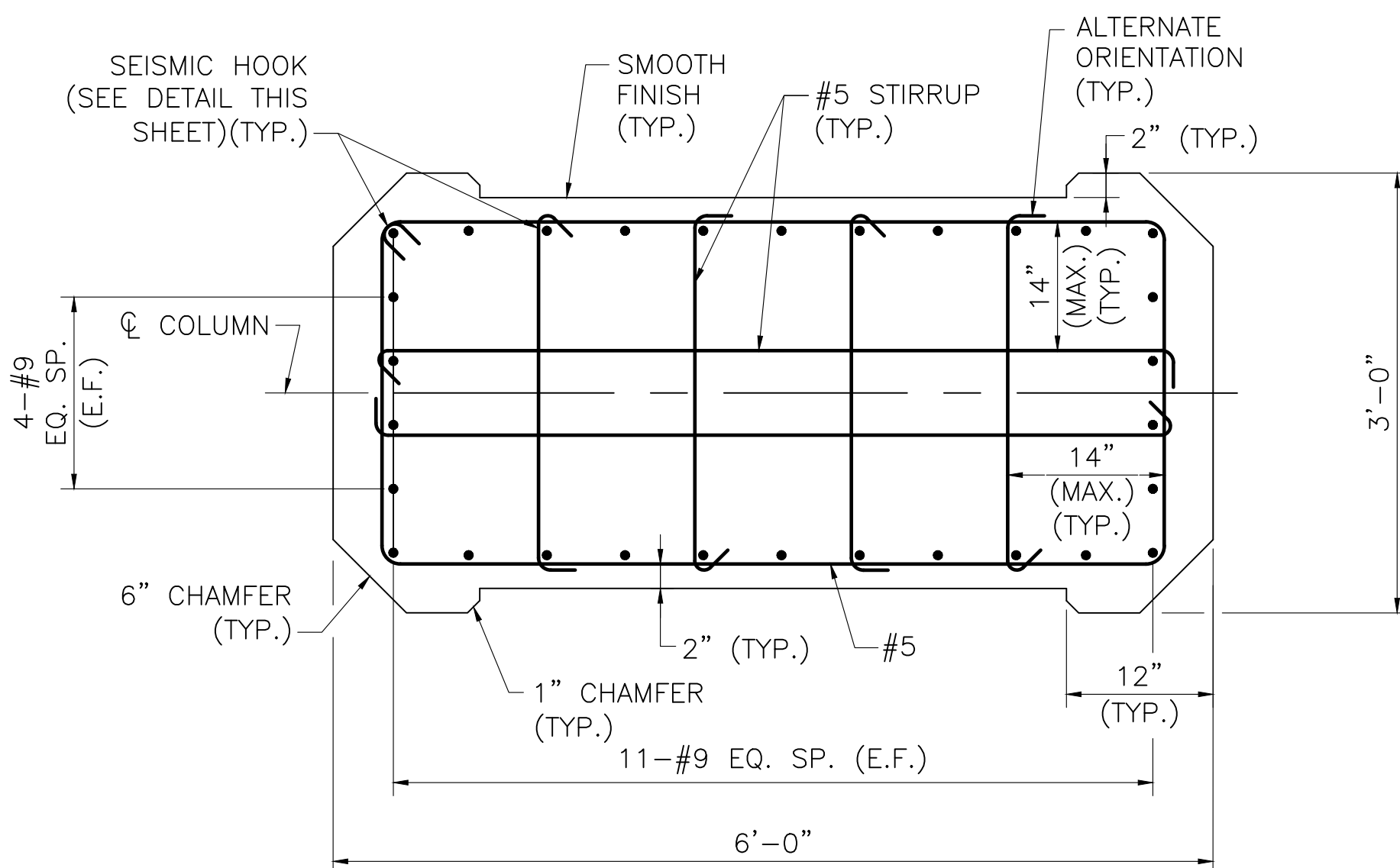
PIER DETAILS 1

NOTES:

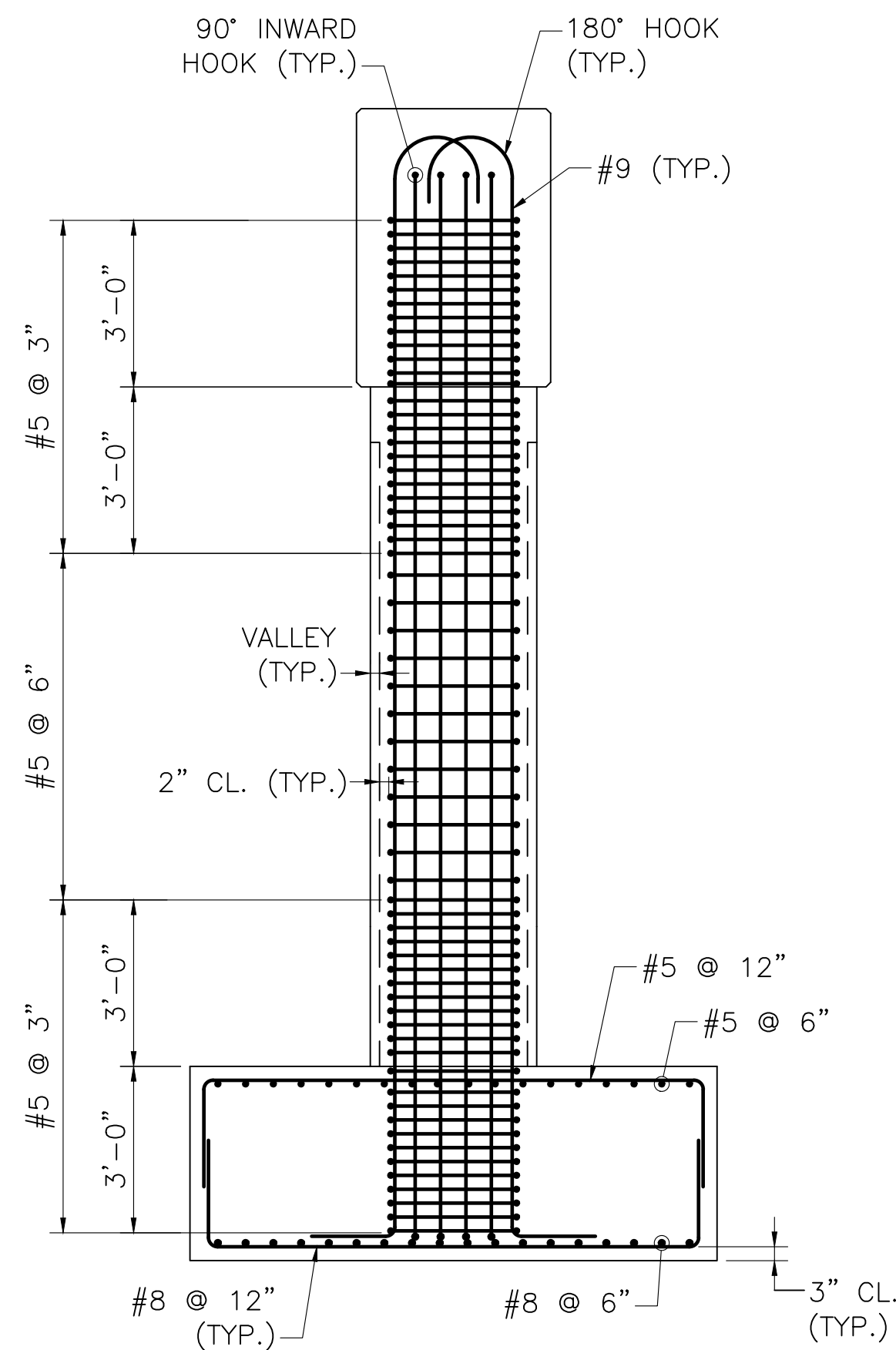
- CAP STIRRUP SPACING MAY BE ADJUSTED IN AREAS OF CONFLICT WITH COLUMN REINFORCEMENT (MAX. SPACING 18"). CAP STIRRUPS MAY USE LAP SPLICES IN AREAS OF CONFLICT WITH COLUMN REINFORCEMENT.
- THE FACTORED BEARING PRESSURE = 7.18 KSF FOR THE PIER AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH 1 LOAD COMBINATION. THE FACTORED BEARING RESISTANCE = 9.0 KSF FOR THE PIER. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.



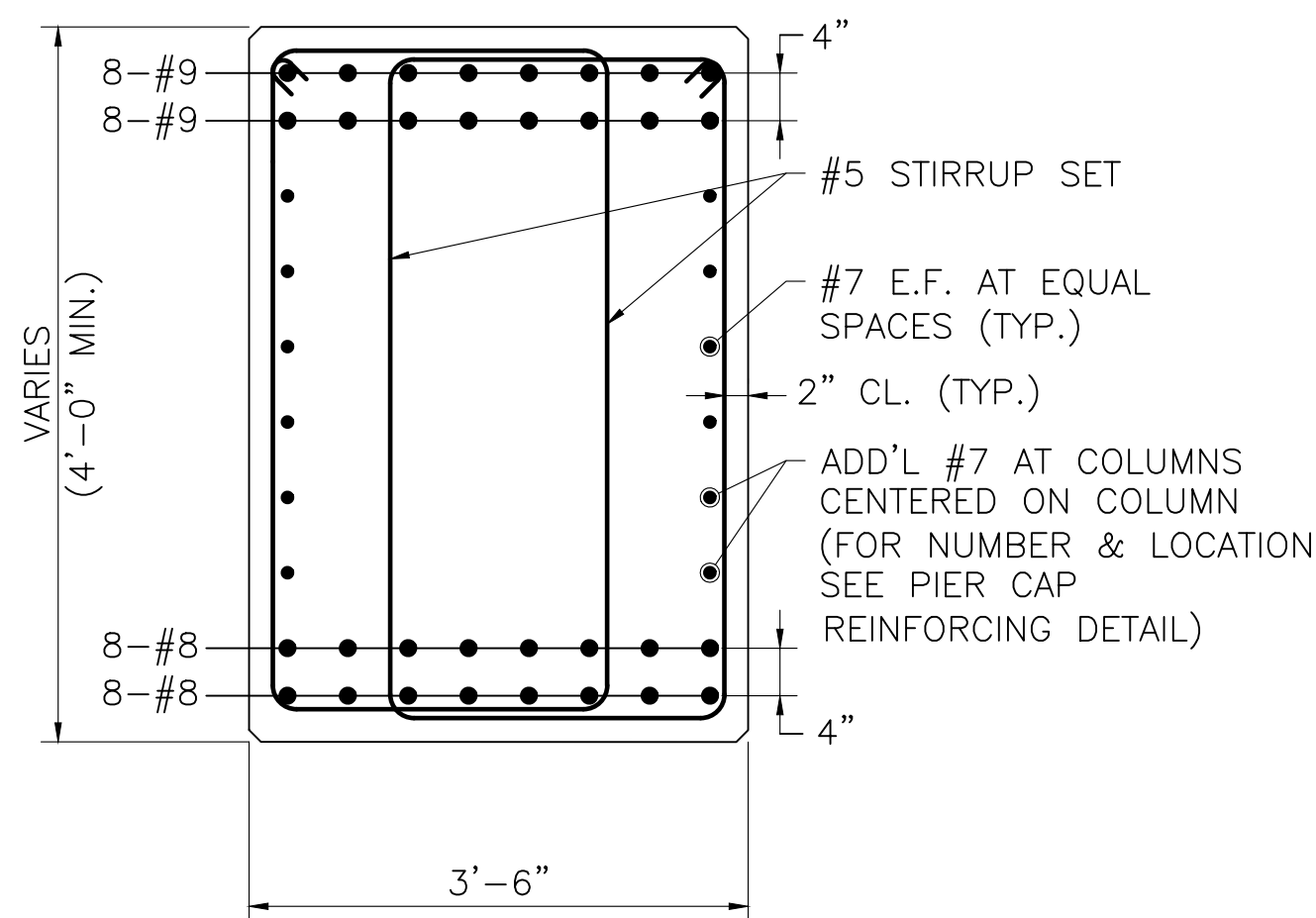
PIER CAP REINFORCING DETAIL
SCALE: $\frac{1}{4}$ " = 1'-0"



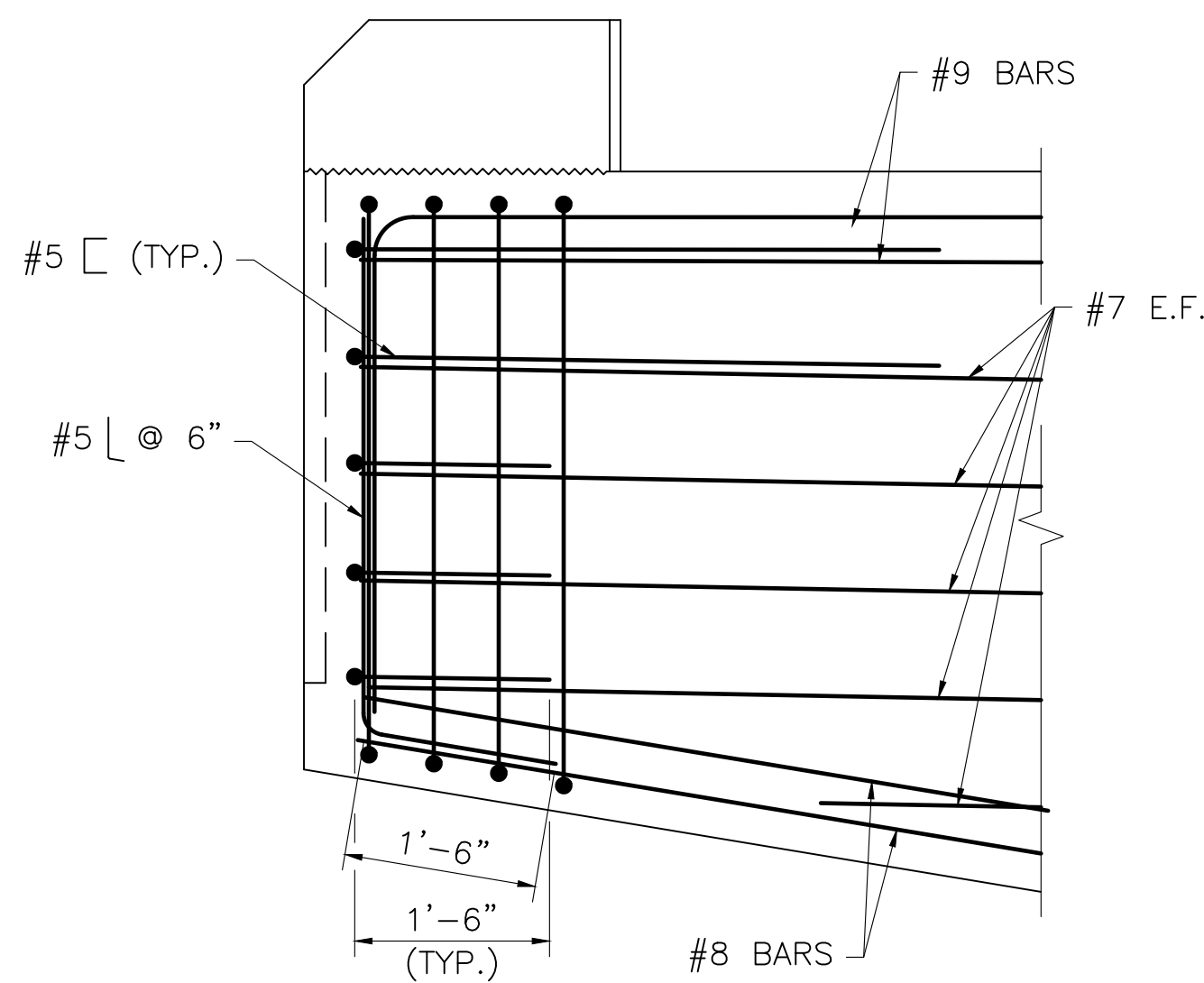
SECTION 20
SCALE: 1" = 1'-0"



SECTION 19
SCALE: $\frac{3}{8}$ " = 1'-0"

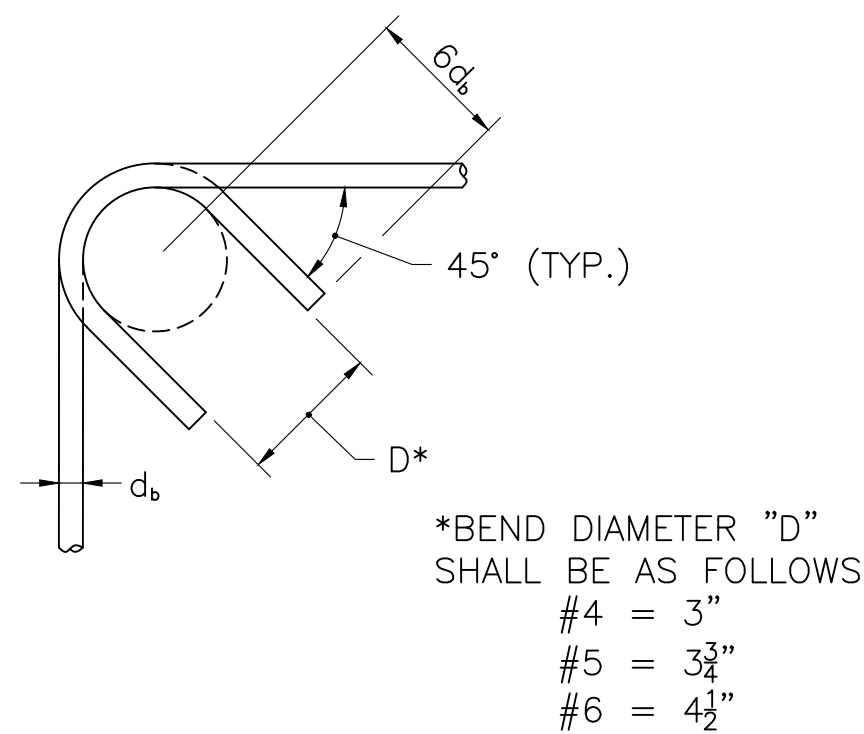


TYPICAL PIER CAP SECTION
SCALE: $\frac{3}{4}$ " = 1'-0"



NOTE:
END KEEPER BLOCK REINFORCEMENT OMITTED FOR CLARITY.

PIER CAP END REINFORCING DETAIL
SCALE: $\frac{3}{4}$ " = 1'-0"



SEISMIC HOOK DETAIL
NOT TO SCALE

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
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AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
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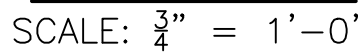
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)TAP/HIP(BR)/STP-003S(191)	1035	1094
PROJECT FILE NO.		608049	

-
- 2'-4 1/2"
- 6"
- 2" CL. (TYP.)
- #4 (AS SHOWN)
- 14"
- 6"
- 8"
- 1"
- CONST. JT. (RAKE FINISH)
- #4 @ 12" (TERMINATE 2" CLEAR OF CAP BOTTOM)
- #6 @ 6"
- 18" (TYP.)
- SOLE PLATE
- 3 1/4"
- 6"
- 9"
- #6 @ 6" (TYP.)
- 21

SCALE: $\frac{3}{4}" = 1'-0"$



SCALE: 1" = 1'-0"



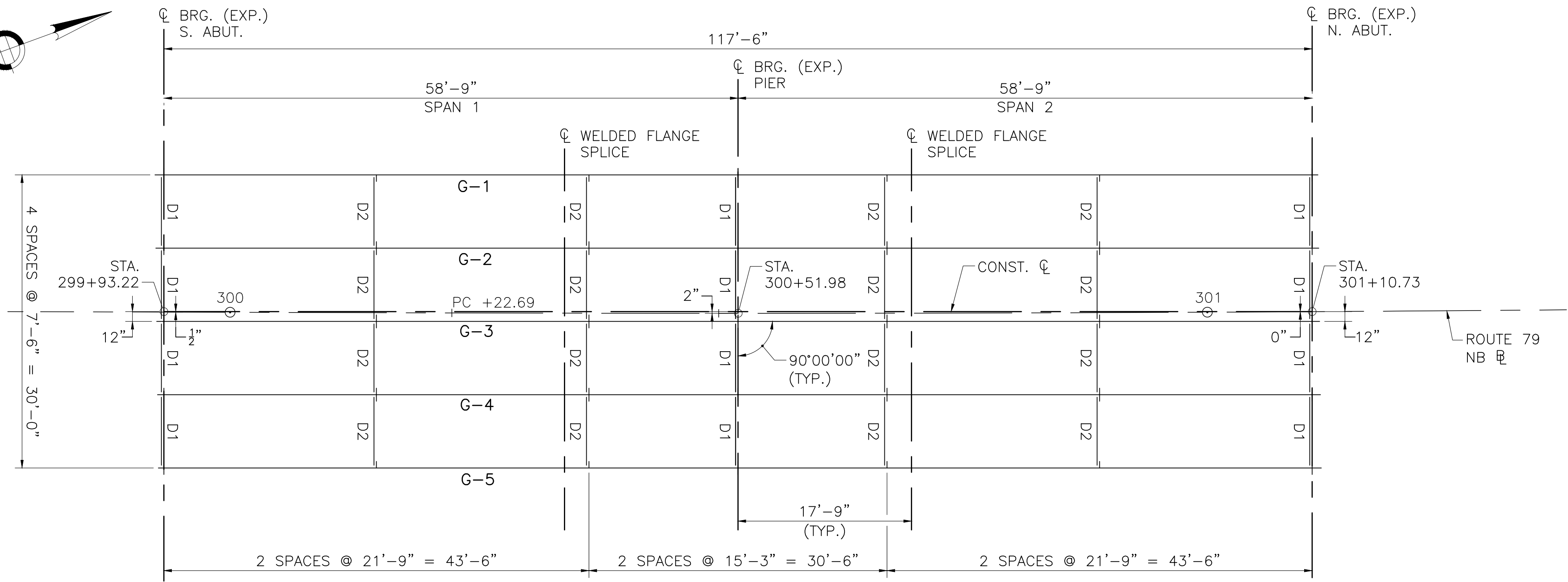
FEB. 16, 2024 DATE	ISSUED FOR CONSTRUCTION DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: _____ USE ONLY PRINTS OF LATEST DATE	
STATE BRIDGE ENGINEER	

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1036	1094
PROJECT FILE NO.		608049	

FRAMING PLAN & GIRDER DETAILS

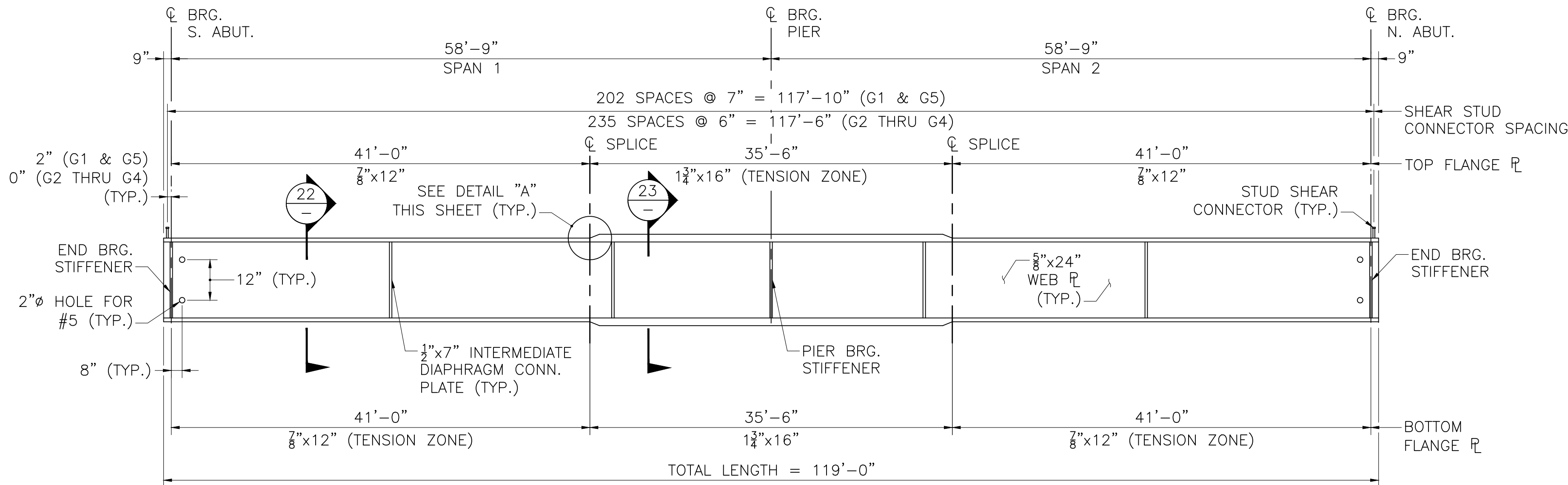
NOTES:

- D1 = C15x33.9 (TYPICAL END DIAPHRAGM)
D2 = C15x33.9 (TYPICAL INTERMEDIATE DIAPHRAGM)
- THE MAIN LOAD CARRYING MEMBERS ARE GIRDER G-1 THRU G-5.
- ALL STRUCTURAL STEEL SHALL CONFORM TO AASHTO M270 GRADE 50.
- ALL STEEL GIRDERS AND WELDED ATTACHMENTS SHALL BE METALIZED AND PAINTED. ALL STEEL DIAPHRAGMS AND BOLTED ATTACHMENTS SHALL BE HOT DIP GALVANIZED AND PAINTED.
- PAINT FINISH COAT SHALL MATCH COLOR CHIP NO. 15050 OF FEDERAL STANDARD 595B.
- ALL DIAPHRAGMS SHALL BE DETAILED AND FABRICATED TO THE TOTAL DEAD LOAD FIT (TDLF) CONDITION.
- ALL BEARING STIFFENERS SHALL BE PLUMB.
- END OF GIRDERS SHALL BE FABRICATED SO THAT UNDER FULL DEAD LOAD, THE ENDS ARE PLUMB.



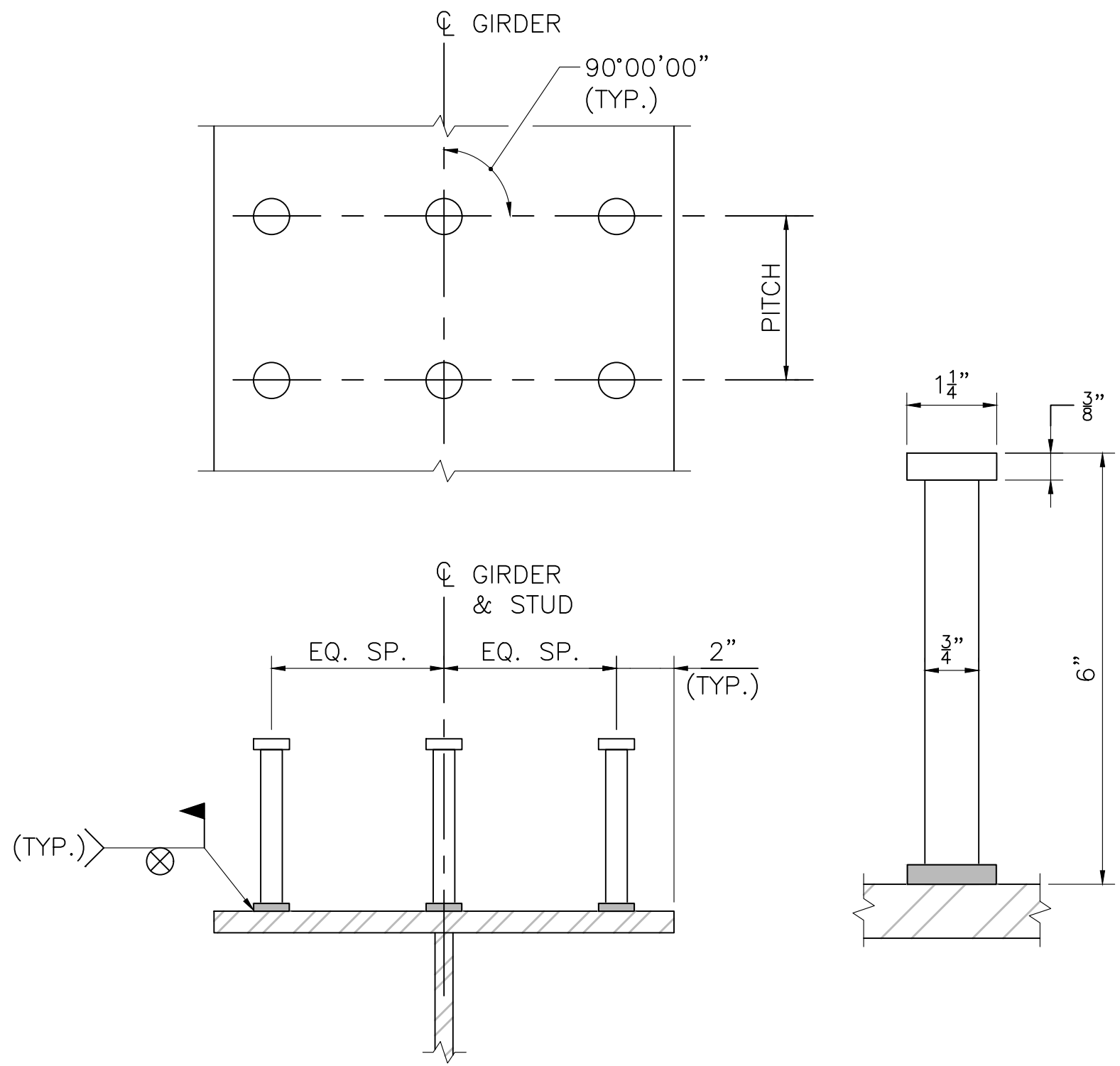
FRAMING PLAN

SCALE: $\frac{1}{8}$ " = 1'-0"



GIRDER ELEVATION

NOT TO SCALE

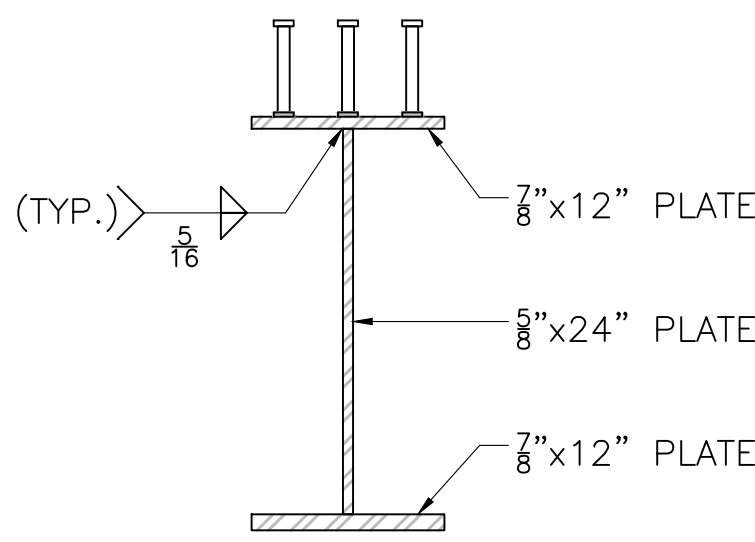


NOTE:

$\frac{7}{8}$ " STUDS MAY BE SUBSTITUTED FOR $\frac{3}{4}$ " STUDS BY ADJUSTING THE PITCH TO PROVIDE AN EQUIVALENT CROSS-SECTIONAL AREA PER FOOT.

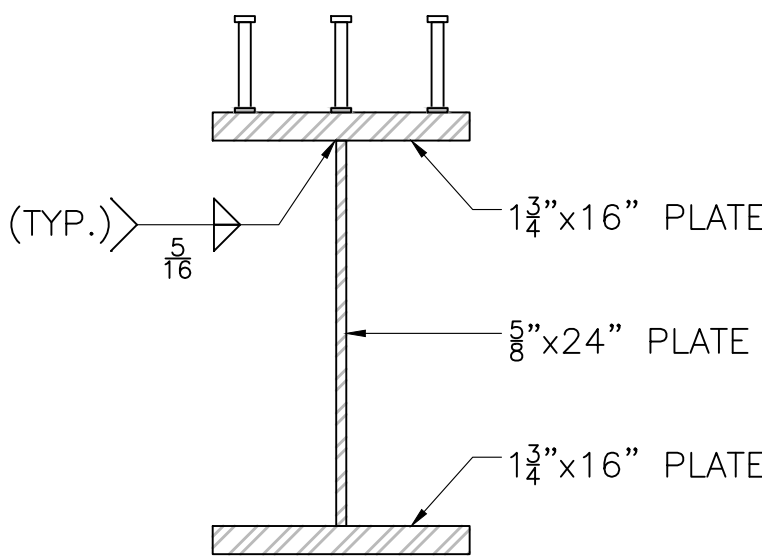
SHEAR STUD CONNECTOR DETAIL

NOT TO SCALE



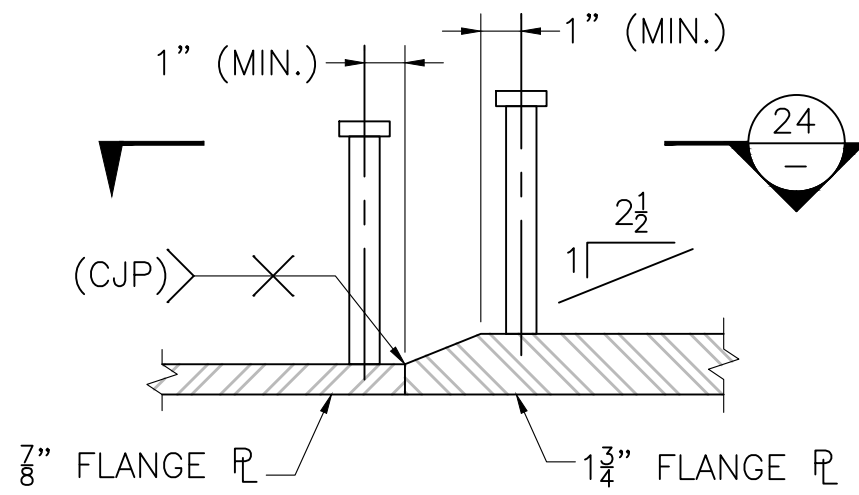
SECTION 22

NOT TO SCALE



SECTION 23

NOT TO SCALE

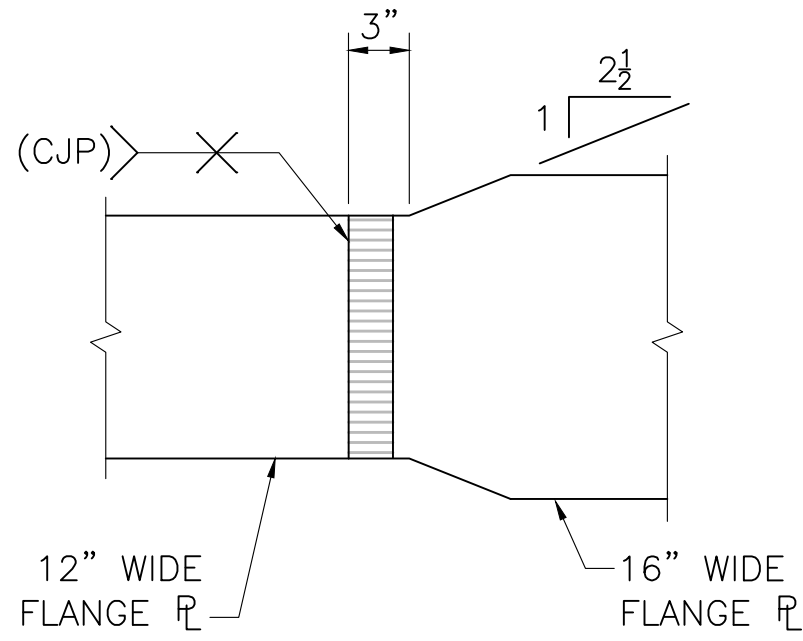


NOTE:

TOP FLANGE SHOWN. BOTTOM FLANGE SIMILAR.

DETAIL A

NOT TO SCALE



SECTION 24

NOT TO SCALE

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FALL RIVER
ROUTE 79

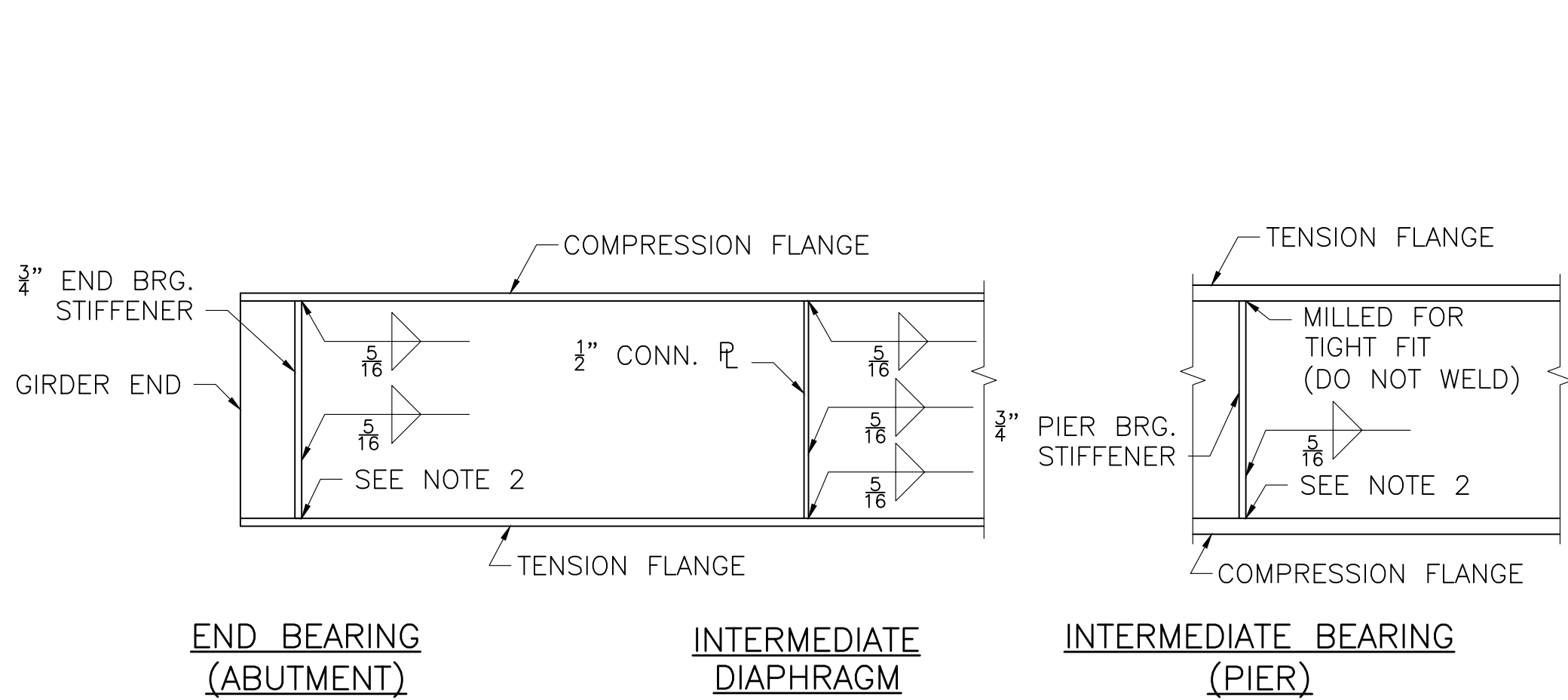
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1037	1094
PROJECT FILE NO.		608049	

STEEL DETAILS

NOTES:

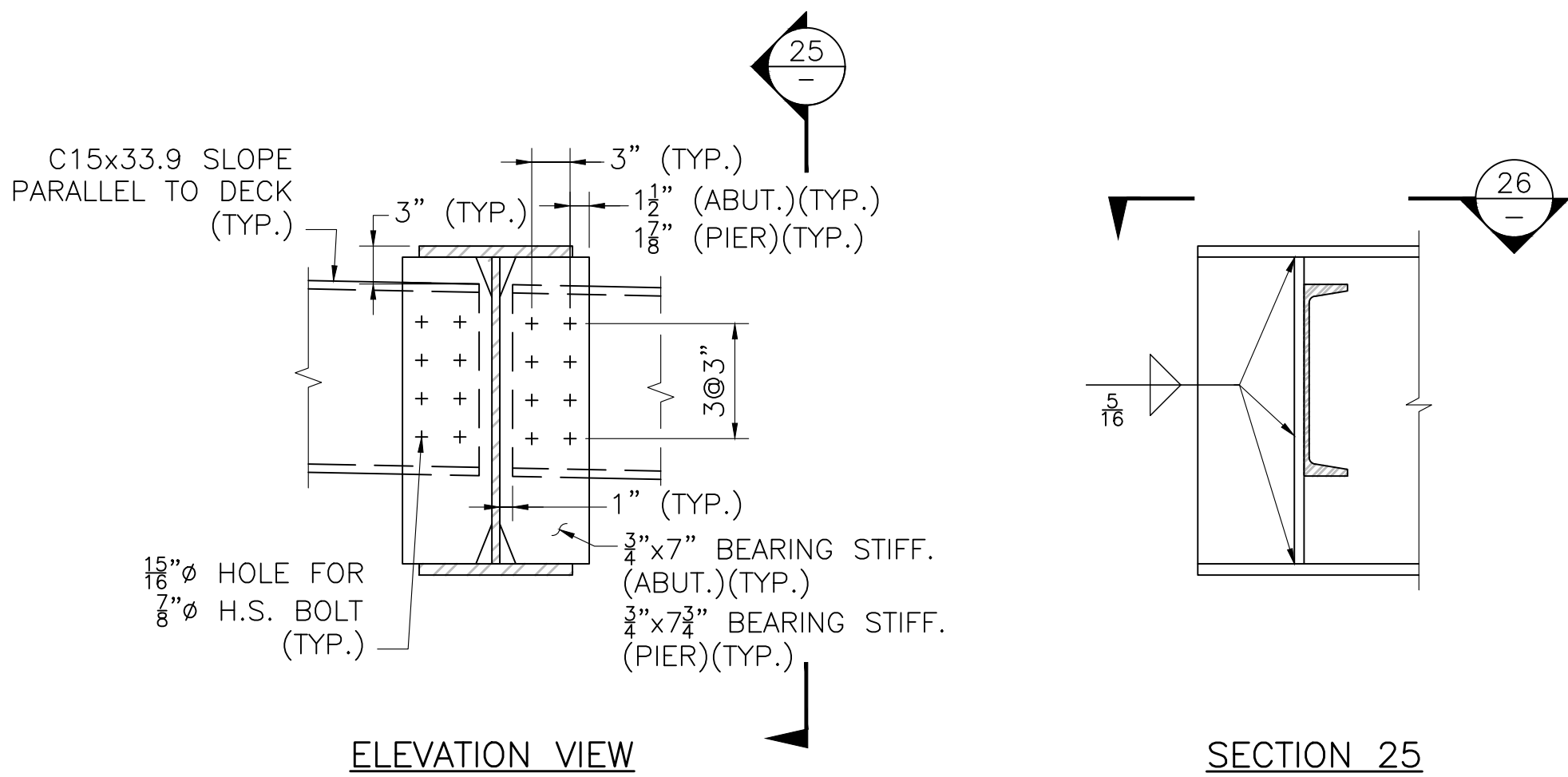
- TERMINATE WELD $\frac{1}{4}$ " FROM EDGE OF FLANGE OR CONNECTION PLATE, WHICHEVER IS ENCOUNTERED FIRST.
- BEARING STIFFENER PLATE AT BOTTOM FLANGE SHALL BE MILLED FOR TIGHT FIT AND WELDED WITH $\frac{5}{16}$ " FILLET WELDS BOTH SIDES OF PLATE.
- ALL CONNECTIONS HAVE BEEN DESIGNED FOR A CLASS C SURFACE CONDITION, ASSUMING A COEFFICIENT OF FRICTION ON THE FAYING SURFACES EQUAL TO OR GREATER THAN 0.30.

CAMBER TABLE (INCHES)																						
GIRDER NO.	DESCRIPTION	S. ABUT. BRG.	SPAN NO. 1									PIER BRG.	SPAN NO. 2									N. ABUT. BRG.
		0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L	1.0L
G1 & G5	STEEL DL DEFLECTION	0.00	0.04	0.08	0.10	0.11	0.10	0.08	0.06	0.03	0.01	0.00	0.01	0.03	0.06	0.08	0.10	0.11	0.10	0.08	0.04	0.00
	CONCRETE DL DEFLECTION	0.00	0.23	0.41	0.53	0.57	0.52	0.42	0.28	0.14	0.04	0.00	0.04	0.14	0.28	0.42	0.52	0.57	0.53	0.41	0.23	0.00
	S.D.L. DEFLECTION	0.00	0.09	0.17	0.22	0.24	0.23	0.18	0.13	0.07	0.02	0.00	0.02	0.07	0.13	0.18	0.23	0.24	0.22	0.17	0.09	0.00
	ADDITIONAL CAMBER	0.00	0.13	0.24	0.31	0.35	0.37	0.35	0.31	0.24	0.13	0.00	0.13	0.24	0.31	0.35	0.37	0.35	0.31	0.24	0.13	0.00
	TOTAL CAMBER	0.00	0.50	0.90	1.16	1.27	1.22	1.04	0.77	0.48	0.20	0.00	0.20	0.48	0.77	1.04	1.22	1.27	1.16	0.90	0.50	0.00
G2 THRU G4	STEEL DL DEFLECTION	0.00	0.05	0.09	0.11	0.12	0.11	0.09	0.06	0.03	0.01	0.00	0.01	0.03	0.06	0.09	0.12	0.12	0.11	0.09	0.05	0.00
	CONCRETE DL DEFLECTION	0.00	0.25	0.45	0.58	0.61	0.57	0.45	0.30	0.16	0.05	0.00	0.05	0.16	0.30	0.45	0.57	0.61	0.58	0.45	0.25	0.00
	S.D.L. DEFLECTION	0.00	0.07	0.13	0.16	0.18	0.17	0.13	0.09	0.05	0.01	0.00	0.01	0.05	0.09	0.13	0.17	0.18	0.16	0.13	0.07	0.00
	ADDITIONAL CAMBER	0.00	0.13	0.24	0.31	0.35	0.37	0.35	0.31	0.24	0.13	0.00	0.13	0.24	0.31	0.35	0.37	0.35	0.31	0.24	0.13	0.00
	TOTAL CAMBER	0.00	0.50	0.90	1.16	1.26	1.21	1.03	0.76	0.47	0.20	0.00	0.20	0.47	0.76	1.03	1.21	1.26	1.16	0.90	0.50	0.00



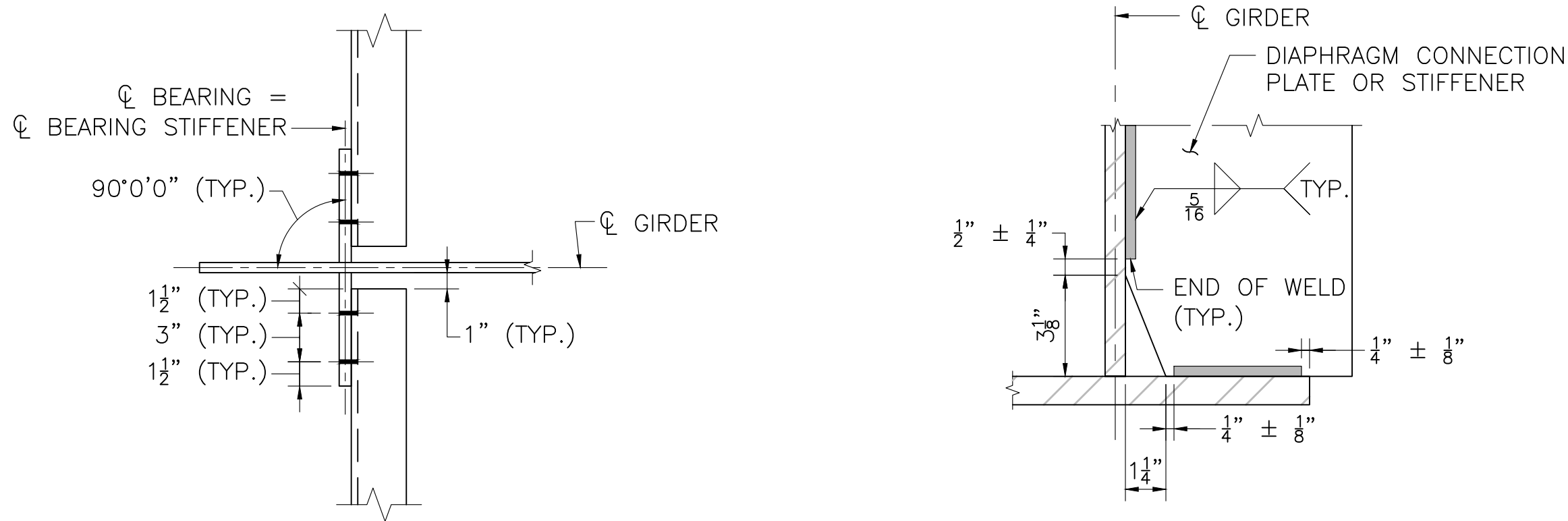
NOTE:
SEE CLIP DETAIL THIS SHEET.

STIFFENER ATTACHMENT DETAILS
NOT TO SCALE



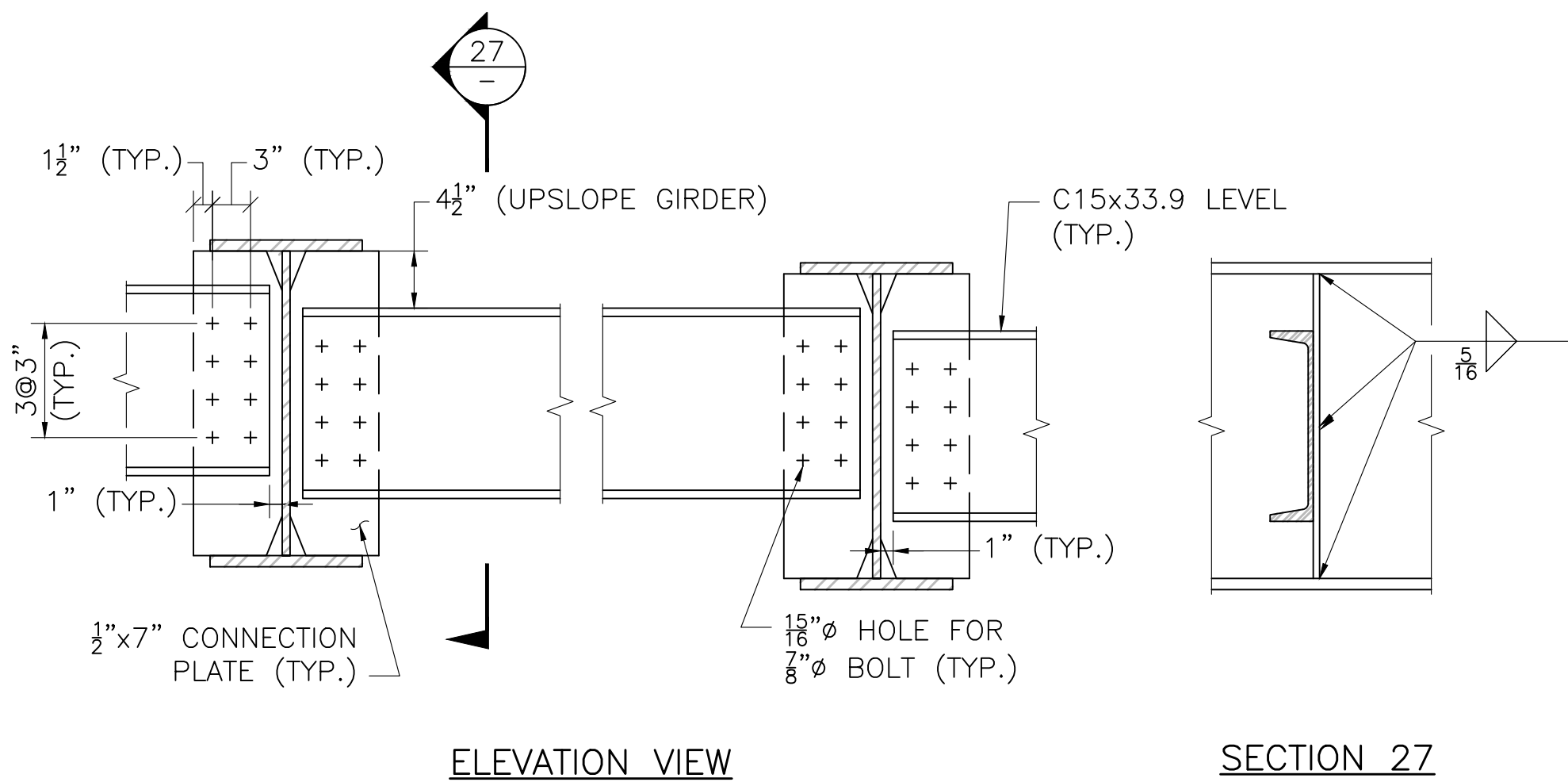
NOTE:
SEE CLIP DETAIL THIS SHEET.

END DIAPHRAGM (D1) DETAILS
SCALE: 1" = 1'-0"



SECTION 26
SCALE: $1\frac{1}{2}$ " = 1'-0"

CLIP DETAIL
NOT TO SCALE



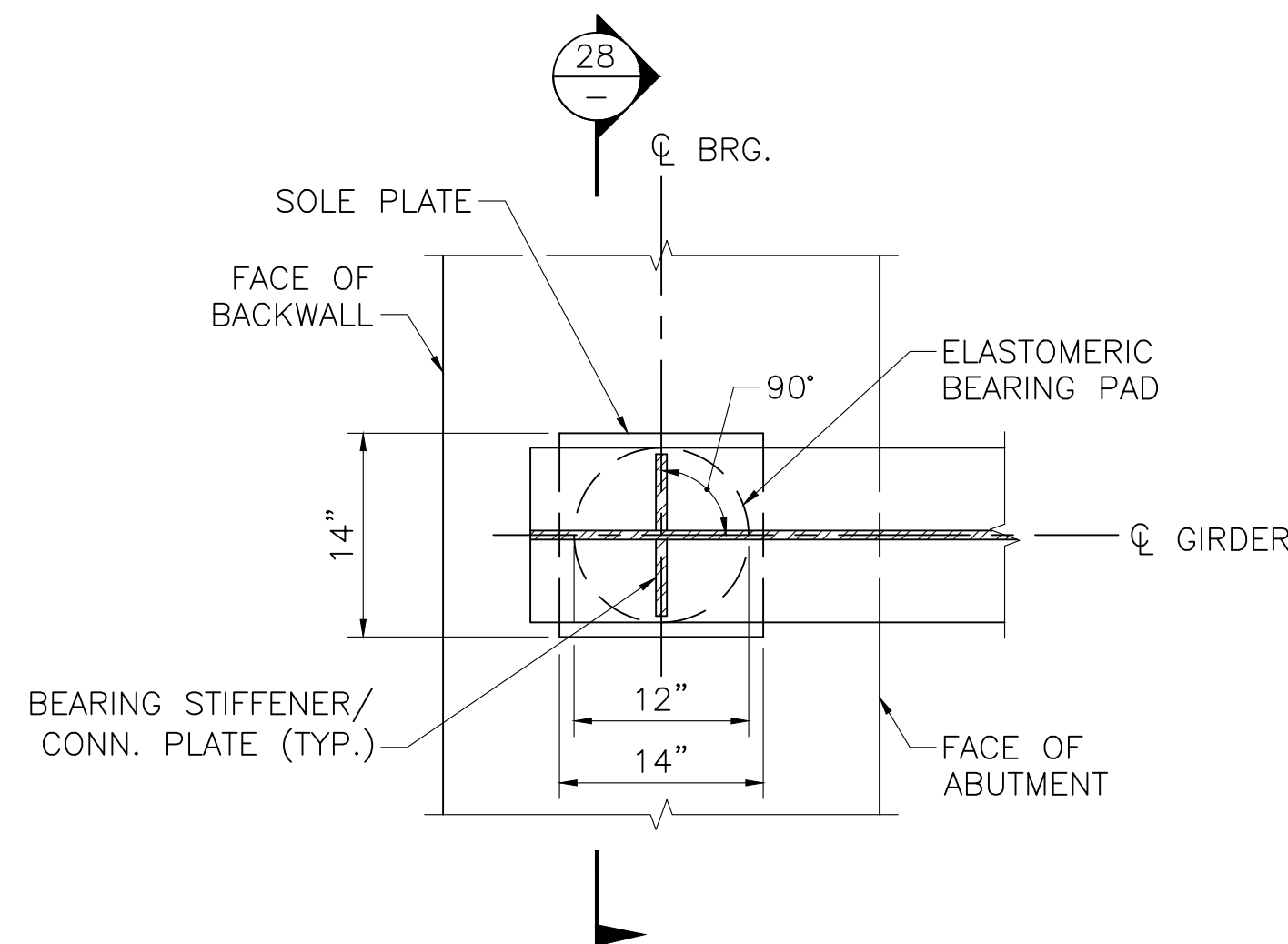
NOTE:
SEE CLIP DETAIL THIS SHEET.

INTERMEDIATE DIAPHRAGM (D2) DETAILS
SCALE: 1" = 1'-0"

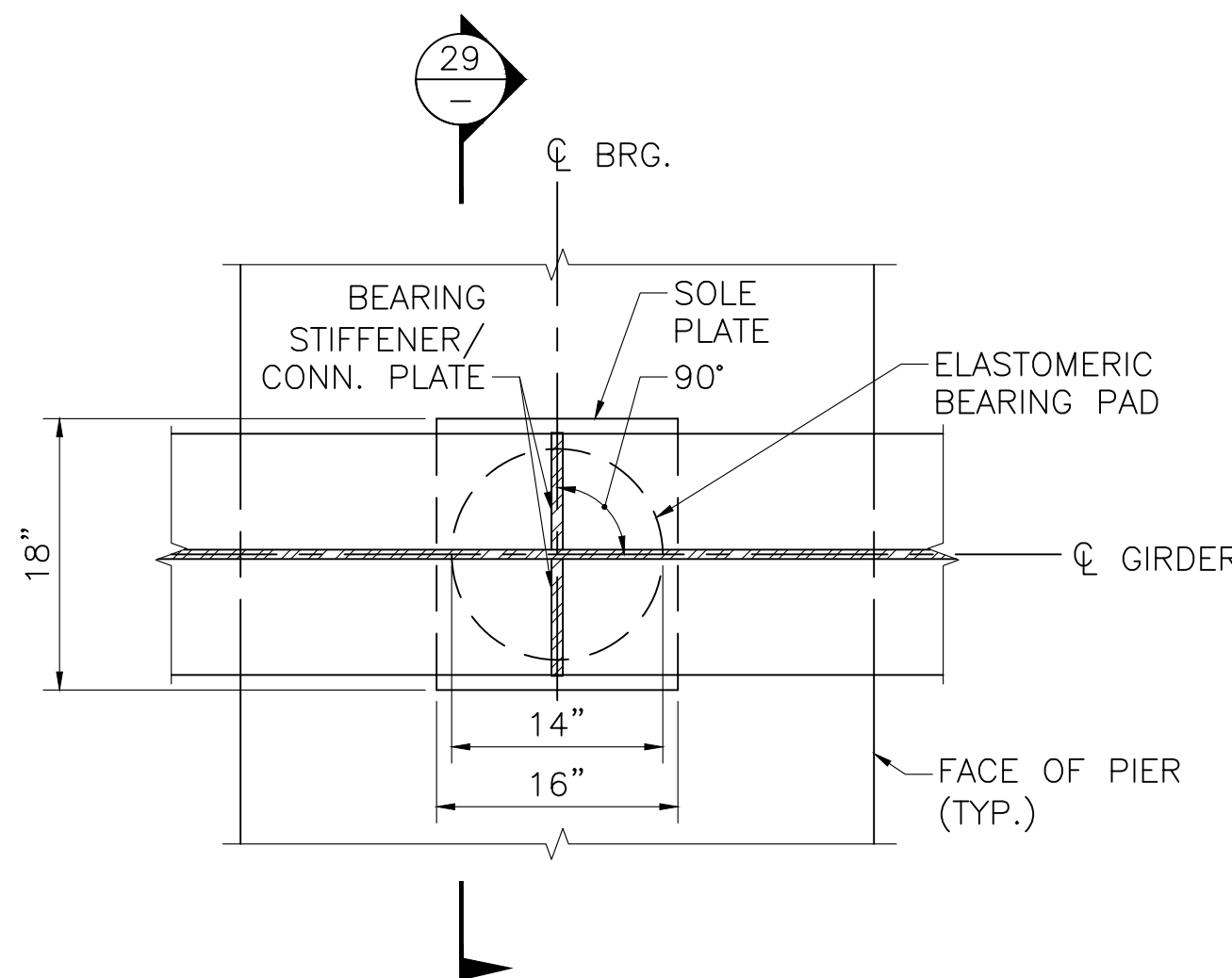
FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER	
USE ONLY PRINTS OF LATEST DATE	

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BRJ)/STP-003S(191)	1038	1094
PROJECT FILE NO.		608049	

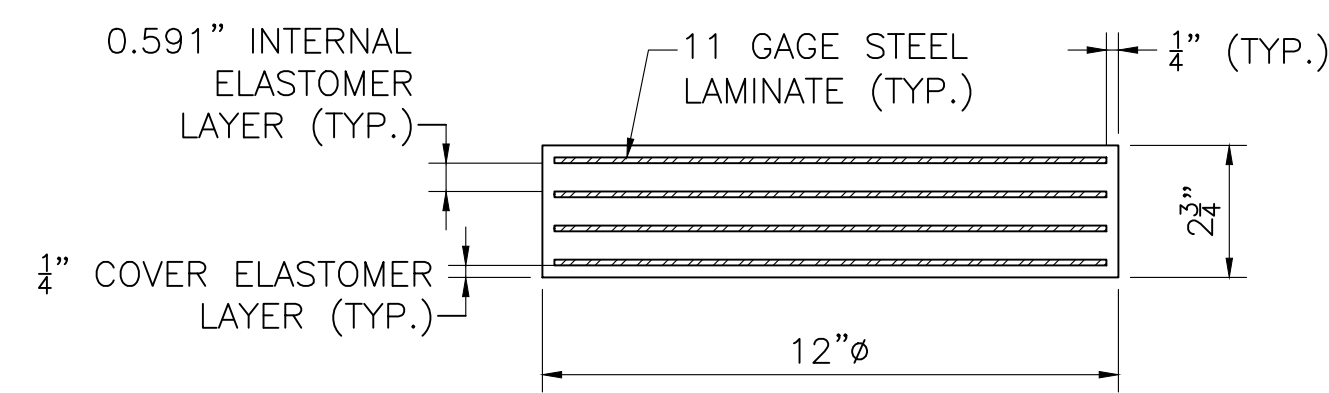
BEARING DETAILS



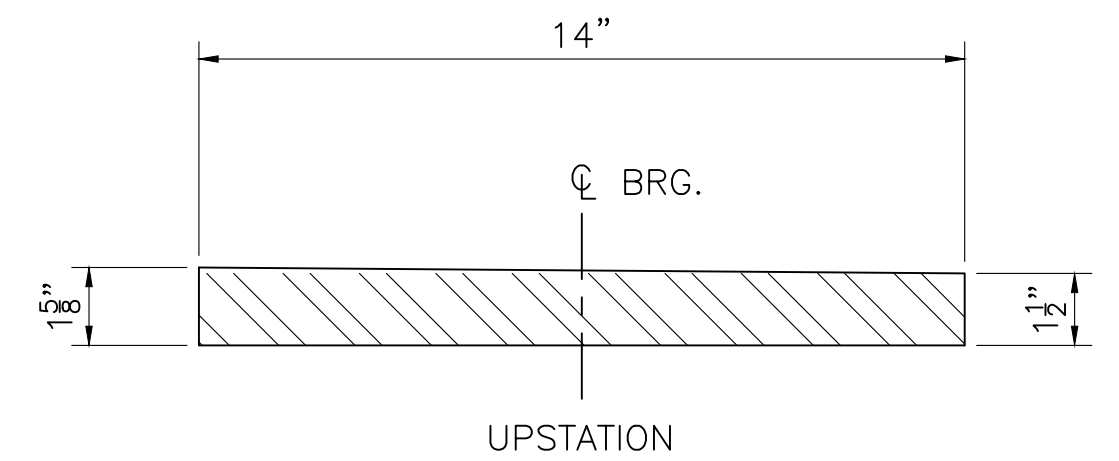
PLAN AT ABUTMENT
SCALE: 1" = 1'-0"



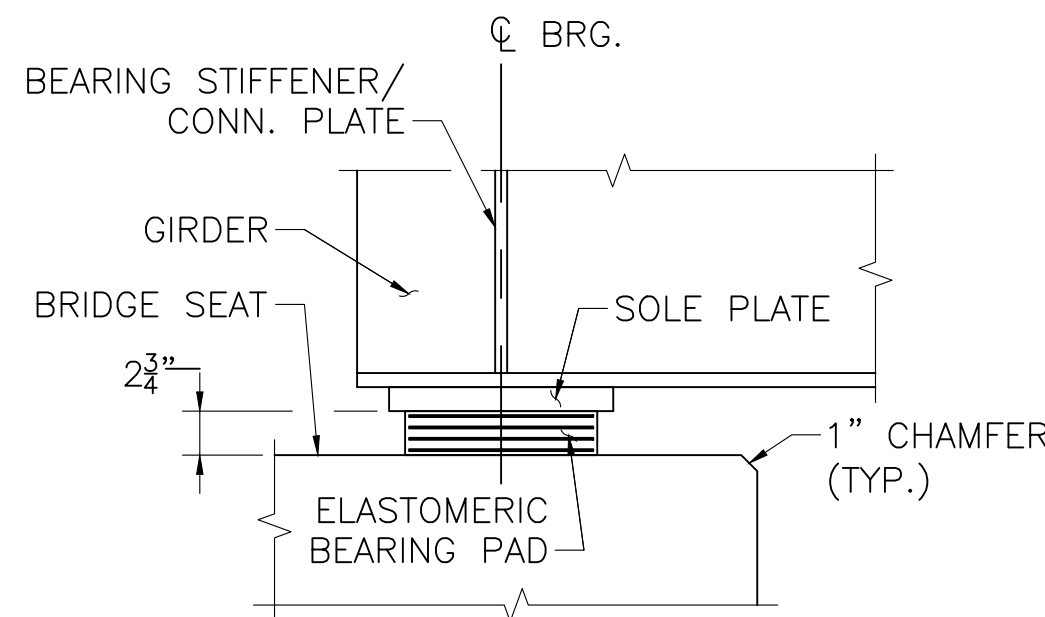
PLAN AT PIER
SCALE: 1" = 1'-0"



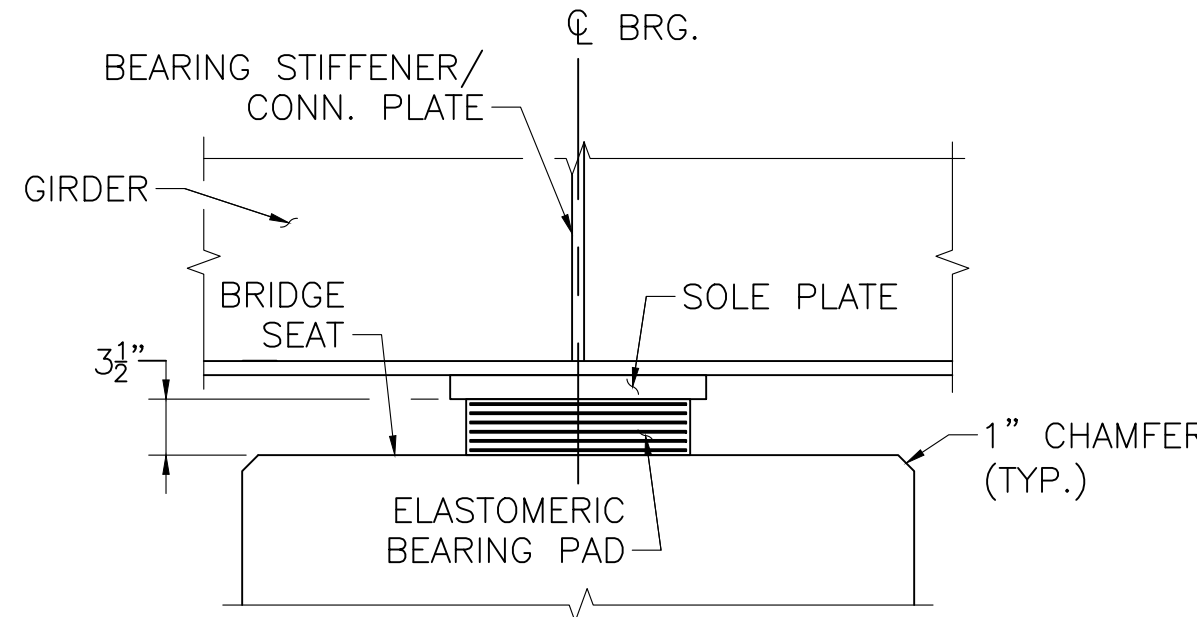
AT ABUTMENTS



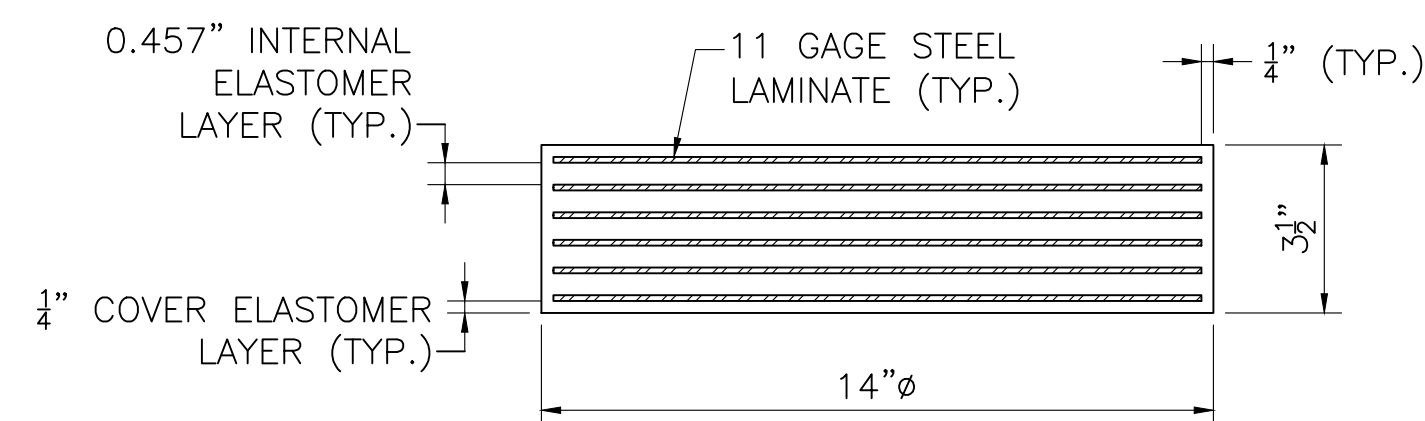
AT NORTH ABUTMENT



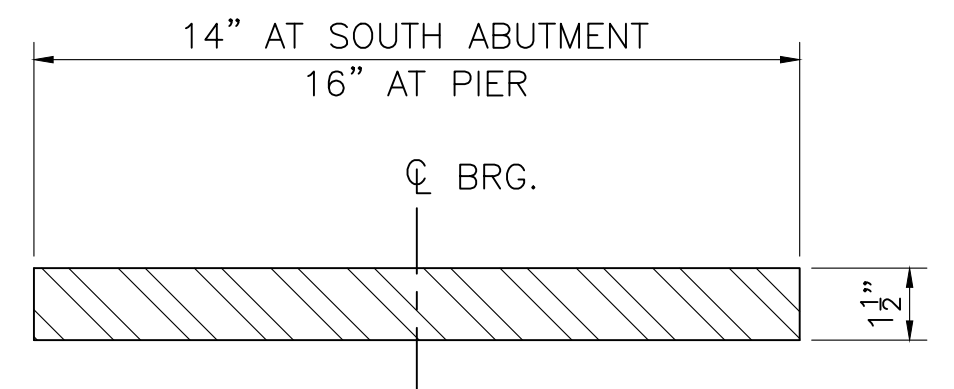
ELEVATION AT ABUTMENT
SCALE: 1" = 1'-0"



ELEVATION AT PIER
SCALE: 1" = 1'-0"



AT PIER



AT SOUTH ABUTMENT & PIER

NOTES:

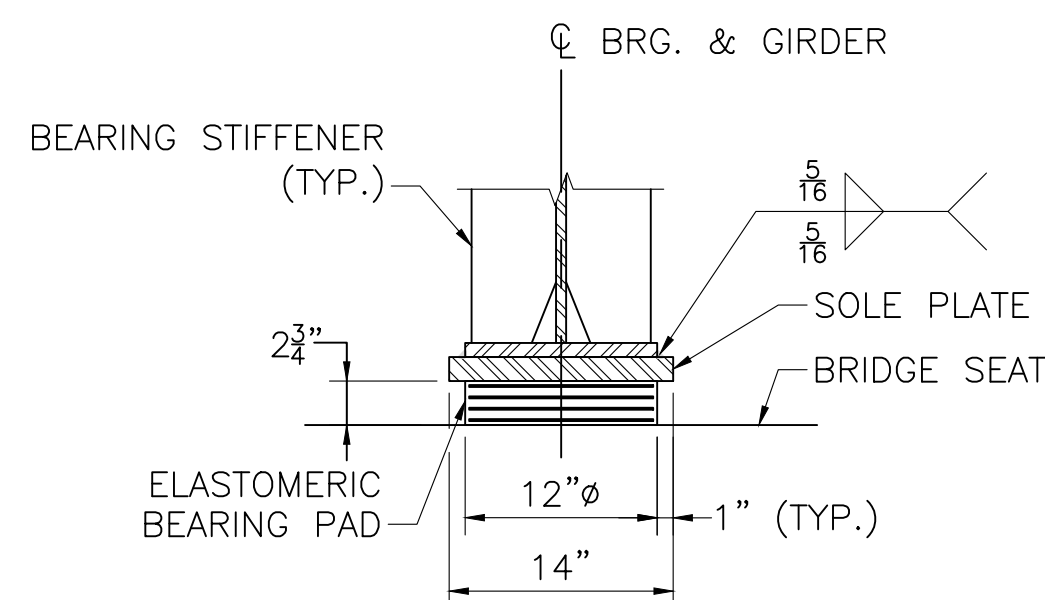
- ELASTOMER SHALL HAVE A SHEAR MODULUS OF 0.160 KSI.
- STEEL LAMINATES SHALL CONFORM TO ASTM A 1011 GRADE 36.
- THE COMPRESSIVE DESIGN LOAD ON THE BEARING PAD IS 98 KIPS AT THE ABUTMENTS AND 230 KIPS AT THE PIER. THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO 0.865 KSI AT THE ABUTMENTS AND 1.495 KSI AT THE PIER.
- ELASTOMERIC BEARING PAD SHALL NOT BE VULCANIZED TO THE SOLE PLATE.

ELASTOMERIC BEARING PAD DETAIL
SCALE: 3" = 1'-0"

NOTES:

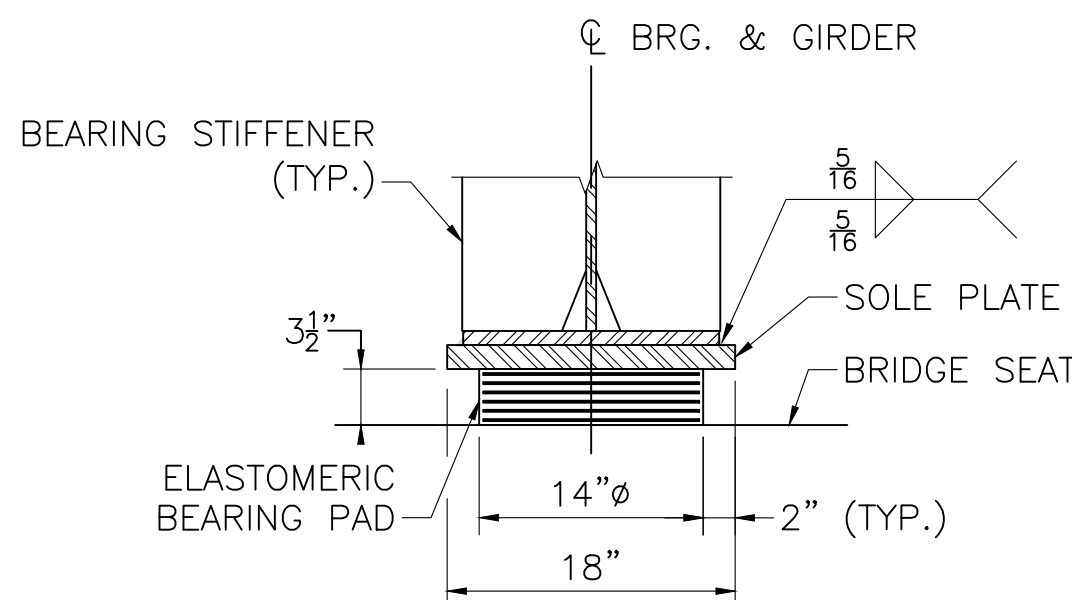
- STEEL SOLE PLATE SHALL CONFORM TO AASHTO M 270 GRADE 36 AND SHALL BE HOT-DIP GALVANIZED.
- CENTER THE ELASTOMERIC PAD UNDER THE SOLE PLATE DURING BEAM ERECTION.
- BEAMS SHALL BE ERECTED WHEN THE AMBIENT TEMPERATURE IS BETWEEN 50 °F AND 77 °F. IF BEAMS ARE ERECTED AT OTHER AMBIENT TEMPERATURES, THEY WILL HAVE TO BE JACKED AND THE ELASTOMERIC BEARINGS RECENTERED WHEN THE TEMPERATURE RETURNS TO THAT RANGE.

SOLE PLATE DETAIL
SCALE: 3" = 1'-0"



(*) - WELDS SHALL TERMINATE 1/4" FROM EDGE OF PLATE.

SECTION 28
SCALE: 1" = 1'-0"



(*) - WELDS SHALL TERMINATE 1/4" FROM EDGE OF PLATE.

SECTION 29
SCALE: 1" = 1'-0"

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE	

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(IM)/TAP/HIP(BR)/STP-003S(191)	1039	1094
PROJECT FILE NO.		608049	

S.I.P. FORM NOTES:

-

1. ROADWAY DECK SLAB SHALL BE 4000 PSI, $\frac{3}{4}$ IN., 585 HP CEMENT CONCRETE.
2. LONGITUDINAL REINFORCEMENT SHALL BE PLACED PARALLEL TO THE GIRDERS. TRANSVERSE (PRIMARY) REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE GIRDERS.
3. ALL REINFORCEMENT AND SUPPORT DEVICES SHALL BE COATED.
4. THE FINISHED SURFACES OF BRIDGE DECK SHALL BE SMOOTH AND WITHOUT ANY PROJECTIONS THAT COULD PUNCTURE THE MEMBRANE WATERPROOFING OR DEPRESSIONS THAT COULD RETAIN WATER.

SCALE: $\frac{3}{4}" = 1'-0"$

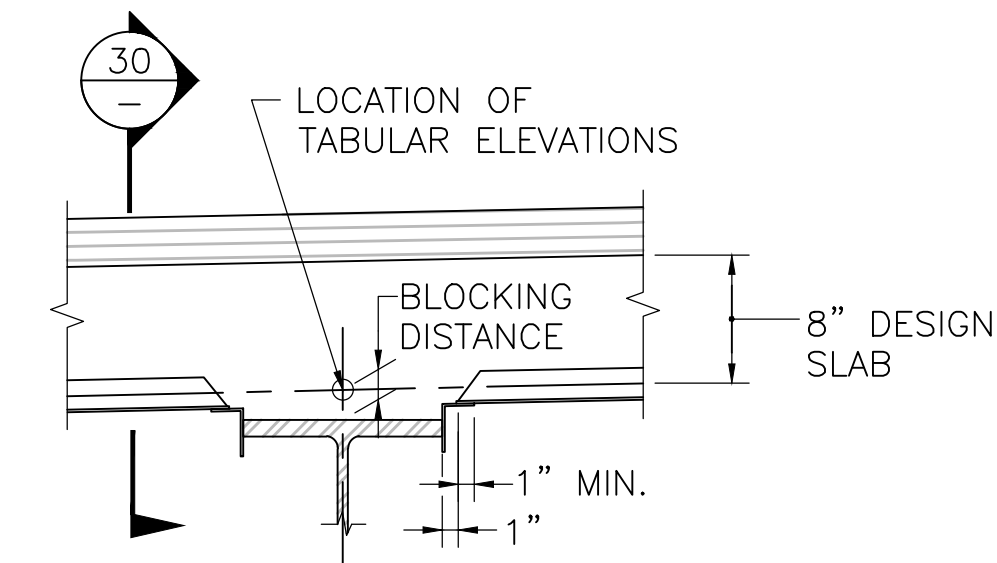


Diagram illustrating the connection between a composite slab and a beam. The diagram shows a cross-section of the slab and beam, with the following labels and dimensions:

- 30**: A circular callout indicating a dimension of 30.
- LOCATION OF TABULAR ELEVATIONS**: Points to the top surface of the slab.
- BLOCKING DISTANCE**: Points to the distance between the slab and the beam.
- 8" DESIGN SLAB**: Indicates the thickness of the design slab.
- NO WELDING TO TENSION FLANGE IS PERMITTED**: A note indicating that welding is not allowed on the tension flange of the beam.

ADD'L #4 @ 6 1/2" (TOP)

MEMBRANE WATERPROOFING

SUPPORT DEVICE, SPACED NO MORE THAN 4'-0" O.C.

HMA WEARING SURFACE

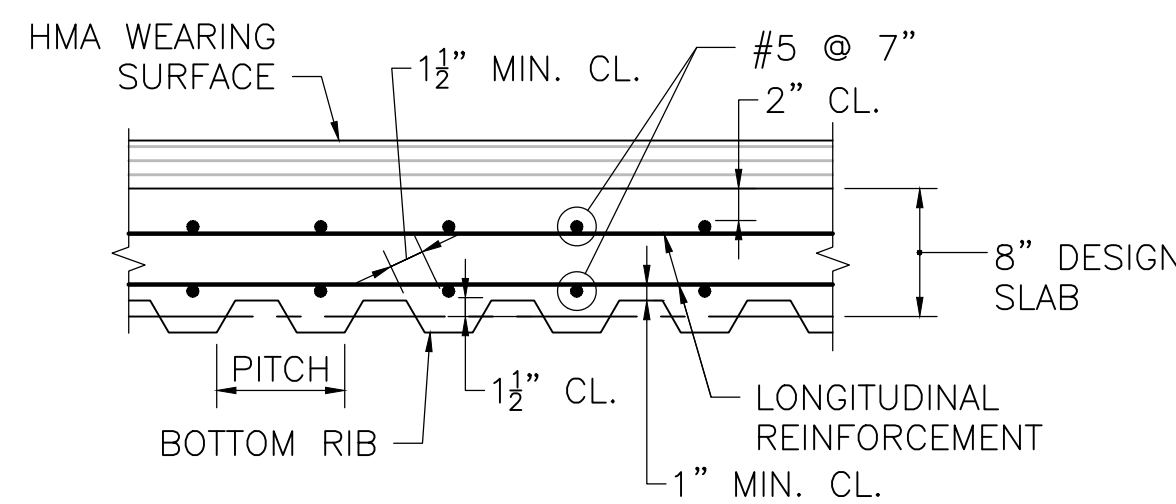
2" CL.

#4 @ 6 1/2"

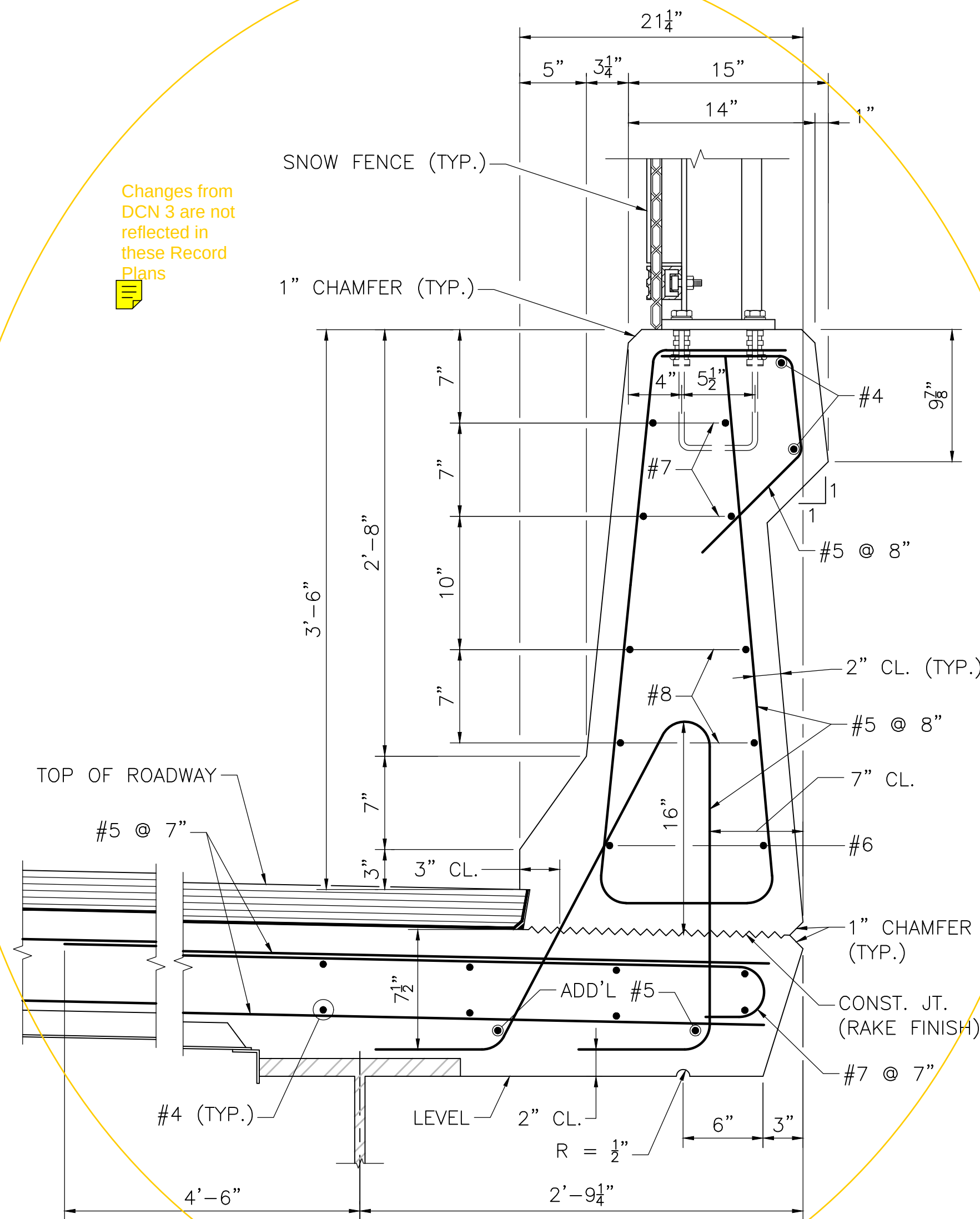
#5 @ 7"

7'-6"

SCALE: $\frac{3}{4}" = 1'-0"$



NOT TO SCALE



SCALE: $1\frac{1}{2}'' = 1'-0''$



~~CF-PL3 MODIFIED BARRIER SHALL BE 5000 PSI, $\frac{3}{4}$ INCH, 685 HP CONCRETE.~~

TOP OF FORM ELEVATIONS OF DECK SLAB PRIOR TO PLACING CONCRETE (FEET)																					
GIRDER NO.	S. ABUT. C BRG	SPAN (INCREASING STATION)									PIER C BRG	SPAN (INCREASING STATION)									N. ABUT. C BRG
	0.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	0.9L		1.0L	0.1L	0.2L	0.3L	0.4L	0.5L	0.6L	0.7L	0.8L	
G-1	29.84	29.85	29.84	29.83	29.81	29.78	29.75	29.70	29.66	29.63	29.60	29.58	29.56	29.55	29.54	29.53	29.51	29.48	29.43	29.39	29.33
G-2	29.69	29.70	29.69	29.68	29.66	29.63	29.59	29.55	29.51	29.48	29.45	29.43	29.41	29.40	29.39	29.38	29.35	29.32	29.28	29.24	29.18
G-3	29.54	29.55	29.54	29.53	29.51	29.48	29.44	29.40	29.36	29.33	29.30	29.28	29.26	29.25	29.24	29.23	29.20	29.17	29.13	29.09	29.03
G-4	29.39	29.40	29.39	29.38	29.36	29.33	29.29	29.25	29.21	29.18	29.15	29.13	29.11	29.10	29.09	29.08	29.05	29.02	28.98	28.94	28.88
G-5	29.24	29.25	29.24	29.23	29.21	29.18	29.15	29.10	29.06	29.03	29.00	28.98	28.96	28.95	28.94	28.93	28.91	28.88	28.83	28.79	28.73

AFTER THE GIRDERS ARE ERECTED BUT BEFORE THE FORMS ARE BUILT, ELEVATIONS ON TOP OF THE FLANGE OF THE GIRDERS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE SHOWN IN THE TABLE GIVES THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF GIRDER TO THE BOTTOM OF THE SLAB AT CENTERLINE OF GIRDER.

FEB. 16, 2024	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY:	
USE ONLY PRINTS OF LATEST DATE	STATE BRIDGE ENGINEER

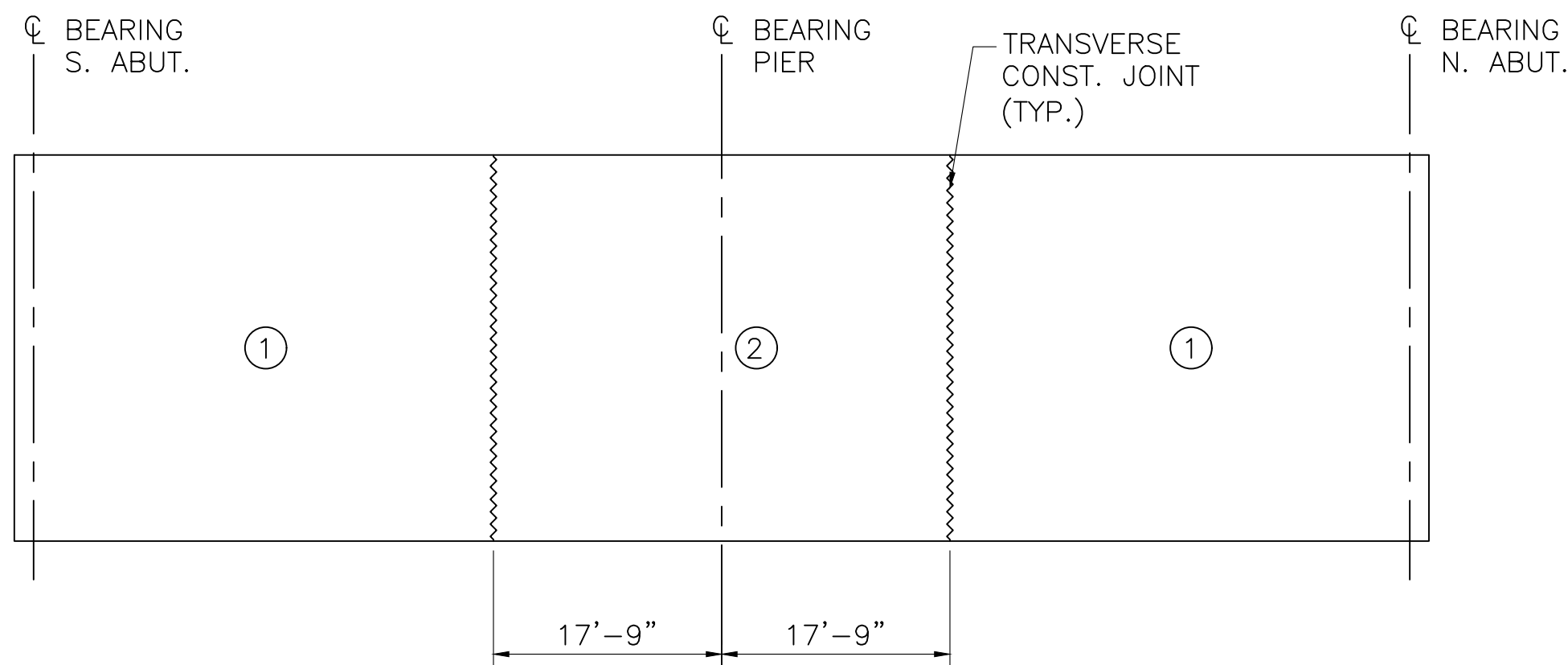
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1040	1094
PROJECT FILE NO.		608049	

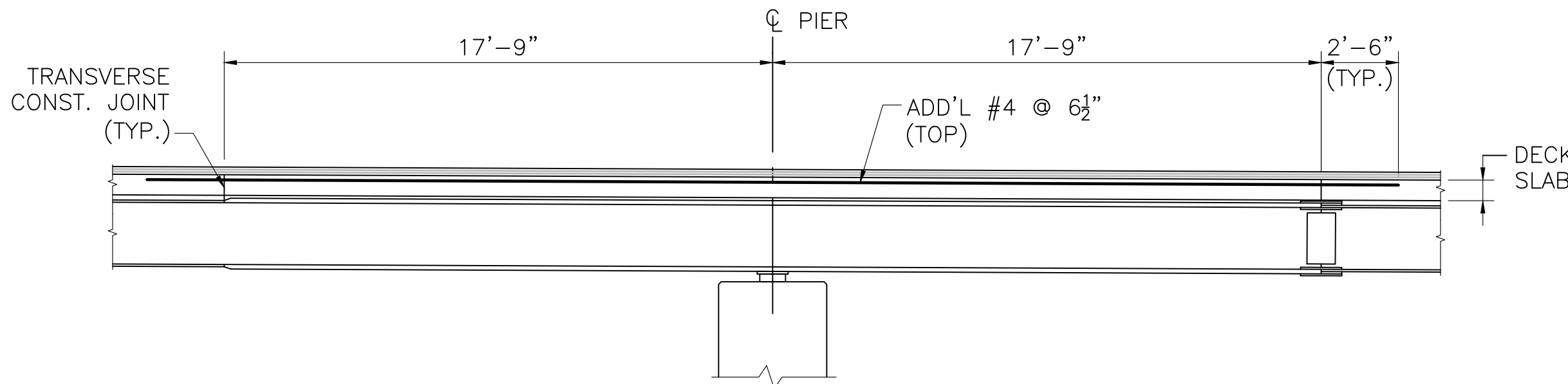
DECK DETAILS 2

CONSTRUCTION JOINT NOTES:

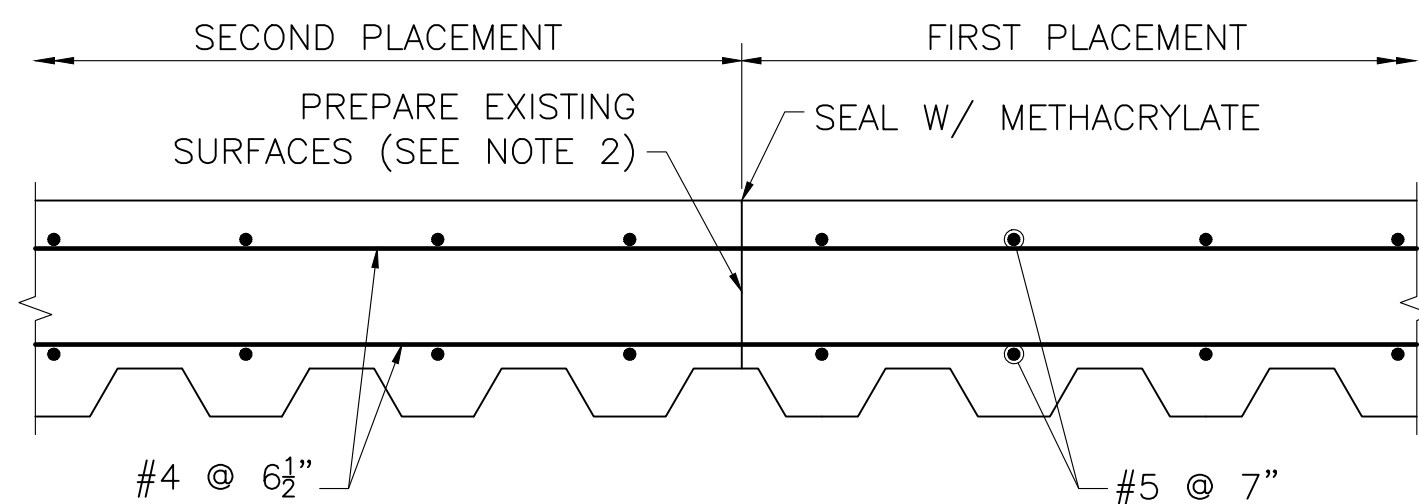
- BRIDGE DECK SLAB SHALL BE PLACED IN ACCORDANCE WITH THE PLACEMENT SEQUENCE SHOWN ON THE PLANS. THE CONTRACTOR MAY PLACE THE ENTIRE DECK IN ONE CONTINUOUS OPERATION WITHOUT CONSTRUCTION JOINTS WITH THE APPROVAL OF THE ENGINEER PROVIDED THAT THE INITIAL SET (FC = 500 PSI) OF ALL CONCRETE DOES NOT OCCUR UNTIL AFTER THE COMPLETION OF THE PLACEMENT. AN APPROVED RETARDER SHALL BE USED, WHEN NECESSARY, TO RETAIN THE WORKABILITY OF THE CONCRETE. IF MULTIPLE PLACEMENTS ARE MADE, POSITIVE MOMENT REGIONS SHALL BE PLACED PRIOR TO NEGATIVE MOMENT REGIONS AND A MINIMUM OF 72 HOURS SHALL PASS BETWEEN PLACEMENTS.
- THE SURFACE OF THE PREVIOUSLY CAST CONCRETE SHALL BE BLAST CLEANED, ROUGHENED, WETTED WITH CLEAN WATER, AND THEN FLUSHED WITH A MORTAR COMPOSED OF EQUAL PARTS OF THE CEMENT AND SAND SPECIFIED FOR THE NEW CONCRETE, BEFORE NEW CONCRETE IS PLACED ADJACENT THERETO. NEW CONCRETE SHALL BE PLACED BEFORE MORTAR HAS TAKEN INITIAL SET.
- IN LIEU OF THE MORTAR, AN EPOXY ADHESIVE SUITABLE FOR BONDING FRESH CONCRETE TO HARDENED CONCRETE FOR LOAD BEARING APPLICATIONS MAY BE USED. THE EPOXY ADHESIVE SHALL CONFORM TO AASHTO M 235 TYPE V AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.



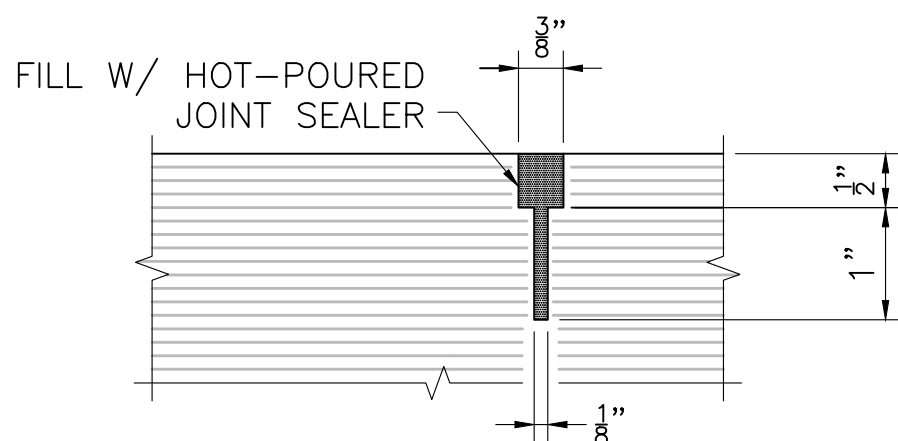
DECK POUR SEQUENCE
NOT TO SCALE



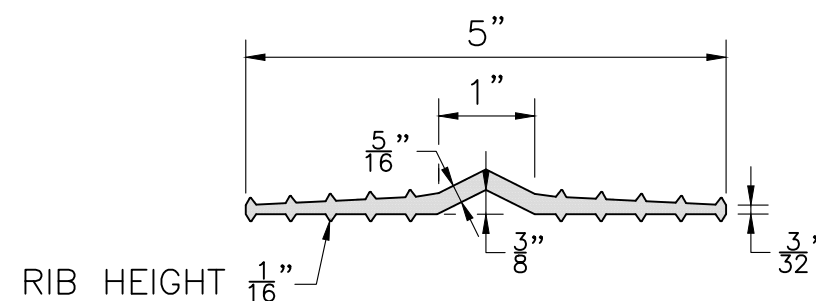
SECTION AT PIER
NOT TO SCALE



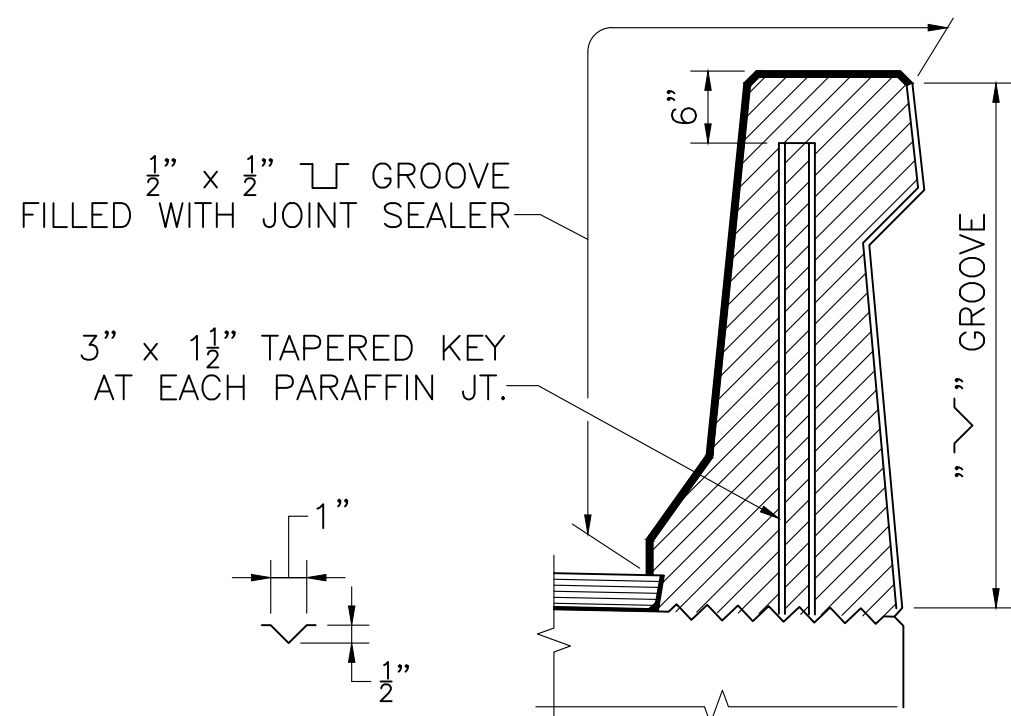
TRANSVERSE CONSTRUCTION
JOINT DETAIL IN DECK SLAB
SCALE: 1 1/2" = 1'-0"



PAVEMENT SAWCUT DETAIL
NOT TO SCALE



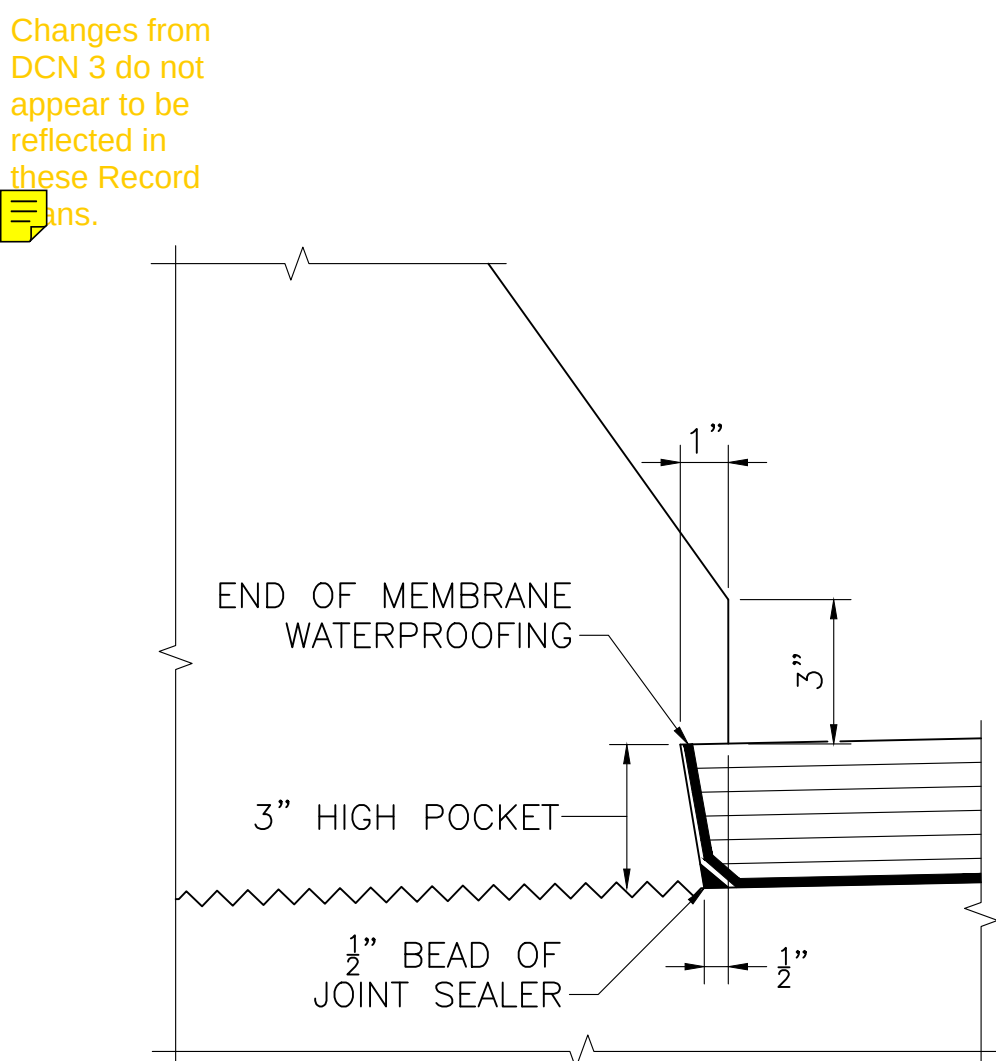
5" WATERSTOP
NOT TO SCALE



NOTES:

- ALL CONCRETE ABOVE SLAB SHALL BE POURED IN ALTERNATING SECTIONS WITH NOT LESS THAN 3 DAYS BETWEEN POURS.
- DO NOT CARRY LONGITUDINAL BARS THROUGH THE PARAFFIN JOINTS. END THE REINFORCEMENT 2" CLEAR OF JOINT.
- JOINT SHALL BE SQUARE TO FACE OF CURB.

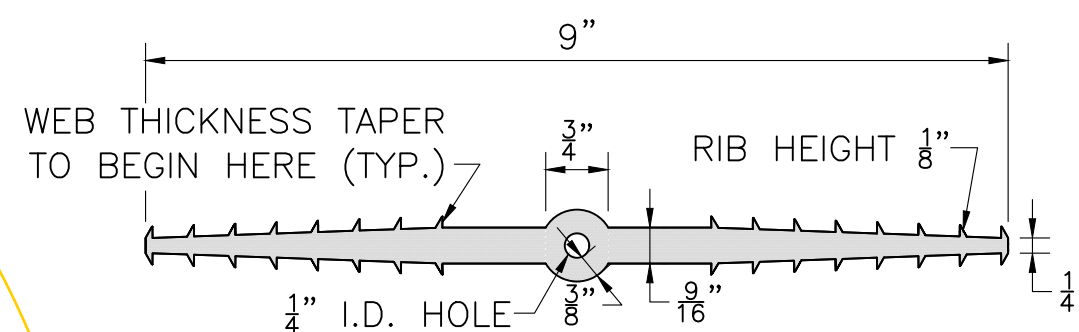
PARAFFIN JOINT DETAIL
NOT TO SCALE



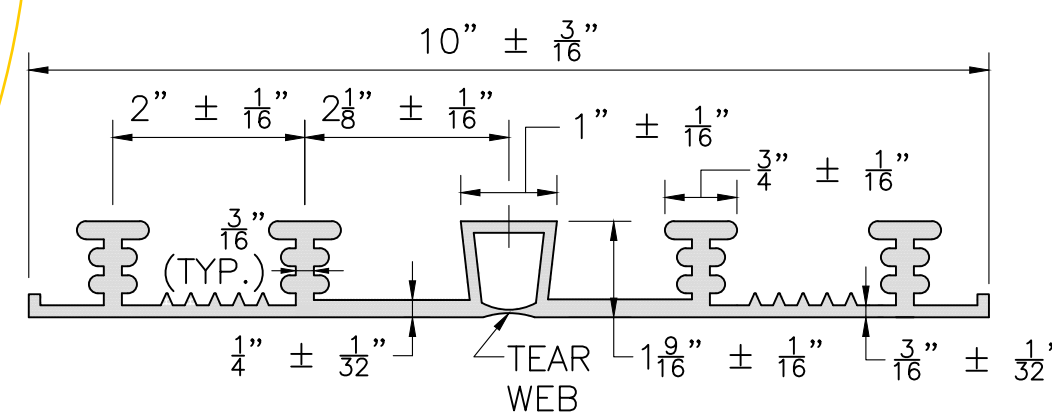
NOTE:

TURN MEMBRANE UP INTO 3" HIGH POCKET.

FACE OF SAFETY CURB DETAIL
SCALE: 3" = 1'-0"

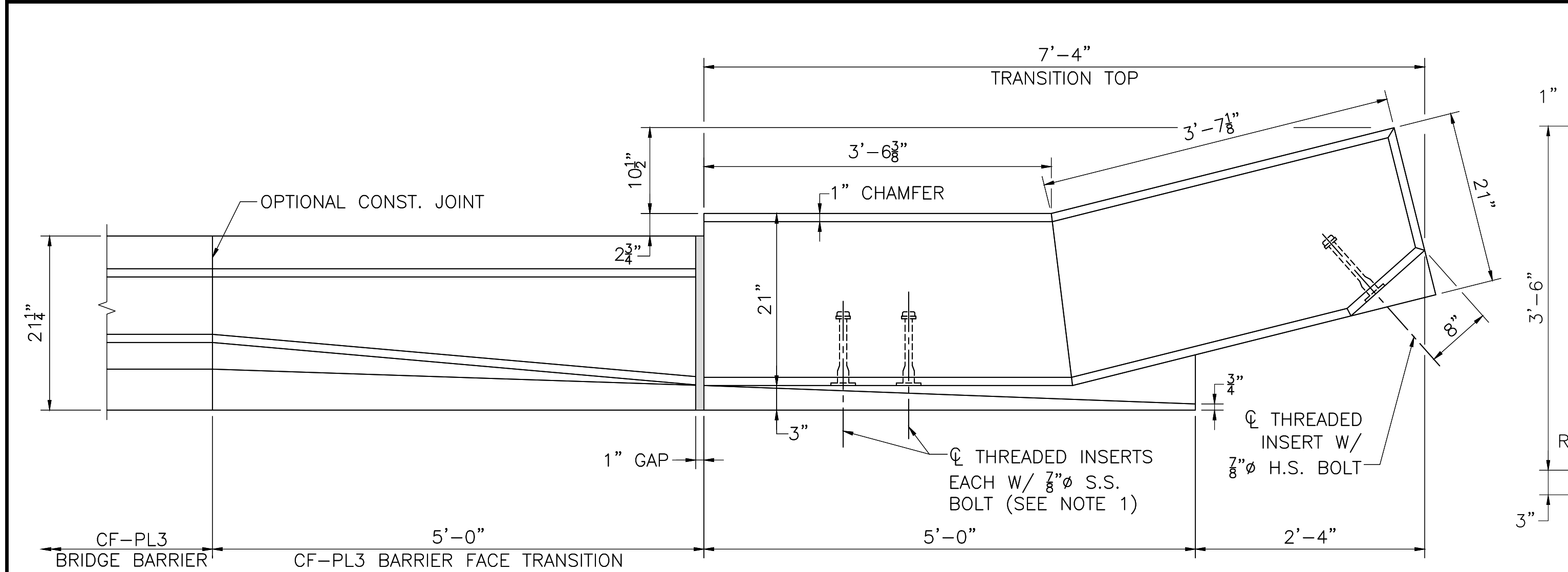


9" WATERSTOP
NOT TO SCALE

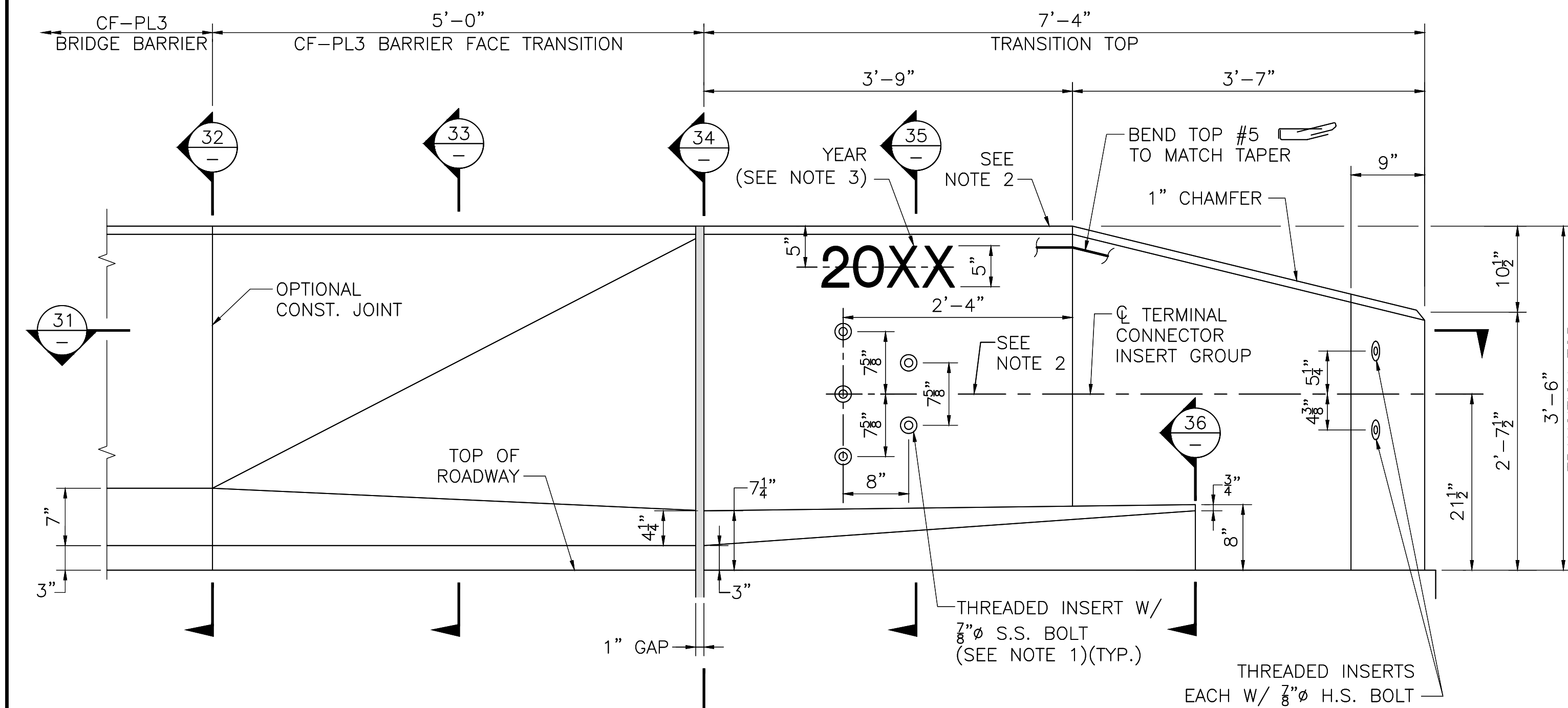


10" WATERSTOP
NOT TO SCALE

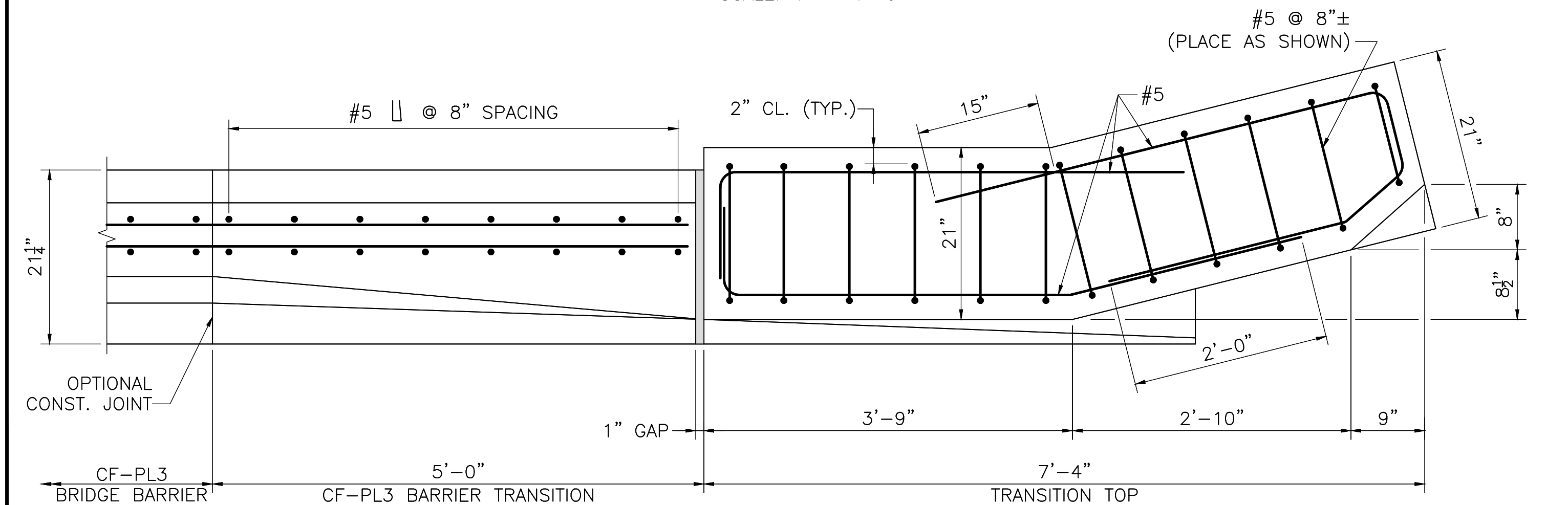
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USE ONLY PRINTS OF LATEST DATE	



PLAN
SCALE: 1" = 1'-0"

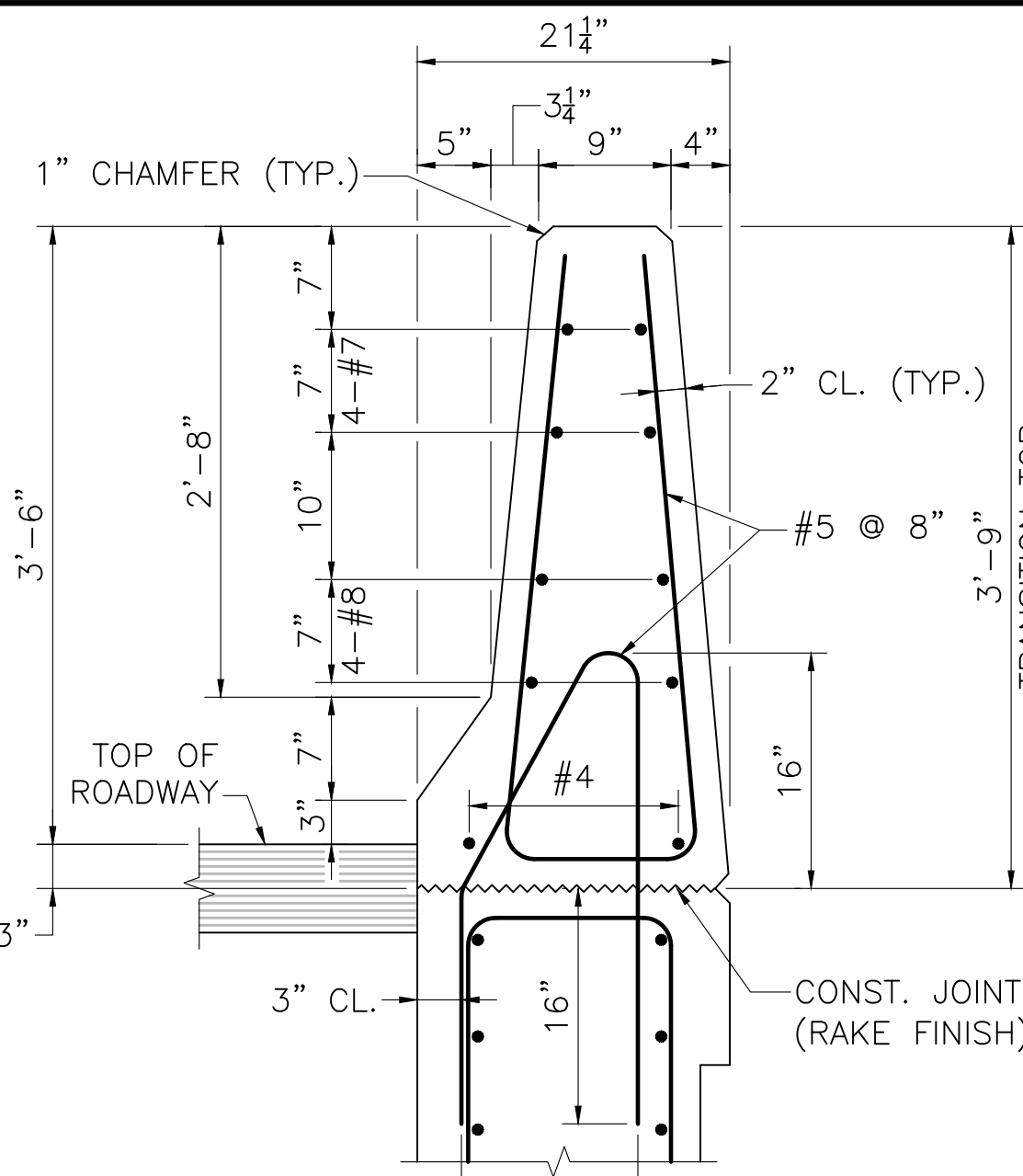


ELEVATION
SCALE: 1" = 1'-0"

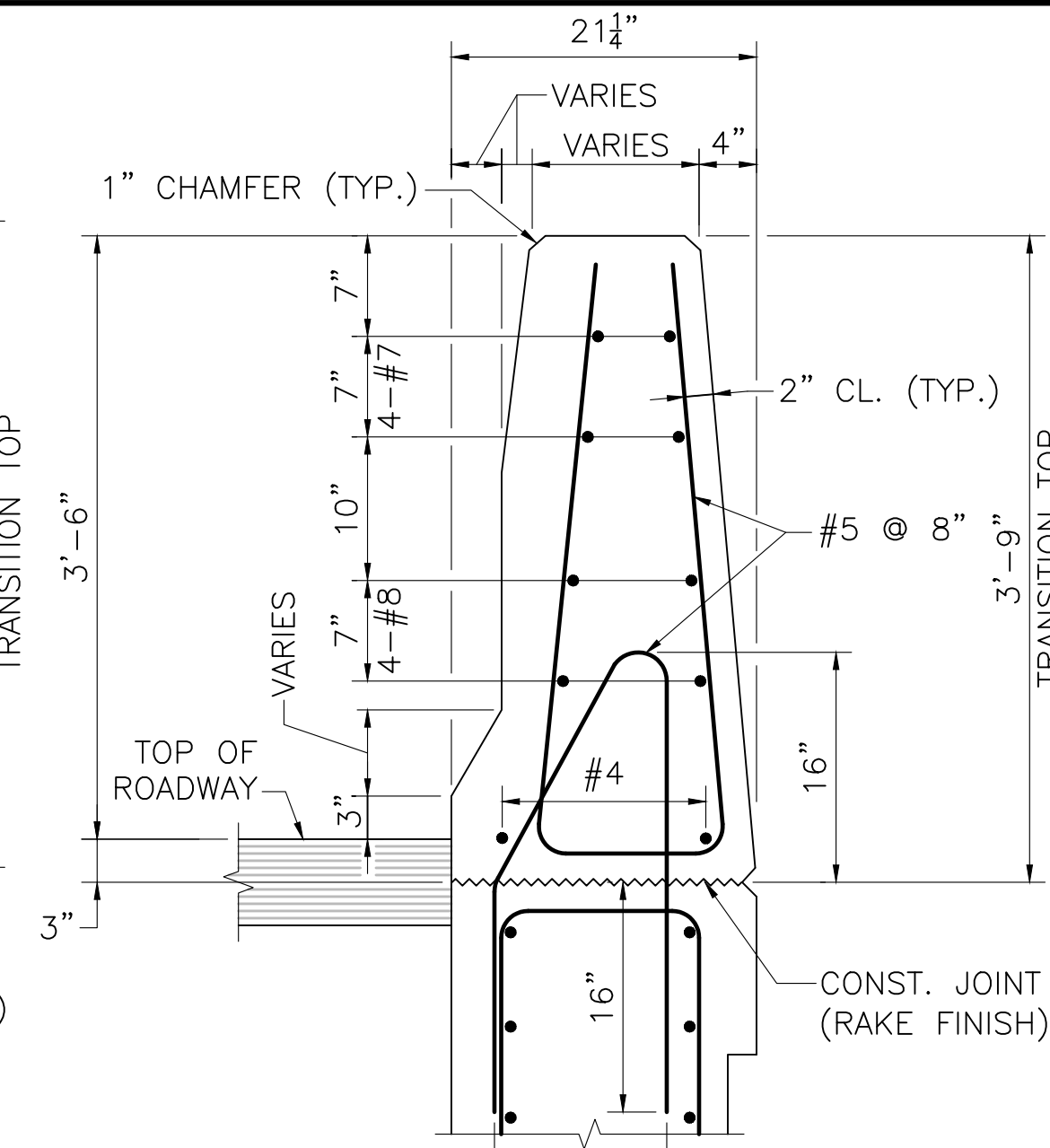


SECTION 31
SCALE: 1" = 1'-0"

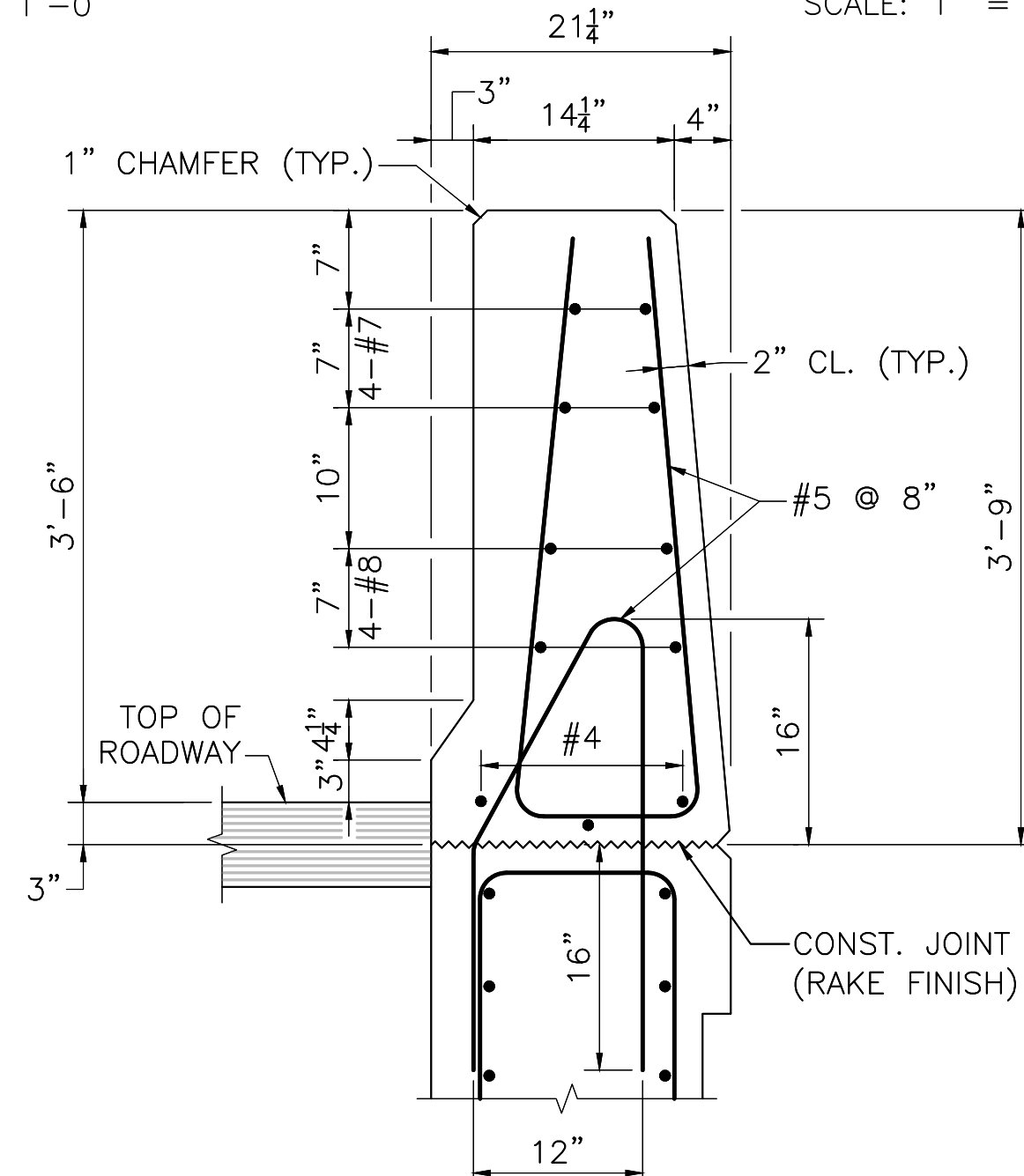
TOP OF PRECAST HIGHWAY GUARDRAIL TRANSITION FOR CF-PL3 BARRIER



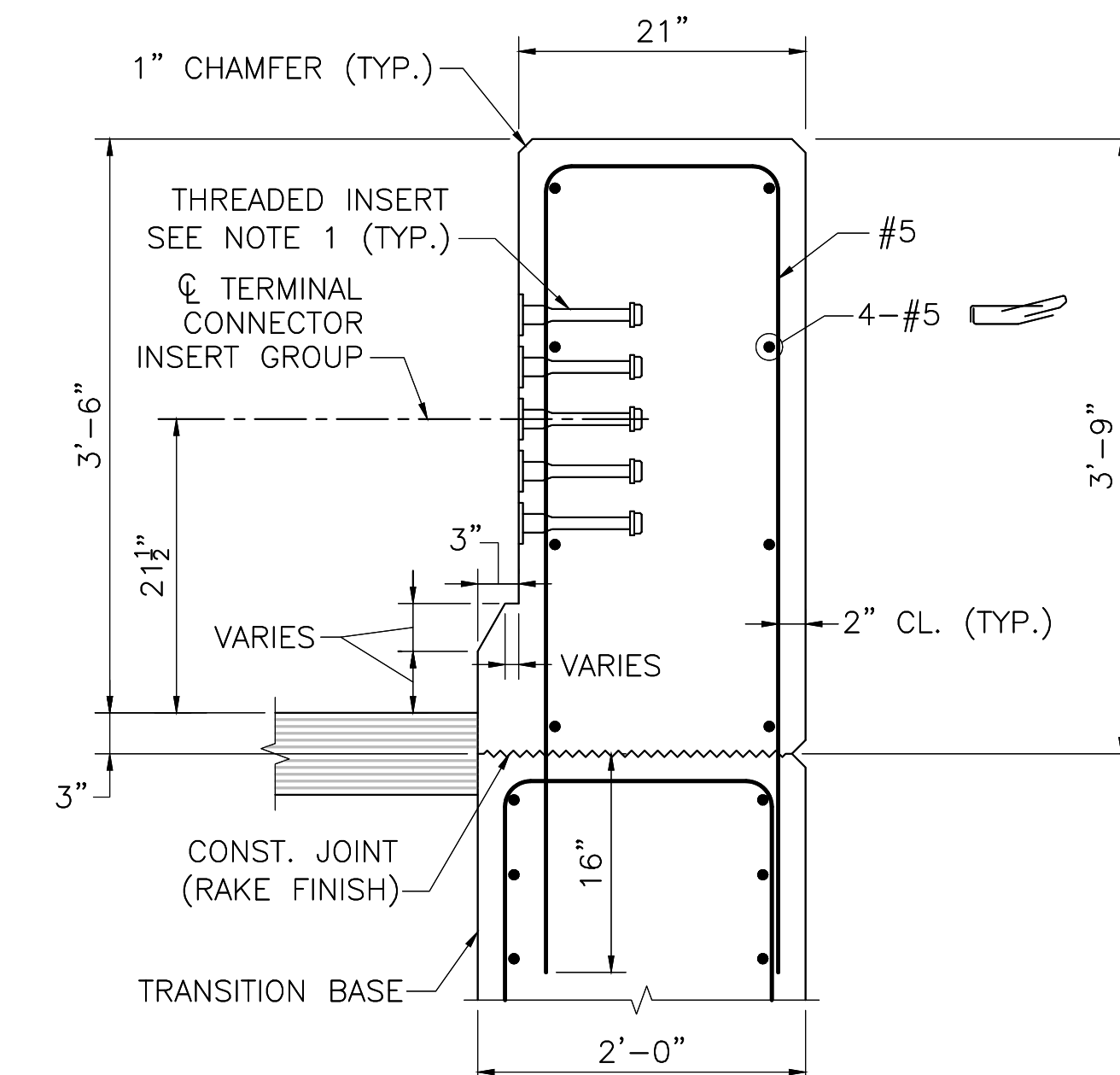
SECTION 30
TYPICAL CF-PL3 BRIDGE BARRIER
SCALE: 1" = 1'-0"



SECTION 33
SCALE: 1" = 1'-0"



SECTION 34
SCALE: 1" = 1'-0"



SECTION 35
SCALE: 1" = 1'-0"

NOTES:

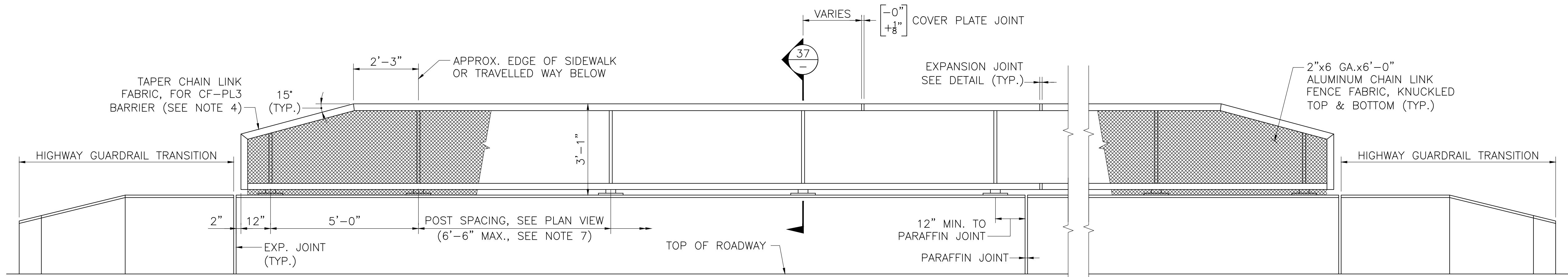
1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER 7/8" Ø S.S. BOLT. S.S. BOLTS SHALL BE 7/8" Ø x 1 1/2" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR 7/8" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.
2. FOR AN APPROACH GRADE UP TO 3%, THE TRANSITION MAY BE CAST SQUARE AND SET PLUMB WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SQUARE TO THE POST.
FOR AN APPROACH GRADE IN EXCESS OF 3%, THE TRANSITION TOP AND THE TOP OF THE BRIDGE BARRIERS SHALL FOLLOW THE APPROACH GRADE. THE HEIGHT OF THE TRANSITION TOP SHALL VARY PROVIDED THAT THE MINIMUM DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE MET. THE BOTTOM OF THE TRANSITION BASE SHALL BE SET LEVEL WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO FOLLOW THE APPROACH GRADE.
3. USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS YEAR FOR ALL GUARDRAIL TRANSITIONS.
4. ALL CONCRETE FOR THE PRECAST HIGHWAY GUARDRAIL TRANSITION SHALL BE 5000 PSI, 3/4", 685 HP CEMENT CONCRETE.
5. LIFTING DEVICES (NOT SHOWN), INCLUDING THEIR NUMBER AND LOCATION, SHALL BE DESIGNED AND DETAILED BY THE PRECASTER. THEY SHALL BE GALVANIZED AND SHALL BE PLACED AND RECESSED IN POCKETS TO PROVIDE 1 1/2" CLEAR COVER TO THE FACE OF THE TRANSITION CONCRETE. THESE DEVICES SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS ALONG WITH ALL SUPPORTING CALCULATIONS AND/OR CATALOG CUTS. ONCE THE PRECAST TRANSITION IS SET IN PLACE, THE LIFTING DEVICE POCKETS SHALL BE FILLED WITH A NON-SHRINK GROUT THAT MATCHES THE COLOR OF THE TRANSITION CONCRETE WHEN CURED AND THE FILLED POCKETS SHALL BE RUBBED WITH A CORUNDUM STONE TO BLEND OUT THE JOINTS.

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FALL RIVER
ROUTE 79

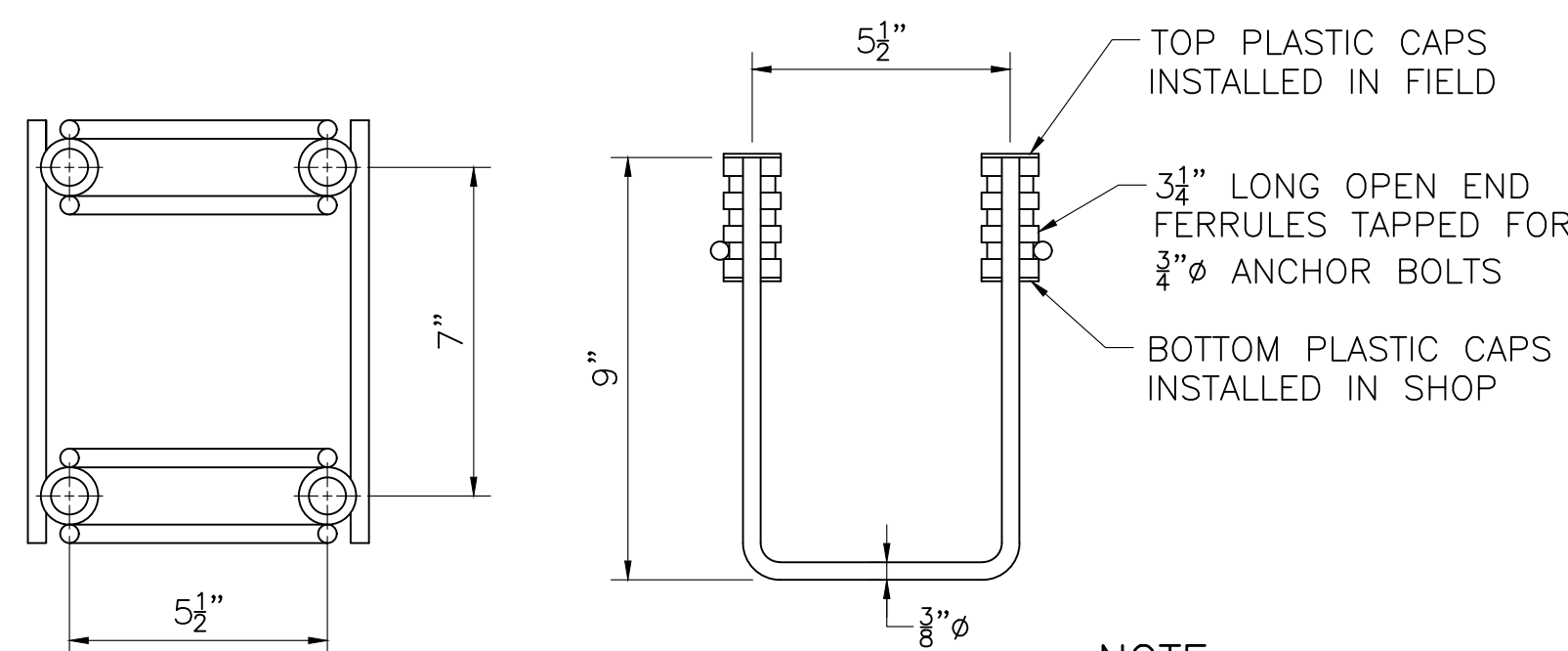
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP)(BR)/STP-003S(191)	1042	1094
PROJECT FILE NO.		608049	

SNOW FENCE DETAILS 1



SNOW FENCE ELEVATION

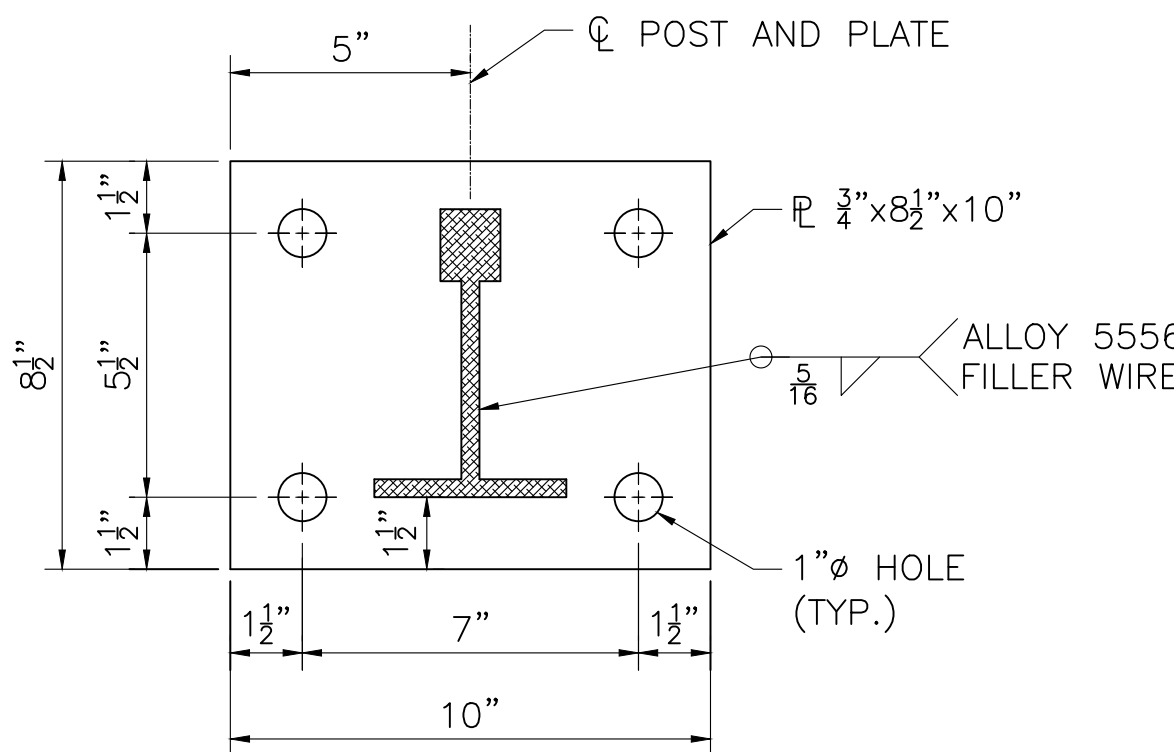
SCALE: $\frac{1}{2}$ " = 1'-0"



ANCHOR CAGE

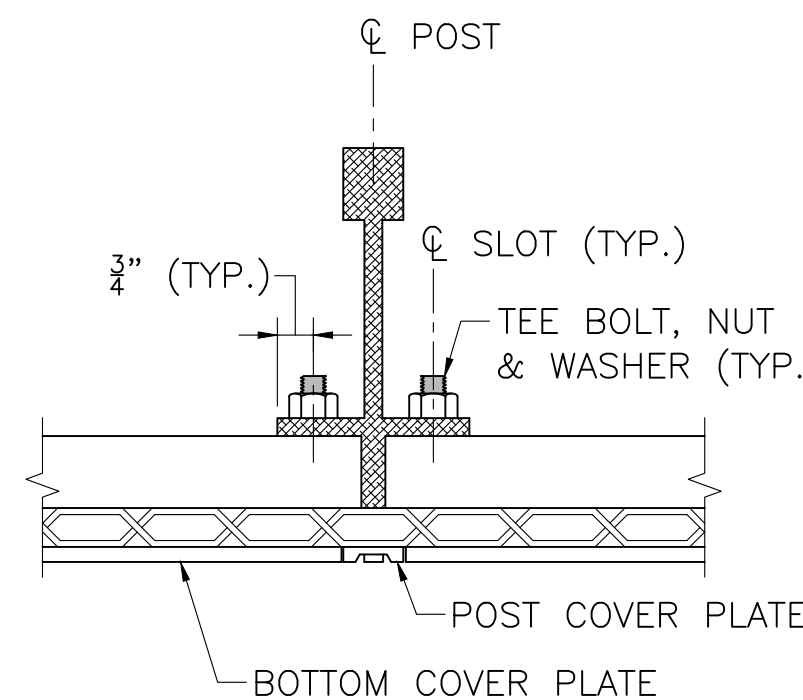
SCALE: 3" = 1'-0"

NOTE:
GALVANIZED OR
ELECTROPLATE FINISH.



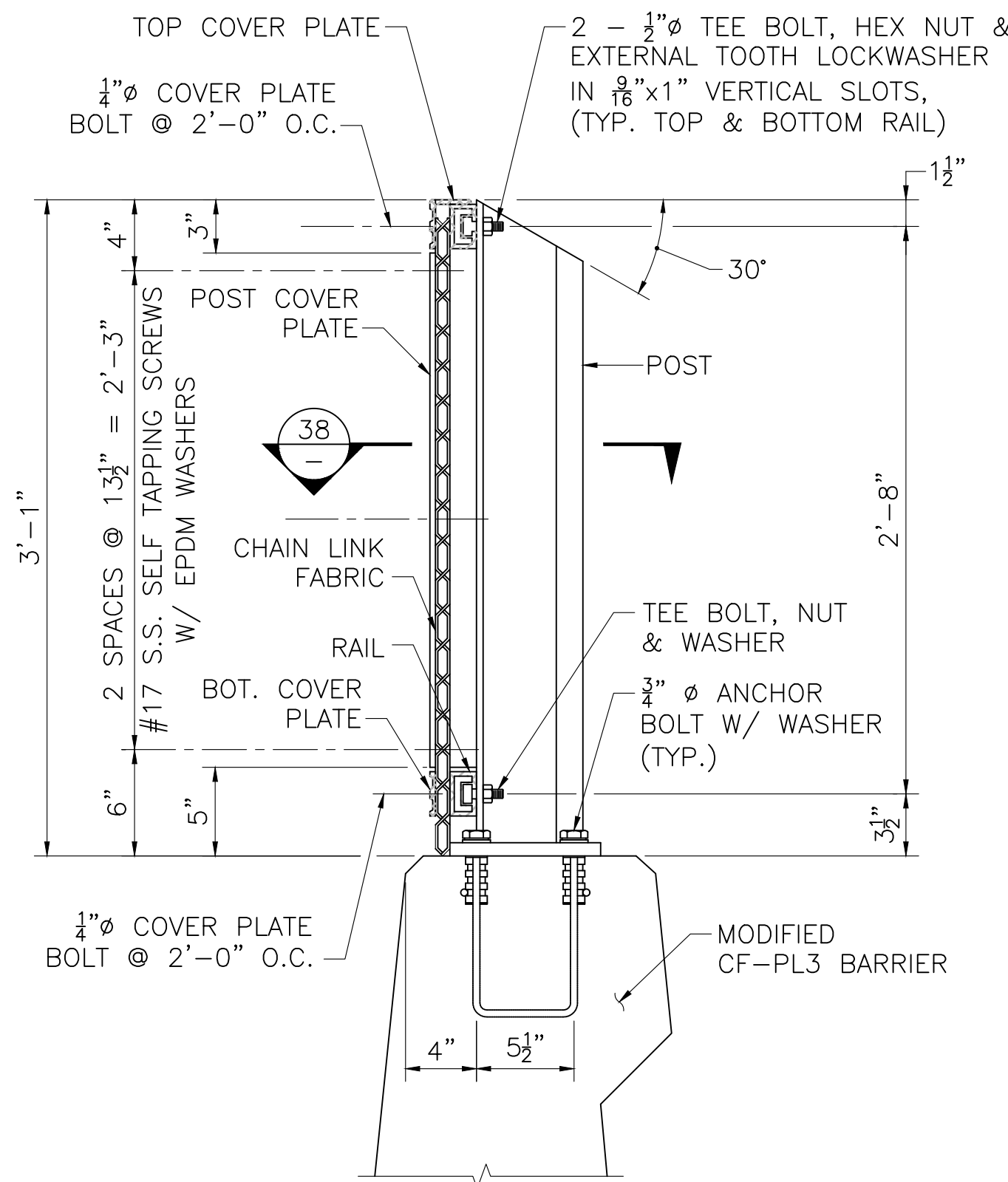
BASE PLATE DETAIL

SCALE: 3" = 1'-0"



SECTION 38

SCALE: 3" = 1'-0"



SECTION 37
CF-PL3 BARRIER

SCALE: $\frac{1}{2}$ " = 1'-0"

GENERAL NOTES:

- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR POSTS, IF POSSIBLE.
- RAILS SHALL HAVE AN EXPANSION JOINT IN THE PANEL OVER A BRIDGE EXPANSION JOINT, IF ANY, AND AT 30 FOOT MAXIMUM SPACING ELSEWHERE.
- BOTTOM OF POST BASE PLATE TO BE SET ON A $\frac{1}{8}$ " MOLDED FABRIC BEARING PAD (M9.16.2). THE THICKNESS OF THE PAD SHALL BE IGNORED BY THE DETAILER.
- THE CHAIN LINK FABRIC SHALL BE SECURED BY KNUCKLING TOGETHER THE CUT ENDS OF THE FABRIC WIRE IN A MANNER SIMILAR TO THE ORIGINALLY MANUFACTURED END.
- WHERE THE R.O.W. FENCE MUST MEET THE SCREEN, USE THE SQUARE END TO HIGHWAY GUARDRAIL TRANSITION DETAIL.
- THE SCREEN END TREATMENT TO BE USED (SQUARE OR TAPERED) IS SPECIFIED ELSEWHERE ON THE CONSTRUCTION DRAWINGS.
- POST SPACING SHALL BE UNIFORM BETWEEN TAPERED ENDS.
- SET POSTS PERPENDICULAR TO GRADE FOR GRADES UP TO 1.5%. SET POSTS PLUMB FOR GRADES GREATER THAN 1.5%.

FINISHES:

- POSTS, RAILS, COVER PLATES AND SPLICE PLATES SHALL RECEIVE AN ANODIZED FINISH. FINISH COLOR SHALL MATCH COLOR CHIP NO. 15050 OF FEDERAL STANDARD 595B.
- CHAIN LINK FABRIC SHALL RECEIVE A 4±1 MIL POLYESTER POWDER COAT FINISH. THE COLOR SHALL BE BLUE TO MATCH COLOR OF ANODIZED ALUMINUM FRAMEWORK.
- #17 SELF TAPPING SCREWS AND $\frac{1}{4}$ " Ø COVER PLATE BOLTS TO BE COLORED TO MATCH THE ANODIZED EXTRUSIONS.

MATERIALS:

- EXTRUSIONS & PLATES _____ ASTM B 221, ALLOY 6061-T6
- CHAIN LINK FABRIC _____ AASHTO M 181 TYPE III (ALLOY 6061-T89 OR T94)
- SELF TAPPING SCREWS _____ TYPE 304 STAINLESS STEEL WITH $\frac{1}{4}$ " THICK EPDM (ETHYLENE PROPYLENE DIENE MONOMER) WASHERS
- ANCHOR BOLTS _____ AASHTO M 164 GALVANIZED (ROTATION CAPACITY TEST NOT REQUIRED)
- TEE BOLTS _____ ASTM A 307 GALVANIZED OR TYPE 304 STAINLESS STEEL
- COVER PLATE BOLTS _____ TYPE 304 STAINLESS STEEL WITH OVERSIZED STAINLESS WASHER AND STAINLESS NUT WITH NYLON INSERT

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COVER PLATE NOTES:

1. COVER PLATES MAY BE CONTINUOUS OVER A RAIL EXPANSION JOINT SPLICE. COVER PLATES SHALL BE FIELD CUT AS REQUIRED TO CLEAR THE EXPANSION JOINT. SEE DETAIL AT EXPANSION JOINT.
2. FIELD DRILL $\frac{5}{16}$ " $\emptyset$ HOLE 1" FROM THE FIELD CUT END OF A COVER PLATE, UNLESS THERE IS AN EXISTING HOLE WITHIN 6" FROM THE COVER PLATE END.
3. FIELD PAINT THE FIELD CUT ENDS OF THE COVER PLATES TO MATCH THE COVER PLATES.



SCALE: $1\frac{1}{2}" = 1'-0"$



OTHER CONFIGURATIONS OF THE INTERNAL WALLS OF THE RAIL EXTRUSION MAY BE SUBMITTED FOR APPROVAL.

RAIL EXTRUSION

FULL SCALE



FULL SCALE



FULL SCALE



BOLTS SHALL BE TYPE 304 WITH A DRIVE
HEAD TO BE COLORED TO MATCH ANODIZING.

RAIL & COVER PLATE DETAIL

FULL SCALE



NOTES:

- NOTES:**
1. WELDING OF TOP COVER PLATE AND RAILS OF NON-TAPERED END IS SIMILAR.
 2. WELDS AND MITERING TYPICAL FOR ALL ANGLED CORNERS.
 3. WELD TYPICAL FOR TOP AND BOTTOM END CORNERS OF RAIL. INTERRUPT WELD AT SLOT IN BACK OF RAIL.



RAIL DETAILS

SCALE: $1\frac{1}{2}" = 1'-0"$



FULL SCALE



FULL SCALE



FULL SCALE



SCALE: 6" = 1'-0"



SCALE: 6" = 1'-0"



SCALE: 6" = 1'-0"

DATE	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT	
AUTHORIZED SIGNATORY:	STATE BRIDGE ENGINEER
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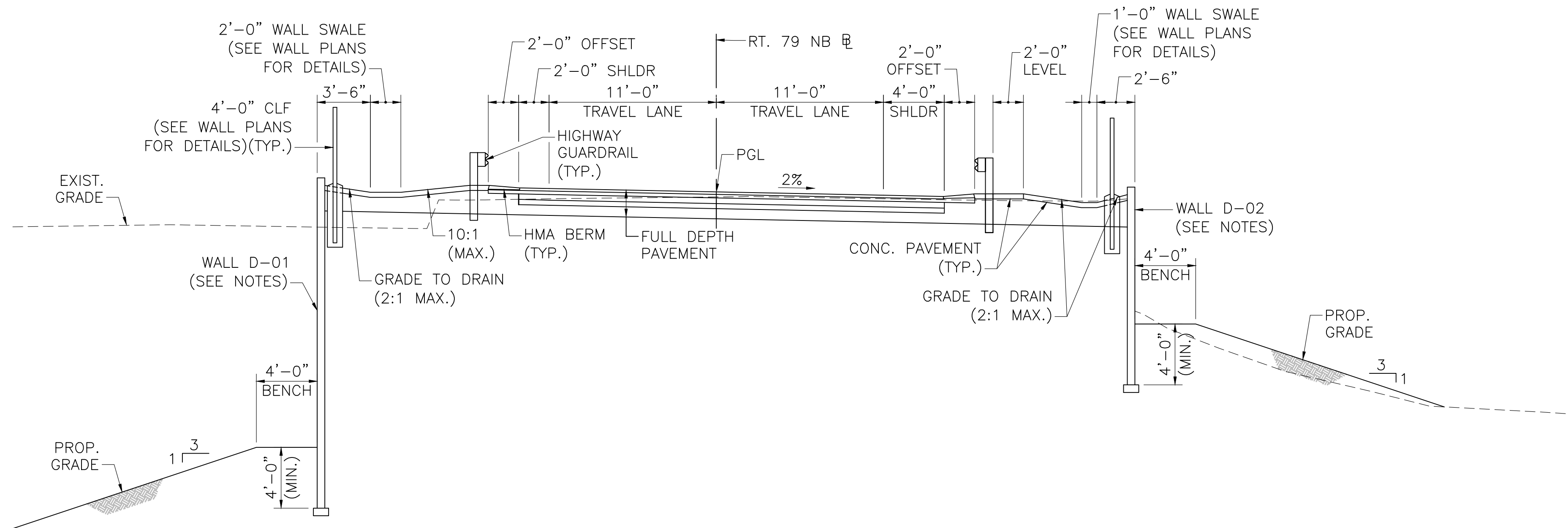
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(MJ/TAP/HIP(BR)/STP-003S(191)	1044	1094
PROJECT FILE NO.		608049	

APPROACH SECTIONS

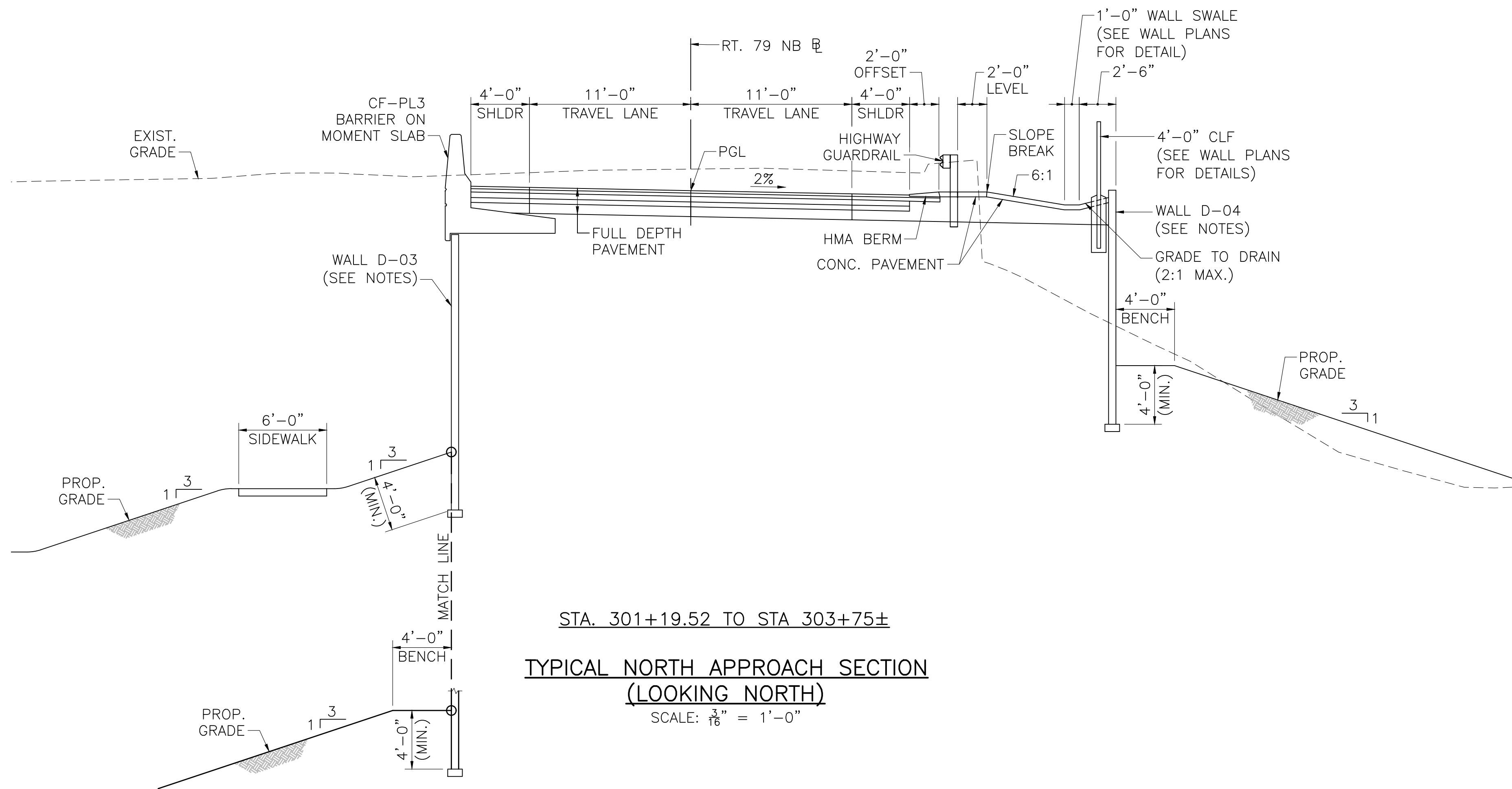
NOTES:

- PROPOSED RETAINING WALLS D-01, D-02, D-03, AND D-04 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEMS.
- REFER TO THE RETAINING WALL PLANS FOR ADDITIONAL DETAILS.



TYPICAL SOUTH APPROACH SECTION
(LOOKING NORTH)

SCALE: $\frac{3}{16}$ " = 1'-0"



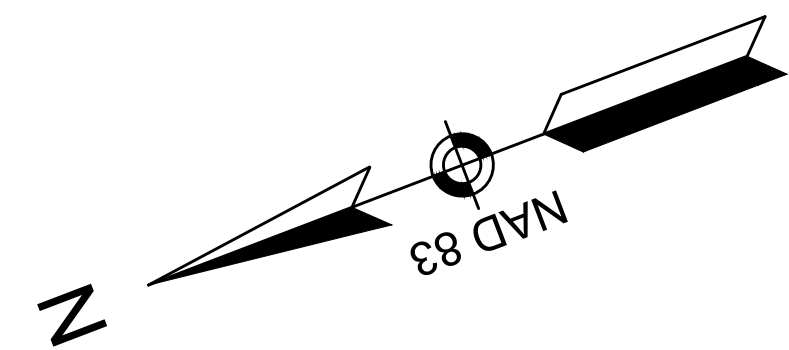
TYPICAL NORTH APPROACH SECTION
(LOOKING NORTH)

SCALE: $\frac{3}{16}$ " = 1'-0"

STA. 303+75± TO STA 304+28.18

STA. 301+19.52 TO STA 303+75±

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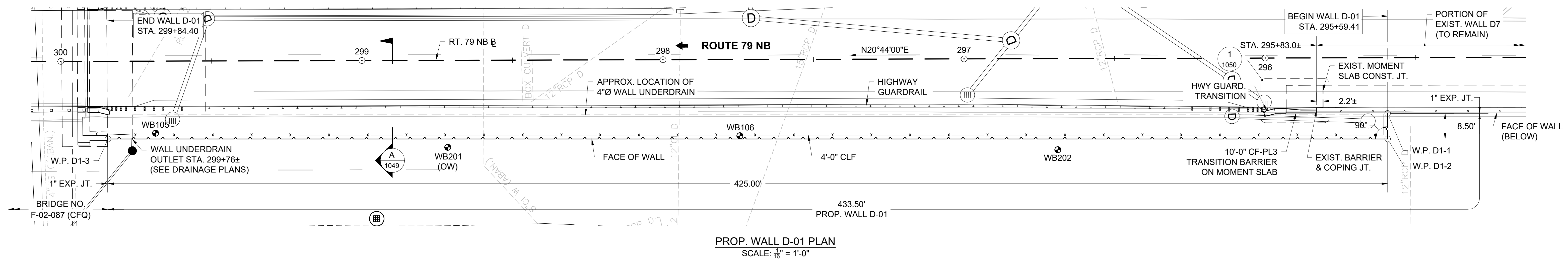
WALL D-01 BEARING RESISTANCE			
STATION	RESISTANCE FACTOR	NOMINAL BEARING RESISTANCE (KSF)	FACTORED BEARING RESISTANCE (KSF)
295+59.41 TO 296+32.19	0.45	12.2	5.5
296+32.19 TO 299+84.40		22.6	10.2

LEGEND:
BB1 - LOCATION OF BORINGS
- LIMITS OF DEMOLITION

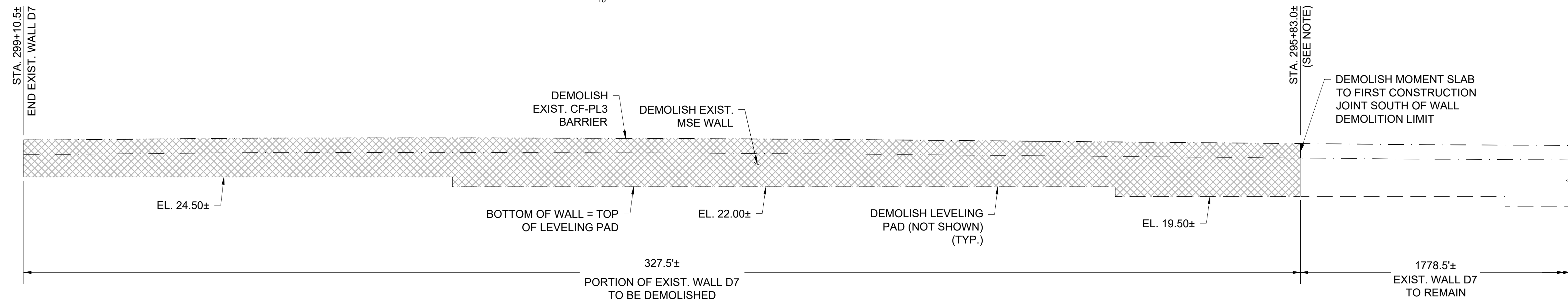
WALL D-01 WORK POINTS		
WORK POINT	STATION	OFFSET
W.P. D1-1	295+59.41	18.5'± LT.
W.P. D1-2	295+59.41	27.00' LT.
W.P. D1-3	299+84.40	25.82' LT.

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NRP(M)/TAP(HI)(B)/STP-003S(191)	1045	1094
PROJECT FILE NO.		608049	

RETAINING WALL PLANS
WALL D-01

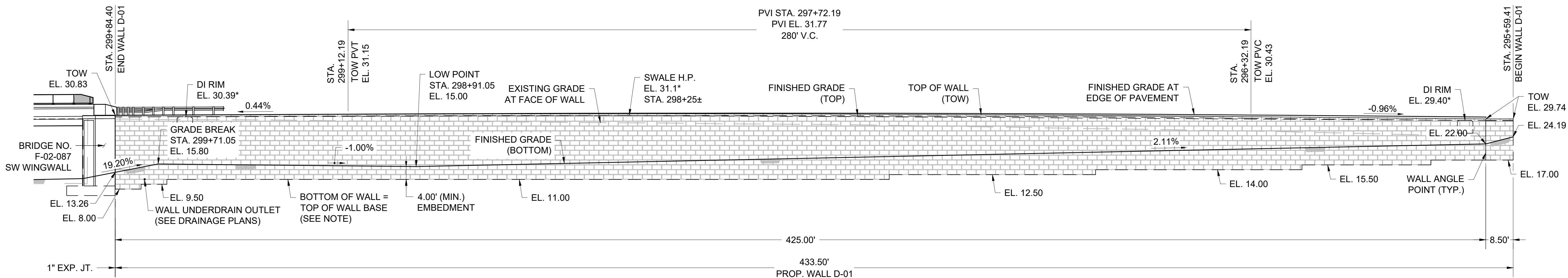


PROP. WALL D-01 PLAN
SCALE: 1/16" = 1'-0"



EXIST. WALL D7 ELEVATION
SCALE: 1/16" = 1'-0"

NOTE: LIMITS OF DEMOLITION SHALL BE MODIFIED AS REQUIRED TO COINCIDE WITH AN EXISTING VERTICAL MSE PANEL JOINT.



PROP. WALL D-01 ELEVATION
(DEVELOPED ABOUT EXPOSED FACE)
SCALE: 1/16" = 1'-0"

* RETAINING WALL TOP BLOCKS SHALL BE PROPORTIONED TO AVOID CONFLICT WITH THE BOTTOM OF SWALE AND DROP INLETS.

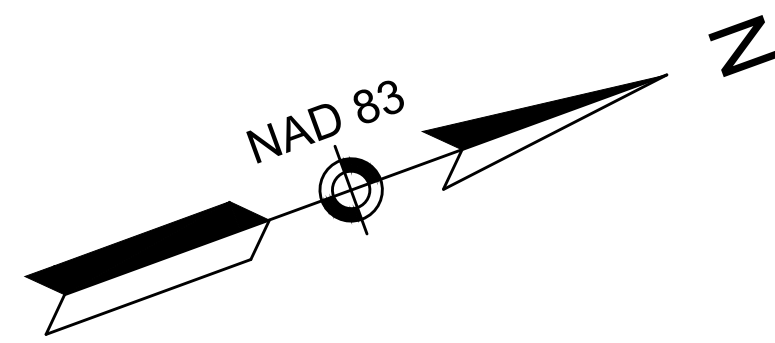
BOTTOM OF WALL NOTE:

BOTTOM OF WALL ELEVATIONS AND STEP LOCATIONS MAY BE REVISED AS REQUIRED BY THE WALL MANUFACTURER PROVIDED THE MINIMUM EMBEDMENT OF 4'-0" IS ACHIEVED. HOWEVER, ALL REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER.

NOTES:

- PROPOSED WALL D-01 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEM.
- EXPOSED FACE OF PRECAST BLOCK UNITS SHALL HAVE A CHISELED GRANITE FORM LINER FINISH.
- WORK POINTS ARE PROVIDED AT FACE OF WALL.
- CHAIN LINK FENCE NOT SHOWN IN ELEVATION FOR CLARITY.

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



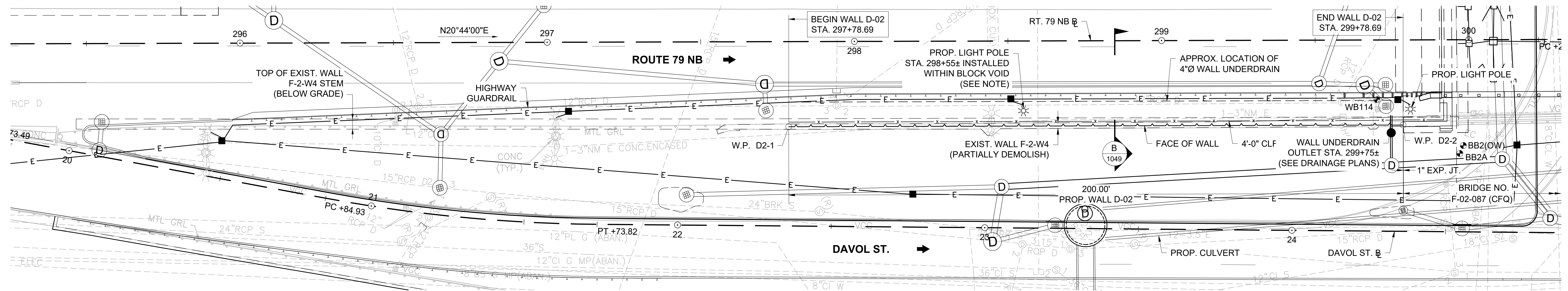
WALL D-02 BEARING RESISTANCE			
STATION	RESISTANCE FACTOR	NOMINAL BEARING RESISTANCE (KSF)	FACTORED BEARING RESISTANCE (KSF)
297+78.69 TO 298+78.69	0.45	12.2	5.5
298+78.69 TO 299+78.69		22.6	10.2

LEGEND:
BB1 - LOCATION OF BORINGS
- LIMITS OF DEMOLITION

WALL D-02 WORK POINTS		
WORK POINT	STATION	OFFSET
W.P. D2-1	297+78.69	27.65' RT.
W.P. D2-2	299+78.69	27.65' RT.

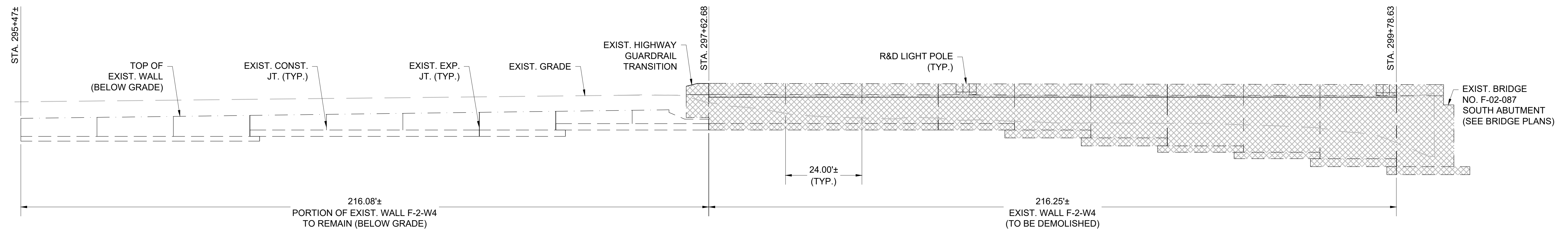
FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHR(MY)TAP(HR)BRJ(STP-003S(191)	1046	1094
PROJECT FILE NO.		608049	

RETAINING WALL PLANS
WALL D-02

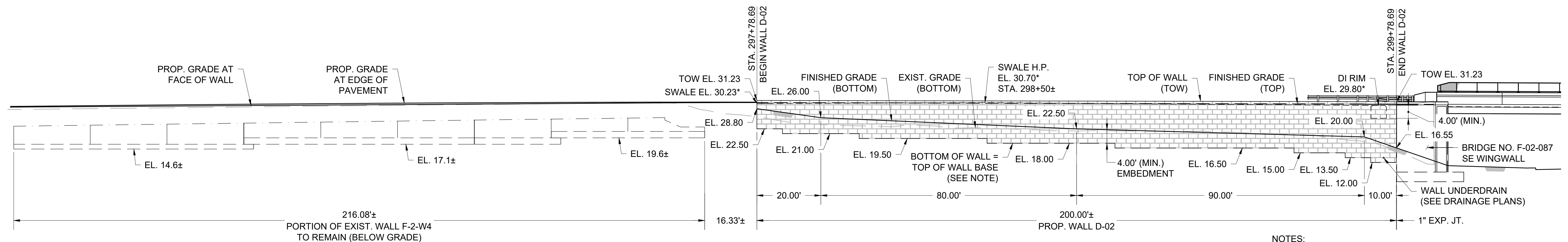


PROP. WALL D-02 PLAN
SCALE: 1/16" = 1'-0"

LIGHT POLE NOTE:
FOR LIGHT POLE DETAILS IN BLOCK, SEE RETAINING WALL DETAILS 4.



EXIST. WALL F-2-W4 ELEVATION
SCALE: 1/16" = 1'-0"



PROP. WALL D-02 ELEVATION
(DEVELOPED ABOUT EXPOSED FACE)
SCALE: 1/16" = 1'-0"

* RETAINING WALL TOP BLOCKS SHALL BE PROPORTIONED TO AVOID CONFLICT WITH THE BOTTOM OF SWALE AND DROP INLET.

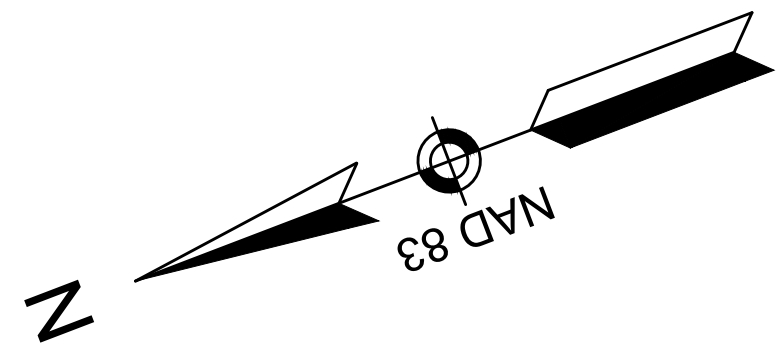
BOTTOM OF WALL NOTE:

BOTTOM OF WALL ELEVATIONS AND STEP LOCATIONS MAY BE REVISED AS REQUIRED BY THE WALL MANUFACTURER PROVIDED THE MINIMUM EMBEDMENT OF 4'-0" IS ACHIEVED. HOWEVER, ALL REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER.

NOTES:

- PROPOSED WALL D-02 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEM.
- EXPOSED FACE OF PRECAST BLOCK UNITS SHALL HAVE A CHISELED GRANITE FORM LINER FINISH.
- WORK POINTS ARE PROVIDED AT FACE OF WALL.
- CHAIN LINK FENCE NOT SHOWN IN ELEVATION FOR CLARITY.

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



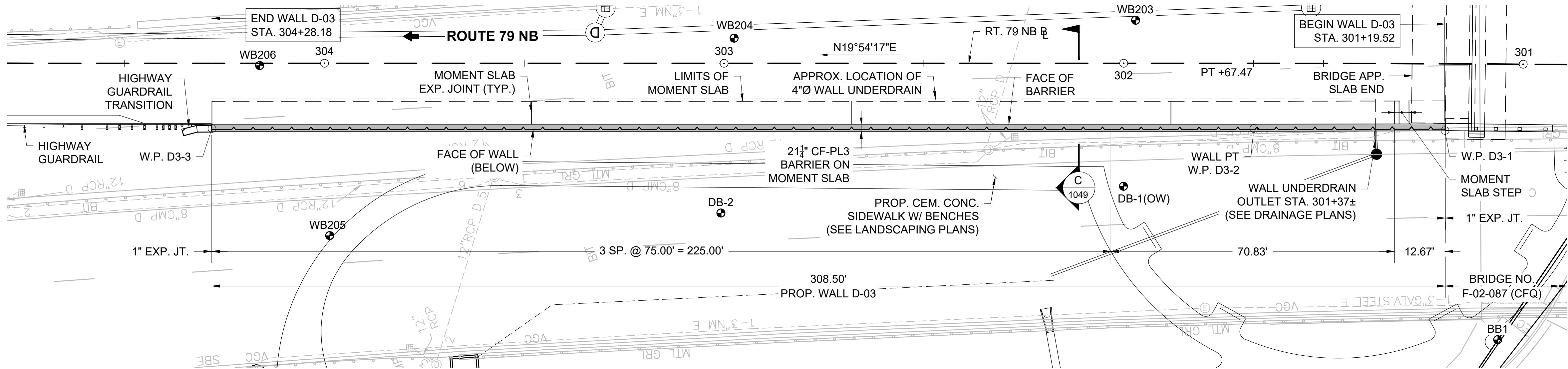
WALL D-03 BEARING RESISTANCE			
STATION	RESISTANCE FACTOR	NOMINAL BEARING RESISTANCE (KSF)	FACTORED BEARING RESISTANCE (KSF)
301+19.52 TO 303+62.54	0.45	22.6	10.2
303+62.54 TO 304+28.18		12.2	5.5

LEGEND:

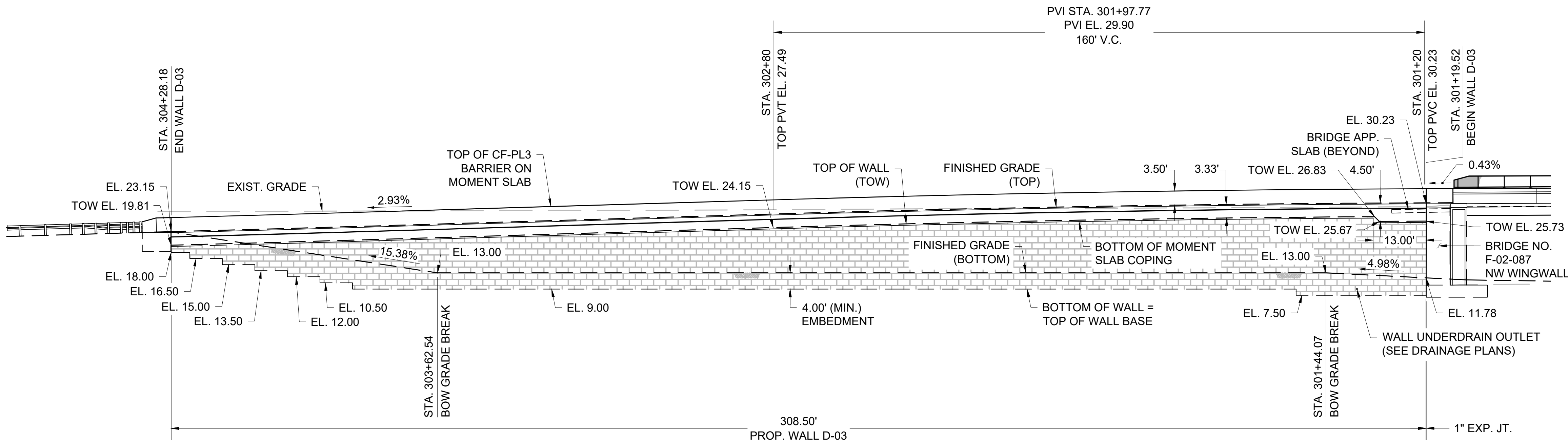
BB1 - LOCATION OF BORINGS

WALL D-03 WORK POINTS		
WORK POINT	STATION	OFFSET
W.P. D3-1	301+19.52	16.37' LT.
W.P. D3-2	301+67.47	16.59' LT.
W.P. D3-3	304+28.18	16.59' LT.

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HI)(BR)/STP-003S(191)	1047	1094
PROJECT FILE NO.		608049	
RETAINING WALL PLANS WALL D-03			



PROP. WALL D-03 PLAN
SCALE: 1/16" = 1'-0"



PROP. WALL D-03 ELEVATION
SCALE: 1/16" = 1'-0"

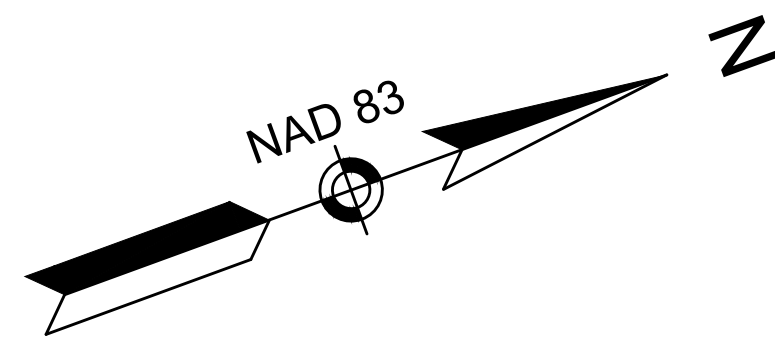
NOTES:

- PROPOSED WALL D-03 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEM.
- EXPOSED FACE OF PRECAST BLOCK UNITS SHALL HAVE A CHISELED GRANITE FORM LINER FINISH.
- WORK POINTS ARE PROVIDED AT FACE OF WALL.
- FOR MOMENT SLAB DETAILS, SEE RETAINING WALL DETAILS 3.

BOTTOM OF WALL NOTE:

BOTTOM OF WALL ELEVATIONS AND STEP LOCATIONS MAY BE REVISED AS REQUIRED BY THE WALL MANUFACTURER PROVIDED THE MINIMUM EMBEDMENT OF 4'-0" IS ACHIEVED. HOWEVER, ALL REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER.

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

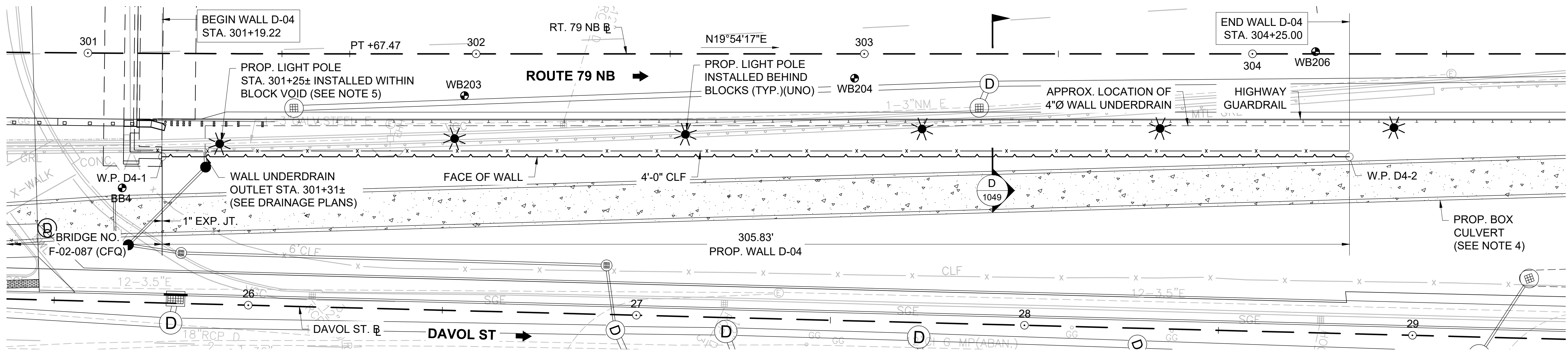


WALL D-04 BEARING RESISTANCE			
STATION	RESISTANCE FACTOR	NOMINAL BEARING RESISTANCE (KSF)	FACTORED BEARING RESISTANCE (KSF)
301+19.22 TO 303+50.00	0.45	22.6	10.2
303+50.00 TO 304+25.00		12.2	5.5

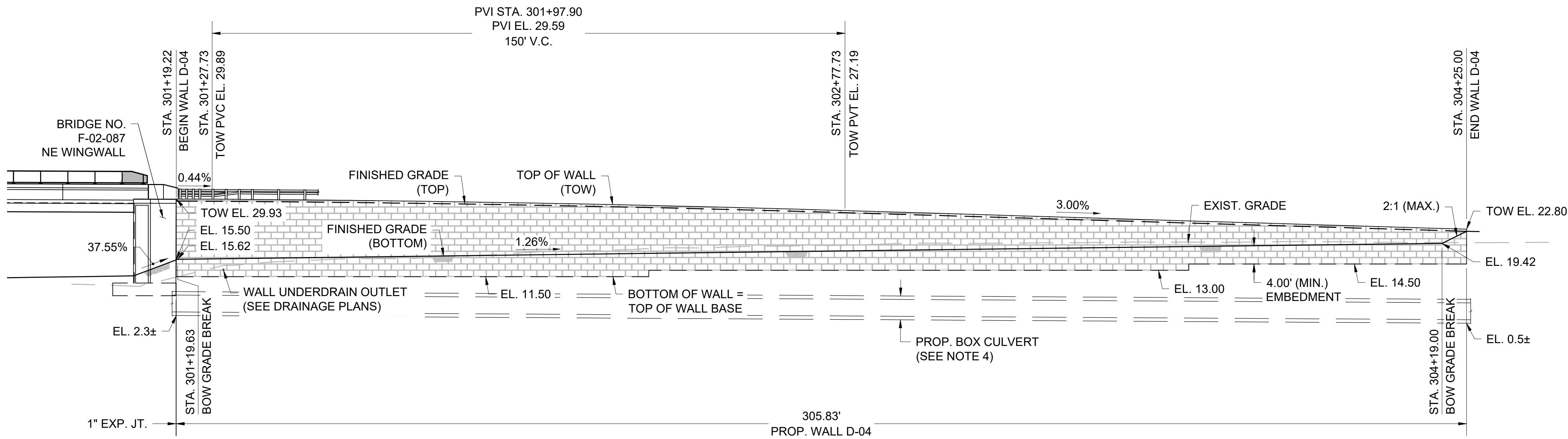
LEGEND:
BB1 - LOCATION OF BORINGS

WALL D-04 WORK POINTS		
WORK POINT	STATION	OFFSET
W.P. D4-1	301+19.22	26.62' RT.
W.P. D4-2	304+25.00	26.50' RT.

FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HI)(B)/STP-003S(191)	1048	1094
PROJECT FILE NO.		608049	
RETAINING WALL PLANS WALL D-04			



PROP. WALL D-04 PLAN
SCALE: 1/16" = 1'-0"



PROP. WALL D-04 ELEVATION
SCALE: 1/16" = 1'-0"

BOTTOM OF WALL NOTE:

BOTTOM OF WALL ELEVATIONS AND STEP LOCATIONS MAY BE REVISED AS REQUIRED BY THE WALL MANUFACTURER PROVIDED THE MINIMUM EMBEDMENT OF 4'-0" IS ACHIEVED. HOWEVER, ALL REVISIONS ARE SUBJECT TO REVIEW AND APPROVAL OF THE ENGINEER.

NOTES:

- PROPOSED WALL D-04 SHALL BE MANUFACTURER-DESIGNED PROPRIETARY WALL SYSTEM.
- EXPOSED FACE OF PRECAST BLOCK UNITS SHALL HAVE A CHISELED GRANITE FORM LINER FINISH.
- WORK POINTS ARE PROVIDED AT FACE OF WALL.
- WALL D-04 SHALL BE CONSTRUCTED AFTER THE BOX CULVERT UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- FOR LIGHT POLE DETAILS IN WALL BLOCK, SEE RETAINING WALL DETAILS 4.
- CHAIN LINK FENCE OMITTED FROM ELEVATION FOR CLARITY.

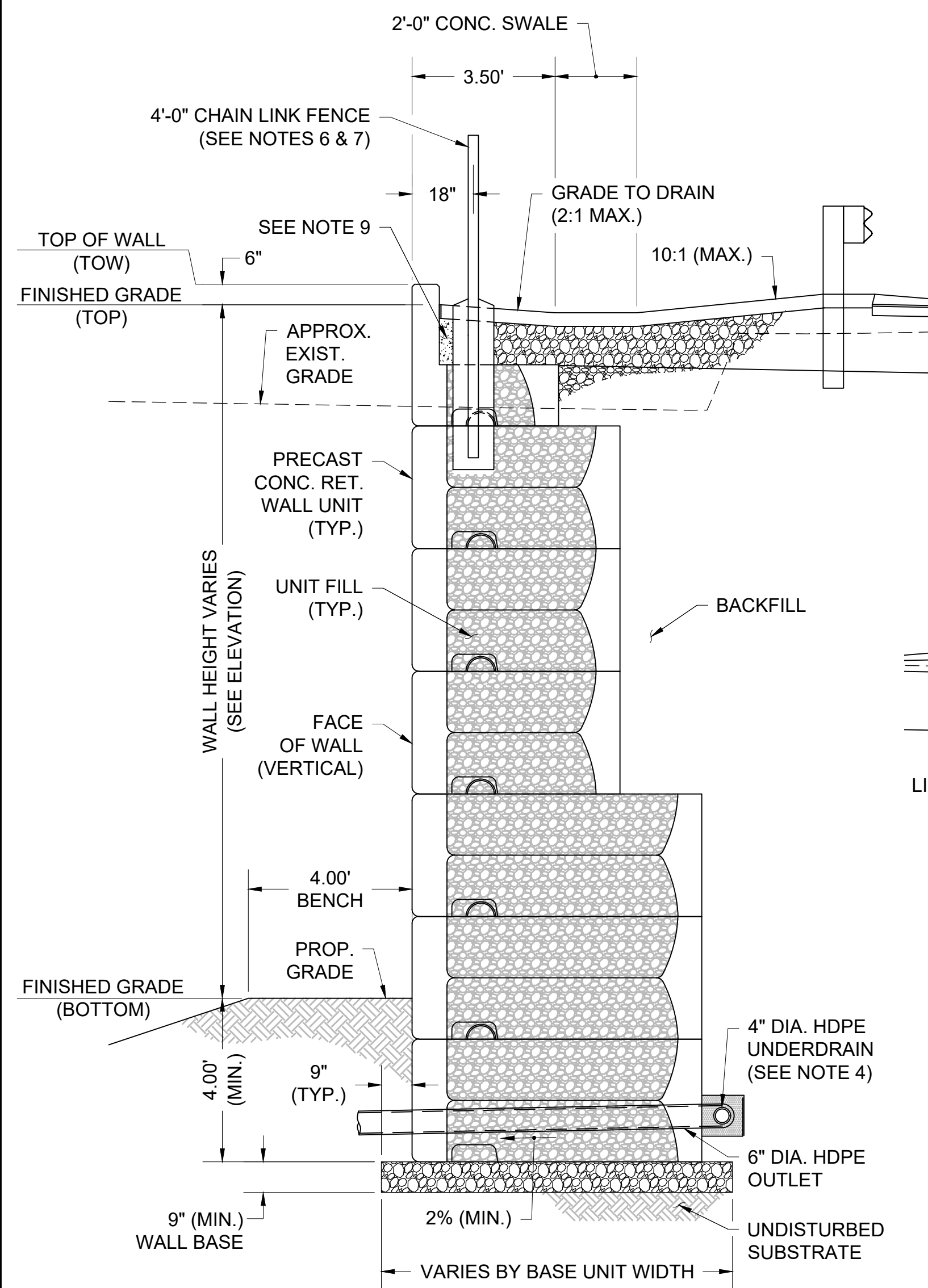
REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER

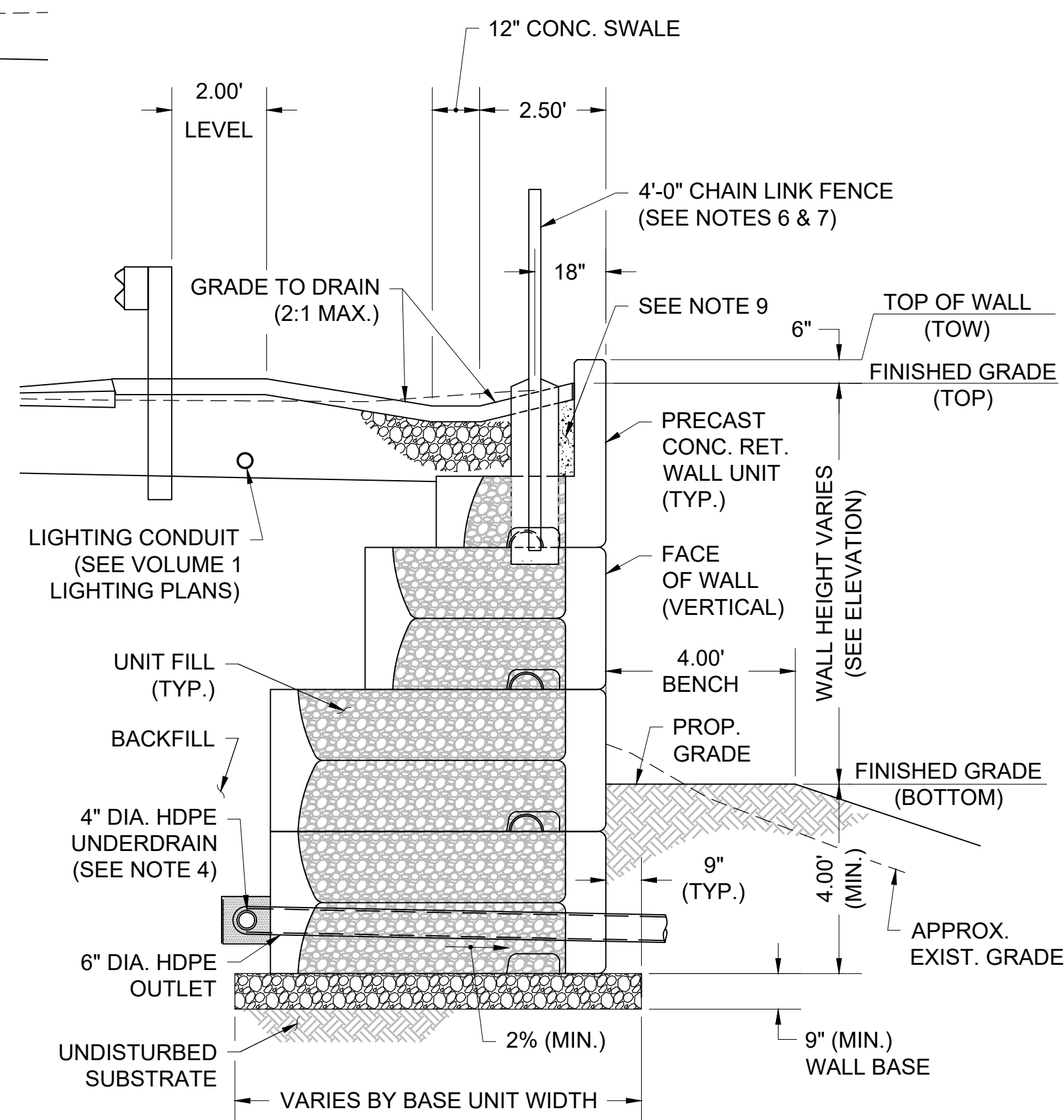
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NRP(M)/TAP(HI)(BR)/STP-003S(191)	1049	1094
PROJECT FILE NO.		608049	

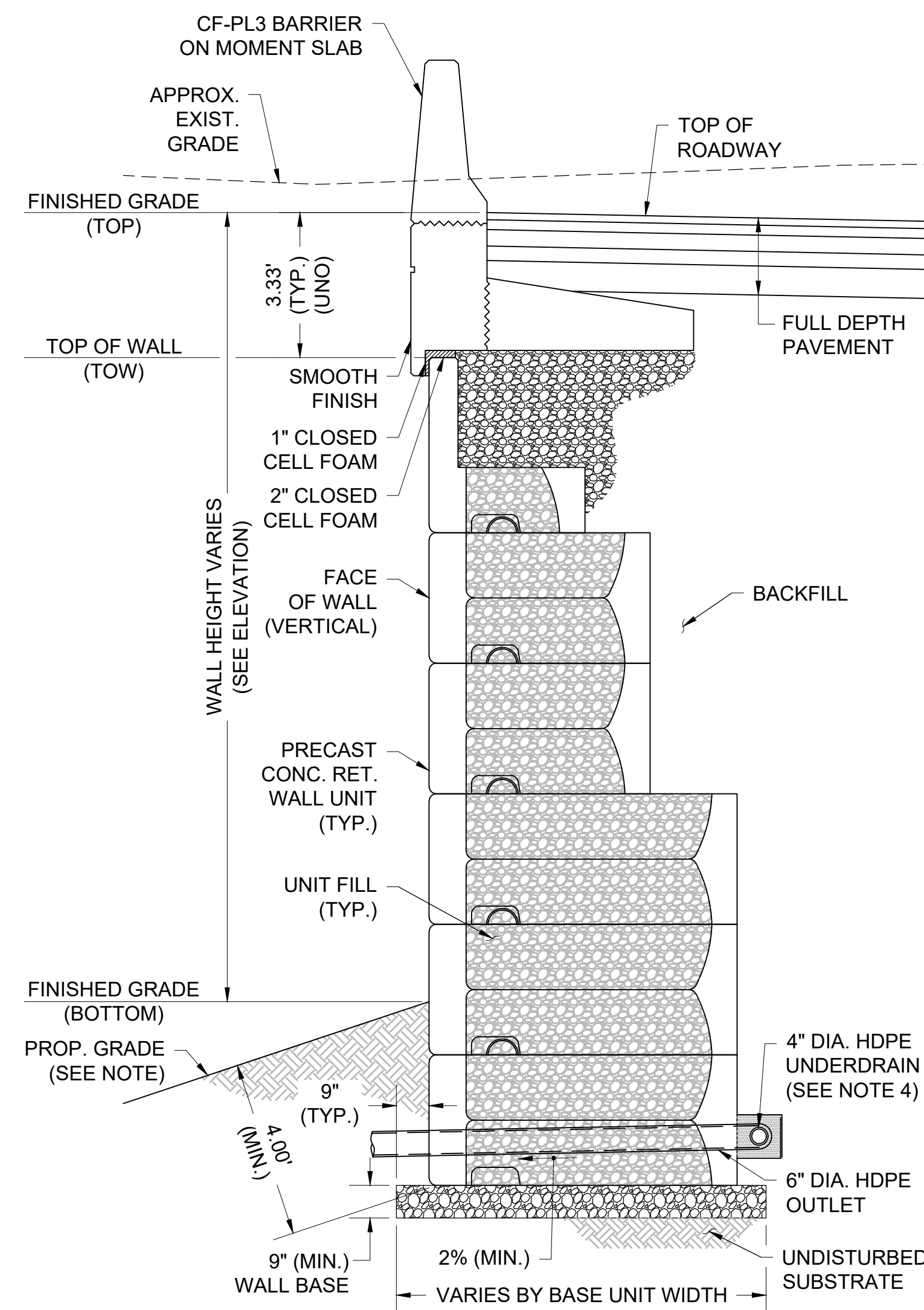
RETAINING WALL DETAILS 1



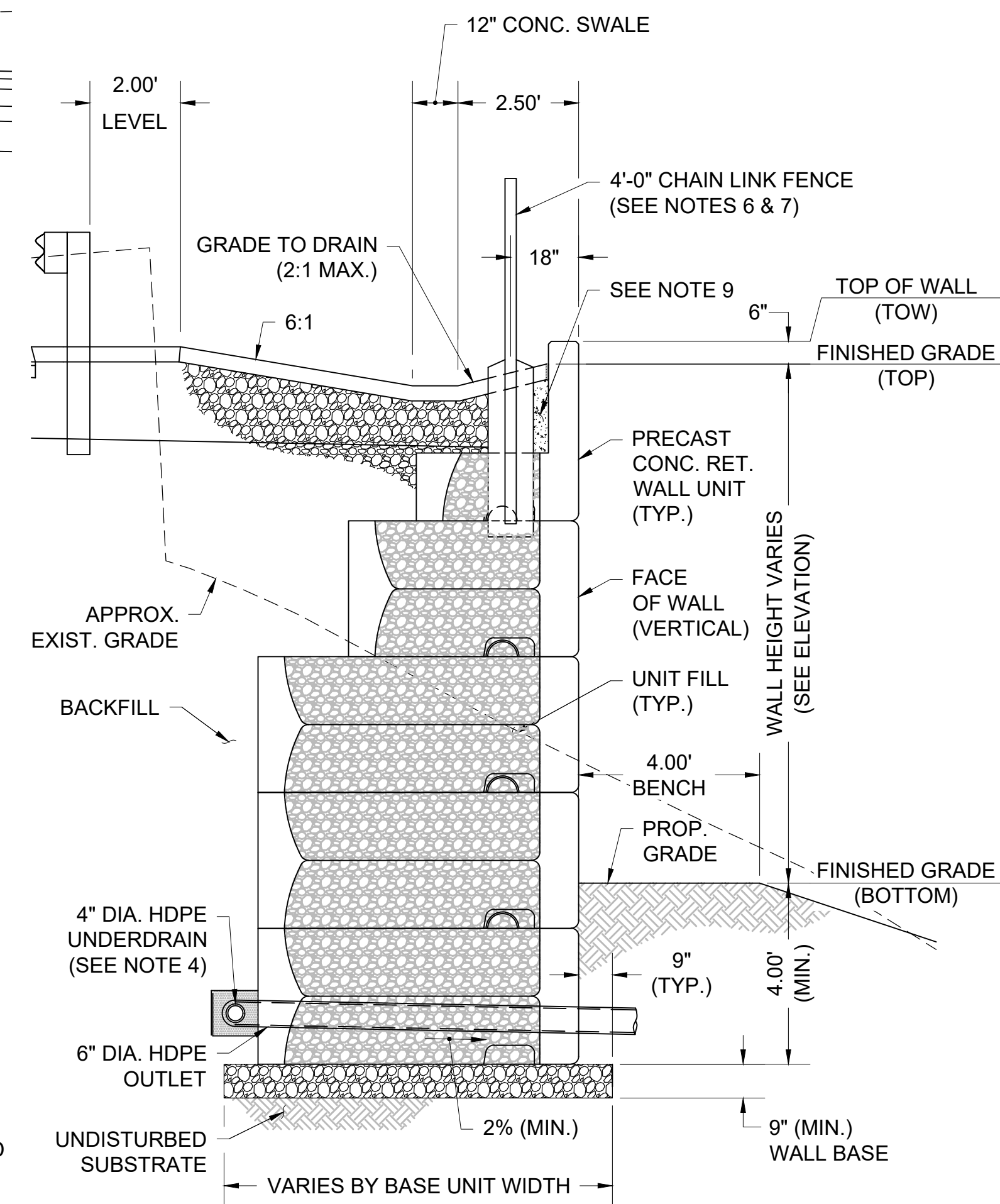
SECTION A - WALL D-01 TYPICAL SECTION

SCALE: $\frac{3}{8}$ " = 1'-0"

SECTION B - WALL D-02 TYPICAL SECTION

SCALE: $\frac{3}{8}$ " = 1'-0"

SECTION C - WALL D-03 TYPICAL SECTION

SCALE: $\frac{3}{8}$ " = 1'-0"

SECTION D - WALL D-04 TYPICAL SECTION

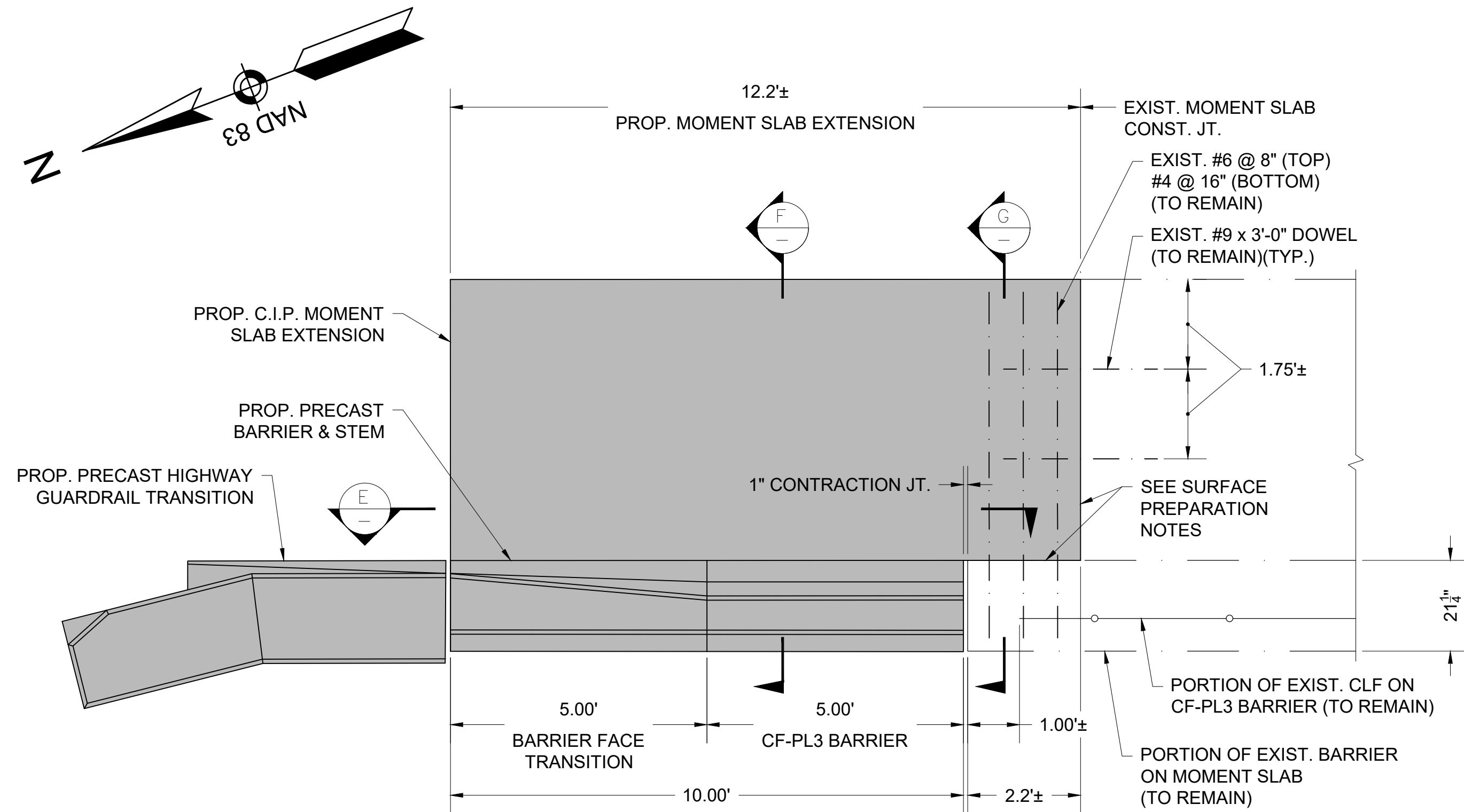
SCALE: $\frac{3}{8}$ " = 1'-0"

NOTE: PROPOSED GRADING AT FACE OF WALL VARIES FROM 3:1 SLOPE AS SHOWN TO 4 FOOT BENCH. SEE GRADING PLANS FOR LIMITS.

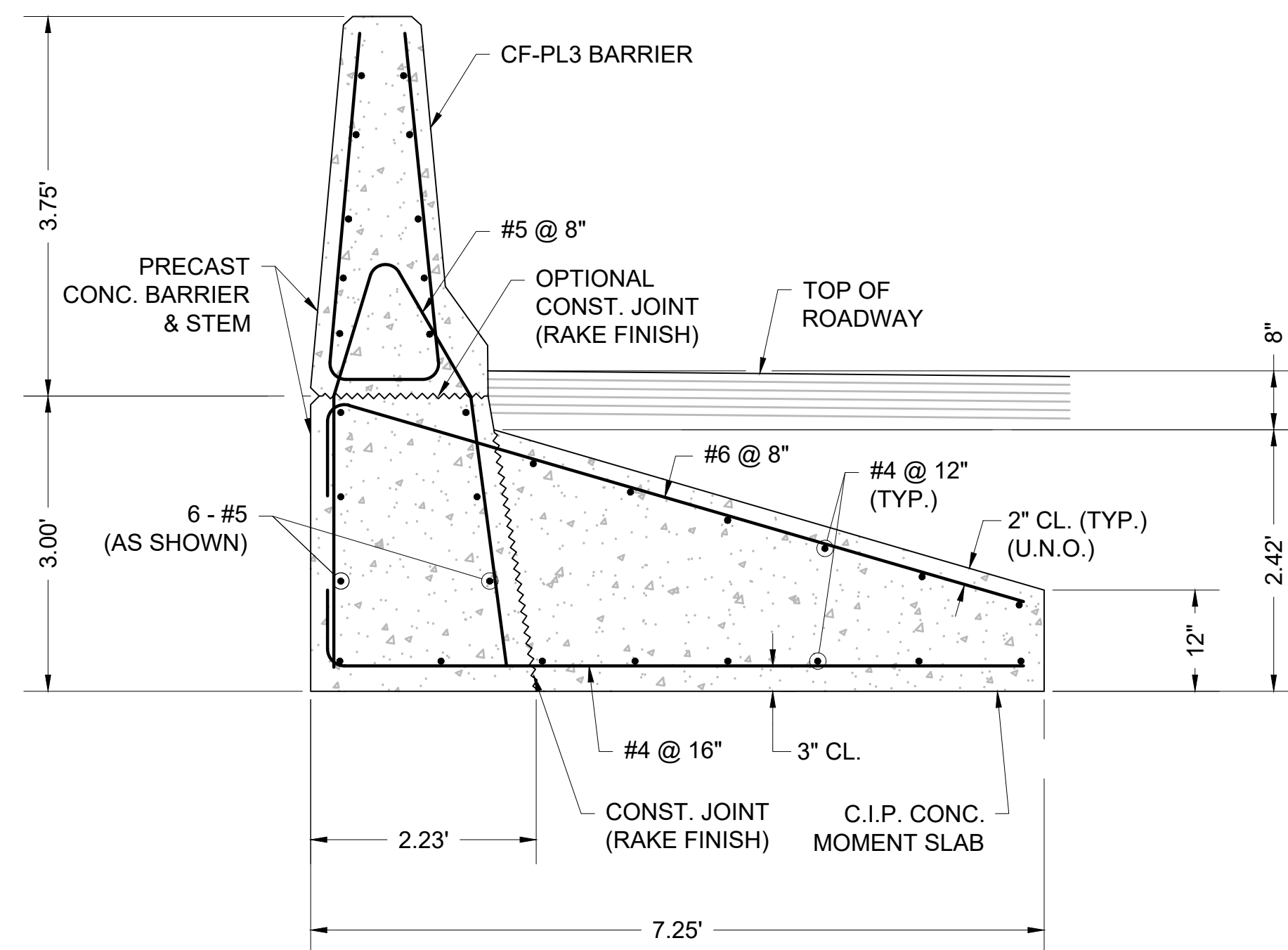
NOTES:

- WALLS D-01, D-02, D-03, AND D-04 SHALL BE MANUFACTURER DESIGNED PROPRIETARY WALL SYSTEMS. DETAILS PROVIDED HEREIN ARE INTENDED TO BE A GUIDE. FINAL DETAILS TO BE DETERMINED BY THE WALL MANUFACTURER.
- PRECAST MODULAR BLOCK GRAVITY WALL SHALL BE STONE STRONG BY MBO PRECAST.
- ACTUAL BLOCK ARRANGEMENT AND DIMENSIONS SHALL BE DETERMINED BY THE MANUFACTURER.
- WALL UNDERDRAINS SHALL HAVE A POSITIVE PITCH TOWARD THE OUTLETS TO THE CLOSED DRAINAGE SYSTEM. OUTLET PIPES SHALL BE SOLID AND NOT PERFORATED. FOR ADDITIONAL DETAILS, SEE DRAINAGE PLANS.
- FOR ADDITIONAL RETAINING WALL REQUIREMENTS, REFER TO SPECIAL PROVISION 996.4 - PREFABRICATED MODULAR GRAVITY RETAINING WALLS.
- CHAIN LINK FENCE POSTS SHALL BE SET IN CONCRETE FOUNDATIONS SPACED AT 8'-0" (MAX.) ON-CENTER. POSTS AND FOUNDATIONS SHALL EITHER BE LOCATED WITHIN PRECAST MODULAR BLOCK VOIDS OR BETWEEN PRECAST MODULAR BLOCKS.
- CHAIN LINK FENCE SHALL BE SPRING TENSION WIRE, BLACK POWDER COATED, CONFORMING TO MASSDOT CONSTRUCTION STANDARD DRAWING NUMBERS E 404.1.0, E 404.2.0, AND E 404.5.0. FOR ADDITIONAL FENCE DETAILS, SEE RETAINING WALL DETAILS 4.
- RETAINING WALL CONSTRUCTION SHALL BE COORDINATED WITH ALL EXISTING AND PROPOSED DRAINAGE AND UTILITIES.
- WHERE BACKFILL CANNOT BE PROPERLY COMPACTED BETWEEN FENCE FOUNDATIONS AND RETAINING WALL COPING, INSTALL CONTROLLED DENSITY FILL (TYPE 1 OR 2 NON-EXCAVATABLE) WITH A BOND BREAKER AT CDF AND COPING INTERFACE OR OTHER METHOD AS APPROVED BY THE ENGINEER.

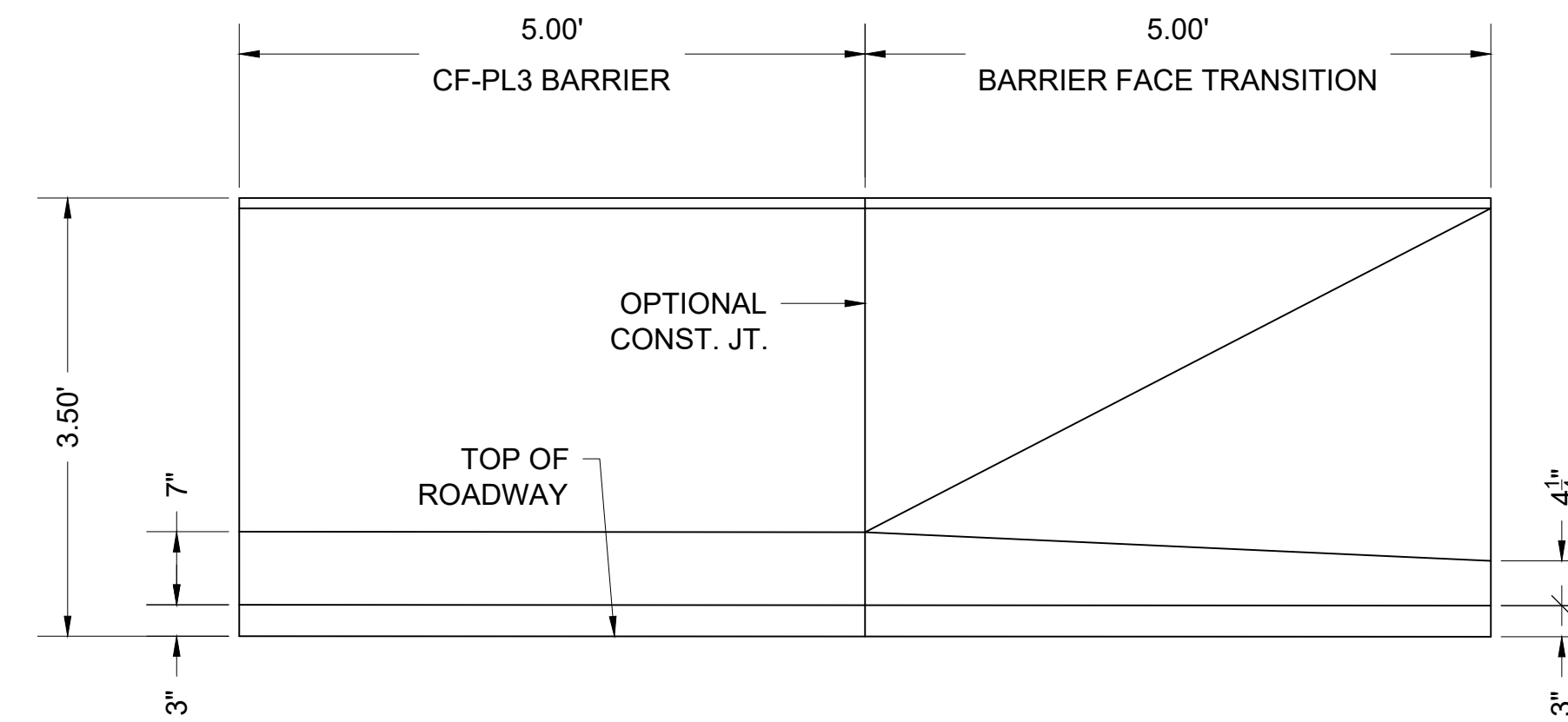
0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



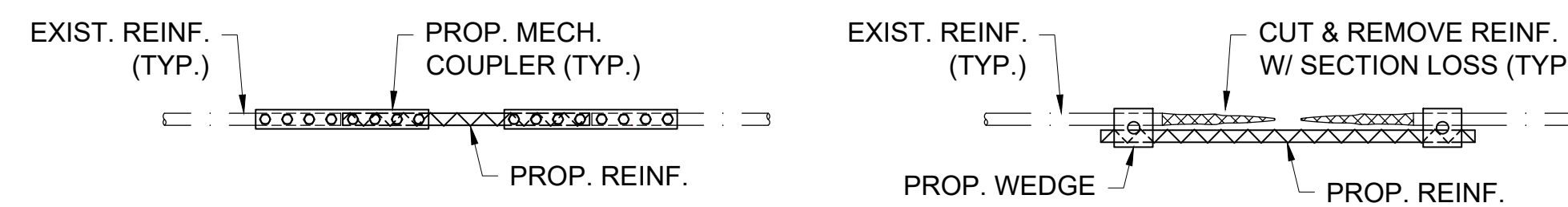
**WALL D-01 MOMENT SLAB EXTENSION
DETAIL 1**
SCALE: $\frac{1}{2}" = 1'-0"$



SECTION F
SCALE: $\frac{1}{2}" = 1'-0"$

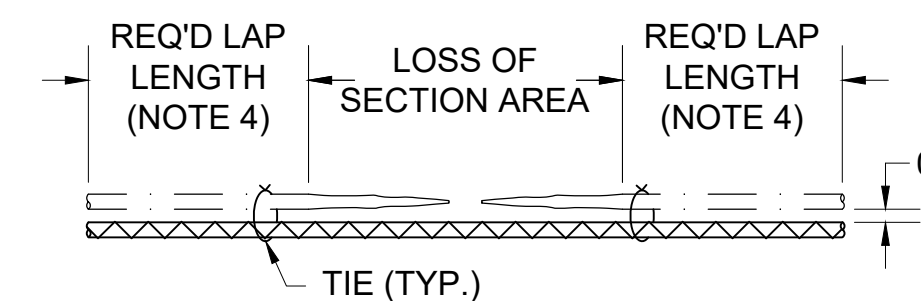


SECTION E - BARRIER FACE TRANSITION
SCALE: $\frac{3}{4}" = 1'-0"$



MECHANICAL COUPLER - OPTION 1

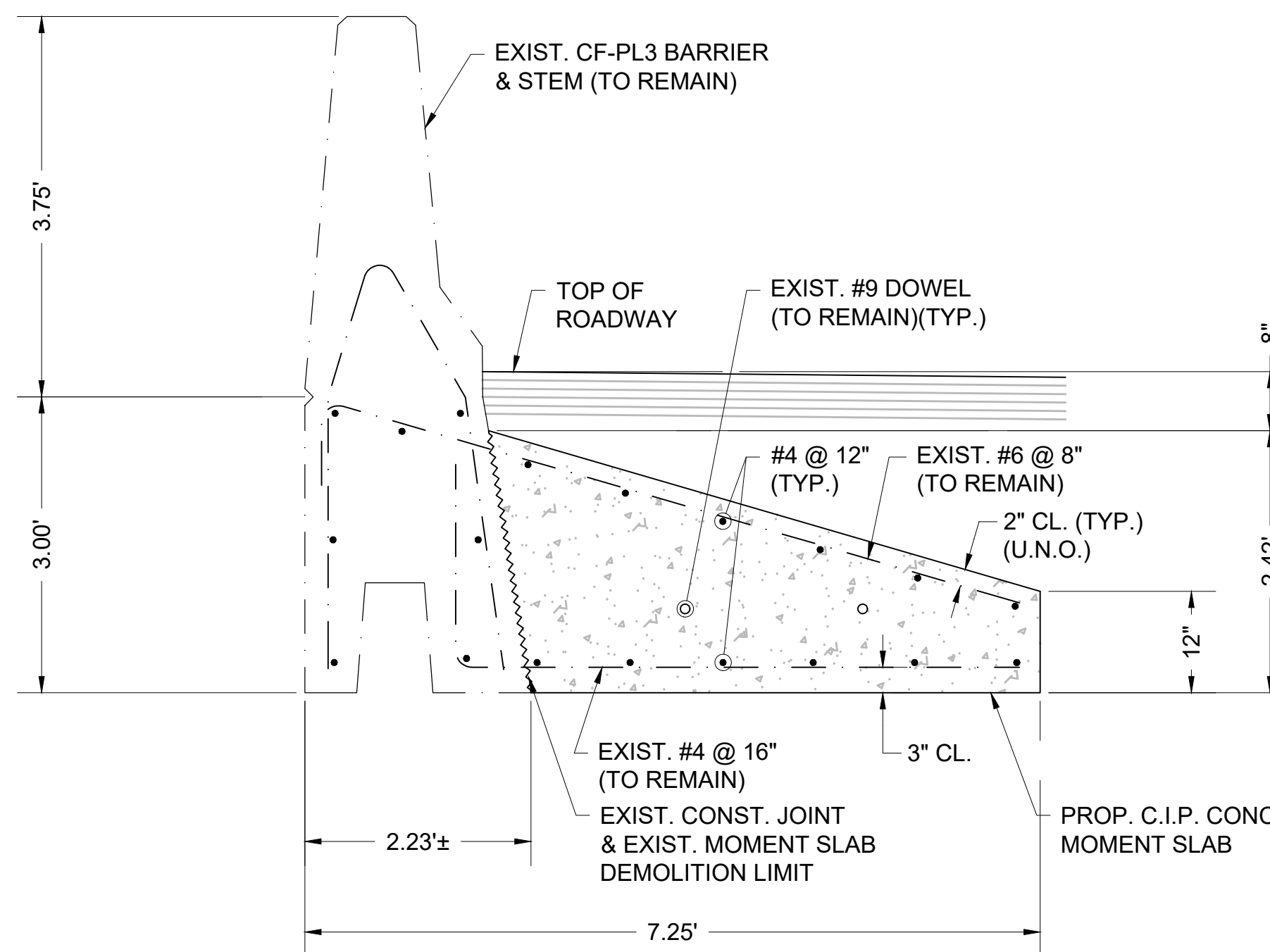
MECHANICAL COUPLER - OPTION 2



LAP SPLICE OPTION

NOTE:
COVER TO PROPOSED REINFORCING BAR SHALL NOT BE LESS THEN COVER TO EXISTING REINFORCING BAR.

REINFORCEMENT REPAIR DETAILS
NOT TO SCALE

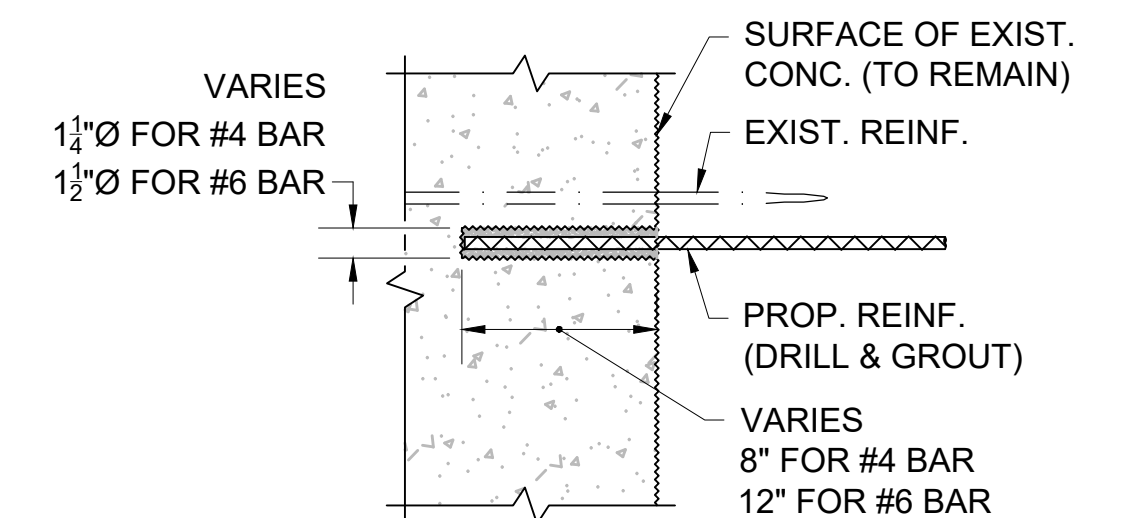


SECTION G
SCALE: $\frac{1}{2}" = 1'-0"$

FALL RIVER ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M/T)AP(HIP(BR))STP-003S(191)	1050	1094
PROJECT FILE NO.		608049	

RETAINING WALL DETAILS 2



NOTE:
GROUT SHALL BE FIVE STAR GROUT OR APPROVED EQUAL NON-SHRINK GROUT FROM THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST.

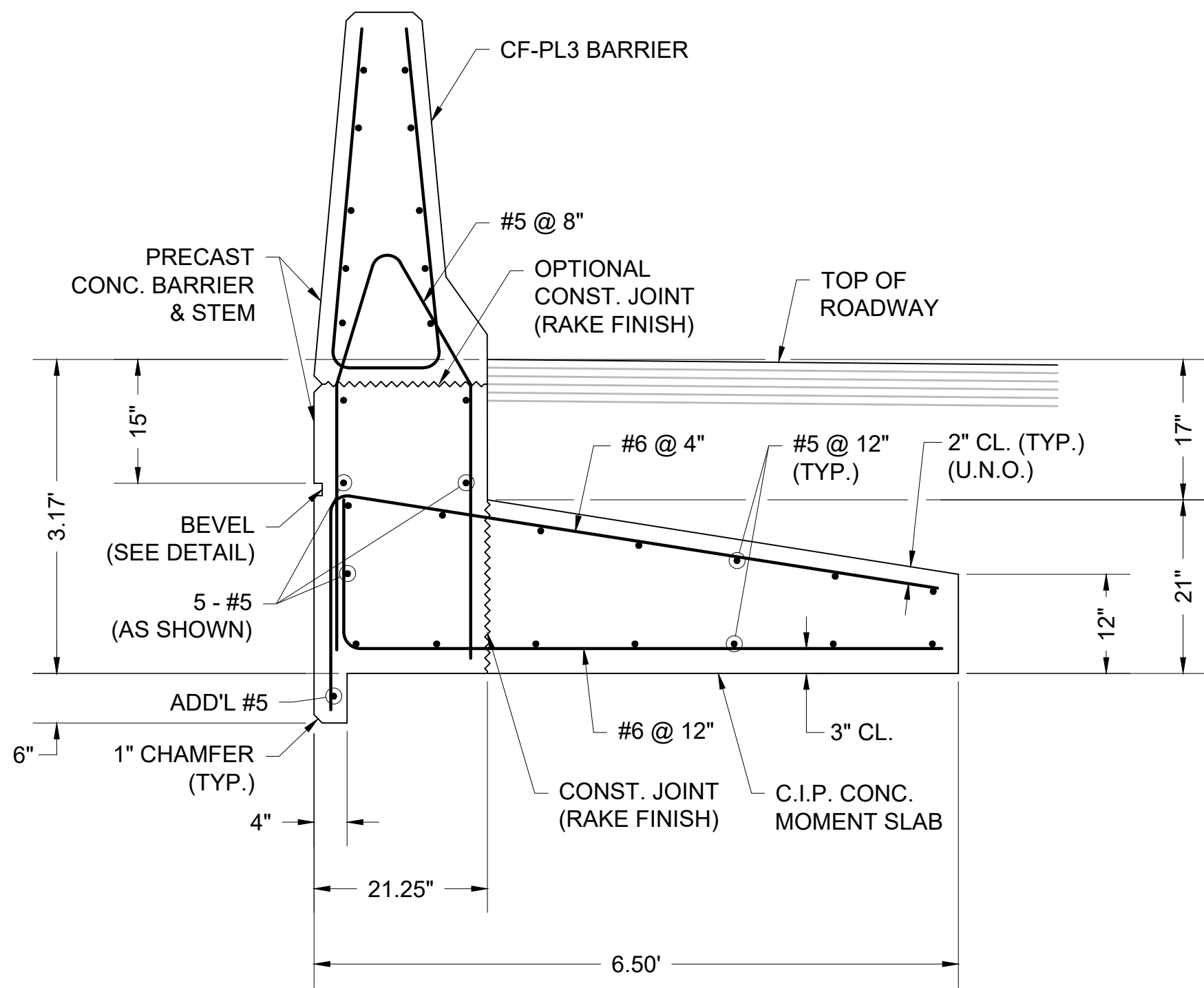
DRILL & GROUT REINFORCEMENT REPAIR DETAIL
NOT TO SCALE

SURFACE PREPARATION NOTES:

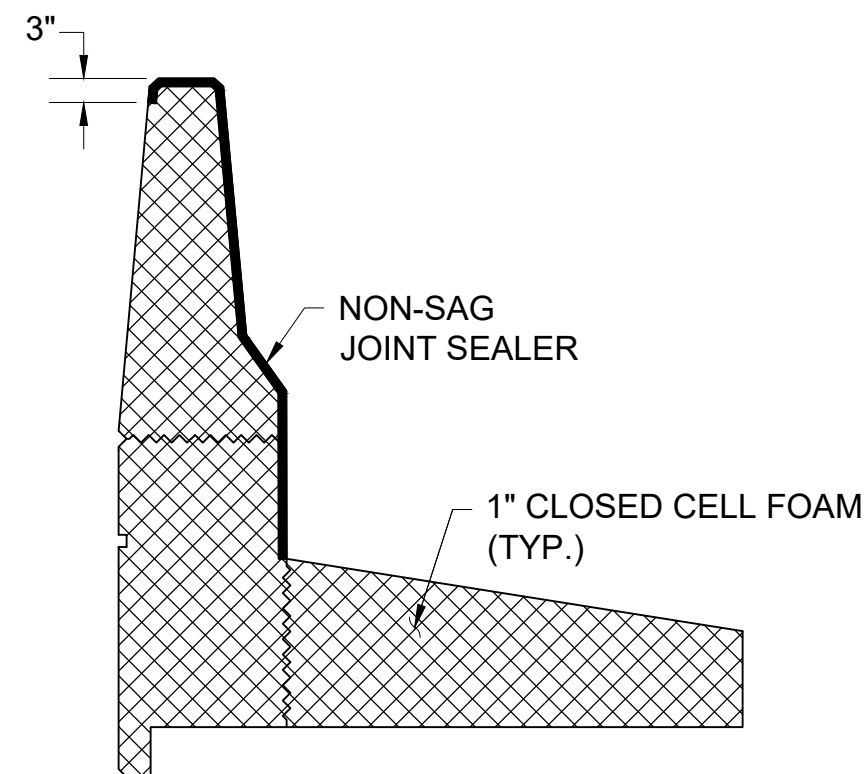
- AFTER REMOVAL OF EXISTING BARRIER AND MOMENT SLAB TO LIMITS SHOWN, REMOVE BOND INHIBITING MATERIALS (DIRT, GREASE, LOOSELY BONDED AGGREGATE) BY ABRASION BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS.
- CLEAN EXPOSED REINFORCING STEEL TO REMAIN BY MECHANICAL CLEANING AND HIGH PRESSURE WASHING. WHERE ACTIVE CORROSION OR DAMAGE HAS OCCURRED, SANDBLAST STEEL TO WHITE METAL FINISH.
- IF THE EXISTING REINFORCING TO REMAIN EXHIBITS MORE THAN 20% SECTION LOSS OF ITS ORIGINAL DIAMETER, THE CONTRACTOR SHALL PROVIDE ADDITIONAL REINFORCING EQUAL IN DIAMETER TO EXISTING.
- WHERE ADDITIONAL REINFORCEMENT IS REQUIRED, MECHANICAL COUPLERS OR LAP SPLICES SHALL BE PROVIDED. LAP SPLICES OF #4 BARS SHALL BE A MINIMUM OF 24". LAP SPLICES OF #6 BARS SHALL BE A MINIMUM OF 36". MECHANICAL COUPLERS SHALL BE INSTALLED AT LOCATIONS WHERE EXISTING REINFORCING DOESN'T EXHIBIT SECTION LOSS AND SHALL BE FROM THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST. THE PROPOSED CONCRETE SECTION SHALL BE BUILT OUT AS REQUIRED TO OBTAIN THE MINIMUM CLEAR COVER AT MECHANICAL COUPLER LOCATIONS.
- DRILL AND GROUT REINFORCEMENT INTO EXISTING CONCRETE WHERE ADDITIONAL REINFORCEMENT IS REQUIRED AND MINIMUM LAP SPLICES CANNOT BE OBTAINED OR MECHANICAL COUPLERS CANNOT BE USED.
- WHERE EPOXY COATING HAS BEEN DAMAGED OR REMOVED, APPLY EPOXY REPAIR PAINT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. REPAIR PAINT SHALL BE FOUND ON THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST.

NOTES:

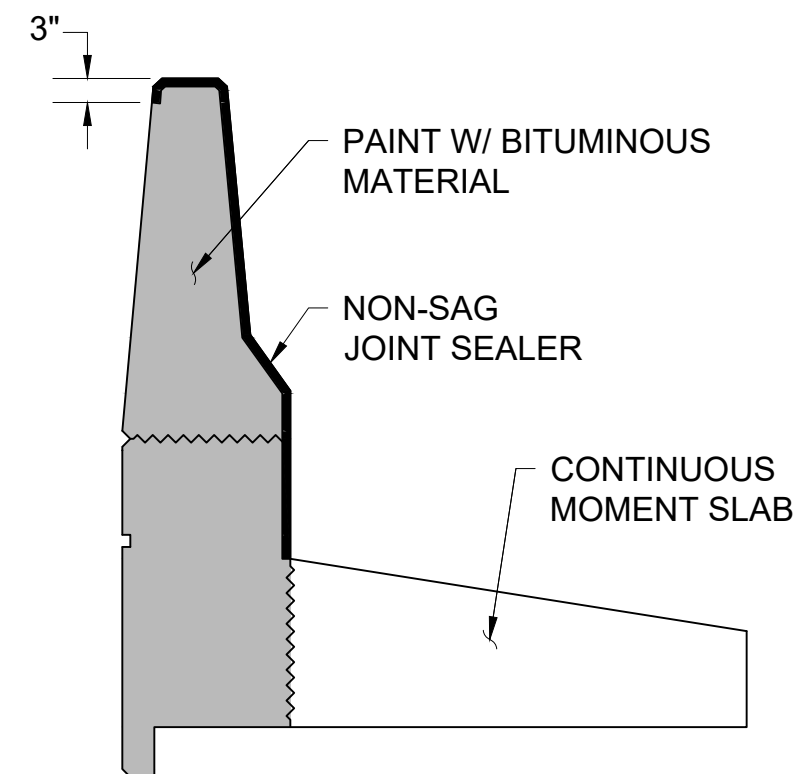
- FOR MOMENT SLAB MATERIAL REQUIREMENTS, REFER TO SPECIAL PROVISION 996.4 - PREFABRICATED MODULAR GRAVITY RETAINING WALLS.
- FOR HIGHWAY GUARDRAIL TRANSITION AND CF-PL3 BARRIER DETAILS, SEE BRIDGE PLANS.
- ALL BARRIER, STEM, AND MOMENT SLAB REINFORCEMENT SHALL BE EPOXY COATED.
- PRECAST CONCRETE IN PRECAST BARRIER AND STEM SHALL BE 5000 PSI, $\frac{3}{4}"$, 585 HP CEMENT CONCRETE.
- CAST-IN-PLACE CONCRETE IN MOMENT SLAB SHALL BE 4000 PSI, $\frac{3}{4}"$, 610 CEMENT CONCRETE.
- FOR CONTRACTION JOINT DETAILS, SEE WALL DETAILS 3.



WALL D-03 TYPICAL MOMENT SLAB DETAIL
SCALE: $\frac{3}{4}$ " = 1'-0"

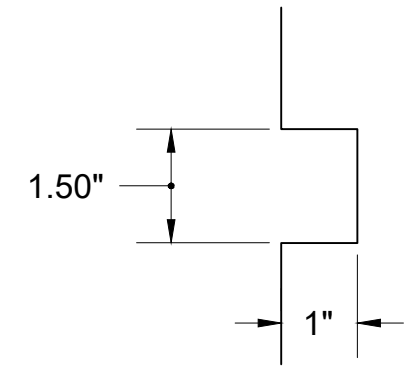


MOMENT SLAB
EXPANSION JOINT DETAIL
SCALE: $\frac{1}{2}$ " = 1'-0"

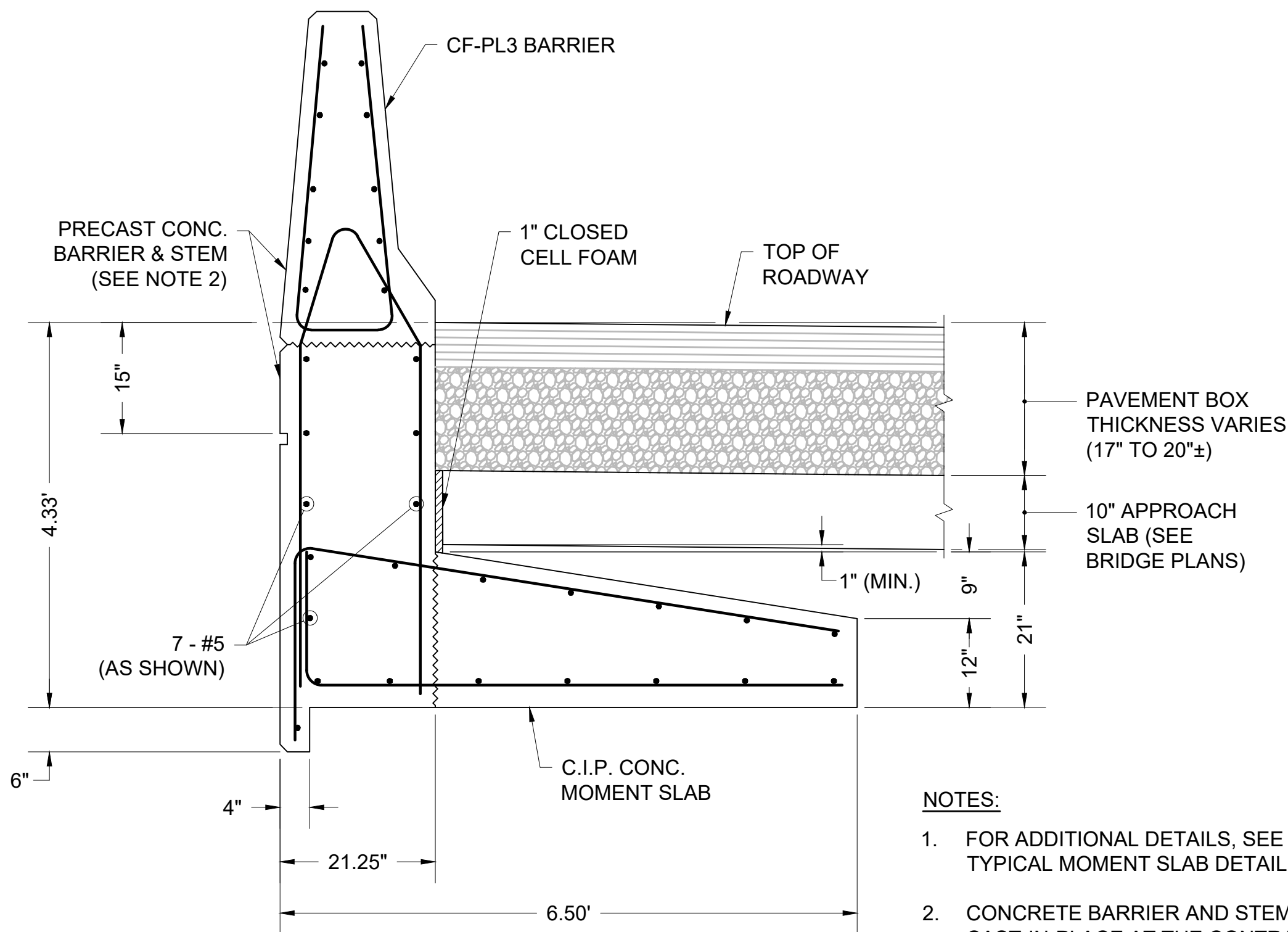


NOTE:
DETAIL APPLICABLE TO ALL PRECAST BARRIER/STEM JOINTS.

MOMENT SLAB
CONTRACTION JOINT DETAIL
SCALE: $\frac{1}{2}$ " = 1'-0"



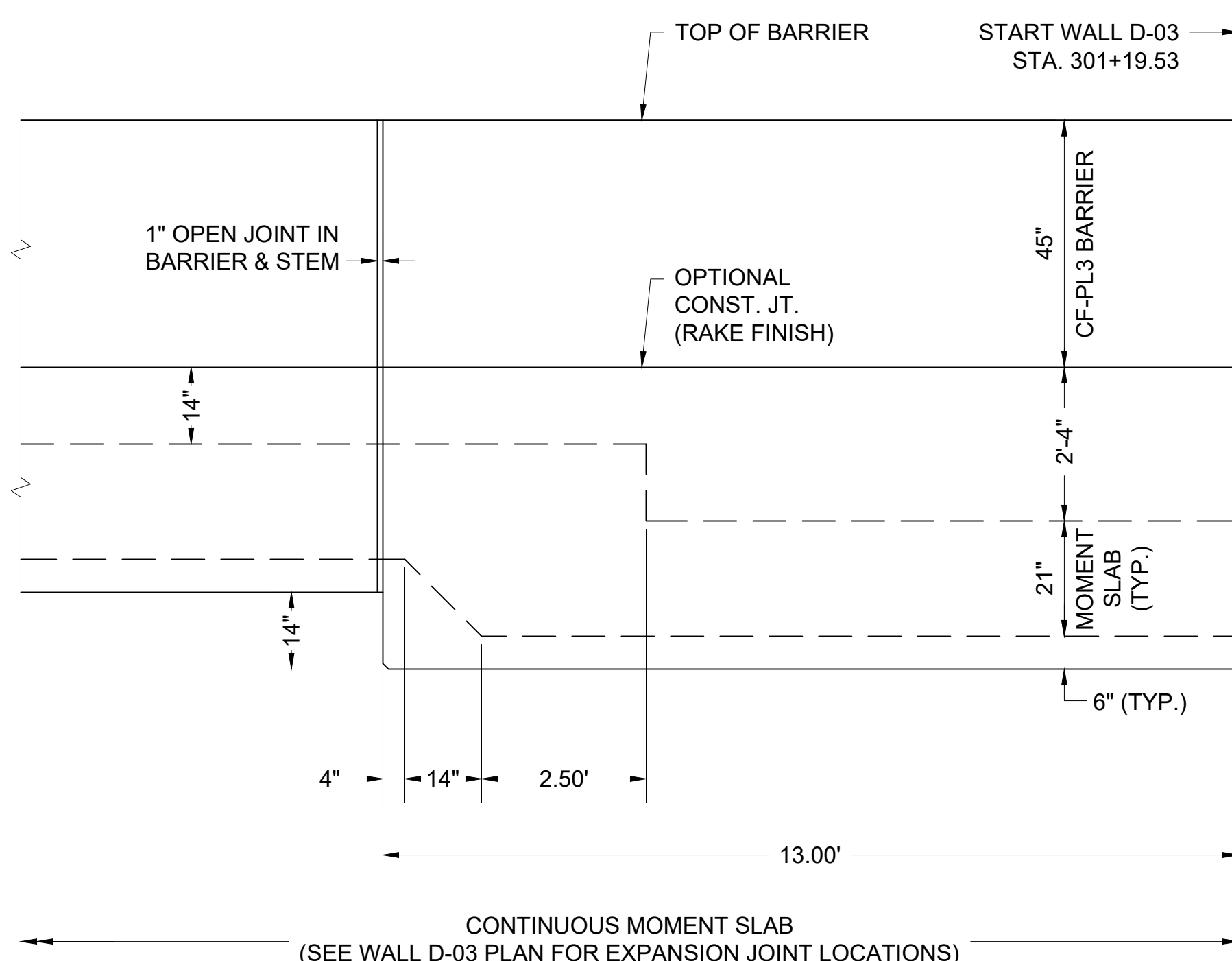
BEVEL DETAIL
NOT TO SCALE



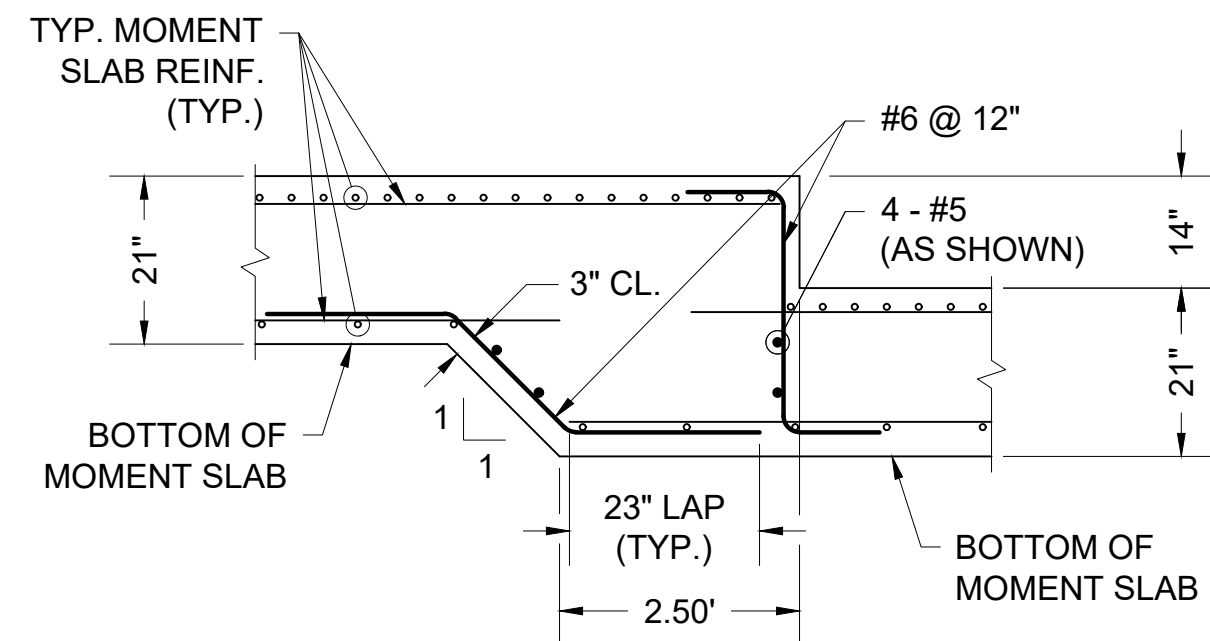
WALL D-03 MOMENT SLAB DETAIL
AT BRIDGE APPROACH SLAB
SCALE: $\frac{3}{4}$ " = 1'-0"

NOTES:

- FOR ADDITIONAL DETAILS, SEE WALL D-03 TYPICAL MOMENT SLAB DETAIL.
- CONCRETE BARRIER AND STEM MAY BE CAST-IN-PLACE AT THE CONTRACTOR'S OPTION. CAST-IN-PLACE BARRIER AND STEM CONCRETE SHALL BE 5000 PSI, $\frac{3}{4}$ ", 685 HP CEMENT CONCRETE.



WALL D-03 ELEVATION
AT BRIDGE APPROACH SLAB
SCALE: $\frac{3}{4}$ " = 1'-0"

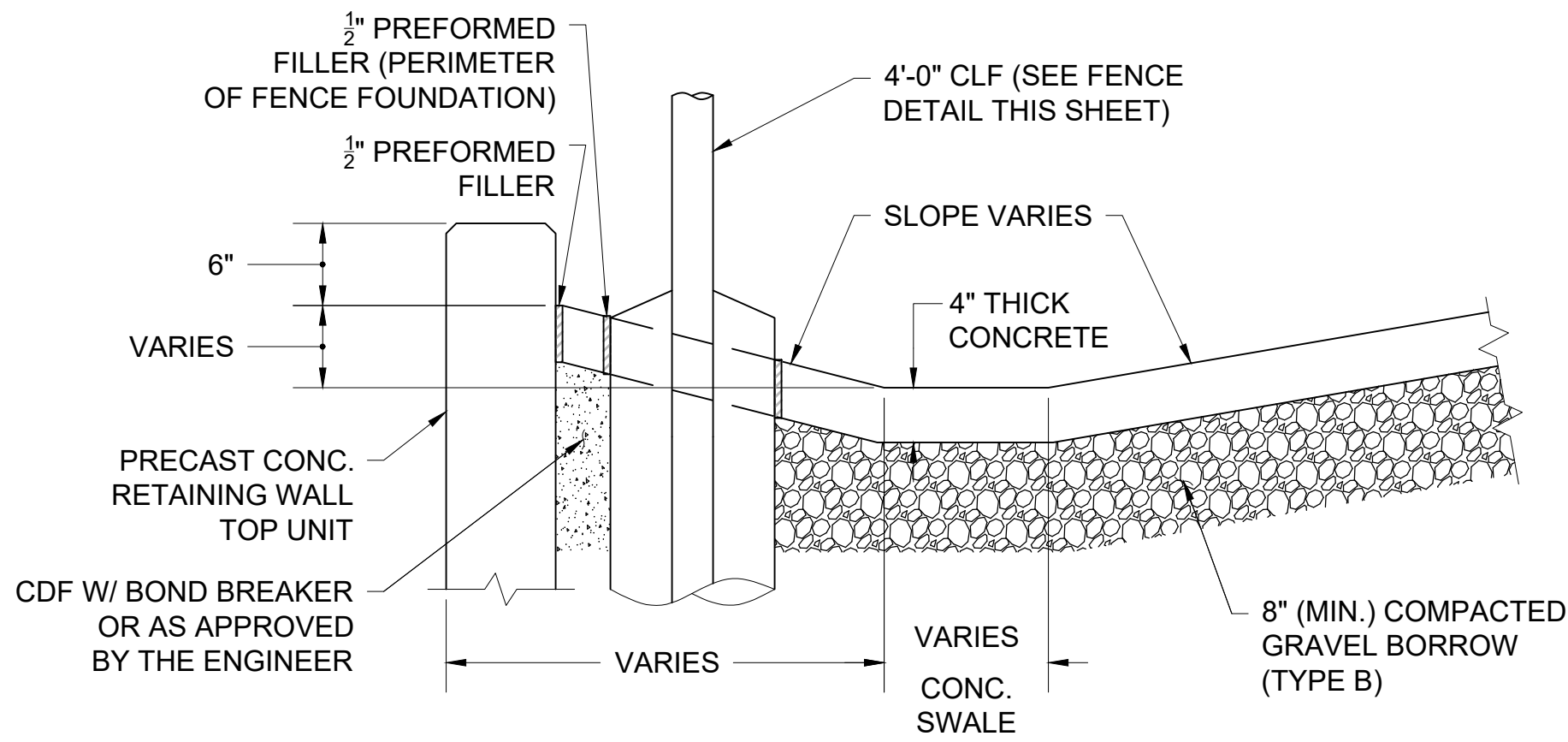


MOMENT SLAB STEP DETAIL
SCALE: $\frac{3}{4}$ " = 1'-0"

NOTES:

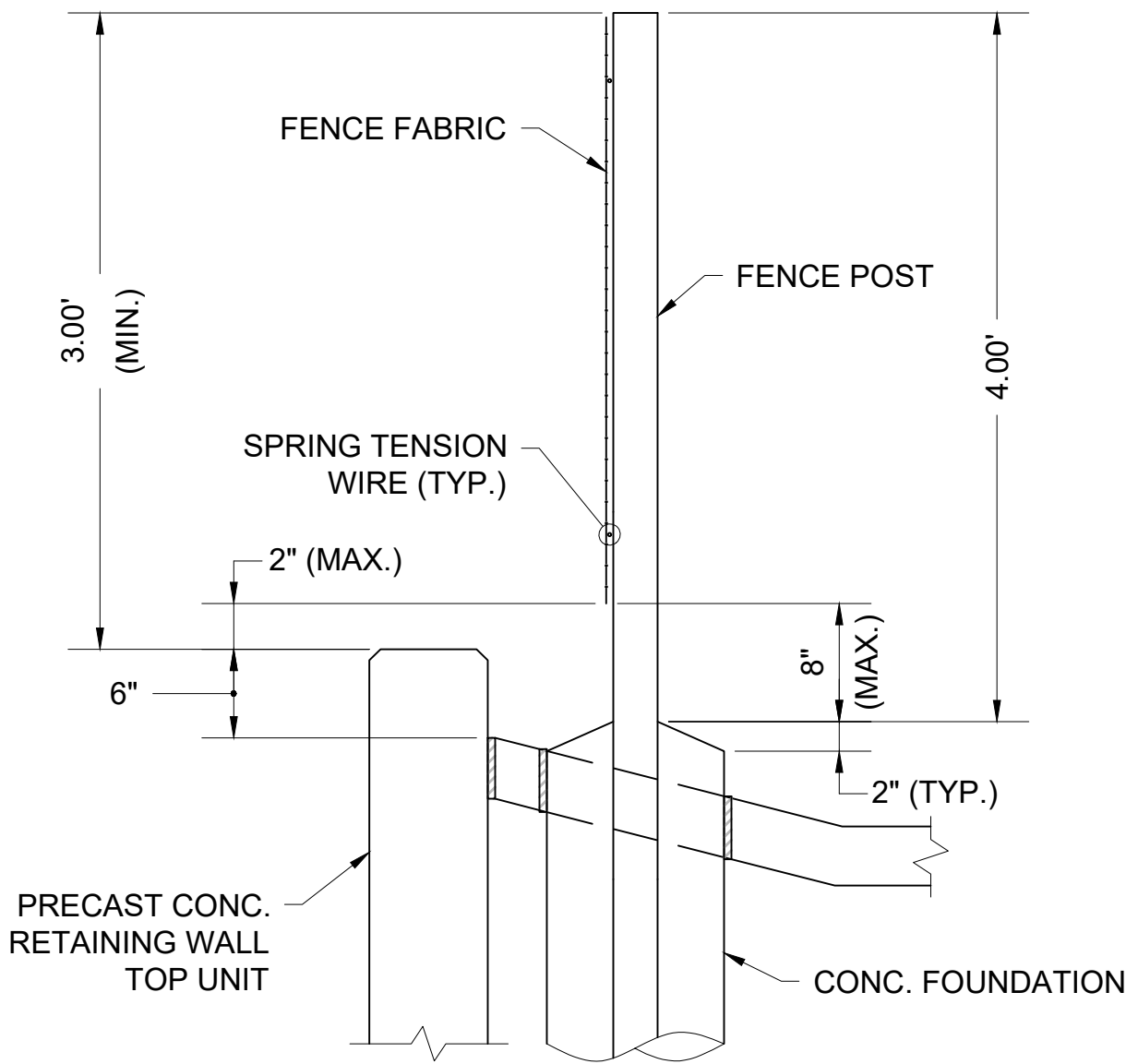
- FOR BARRIER AND MOMENT SLAB NOTES, SEE RETAINING WALL DETAILS 2.

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



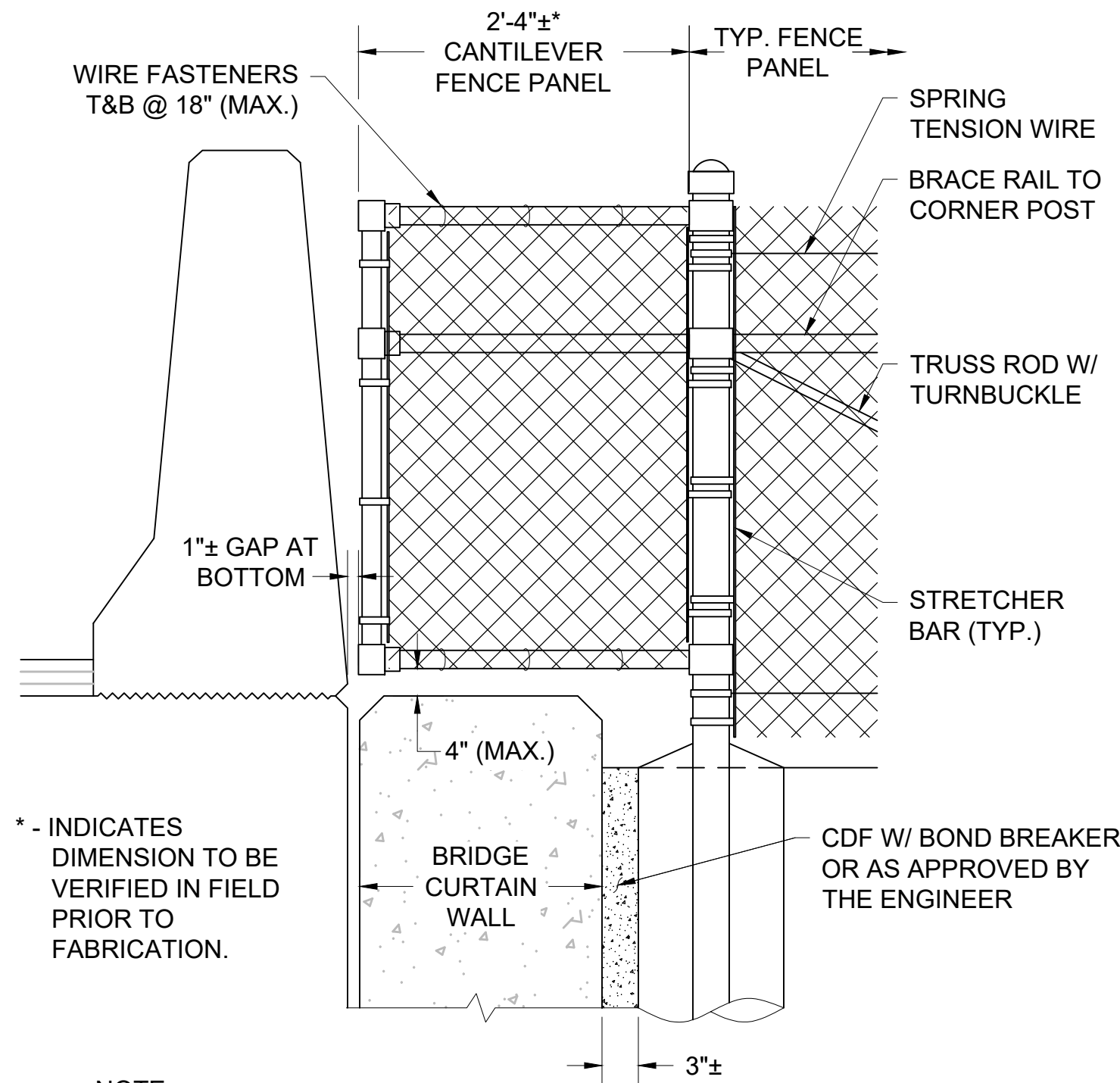
- NOTES:
- SWALE SHALL BE 4000 PSI, 3/4", 610 CEMENT CONCRETE. FOR GRADING SEE VOLUME 1 CURB TIE & GRADE PLAN.
 - FOR ADDITIONAL SWALE DIMENSIONS AND DETAILS, REFER TO THE RETAINING WALL TYPICAL SECTIONS ON RETAINING WALL DETAILS 1 AND THE VOLUME 1 CURB TIE AND GRADE PLANS.

TYPICAL SWALE DETAIL
SCALE: 1" = 1'-0"



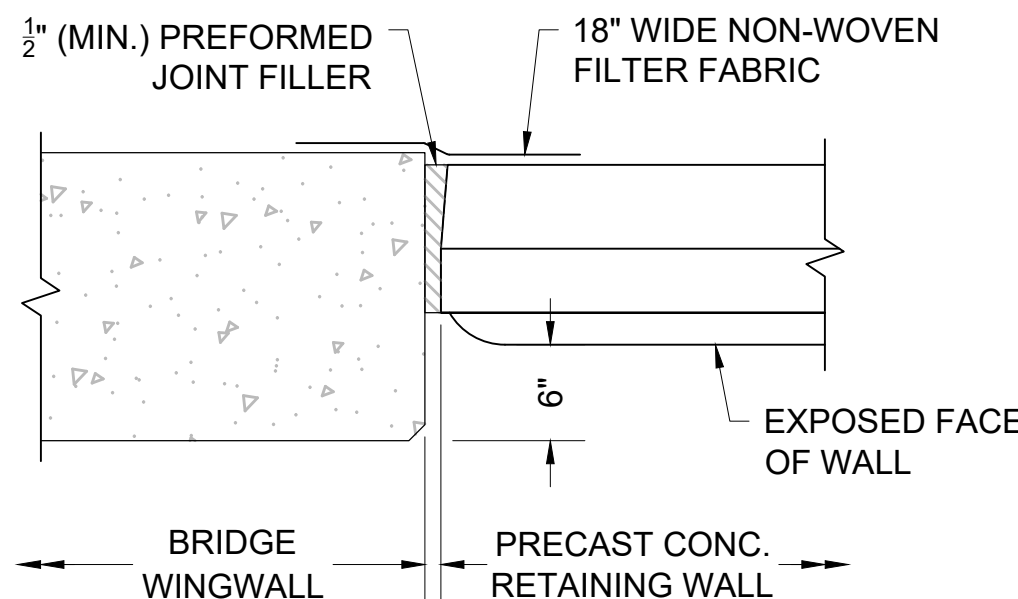
- NOTES:
- CHAIN LINK FENCE SHALL BE SPRING TENSION WIRE, BLACK POWDER COATED, CONFORMING TO MASSDOT CONSTRUCTION STANDARD DRAWING NUMBERS E 404.1.0, E 404.2.0, AND E 404.5.0.
 - FOR ADDITIONAL FENCE DETAILS AND REQUIREMENTS, REFER TO RETAINING WALL DETAILS 1.

TYPICAL FENCE DETAIL
SCALE: 1" = 1'-0"

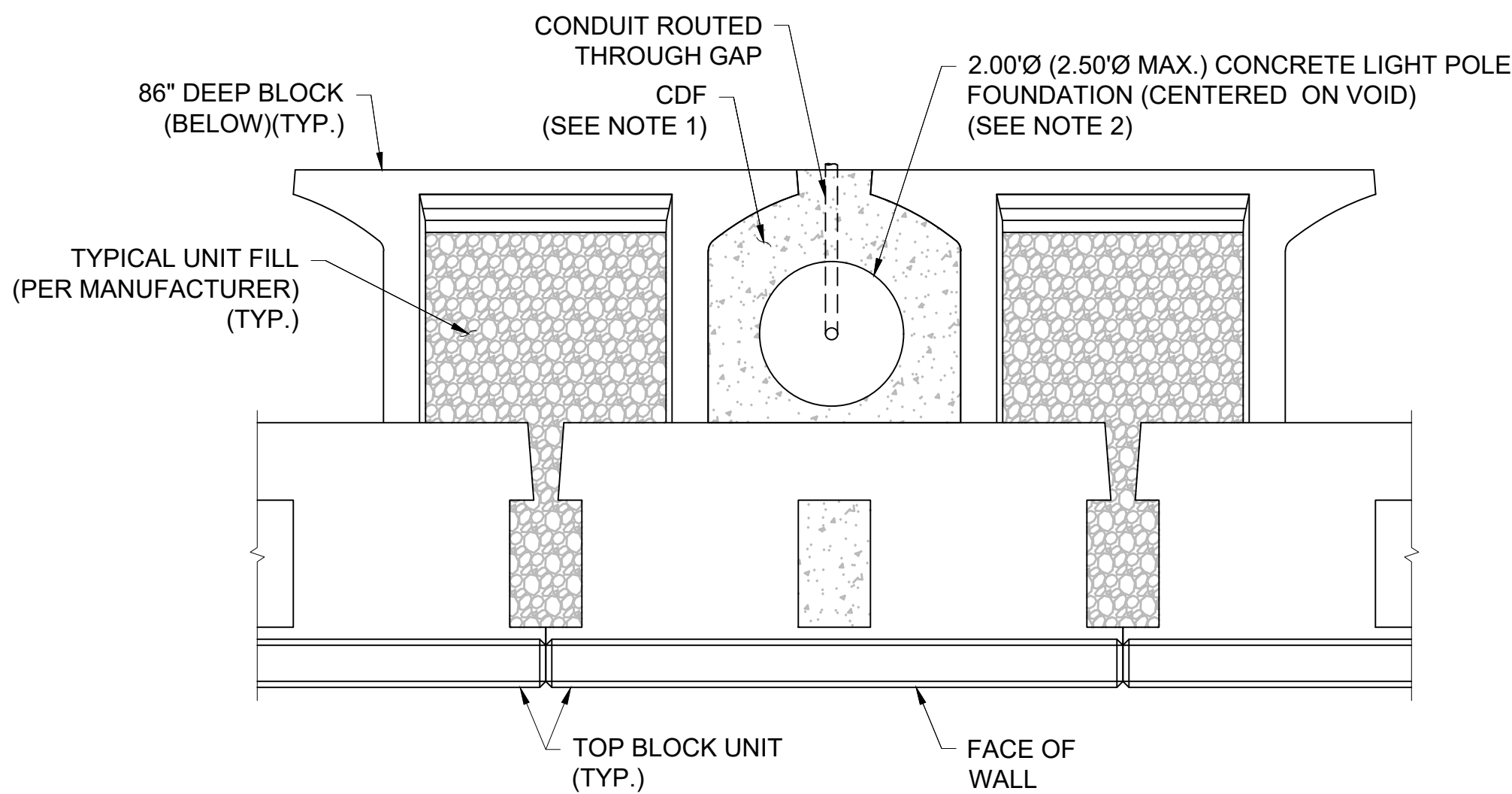


- NOTE:
- FOR ADDITIONAL DETAILS OF FENCE COMPONENTS, SEE MASSDOT CONSTRUCTION STANDARD DRAWING NUMBERS E 404.1.0, E 404.2.0, AND E 404.5.0.

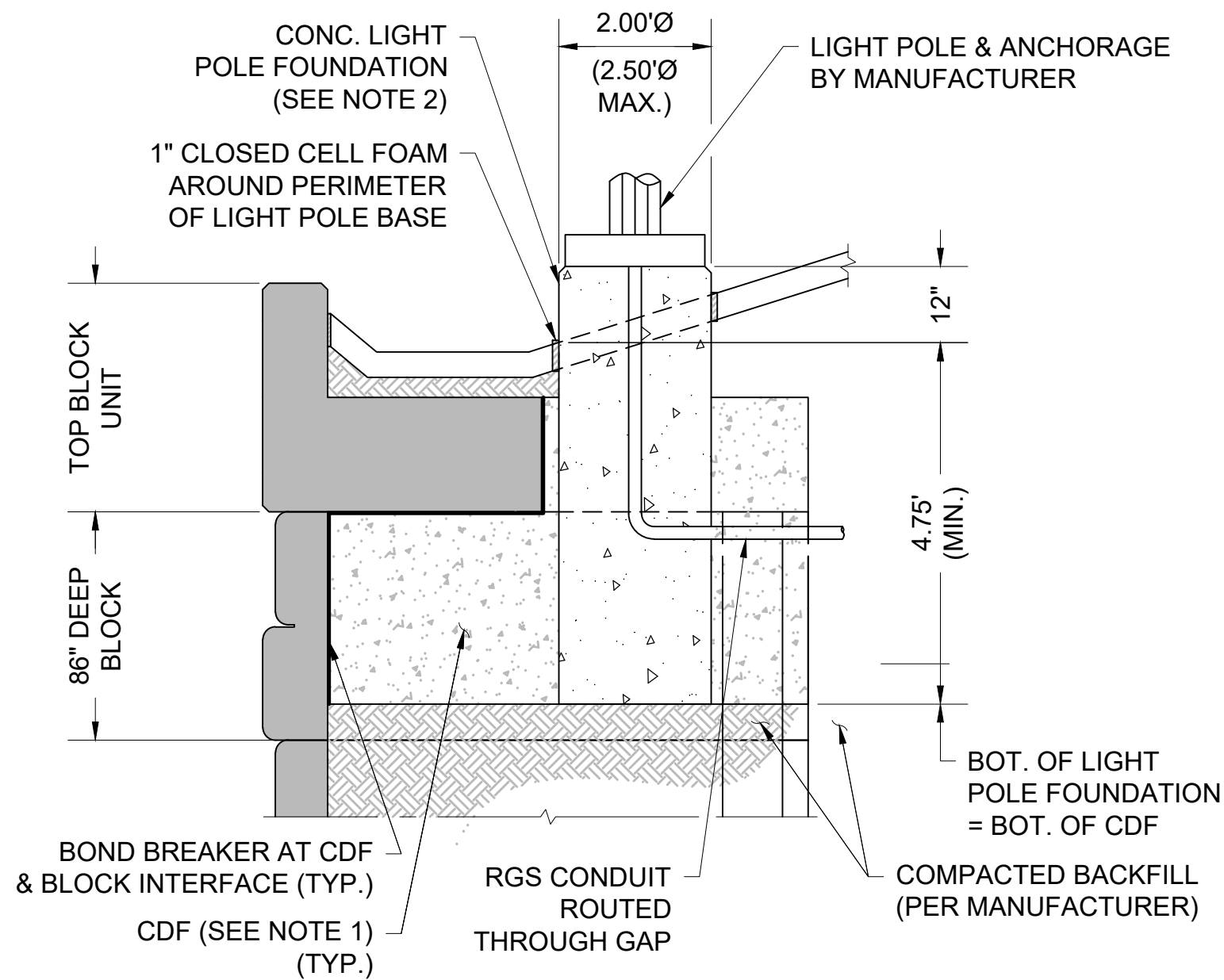
TYPICAL FENCE DETAIL AT BRIDGE CURTAIN WALL
SCALE: 1" = 1'-0"



TYPICAL EXPANSION JOINT DETAIL
SCALE: 1 1/2" = 1'-0"

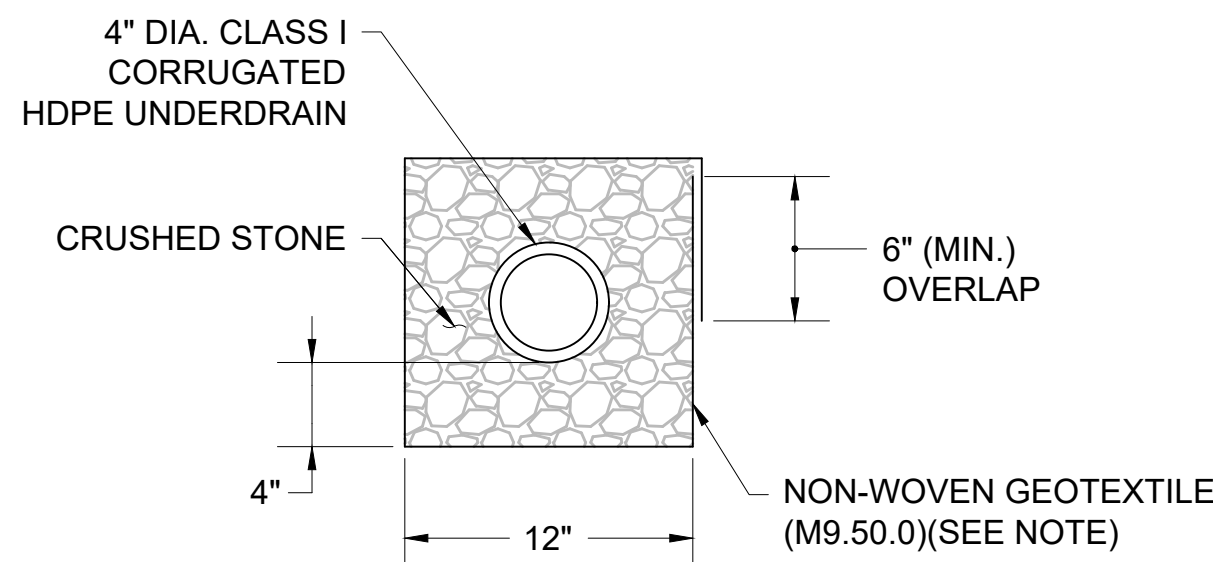


PLAN



SECTION

WALLS D-02 & D-04 LIGHT POLE IN BLOCK DETAIL
SCALE: 1/2" = 1'-0"



- NOTE:
- GEOTEXTILE SHALL BE INCLUDED ON THE MASSDOT QUALIFIED CONSTRUCTION MATERIAL LIST FOR SUBSURFACE DRAINAGE APPLICATIONS.

TYPICAL UNDERDRAIN DETAIL
SCALE: 1 1/2" = 1'-0"

- NOTES:
- CONTROLLED DENSITY FILL (CDF) SHALL BE TYPE 1 OR 2 NON-EXCAVATABLE.
 - FOR DETAILS OF LIGHT POLE AND LIGHT POLE FOUNDATION, SEE VOLUME 1 LIGHTING PLANS.

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER

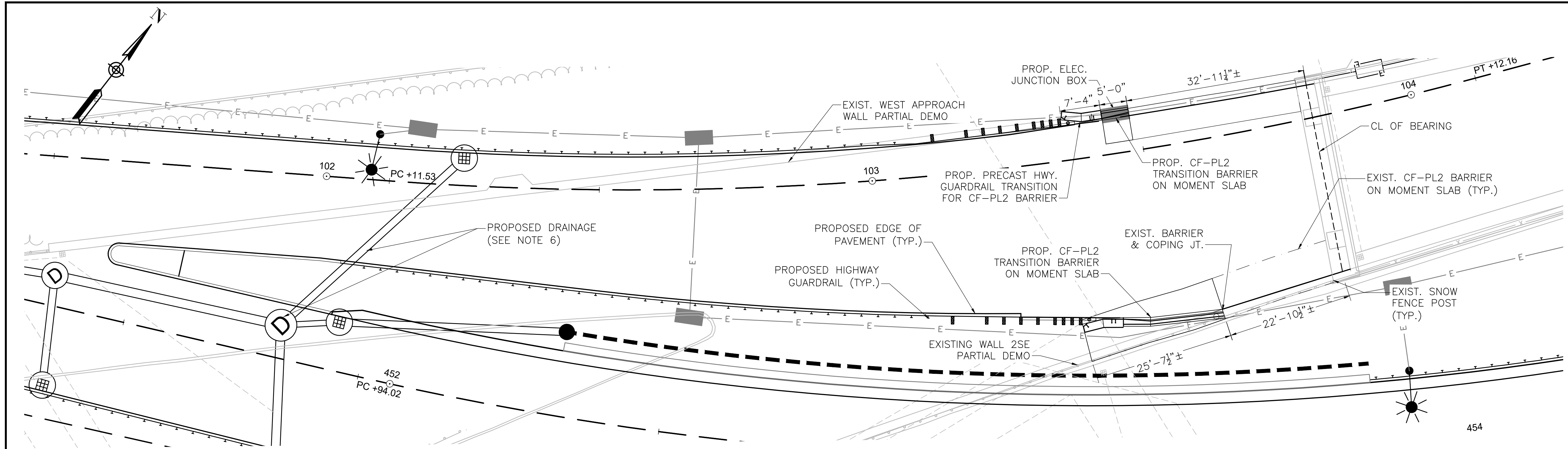
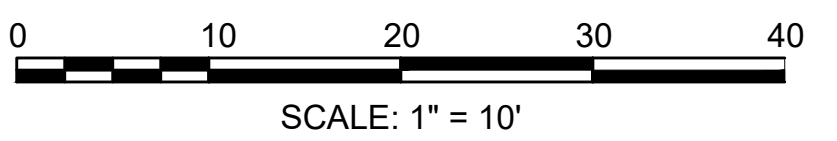
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(MY/TAP/HIP/BRJ/STP-003S(191)	1053	1094
PROJECT FILE NO.		608049	

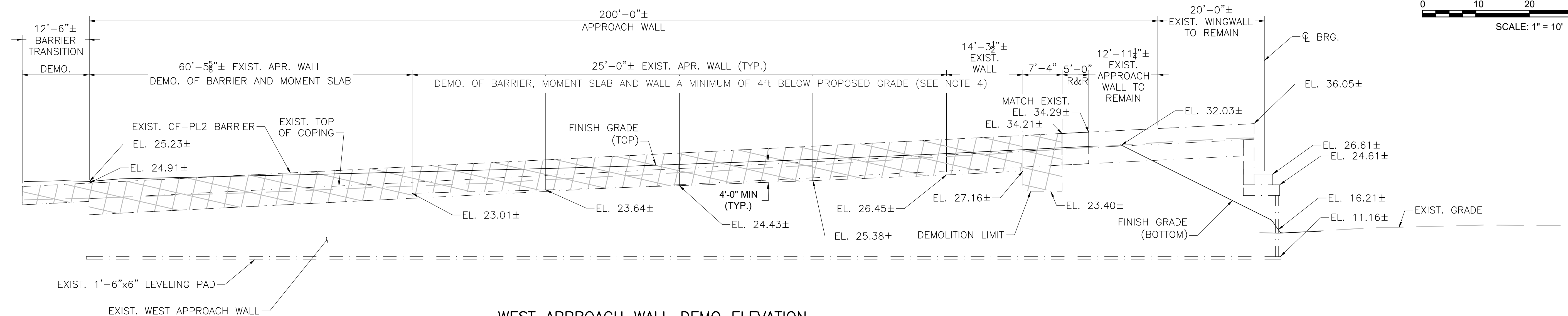
VMB RAMP W-S
APPROACH WALL PLAN & DEMO

NOTES:

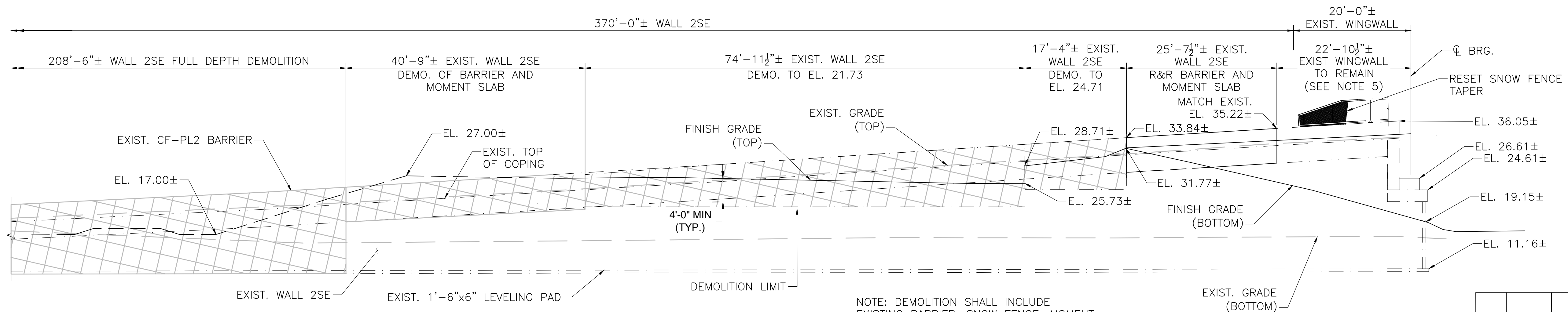
1. PROPOSED MOMENT SLAB AND BARRIER SHALL MATCH THE AESTHETIC OF THE EXISTING WALL 2SE INCLUDING THE COLOR AND COPING GEOMETRY.
2. THE ARCHITECTURAL DETAILS OF THE PROPOSED BARRIER AND SNOW FENCE SHALL MATCH EXISTING.
3. EXISTING WALL ELEVATIONS ARE TAKEN FROM RECORD PLANS (NGVD29) AND SUBTRACT 0.84FT TO OBTAIN THE CONTRACT PLAN ELEVATIONS (NAVD88).
4. WALL DEMO LIMITS SHALL BE 4FT BELOW PROPOSED GRADE. PROPOSED GRADES SHOWN ARE MINIMUMS. CONTRACTOR SHALL REMOVE FULL OR HALF M.S.E. WALL PANELS ONLY. PARTIAL PANEL REMOVAL IS NOT PERMITTED.
5. LENGTH OF WALL DEMO SHOWN IS A MINIMUM AND SHOULD EXTEND TO THE NEAREST PANEL JOINT.
6. LOCALIZED DEMO OF EXISTING MSE WALL AND SOIL REINFORCEMENT MAY BE REQUIRED AS NEEDED FOR THE INSTALLATION OF PROPOSED DRAINAGE STRUCTURES.



VMB RAMP W-S APPROACH WALLS PLAN



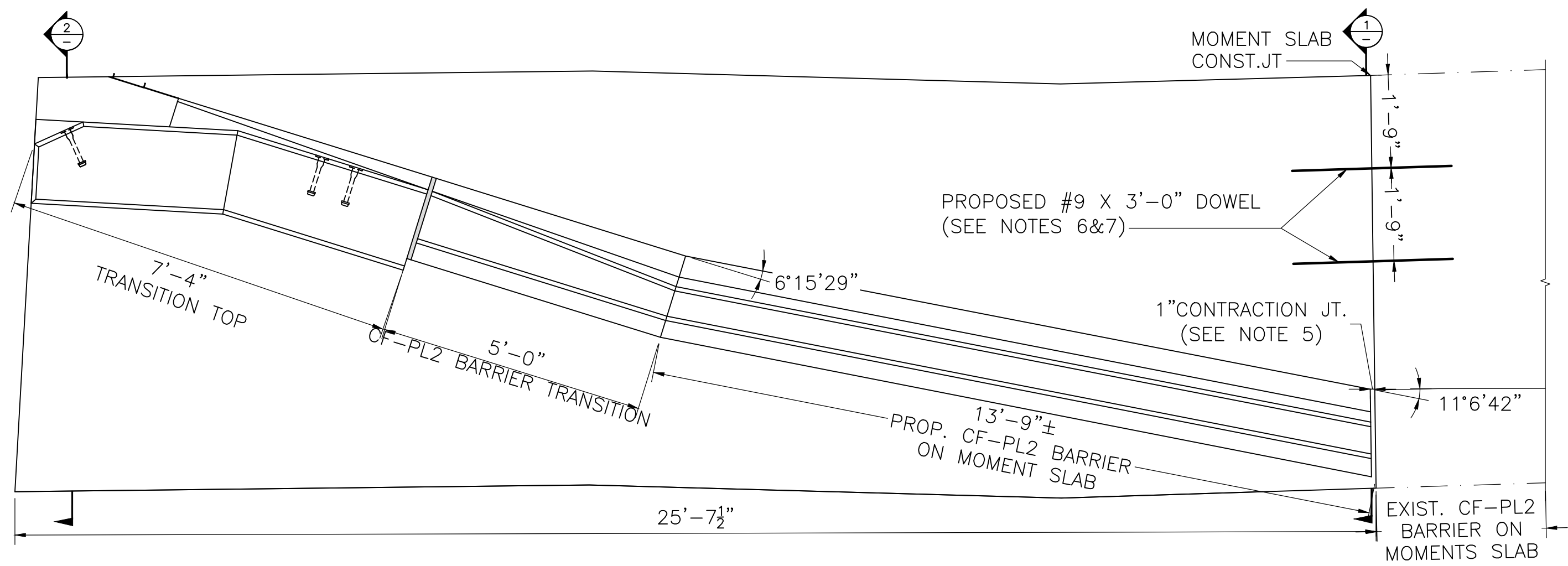
WEST APPROACH WALL DEMO ELEVATION



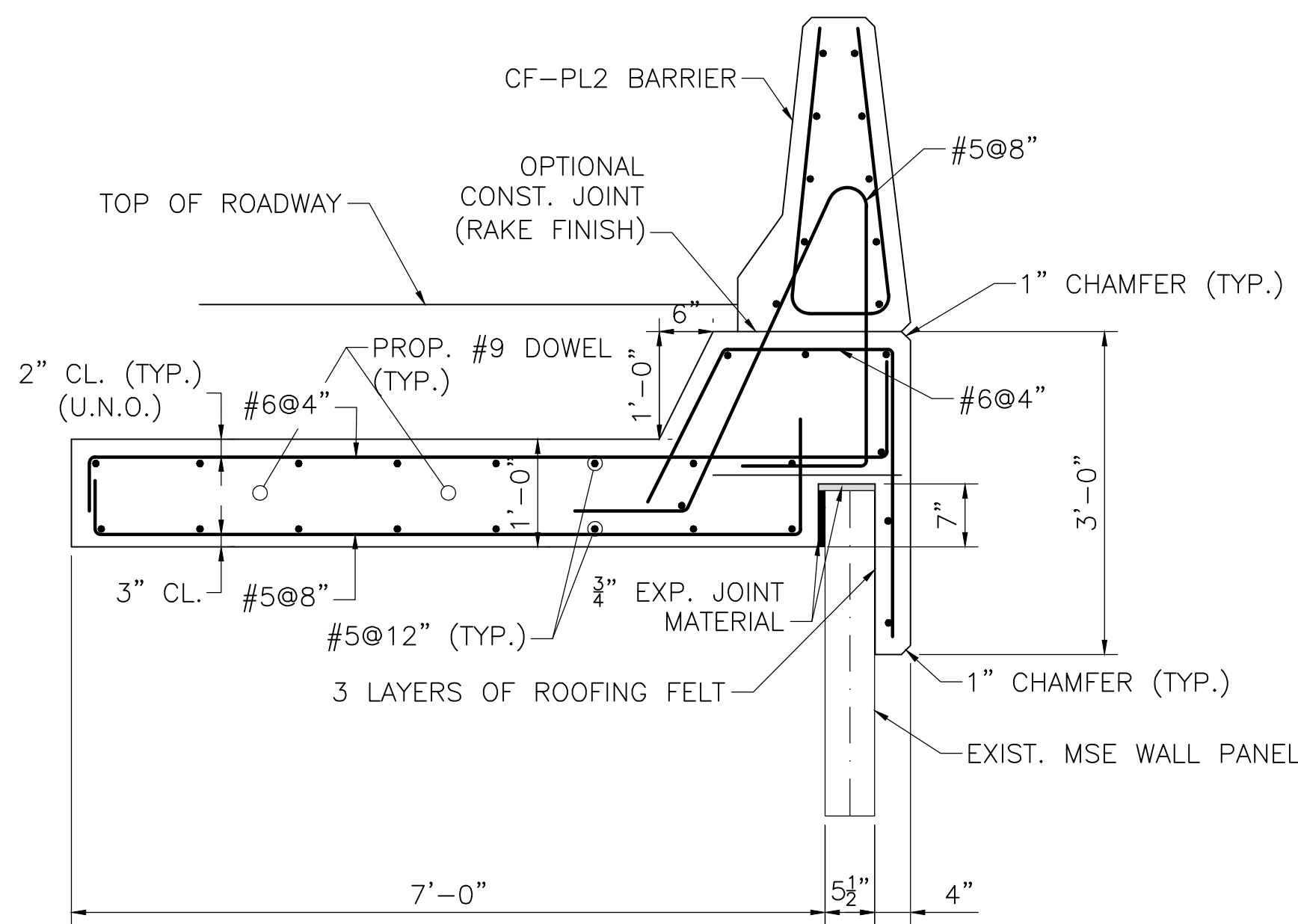
WALL 2SE DEMO ELEVATION

NOTE: DEMOLITION SHALL INCLUDE EXISTING BARRIER, SNOW FENCE, MOMENT SLAB, AND MSE WALL PANELS AND REINFORCING STRIPS. SNOW FENCE NOT SHOWN FOR CLARITY.

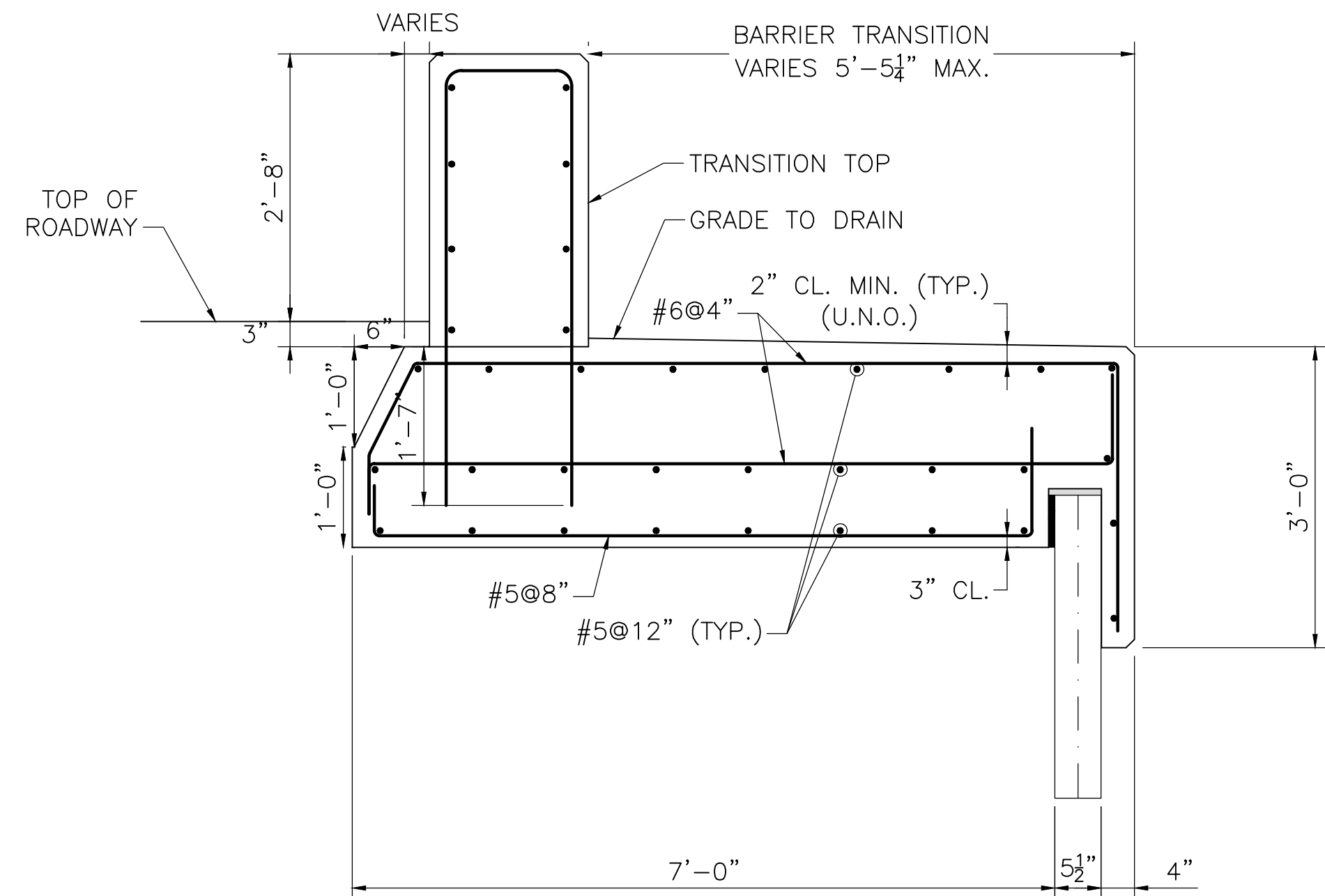
REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		



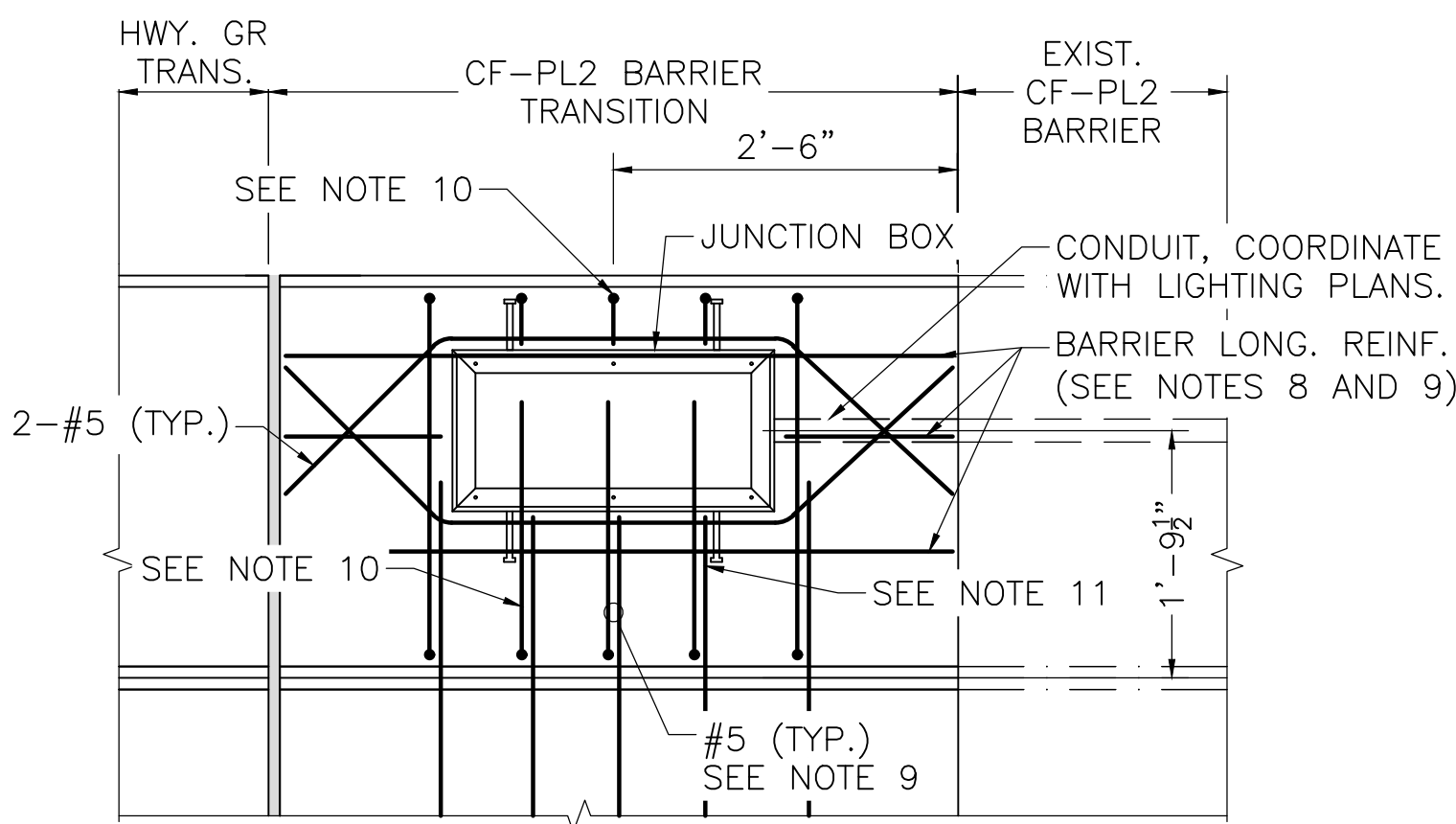
WALL 2SE MOMENT SLAB PLAN
SCALE:1/2"=1'-0"



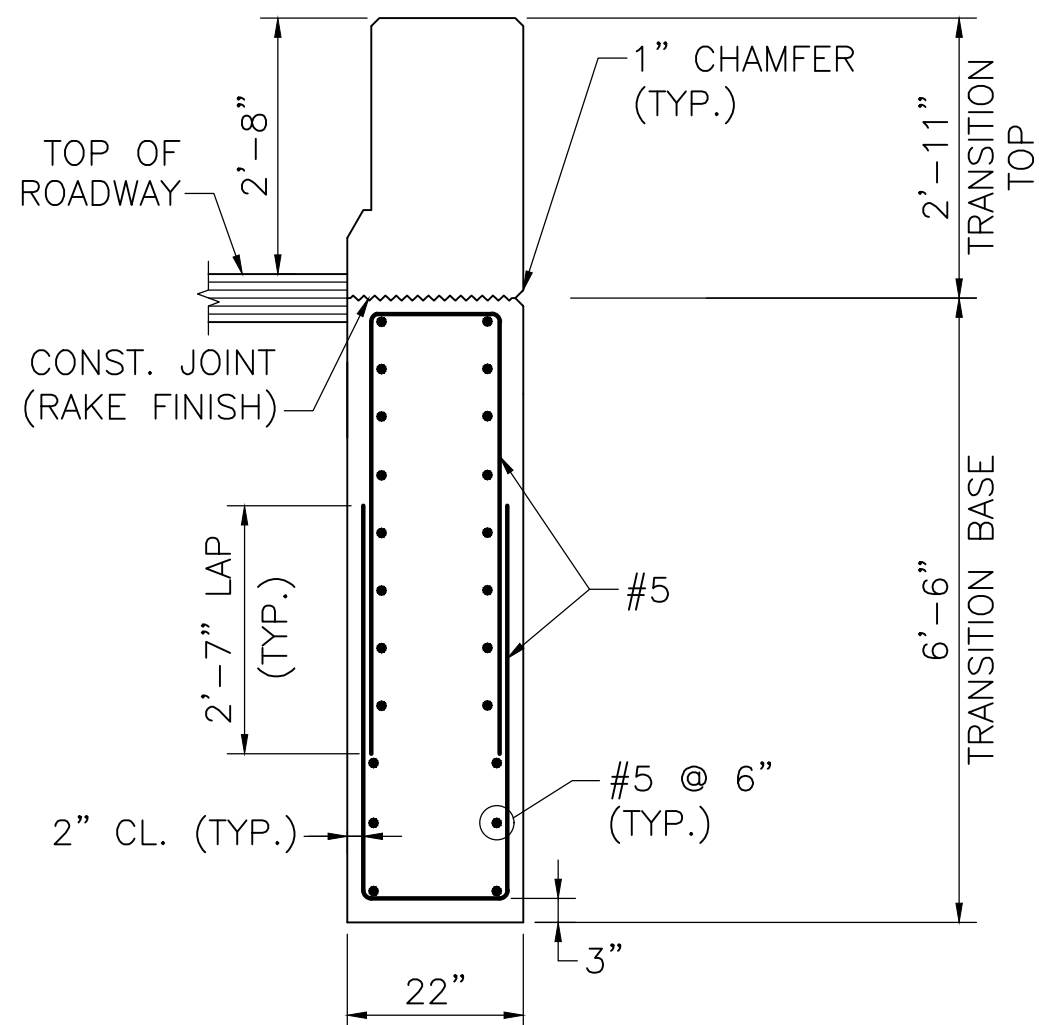
SECTION 1 - WALL 2SE CF-PL2 BARRIER ON MOMENT SLAB
SCALE:3/4"=1'-0"



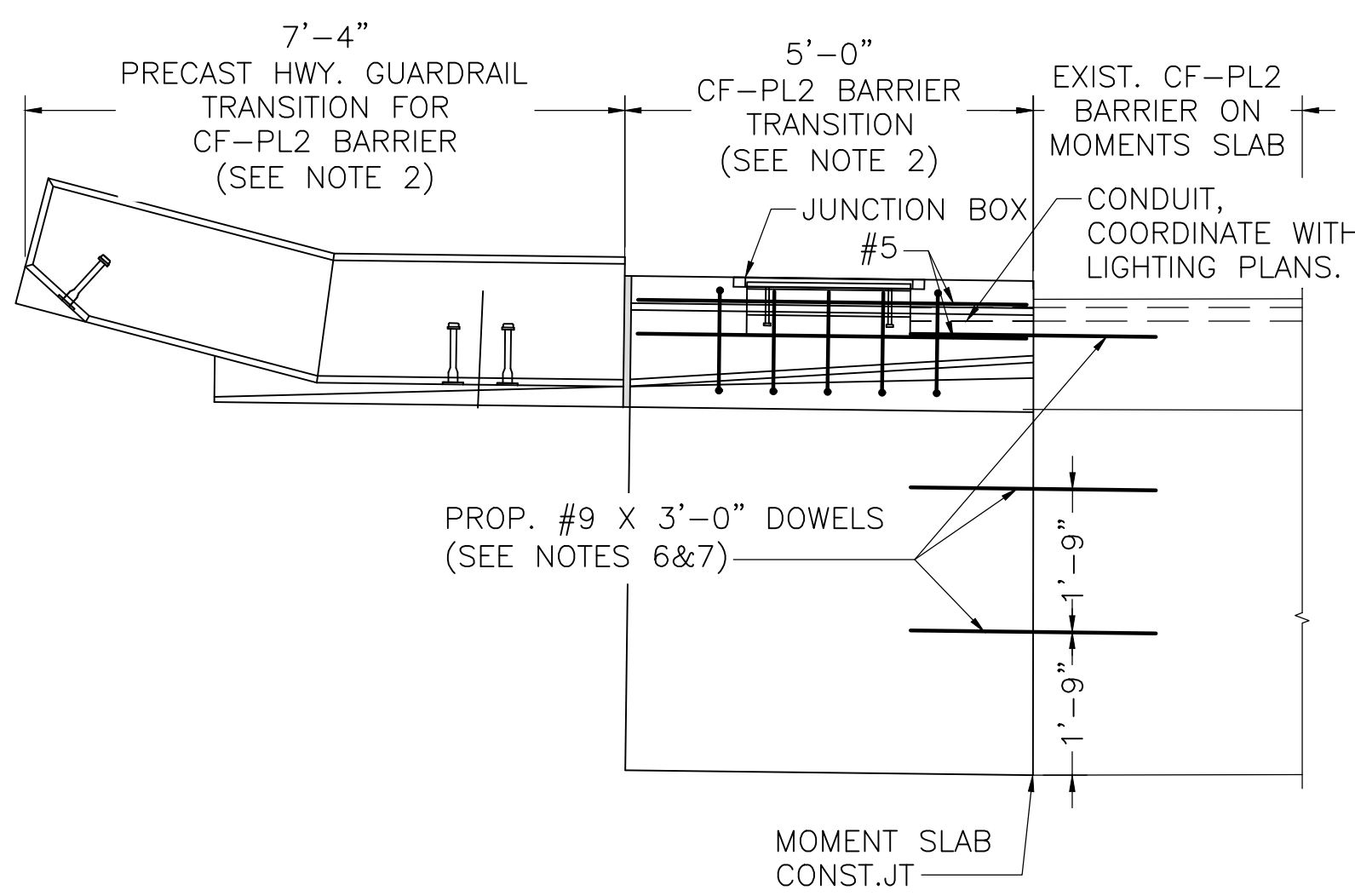
SECTION 2 - WALL 2SE HWY. TRANSITION BARRIER ON MOMENT SLAB
SCALE:3/4"=1'-0"



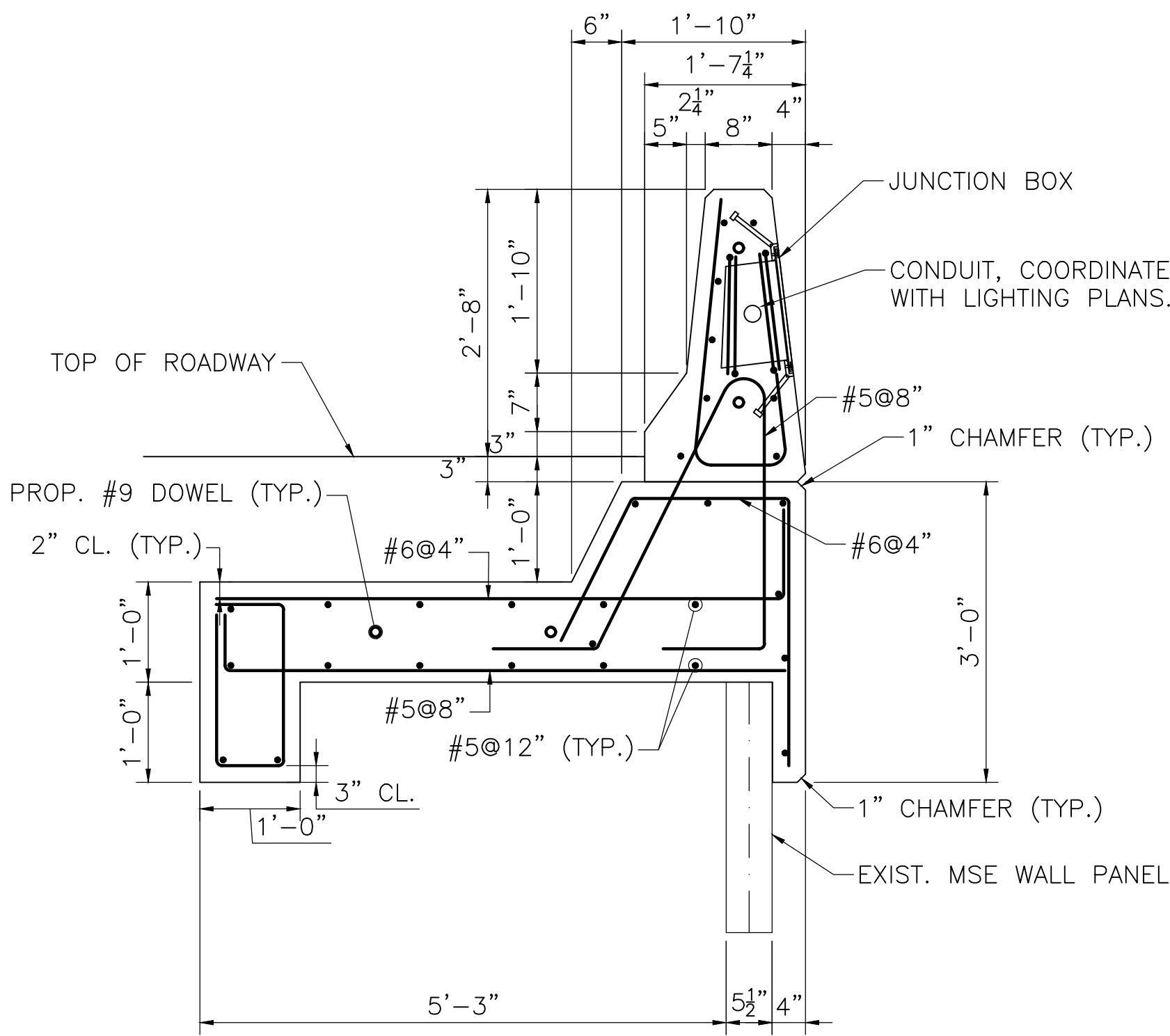
ELEVATION WEST APP. TRANS. BARRIER AT JUNCTION BOX
SCALE:3/4"=1'-0"



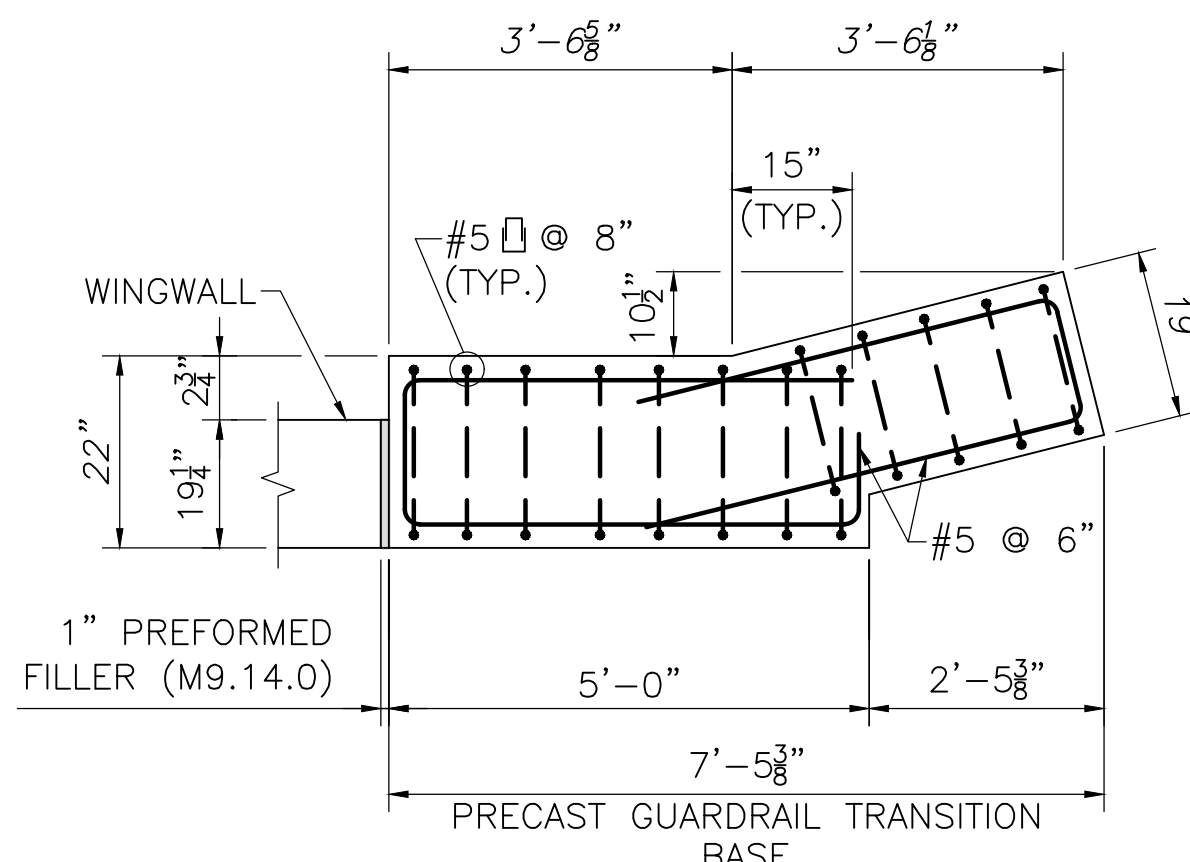
VERTICAL SECTION CF PL-2 TRANSITION BASE
SCALE:1/2"=1'-0"



WEST APPROACH WALL MOMENT SLAB PLAN
SCALE:1/2"=1'-0"



WEST APP. TRANS. BARRIER ON MOMENT SLAB DETAIL
SCALE:3/4"=1'-0"



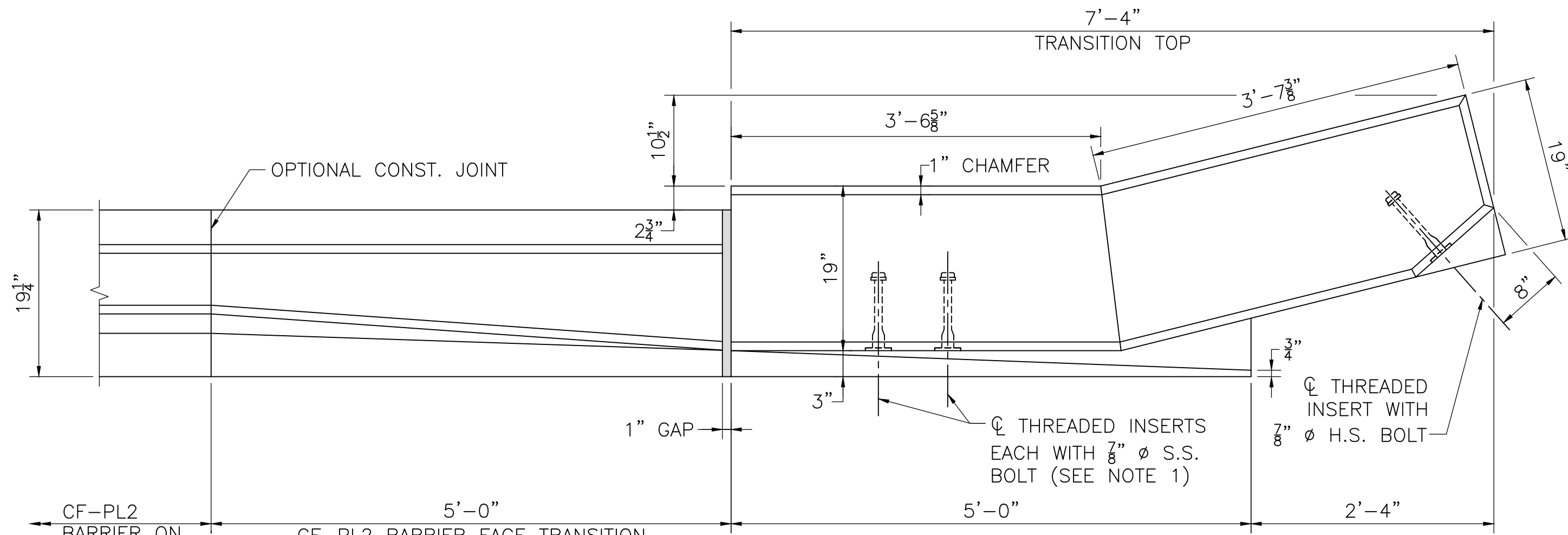
HORIZONTAL SECTION CF PL-2 TRANSITION BASE
SCALE:1/2"=1'-0"

- NOTES:**
- FOR MOMENT SLAB MATERIAL REQUIREMENTS, REFER TO SPECIAL PROVISION 996.4 - PREFABRICATED MODULAR GRAVITY RETAINING WALLS.
 - FOR CF-PL2 BARRIER, CF-PL2 BARRIER TRANSITION AND TRANSITION TOP DETAILS, SEE SHEET 1055.
 - ALL BARRIER, STEM, AND MOMENT SLAB REINFORCEMENT SHALL BE EPOXY COATED.
 - CAST-IN-PLACE CONCRETE IN MOMENT SLAB SHALL BE 4000 PSI, 3/4", 610 CEMENT CONCRETE.
 - FOR CONTRACTION JOINT DETAILS, SEE SHEET 1051.
 - FOR DRILL & GROUTED DOWELS, HOLE FOR DOWELS SHALL BE 1" LARGER THAN DOWEL DIAMETER OR PER GROUT MANUFACTURERS RECOMMENDATIONS.
 - LONGITUDINAL AND TRANSVERSE BARRIER REINFORCING NOT SHOWN FOR CLARITY.
 - INTERRUPTED REINFORCING SHALL STOP 1 1/2" CLEAR OF JUNCTION BOX ALL SIDES.
 - BAR SPACING MAY BE ADJUSTED TO ACCOMMODATE JUNCTION BOX SHEAR STUDS. BARS SHALL NOT BE OMITTED.
 - REINFORCING MAY BE FIELD BENT AS NECESSARY TO PROVIDED 1 1/2" MINIMUM CLEARANCE TO JUNCTION BOX.

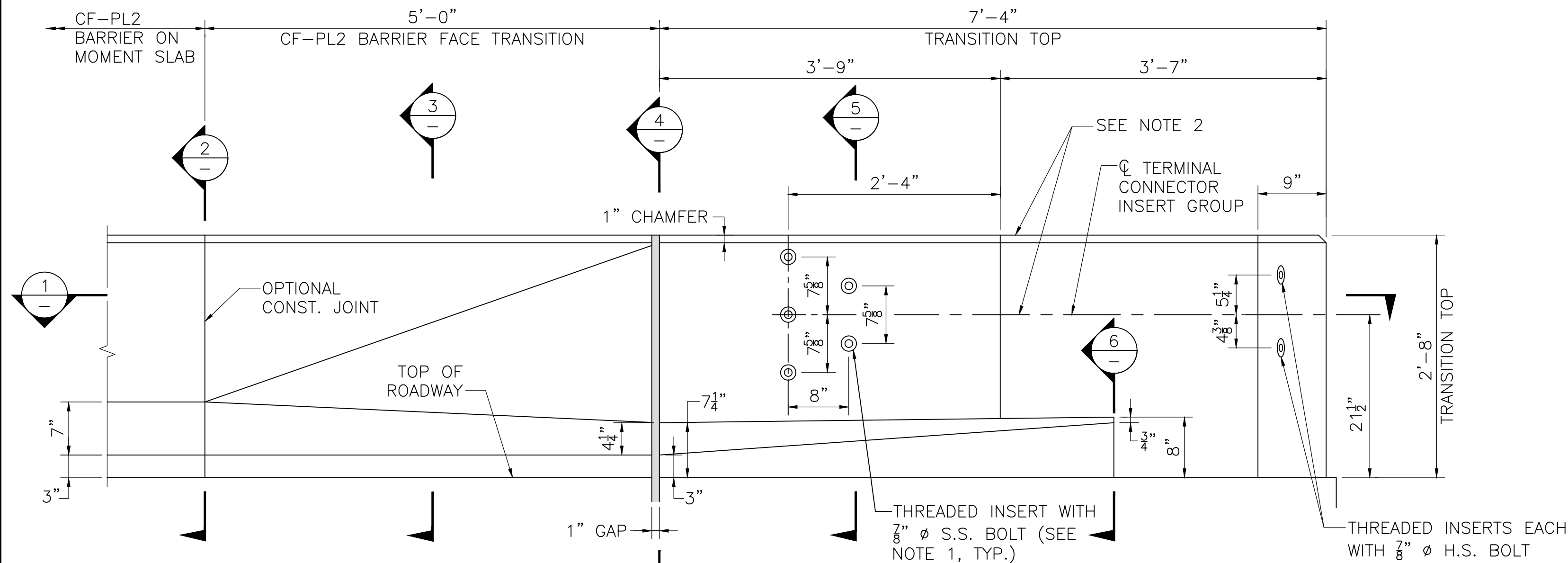
- SURFACE PREPARATION NOTES:**
- PRIOR TO CONCRETE DEMO AT THE INTERFACE OF EXISTING AND PROPOSED CONCRETE MOMENT SLAB AND BARRIER, THE PERIMETER OF ALL PROPOSED CONCRETE REMOVAL SHALL BE SAWCUT 1/2" AROUND PERIMETER.
 - AFTER REMOVAL OF EXISTING BARRIER AND MOMENT SLAB TO LIMITS SHOWN, REMOVE BOND INHIBITING MATERIALS (DIRT, GREASE, LOOSELY BONDED AGGREGATE) BY ABRASION BLASTING OR HIGH PRESSURE WATER BLASTING WITH WATER THAT CONTAINS NO DETERGENTS OR BOND INHIBITING CHEMICALS.
 - AT THE INTERFACE OF EXISTING AND PROPOSED CONCRETE MOMENT SLAB AND BARRIER, THE EXISTING CONCRETE SHALL BE ROUGHENED TO A 1/4" AMPLITUDE.
 - AT THE INTERFACE OF EXISTING AND PROPOSED CONCRETE MOMENT SLAB AND BARRIER, THE EXCAVATED AREAS OF CONCRETE SHALL THEN BE WETTED AND A TYPE II, GRADE 3, CLASS B AND C EPOXY BONDING AGENT ON THE MASSDOT LIST OF APPROVED MATERIALS LIST SHALL BE APPLIED PRIOR TO PLACEMENT OF PROPOSED MOMENT SLAB AND BARRIER.

REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

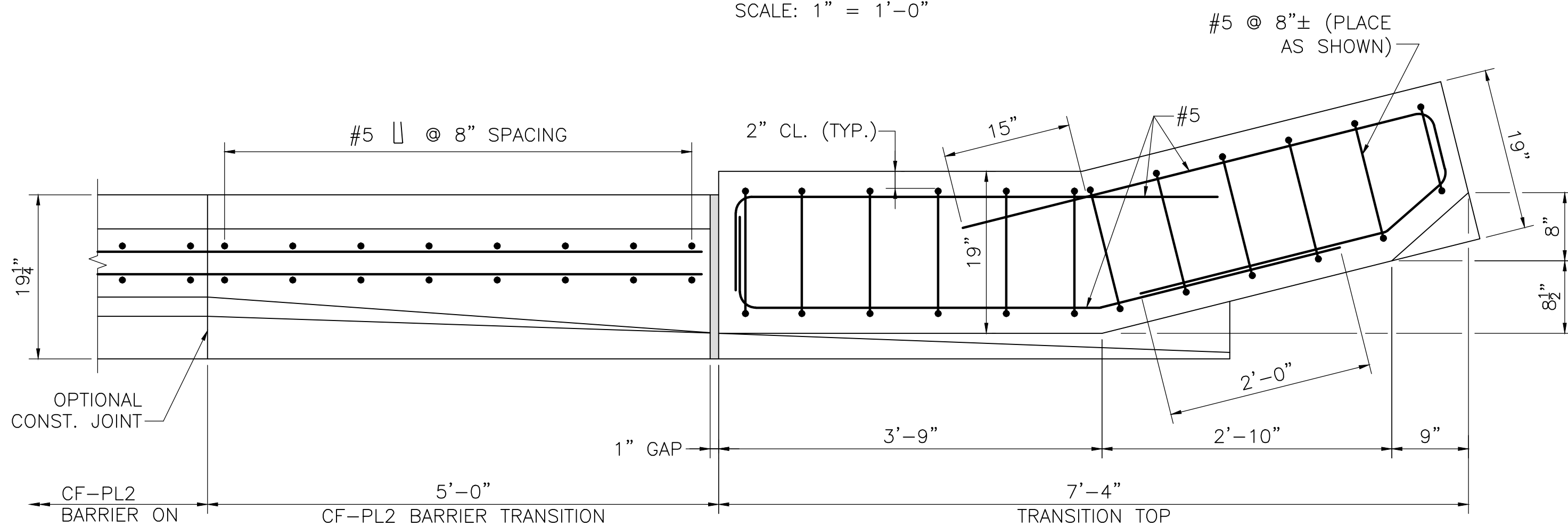
FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHR(MY)TAP(HIP)(BR)STP-003S(191)	1054	1094
PROJECT FILE NO. 608049			
VMB RAMP W-S APPROACH WALL DETAILS			



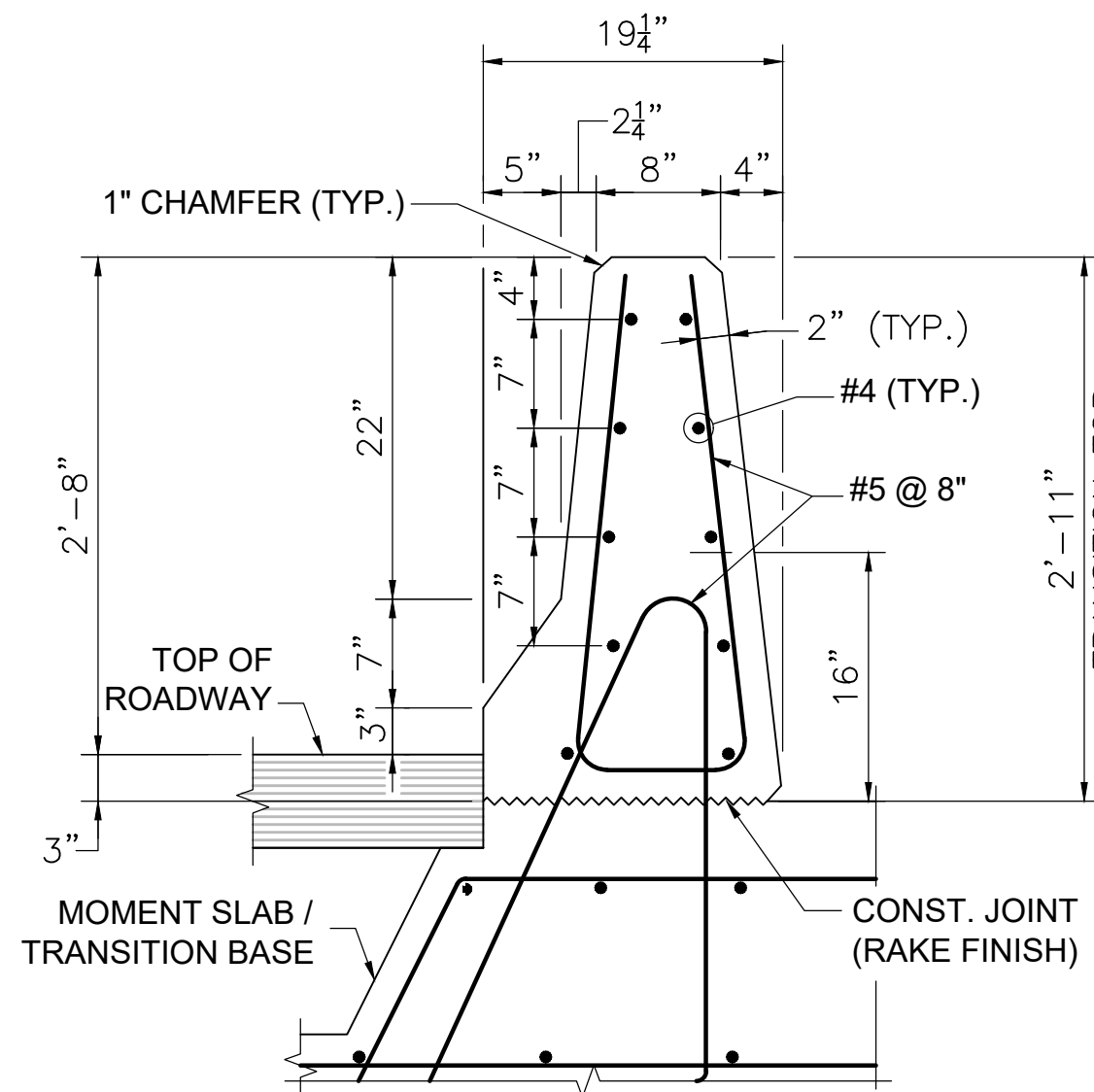
PLAN
SCALE: 1" = 1'-0"



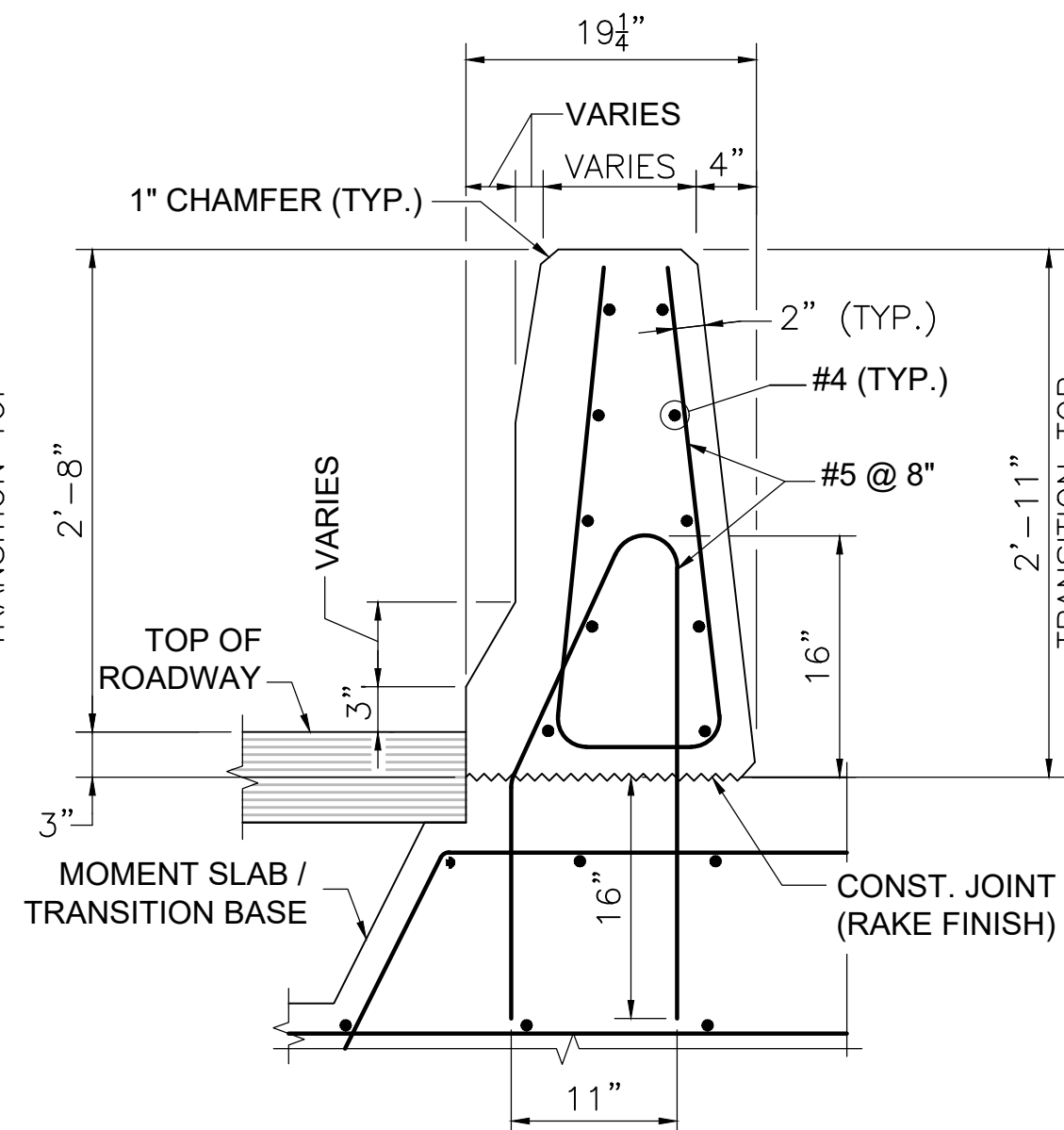
ELEVATION
SCALE: 1" = 1'-0"



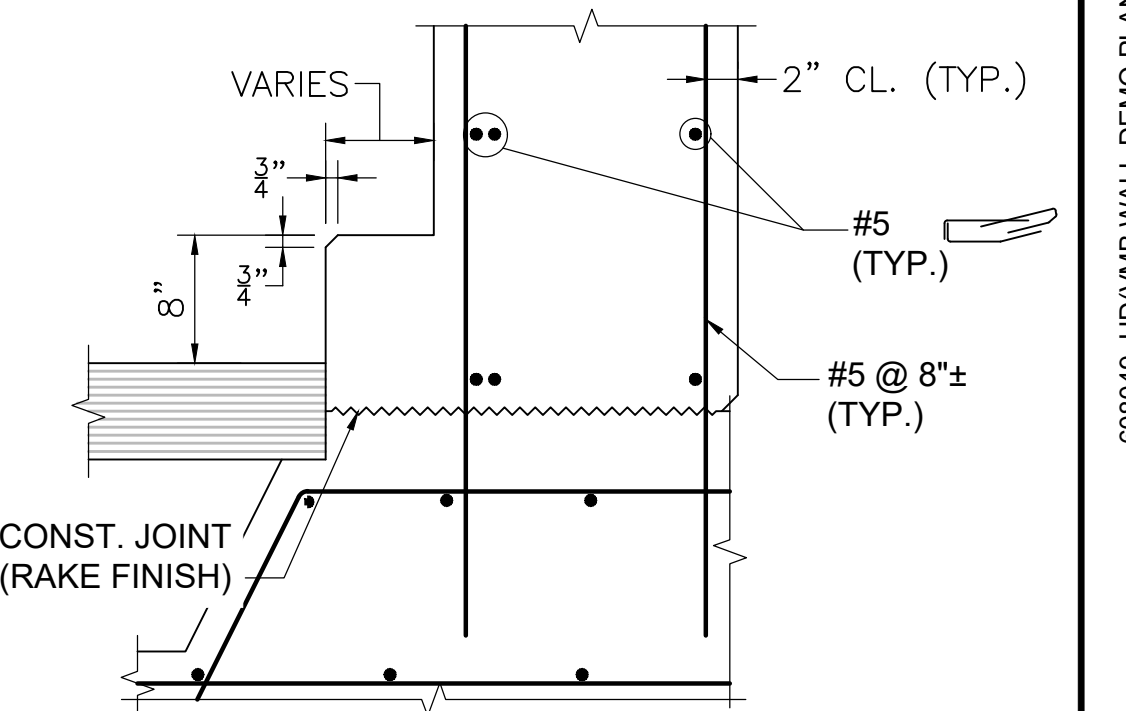
SECTION 1
SCALE: 1" = 1'-0"



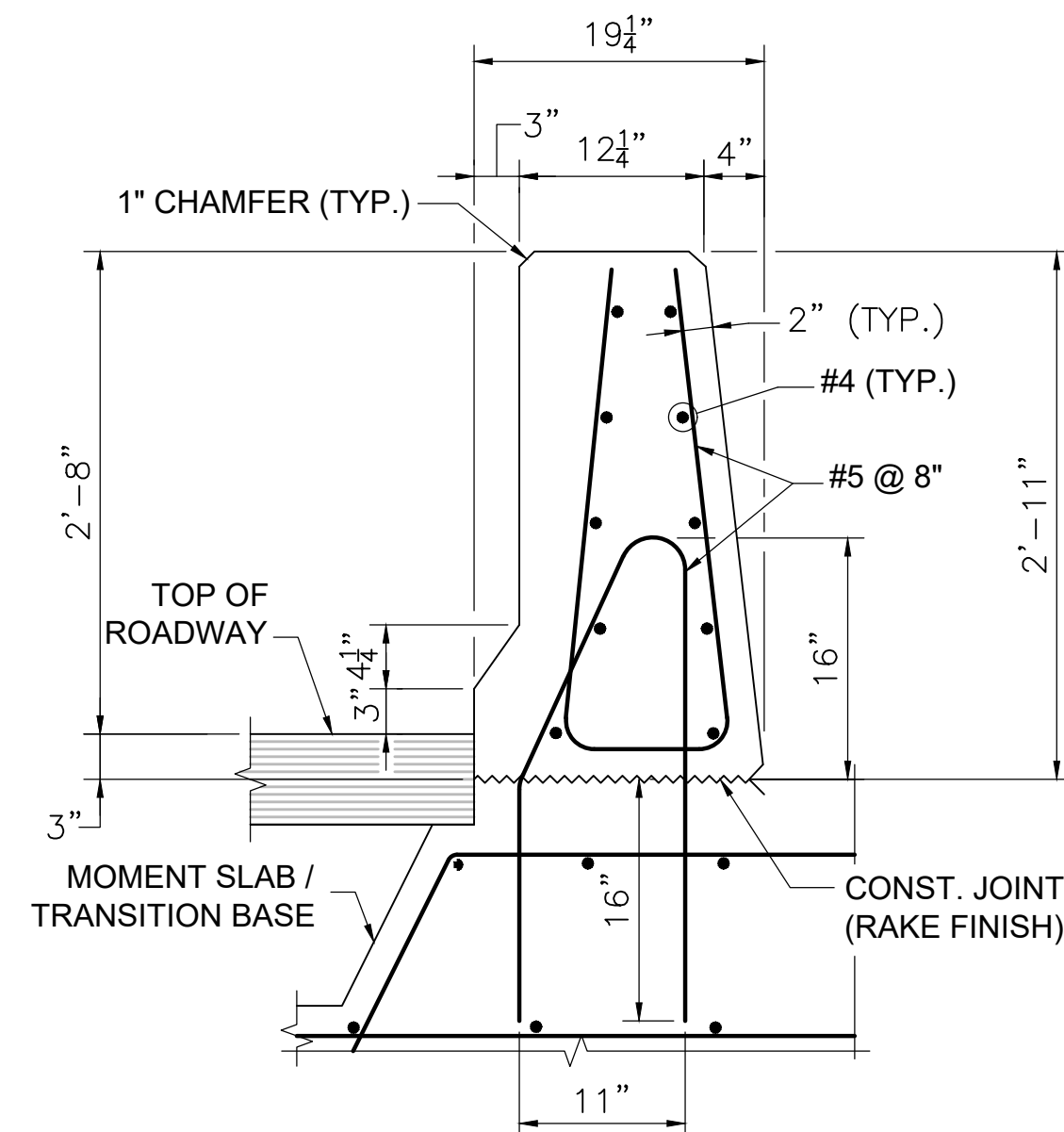
SECTION 2
TYPICAL CF-PL2 BRIDGE BARRIER
SCALE: 1" = 1'-0"



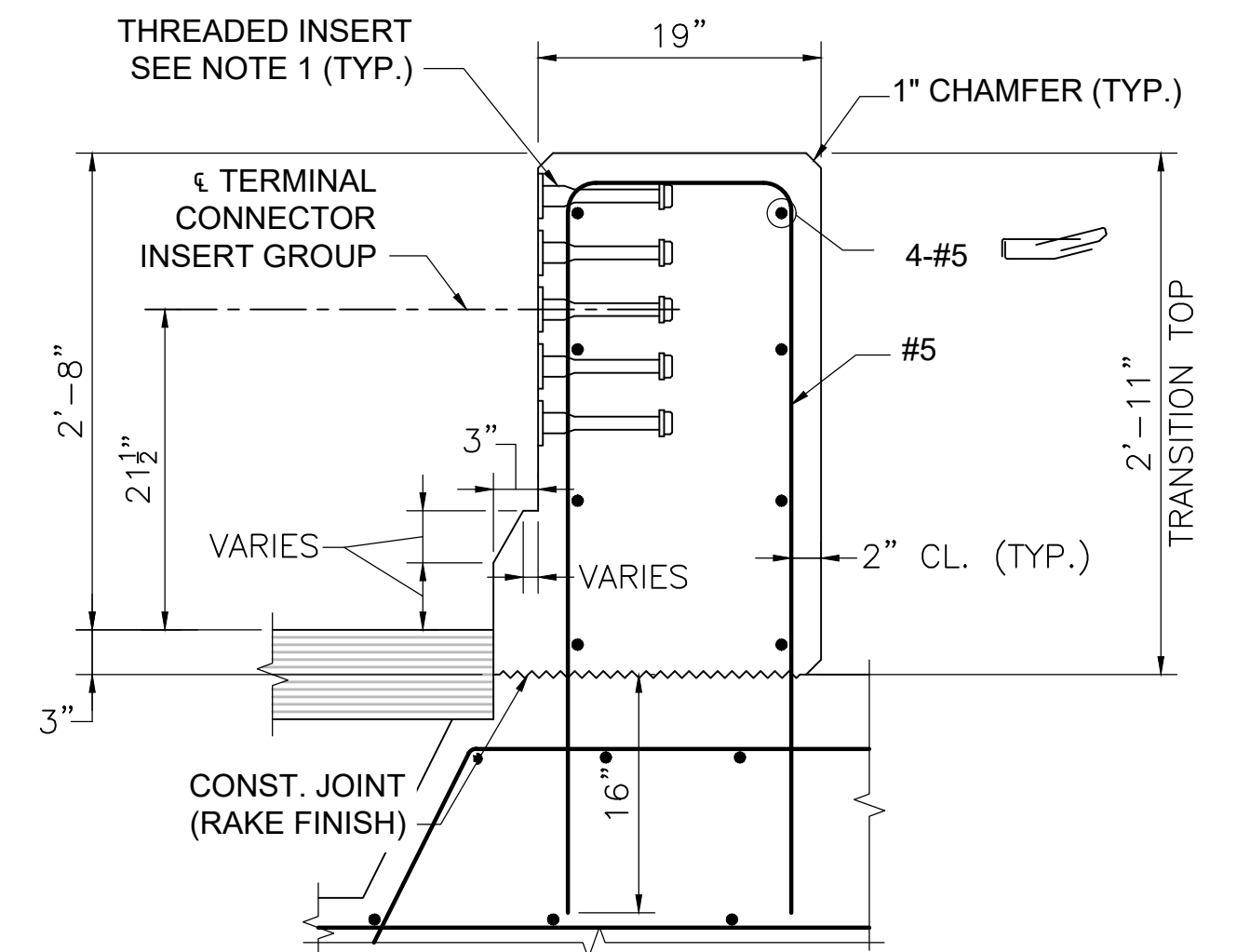
SECTION 3
SCALE: 1" = 1'-0"



SECTION 6
SCALE: 1" = 1'-0"



SECTION 4
SCALE: 1" = 1'-0"



SECTION 5
SCALE: 1" = 1'-0"

NOTES:

- THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER 7/8" Ø S.S. BOLT. S.S. BOLTS SHALL BE 7/8" Ø x 1 1/2" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR 7/8" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.
- FOR AN APPROACH GRADE UP TO 3%, THE TRANSITION MAY BE CAST SQUARE AND SET PLUMB WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SQUARE TO THE POST.
FOR AN APPROACH GRADE IN EXCESS OF 3%, THE TRANSITION TOP AND THE TOP OF THE BRIDGE BARRIERS SHALL FOLLOW THE APPROACH GRADE. THE HEIGHT OF THE TRANSITION TOP SHALL VARY PROVIDED THAT THE MINIMUM DIMENSIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE MET. THE BOTTOM OF THE TRANSITION BASE SHALL BE SET LEVEL WITH THE MINIMUM EMBEDMENT DEPTH SHOWN. THE TERMINAL CONNECTOR INSERT GROUP SHALL BE SLOPED TO FOLLOW THE APPROACH GRADE.
- USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST GUARDRAIL TRANSITION IS CAST. USE THIS YEAR FOR ALL GUARDRAIL TRANSITIONS.
- ALL CONCRETE FOR THE PRECAST HIGHWAY GUARDRAIL TRANSITION SHALL BE 5000 PSI, 3/4", 685 HP CEMENT CONCRETE.
- LIFTING DEVICES (NOT SHOWN), INCLUDING THEIR NUMBER AND LOCATION, SHALL BE DESIGNED AND DETAILED BY THE PRECASTER. THEY SHALL BE GALVANIZED AND SHALL BE PLACED AND RECESSED IN POCKETS TO PROVIDE 1 1/2" CLEAR COVER TO THE FACE OF THE TRANSITION CONCRETE. THESE DEVICES SHALL BE CLEARLY SHOWN ON THE SHOP DRAWINGS ALONG WITH ALL SUPPORTING CALCULATIONS AND/OR CATALOG CUTS. ONCE THE PRECAST TRANSITION IS SET IN PLACE, THE LIFTING DEVICE POCKETS SHALL BE FILLED WITH A NON-SHRINK GROUT THAT MATCHES THE COLOR OF THE TRANSITION CONCRETE WHEN CURED AND THE FILLED POCKETS SHALL BE RUBBED WITH A CORUNDUM STONE TO BLEND OUT THE JOINTS.

REV.	DATE	DESCRIPTION
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TOP OF PRECAST HIGHWAY GUARDRAIL TRANSITION FOR CF-PL2 BARRIER

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHR(M)/TAP(H)/B(R)/STP-003S(191)	1055	1094
PROJECT FILE NO.		608049	

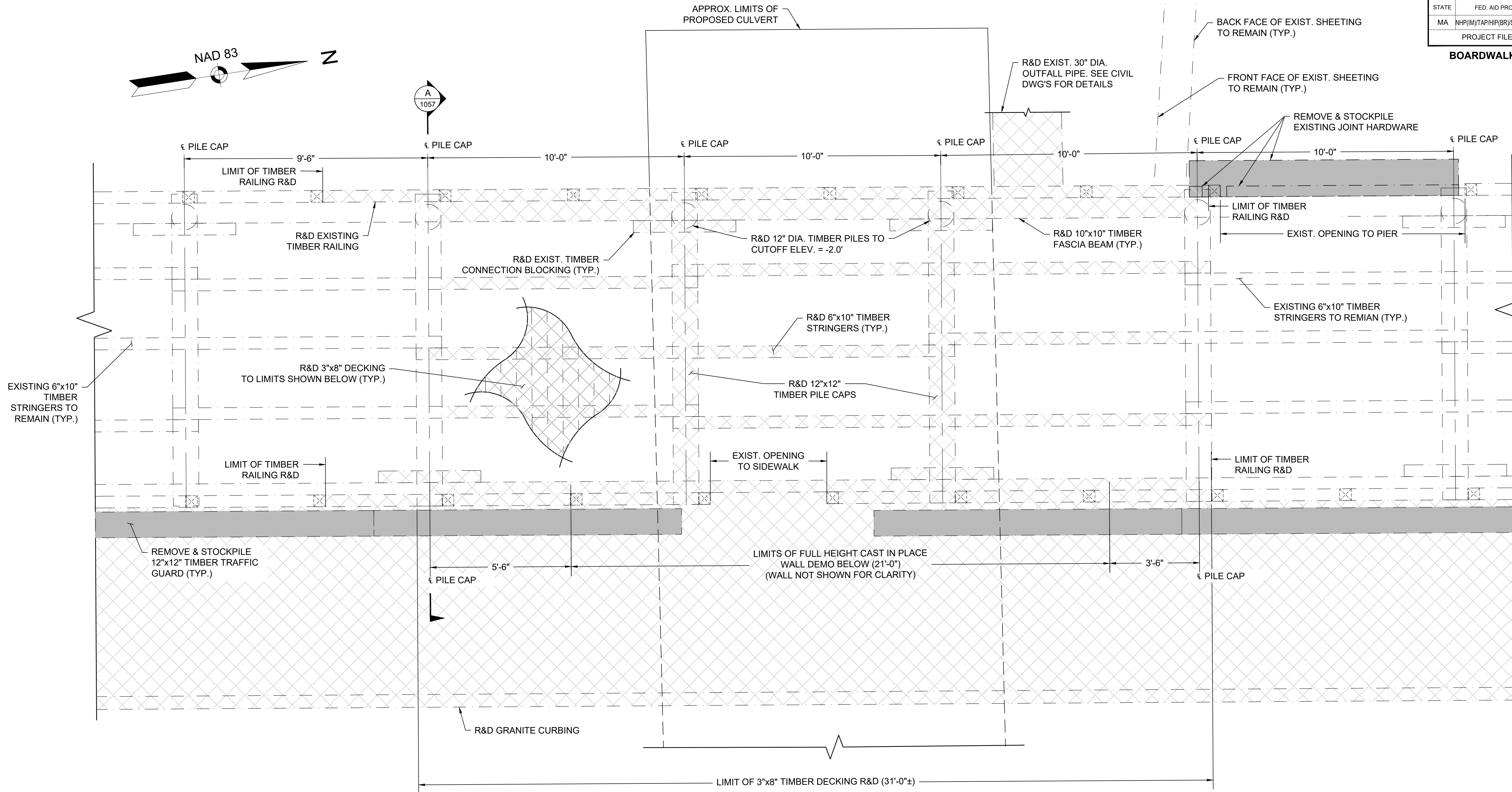
**FALL RIVER
ROUTE 79**

**VMB RAMP W-S
BARRIER TRANSITION DETAILS**

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1056	1094
PROJECT FILE NO.		608049	

BOARDWALK DEMO PLAN



DEMOLITION PLAN

SCALE: 1/2" = 1'-0"

NOTES:

- ALL DEMOLITION SHALL BE PERFORMED IN ACCORDANCE WITH THE SPECIAL PROVISIONS, TEMPORARY TRAFFIC CONTROL PLANS OUTLINED IN VOLUME 2.
- LIMITS OF DEMOLITION AND RECONSTRUCTION SHOWN ON THE PLANS WERE DETERMINED BASED ON FIELD INFORMATION PROVIDED BY CONTRACTOR. CONTRACTOR TO NOTIFY ENGINEER IF THESE LIMITS CHANGE.
- DAMAGE TO PORTIONS OF EXISTING STRUCTURE TO REMAIN RESULTING FROM DEMOLITION OPERATIONS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER OR REPLACED IN KIND AT NO ADDITIONAL COST TO THE STATE.
- IF NOT REMOVED ENTIRELY, EXISTING PILES SHALL BE DEMOLISHED TO A MINIMUM OF TWO FEET BELOW BOTTOM OF PROPOSED BOX CULVERT.

LEGEND:

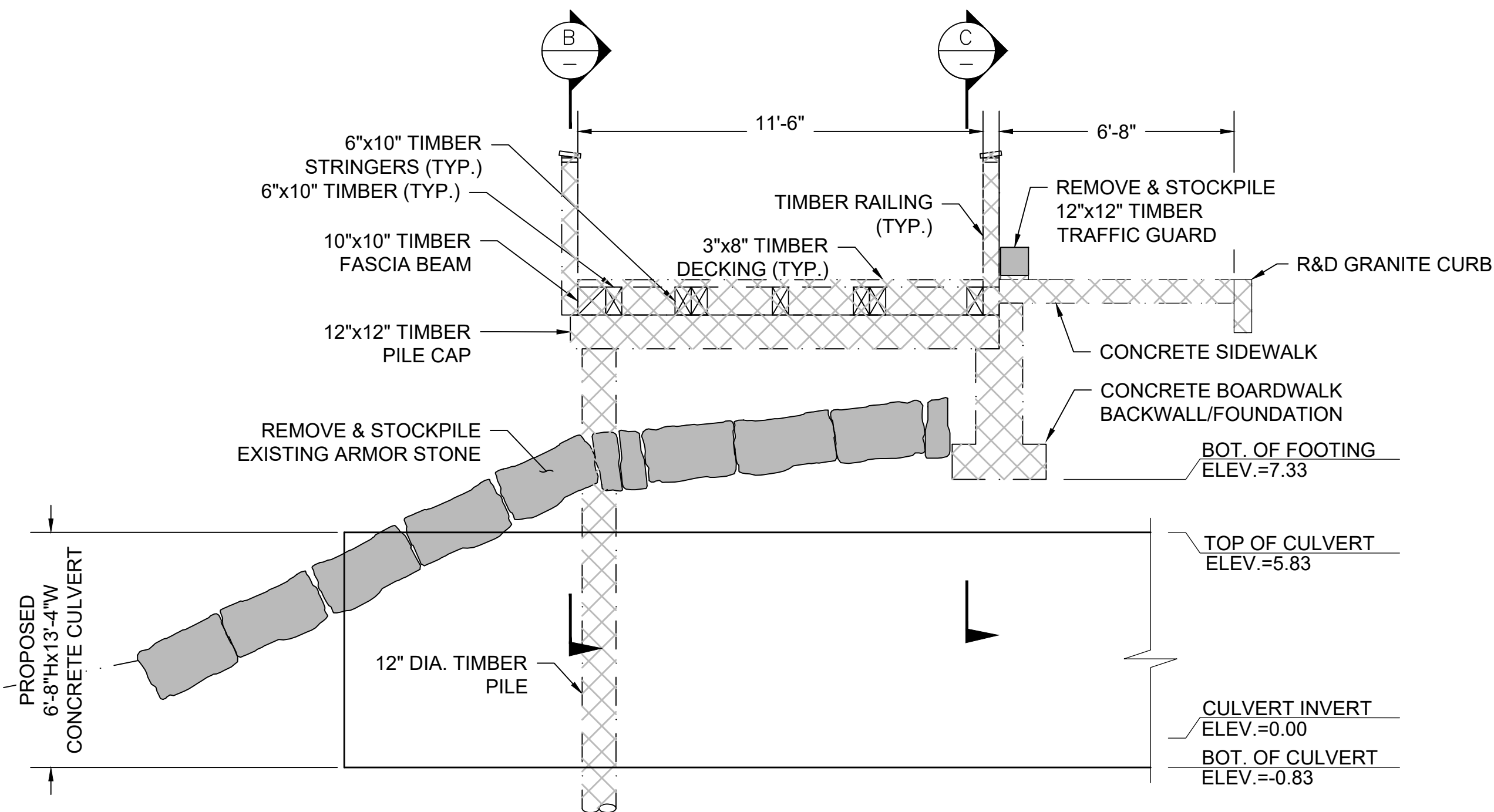
	DENOTES EXISTING STRUCTURE TO BE REMOVED & DISPOSED
	REMOVE & STOCKPILE

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

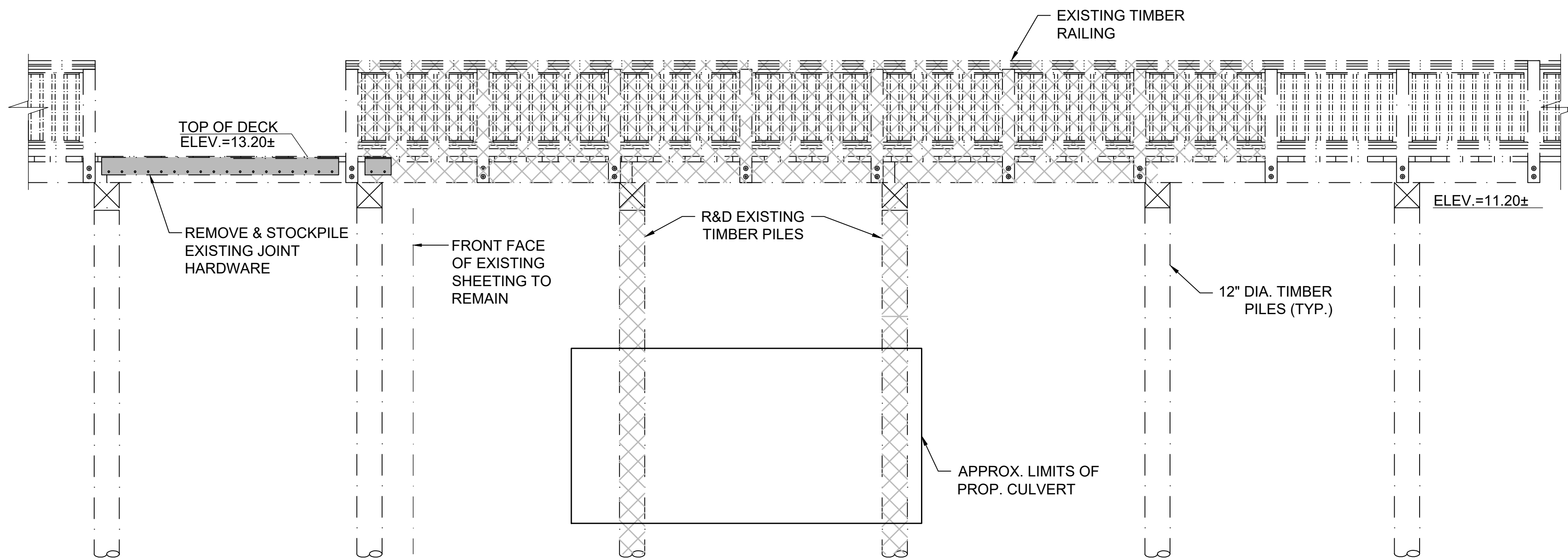
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-003S(191)	1057	1094
PROJECT FILE NO.		608049	

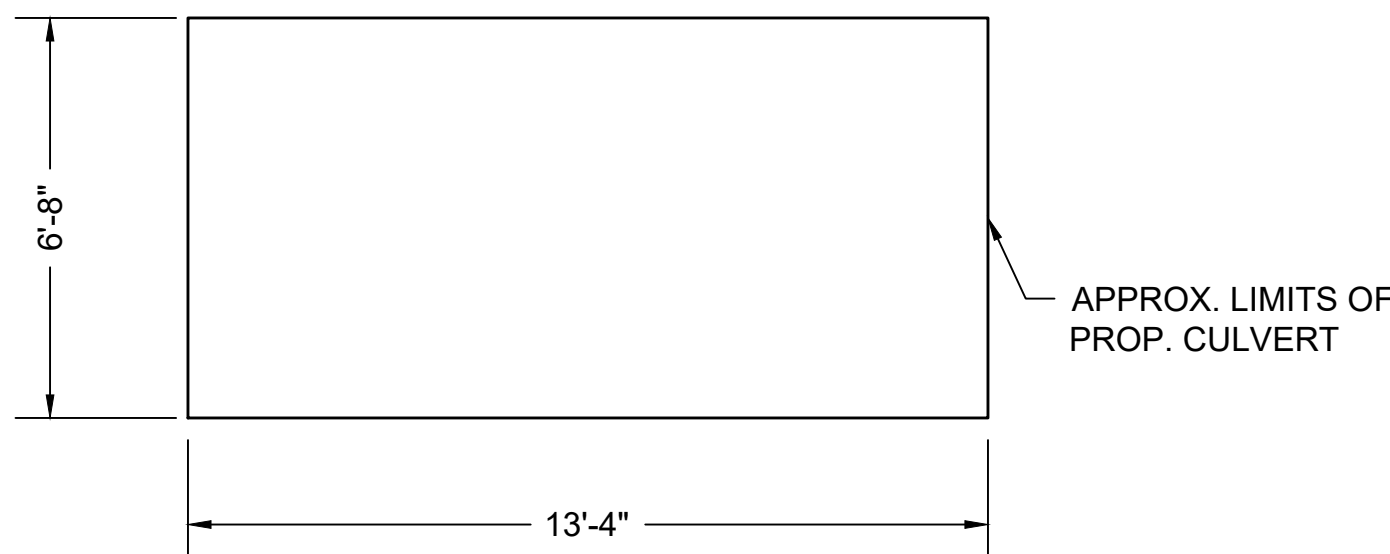
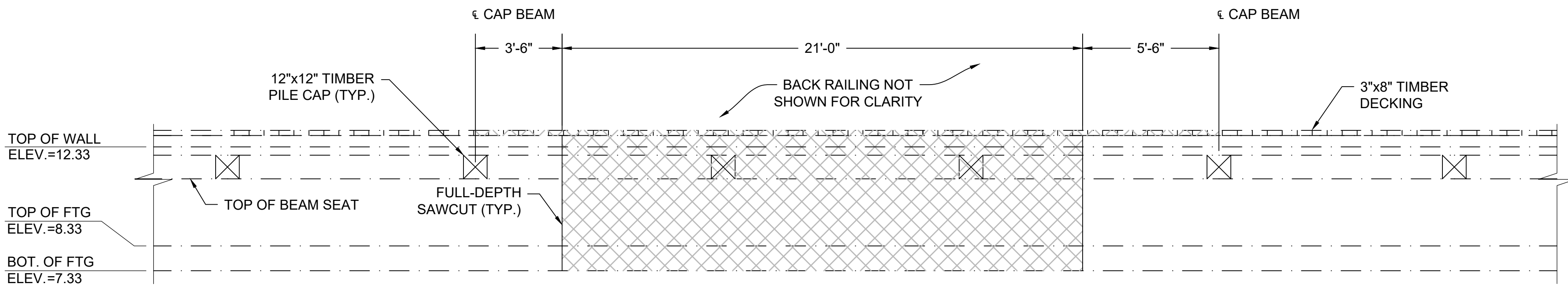
BOARDWALK DEMO DETAILS



TRANSVERSE SECTION (LOOKING NORTH) A
SCALE: 5/16" = 1'-0" **1056**



SECTION B
SCALE: 5/16" = 1'-0"



SECTION C
SCALE: 5/16" = 1'-0"

LEGEND:

- LIMITS OF REMOVAL & DISPOSAL OF EXISTING BOARDWALK & SUPPORTING BOARDWALK COMPONENTS
- REMOVE & STOCKPILE

NOTES:

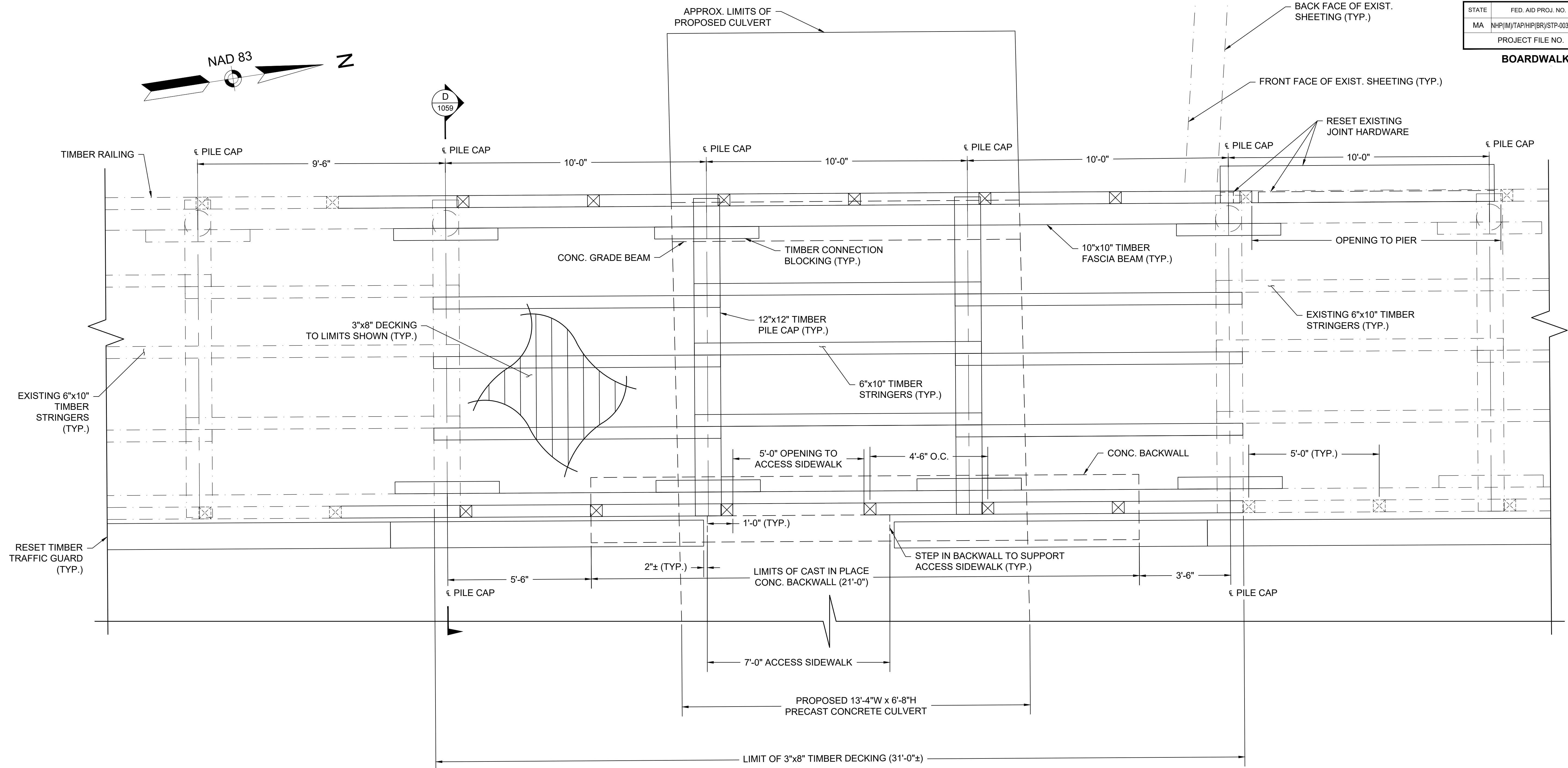
- SEE DEMOLITION SHEET 1056 FOR NOTES.

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP/HP(BR)/STP-003S(191)	1058	1094
PROJECT FILE NO.		608049	

BOARDWALK PLAN



BOARDWALK PLAN

SCALE: 1/2" = 1'-0"

NOTES:

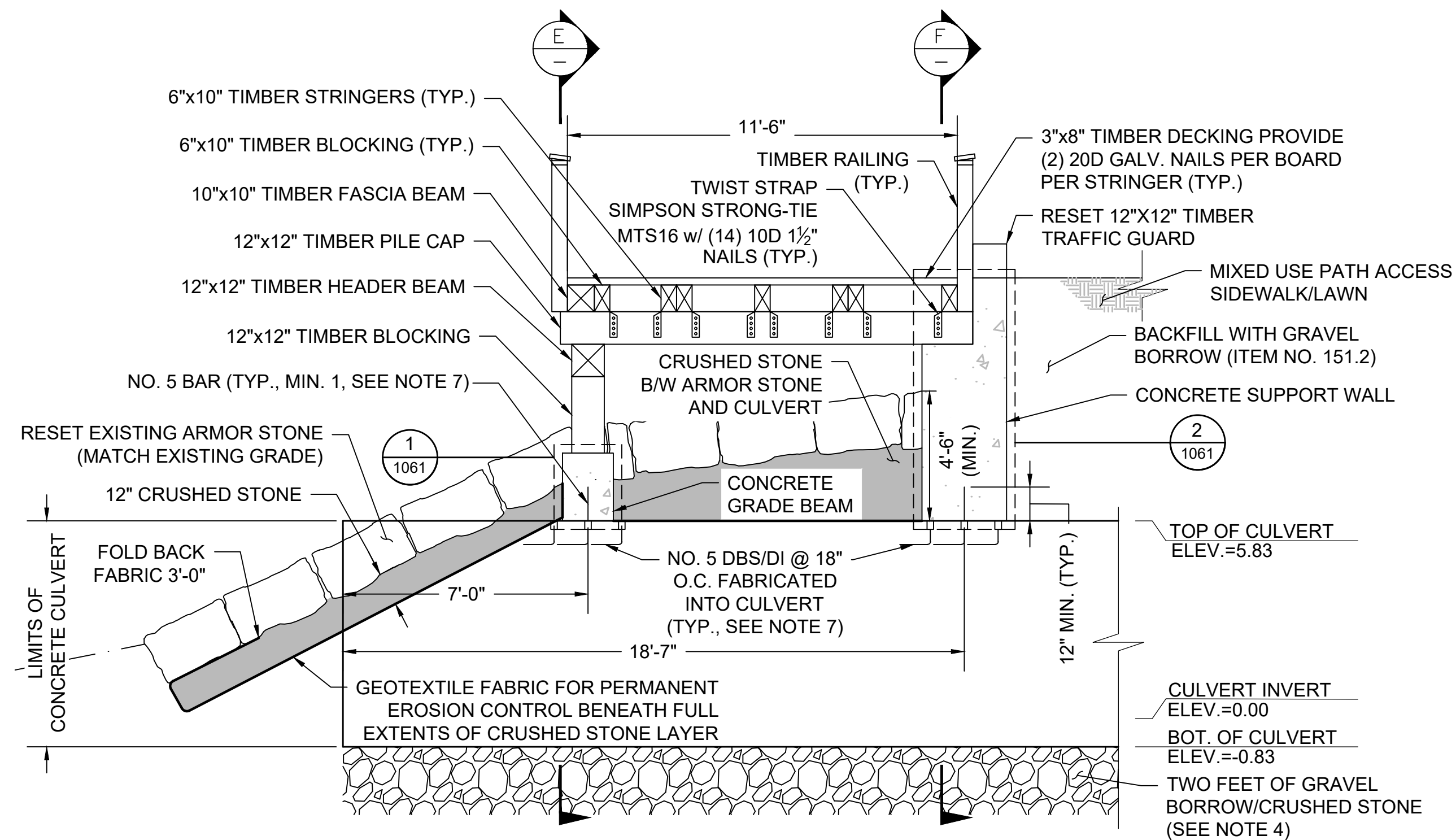
- PROPOSED LOCATIONS ARE BASED ON FIELD MEASURED CONDITIONS AND SHALL BE FIELD VERIFIED BY THE DESIGN BUILDER PRIOR TO THE START OF CONSTRUCTION.
- SEE TIMBER NOTES SHEET NO. 1060 FOR TIMBER MATERIAL REQUIREMENTS.

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAPIHP(BR)/STP-003S(191)	1059	1094
PROJECT FILE NO.			608049

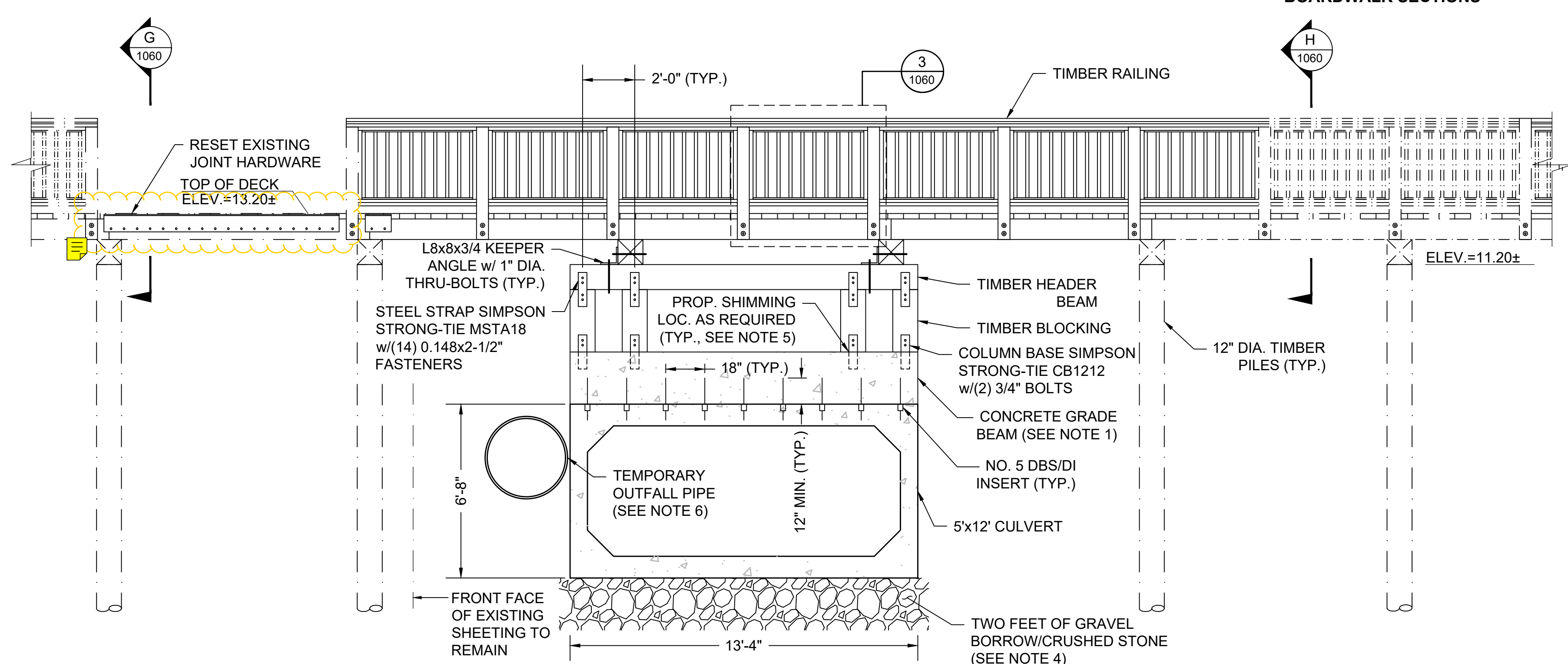
BOARDWALK SECTIONS



TRANSVERSE SECTION (LOOKING NORTH)

SCALE: 5/16" = 1'-0"

D
1058



SECTION E

SCALE: 5/16" = 1'-0"

E
-

CULVERT SUPPORTING THE BOARDWALK DESIGN CRITERIA (UNFACTORED LOADS)*	
VERTICAL LOADS (KLF)	HORIZONTAL LOADS (KLF)
DEAD LOAD	LIVE LOAD
GRADE BEAM: 0.70	SUPPORT WALL: 0.27
SUPPORT WALL: 2.44	UNSATURATED EARTH
LIVE LOAD	SUPPORT WALL: 0.74
GRADE BEAM: 1.29	HYDROSTATIC LOAD
SUPPORT WALL: 1.11	SUPPORT WALL: 0.79

* LOADS DEVELOPED USING THE FOLLOWING:

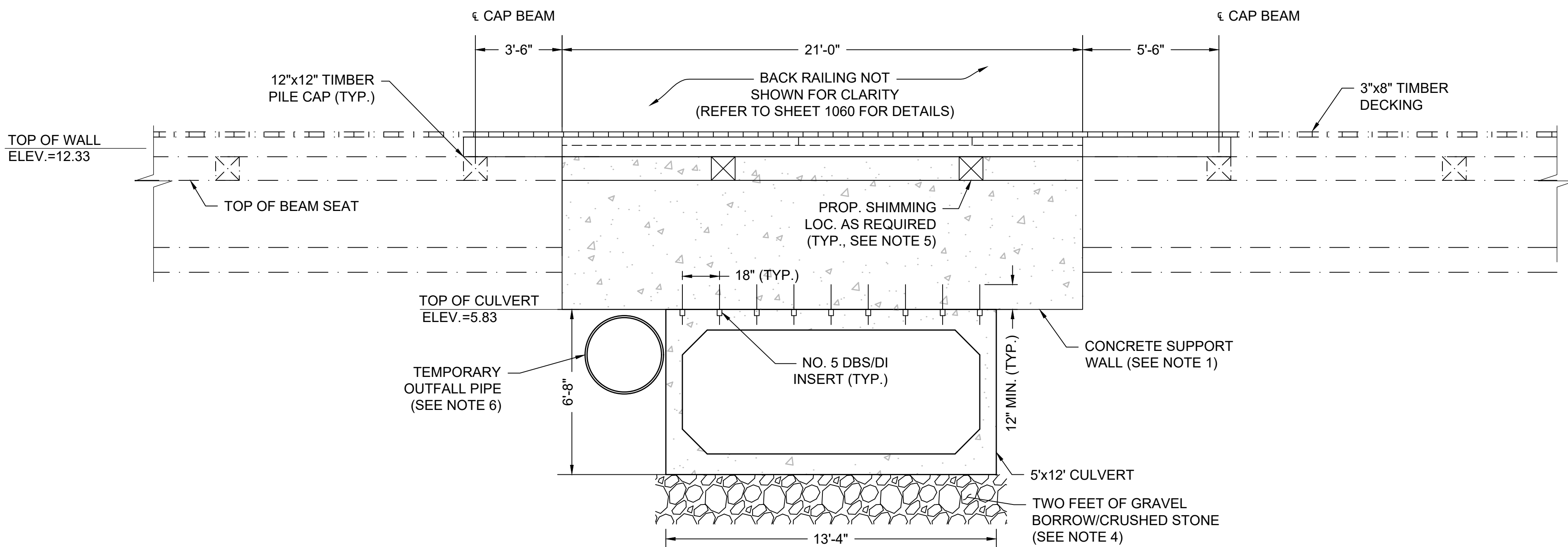
- AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS
- AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES
- MASSDOT LRFD BRIDGE MANUAL CHAPTER 3

ABBREVIATIONS

DBS = DOWEL BAR SPLICER
DI = DOWEL INSERT

NOTES:

- CONCRETE GRADE BEAM AND BACKWALL SHALL BE CAST-IN-PLACE DIRECTLY ON SURFACE OF INSTALLED BOX CULVERT.
- SEE TIMBER NOTES SHEET NO. 1060 FOR TIMBER REQUIREMENTS.
- SEE NOTES SHEET NO. 1061 FOR CONCRETE AND REINFORCEMENT REQUIREMENTS.
- CONTRACTOR SHALL PLACE/COMPACT UNIFORMLY 24" OF GRAVEL BORROW OR CRUSHED STONE PLACED BENEATH CULVERT STRUCTURE, WITH 1:1 SIDE SLOPE.
- CONTRACTOR SHALL MARK SURVEY POINTS ON THE BOARDWALK AND MONITOR WEEKLY. PRIOR TO COMPLETION OF THE PROJECT, IF SETTLEMENT HAS OCCURRED THE CONTRACTOR SHALL SHIM TO FINAL PROPOSED GRADE. SHIMMING SHALL OCCUR AT THE TOP OF THE GRADE BEAM AND SUPPORT WALL AS REQUIRED.
- REFER TO DRAINAGE PLANS FOR SIZE AND LOCATION OF TEMPORARY OUTFALL PIPE. SEE ERC OUTFALL PACKAGE, GENERAL NOTES, OUTFALL NOTE NO. 2 FOR FINAL CONDITION OF TEMPORARY OUTFALL PIPE.
- FOR BOTH THE GRADE BEAM AND SUPPORT WALL A SINGLE ROW OF DBS/DIs ARE REQUIRED TO RESIST LATERAL LOADS, PER DESIGN.



SECTION F

SCALE: 5/16" = 1'-0"

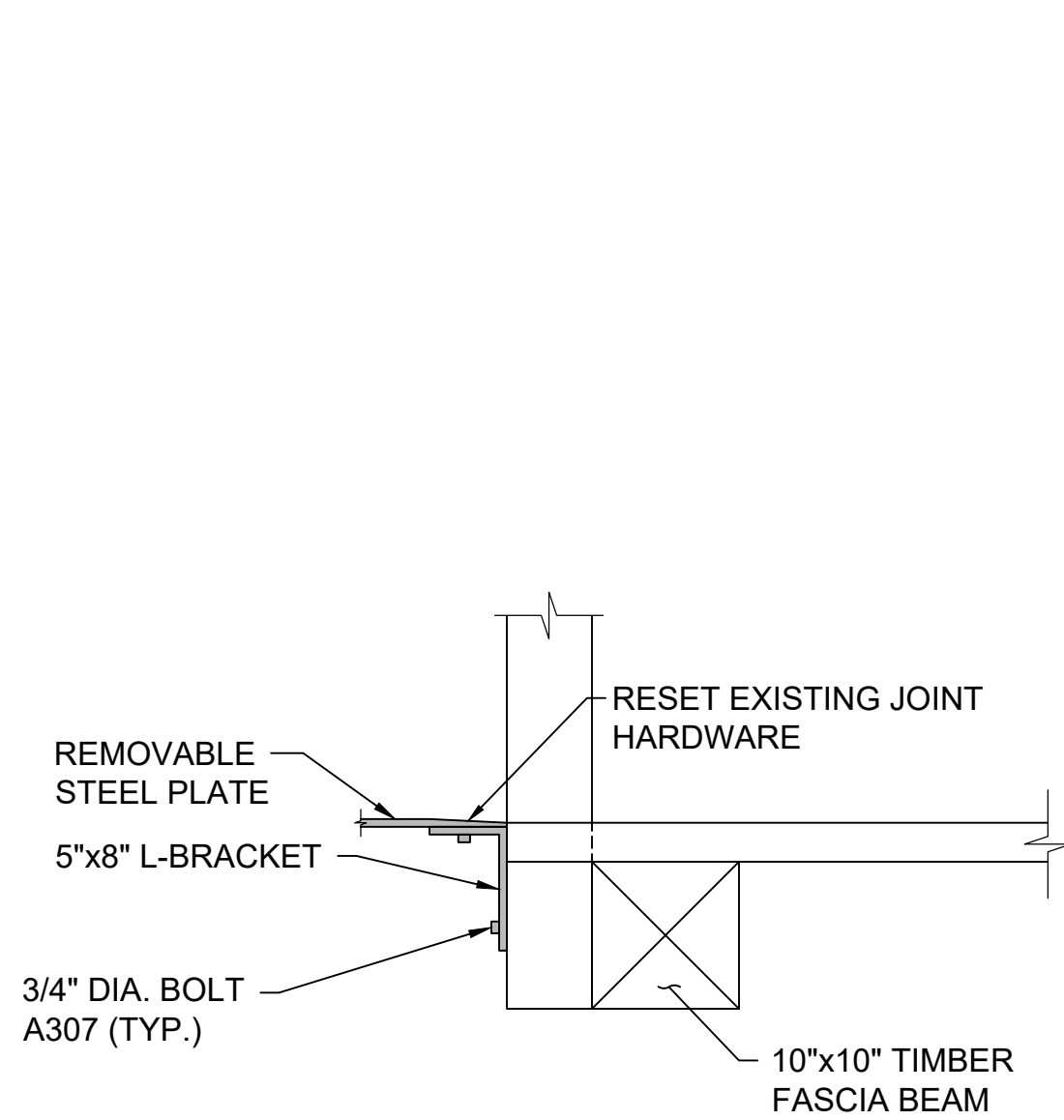
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REV.	DATE	DESCRIPTION
0	02/16/2024	ISSUED FOR CONSTRUCTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

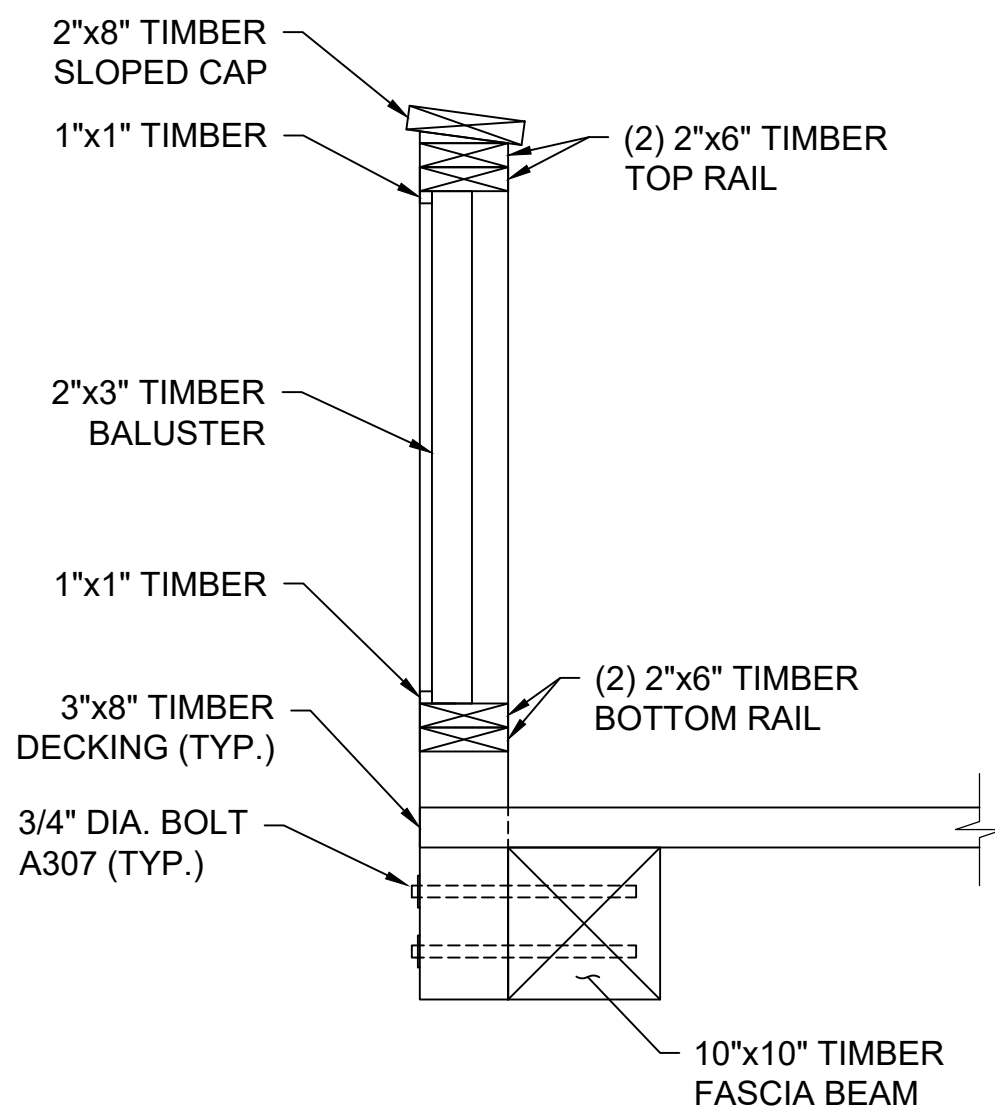
FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1060	1094
PROJECT FILE NO.		608049	

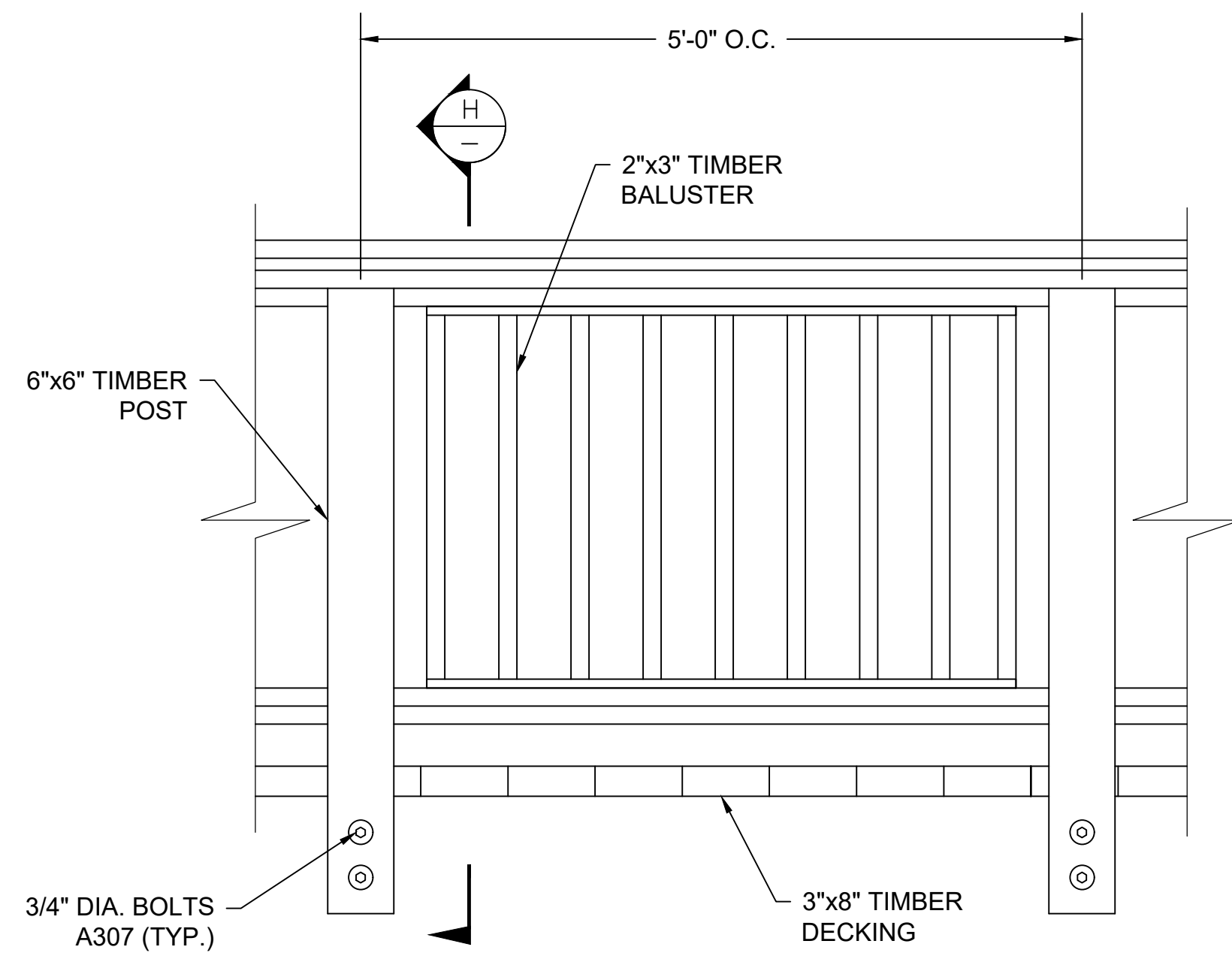
TIMBER DETAILS



SECTION **G**
SCALE: 1" = 1'-0"
1059



SECTION **H**
SCALE: 1" = 1'-0"
1059

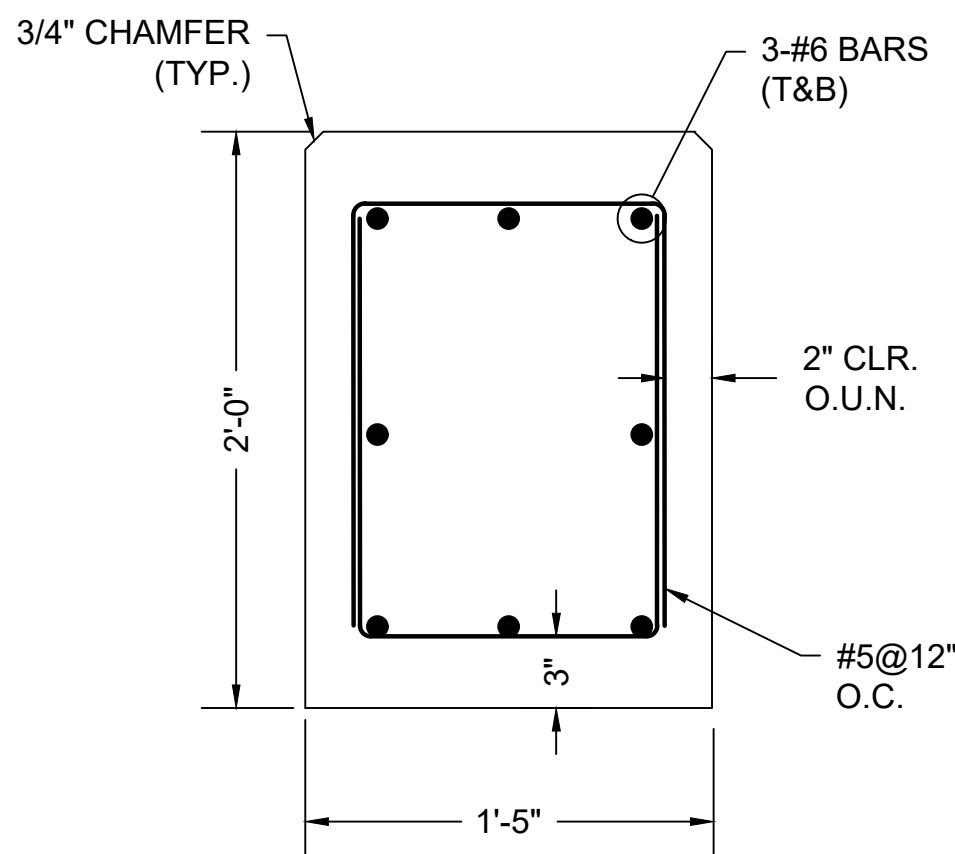


TIMBER RAILING DETAIL **3**
SCALE: 1" = 1'-0"
1059

TIMBER NOTES:

- TIMBER SHALL BE SOLID SAWN LUMBER (S4S), SOUTHERN YELLOW PINE GRADE NO. 1 OR BETTER. TIMBER SHALL BE GRADEMARKED BY AN AGENCY ACCREDITED BY THE AMERICAN STANDARD LUMBER COMMITTEE (ASLC). ALL TIMBER SHALL MEET THE REQUIREMENTS SPECIFIED IN MASSDOT STANDARD SPECIFICATION 955 FOR TREATED TIMBER.
- ALL HARDWARE SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 OR A153 AS APPLICABLE.
- ALL BOLTS FOR TIMBER CONNECTIONS SHALL BE ASTM A307 WITH WASHERS UNLESS OTHERWISE NOTED.
- ALL TIMBER DECKING SHALL BE DRESSED, 4 SIDES (S4S) AND PLACED BARK SIDE UP.

0	02/16/2024	ISSUED FOR CONSTRUCTION
REV.	DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE - REVISION LOG MAINTAINED ON SHAREPOINT		

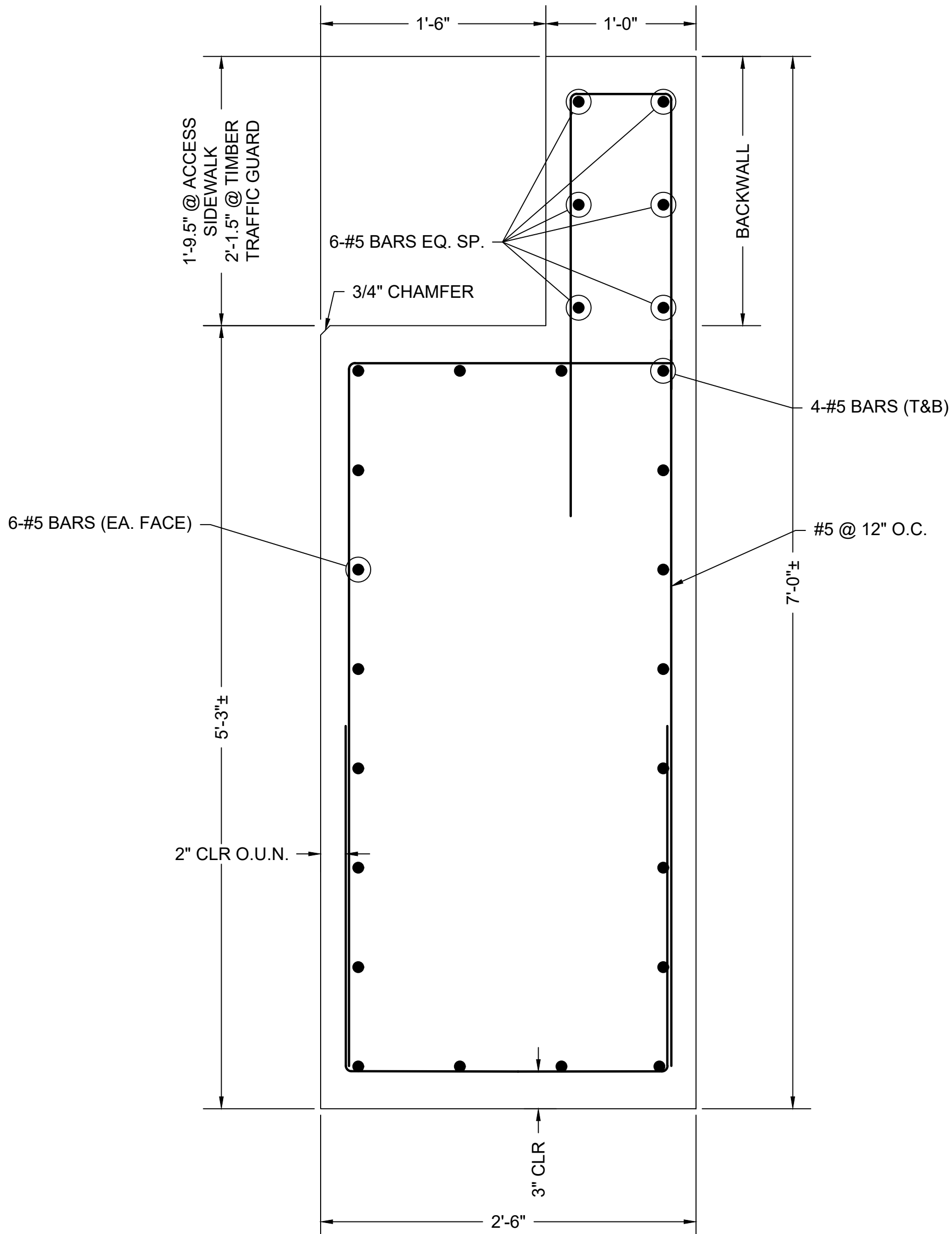


GRADE BEAM DETAIL

1

1059

SCALE: 1-1/2" = 1'-0"



SUPPORT WALL DETAIL

2

1059

SCALE: 1-1/2" = 1'-0"

NOTES:

- ALL CONCRETE SHALL BE 4000 PSI, 3/4" IN, 585 HP CEMENT CONCRETE.
- ALL REINFORCING STEEL SHALL BE EPOXY COATED AND CONFORM TO AASHTO M31 (ASTM A615), GRADE 60.
- DOWEL BAR SPLICER LOCATIONS IN SUPPORT WALL AND GRADE BEAM ARE NOT SHOWN FOR CLARITY.
- SUPPORT WALL DETAIL DIMENSIONS PROVIDED ARE BASED OFF OF EXISTING DOCUMENTS. CONTRACTOR SHALL SURVEY THE EXISTING BOARDWALK SEATS AND TOP OF BACKWALL TO DETERMINE THE FINAL DIMENSIONS.

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FALL RIVER ROUTE 79			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(H)(BR)/STP-003S(191)	1062	1094
PROJECT FILE NO.		608049	

SHEET IS INTENTIONALLY LEFT BLANK

(SEE NOTES ON SHEET 261 FOR OVERHEAD GUIDE SIGN STRUCTURE AND FOUNDATION REQUIREMENTS.)

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FALL RIVER
ROUTE 79

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PROJECT FILE NO.		608049	

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FALL RIVER
ROUTE 79

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	NHP(M)/TAP(HIP(BR)/STP-003S(191)	1067	1094
PROJECT FILE NO.		608049	

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