

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

ATHOL
CRESCENT STREET OVER SLUICEWAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	1	15
PROJECT FILE NO.		N/A	

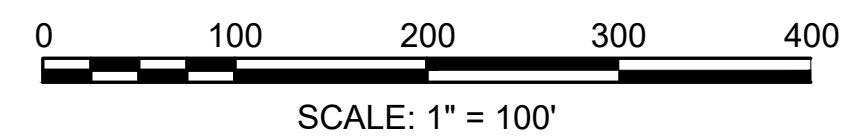
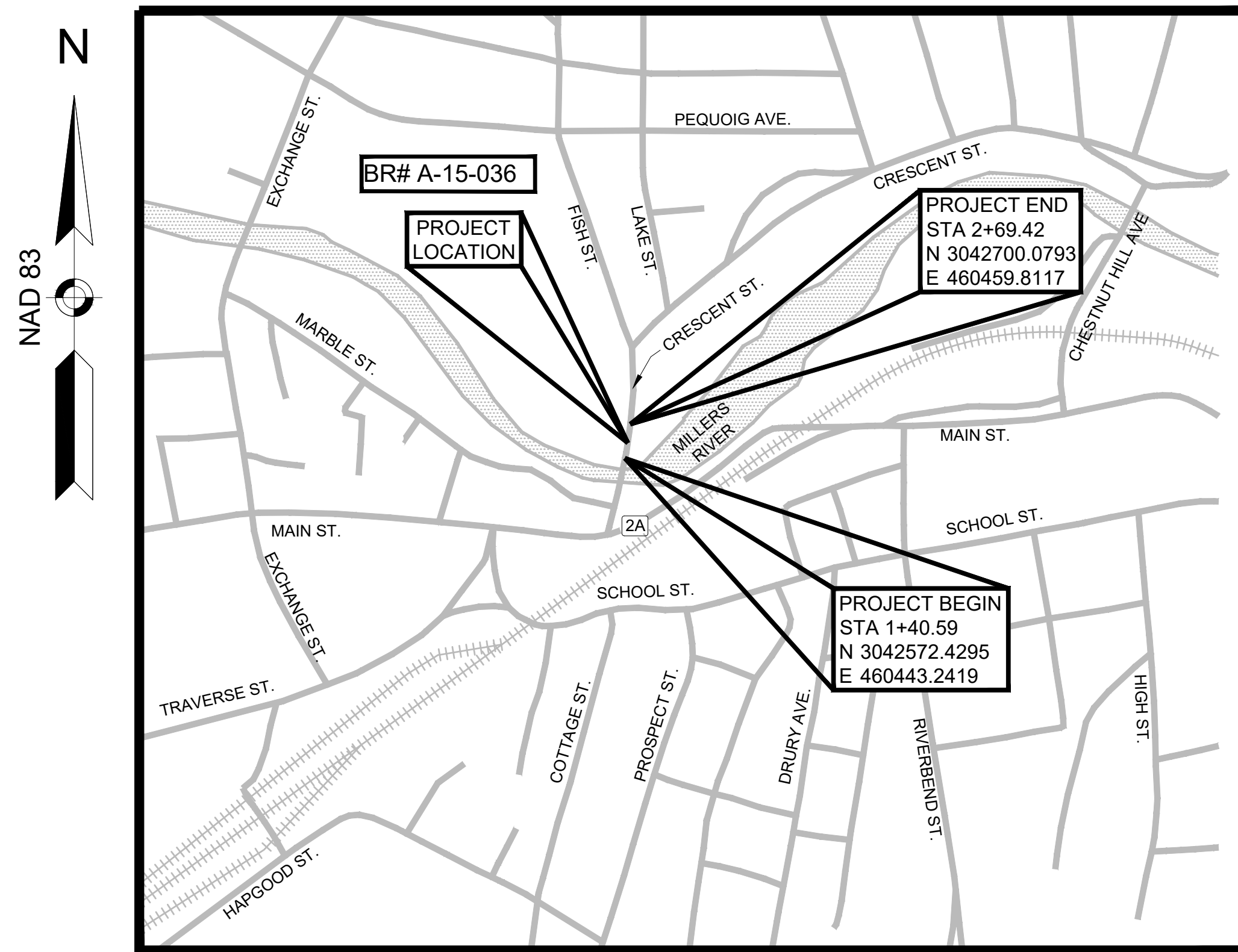
TITLE SHEET & INDEX

PLAN AND PROFILE OF
CRESCENT STREET OVER SLUICEWAY
(BRIDGE NO. A-15-036)
IN THE TOWN OF
ATHOL
WORCESTER COUNTY

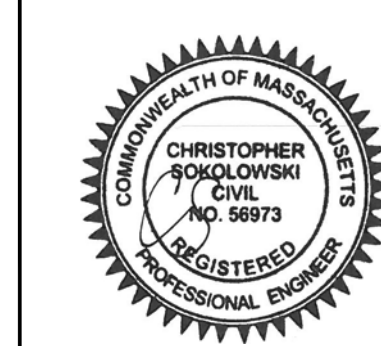
THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS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

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX*
2	TYPICAL SECTIONS
3	CONSTRUCTION, GRADING, & PAVEMENT MARKING PLANS
4-15	BRIDGE PLANS



LENGTH OF PROJECT = 130 FEET = 0.025 MILES



FUSS & O'NEILL
ENGINEERING
600 UNICORN PARK DR, SUITE 17
WOBURN, MA 01801
781.932.3201
www.fando.com

DATE	DESCRIPTION	REV #

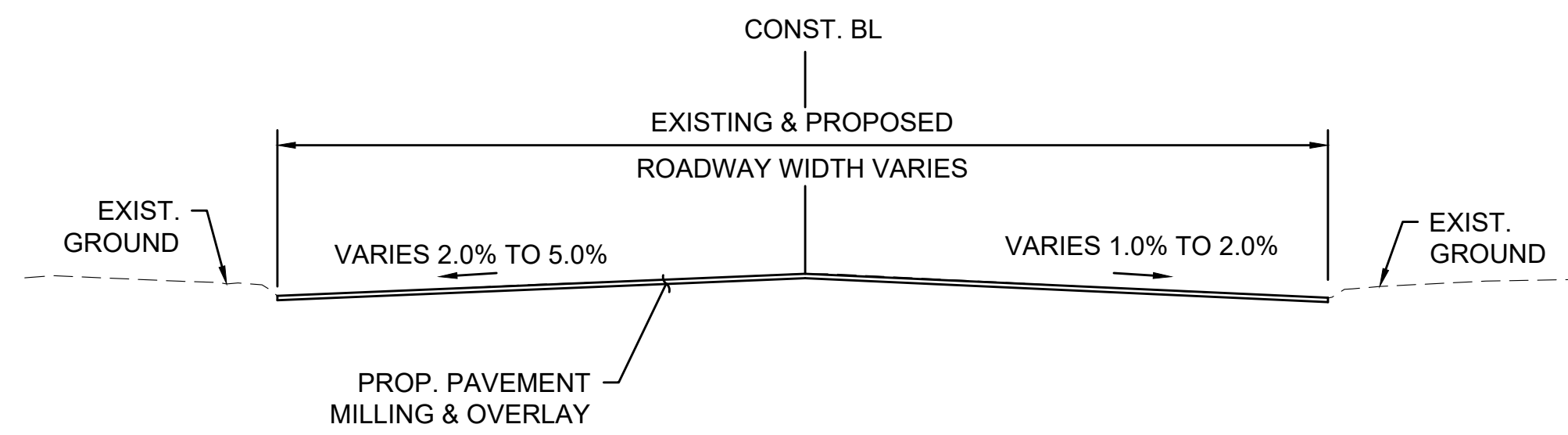


APPROVED
[Signature]
DISTRICT BRIDGE ENGINEER 2/3/25
DATE

ATHOL
CRESCENT STREET OVER SLUICeway

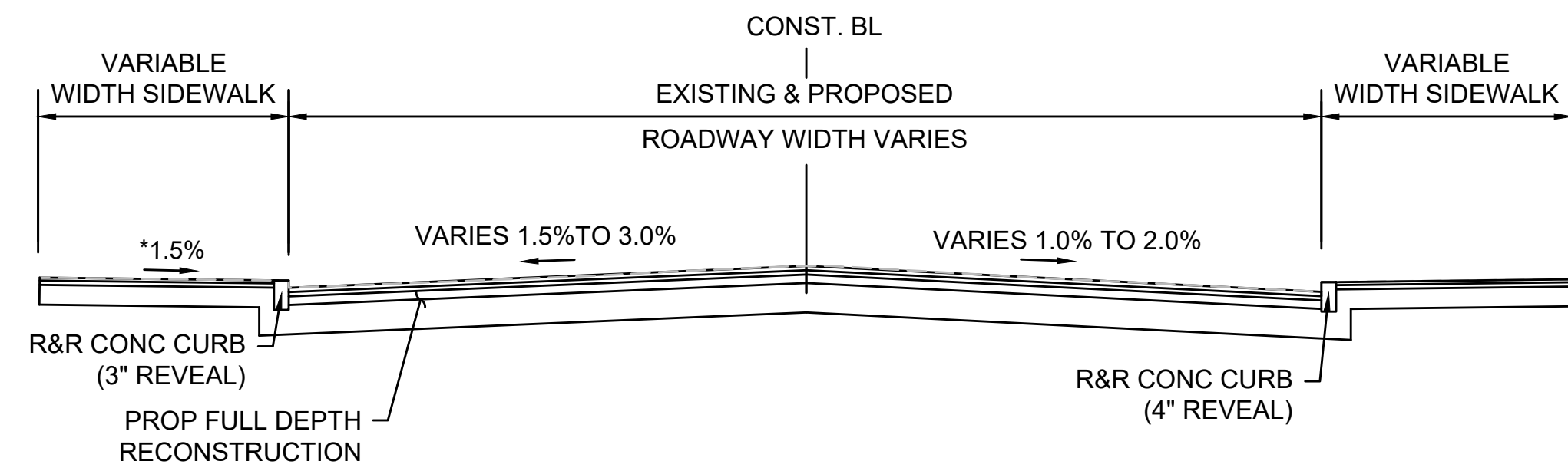
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MA	#####	2	15
PROJECT FILE NO.		N/A	

TYPICALS



**TYPICAL SECTION
CRESCENT STREET
PAVEMENT MILLING & OVERLAY**
N.T.S.
STA. 1+40.59 TO STA. 1+62.55
STA. 2+08.58 TO STA. 2+69.42

* CONSTRUCTION TOLERANCE ± 0.5%



**TYPICAL SECTION
CRESCENT STREET
FULL DEPTH RECONSTRUCTION**
N.T.S.
STA. 1+62.55 TO 1+72.65
STA. 1+98.46 TO 2+08.58

* CONSTRUCTION TOLERANCE ± 0.5%

PAVEMENT NOTES:

PROPOSED PAVEMENT MILLING AND OVERLAY:
1 3/4" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER
VARIABLE DEPTH PAVEMENT STANDARD MILLING

PROPOSED FULL DEPTH RECONSTRUCTION:
1 3/4" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER
3 1/4" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5) OVER
3 1/2" SUPERPAVE BASE COURSE - 37.5 (SBC-37.5) OVER
4" DENSE GRADED CRUSHED STONE OVER
8" GRAVEL BORROW

PROPOSED CONCRETE WALK SURFACE:
4" CEMENT CONCRETE AIR ENTRAINED 4000 PSI, 3/4" 610 OVER
8" GRAVEL BORROW

PROPOSED HMA DRIVEWAY:
1 1/2" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER
2 1/2" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5) OVER
8" GRAVEL BORROW

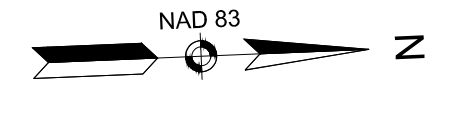
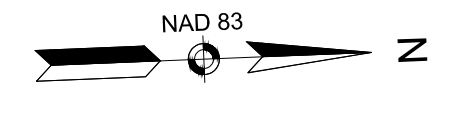
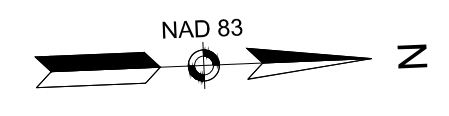
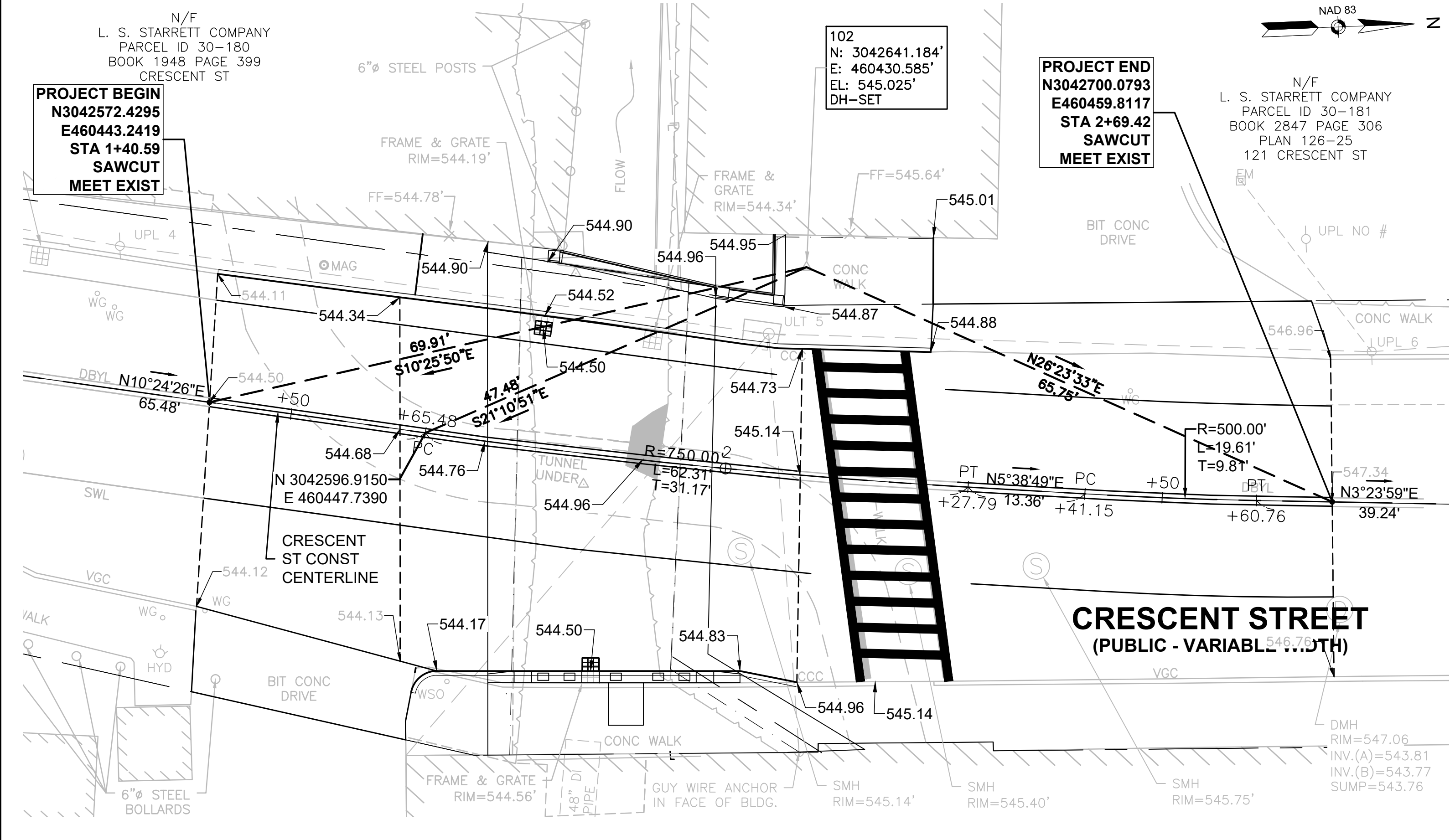
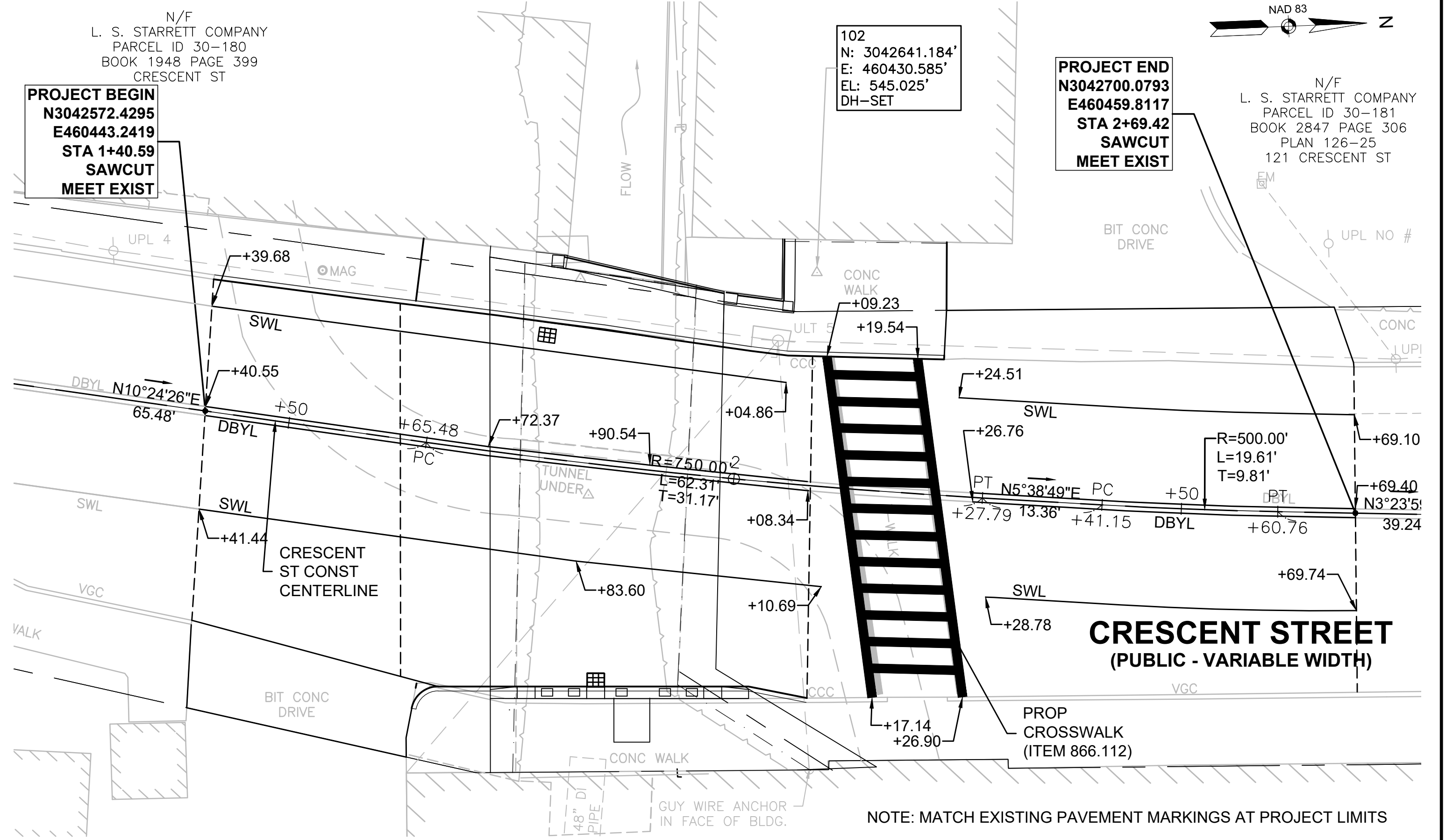
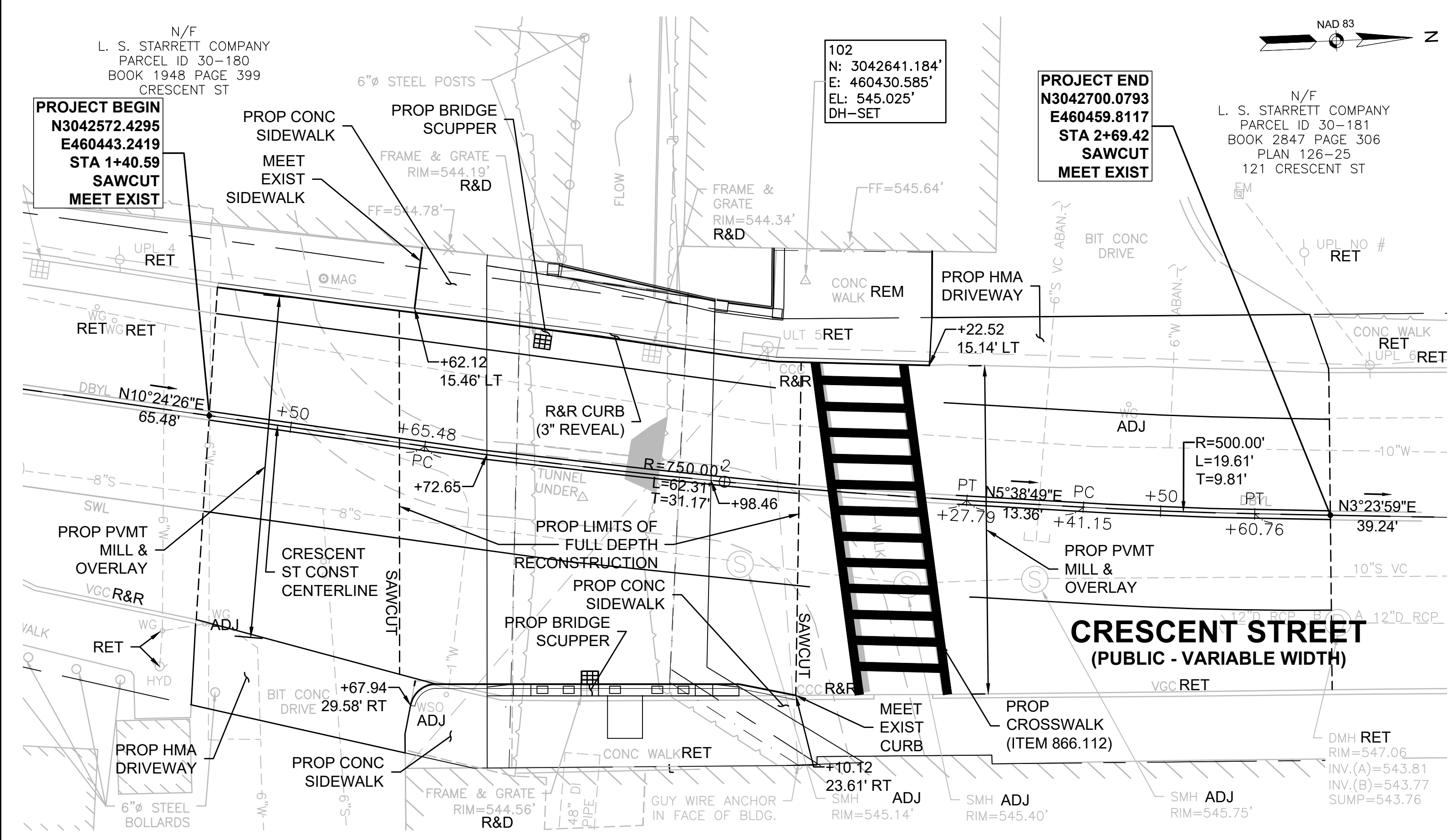
**ATHOL
CRESCENT STREET OVER SLUICeway**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	3	15
PROJECT FILE NO.		N/A	

CONSTRUCTION PLAN

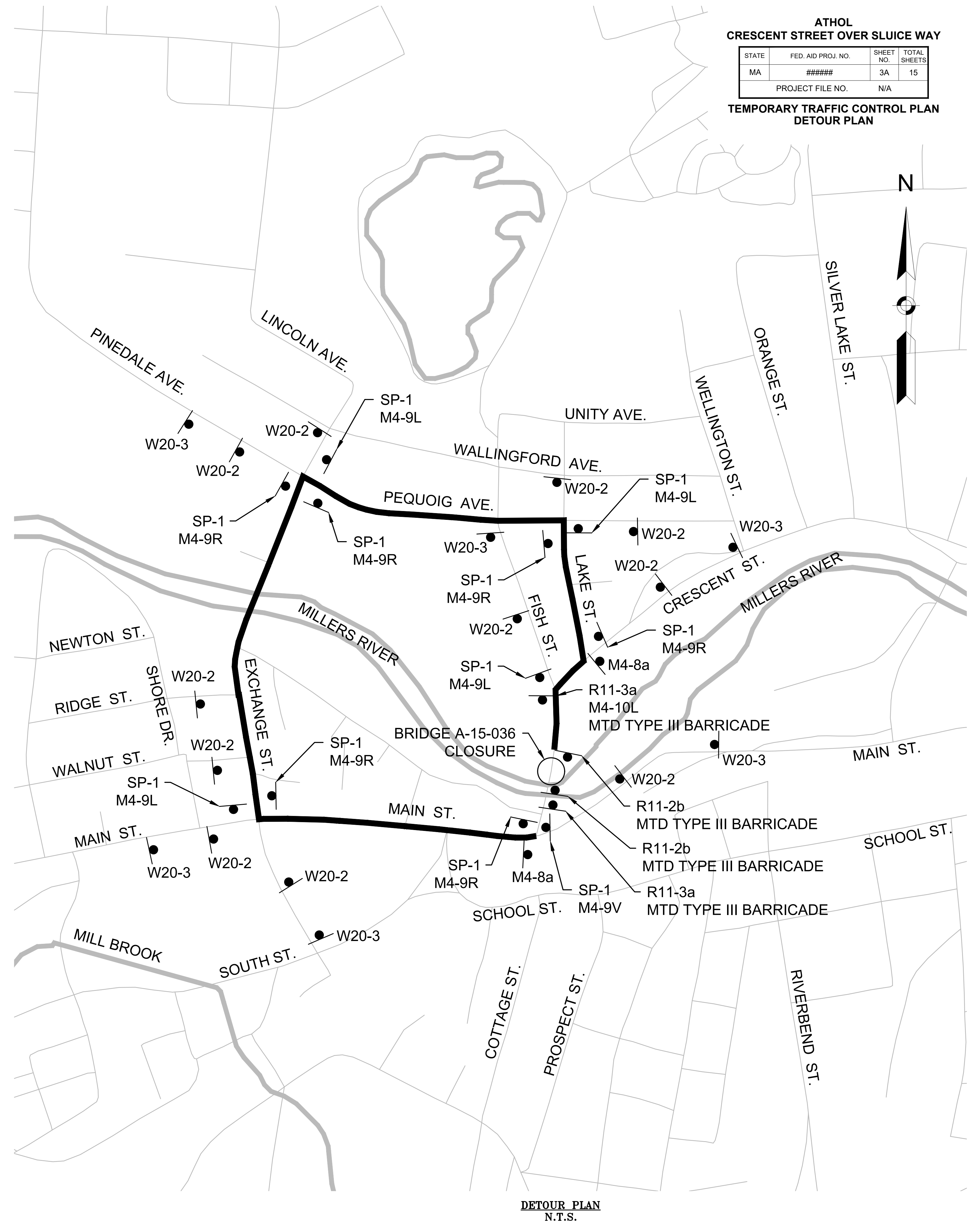
LEGEND

EXISTING	PROPOSED	DESCRIPTION
		CATCH BASIN
		GAS GATE
		MONITORING WELL
		HYDRANT
		LIGHT POLE
		DRAINAGE MANHOLE
		SEWER MANHOLE
		TRAVERSE OR TRIANGULATION STATION
		WATER GATE
		CURBING
		SIGN AND POST
		SOLID WHITE LINE (ITEM 866.106)
		DOUBLE YELLOW LINE (ITEM 867.106)



IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND	BORDER		
R11-3a	60	30	BRIDGE OUT AHEAD LOCAL TRAFFIC ONLY	1	1	1	2	WHITE	BLACK	BLACK	12.5	25.0
R11-2b	48	30	BRIDGE OUT				2	WHITE	BLACK	BLACK	10.0	20.0
W20-2	36	36	DETOUR AHEAD				11	ORANGE REFLECTIVE	BLACK	BLACK	9.0	99.0
W20-3	36	36	ROAD CLOSED AHEAD				6	ORANGE REFLECTIVE	BLACK	BLACK	9.0	54.0
M4-8a	24	18	END DETOUR				2	ORANGE REFLECTIVE	BLACK	BLACK	3.0	6.0
M4-9V	30	24	DETOUR ↑				1	ORANGE REFLECTIVE	BLACK	BLACK	5.0	5.0
M4-9L	30	24	DETOUR ←				4	ORANGE REFLECTIVE	BLACK	BLACK	5.0	20.0
M4-9R	30	24	DETOUR →				6	ORANGE REFLECTIVE	BLACK	BLACK	5.0	30.0
M4-10L	48	18	DETOUR ←				1	ORANGE REFLECTIVE	BLACK	BLACK	6.0	6.0
SP-1	60	12	Crescent St				11	WHITE	BLACK	BLACK	5.0	55.0

① SEE LATEST EDITION TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR SPECIFICATIONS ON TEXT DIMENSIONS AND COLOR (ALSO SEE SECTION M9.30.0 TYPE III MHD 2022 STANDARD SPECIFICATION).

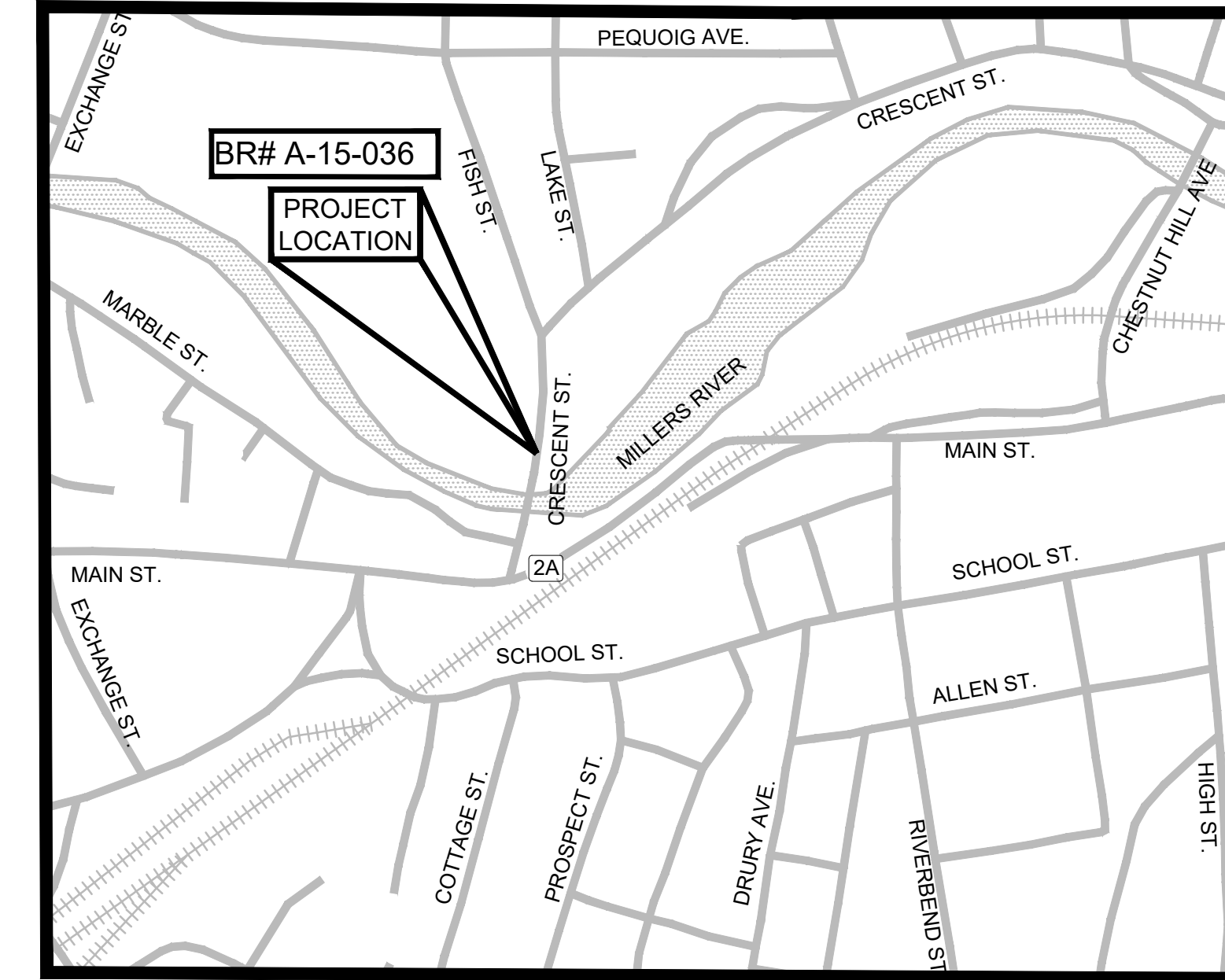
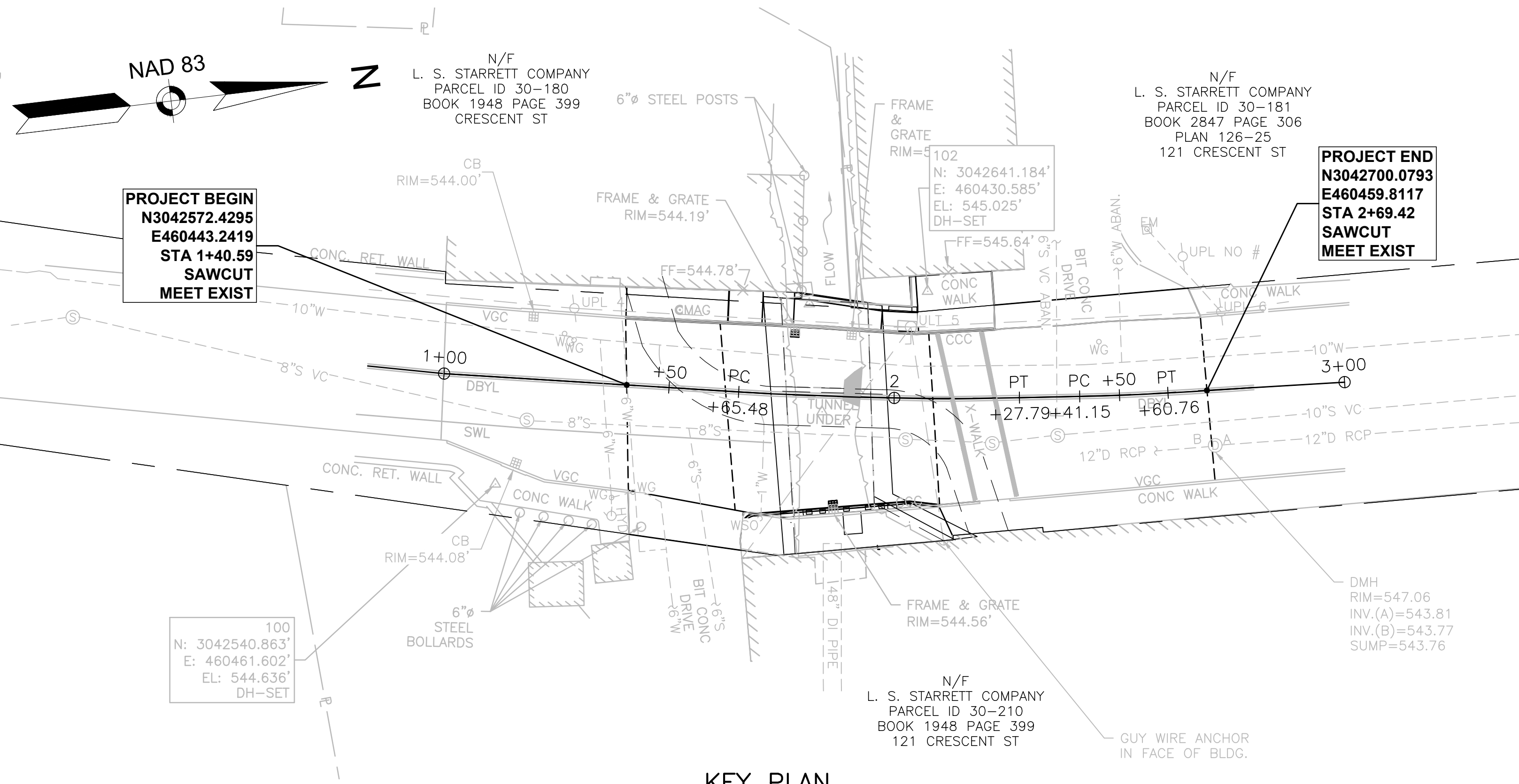


ATHOL
CRESCENT STREET OVER SLUICE WAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	3A	15
PROJECT FILE NO.		N/A	

TEMPORARY TRAFFIC CONTROL PLAN
DETOUR PLAN

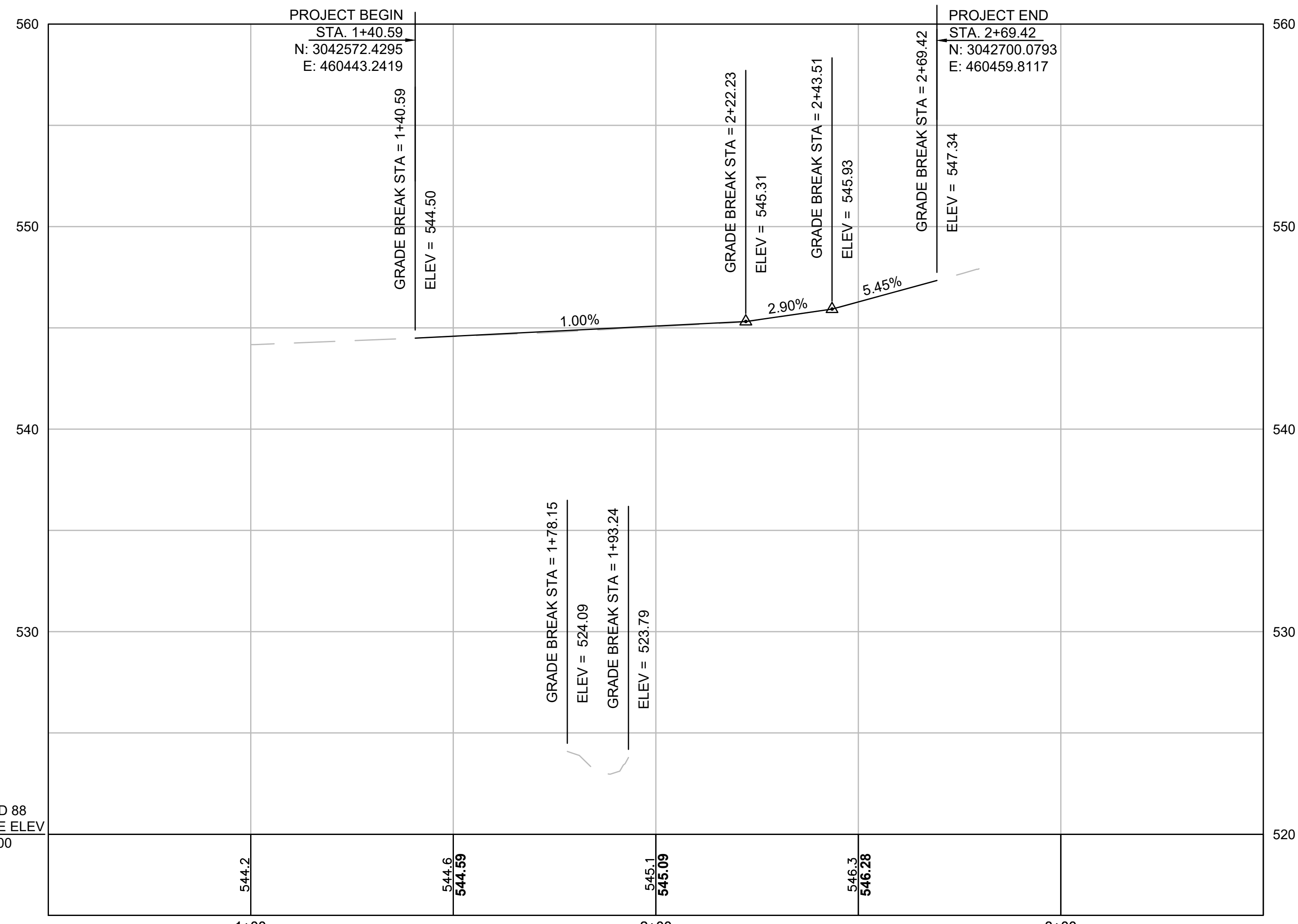
DETOUR PLAN
N.T.S.



**ATHOL
CRESCENT STREET OVER SLUICEWAY**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	4	15
PROJECT FILE NO.		N/A	

TITLE SHEET



PROFILE CRESCENT STREET
HOR. SCALE: 1" = 20'
VERT. SCALE 1" = 5'

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35
[Signature] 2/3/25
DISTRICT BRIDGE ENGINEER DATE

2/3/2025
BRIAN A. BOUCHER
CIVIL
No. 40690
PROFESSIONAL ENGINEER
[Signature]
FUSS & O'NEILL
600 UNICORN PARK DR, SUITE 517
WORBURN, MA 01801
781.932.3201
www.fando.com

February 3, 2025
MONTH DD, YYYY ISSUED FOR CONSTRUCTION

massDOT
Massachusetts Department of Transportation
Highway Division
**PROPOSED SUPERSTRUCTURE
REPLACEMENT
ATHOL
CRESCENT STREET
OVER SLUICEWAY**

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

[Signature] STATE BRIDGE ENGINEER
District Bridge Engineer

[Signature] CHIEF ENGINEER

BR1 (COVER SHEET).DWG Plotted on 3-Feb-2025 9:09 AM DD-Month-YYYY XXXXX Structural/Sketch Plans Submittal (S#/SK#)

GENERAL NOTES:

DESIGN:

IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS 10TH EDITION FOR HL-93 LOADING.

BENCH MARK:

DH SET - LOCATED IN CONCRETE APRON
104 CRESCENT ST RED BUILDING
N 3042641.184
E 460430.585
EL. 545.03

ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL (NAVD) OF 1988

DATE:

TO BE PLACED ON THE INSIDE FACE OF THE NORTHEAST AND NORTHWEST TERMINI. A SHEET SHOWING THE SIZE AND CHARACTER OF THE NUMERALS WILL BE FURNISHED. THE DATE USED SHALL BE THE LATEST YEAR OF THE CONTRACT COMPLETION AS OF THE DATE THE FIRST TERMINI. ALL TERMINI SHALL FEATURE THE SAME DATE.

ELECTRONIC SURVEY:

THE EXISTING CONDITIONS OF THE BASEMAP ARE THE RESULT OF AN ON THE GROUND INSTRUMENT SURVEY PERFORMED BY BAYSIDE ENGINEERING, INC.. COPIES OF THE FILES MAY BE OBTAINED ON REQUEST.

SCALE:

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

FOUNDATION:

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.

SEISMIC DESIGN CRITERIA:

DESIGN RETURN PERIOD: 1000-YR

DESIGN SPECTRA:

$A_s = 0.078g$
 $S_{ps} = 0.168g$
 $S_{D1} = 0.070g$

SITE CLASS = C

SEISMIC DESIGN CATEGORY (SDC) = A

EXISTING CONDITIONS:

EXISTING ELEMENTS SHOWN ON THESE PLANS ARE SCHEMATIC ONLT AND MAY NOT ACCURATELY REPRESENT EXISTING CONDITIONS. THE CONTRACTOR SHALL DETERMINE AND ESTABLISH ALL DIMENSIONS AND DETAILS NECESSARY FOR COMPLETION OF ALL WORK BY FIELD MEASUREMENTS AND SURVEY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADEQUACY AND ACCURACY THEREOF, AND SHALL NOT ORDER ANY MATERIAL OR COMMENCE ANY FABRICATION UNTIL HE/SHE HAS MADE THE REQUIRED MEASUREMENTS AND THE EXTENT OF THE PROPOSED WORK HAS BEEN APPROVED BY THE ENGINEER.

CONSTRUCTION JOINTS:

CONSTRUCTION JOINTS, OTHER THAN THOSE SHOWN ON THE PLANS, WILL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

REINFORCEMENT:

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

1. MODIFICATION CONDITION	#4 BARS	#5 BARS	#6 BARS
2. NONE	16"	17"	21"
3. 12" OF CONCRETE BELOW BAR	18"	22"	27"
4. COATED BARS, COVER <3d, OR CLEAR SPACING <6d	21"	26"	31"
5. COATED BARS, ALL OTHER CASES	17"	21"	25"
6. CONDITION 2. AND 3.	23"	29"	35"
7. CONDITION 2. AND 4.	21"	27"	32"

IF THE ABOVE LAPS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

ALL REINFORCEMENT SHALL BE COATED.

CONCRETE MIXES:

UNLESS OTHERWISE SPECIFIED, ALL CONCRETE SHALL BE 5000 HP CONCRETE, EXCEPT THE CT-MTL2 BARRIER SHALL BE 5000 3/4 IN. HP CONCRETE.

STEEL AND WELDING:

ALL STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M270, GRADE 36 AND SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. ALL WELDING, WELDING MATERIAL, PREPARATION AND ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO THE MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGES, THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS AND THE AASHTO/AWS BRIDGE WELDING CODE (ANSI/AASHTO/AWS D1.5). ALL INTERIM REVISIONS AS OF THE BID OPENING DATE ARE APPLICABLE.

**ATHOL
CRESCENT STREET OVER SLUICEWAY**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	5	15
PROJECT FILE NO.		N/A	

GENERAL NOTES & ESTIMATED QUANTITIES

ESTIMATED QUANTITIES (NOT GUARANTEED)		
ITEM DESCRIPTION	QUANTITY	UNITS
DEMOLITION OF SUPERSTRUCTURE OF BRIDGE A-15-036 (COE)	LS	1
UNCLASSIFIED EXCAVATION	CY	150
10 INCH WATER MAIN PRE-INSULATED	LS	1
5000 PSI, 3/8 IN., 710 HP CEMENT CONCRETE	CY	2
CEMENTITIOUS MORTAR FOR PATCHING	SF	65
CORING AND GROUTING DOWELS	EA	16
ALTERATION TO BRIDGE SUPERSTRUCTURE, BRIDGE NO. A-15-036	LS	1
TEMPORARY PROTECTIVE SHIELDING, BRIDGE NO. A-15-036	LS	1

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS GEN LAWS CH 85 S 35
[Signature]
DISTRICT BRIDGE ENGINEER DATE 2/3/25

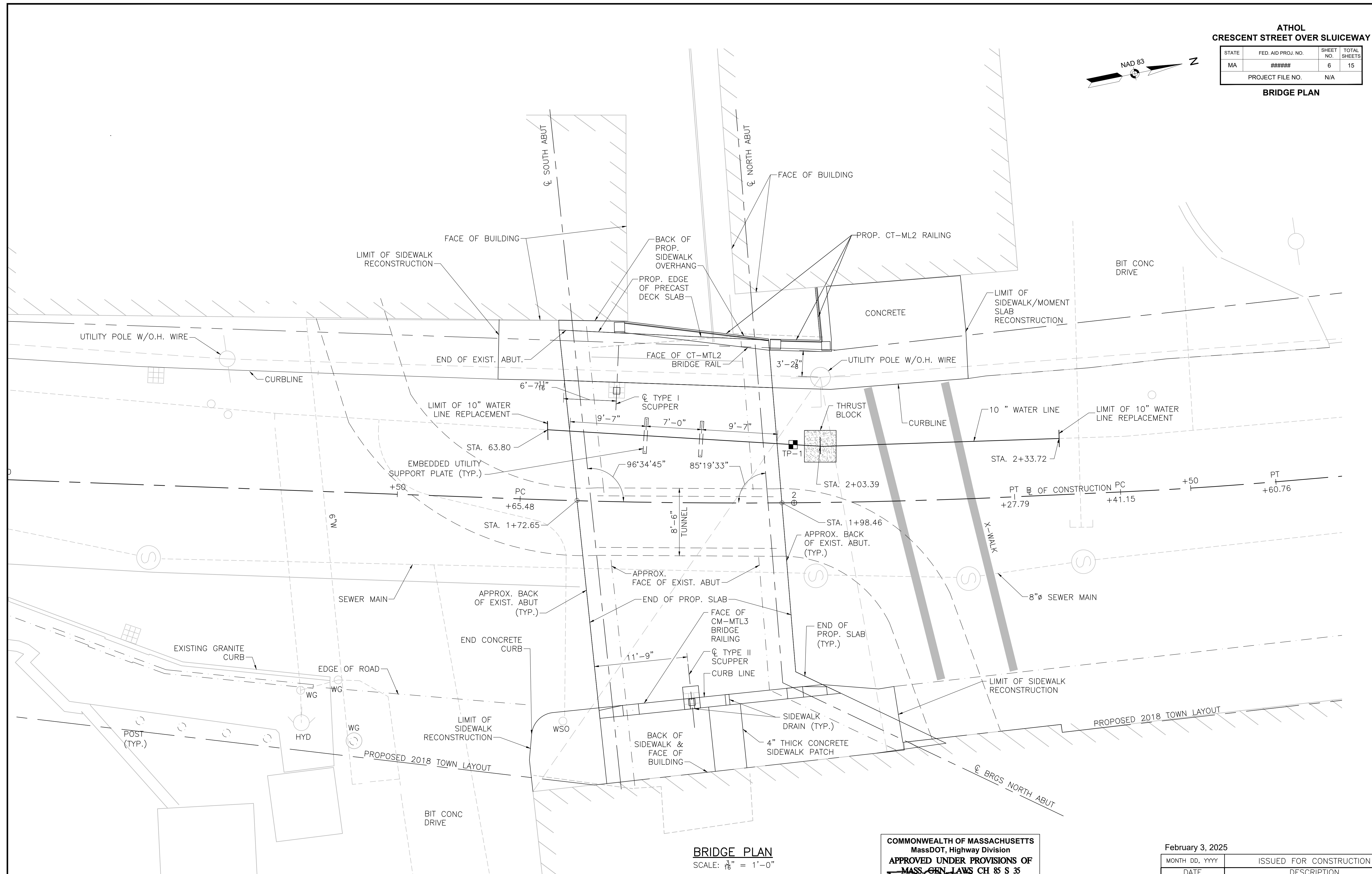
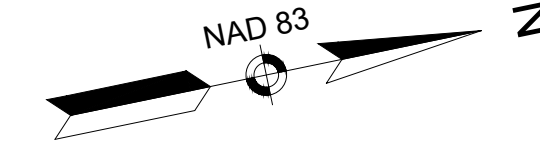
February 3, 2025

MONTH DD, YYYY	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

ATHOL
CRESCENT STREET OVER SLUICeway

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	6	15
PROJECT FILE NO.		N/A	

BRIDGE PLAN



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

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35
2/3/25
DISTRICT BRIDGE ENGINEER DATE

February 3, 2025

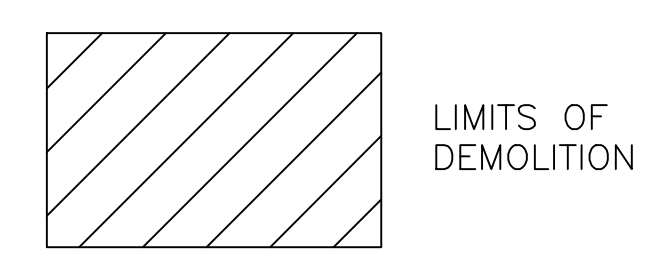
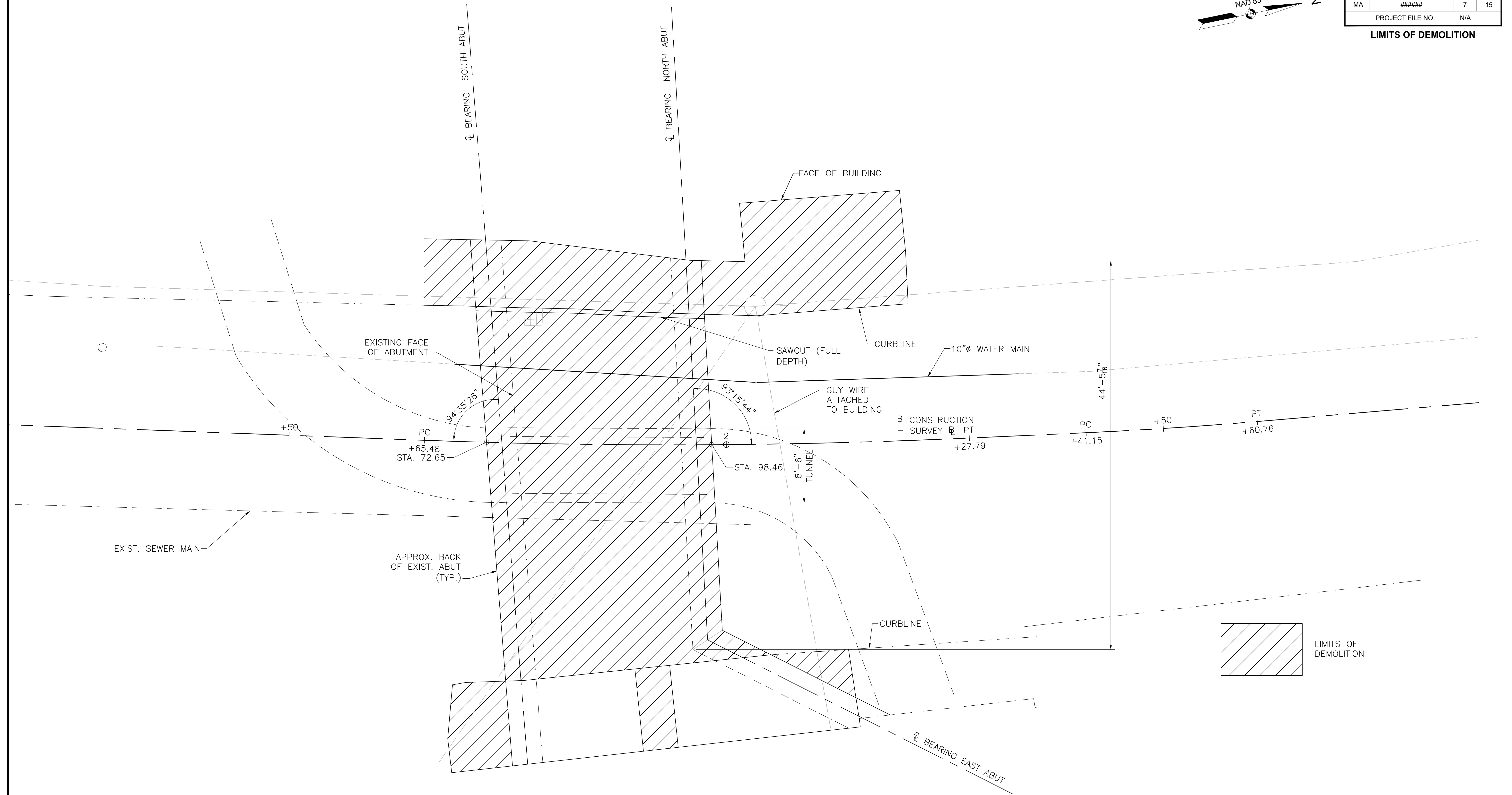
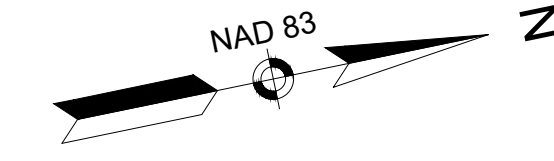
MONTH DD, YYYY	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
USE ONLY PRINTS OF LATEST DATE	

Plotted on 31-Jan-2025 2:35 PM
BR3 (BRIDGE PLAN).DWG
DD-Month-YYYY
XXXXXX Structural/Sketch Plans Submittal (S#SK#)

ATHOL
CRESCENT STREET OVER SLUICeway

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	7	15
PROJECT FILE NO.		N/A	

LIMITS OF DEMOLITION



DEMOLITION PLAN

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

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35
[Signature]
DISTRICT BRIDGE ENGINEER DATE 2/3/25

February 3, 2025

MONTH DD, YYYY	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

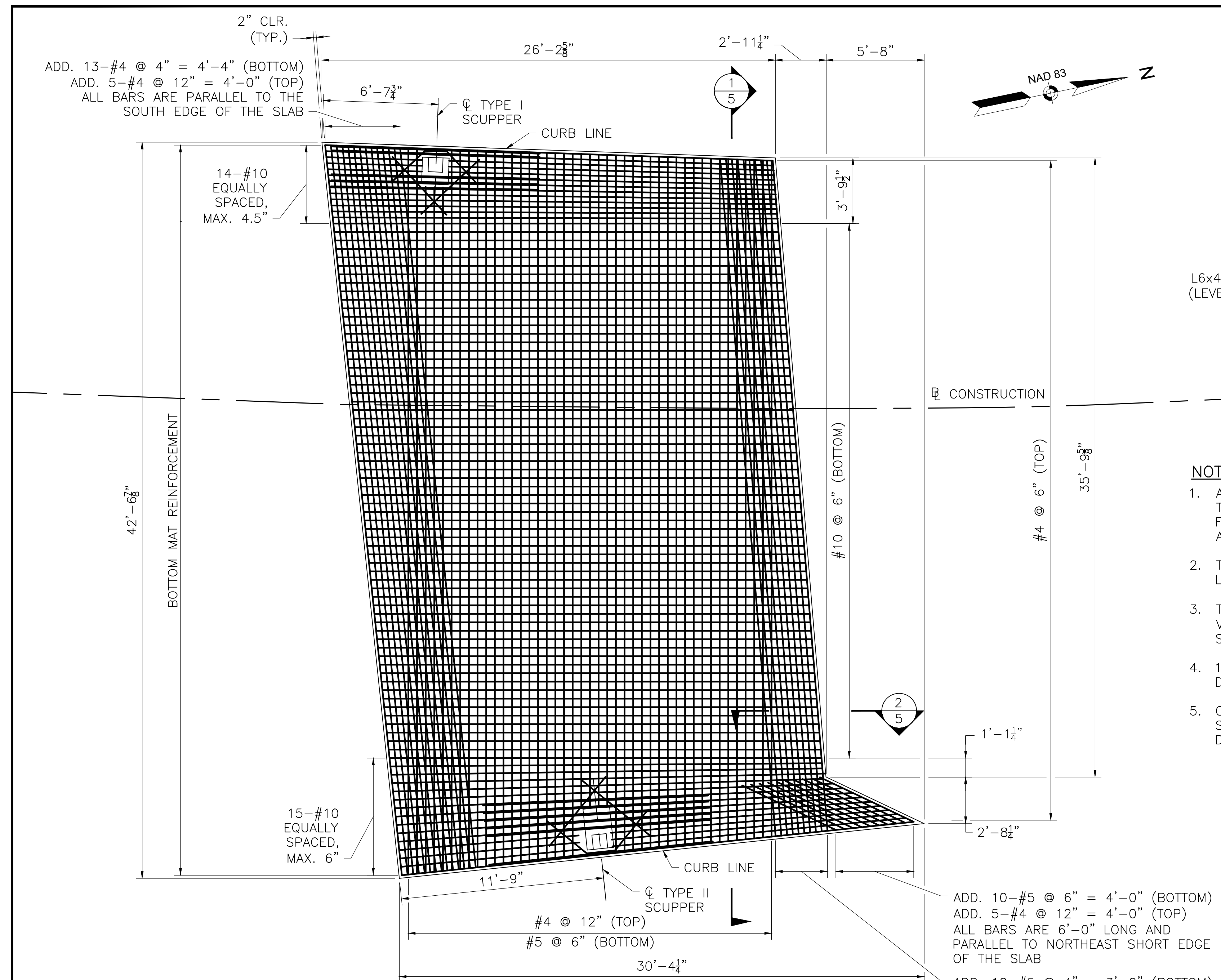
USE ONLY PRINTS OF LATEST DATE

BRG (CAST-IN-PLACE SLAB DETAILS) DWG
 Plotted on 26-Jan-2025 2:33 PM
 DD-Month-YYYY
 XXXXX Structural/Slab Plans Submittal (S#) SK#

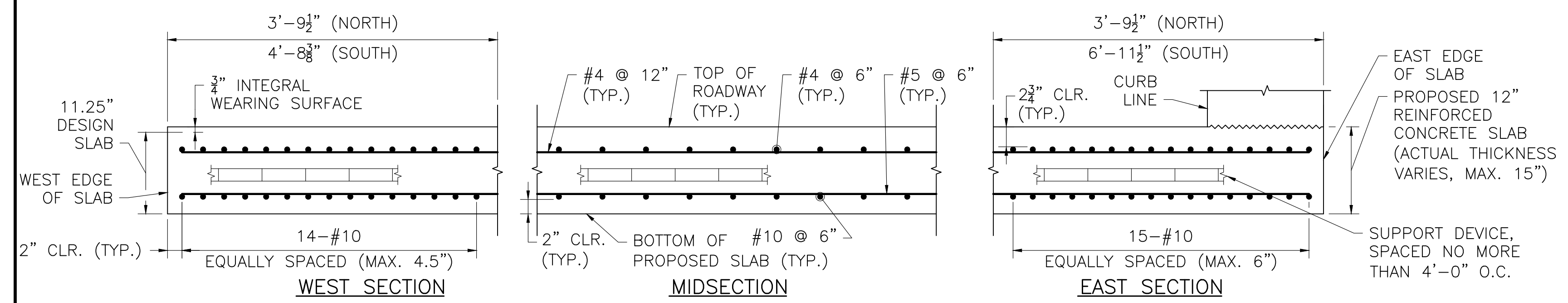
**ATHOL
CRESCENT STREET OVER SLUICEWAY**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	8	15
PROJECT FILE NO.		N/A	

CAST-IN-PLACE SLAB DETAILS

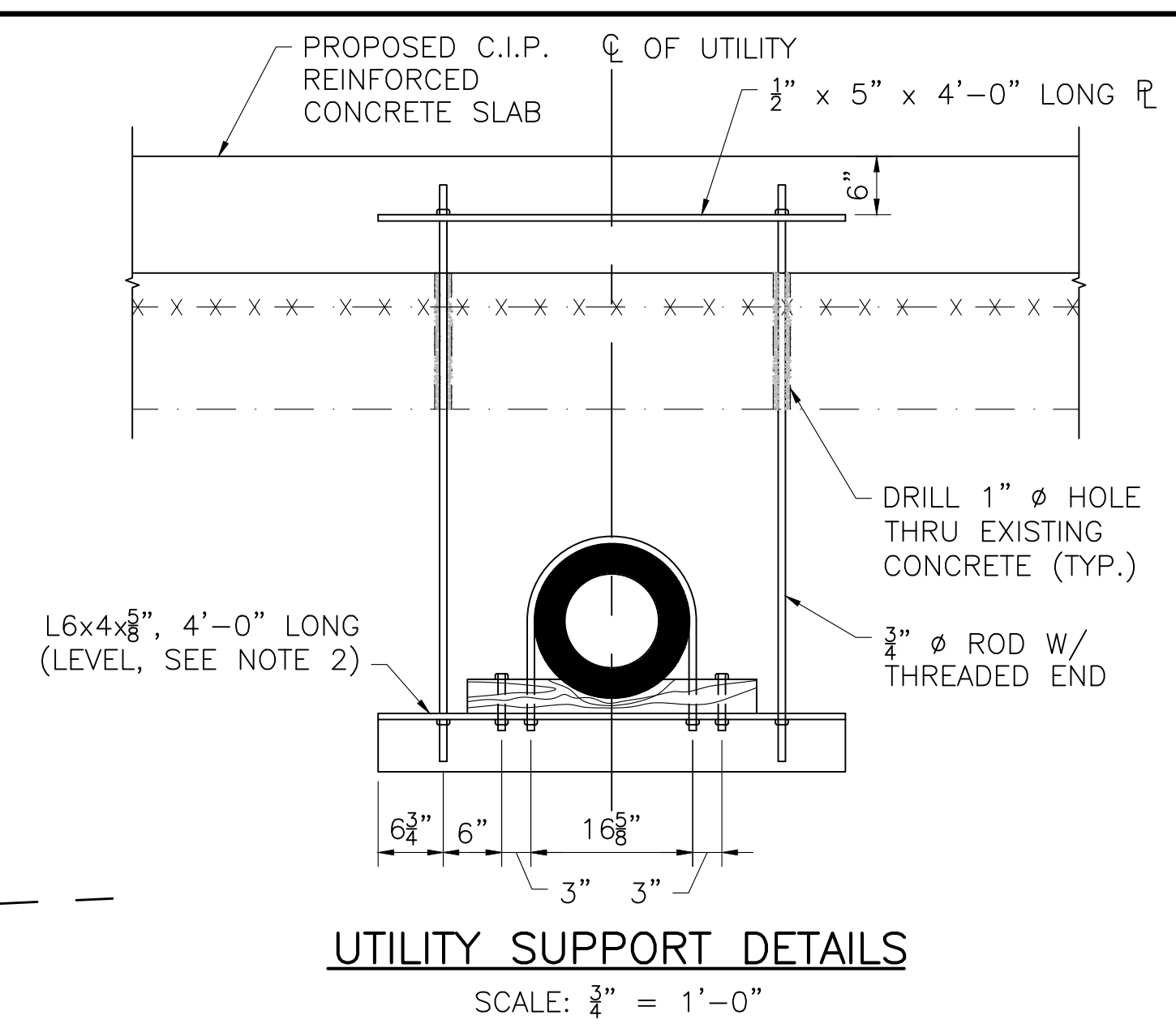


C.I.P. ROADWAY SLAB REINFORCEMENT PLAN
SCALE: 1/4" = 1'-0"



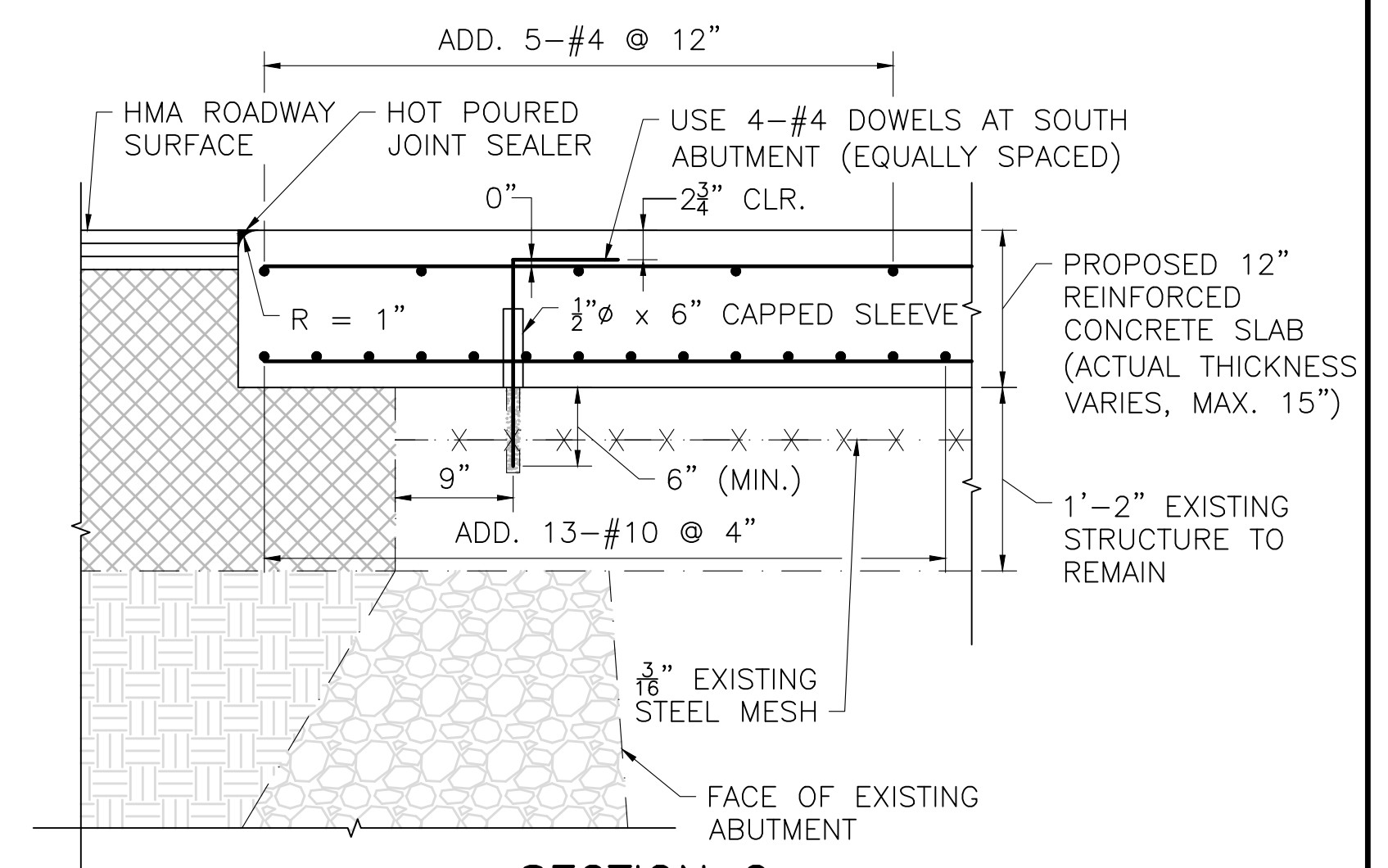
SECTION 1
SCALE: 1" = 1'-0"

- NOTES:**
- REINFORCEMENT (PRIMARY) SHALL BE PLACED PARALLEL TO THE \square OF CONSTRUCTION, UNLESS SHOWN OTHERWISE. TRANSVERSE REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE \square OF CONSTRUCTION.
 - ALL REINFORCEMENT AND SUPPORT DEVICES SHALL BE COATED.
 - THE SLAB SHALL BE GROOVED TRANSVERSELY USING MULTI-BLADED SELF PROPELLED SAWCUTTING EQUIPMENT. THE WORK, INCLUDING GROOVE SIZE AND SPACING, SHALL BE IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATION SECTION 901.65 SUBSECTION H.
 - THE CONTRACTOR SHALL PLACE THE ENTIRE SLAB IN ONE CONTINUOUS OPERATION WITHOUT CONSTRUCTION JOINTS, PROVIDED THAT THE INITIAL SET ($f'_c = 500$ PSI) OF ALL CONCRETE DOES NOT OCCUR UNTIL AFTER THE COMPLETION OF THE PLACEMENT.



UTILITY SUPPORT DETAILS
SCALE: 3/4" = 1'-0"

- NOTES:**
- ALL STRUCTURAL STEEL FOR UTILITY SUPPORTS SHALL CONFORM TO AASHTO M 270 GRADE 36. ALL STRUCTURAL STEEL AND FASTENERS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AND M 232.
 - THE UTILITY SUPPORT ANGLE SHALL BE ERECTED WITH THE LONG LEG VERTICAL.
 - THE 4'-6" LENGTH OF PLATE AND ANGLE SHALL BE FIELD VERIFIED TO AVOID INTERFERENCE WITH CONCRETE-ENCASED S10X26 STEEL BEAMS.
 - 10-INCH TRICON PRE-INSULATED WATER PIPE HAS OUTSIDE DIAMETER EQUAL TO 15.87 INCHES.
 - CONTRACTOR SHALL SUBMIT A SHOP DRAWING FOR UTILITY SUPPORTS IN COORDINATION WITH PRE-INSULATED PIPE DIMENSIONS IN ACCORDANCE WITH SPECIAL PROVISIONS ITEM 992.1



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

- NOTES:**
- PROVIDE EXPANSION JOINT FOR C.I.P. SLAB AT NORTH ABUTMENT BY CORING AND GROUTING #4 DOWELS INTO THE TOP OF THE EXISTING SLAB. USE 4-#4 DOWELS EQUALLY SPACED.
 - USE 1 1/2" x 6" LONG CAPPED SLEEVE CAST INTO THE SLAB, CENTERED AROUND THE #4 DOWEL, WHICH WILL ALLOW FOR EXPANSION AND CONTRACTION. FILL SLEEVE WITH JOINT SEALANT TO MAINTAIN ITS POSITIONING DURING POUR.
 - PROVIDE A FIXED JOINT, FOR C.I.P. SLAB AT THE SOUTH ABUTMENT BY CORING AND GROUTING #4 HOOKED DOWELS INTO THE TOP OF THE EXISTING SLAB. THE DOWELS SHALL EXTEND 9" INTO THE PROPOSED C.I.P. SLAB. EMBEDMENT LENGTH INTO THE EXISTING SLAB SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW IN ACCORDANCE WITH ITEM 913.3.

COMMONWEALTH OF MASSACHUSETTS
 MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35
 DISTRICT BRIDGE ENGINEER 2/3/25 DATE

February 3, 2025

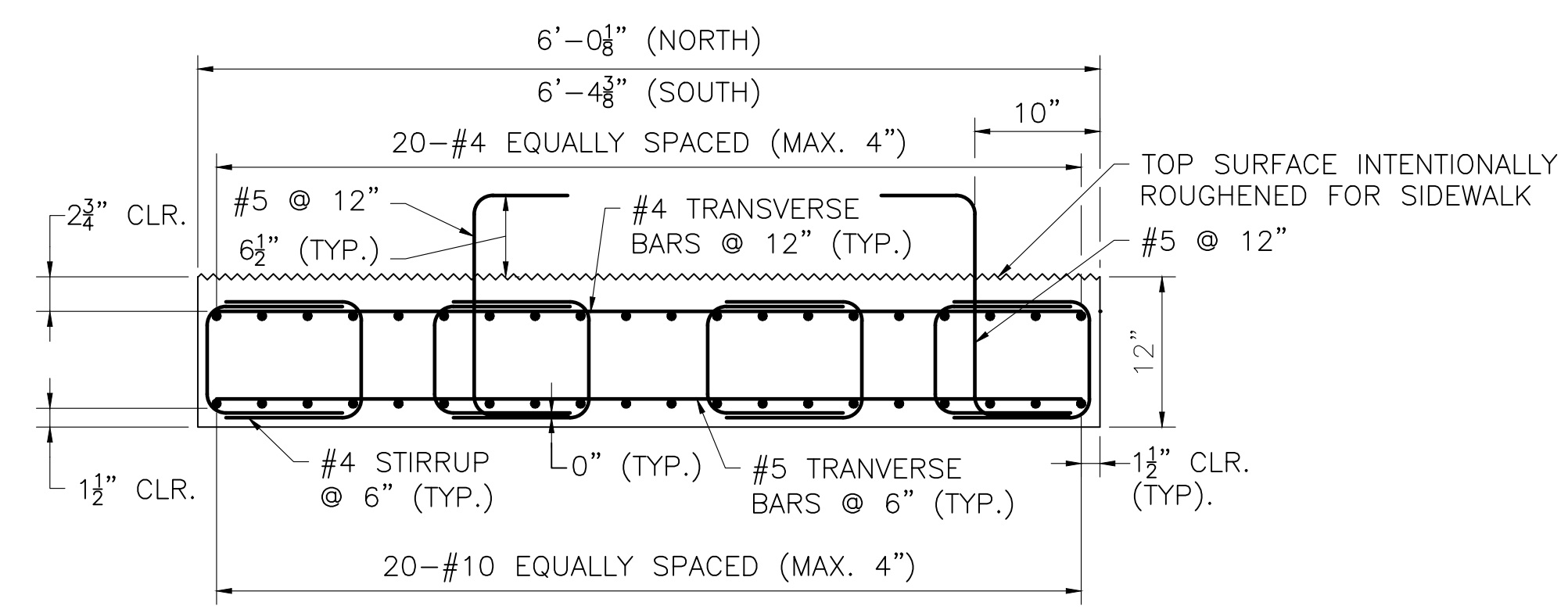
MONTH DD, YYYY	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

USE ONLY PRINTS OF LATEST DATE

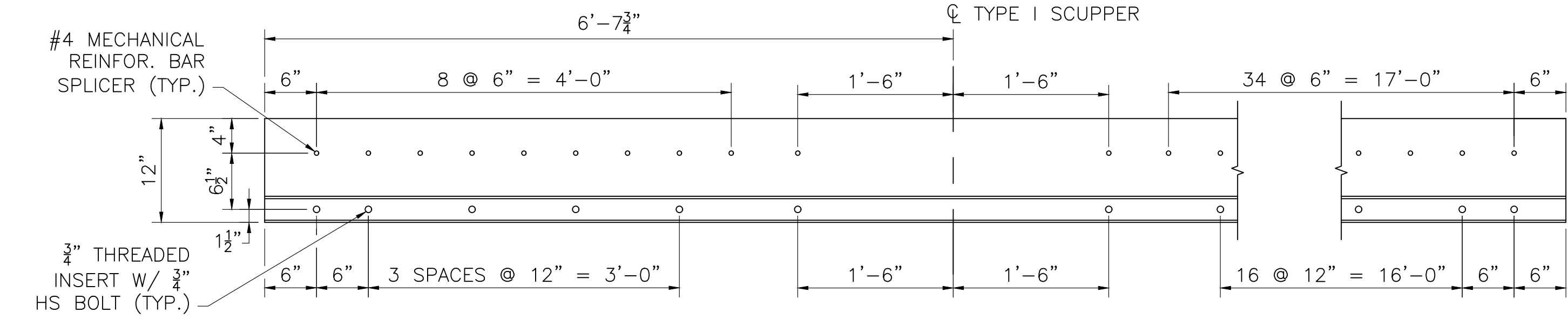
ATHOL
CRESCENT STREET OVER SLUICEWAY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	9	15
PROJECT FILE NO.		N/A	

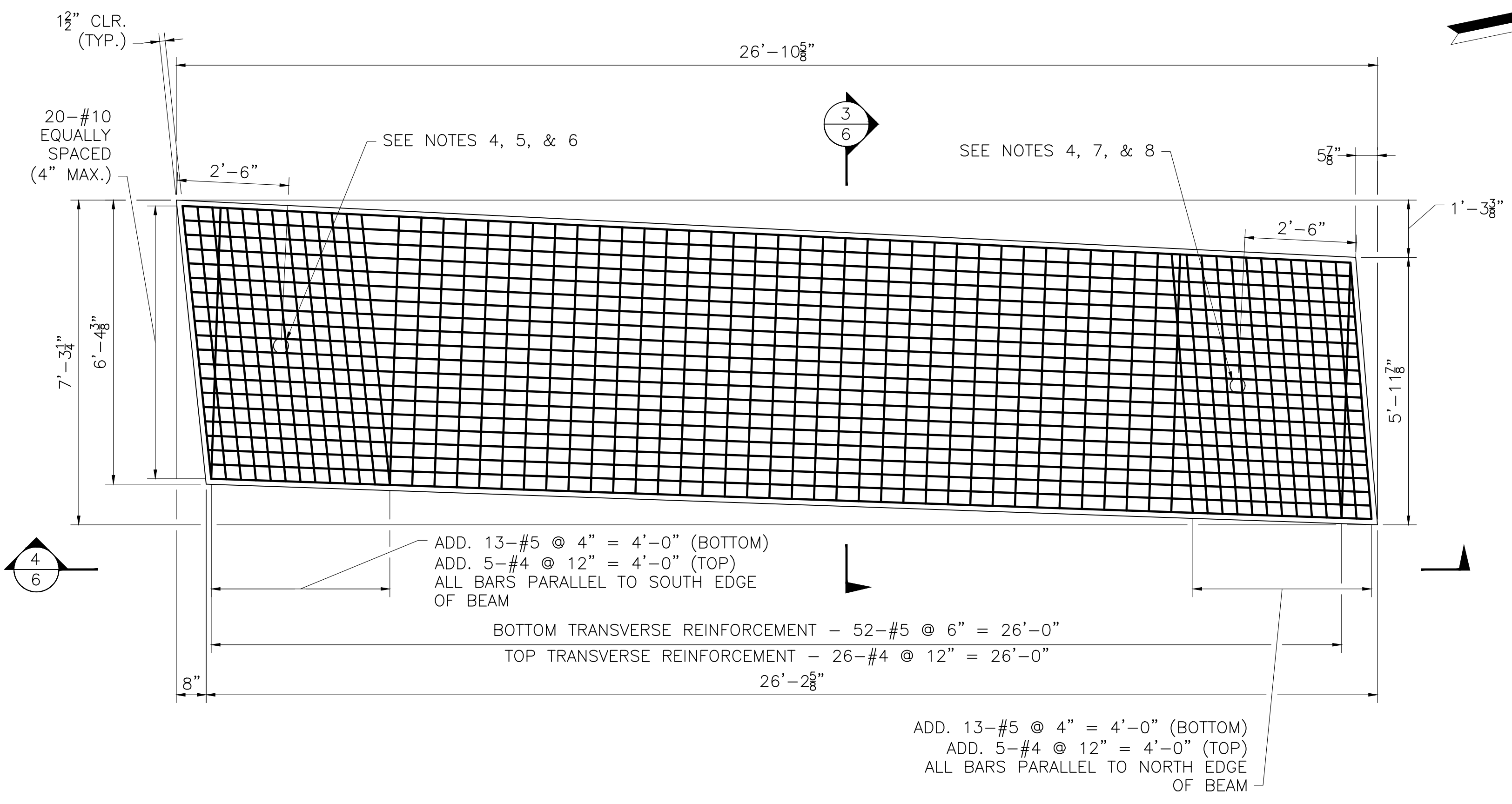
PRECAST BEAM DETAILS



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



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



PRECAST SIDEWALK BEAM REINFORCEMENT PLAN

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

- NOTES:**
1. STIRRUPS ARE NOT SHOWN FOR CLARITY.
 2. BOTTOM MAT IS SHOWN. TOP MAT IS SIMILAR.
 3. TYPICAL TRANSVERSE REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE EAST EDGE OF THE BEAM, UNLESS OTHERWISE SHOWN.
 4. INSTALL 4" Ø, FULL HEIGHT SLEEVE, LOCATED AT MID-WIDTH 2'-6" FROM EACH END AS SHOWN.
 5. PROVIDE FIXED JOINT AT SOUTH ABUTMENT BY UTILIZING THE 4" Ø HOLE TO CORE A SMALLER HOLE INTO THE TOP OF THE EXISTING SOUTH ABUTMENT.
 6. ONCE THE ANCHOR IS SET, FILL THE 4" Ø HOLE TO THE TOP WITH GROUT.
 7. PROVIDE AN EXPANSION JOINT AT THE NORTH ABUTMENT BY UTILIZING THE 4" Ø HOLE TO CORE A SMALLER HOLE INTO THE TOP OF THE NORTH ABUTMENT FOR ANCHORAGE OF ONE #4 DOWEL.
 8. ONCE THE ANCHOR IS SET, PLACE A 1 1/2" Ø SLEEVE CENTERED AROUND THE #4 DOWEL. FILL 1 1/2" Ø SLEEVE WITH JOINT SEALANT AND CAP IT. FILL HOLE AROUND INNER SLEEVE WITH GROUT.

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS GEN. LAWS CH 85 S 35
2/3/25
DISTRICT BRIDGE ENGINEER DATE

February 3, 2025

MONTH DD, YYYY	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

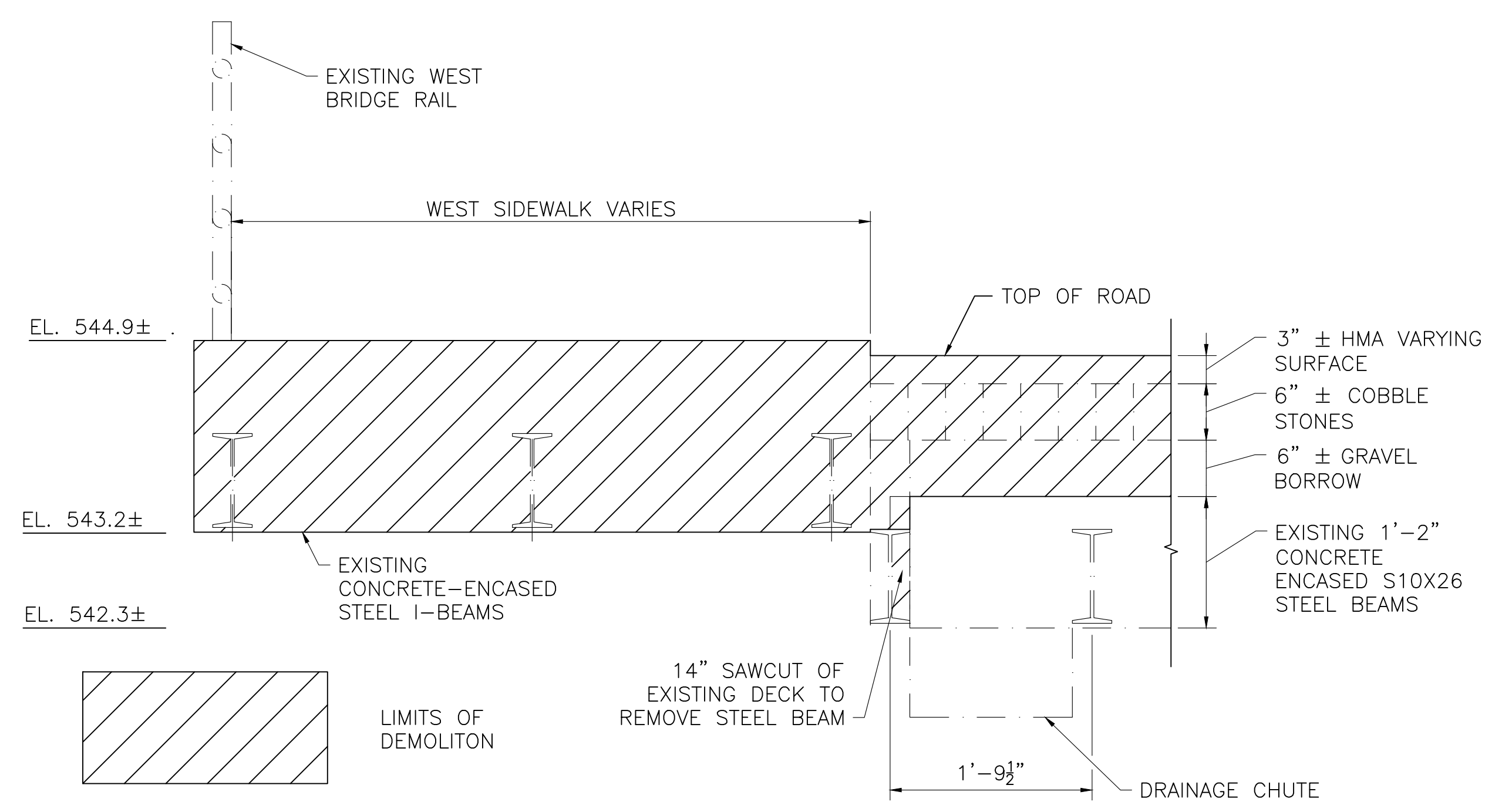
USE ONLY PRINTS OF LATEST DATE

BR6 (PRECAST BEAM DETAILS) DWG Plotted on 26-Jan-2025 2:33 PM Xxxxx Structural/Sketch Plans Submittal (S#/SK#) DD-Month-YYYY

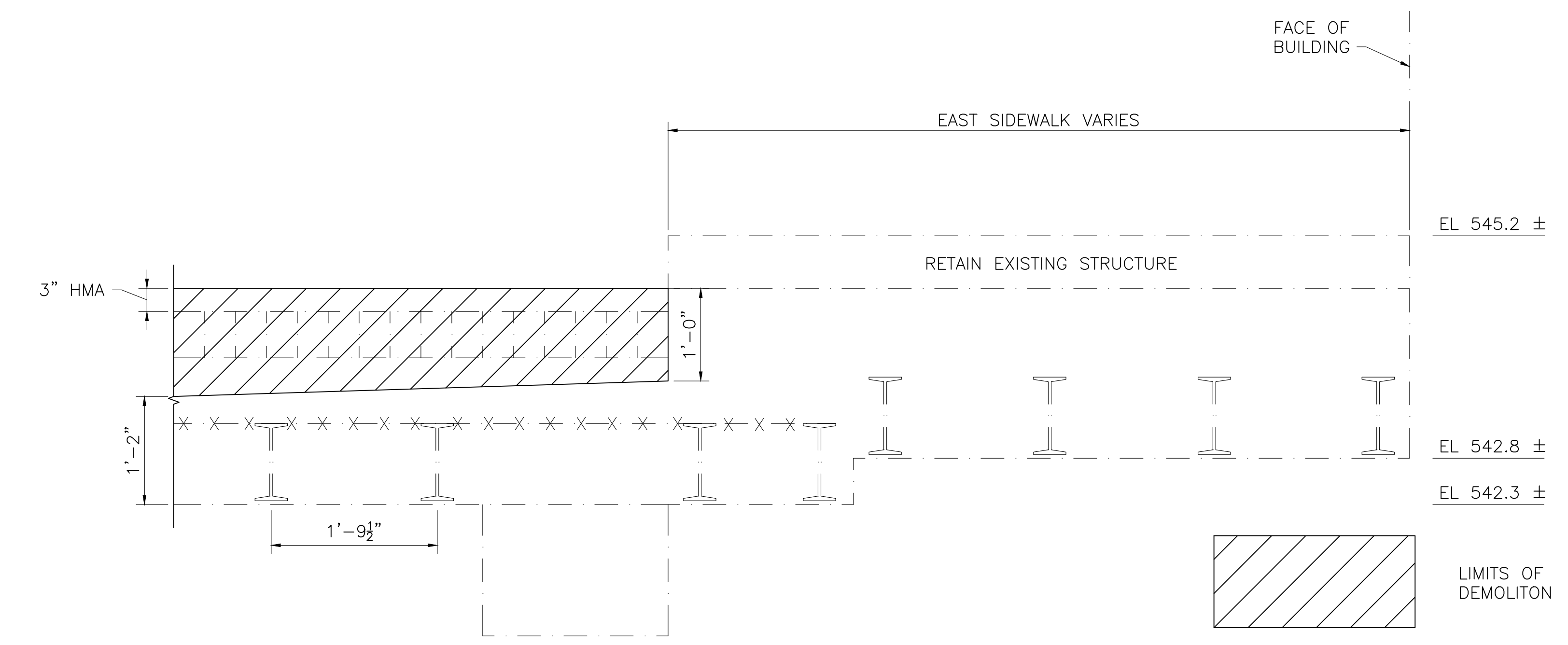
**ATHOL
CRESCENT STREET OVER SLUICeway**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	10	15
PROJECT FILE NO.		N/A	

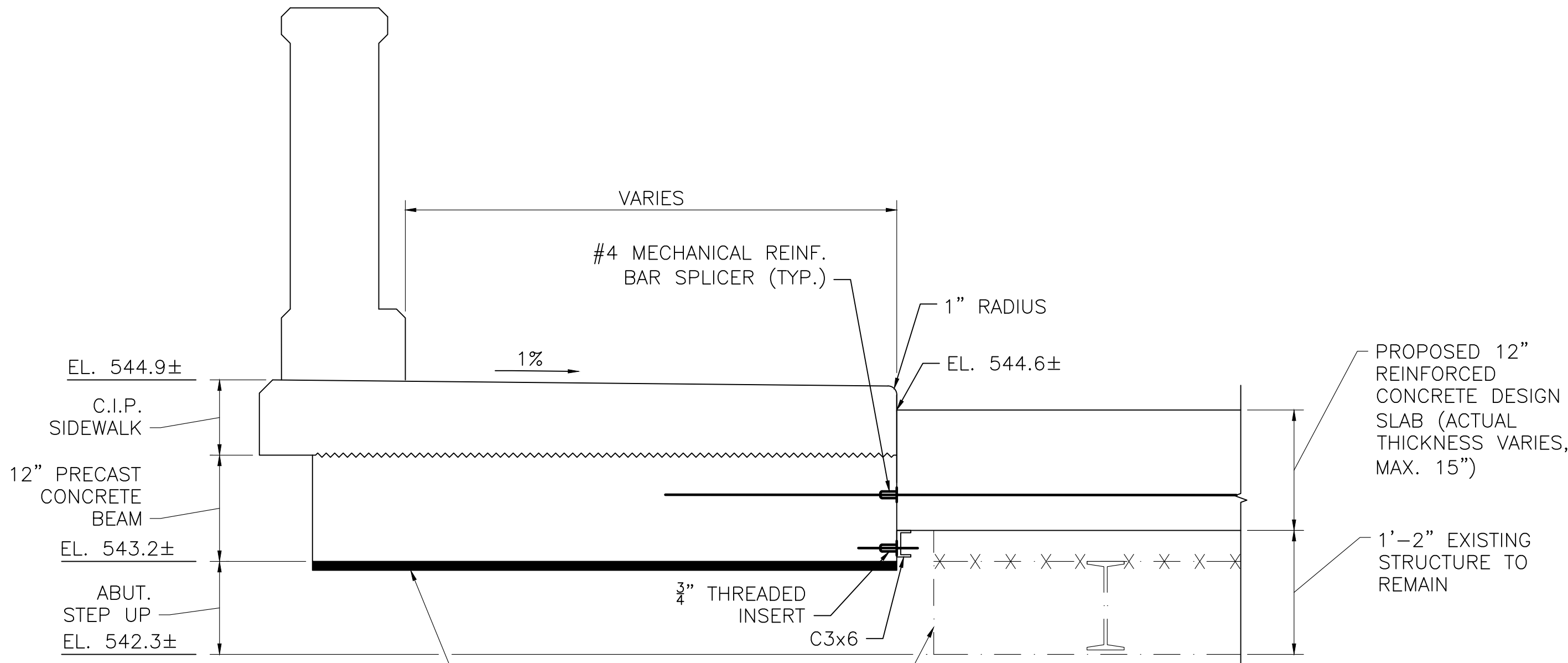
DETAILS AT CURBS



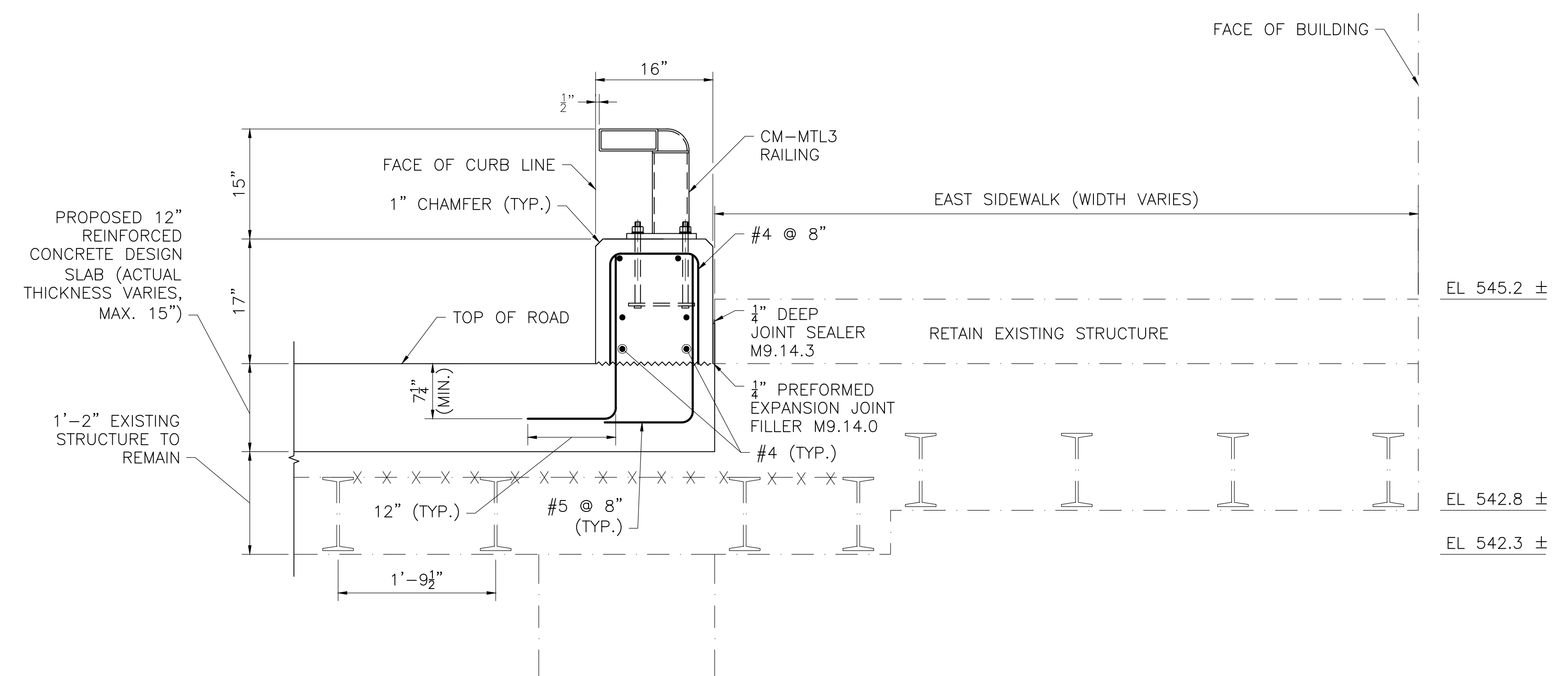
EXISTING BRIDGE DEMOLITION AT WEST CURB
SCALE: 1" = 1'-0"



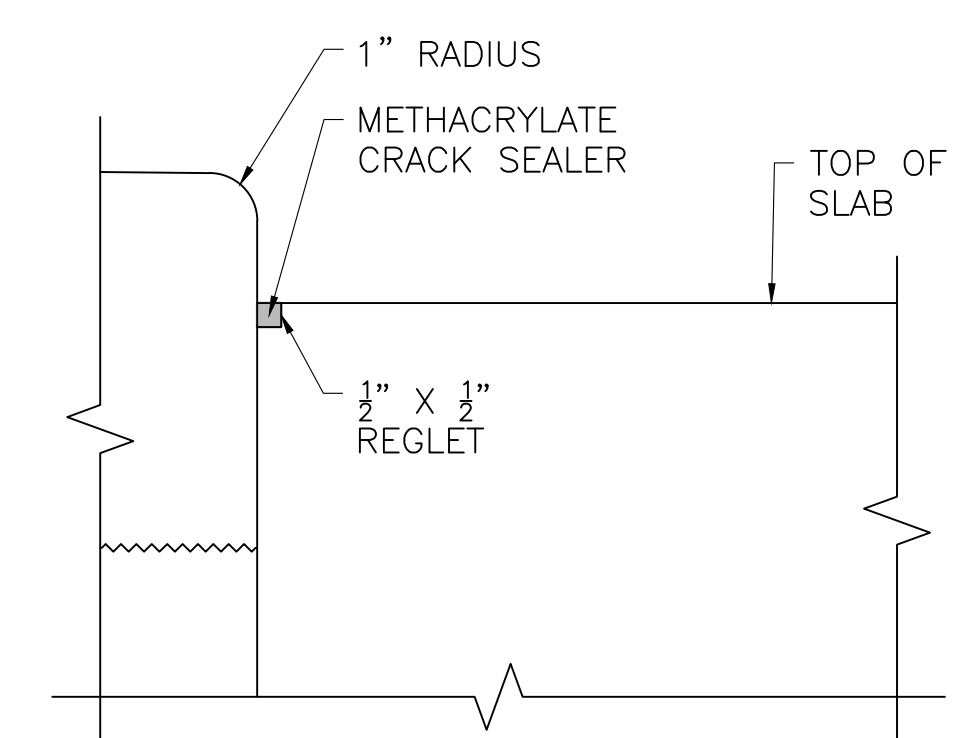
EXISTING BRIDGE DEMOLITION AT EAST CURB
SCALE: 1" = 1'-0"



SECTION AT WEST CURB
SCALE: 1" = 1'-0"



SECTION AT EAST CURB
SCALE: 1" = 1'-0"



FACE OF SIDEWALK CURB DETAILS
SCALE: 3" = 1'-0"

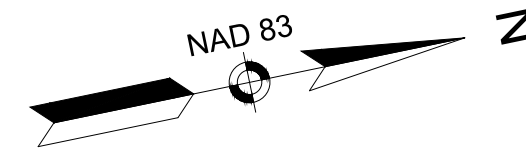
NOTES:

- METHACRYLATE CRACK SEALER SHALL BE APPLIED INTO THE 1/2" REGLET AFTER SIDEWALK CURING PERIOD IS COMPLETE AND IN ACCORDANCE WITH REQUIREMENTS OF MANUFACTURER AND THE STANDARD SPECIFICATIONS.
- BEFORE SEALING, THE CONCRETE AT THE INTERFACE OF DECK AND CURB SHALL BE SWEEPED CLEAN AND BLOWN OFF USING OIL FREE COMPRESSED AIR IMMEDIATELY PRIOR TO APPLYING THE SEALER.

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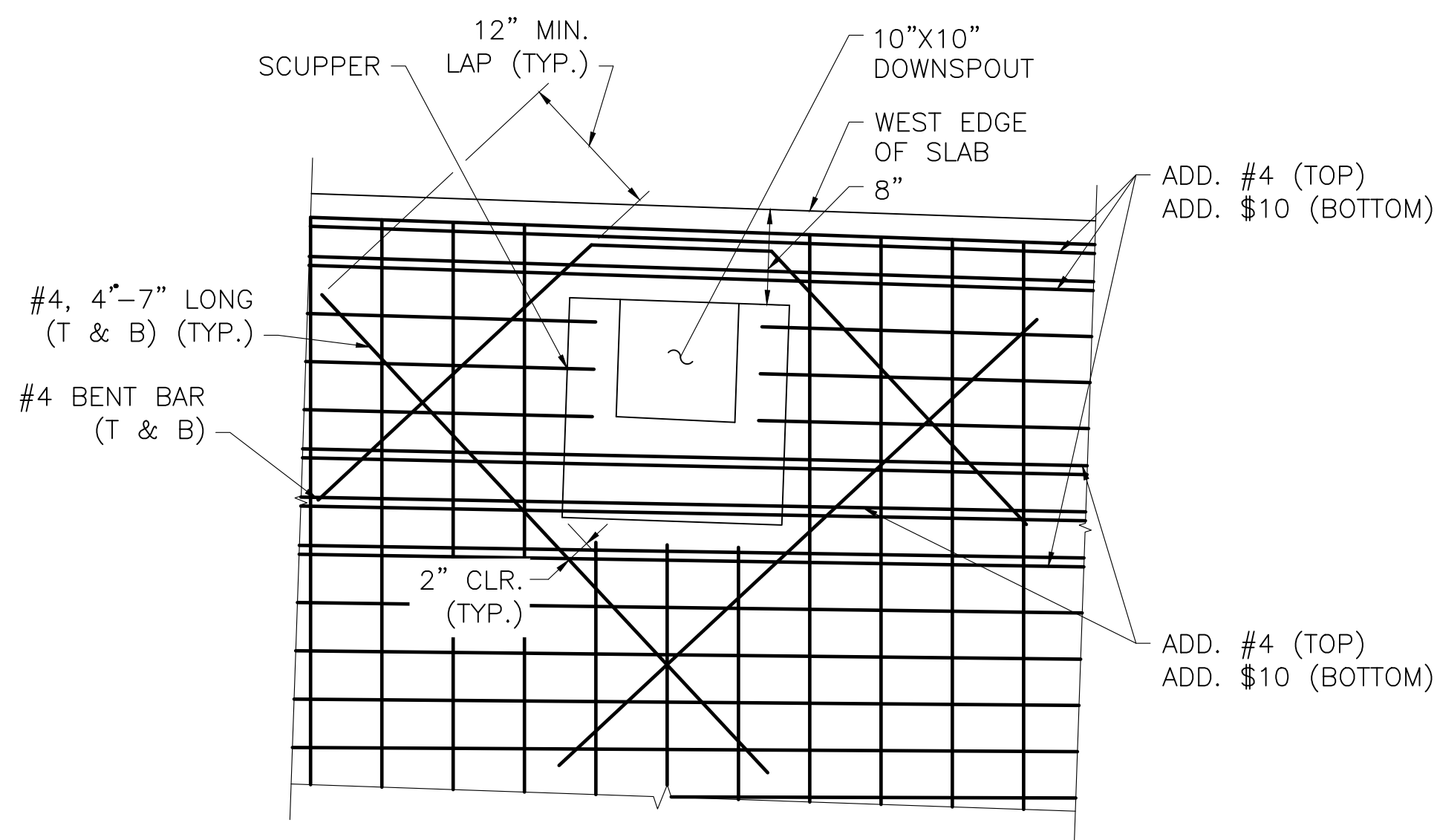
BRY (DETAILS AT CURBS) DWG Plotted on 26-Jan-2025 2:33 PM DD-Month-YYYY XXXXX Structural/Sketch Plans Submittal (S#/SK#)



**ATHOL
CRESCENT STREET OVER SLUICeway**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	11	15
PROJECT FILE NO.		N/A	

SCUPPER DETAILS

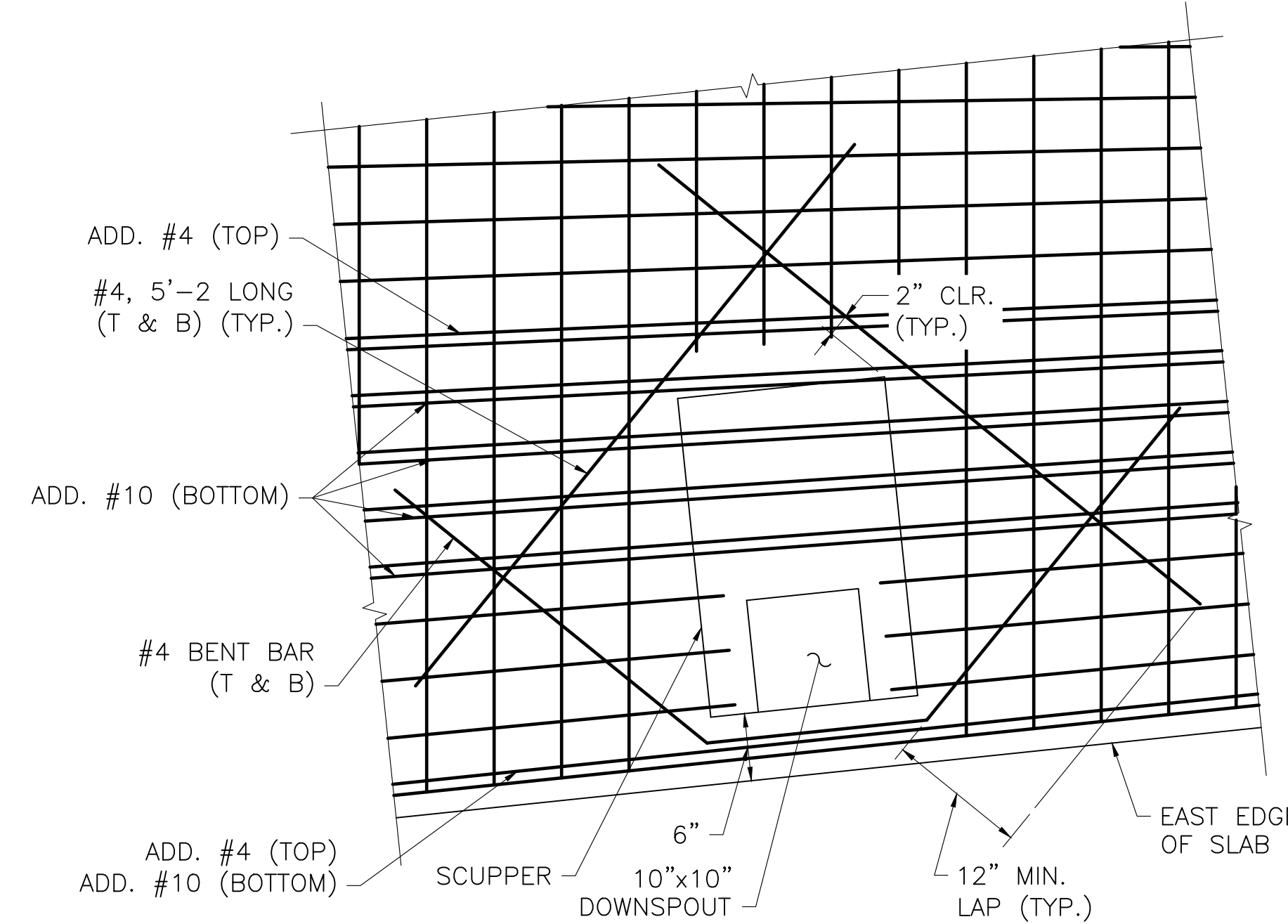


NOTE:

ALL ADDITIONAL REBAR PARALLEL TO DIRECTION OF TRAFFIC IS 13'-0" LONG AND CENTERED AT THE SCUPPER

PLAN OF DECK REINFORCEMENT AT WEST CURB TYPE I SCUPPER

SCALE: 1" = 1'-0"

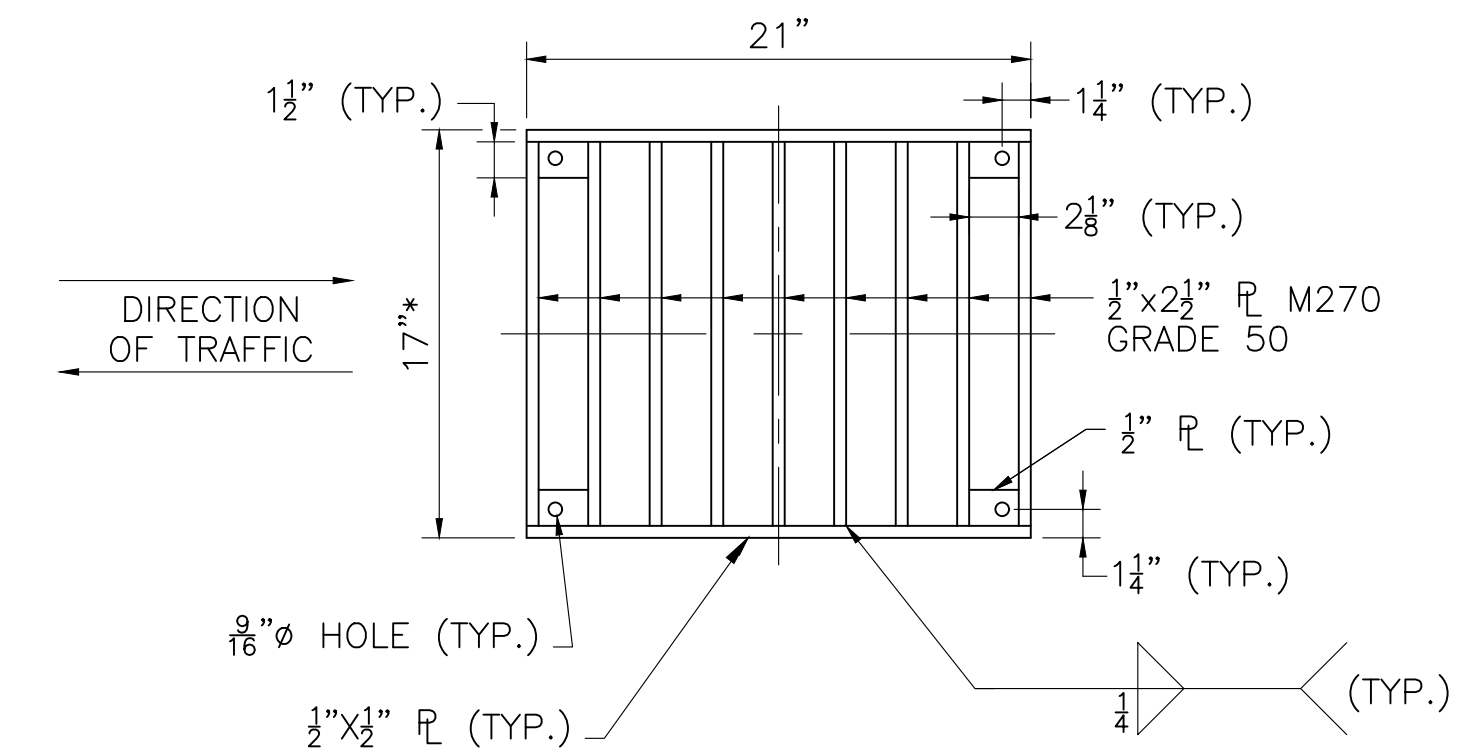


NOTE:

ALL ADDITIONAL REBAR PARALLEL TO DIRECTION OF TRAFFIC IS 13'-0" LONG AND CENTERED AT THE SCUPPER

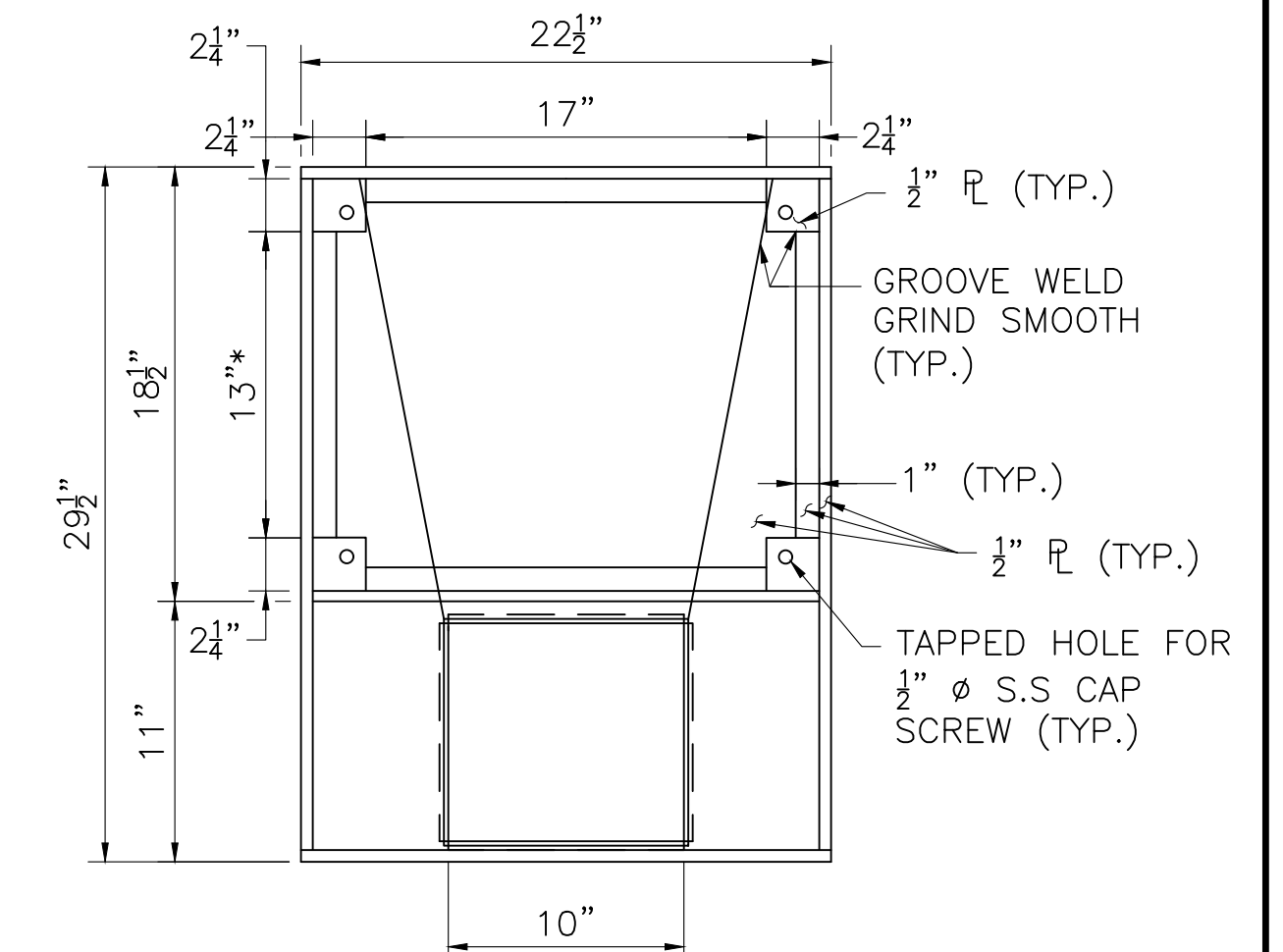
PLAN OF DECK REINFORCEMENT AT EAST CURB TYPE II SCUPPER

SCALE: 1" = 1'-0"



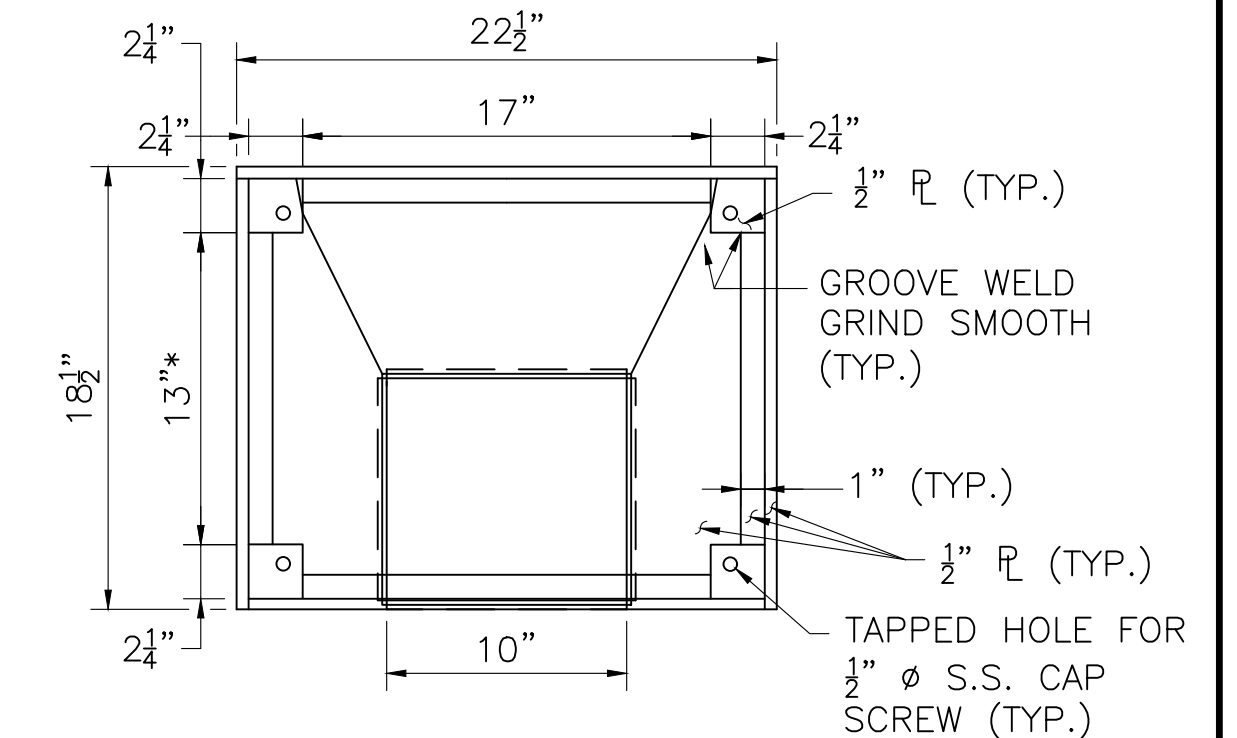
PLAN OF GRATING

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



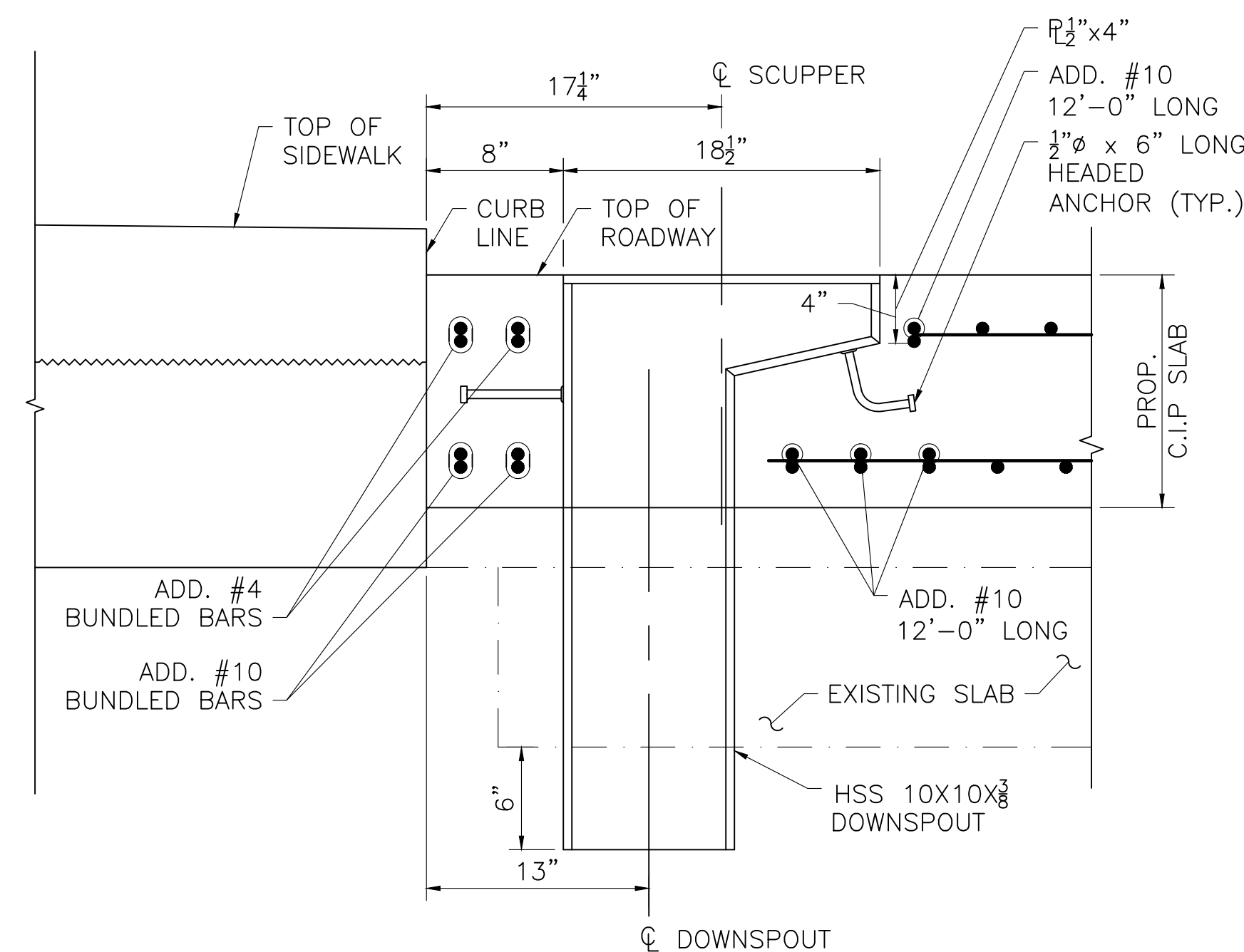
PLAN OF TYPE II SCUPPER

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



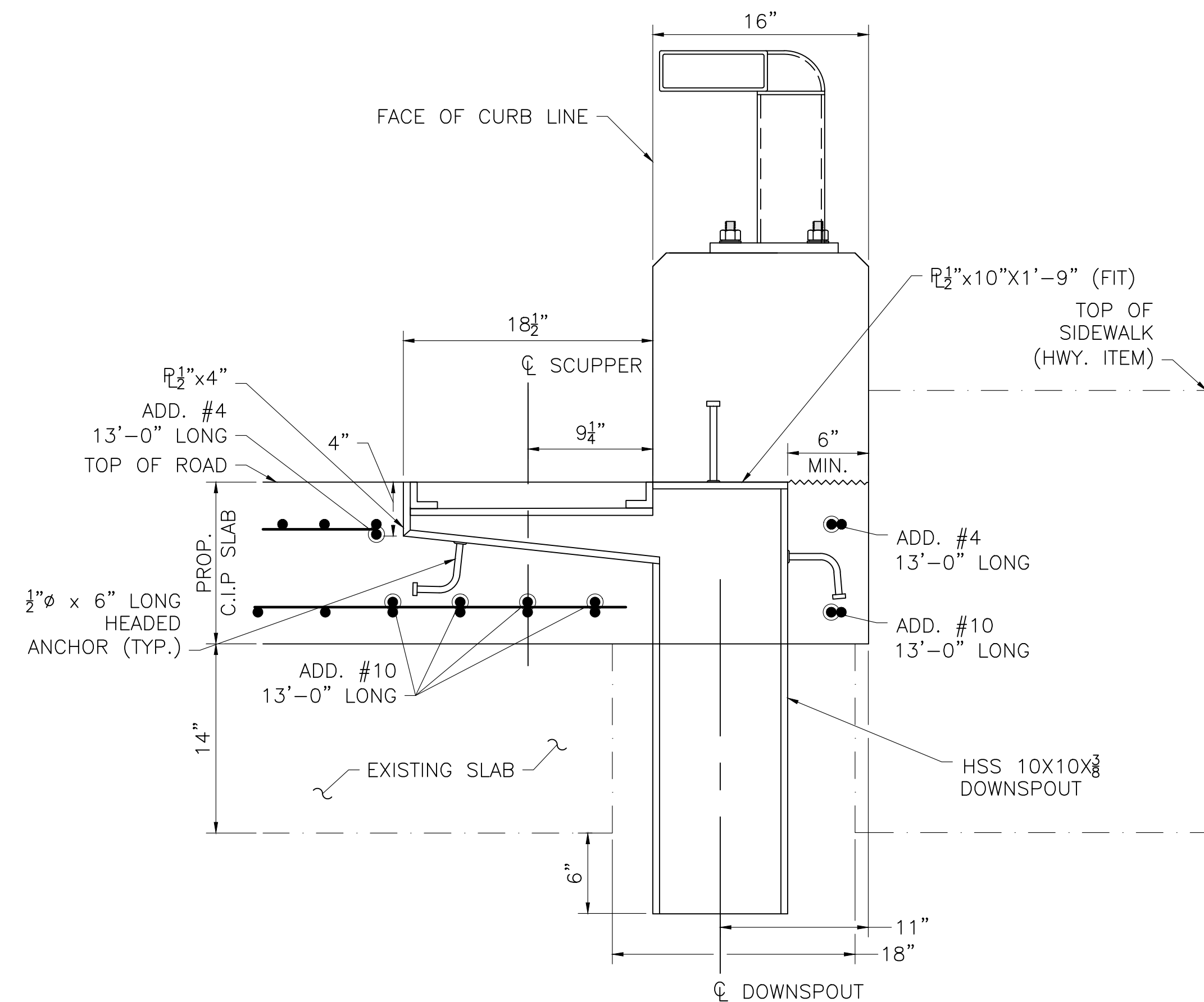
PLAN OF TYPE I SCUPPER

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



SECTION OF TYPE I SCUPPER

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



SECTION OF TYPE II SCUPPER

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

NOTES:

- ALL STEEL PLATES SHALL BE AASHTO M270 GRADE 36 AND SQUARE TUBE SHALL BE ASTM A500 GRADE A OR B.
- ALL WELDS SHALL BE CONTINUOUS. ALL JOINTS SHALL BE WELDED USING TWO-SIDED 1/4" FILLET WELDS OR 1/4" PJP WELDS WITH A BACKING SEAL WELD, AS APPLICABLE.
- ALL STEEL TO BE HOT-DIP GALVANIZED. 10" SQUARE TUBE TO BE GALVANIZED.

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2/3/25
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February 3, 2025

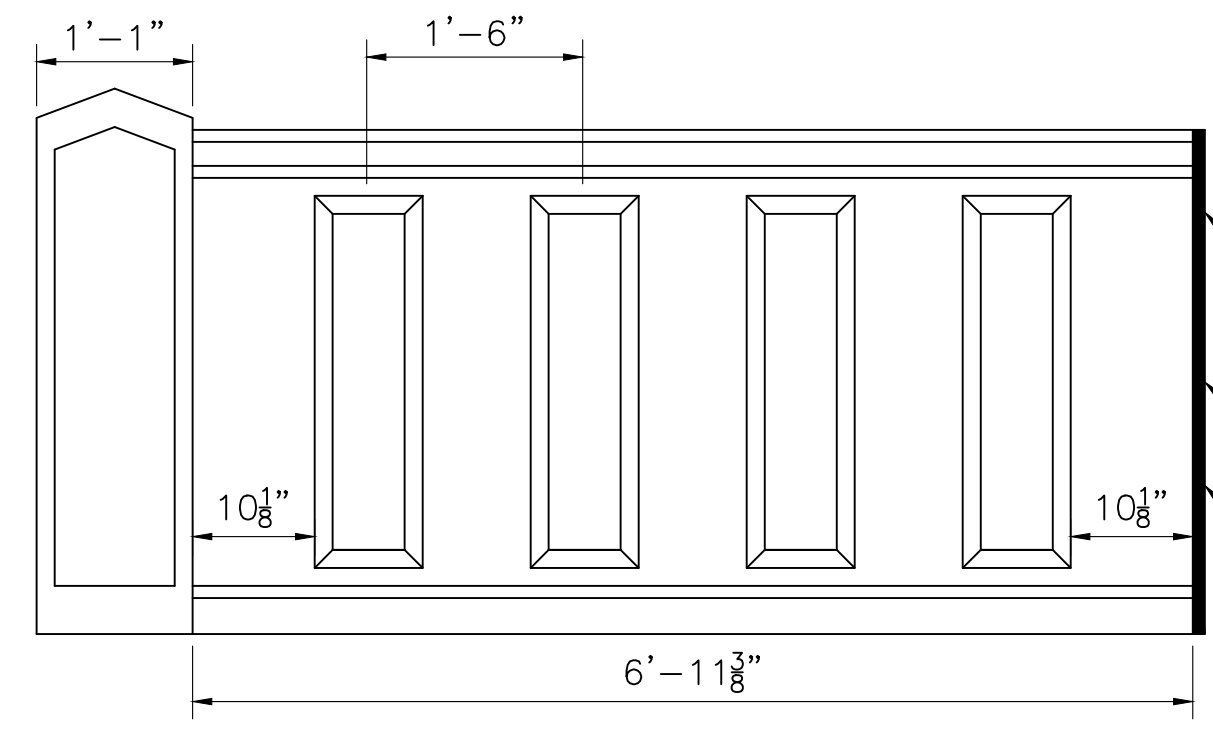
MONTH DD, YYYY	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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**ATHOL
CRESCENT STREET OVER SLUICeway**

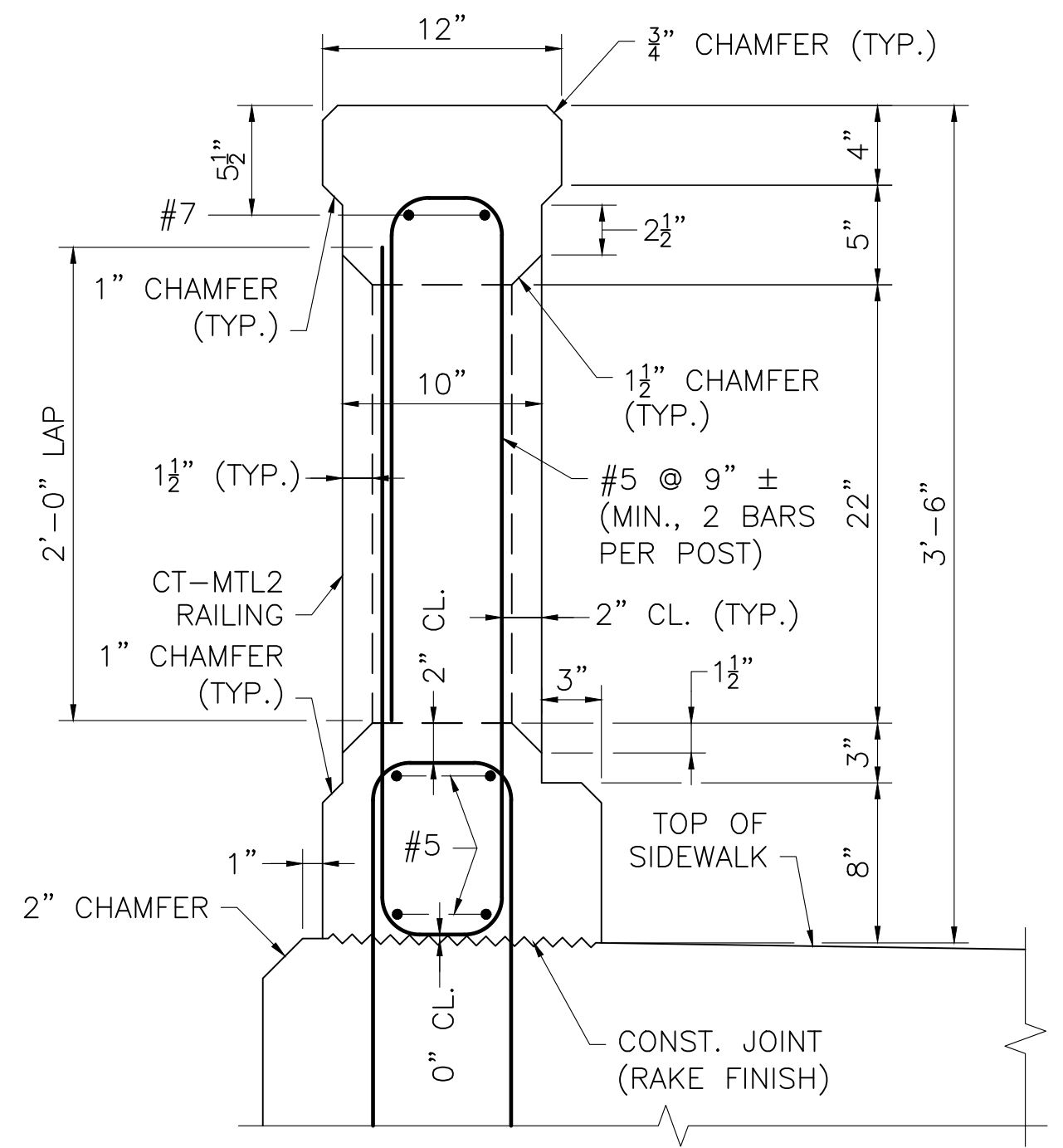
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MA	#####	12	15
PROJECT FILE NO.		N/A	

CT-MTL2 BRIDGE RAILING DETAILS

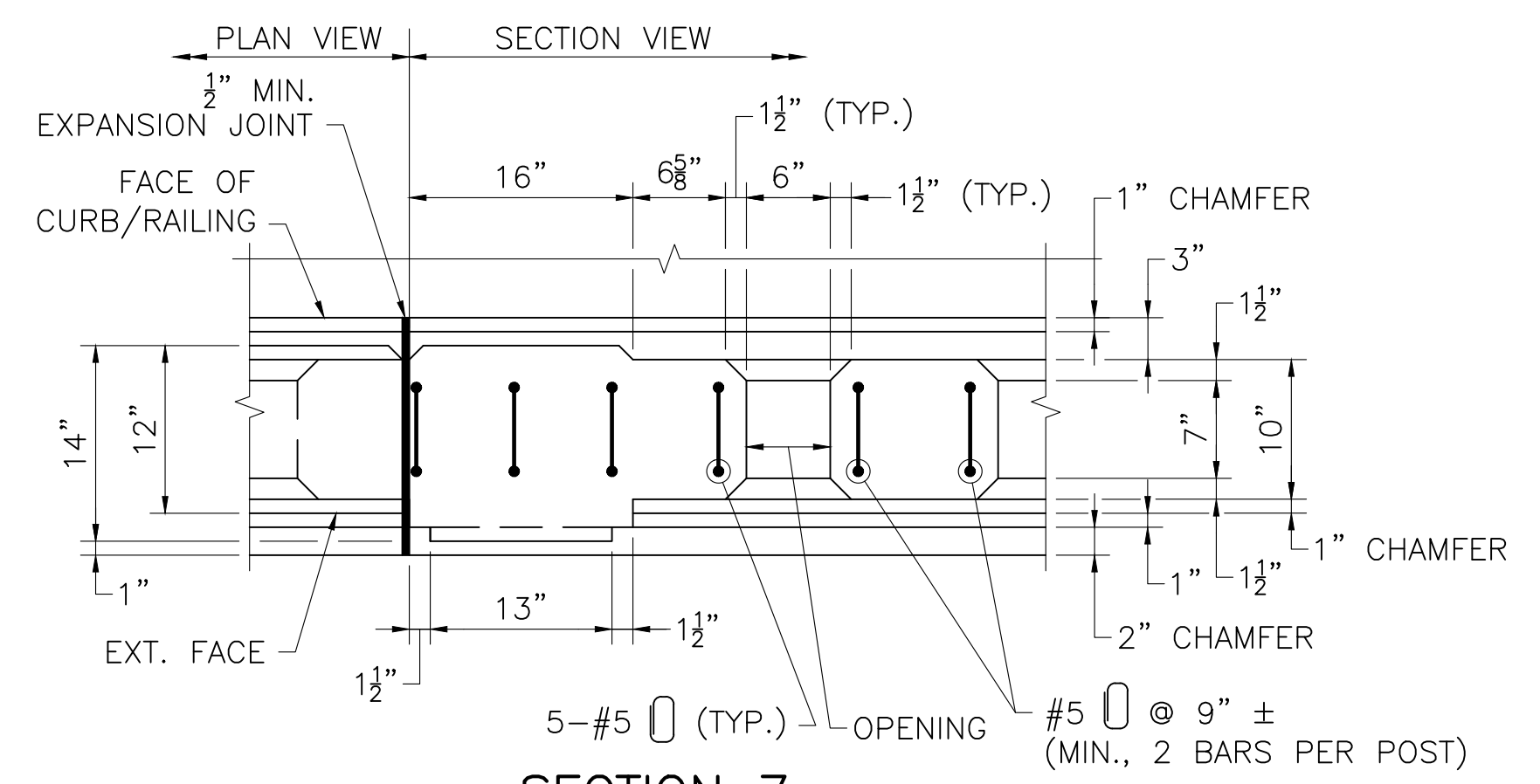


SECTION 8
SCALE: 3/4" = 1'-0"

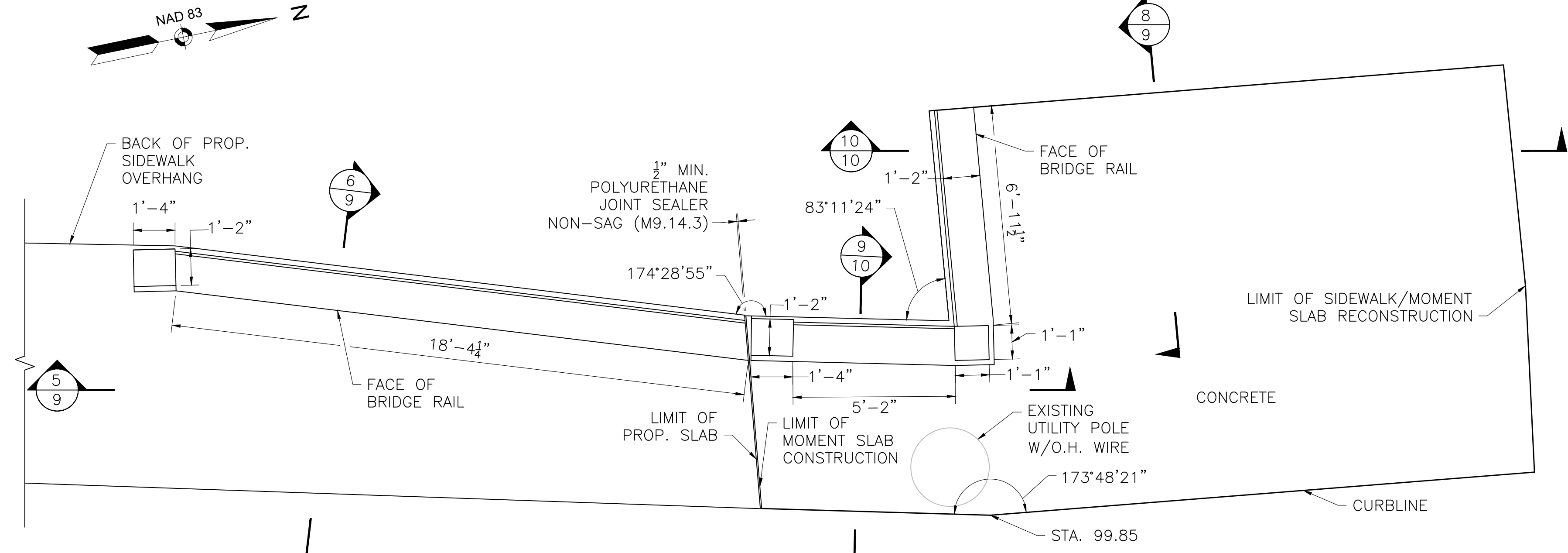
1" POLYURETHANE JOINT SEALER NON-SAG (M9.14.4)
1" THICK CLOSED CELL FOAM
FACE OF BUILDING



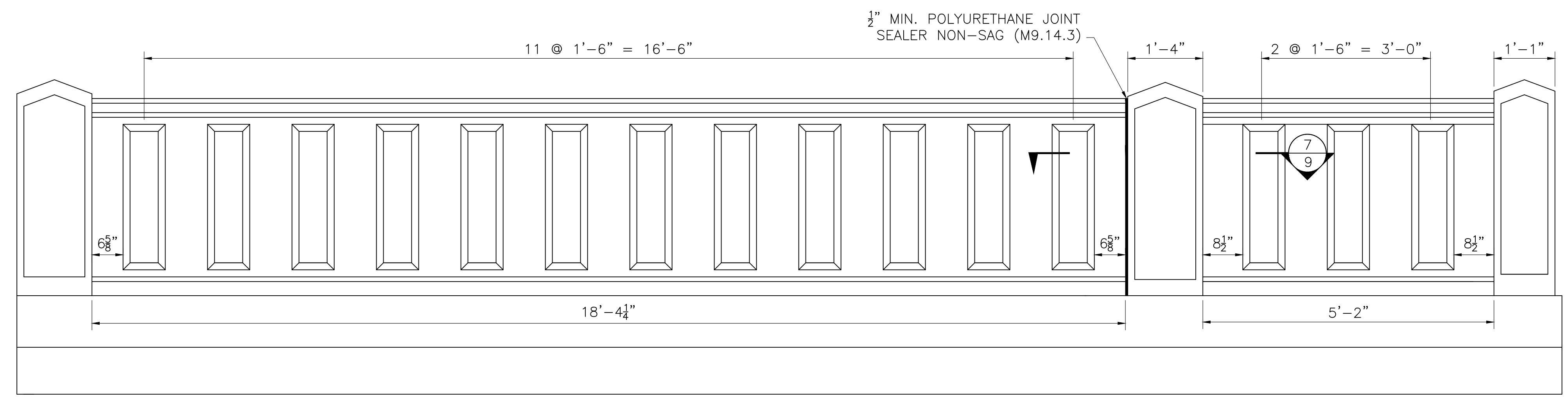
SECTION THRU RAILING
SCALE: 3/4" = 1'-0"



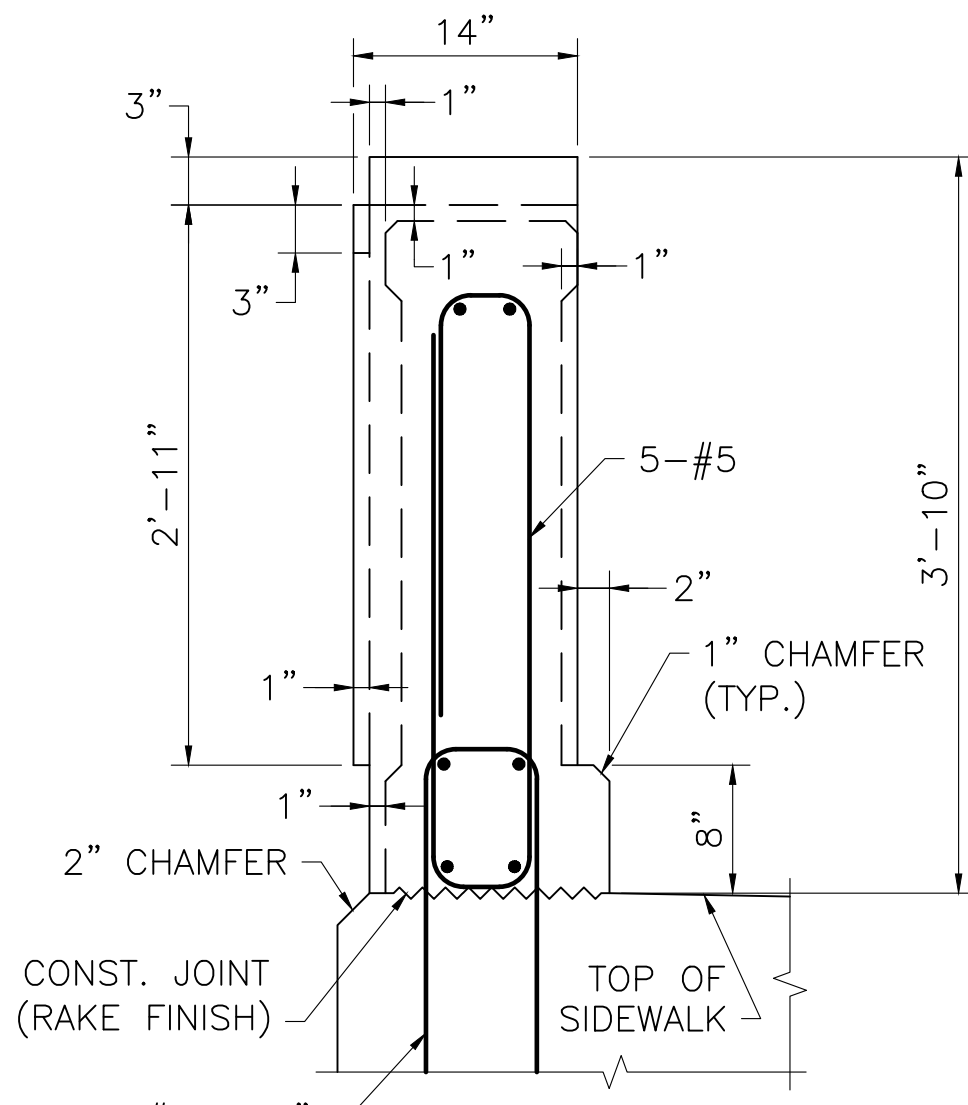
SECTION 7
SCALE: 1" = 1'-0"



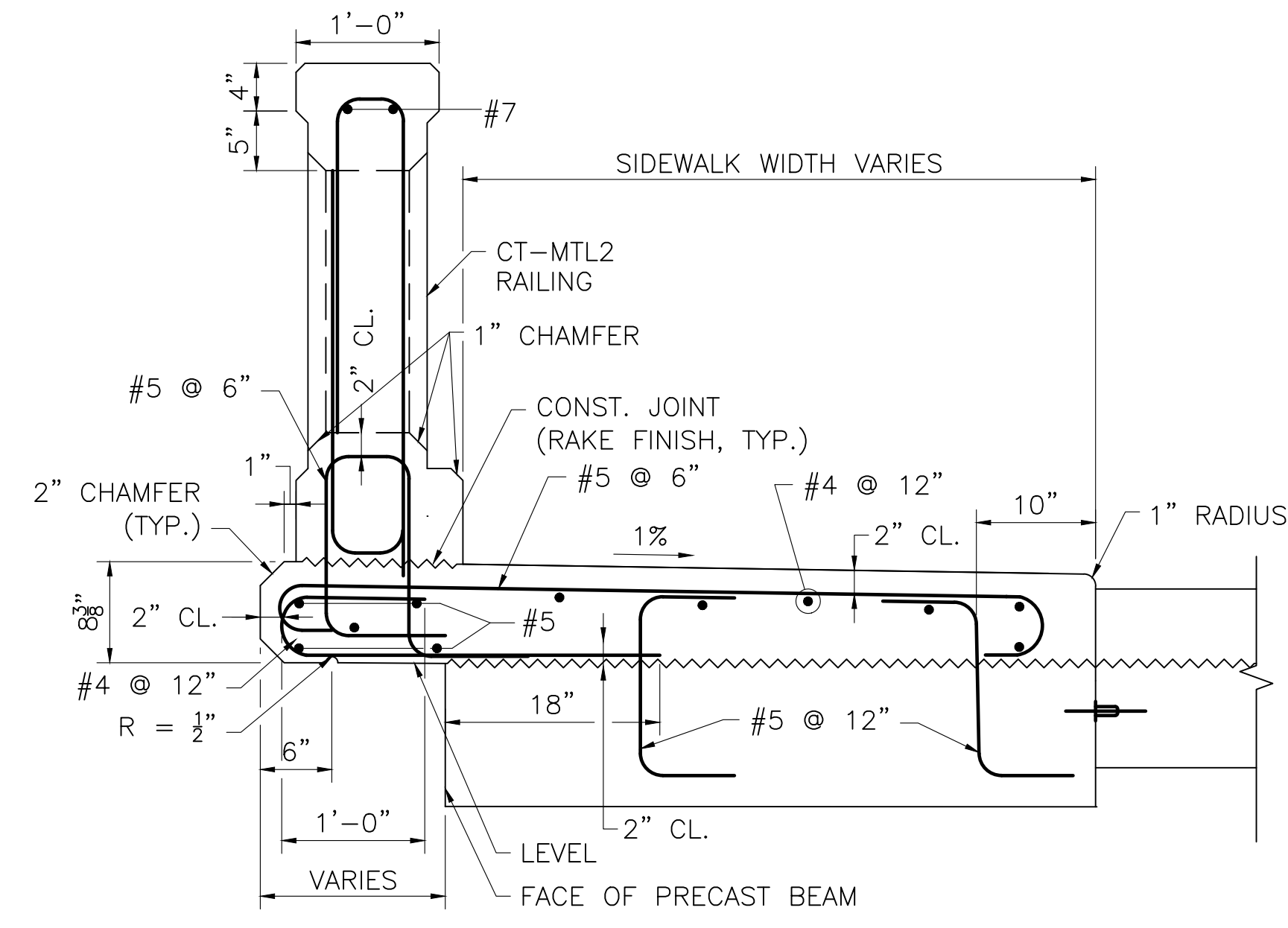
PLAN AT NORTHWEST CORNER
SCALE: 3/8" = 1'-0"



SECTION 5
SCALE: 3/4" = 1'-0"



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



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

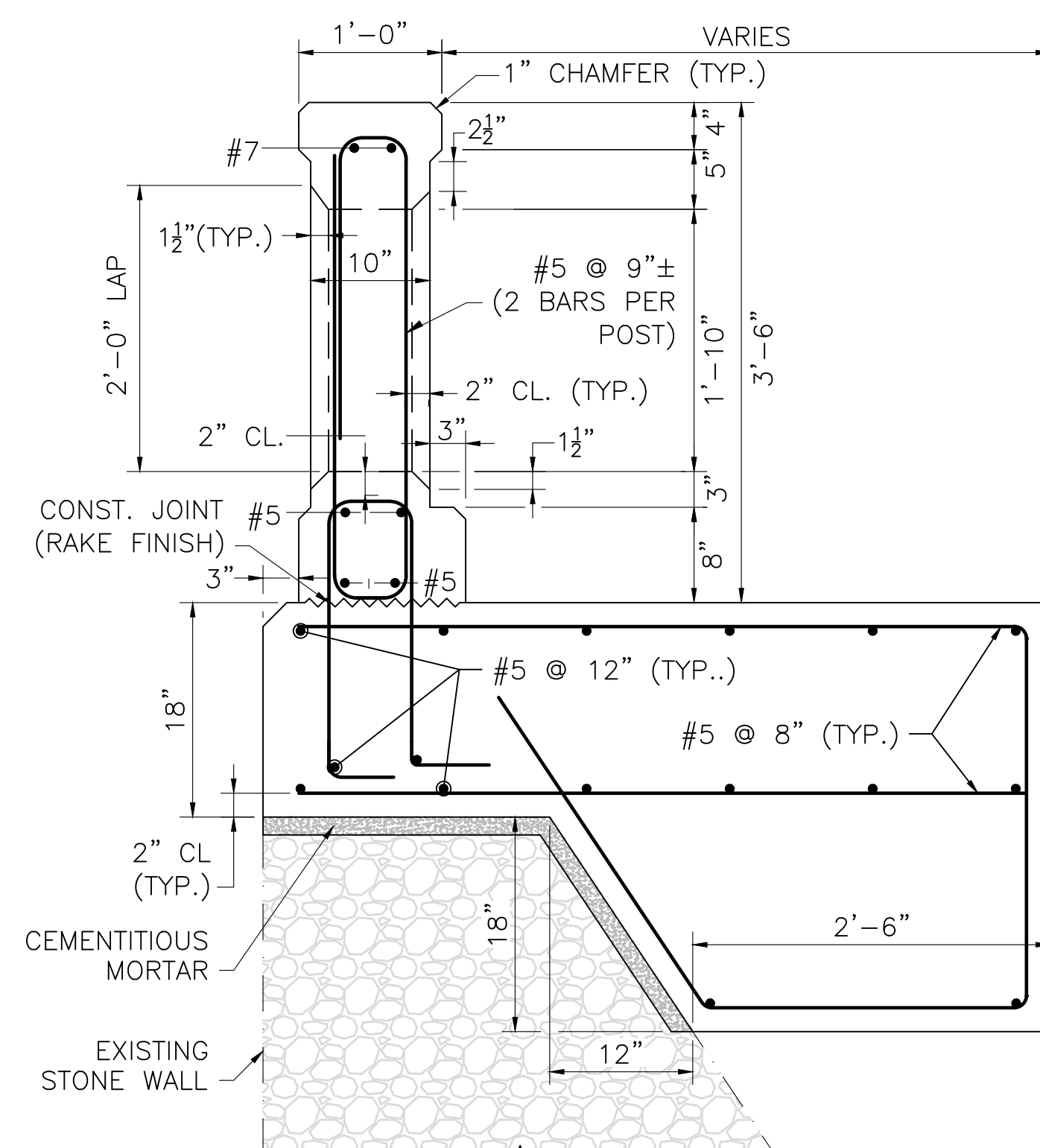
COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
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DISTRICT BRIDGE ENGINEER 2/3/25 DATE

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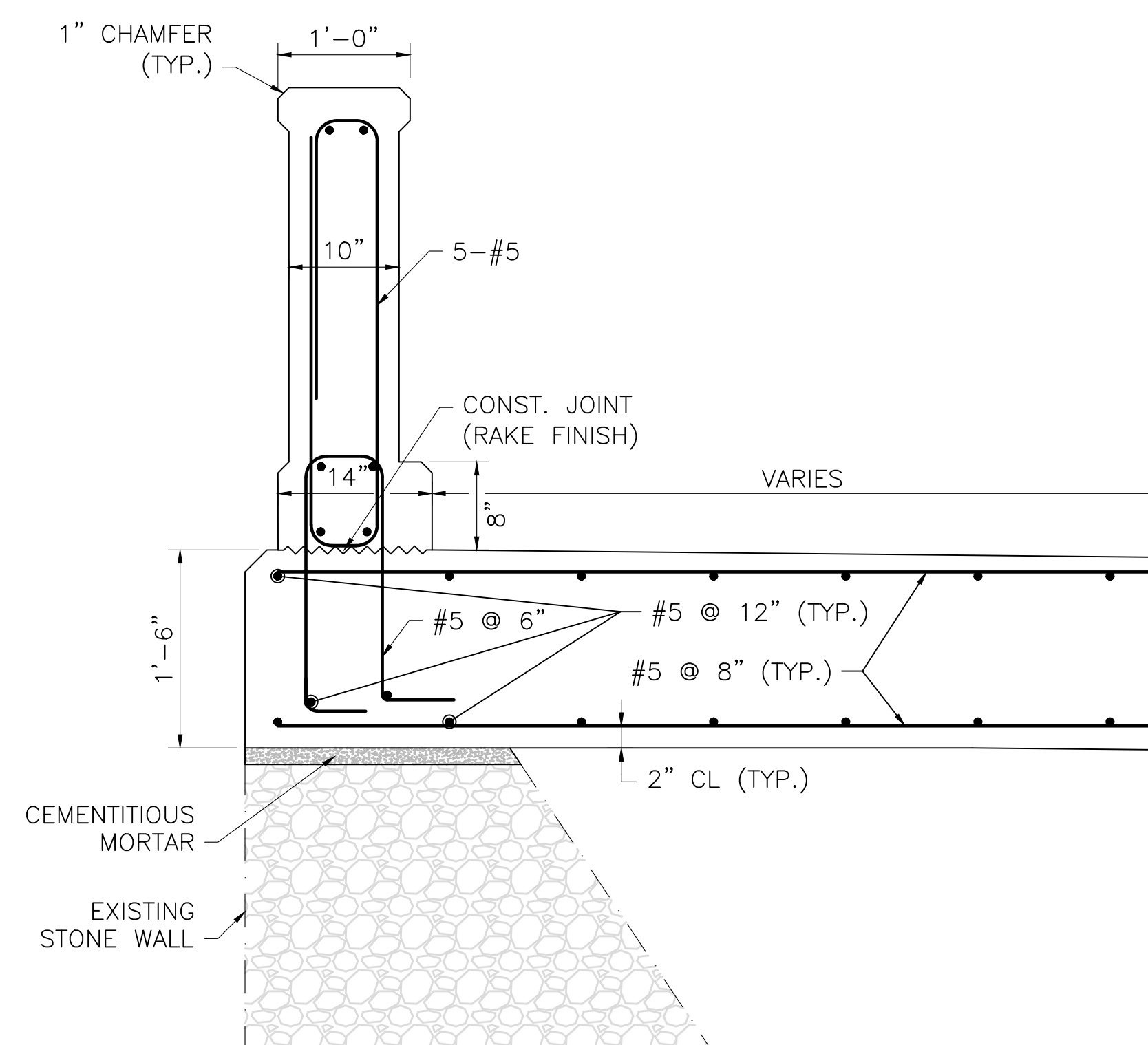
ATHOL
CRESCENT STREET OVER SLUICeway

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	13	15
PROJECT FILE NO.		N/A	

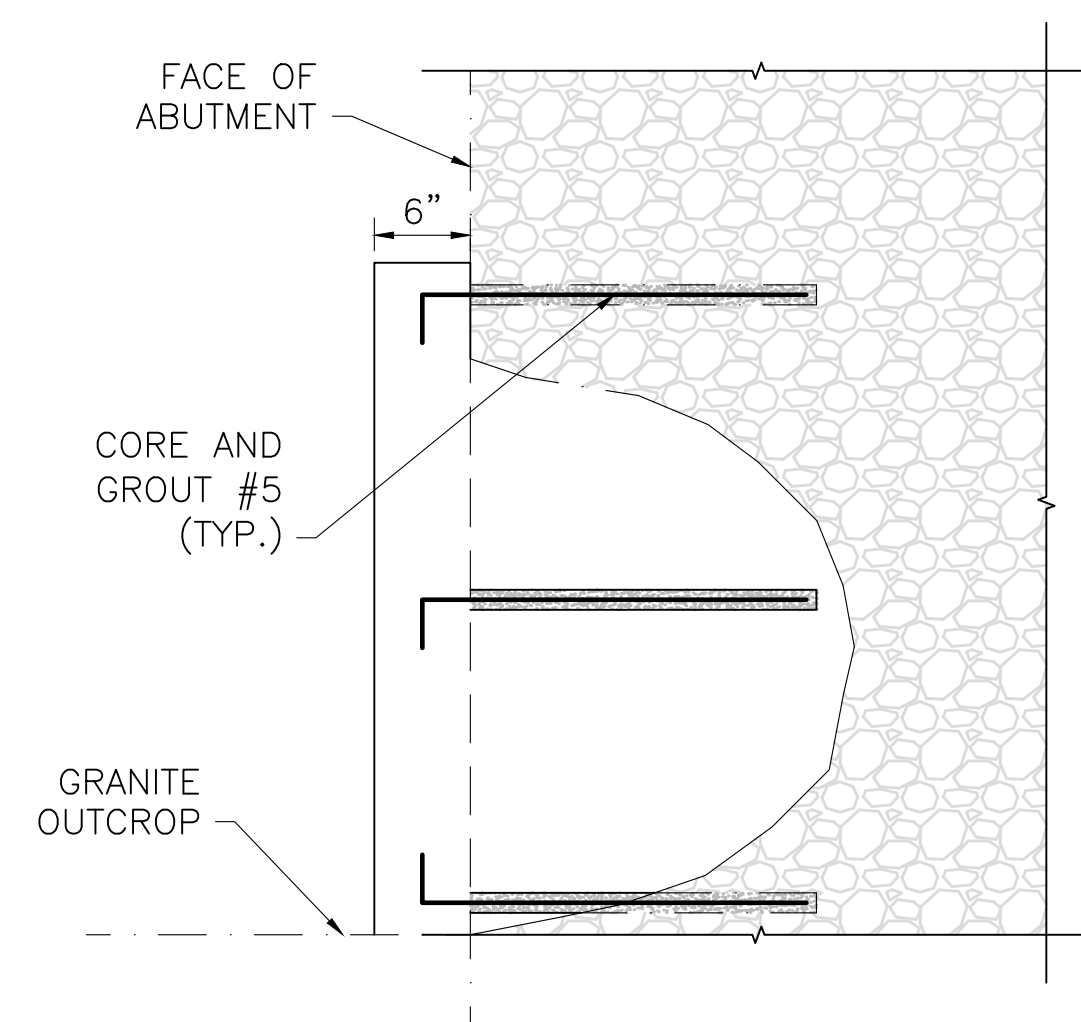
MOMENT SLAB DETAILS



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

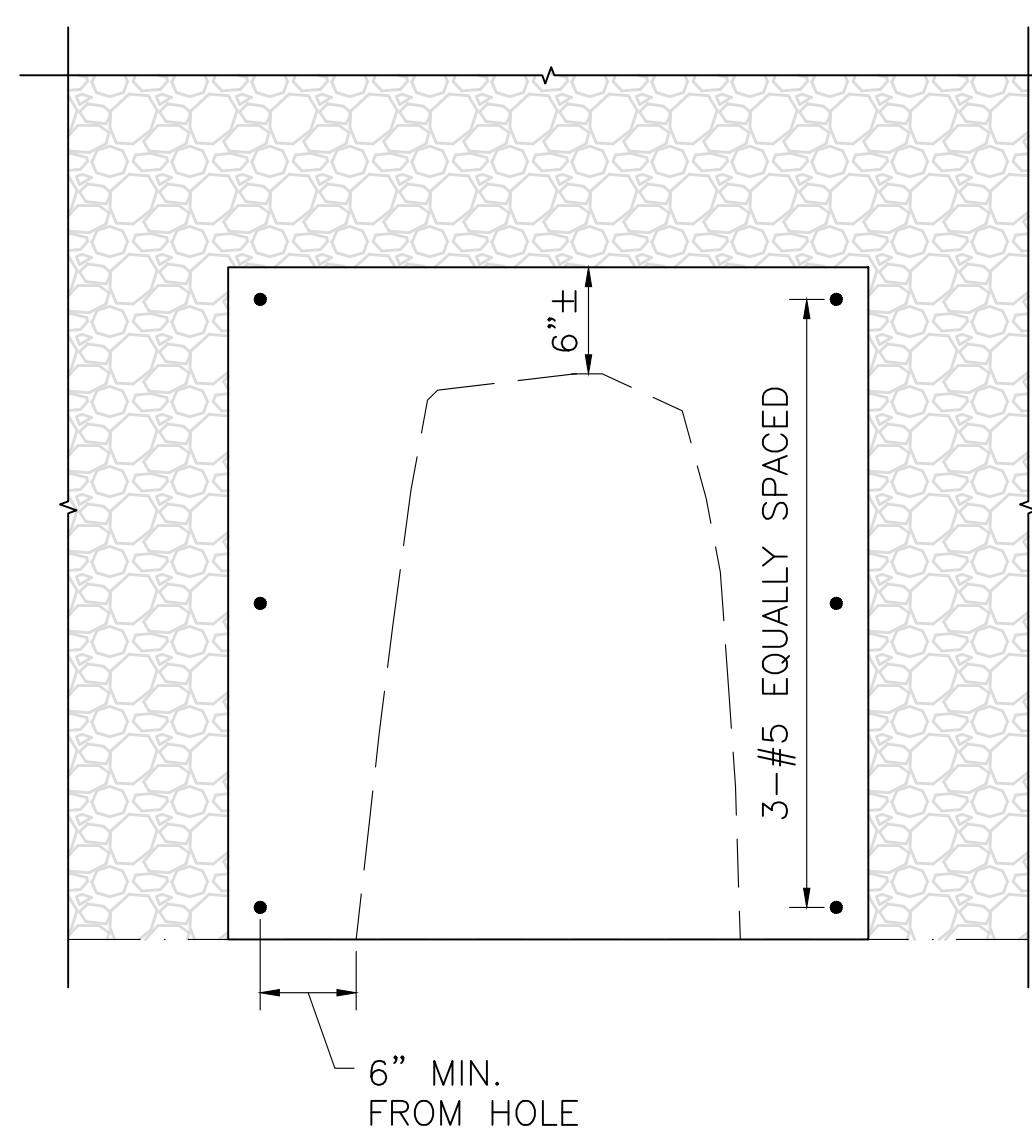


SECTION 10
SCALE: 1" = 1'-0"



- NOTES:
- REPAIR WITH 5000 PSI 3/8" 710 HP CEMENT CONCRETE
 - HOLE IS LOCATED AT THE BASE OF THE SOUTH ABUTMENT APPROXIMATELY 20 FEET FROM THE WEST FASCIA

SECTION AT SOUTH ABUTMENT REPAIR
NOT TO SCALE

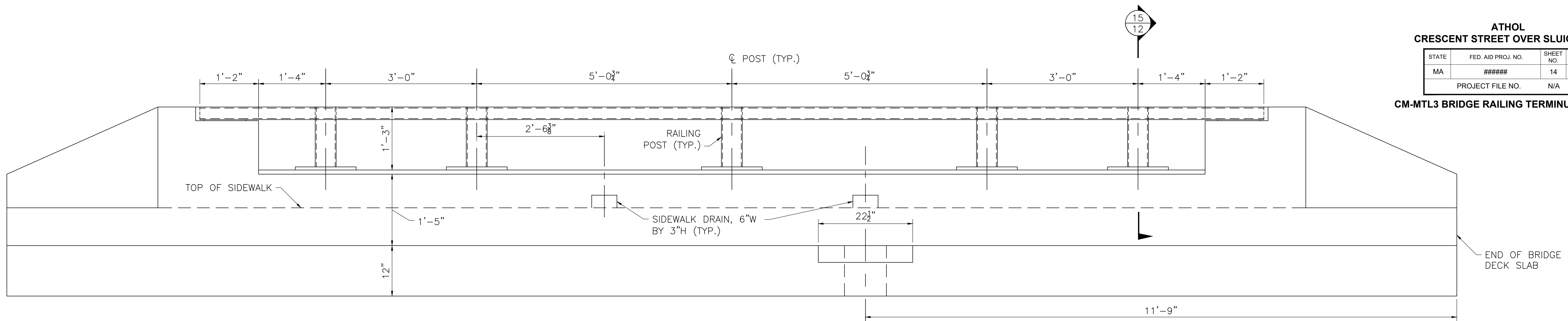


ELEVATION AT SOUTH ABUTMENT REPAIR
NOT TO SCALE

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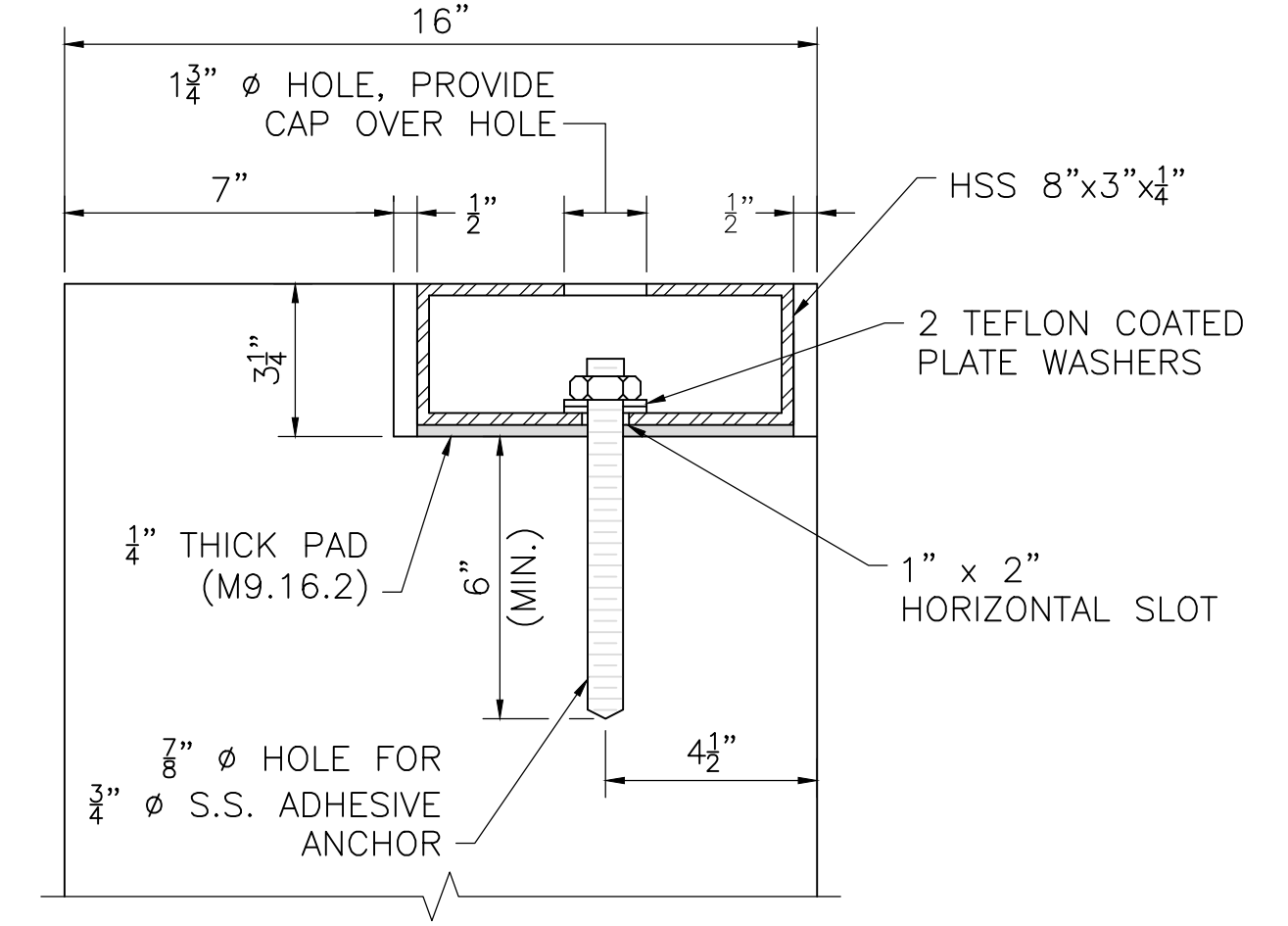
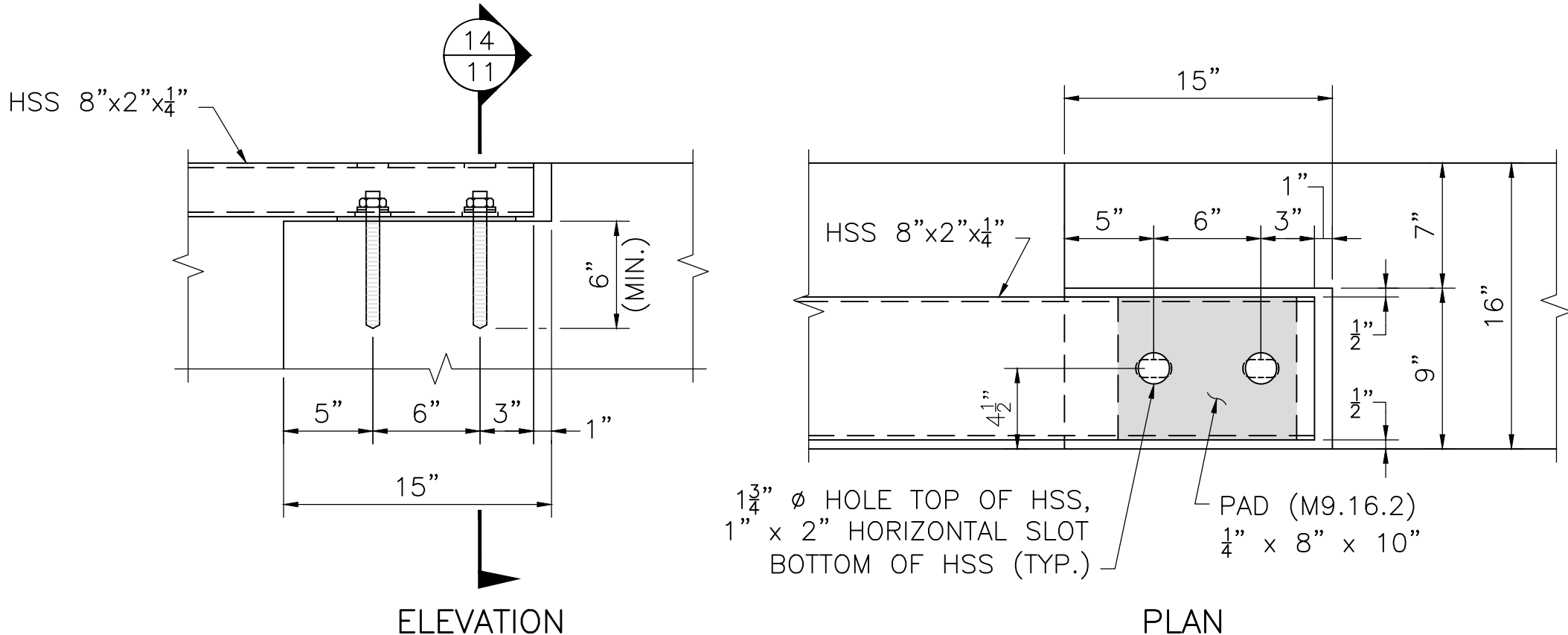
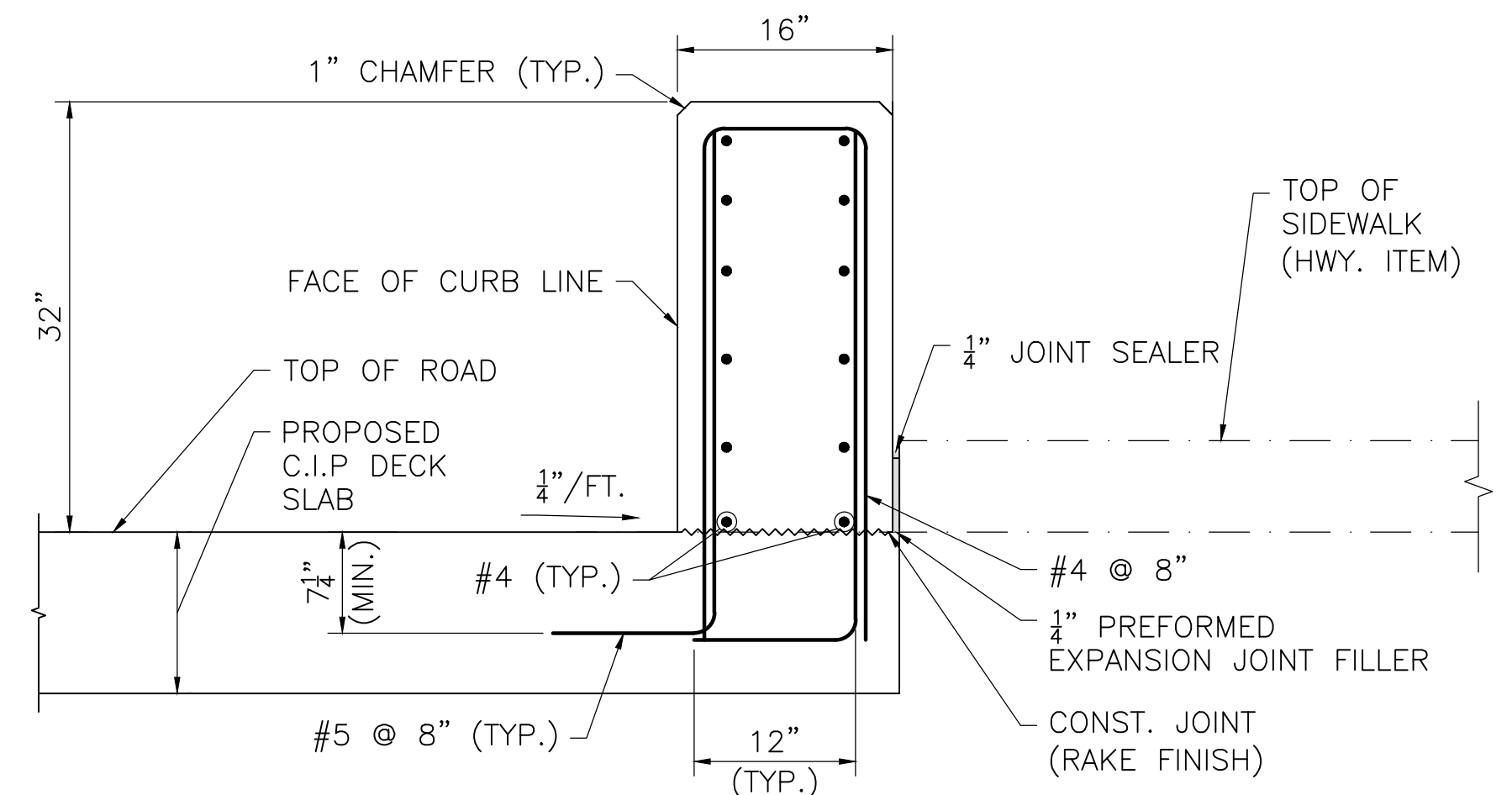
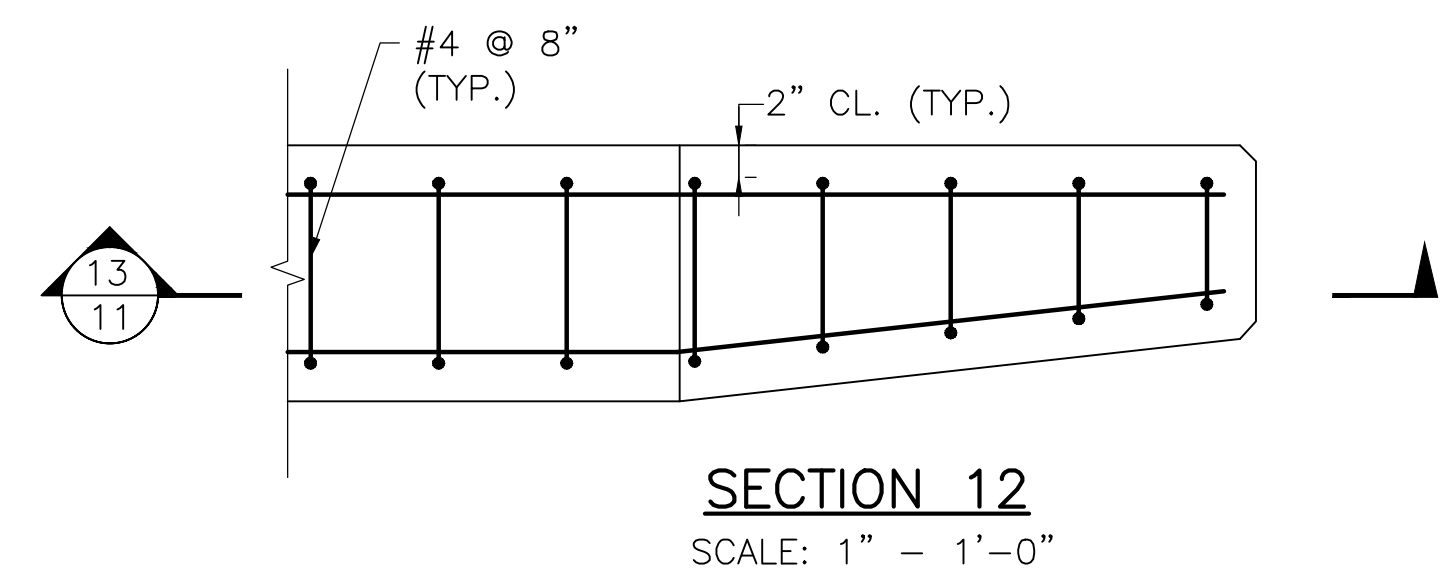
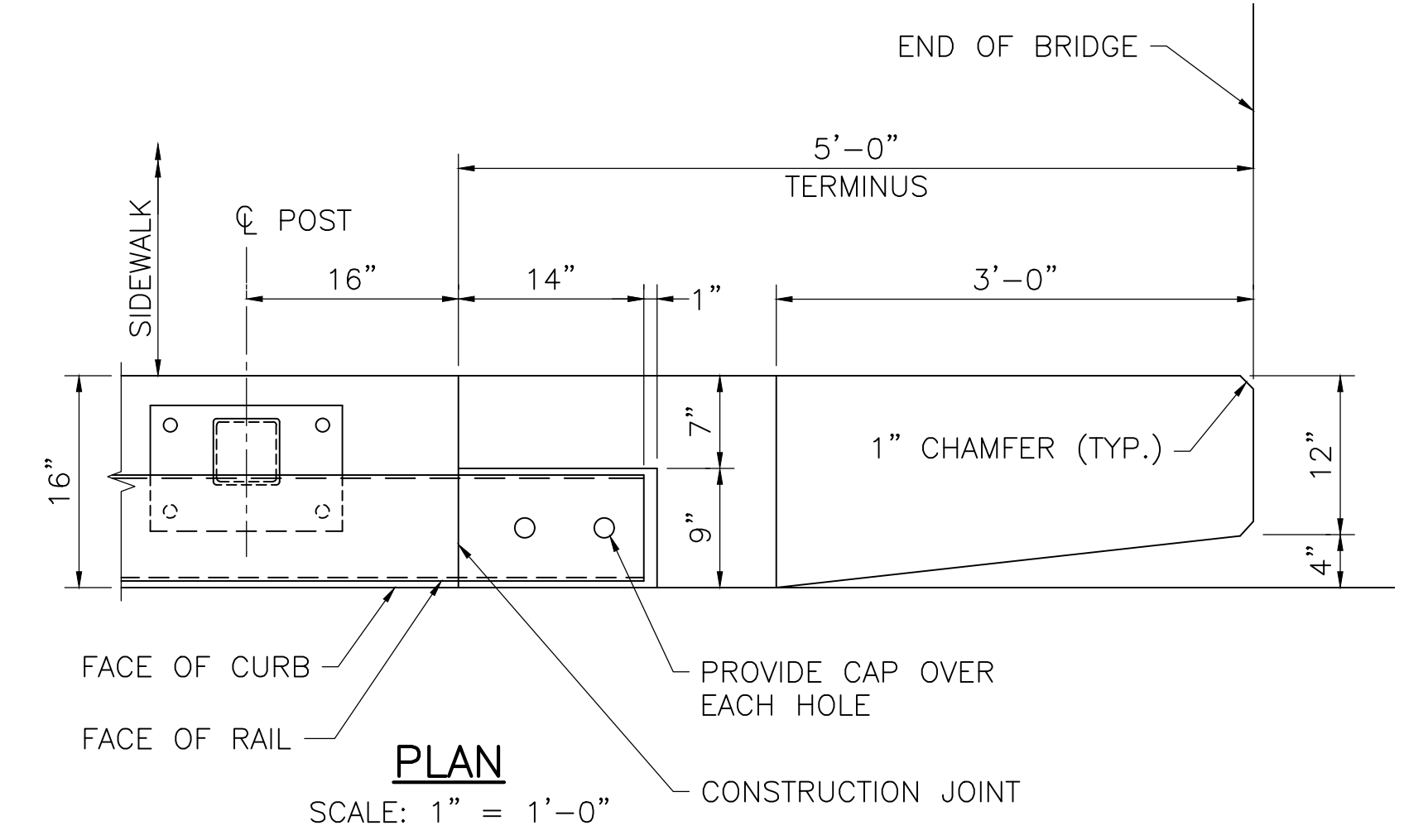
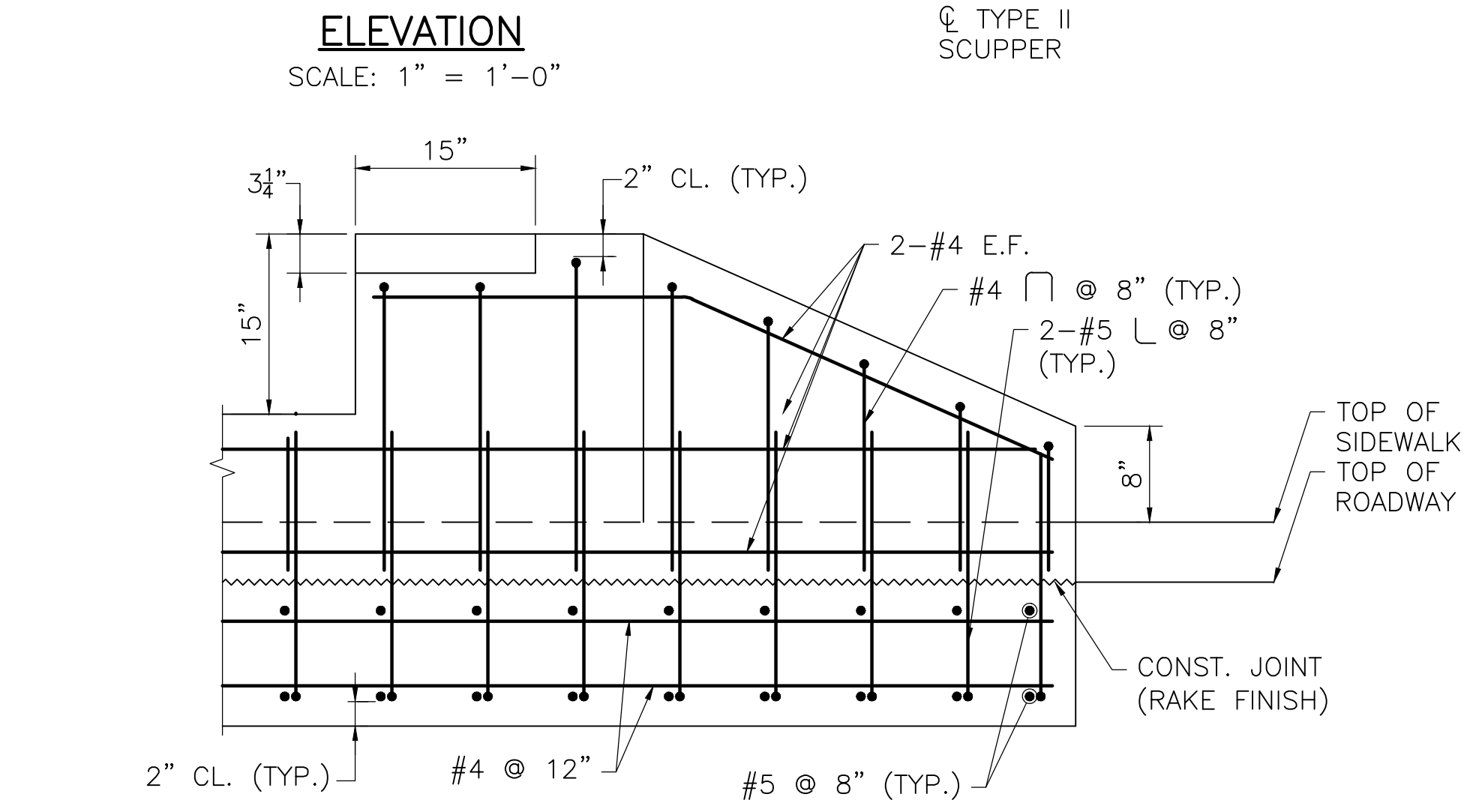
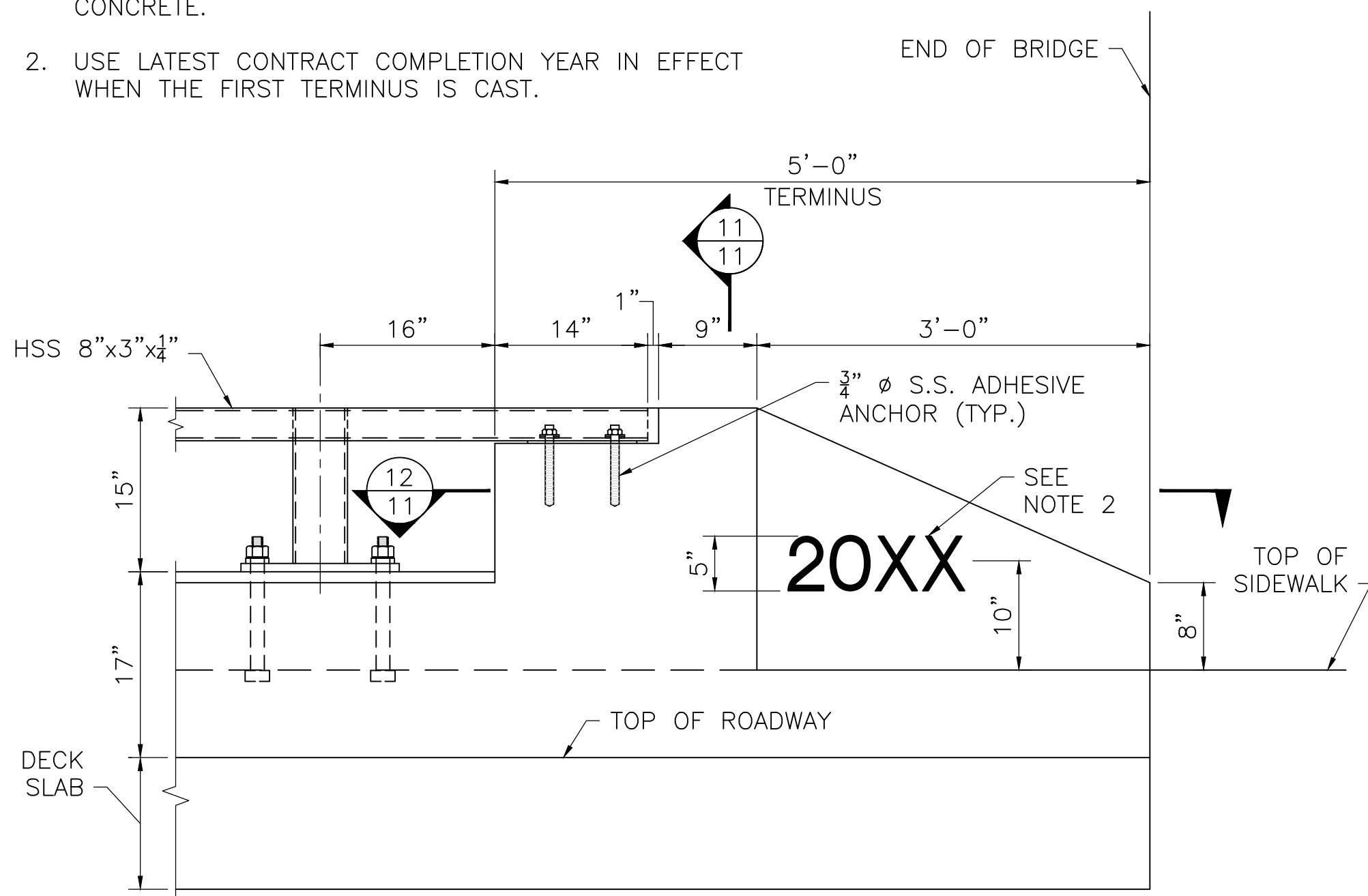
February 3, 2025

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NOTES:

1. ALL CONCRETE FOR THE CM-MTL3 RAILING AND TERMINUS SHALL BE 5000 PSI, 3/4 IN, 685 HP CEMENT CONCRETE.
2. USE LATEST CONTRACT COMPLETION YEAR IN EFFECT WHEN THE FIRST TERMINUS IS CAST.



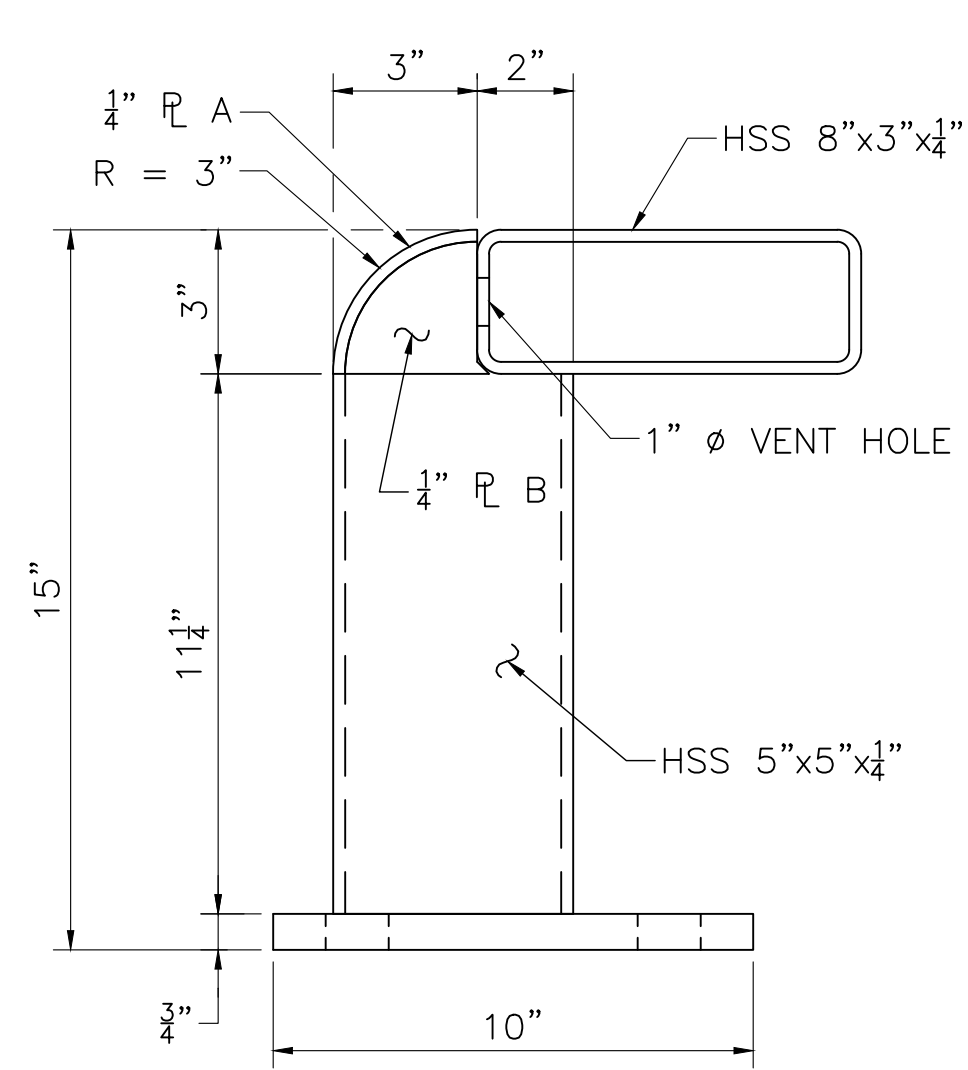
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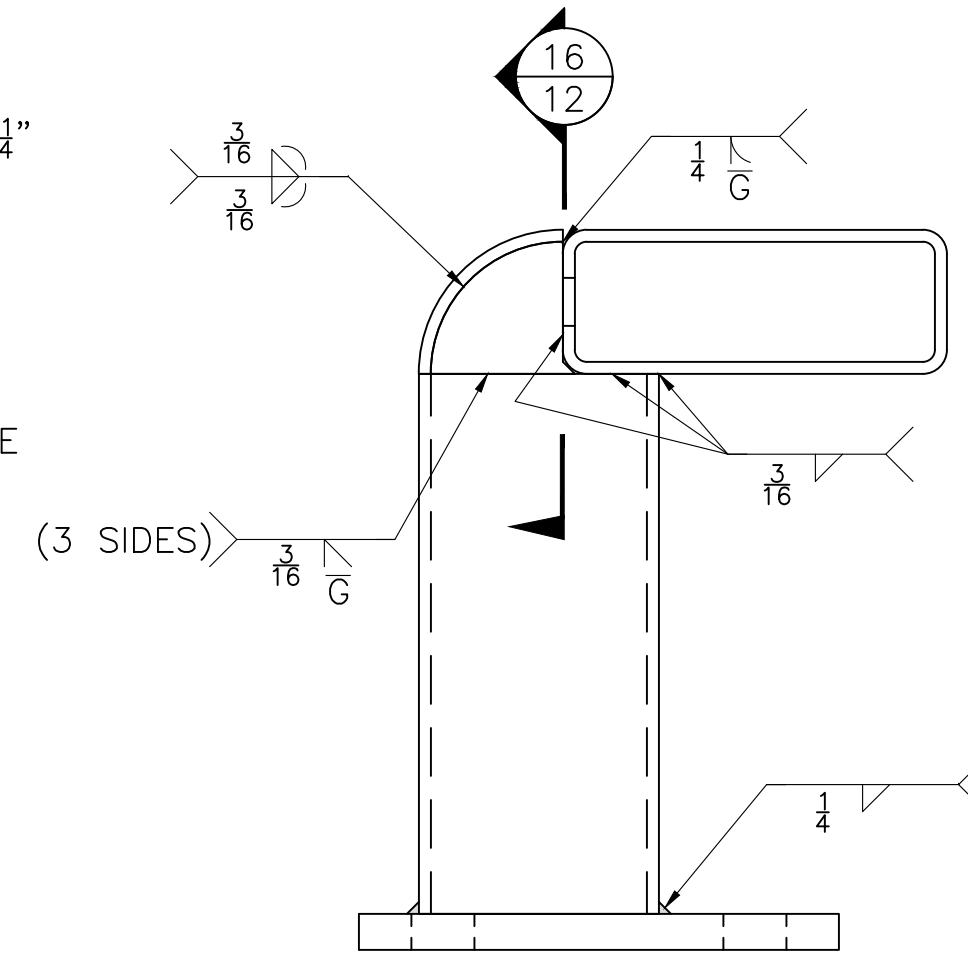
ATHOL
CRESCENT STREET OVER SLUICeway

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	#####	15	15
PROJECT FILE NO.		N/A	

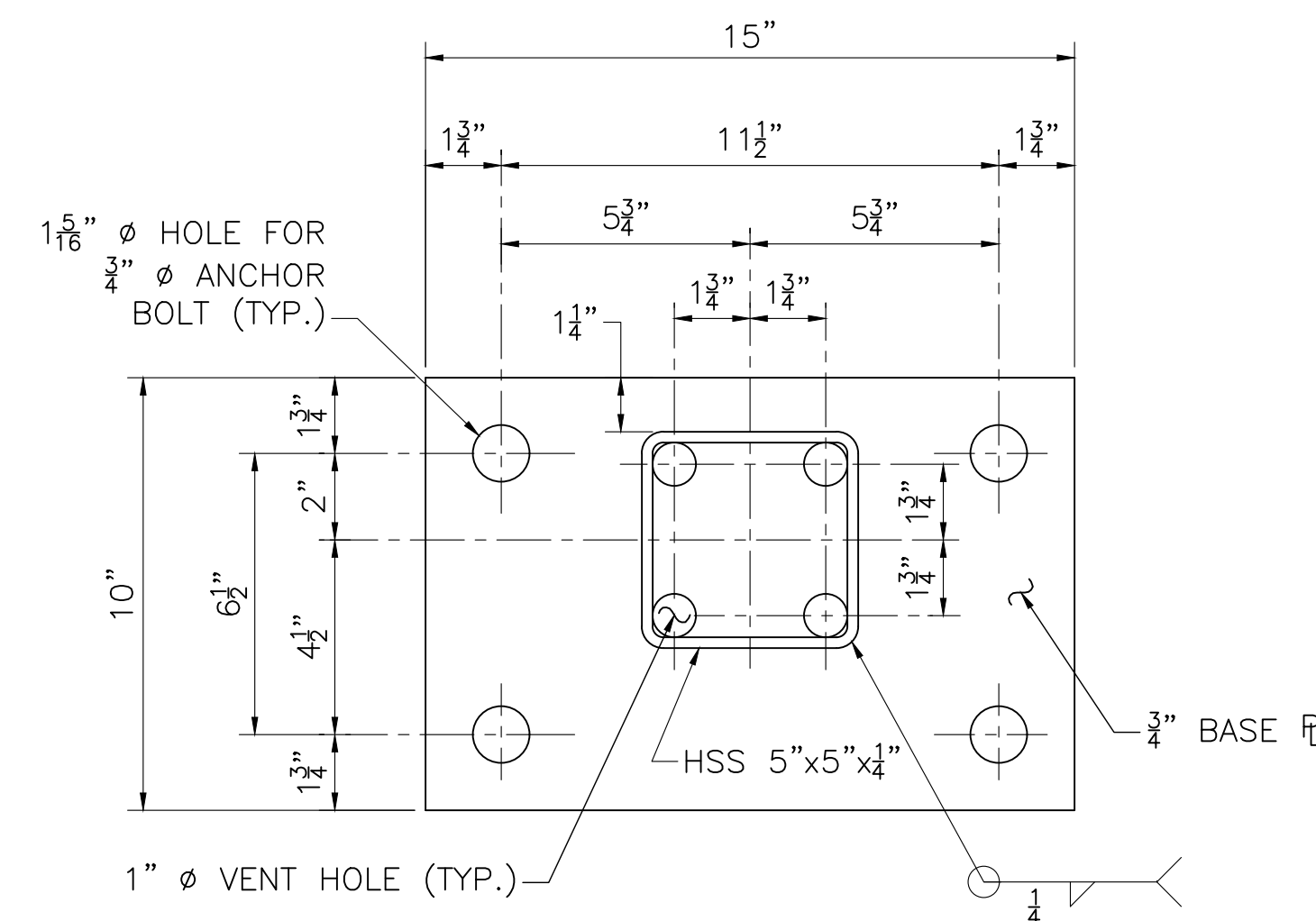
CM-MTL3 BRIDGE RAILING



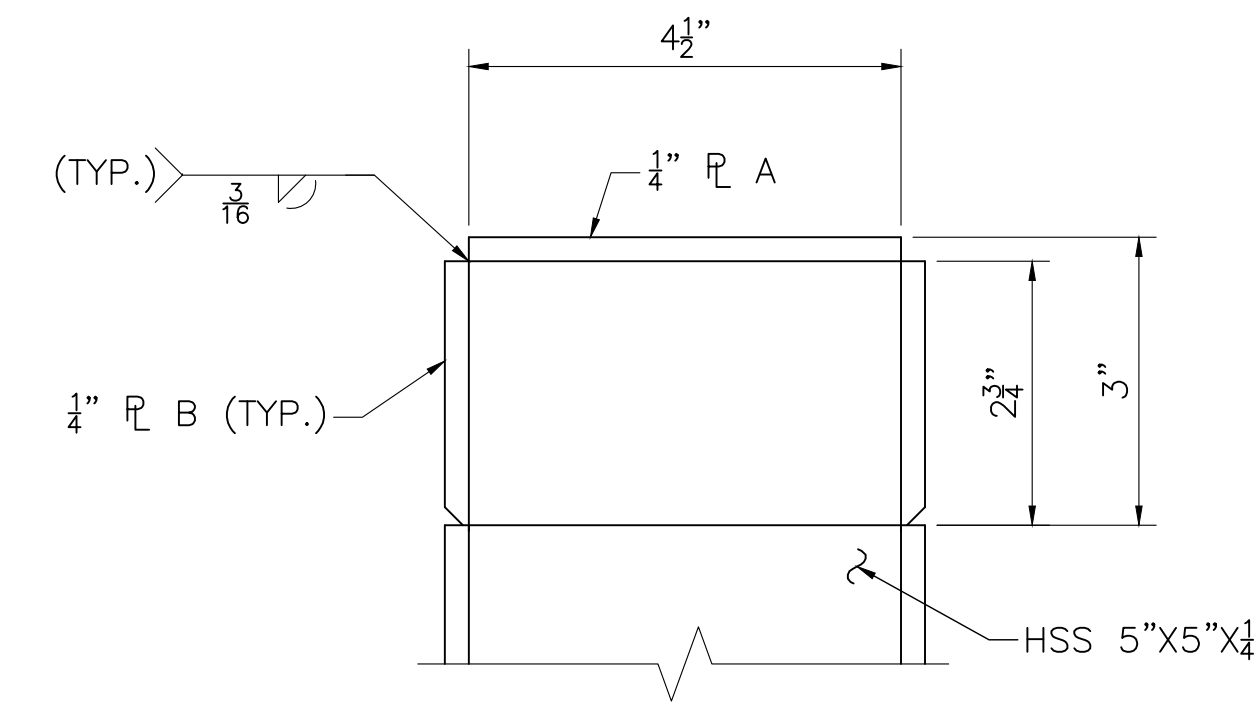
COMPONENTS



WELDS



BASE PLATE



SECTION 16

POST CAP ASSEMBLY

SCALE: 6" = 1'-0"

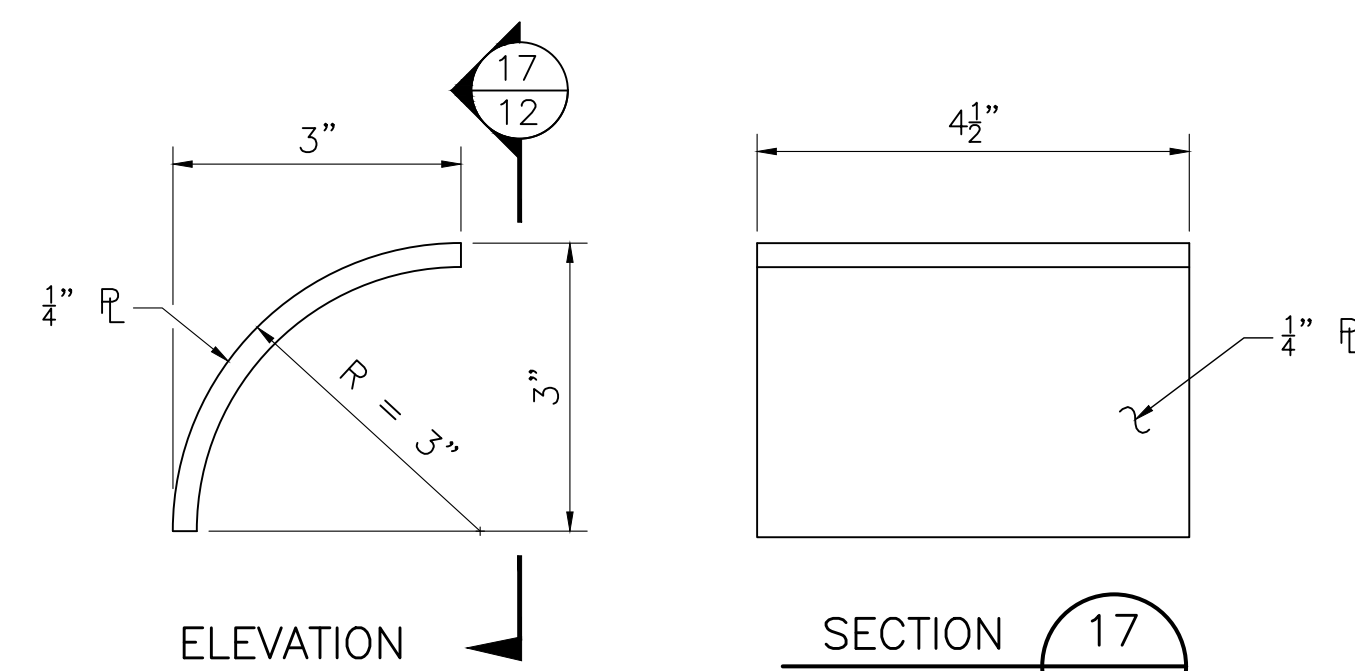


PLATE A

SCALE: 6" = 1'-0"

RAIL POST DETAILS

SCALE: 3" = 1'-0"

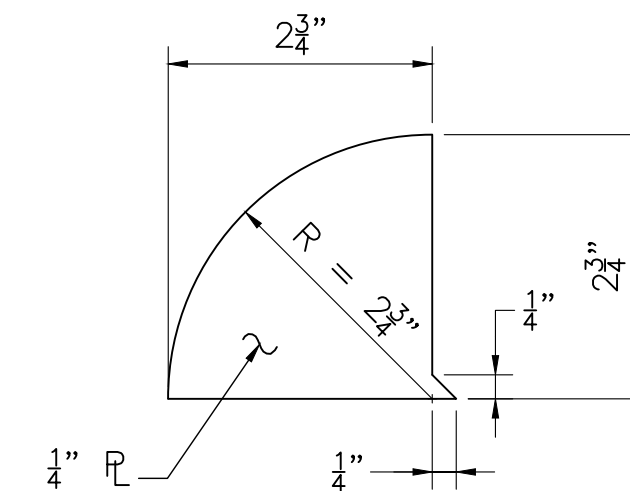
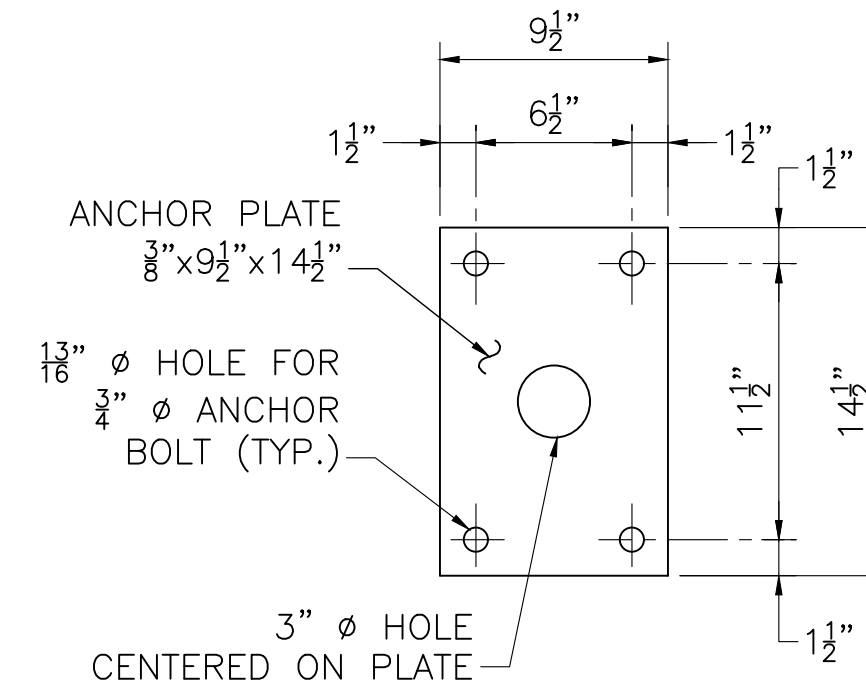


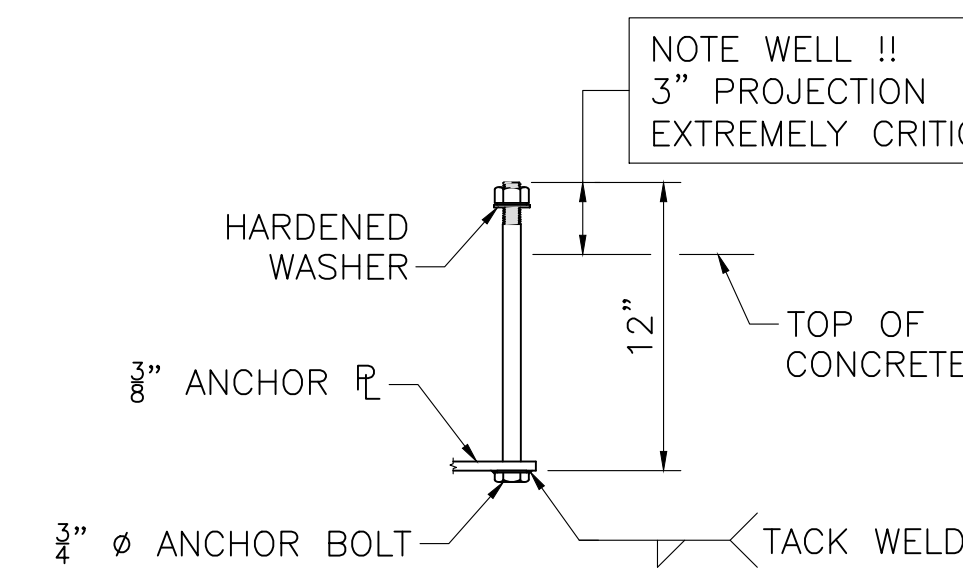
PLATE B

SCALE: 6" = 1'-0"



ANCHOR PLATE

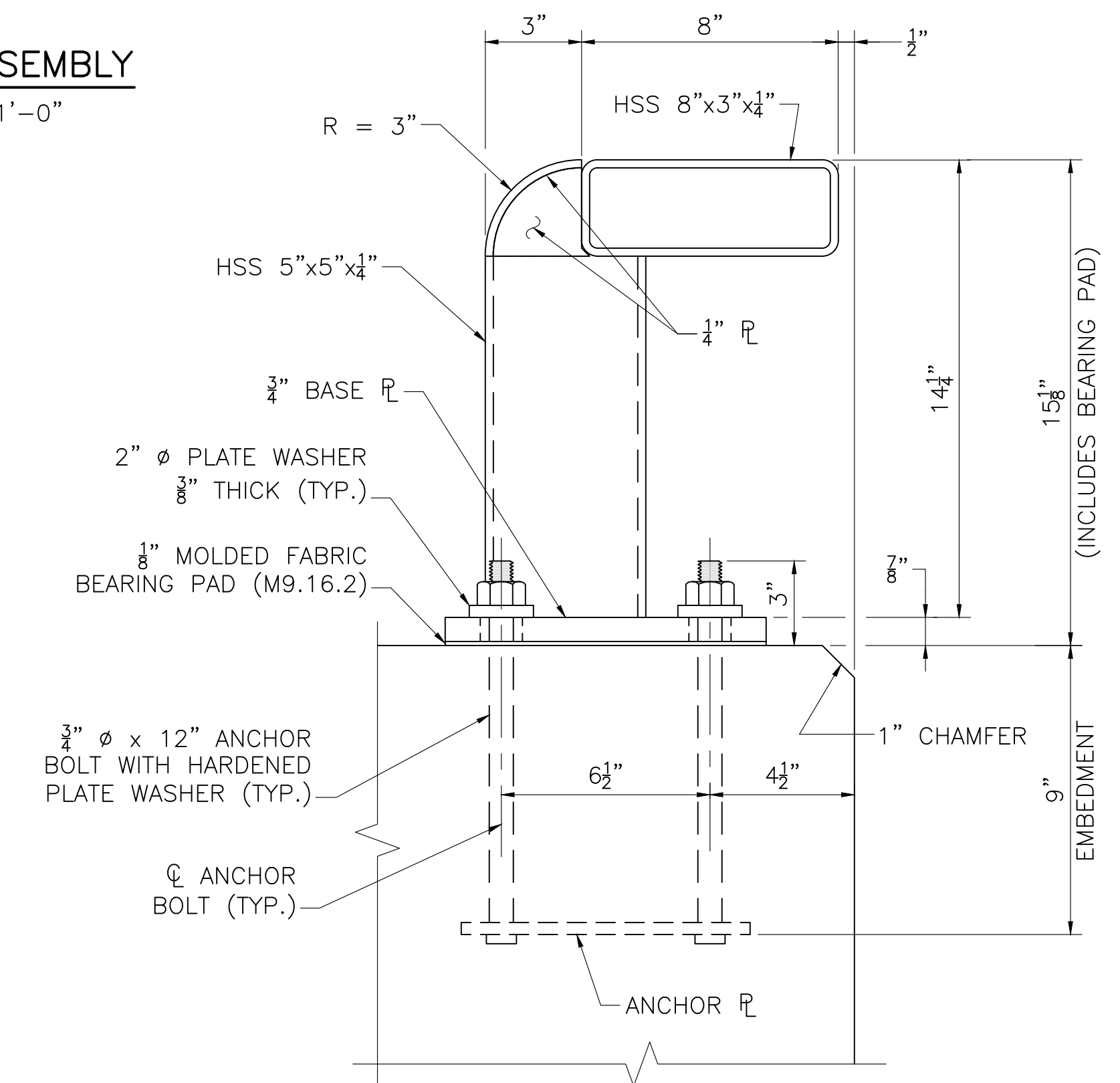
SCALE: 1 1/2" = 1'-0"



ANCHOR BOLT

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

NOTE WELL !!
3" PROJECTION
EXTREMELY CRITICAL



SECTION 15

SCALE: 3" = 1'-0"

NOTES:

- MAXIMUM RAIL LENGTH IS 24'-0". MAXIMUM POST SPACING IS 6'-0". RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF TWO (2) AND A MAXIMUM OF FOUR (4) POSTS.
- RAILS SHALL HAVE A TUBE SPLICE BETWEEN CONTINUOUS LENGTHS OF RAIL AND IN THE PANEL OVER A BRIDGE EXPANSION JOINT.
- ALL STEEL SHALL BE GALVANIZED. ALL PIPE SLEEVE SPLICES SHALL BE GALVANIZED SEPARATELY AND NOT WHILE BOLTED TO THE RAIL.
- ALL GALVANIZED STEEL (EXCEPT THE ANCHOR PLATE AND FASTENERS) SHALL BE PAINTED DARK BRONZE (AMS STANDARD 595A COLOR NUMBER 10045 OF THE FEDERAL STANDARD 595B).
- ANCHOR BOLTS SHALL BE SET WITH TEMPLATES. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/4 TURN AFTER STEEL IS IN PLACE.
- ALL POSTS SHALL BE SET PERPENDICULAR TO GRADE.
- END TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELDING SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AASHTO/AWS D.1.5, EXCEPT THAT WELDING OF THE TUBE-WELDED SPLICE SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWS D.1.1.

MATERIALS:

STRUCTURAL STEEL TUBING _____ ASTM A 500 GRADE B (GALVANIZED)
 POST AND BASE PLATE _____ AASHTO M 270 GRADE 36 OR GRADE 50 (GALVANIZED)
 ANCHOR BOLT PLATE WASHERS _____ AASHTO M 270 GRADE 36 OR GRADE 50 (GALVANIZED)
 ANCHOR BOLTS _____ ASTM F1554 GRADE 105 TYPE 2A (GALVANIZED)

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