MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION

PLAN AND PROFILE OF

ARMORY STREET

OVER CSX MAINLINE (S-24-016) AND ABANDONED RR (S-24-026)
IN THE CITY OF

SPRINGFIELD

HAMPDEN COUNTY

FEDERAL AID PROJECT NO.

HIP(NGB)-003S(924)

SPRINGFIELD
ARMORY STREET

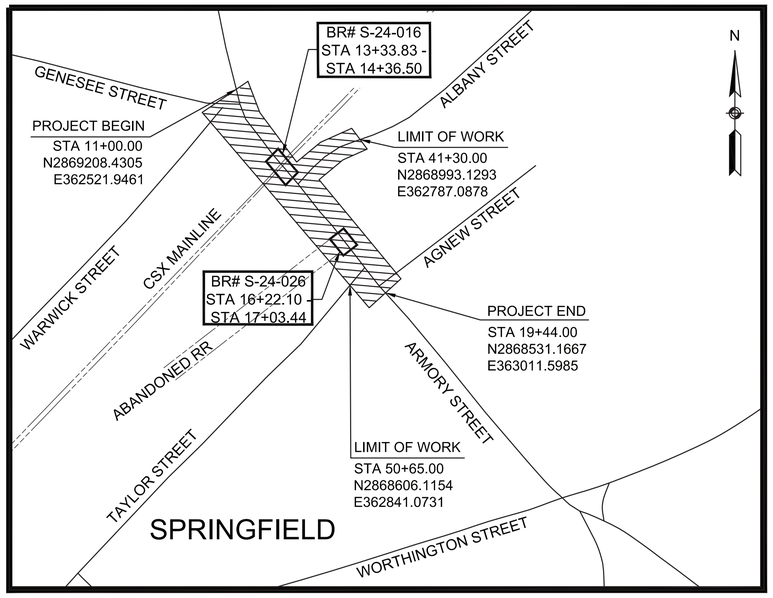
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	1	204
	PROJECT FILE NO. 609409		

TITLE SHEET & INDEX

THESE PLANS ARE SUPPLEMENTED BY THE LATEST EDITIONS OF THE FOLLOWING PUBLICATIONS, AS IDENTIFIED IN THE CONTRACT SPECIAL PROVISIONS: THE MASSDOT CONSTRUCTION STANDARD DETAILS, THE MASSDOT STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE MASSDOT STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, THE MASSDOT OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, THE MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, AND THE ANSI AMERICAN STANDARD FOR NURSERY STOCK.

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	KEY PLAN & BORING LOCATION PLAN
3	LEGEND & ABBREVIATIONS
4	GENERAL NOTES
5 - 6	TYPICAL SECTIONS
7 - 8	CONSTRUCTION PLANS
9 - 11	PROFILES
12 - 13	CURB TIE AND GRADING PLANS
14 - 15	DRAINAGE & UTILITY PLANS
16 - 18	WATER MAIN ELEVATION PLANS
19 - 20	SIGNING & PAVEMENT MARKING PLANS
21	TRAFFIC SIGN SUMMARY
22 - 27	TRAFFIC SIGNAL PLANS
28	TIME SPACE DIAGRAM
29 - 33	TEMPORARY TRAFFIC CONTROL PLANS
34 - 41	CONSTRUCTION STAGING PLANS
42 - 49	TEMPORARY TRAFFIC SIGNAL AND TIMING PLANS
50	CONSTRUCTION SIGN SUMMARY
51 - 60	CONSTRUCTION DETAILS
61 - 130	BRIDGE NO. S-24-016 PLANS
131 - 191	BRIDGE NO. S-24-026 PLANS
192 - 204	CROSS SECTIONS



LENGTH OF PROJECT = 844.00 FEET = 0.160 MILES

0 200 400 600 800

SCALE: 1" = 200'

DESIGN DESIGNATION - ARMORY STREET

DESIGN SPEED	30 MPH
ADT (2019)	15,800
ADT (2029)	16,995
K	7.5%
D	55.0%
T (PEAK HOUR)	7.3%
T (AVERAGE DAY)	3.5%
DHV (2029)	1,280
DDHV (2029)	920
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL

DESIGN DESIGNATION - ALBANY STREET

DESIGN SPEED	25 MPH
ADT (2019)	2,850
ADT (2029)	3,085
K	8.3%
D	51%
T (PEAK HOUR)	18.8%
T (AVERAGE DAY)	5.9%
DHV (2029)	255
DDHV (2029)	190
FUNCTIONAL CLASSIFICATION	URBAN MINOR ARTERIAL

COMMONWEALTH OF MASSACHUSETTS
ELIZABETH A PARENT
CIVIL
NO. 49327
REGISTERED PROFESSIONAL ENGINEER

Elizabeth A Parent Digitally signed by Elizabeth A Parent Date: 2026.01.16 16:00:20 -05'00'

DATE	DESCRIPTION	REV #

massDOT
Massachusetts Department of Transportation
Highway Division

APPROVED

Carrie Lavallee, P.E. Digitally signed by Carrie Lavallee, P.E. Date: 2026.01.22 15:15:53 -05'00'

CHIEF ENGINEER

01/22/2026
DATE

TETRA TECH, INC.
100 Nickerson Road
Marlborough, MA 01752

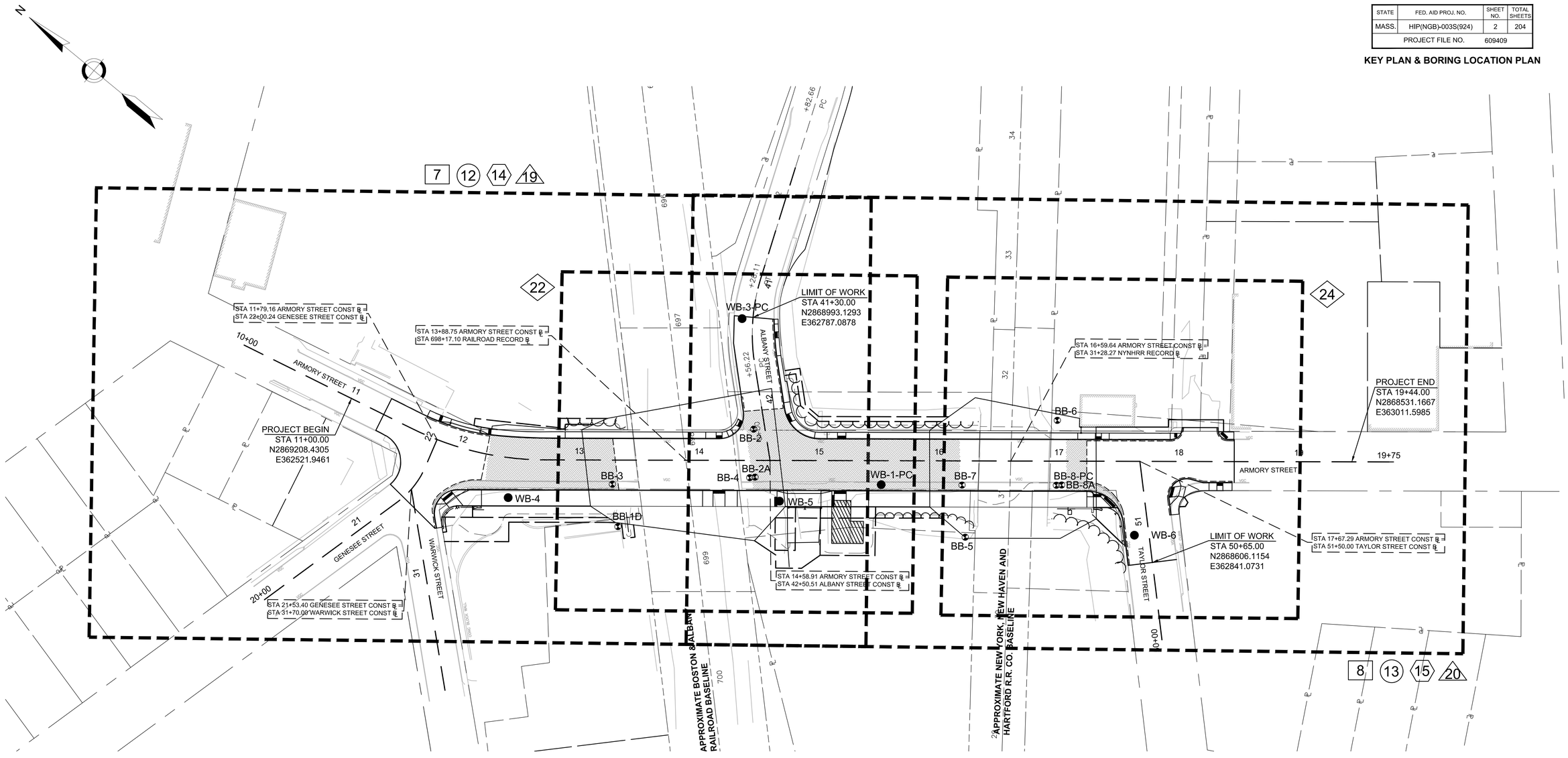
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	2	204
PROJECT FILE NO.	609409		

KEY PLAN & BORING LOCATION PLAN

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KEY PLAN

LEGEND

- # — CONSTRUCTION PLANS
- # — CURB TIE & GRADING PLANS
- # — DRAINAGE & UTILITY PLANS
- # — SIGNING & PAVEMENT MARKING PLANS
- # — TRAFFIC SIGNAL PLANS
- ● — WALL BORING LOCATIONS (SEE BRIDGE PLANS)
- ⧓ — BRIDGE BORING LOCATIONS (SEE BRIDGE PLANS)

NOTES:
1. PAVEMENT CORES WERE TAKEN AT WB-1, WB-3 AND BB-8.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		12" GATE VALVE
		12" x 8" REDUCER
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
C	C	CABLE MANHOLE
D	D	DRAINAGE MANHOLE
E	E	ELECTRIC MANHOLE
G	G	GAS MANHOLE
M	M	MISC MANHOLE
S	S	SEWER MANHOLE
T	T	TELEPHONE MANHOLE
W	W	WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB	TB	TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
x	x	CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT CONTROL BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		EDGE OF PAVEMENT
		LIMIT OF MICROMILLING AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
1	1	CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION BEACON
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
RRSG	RRSG	RAILROAD SIGNAL
OR		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
	20'	MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		BILLBOARD
	20'	MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
ONLY	ONLY	LEGEND "ONLY" - WHITE
	SL	STOP LINE
	CW	CROSSWALK
		BIKE CROSSWALK
	SWL	SOLID WHITE LINE
	SYL	SOLID YELLOW LINE
	BWL	BROKEN WHITE LINE
	BYL	BROKEN YELLOW LINE
	DWL	DOTTED WHITE LINE
	DYL	DOTTED YELLOW LINE
	DWLEx	DOTTED WHITE LINE EXTENSION
	DYLEx	DOTTED YELLOW LINE EXTENSION
	DBWL	DOUBLE WHITE LINE
	DBYL	DOUBLE YELLOW LINE

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GICI	GUTTER INLET WITH CURB INLET
GIP	GALVANIZED IRON PIPE
GR	GUARDRAIL
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LO	LAYOUT
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	PEDESTRIAN CURB RAMP
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE

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	PROJECT FILE NO. 609409		

LEGEND & ABBREVIATIONS

ABBREVIATIONS (cont.)

GENERAL

PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SLCB	STREET LIGHT CONTROL BOX
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL ABBREVIATIONS

CAB	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY UPRAISED HAND
FDW	FLASHING UPRAISED HAND
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
FYL	FLASHING YELLOW LEFT ARROW
FYR	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALKING PERSON
Y	STEADY CIRCULAR YELLOW
YL	STEADY YELLOW LEFT ARROW

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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	4	204
	PROJECT FILE NO. 609409		

GENERAL NOTES

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GENERAL NOTES

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT FOR REVIEW A SCHEDULE OF OPERATIONS IN ADDITION TO OTHER CONTRACT REQUIREMENTS TO THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION.
2. WHERE THE NEW CONSTRUCTION COINCIDES WITH PRESENT TRAVELED WAYS, THE CONTRACTOR SHALL PERFORM THEIR WORK IN A MANNER ACCEPTABLE TO THE ENGINEER SO THAT INTERFERENCE TO BUSINESS CONCERNS AND ABUTTERS, ON ACCOUNT OF THE CONSTRUCTION WORK, IS KEPT TO A MINIMUM. THE CONTRACTOR WILL NOT BE ALLOWED TO PARK EQUIPMENT OR STOCKPILE MATERIAL ON THE TRAVELED WAYS OVERNIGHT OR WHEN NOT IN USE. THE CONTRACTOR SHALL MAINTAIN SAFE AND REASONABLE ACCESS TO AND FROM ABUTTING PROPERTIES AT ALL TIMES AT NO ADDITIONAL COST.
3. THE CONTRACTOR SHALL EXCAVATE TEST PITS TO VERIFY LOCATIONS OF EXISTING UTILITIES AS INDICATED OR AS DIRECTED BY THE ENGINEER.
4. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE UTILITY COMPANIES DOING WORK IN THE SAME AREA. THE CONTRACTOR SHALL ALLOW THE UTILITY COMPANIES AND THEIR REPRESENTATIVES TO INSTALL THEIR SYSTEMS WITHIN MASSDOT AND/OR CITY OWNED STREETS AND EASEMENTS.
5. THE CONTRACTOR'S ATTENTION IS DIRECTED TO EXISTING LABELED SEWER MANHOLE OR DRAINAGE MANHOLE COVERS SHOWN ON THE PLANS AS THEY MAY NOT ACCURATELY REPRESENT THE UNDERGROUND SERVICE. PRIOR TO ANY WORK THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF AN EXISTING COVER NOT ACCURATELY REPRESENTING THE SERVICE BELOW.
6. NO EXISTING PUBLIC UTILITY STRUCTURES SHALL BE ABANDONED AND/OR DISMANTLED WITHOUT AUTHORIZATION FROM THE ENGINEER.
7. THE CONTRACTOR SHALL PROVIDE METHODS DURING DEWATERING OPERATIONS AND FOR STORM WATER RUNOFF NOT TO ALLOW SILT OR DEBRIS TO ENTER EXISTING DRAINAGE FACILITIES OR CREATE NUISANCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING EXISTING OR NEW FACILITIES IF SILTATION OCCURS DUE TO THE CONTRACTOR'S OPERATIONS.
8. FINAL LOCATION OF TRAFFIC SIGNS AND SUPPORTS SHALL BE SHOWN ON THE TRAFFIC PLAN AND MAY, IF NECESSARY, AT DISCRETION OF THE ENGINEER, BE MODIFIED IN THE FIELD AS APPROPRIATE.
9. DETAILS FOR SIGN SUPPORTS SHALL BE IN ACCORDANCE WITH MASSDOT STANDARD DRAWINGS.
10. DAMAGE OF PROPERTY BEYOND THE WORK LIMITS CAUSED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE, SUBJECT TO THE APPROVAL OF THE ENGINEER AND ACCEPTANCE OF THE PROPERTY OWNER.
11. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AT THEIR OWN EXPENSE IF NOT OTHERWISE SPECIFIED, OUTSIDE OF THE PROJECT LIMITS.
12. ALL EXISTING MUNICIPAL AND PRIVATE UTILITY CASTINGS SUCH AS WATER BOXES, CURB STOPS, MANHOLE FRAMES AND COVERS, CATCH BASIN FRAME AND GRATES AND OTHER CASTINGS SHALL BE ADJUSTED BY THE CONTRACTOR TO LINE AND GRADE AS DIRECTED BY THE ENGINEER UNLESS OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS OR ON THE CONTRACT PLANS
13. THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL UTILITIES THROUGHOUT THE PROJECT SO THAT THE VARIOUS UTILITY OWNERS HAVE ACCESS TO VAULTS AND MANHOLES TO OPERATE VALVES AND OTHER CONTROLS ON THEIR SYSTEM.
14. THE LOCATIONS OF PROPOSED PIPELINES, STRUCTURES AND UTILITY RELOCATIONS MAY BE MODIFIED TO SUIT FIELD CONDITIONS AT THE DISCRETION OF THE ENGINEER.
15. OFFSETS TO CATCH BASINS ARE TO THE CENTER OF THE GRATE AT FACE OF CURB.
16. IF THE CONTRACTOR DAMAGES UTILITY SERVICES, THEY SHALL IMMEDIATELY NOTIFY THE RESPECTIVE UTILITY COMPANY AND SHALL IMMEDIATELY REPLACE OR REPAIR, UNLESS INDICATED OTHERWISE BY THE RESPECTIVE UTILITY OWNER.
17. ALL PROPOSED DRAINAGE CONNECTIONS TO EXISTING STRUCTURES WILL BE INCLUDED IN THE COST OF INSTALLATION OF THE NEW PIPE OR STRUCTURE.
18. RIM ELEVATIONS MAY BE SUBJECT TO FIELD ADJUSTMENTS AS DIRECTED BY THE ENGINEER. ELEVATIONS ON CATCH BASINS ARE REFERENCED TO THE CENTER OF GRATE AT FACE OF CURB.
19. WHERE WATERLINES, DRAINAGE PIPES OR STRUCTURES ARE ABANDONED IN PLACE, CONTRACTOR SHALL MAKE SURE THAT ALL CONNECTING PIPES, INLETS AND OUTLETS ARE PLUGGED. ALL LIVE CONNECTIONS SHALL BE CONNECTED TO THE NEW SYSTEM.
20. WHEN A PROPOSED CATCH BASIN INTERFERES WITH ANY UNDERGROUND UTILITY, A GUTTER INLET SHALL BE USED.
21. ALL PEDESTRIAN CURB RAMPS SHALL CONFORM TO THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) RULES AND REGULATIONS AND THE AMERICANS WITH DISABILITIES ACT (ADA) GUIDELINES. SEE LATEST MASSDOT CONSTRUCTION STANDARDS.
22. IN ALL LOCATIONS WHERE PROPOSED SIDEWALK TRANSITIONS TO MEET EXISTING GRADE, SIDEWALK OR PAVED AREA, SLOPE SHALL NOT EXCEED 1:12.
23. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 3'-0" SHALL BE MAINTAINED PAST ALL OBSTRUCTIONS (UTILITY POLES, SIGNS, SIGNAL FOUNDATIONS AND MASTS, MAILBOXES, ALONG DRIVE OPENINGS, ETC.)
24. EXISTING CURB (GRANITE AND CONCRETE) IN GOOD CONDITION SHALL BE RESET. NEW CURB SHALL BE USED ONLY AFTER ALL EXISTING CURB HAS BEEN RESET.
25. ALL EXISTING DRAINAGE STRUCTURES AND PIPE TO REMAIN WITHIN THE PROJECT LIMITS SHALL BE CLEANED AND SEDIMENT DISPOSED OF UNDER PAY ITEMS 227.3 AND 227.31.
26. DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY, BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY OF THE STRUCTURES BE ORDERED.
27. ADA COMPLIANT ACCESS MUST BE MAINTAINED AT ALL TIMES.

SURVEY NOTES

1. THIS PLAN WAS PREPARED FROM AN ACTUAL ON THE GROUND SURVEY CONDUCTED BY GREEN INTERNATIONAL BETWEEN SEPTEMBER 24 2018 - OCTOBER 9 2018 AND ADDITIONAL SURVEY PERFORMED ON JUNE 27 2020 AND JULY 2 2020.
2. THE HORIZONTAL DATUM SHOWN HEREON REFERENCES THE MASSACHUSETTS STATE COORDINATE GRID, NORTH AMERICAN DATUM OF 1983/2011 BASED UPON STATIONS 1651 AND 1652, MDOT BOOK 41023, PAGES 50 AND 51, DATED 1/21/16.
3. THE VERTICAL DATUM SHOWN HEREON REFERENCES THE NORTH AMERICAN VERTICAL DATUM OF 1988 BASED UPON BENCHMARK AA28 AND STATIONS 1651 AND 1652, MDOT BOOK 41023, PAGES 50 AND 51, DATED 1/21/16.
4. THE UNDERGROUND UTILITY INFORMATION SHOWN HEREON LABELED WITH AN (R) ARE FROM RECORD DOCUMENTS. THE LOCATION OF THE UTILITIES AS SHOWN HEREON HAVE BEEN COMPILED FROM VISIBLE STRUCTURES AND INFORMATION OBTAINED FROM VARIOUS SOURCES. THE ACTUAL LOCATION OF ALL UTILITIES AND UNDERGROUND STRUCTURES SHALL BE CONSIDERED APPROXIMATE AND SHALL BE VERIFIED BY THE OWNER PRIOR TO ANY CONSTRUCTION. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICES OR IN ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.
5. BEFORE DESIGNING FUTURE CONNECTIONS, THE APPROPRIATE UTILITIES MUST BE CONSULTED. BEFORE CONSTRUCTION, ALL UTILITIES, PUBLIC AND PRIVATE, MUST BE NOTIFIED (SEE MASSACHUSETTS GENERAL LAWS, CHAPTER 82 SECTION 40.) CALL "DIG SAFE" 1(888) 344-7233 HTTP://WWW.DIGSAFE.COM

UTILITY ENGINEERING CONSULTANT:

OVERLAND ENGINEERING, LLC
100 HALLET STREET
BOSTON, MA 02124
PH: 617-265-4547
FAX: 770-565-3815

PROJECT DESCRIPTION:

A SUBSURFACE UTILITY ENGINEERING INVESTIGATION (SUE) WAS PERFORMED BY OVERLAND ENGINEERING, LLC AND COMPLETED IN NOVEMBER 2022 FOR THIS PROJECT. THE EXISTING UNDERGROUND FACILITIES SHOWN HEREON WERE INCLUDED IN THIS SUE INVESTIGATION. THE PRESENCE OF THESE UTILITY FACILITIES HAS BEEN THOROUGHLY INVESTIGATED.

ALL OTHER EXISTING TOPOGRAPHIC FEATURES DEPICTED HEREON HAVE BEEN REFERENCED FROM A TOPOGRAPHIC / MAPPING SURVEY AND CONTROL PACKAGE PROVIDED BY A GROUND INSTRUMENT SURVEY PERFORMED BETWEEN 24 SEPTEMBER 2018 AND 09 OCTOBER 2018. AN ADDITIONAL SURVEY WAS PERFORMED ON 27 JUNE 2020 AND 2 JULY 2020 BY GREEN INTERNATIONAL AFFILIATES, INC. (GREEN).

UTILITY SUMMARY:

ALL THE FOLLOWING UTILITY OWNERS WERE REPORTED TO HAVE FACILITIES WITHIN THE VICINITY OF THIS PROJECT AT THE TIME OF THE SUE INVESTIGATION. UTILITIES FOUND WITHIN THE PROJECT LIMITS AT THE TIME OF THE SUE INVESTIGATION ARE NOTED FOR EACH UTILITY OWNER LISTED AND ARE SHOWN ON THE PLANS HEREON.

UTILITY OWNER	UTILITY TYPE	CONTACT	ADDRESS	EMAIL	PHONE	ABBREVIATION
Comcast	CTV	Wendy Brown	PO Box 6505, 5 Omni Way, Chelmsford, MA 01824	N/A	978-848-5163	COMC
AT&T	Telecom	Erica Hudson	50 Mall Rd., Suite 203, Burlington, MA 01803	erica.hudson@sienaengineeringgroup.com	413-237-2598	AT&T
Crown Castle	Telecom	Mark Bonanno	80 Central St., Boxborough, MA 01719	Fiber.dig@crowncastle.com	508-616-7818	CC
Eversource Electric West	Electric	Robert Davis	300 Cadwell Dr., Springfield, MA 01104	robert.davis@eversource.com	413-787-9462	EVER
Eversource Gas (Columbia Gas)	Gas	Bryan Meccariello	995 Belmont St., Brockton, MA 02301	bryan.meccariello@eversource.com	413-784-2208	CGS
Springfield Water & Sewer Commission	Water & Sewer	Dave Szymczakiewicz	250 M St. Extension, Agawam, MA 01001	dave.szymczakiewicz@waterandsewer.org	413-452-1318	SWSC
Springfield Water & Sewer Commission	Water & Sewer	Cy Ryding	250 M St. Extension, Agawam, MA 01001	cy.ryding@waterandsewer.org	413-668-6504	SWSC
Sprint	Telecom	Mike Hanifan	400 Taylor Street, Springfield MA 01105	MichaelJHanifan@sprint.com	413-237-2598	SPNT
Verizon	Telecom	Tracy Godfrey-McAvoy	385 Myles Standish Blvd, Taunton MA 02780	MARI-UGRecordRequest@verizon.com	774-409-3160	VRZ

SURVEY CONTROL:

1. HORIZONTAL AND VERTICAL CONTROL WAS ESTABLISHED BY GREEN INTERNATIONAL AFFILIATES, INC, ON 24 SEPTEMBER 2018. HORIZONTAL DATUM IS BASED ON THE MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (MAINLAND) NAD83 (2011), 2010.00 EPOCH. VERTICAL DATUM IS NAVD88 (COMPUTED USING GEOID 12B).
2. THE RIGHT OF WAY LINES SHOWN HERE ARE THE DIRECT RESULT OF AN INSTRUMENT SURVEY PERFORMED ON-THE-GROUND BY GREEN INTERNATIONAL AFFILIATES, INC. AND FROM PLANS AND DEEDS OF RECORD. PRIVATE PROPERTY LINES HAVE NOT BEEN SURVEYED, THEY ARE COMPILED FROM RECORD PLAN INFORMATION AND SHOULD BE CONSIDERED APPROXIMATE.

UTILITY QUALITY LEVEL INFORMATION INDEX (SEE ASCE/CI 38-02):

QUALITY LEVEL D: "QL D". UTILITY INFORMATION PLOTTED ON THE DRAWING BASED SOLELY ON RECORD INFORMATION, INDIVIDUAL RECOLLECTIONS OR THE EXISTENCE OF UTILITY SERVICE. IT SHALL BE NOTED THAT ALL INFORMATION SHOWN (OTHER THAN AT TEST HOLE LOCATIONS, SEE QL A BELOW), INCLUDING BUT NOT LIMITED TO A UTILITIES SIZE, CAPACITY, MATERIAL COMPOSITION, CONDITION OR SERVICE STATUS SHALL BE CONSIDERED QL D EVEN THOUGH THE UTILITY MAY BE PLOTTED AND LABELED AS QL C OR QL B.

QUALITY LEVEL C: "QL C". UTILITY INFORMATION OBTAINED AND CATEGORIZED AS QL D, PLOTTED TO CORRELATE WITH SURFACE UTILITY FEATURES WHICH HAVE BEEN FIELD VERIFIED, SURVEY LOCATED AND ACCURATELY TRANSPOSED ONTO THE DESIGN/CONSTRUCTION DOCUMENTS. INCLUDED IN THIS CATEGORY AERIAL UTILITY INFORMATION AND UTILITY DEPICTION'S, WHICH IN THE PROFESSIONAL OPINION OF THE SUBSURFACE UTILITY ENGINEER, REPRESENT THE MOST PROBABLE APPROXIMATE HORIZONTAL LOCATION, TYPE AND/OR EXISTENCE OF A UTILITY.

QUALITY LEVEL B: "QL B". UTILITY INFORMATION DERIVED BY ESTABLISHING THE APPROXIMATE SURFACE HORIZONTAL LOCATION OF A UTILITY USING ELECTRONIC METHODS. SAID INFORMATION IS SUBSEQUENTLY FIELD SURVEY LOCATED AND ACCURATELY REDUCED ONTO THE DESIGN/CONSTRUCTION DOCUMENTS.

QUALITY LEVEL A: "QL A". UTILITY INFORMATION WHICH HAS BEEN VISUALLY VERIFIED, SURVEY LOCATED (BOTH HORIZONTALLY AND VERTICALLY) AND ACCURATELY REDUCED ONTO THE DESIGN/CONSTRUCTION DOCUMENTS. THIS IS TYPICALLY SHOWN AS TEST HOLE OR OTHER DIMENSIONED INFORMATION.

UTILITY ENGINEERING NOTES:

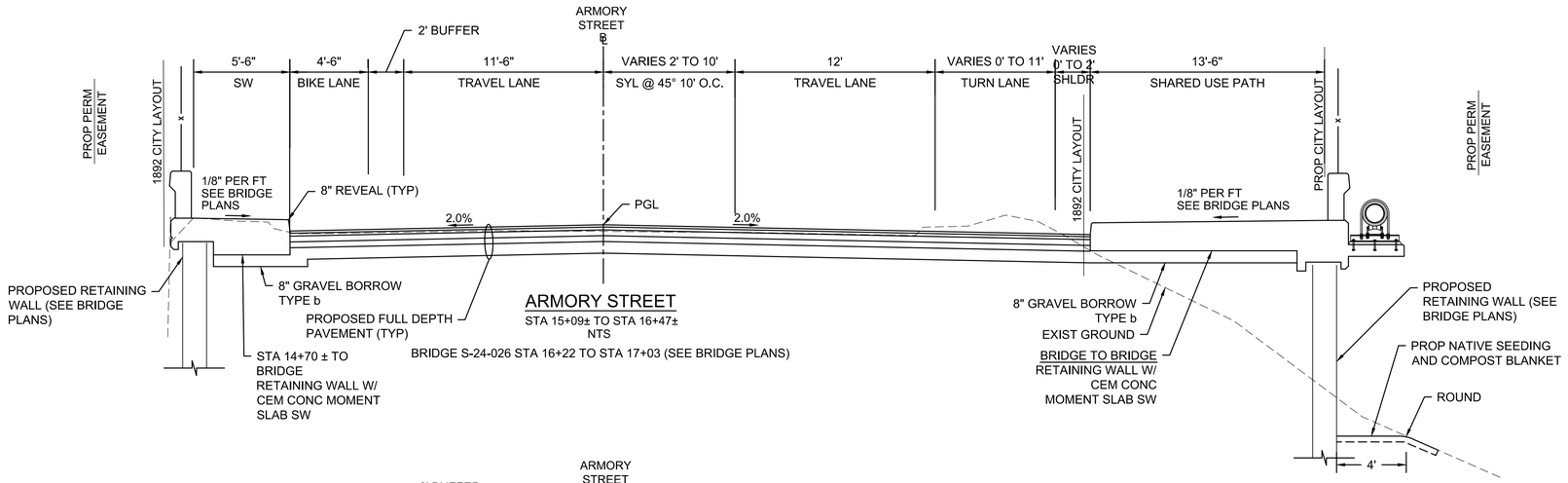
1. UTILITIES ARE DEPICTED ON THESE PLANS IN ACCORDANCE WITH THEIR ACHIEVED "QUALITY LEVELS" AS DEFINED IN THE AMERICAN SOCIETY OF CIVIL ENGINEERING'S DOCUMENT ASCE 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".
2. RELIANCE UPON THESE DATA FOR RISK MANAGEMENT PURPOSES DURING BIDDING DOES NOT RELIEVE THE EXCAVATOR OR UTILITY OWNER FROM FOLLOWING ALL APPLICABLE UTILITY DAMAGE PREVENTION STATUES, POLICIES, AND/OR PROCEDURES DURING CONSTRUCTION.
3. IT IS IMPORTANT THAT THE CONTRACTOR INVESTIGATES AND UNDERSTANDS THE SCOPE OF WORK BETWEEN THE PROJECT OWNER AND THEIR ENGINEER REGARDING THE SCOPE AND LIMITS OF THE UTILITY INVESTIGATIONS LEADING TO THESE DEPICTIONS.
4. THE SIZE/TYPE OF FIRE HYDRANT LINES IS ASSUMED TO BE 6" IN DIAMETER THROUGHOUT THE PROJECT LIMITS.
5. UTILITIES RANGING IN SIZE FROM 0.5" - 10" IN DIAMETER OR MINIMUM WIDTH, ARE DEPICTED HEREIN AS SINGLE WIDTH LINE TYPES. UTILITIES RANGING IN SIZE 12" AND ABOVE, ARE DEPICTED WITH MULTI-LINES, THE WIDTH OF WHICH IS BASED ON REVIEW OF RECORDS, PROFESSIONAL JUDGEMENT, OR OTHER INFORMATION. IN SOME INSTANCES, UTILITIES LARGER THAN 1 FOOT MAY BE SHOWN AS SINGLE LINES WITHOUT APPROXIMATE WIDTH AT THE ENGINEERS DISCRETION WHERE UTILITY DENSITY WOULD OTHERWISE PREVENT A CLEAR DEPICTION OF THE SUE INFORMATION.

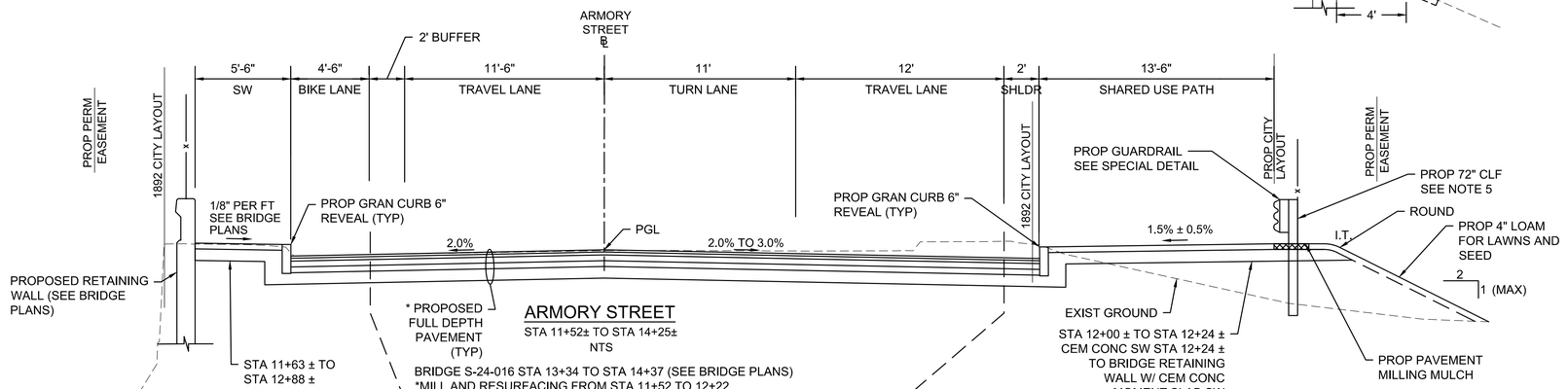
SPRINGFIELD
ARMORY STREET

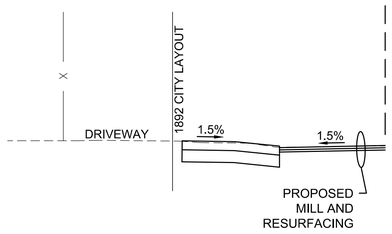
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	5	204
	PROJECT FILE NO. 609409		

TYPICAL SECTIONS

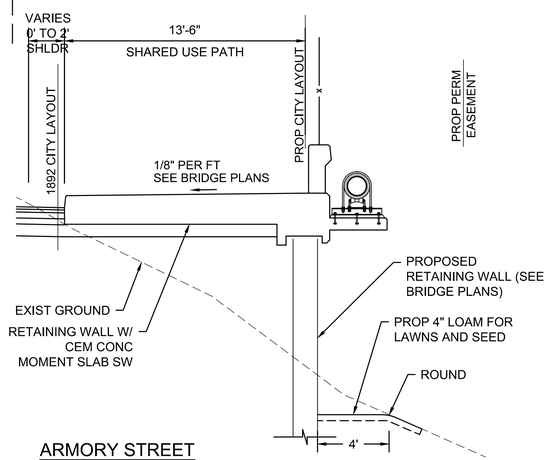
SHEET 1 OF 2







ARMORY STREET
STA 11+84± TO STA 12+16±
NTS



ARMORY STREET
STA 12+26± TO STA 13+34±
NTS

PROPOSED FULL DEPTH PAVEMENT (ARMORY STREET)

SURFACE: 1 1/2" SUPERPAVE SURFACE COURSE - 12.5 POLYMER (SSC-12.5-P)
ASPHALT EMULSION FOR TACK COAT SHALL BE (RS-1h) OVER

INTERMEDIATE: 2" SUPERPAVE INTERMEDIATE COURSE - 12.5 POLYMER (SIC-12.5-P)
ASPHALT EMULSION FOR TACK COAT SHALL BE (RS-1h) OVER

BASE: 4" SUPERPAVE BASE COURSE 37.5 (SBC-37.5) MATERIAL OVER

SUBBASE: 4" DENSE GRADED CRUSHED STONE OVER
8" GRAVEL BORROW (TYPE b)

PROPOSED PAVEMENT MILLING AND RESURFACING

SURFACE: 1 1/2" SUPERPAVE SURFACE COURSE - 12.5 POLYMER (SSC-12.5-P)
ASPHALT EMULSION FOR TACK COAT SHALL BE (RS-1h) OVER

FINE MILLING: 1 1/2" (MIN) PAVEMENT FINE MILLING OF EXISTING PAVEMENT

PROPOSED PAVEMENT WIDENING LESS THAN 4'-0" WIDE

SURFACE: 1 1/2" SUPERPAVE SURFACE COURSE - 12.5 POLYMER (SSC-12.5-P) OVER

INTERMEDIATE: 2" SUPERPAVE INTERMEDIATE COURSE - 12.5 POLYMER (SIC-12.5-P)
OVER

BASE: 8" HIGH EARLY STRENGTH CEMENT CONCRETE OVER

SUBBASE: 8" GRAVEL BORROW (TYPE b)

PROPOSED CEMENT CONCRETE SIDEWALKS

SURFACE: 4" CEMENT CONCRETE
(AIR-ENTRAINED 4000 PSI, 3/4", 610 LBS) OVER

SUBBASE: 8" GRAVEL BORROW (TYPE b)

PROPOSED CEMENT CONCRETE DRIVEWAYS

SURFACE: 6" CEMENT CONCRETE
(AIR-ENTRAINED 4000 PSI, 3/4", 610 LBS) OVER

SUBBASE: 8" GRAVEL BORROW (TYPE b)

PROPOSED HMA DRIVEWAY

SURFACE: 1 ½" SUPERPAVE SURFACE COURSE - 12.5 (SSC-12.5) OVER

INTERMEDIATE 2 ½" SUPERPAVE INTERMEDIATE COURSE - 12.5 (SIC-12.5) OVER

SUBBASE 8" GRAVEL BORROW (TYPE b)

NOTES:

1. ALL HMA SHALL BE IN ACCORDANCE WITH SECTION 450 QUALITY ASSURANCE OF HMA AND SUPERPAVE.
2. ASPHALT EMULSION FOR TACK COAT SHALL BE RS-1h TO RESIST TRACKING OF HAUL VEHICLES.
3. MOMENT SLAB SIDEWALK SHALL BE SURFACE FINISHED IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 701.41, INCIDENTAL TO MOMENT SLAB CONSTRUCTION.
4. HMA DRIVEWAY SURFACE AND INTERMEDIATE COURSES MAY BE SAME MATERIAL APPROVED FOR STREET PAVING.
5. FRONT EDGE OF FENCE POSTS TO BE ALIGNED WITH BACK EDGE OF GUARDRAIL POSTS FOR FABRIC TO ALIGN WITH BACK OF GUARDRAIL POSTS.

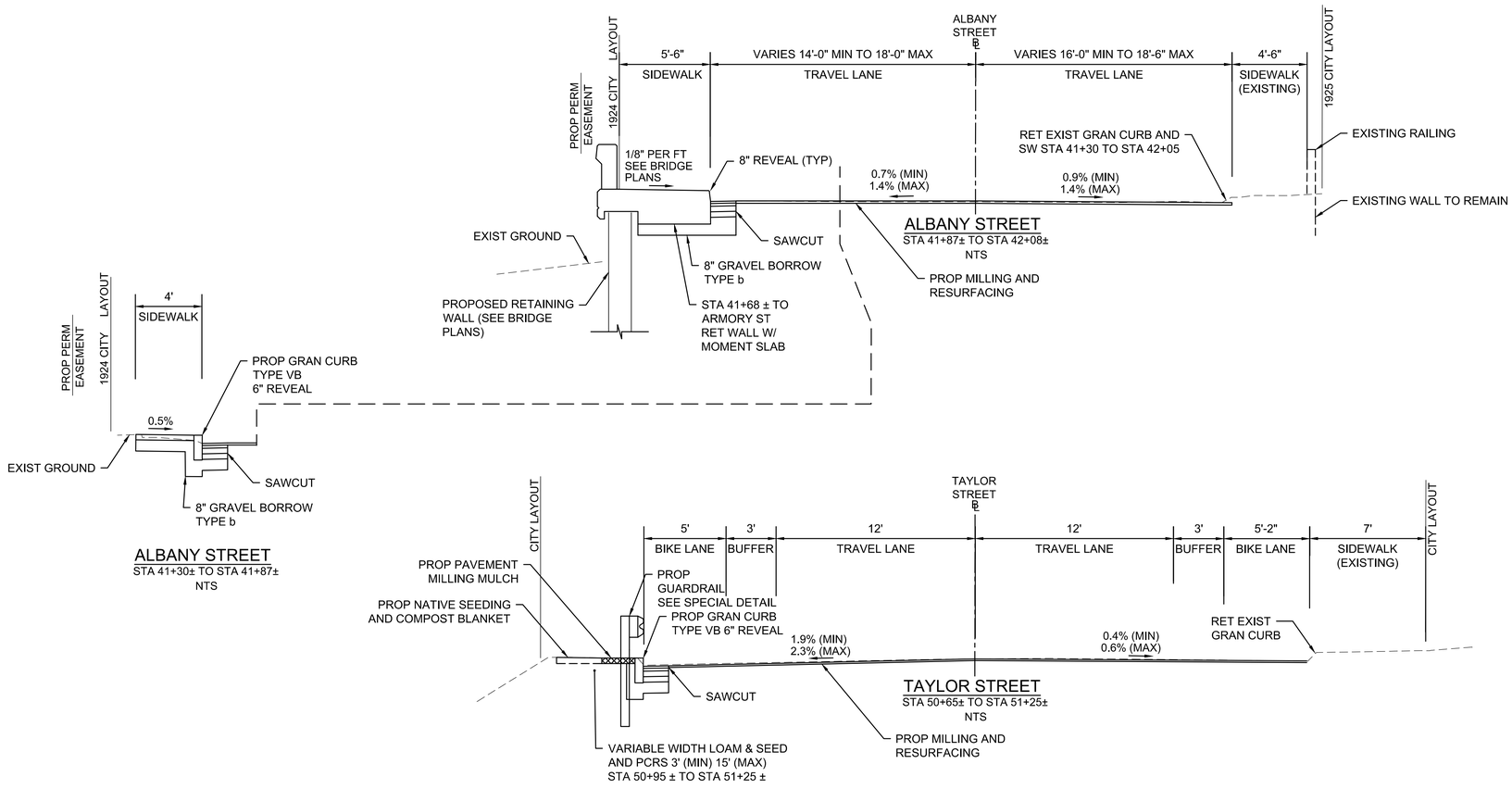
609409_HD (TTX01).DWG Plotted on 19-Nov-2025 9:46 AM

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	6	204
	PROJECT FILE NO. 609409		

TYPICAL SECTIONS
SHEET 2 OF 2

609409_HD_(TTX01).DWG Plotted on 19-Nov-2025 9:46 AM



SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	7	204
PROJECT FILE NO.	609409		

CONSTRUCTION PLAN

1 OF 2

609409_HD (TCP01).DWG Plotted on 19-Nov-2025 9:47 AM

TRAFFIC SIGNAL CONDUIT

SEE TRAFFIC SIGNAL PLANS

WATER SUPPLY ALTERATIONS

SEE DRAINAGE & UTILITY PLANS

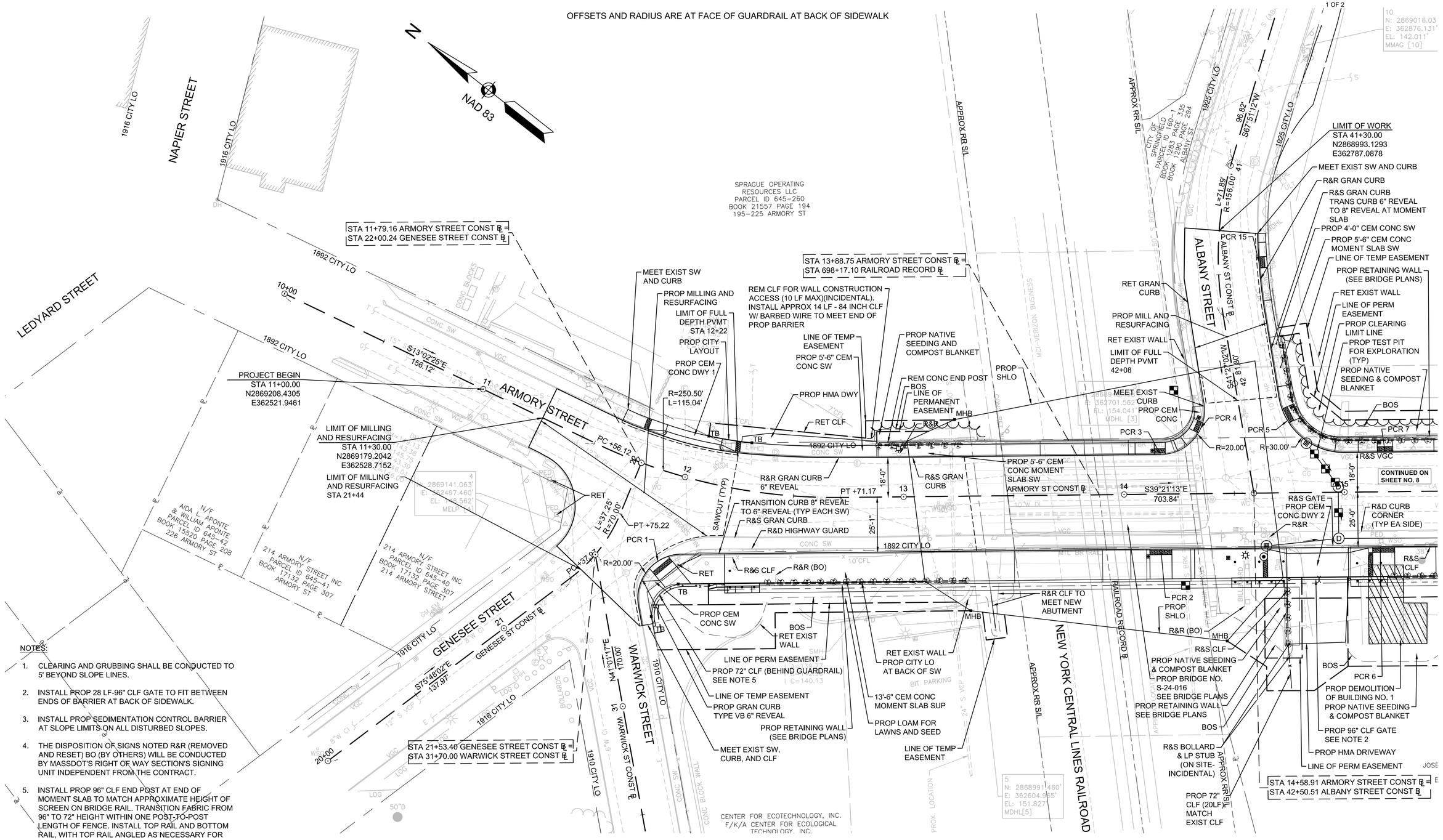
DRAINAGE DETAILS

SEE DRAINAGE & UTILITY PLANS

HIGHWAY GUARDRAIL DETAILS

DESCRIPTION		LOCATION (REF ARMORY ST BASELINE)
ITEM 627.2	GUARDRAIL ROUNDED END UNIT	STA 12+02.6, 67.1' RT (AT PT OF CURVED GUARDRAIL)
ITEM 620.34	GUARDRAIL - CURVED, TL3 (SINGLE FACED)	STA 12+02.6, 67.1' RT TO STA 12+10.3, 47.2'RT (R=17.82 FT)
ITEM 628.241	TRANSITION TO BRIDGE RAIL	STA 12+10.3, 47.2' RT TO STA 12+23.3, 43.9' RT

OFFSETS AND RADIUS ARE AT FACE OF GUARDRAIL AT BACK OF SIDEWALK



NOTES:

1. CLEARING AND GRUBBING SHALL BE CONDUCTED TO 5' BEYOND SLOPE LINES.
2. INSTALL PROP 28 LF-96" CLF GATE TO FIT BETWEEN ENDS OF BARRIER AT BACK OF SIDEWALK.
3. INSTALL PROP SEDIMENTATION CONTROL BARRIER AT SLOPE LIMITS ON ALL DISTURBED SLOPES.
4. THE DISPOSITION OF SIGNS NOTED R&R (REMOVED AND RESET) BO (BY OTHERS) WILL BE CONDUCTED BY MASSDOT'S RIGHT OF WAY SECTION'S SIGNING UNIT INDEPENDENT FROM THE CONTRACT.
5. INSTALL PROP 96" CLF END POST AT END OF MOMENT SLAB TO MATCH APPROXIMATE HEIGHT OF SCREEN ON BRIDGE RAIL. TRANSITION FABRIC FROM 96" TO 72" HEIGHT WITHIN ONE POST-TO-POST LENGTH OF FENCE. INSTALL TOP RAIL AND BOTTOM RAIL, WITH TOP RAIL ANGLED AS NECESSARY FOR THE TRANSITION, WITH PAYMENT FOR BOTH RAILS INCIDENTAL TO THE 96" CLF FABRIC. INSTALL 72" CLF CORNER POSTS AT EACH SUBSEQUENT CORNER.

FOR PROFILE: SEE SHEET NO. 9 & 11

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	8	204
PROJECT FILE NO.	609409		

CONSTRUCTION PLAN
2 OF 2

609409_HD (TCP01).DWG Plotted on 19-Nov-2025 9:47 AM

TRAFFIC SIGNAL CONDUIT

SEE TRAFFIC SIGNAL PLANS

WATER SUPPLY ALTERATIONS

SEE DRAINAGE & UTILITY PLANS

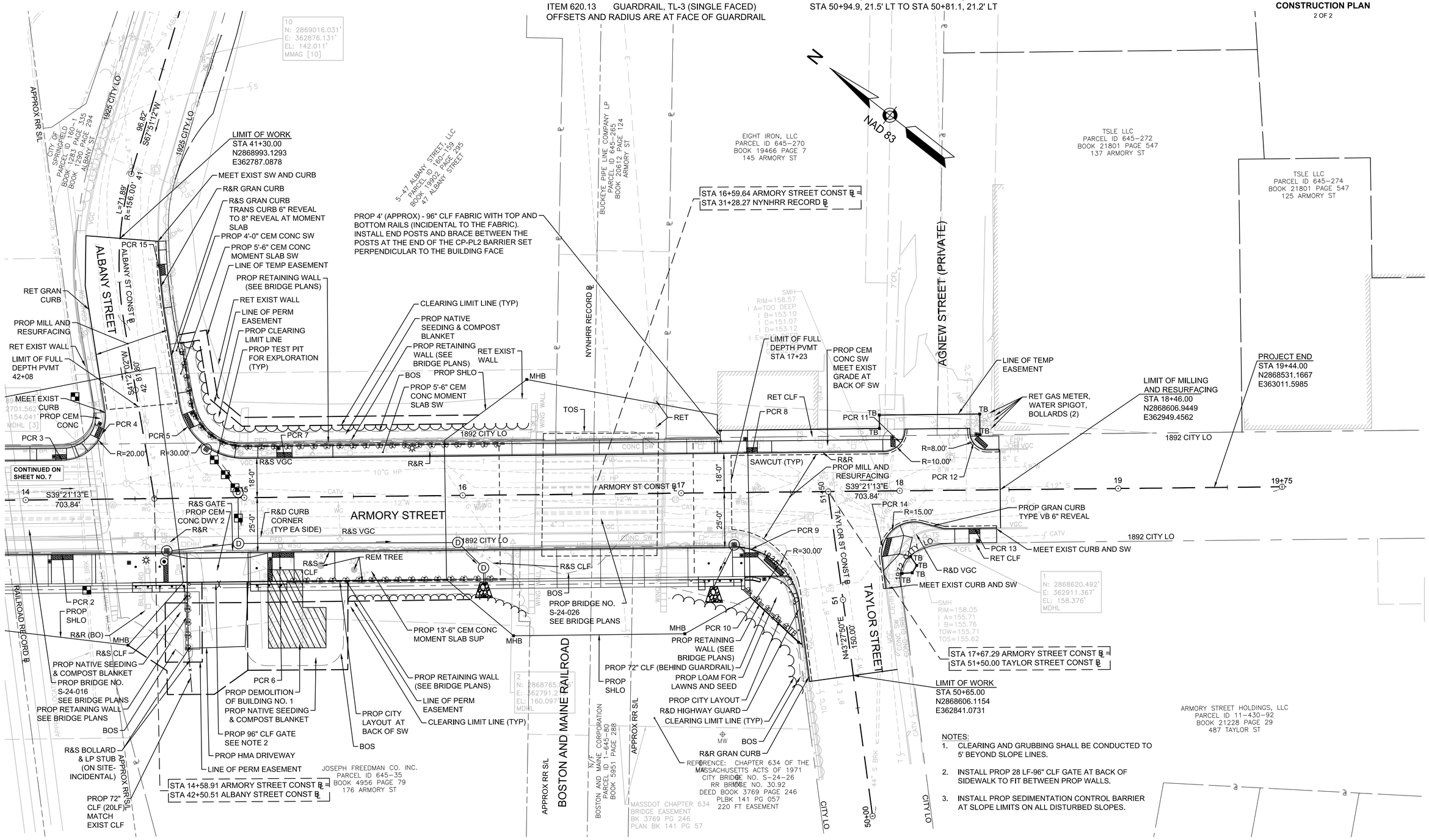
DRAINAGE DETAILS

SEE DRAINAGE & UTILITY PLANS

HIGHWAY GUARDRAIL DETAILS

DESCRIPTION		LOCATION (REF TAYLOR ST BASELINE)
ITEM 628.24	TRANSITION TO BRIDGE RAIL	STA 51+16.1, 39.2' LT TO STA 51+15.5, 34.5' LT
ITEM 620.34	GUARDRAIL - CURVED, TL-3 (SINGLE FACED)	STA 51+15.5, 34.5' LT TO STA 51+01.2, 21.6' LT (R=14.74 FT)
ITEM 628.25	TRANSITION TO THRIE BEAM	STA 51+01.2, 21.6' LT TO STA 50+94.9, 21.5' LT
ITEM 620.13	GUARDRAIL, TL-3 (SINGLE FACED)	STA 50+94.9, 21.5' LT TO STA 50+81.1, 21.2' LT

OFFSETS AND RADIUS ARE AT FACE OF GUARDRAIL



FOR PROFILE: SEE SHEET NO. 10 & 11

NOTES:

1. CLEARING AND GRUBBING SHALL BE CONDUCTED TO 5' BEYOND SLOPE LINES.
2. INSTALL PROP 28 LF-96" CLF GATE AT BACK OF SIDEWALK TO FIT BETWEEN PROP WALLS.
3. INSTALL PROP SEDIMENTATION CONTROL BARRIER AT SLOPE LIMITS ON ALL DISTURBED SLOPES.

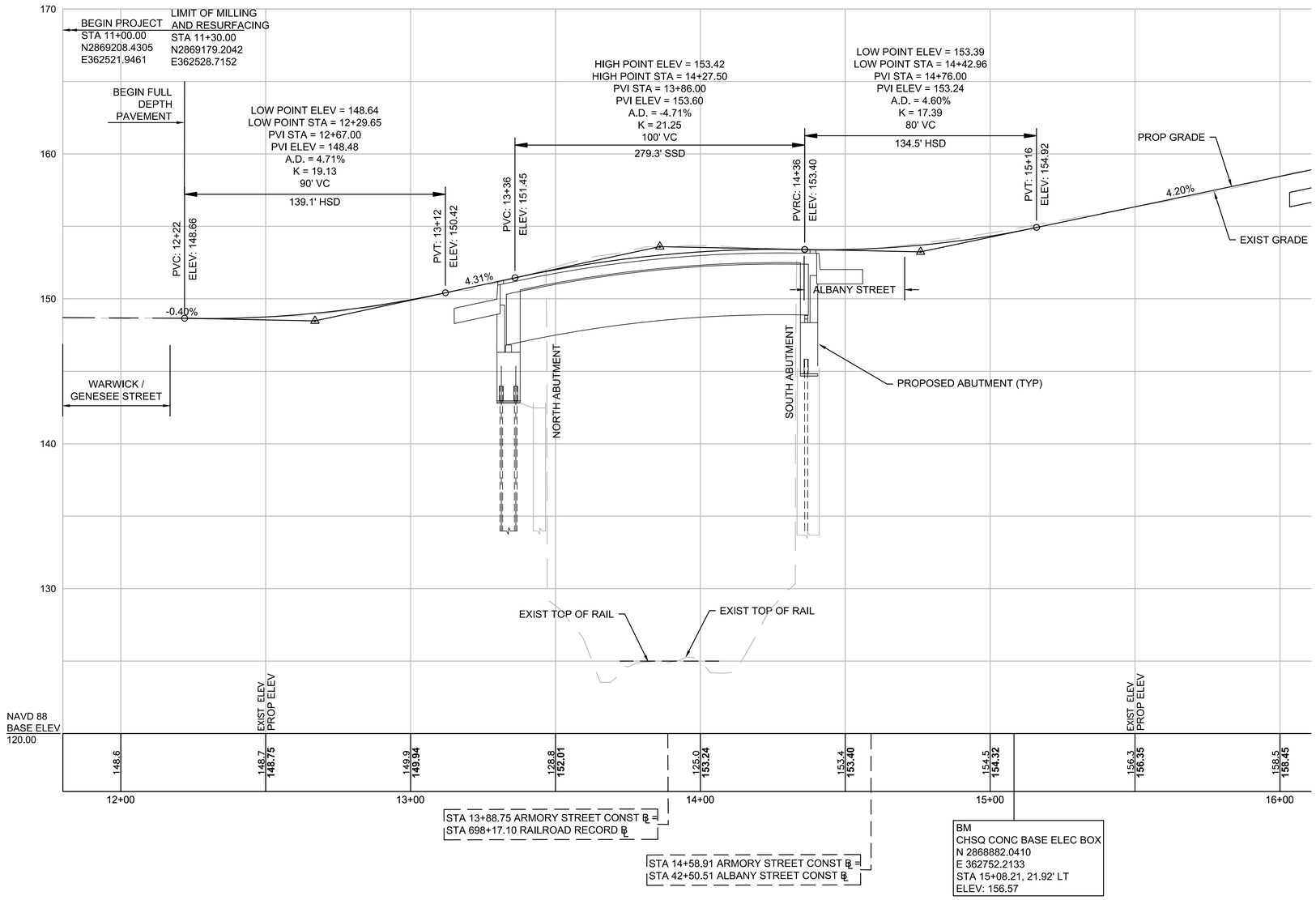
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	9	204
	PROJECT FILE NO. 609409		

PROFILES
1 OF 3

609409_HD (TPF01).DWG Plotted on 19-Nov-2025 9:47 AM

ARMORY STREET



CONTINUED ON SHEET 10

HOR. SCALE IN FEET
0 20 50 100
0 4 10 20
VERT. SCALE IN FEET

FOR CONSTRUCTION PLAN: SEE SHEET NO. 7

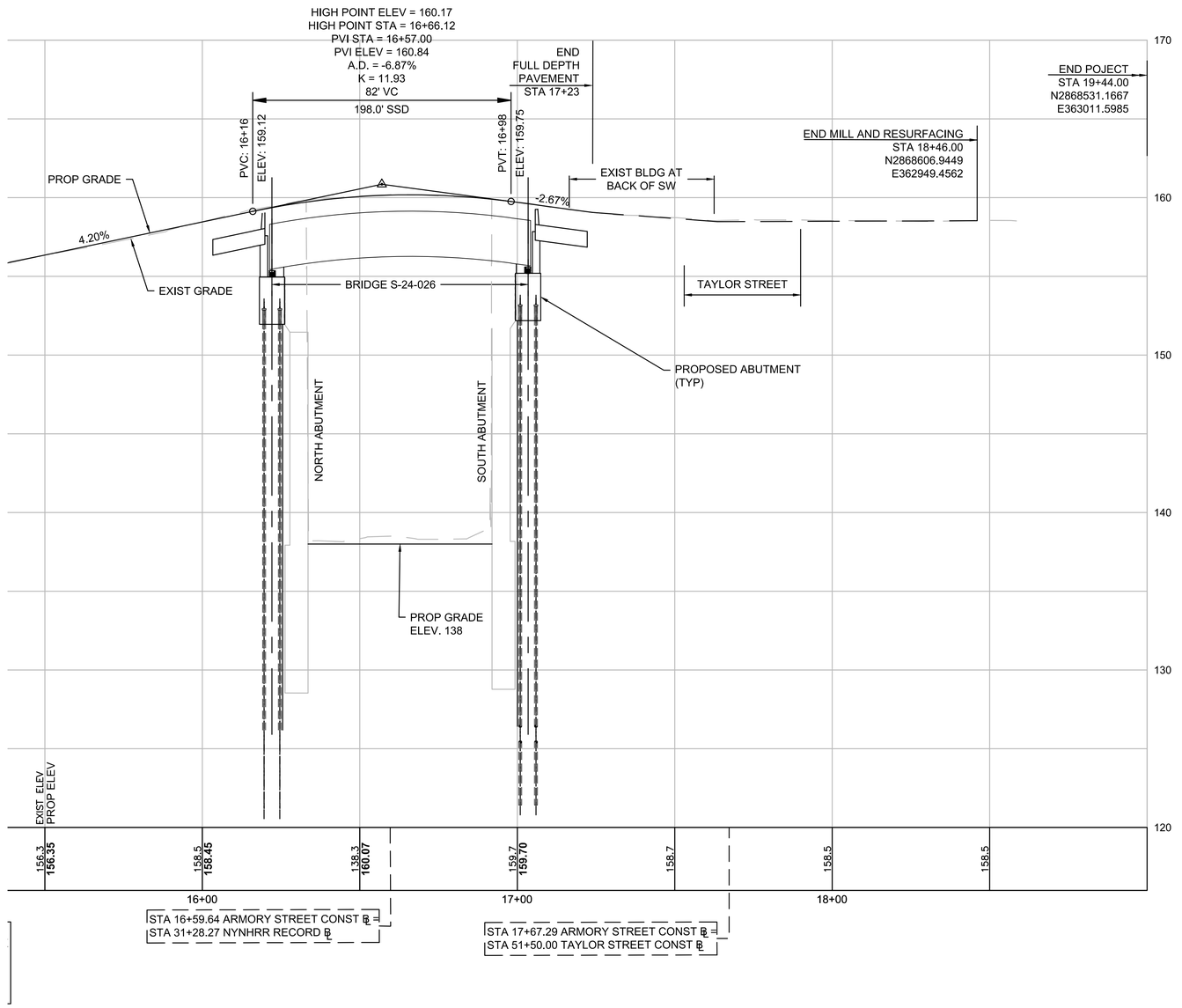
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	10	204
	PROJECT FILE NO. 609409		

PROFILES
2 OF 3

609409_HD (TPF01).DWG Plotted on 19-Nov-2025 9:47 AM

ARMORY STREET



CONTINUED
ON SHEET 9

HOR. SCALE IN FEET
0 20 50 100
0 4 10 20
VERT. SCALE IN FEET

FOR CONSTRUCTION PLAN: SEE SHEET NO. 8

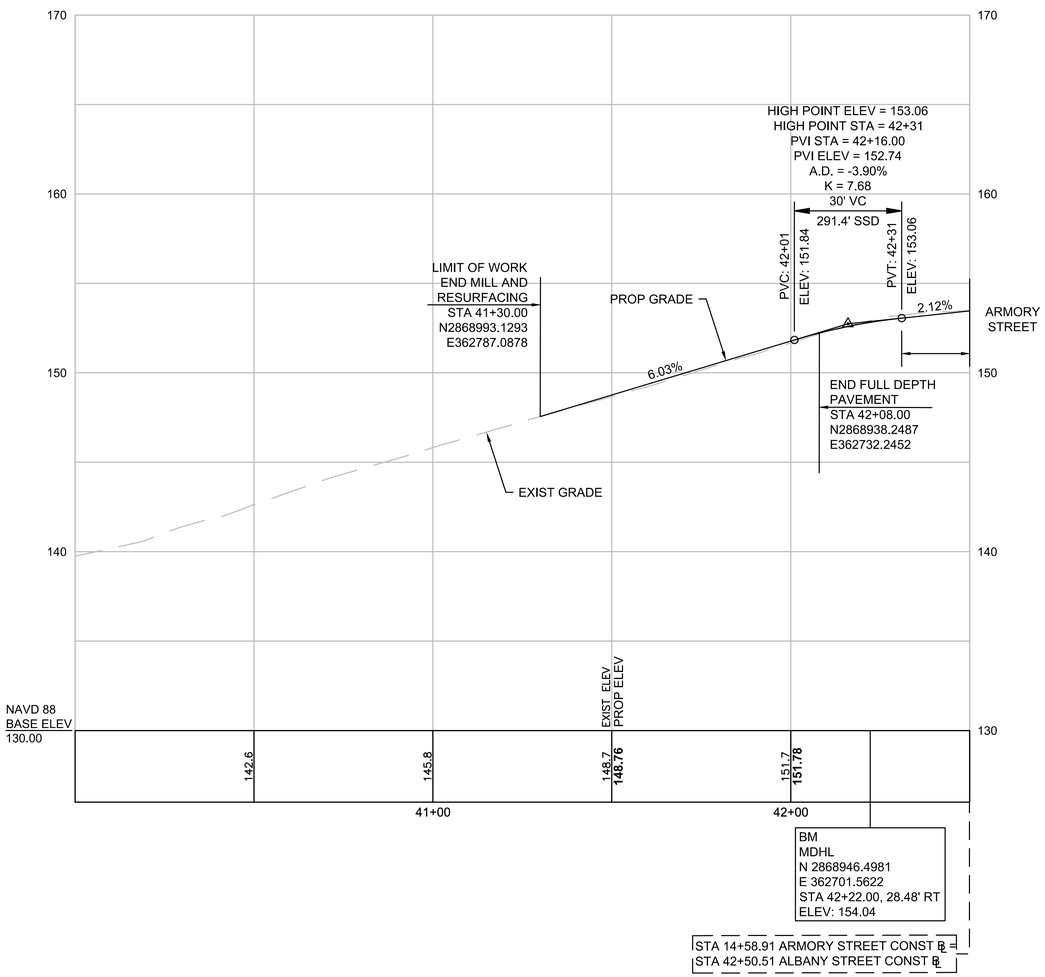
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	11	204
	PROJECT FILE NO. 609409		

PROFILES
3 OF 3

609409_HD (TPF01).DWG Plotted on 19-Nov-2025 9:47 AM

ALBANY STREET



HOR. SCALE IN FEET
0 20 50 100
0 4 10 20
VERT. SCALE IN FEET

FOR CONSTRUCTION PLAN: SEE SHEET NO. 7 & 8

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	12	204
PROJECT FILE NO.	609409		

CURB TIE AND GRADING PLAN

SHEET 1 OF 2

609409_HD (TCT01).DWG Plotted on 19-Nov-2025 9:48 AM

ARMORY STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
START	10+00.00	2869305.852	362499.382		S13°02'25"E 156.12'	11+56.12	2869153.756	362534.609
PC	11+56.12	2869153.756	362534.609	R=250.50' Δ=26°18'48" L=115.04' T=58.55'		12+71.17	2869051.434	362584.951
PT	12+71.17	2869051.434	362584.951		S39°21'13"E 703.84'	19+75.00	2868507.193	363031.258

GENESEE STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
START	20+00.00	2869157.736	362346.258		S75°48'02"E 137.97'	21+37.97	2869123.892	362480.012
PC	21+37.97	2869123.892	362480.012	R=70.00' Δ=30°29'18" L=37.25' T=19.08'		21+75.22	2869124.563	362516.817
PT	21+75.22	2869124.563	362516.817		N73°42'40"E 25.02'	22+00.24	2869131.581	362540.832

ALBANY STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
START	40+00.00	2869045.299	362905.940		S67°51'12"W 96.82'	40+96.82	2869008.801	362816.266
PC	40+96.82	2869008.801	362816.266	R=156.00' Δ=26°24'10" L=71.89' T=36.59'		41+68.70	2868967.578	362758.149
PT	41+68.70	2868967.578	362758.149		S41°27'02"W 81.80'	42+50.51	2868906.265	362703.998

CURVE TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	99°40'43"	20.00	34.79
C2	15°48'07"	164.00	45.23
C3	5°35'13"	545.00	53.14
C4	98°24'09"	20.00	34.35
C5	81°10'26"	30.00	42.50
C6	83°04'08"	30.00	43.49
C7	91°30'18"	10.00	15.97
C8	90°05'37"	8.00	12.58
C9	112°12'40"	15.00	29.38

NOTES:

1. GRADES SHOWN ARE AT PAVEMENT ELEVATION UNLESS OTHERWISE NOTED.
2. GRADES SHOWN AT 10' INTERVALS ALONG CURVES WITHIN INTERSECTIONS STARTING AT THE PC.

STA 11+79.16 ARMORY STREET CONST ℄ =
STA 22+00.24 GENESEE STREET CONST ℄

STA 13+88.75 ARMORY STREET CONST ℄ =
STA 698+17.10 RAILROAD RECORD ℄

BEGIN PROJECT
STA 11+00.00
N2869208.4305
E362521.9461

LIMIT OF MILLING AND RESURFACING
STA 11+30.00
N2869179.2042
E362528.7152

LIMIT OF MILLING AND RESURFACING
STA 21+44

LIMIT OF WORK
STA 41+30.00
N2868993.1293
E362787.0878

CONTINUED ON SHEET NO. 13

WARWICK STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
START	30+00.00	2868993.521	362383.688		N41°01'17"E 170.00'	31+70.00	2869121.780	362495.266

STA 21+53.40 GENESEE STREET CONST ℄ =
STA 31+70.00 WARWICK STREET CONST ℄

STA 14+58.91 ARMORY STREET CONST ℄ =
STA 42+50.51 ALBANY STREET CONST ℄

0 20 50 100

SCALE: 1" = 20'

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	13	204
PROJECT FILE NO.	609409		

CURB TIE AND GRADING PLAN

SHEET 2 OF 2

609409_HD (TCT01).DWG Plotted on 19-Nov-2025 9:48 AM

ARMORY STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
START	10+00.00	2869305.852	362499.382		S13°02'25"E 156.12'	11+56.12	2869153.756	362534.609
PC	11+56.12	2869153.756	362534.609	R=250.50' Δ=26°18'48" L=115.04' T=58.55'		12+71.17	2869051.434	362584.951
PT	12+71.17	2869051.434	362584.951		S39°21'13"E 703.84'	19+75.00	2868507.193	363031.258

ALBANY STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
START	40+00.00	2869045.299	362905.940		S67°51'12"W 96.82'	40+96.82	2869008.801	362816.266
PC	40+96.82	2869008.801	362816.266	R=156.00' Δ=26°24'10" L=71.89' T=36.59'		41+68.70	2868967.578	362758.149
PT	41+68.70	2868967.578	362758.149		S41°27'02"W 81.80'	42+50.51	2868906.265	362703.998

TAYLOR STREET CONSTRUCTION BASELINE DATA

NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
START	50+00.00	2868558.938	362796.360		N43°27'50"E 150.00'	51+50.00	2868667.809	362899.544

CURVE TABLE

CURVE #	DELTA	RADIUS	LENGTH
C1	99°40'43"	20.00	34.79
C2	15°48'07"	164.00	45.23
C3	5°35'13"	545.00	53.14
C4	98°24'09"	20.00	34.35
C5	81°10'26"	30.00	42.50
C6	83°04'08"	30.00	43.49
C7	114°32'22"	1.00	2.00
C8	3°51'02"	30.00	2.00
C9	105°34'10"	1.00	2.00
C10	91°30'18"	10.00	15.97
C11	90°05'37"	8.00	12.58
C12	112°12'40"	15.00	29.38

10
N: 2869016.031'
E: 362876.131'
EL: 142.011'
MMAG [10]

N
NAD 83

S67°51'12"W 96.82'
PC +96.82
L=71.89'
R=156.00'
LIMIT OF WORK
STA 41+30.00
N2868993.1293
E362787.0878
PCR 15
148.23
PT +68.70
ALBANY STREET
ALBANY ST CONST ℄
S41°27'02"W 81.80'
42+06.56
15'-5"
18'18"
PT +09.61
152.81
PGL LOW POINT (+43) 153.39
153.40
153.45 (+57)
153.54 (+64)
153.51
153.89
154.32
+00.39
153.82 (+82)
PCR 5
151.92
152.51
153.06
PCR 6
PCR 7
155.99
158.09
155.85
157.95
156.35
158.45
160.07
159.55
159.17
159.69
159.32
159.70
ARMORY STREET
ARMORY ST CONST ℄
STA 16+59.64 ARMORY STREET CONST ℄
STA 31+28.27 NYNHRR RECORD ℄
BENCHMARK: [502]CHSQ CONC BASE ELEC BOX
EL=156.57'
2.2%(+43)
2.6%(+57)
3.0%(+64)
2.5%(+82)
152.89 (+43)
152.85
152.82 (+57)
152.79
LOW POINT at CB (+57)
153.20 (+82)
DWY 2
CONTINUED ON SHEET NO. 12
5-47 ALBANY STREET, LLC
PARCEL ID 160-159
BOOK 19962 PAGE 205
47 ALBANY STREET
BUCKEYE PIPE LINE COMPANY LP
PARCEL ID 645-265
BOOK 20612 PAGE 124
ARMORY ST
EIGHT IRON, LLC
PARCEL ID 645-270
BOOK 19466 PAGE 7
145 ARMORY ST
N 2868750
E 363000
JOSEPH FREEDMAN CO. INC.
PARCEL ID 645-35
BOOK 4956 PAGE 79
176 ARMORY ST
BOSTON AND MAINE CORPORATION
PARCEL ID 645-86
BOOK 5951 PAGE 280
STA 14+58.91 ARMORY STREET CONST ℄
STA 42+50.51 ALBANY STREET CONST ℄
2
N: 2868765.826'
E: 362791.219'
EL: 160.097'
MDHL

AGNEW STREET (PRIVATE)
PCR 8
PCR 9
PCR 10
PCR 11
PCR 12
PCR 13
PCR 14
+02.69
+32.43
157.99 158.03
158.13
158.16
+10.27
+20.22
+40.44
+92.69
158.50
158.09
158.15
158.08
158.56
158.38
158.67
158.53
158.64
157.91
158.47
157.66
+23.81
+16.01
20'-1"
+00.74
157.87
159.18
C7
C8
C9
C10
C11
C12
PC
PT
18'
18'-4"
14'-10"
17'-6"
25'
20'
TAYLOR ST CONST ℄
TAYLOR STREET
N43°27'50"E 150.00'
S39°21'13"E 703.84'
18
19
19+75
S39°46'31"E 280.35'
N 2868500
E 363000
LIMIT OF MILLING AND RESURFACING
STA 18+46.00
N2868606.9449
E362949.4562
END PROJECT
STA 19+44.00
N2868531.1667
E363011.5985
STA 17+67.29 ARMORY STREET CONST ℄ =
STA 51+50.00 TAYLOR STREET CONST ℄
LIMIT OF WORK
STA 50+65.00
N2868606.0891
E362841.1008
BENCHMARK: [501]CHSQ BASE OF TFMA
EL=159.07'
1
N: 2868620.492'
E: 362911.367'
EL: 158.376'
MDHL
N: 2868405.02
E: 363090.73
EL: 167.67
MDHL [E
ARMORY STREET HOLDINGS, LLC
PARCEL ID 11-430-92
BOOK 21228 PAGE 29
487 TAYLOR ST

NOTES:

1. GRADES SHOWN ARE AT PAVEMENT ELEVATION UNLESS OTHERWISE SPECIFIED.
2. GRADES ARE SHOWN AT 10' INTERVALS ALONG CURVES WITHIN INTERSECTIONS STARTING AT THE PC.

0 20 50 100
SCALE: 1" = 20'

NOTES:

1. INSTALL 3-4" TEMP ELEC CONDUITS IN PROTECTIVE PIPE ON THE EXISTING PAVEMENT SURFACE AND BRIDGE DECK OUTSIDE THE LIMITS OF STAGE 1 DEMOLITION AND CONTINUE THE INSTALLATION TO WITHIN 5 FEET FROM EVERSOURCE MANHOLES, INCLUDING TEMPORARY HORIZONTAL AND VERTICAL SUBSURFACE TO SURFACE ALIGNMENT TRANSITIONS. SEE CONSTRUCTION STAGING AND UTILITY RELOCATION PLAN STAGE 1. DURING STAGE 1 BRIDGE DEMOLITION AND UNTIL THE CABLES (BY EVERSOURCE) IN THE TEMP SURFACE CONDUIT ARE ENERGIZED, PROVIDE TEMPORARY SUPPORT FOR THE EXISTING 3 x 3 EVERSOURSE DUCT BANK BETWEEN AND ACROSS THE BRIDGE ABUTMENTS. THE PERMANENT 4-4" AND 2-5" ELEC CONDUITS TYPE NM-PLASTIC (UL) SHALL BE INSTALLED TO THE FINAL SUBSURFACE LOCATION AND ACROSS THE BRIDGES TO WITHIN 5 FEET FROM EVERSOURCE MANHOLES FOLLOWING COMPLETION OF THE PERMANENT UTILITY SUPPORTS ON THE BRIDGES. REMOVE THE EXISTING 3 x 3 EVERSOURCE DUCT BANK AND THE TEMPORARY INSTALLATIONS FOLLOWING INSTALLATION AND ENERGIZING OF THE PERMANENT CABLES (BY EVERSOURCE) AND COMPLETE THE CONCRETE ENCASEMENT OF THE PROP DUCT BANK AS SHOWN ON THE PLAN DETAILS.

2. CROWN CASTLE OPERATES ACTIVE CABLE IN 2 OF 6 OTHERWISE UNOCCUPIED VERIZON CONDUITS ON BRIDGE S-24-016. DURING STAGE 2 BRIDGE DEMOLITION AND UNTIL CROWN CASTLE ACTIVATES NEW CABLE IN THE NEW LOCATION DESCRIBED HEREIN, PROVIDE TEMPORARY SUPPORT FOR THE EXISTING CONDUIT IN THE EXISTING LOCATION BETWEEN AND ACROSS THE BRIDGE ABUTMENTS.

   DURING STAGE 2 BRIDGE DEMOLITION, PROVIDE TEMPORARY SUPPORT FOR THE 2 EXISTING COMCAST CONDUITS IN THEIR EXISTING LOCATION. SUBSEQUENT TO DEMOLITION AND PRIOR TO MICROPILE WORK, INSTALL ADDITIONAL 4-4" ELEC CONDUIT TYPE NM-PLASTIC (UL) (COMCAST (2) AND CROWN CASTLE (2)) ON THIS TEMPORARY SUPPORT. THE TEMPORARY SUPPORT SHALL BE REPOSITIONED IN COORDINATION WITH SUBSEQUENT MICROPILE INSTALLATION TO AVOID CONFLICT. CROWN CASTLE AND COMCAST WILL INSTALL NEW CABLE IN THE NEW CONDUITS WITH SUFFICIENT SLACK FOR LATERAL AND VERTICAL SHIFTS IN TEMPORARY SUPPORT LOCATION TO ENABLE INSTALLATION OF ALL THE MICROPILES AND POSITIONING OF THE CONDUITS TO THEIR FINAL INSTALLATION LOCATION. INSTALL SPLIT CASING (INCIDENTAL TO THE CONDUIT ITEMS) WITHIN THE RUN OF THE NEW CONDUITS AS MAY BE REQUIRED TO COMPLETE ALL SHIFTED RELOCATIONS.

3. INSTALL THE PROPOSED 2-4" COMCAST CONDUIT IN THE SAME TRENCH AS THE EXISTING CONDUIT, RETAINING THE EXISTING COMCAST CONDUIT IN PLACE UNDISTURBED. COMCAST WILL CONNECT THE PROPOSED CONDUIT TO THE PROPOSED COMCAST MH AT ALBANY STREET. AFTER COMCAST PULLS THEIR NEW CABLE THROUGH THE NEW CONDUIT AND ACTIVATES IT, REMOVE THEIR EXISTING CONDUIT OVER THE BRIDGE.

4. IN ADVANCE OF EACH BRIDGE ABUTMENT AND PRIOR TO CONCRETE ENCASEMENT BEND THE PROPOSED CONDUITS TO THE CONFIGURATION, SPACING, AND ELEVATION AS REQUIRED ON THE BRIDGES TO ENABLE FIT THROUGH THE ABUTMENT BACKWALLS.

5. EVERSOURCE GAS WILL ABANDON THE EXISTING GAS MAIN ON BRIDGE S-24-016 PRIOR TO CONTRACT NPT. COORDINATE WITH EVERSOURCE GAS TO ESTABLISH THEIR LIMITS OF ABANDONMENT.

6. MASSDOT SHALL REMOVE ALL GAS LINES AND SLEEVES - PREVIOUSLY ABANDONED AND PROP ABANDONED - FROM EACH BRIDGE.

7. EVERSOURCE ELECTRIC, COMCAST, AND VERIZON SERVICE CONNECTIONS TO 176 ARMORY STREET SHOWN SCHEMATICALLY SHALL BE COORDINATED WITH THE PROPERTY OWNER BY THE RESPECTIVE UTILITIES AT THE PROPERTY'S DRIVEWAY AND NOT UNDER THE MOMENT SLAB.

8. A 3" ELECTRIC CONDUIT TYPE NM-PLASTIC (UL) AND ELECTRICAL SERVICE CABLE WILL BE INSTALLED FROM THE PROP ELEC MH TO THE METER AT THE PROP TRAFFIC SIGNAL CABINET BY EVERSOURCE ELEC FOR THE PROP TRAFFIC SIGNAL SYSTEM AT THE ALBANY STREET INTERSECTION. SEE TRAFFIC SIGNAL PLANS FOR CONDUIT INSTALLATION REQUIREMENTS.

9. EVERSOURCE ELECTRIC, VERIZON, COMCAST AND CROWN CASTLE WILL INSTALL THE LAST 5 FOOT LENGTH OF CONDUIT THAT CONNECTS TO THEIR MANHOLES.

10. EXISTING DRAINAGE AND SEWER CASTINGS NOTED TO BE RET OR ADJ AND PROPOSED DRAINAGE CASTINGS SHALL BE ADJUSTED TO PAVEMENT SURFACE ELEVATION FOR THE NUMBER OF APPROVED TIMES (2 MAX ASSUMED) REQUIRED FOR MAINTENANCE OF TRAFFIC.

11. EXISTING AND PROPOSED UTILITY CASTINGS OWNED BY PRIVATE COMPANIES SHALL BE ADJUSTED TO PAVEMENT SURFACE ELEVATION BY THE RESPECTIVE UTILITY COMPANIES FOR THE NUMBER OF APPROVED TIMES (2 MAX ASSUMED) REQUIRED FOR MAINTENANCE OF TRAFFIC.

12. EXISTING WATER MAIN GATE VALVES AND BOXES ON ALL PIPE TO BE ABANDONED SHALL BE REMOVED AND DISPOSED, INCIDENTAL TO WATER WORKS ITEMS.

SEE THE FOLLOWING FOR SPECIFIC UTILITY RELOCATION STAGING AND DETAILS:

SHEETS 16-18 OF 204	WATER MAIN ELEVATION
SHEETS 55-56 OF 204	WATER MAIN DETAILS
SHEET 89 OF 204	WATER MAIN GRAVITY BLOCK DETAIL (GB 1 AND 2)
SHEET 160 OF 204	WATER MAIN GRAVITY BLOCK DETAIL (GB 3 AND 4)
SHEET 59 OF 204	EVERSOURCE ELECTRIC AND VERIZON DUCT BANK DETAILS
SHEETS 36-37 OF 204	CONSTRUCTION STAGING AND UTILITY RELOCATION PLANS STAGE 1
SHEETS 40-41 OF 204	CONSTRUCTION STAGING AND UTILITY RELOCATION PLANS STAGE 2
	BRIDGE NO. S-24-016
SHEETS 77-80 OF 204	CONSTRUCTION STAGING PLANS
SHEETS 112 OF 204	UTILITY SUPPORT DETAILS
SHEET 126 OF 204	WATER MAIN SUPPORT DETAILS
	BRIDGE NO. S-24-026
SHEETS 149-152 OF 204	CONSTRUCTION STAGING PLANS
SHEET 177 OF 204	UTILITY SUPPORT DETAILS
SHEET 189 OF 204	WATER MAIN SUPPORT DETAILS

DRAINAGE STRUCTURE DATA

NO	TYPE	STATION	RIM ELEV	INV ELEV IN	INV ELEV OUT	REMARKS
1	CB	14+64.36 25.00' RT	153.02	--	2 148.70	3' SUMP AND HOOD 3 FLANGE FRAME FLAT TOP
2	DMH	14+97.19 20.96' RT	153.83	1 148.60 3 148.50	148.40	FLAT TOP
3	DMH	14+97.19 2.54' LT	154.20	4 148.70	2 148.60	FLAT TOP
4	CB	14+82.92 22.40' LT	153.40	--	148.80	3' SUMP AND HOOD 3 FLANGE FRAME FLAT TOP

NAD 83

CONNECT PROP ELEC CONDUIT DUCT BANK TO EXIST MH (EVERSOURCE ELEC) (BY OTHERS)

CONNECT PROP CONDUITS TO EXIST MH (COMCAST) (BY OTHERS)

PROP 12" - 22 ½° MJ x MJ AND 11 ¼° MJ x MJ BENDS HORIZ RESTRAINED CONNECT TO EXISTING WATER PIPE

PROP 6" DI WATER PIPE SOLID SLEEVE PROP 6" 45° MJ x MJ BEND HORIZ RESTRAINED CONNECT TO EXISTING WATER PIPE (SERVICE LINE)

PROP 12" x 6" TEE 6" GV AND BOX

PROP 12" GV AND BOX

PROP 12" DI WATER PIPE

PROP 6" FRE CONDUITS (VERIZON)

PROP 4-4" ELEC CONDUIT TYPE NM-PLASTIC (UL) (COMCAST (2) AND CROWN CASTLE (2)) CONSTRUCTED IN STAGES ACCORDING TO THE CONSTRUCTION STAGING AND UTILITY RELOCATION PLANS. SEE NOTE 2.

SPRAGUE OPERATING RESOURCES LLC PARCEL ID 645-260 BOOK 21557 PAGE 194 195-225 ARMORY ST

R&R LP, STA. 12+97.91, OFFSET 21.92' LT RET CONDUIT WITHIN EXISTING PAVEMENT AND CONNECT NEW 3" ELECTRICAL CONDUIT TYPE NM-PLASTIC THROUGH THE MOMENT SLAB TO THE RELOCATED LIGHT POLE

PROP 2-4" ELEC CONDUIT TYPE NM-PLASTIC-(UL) CONDUITS (CROWN CASTLE) SEE NOTE 2.

PROP 2-4" ELEC CONDUIT TYPE NM PLASTIC - (UL) (COMCAST). SEE NOTE 2.

ABANDONED GAS PIPE (BY OTHERS) SEE NOTE 5.

RET AND ADJ FIBERTECH MH (BY OTHERS) CONNECT PROP CONDUITS TO EXIST MH (CROWN CASTLE) (BY OTHERS)

REM GATE BOX (TYP ALL ABAN WATER MAIN)

PROP 12" - 45° MJ x MJ BEND HORIZ RESTRAINED

CUT AND CAP GAS MAIN (BY OTHERS)

PROP 12" - 22 ½° MJ x MJ BEND HORIZ RESTRAINED

PROP 4-4" AND 2-5" ELEC CONDUIT TYPE NM-PLASTIC (UL) CONSTRUCTED IN STAGES ACCORDING TO THE CONSTRUCTION STAGING AND UTILITY RELOCATION PLANS (EVERSOURCE ELEC). SEE NOTE 1.

SEE INSET A SANITARY SEWER DETAIL ON NEXT SHEET

CAP CONDUIT ENDS AT END OF THIS APPROACH SLAB ONLY (VERIZON)

PROP 12" DI WATER PIPE IN 18" INSULATED AND JACKETED SCH 20 STEEL SLEEVE (SLEEVED ABOVE GROUND ONLY) SEE SHEETS 16-18

PROP BRIDGE BEAM (TYP)

R&R LP, STA. 14+54.79 OFFSET 28.16' RT RET CONDUIT WITHIN EXISTING PAVEMENT AND CONNECT NEW 3" ELECTRICAL CONDUIT TYPE NM-PLASTIC THROUGH THE MOMENT SLAB TO THE RELOCATED LIGHT POLE

PROP 28 LF - 12" RCP

PROP UTILITY SERVICE LOCATIONS. SEE NOTE 7

PROP 8" DI WATER PIPE

PROP 8" GV AND BOX 12" x 8" TEE 2-12" GV AND BOXES CURB STOP (2" COPPER TUBING SERVICE PIPE LOCATION TO BE ESTABLISHED IN COORDINATION WITH OWNER)

CONNECT PROP CONDUITS TO EXIST MH (BY OTHERS)

CONNECT PROP CONDUITS TO PROP MH (VERIZON) (BY OTHERS)

REM GATE BOX (TYP ALL ABAN WATER MAIN)

ABAN

REM VERIZON MH

RET AND ADJ AT&T MH (BY OTHERS)

PROP 4-4" ELEC CONDUIT TYPE NM-PLASTIC-(UL) (COMCAST)

PROP 8" - 45° MJ x MJ BEND HORIZ RESTRAINED 8" GV AND BOX CONNECT TO EXIST WATER PIPE

PROP 6' x 14' x 7' DOGHOUSE MH CONSTRUCTED OVER EXISTING CONDUITS (VERIZON) (BY OTHERS)

PROP 6-4" ELEC CONDUIT TYPE NM-PLASTIC-(UL) (VERIZON)

REM

PROP 8" DI WATER PIPE

PROP 4' x 4' x 4' MH (COMCAST)

REM

PROP 6' x 14' x 7' MH (EVERSOURCE ELECTRIC) (BY OTHERS)

REM

PROP 8" - 45° MJ x MJ BEND HORIZ RESTRAINED PROP 20 LF - 12" RCP

PROP CB

REM

PROP 19 LF - 12" RCP

REM

REM (BO)

PROP 8" DI WATER PIPE

PROP CB

CONTINUED ON SHEET NO. 15

1892 CITY LO

1910 CITY LO

1916 CITY LO

1925 CITY LO

ARMORY STREET

GENESEE STREET

WARWICK STREET

ALBANY STREET

ARMORY ST CONST B

GENESEE ST CONST B

WARWICK ST CONST B

ALBANY ST CONST B

APPROX RR S/L

NEW YORK CENTRAL LINES RAILROAD

RAILROAD RECORD B

CENTER FOR ECOTECHNOLOGY, INC. F/K/A CENTER FOR ECOLOGICAL TECHNOLOGY, INC.

0 20 50 100

SCALE: 1" = 20'

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	14	204
	PROJECT FILE NO. 609409		

DRAINAGE & UTILITY PLAN

SHEET 1 OF 2

609409_HD (TUT01).DWG Plotted on 22-Dec-2025 4:14 PM

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	15	204
	PROJECT FILE NO. 609409		

DRAINAGE & UTILITY PLAN

SHEET 2 OF 2

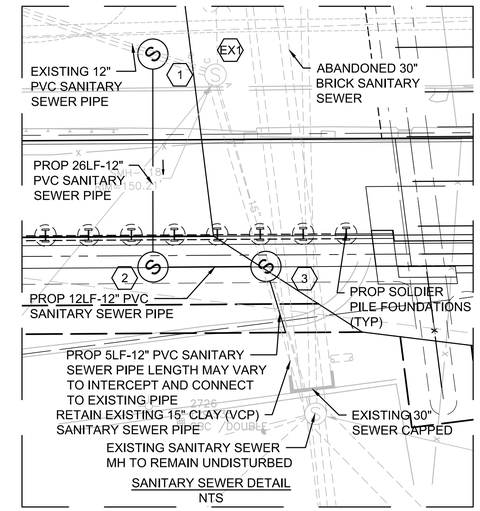
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609409_HD (TUT01).DWG

NAD 83

SEWER STRUCTURE DATA

NO	TYPE	STATION	RIM ELEV	INV ELEV IN	INV ELEV OUT	REMARKS
EX1	EX SMH	13+09.75 15.92' RT	150.21	142.90	139.77	ABANDON
1	SMH	13+00.97 12.97' RT	149.72	MATCH EXISTING PIPE	139.77	SAN SEWER MH MUNICIPAL STANDARD - DOGHOUSE
2	SMH	13+00.81 42.77' RT	140.00	129.30	129.20	SAN SEWER MH MUNICIPAL STANDARD
3	SMH	13+16.58 42.77' RT	140.00	129.14	MATCH EXISTING PIPE	SAN SEWER MH MUNICIPAL STANDARD

INSET A



SANITARY SEWER DETAIL
NTS

PROP 4-4" ELEC CONDUIT TYPE NM-PLASTIC-(UL) (COMCAST)
PROP 8" - 45° MJ x MJ BEND HORIZ RESTRAINED 8" GV AND BOX CONNECT TO EXIST WATER PIPE
PROP 6' x 14' x 7' DOGHOUSE MH CONSTRUCTED OVER EXISTING CONDUITS (VERIZON) (BY OTHERS)
REM VERIZON MH
PROP 6-4" ELEC CONDUIT TYPE NM-PLASTIC-(UL) (VERIZON)
REM
PROP 8" DI WATER PIPE
PROP 4' x 4' x 4' MH (COMCAST)
REM
PROP 6' x 14' x 7' MH (EVERSOURCE ELECTRIC) (BY OTHERS)
REM
PROP 8" - 45° MJ x MJ BEND HORIZ RESTRAINED
PROP 20 LF - 12" RCP
REM
PROP 19 LF - 12" RCP
REM
PROP 12 LF - 12" RCP
PROP 96 LF - 12" RCP
REM
PROP 10" - 90° BEND (BO)
PROP 5 LF - 12" RCP
PROP STONE FOR DRAINAGE OUTLETS
PROP 12" DI WATER PIPE IN 18" INSULATED AND JACKETED SCH 20 STEEL SLEEVE (SLEEVED ABOVE GROUND ONLY)
PROP 4-4" AND 2-5" ELEC CONDUIT TYPE NM-PLASTIC (UL) CONSTRUCTED IN STAGES ACCORDING TO THE CONSTRUCTION STAGING AND UTILITY RELOCATION PLANS (EVERSOURCE ELEC). SEE NOTE 1 PREVIOUS SHEET.
PROP 10" GAS PIPE (BY OTHERS)
EXISTING AT&T CONDUIT (RET)
PROP 2-4" ELEC CONDUIT TYPE NM-PLASTIC-(UL) (CROWN CASTLE)
PROP 2-4" ELEC CONDUIT TYPE NM-PLASTIC-(UL) (COMCAST). ABAN EXIST 2-4" CONDUITS
R&R LP, STA. 15+77.10, OFFSET 21.92' LT RET CONDUIT WITHIN EXISTING PAVEMENT AND CONNECT NEW 3" ELECTRICAL CONDUIT TYPE NM-PLASTIC THROUGH THE MOMENT SLAB TO THE RELOCATED LIGHT POLE
PROPOSED 6' x 14' x 7' MH (VERIZON) (BY OTHERS)
CONNECT TO EXIST GAS PIPE (BY OTHERS)
PROP 4-4" ELEC CONDUIT TYPE NM-PLASTIC (UL) (COMCAST (2) AND CROWN CASTLE (2)) CONSTRUCTED IN STAGES ACCORDING TO THE CONSTRUCTION STAGING AND UTILITY RELOCATION PLANS. SEE NOTE 2 PREVIOUS SHEET.
TEMPORARY SUPPORT FOR ALL UTILITIES - ALL STAGES
PROP 6-4" ELEC CONDUIT TYPE NM-PLASTIC-(UL) (VERIZON)
PROP STONE FOR DRAINAGE OUTLETS
PROP 19 LF - 12" RCP
PROP 12" - 45° MJ x MJ BEND HORIZ RESTRAINED
PROP 12" DI PIPE
PROP 12" GV AND BOX
PROP 12" - 45° MJ x MJ BEND HORIZ RESTRAINED
CONNECT PROP ELEC CONDUITS TO PROP MH (EVERSOURCE ELEC) (BY OTHERS)
PROP 6' x 14' x 7' MH (EVERSOURCE ELEC) (BY OTHERS)
REM COMCAST MH
PROP SERVICE CONNECTION (COMCAST) (BY OTHERS)
PROP 4' x 4' x 4' MH CONSTRUCTED OVER EXISTING CONDUIT (COMCAST) (BY OTHERS)
PROP 12" - 45° MJ x MJ BEND HORIZ RESTRAINED
PROP 12" - 45° MJ x MJ BEND HORIZ RESTRAINED. CONNECT TO EXIST WATER PIPE
CONNECT TO EXIST GAS PIPE (BY OTHERS)
CONNECT PROPOSED CONDUITS (CROWN CASTLE AND VERIZON) TO EXISTING MH (BY OTHERS)
REM GATE BOX (TYP ALL ABAN WATER MAIN)
ABAN
RET AND ADJ AT&T MH (BY OTHERS)
PROP CB
REM (BO)
PROP 28 LF - 12" RCP
PROP UTILITY SERVICE LOCATIONS. SEE NOTE 7
PROP 8" GV AND BOX 12" x 8" TEE 2-12" GV AND BOXES CURB STOP (2" COPPER TUBING SERVICE PIPE LOCATION TO BE ESTABLISHED IN COORDINATION WITH OWNER)
R&R LP, STA. 14+54.79 OFFSET 28.16' RT RET CONDUIT WITHIN EXISTING PAVEMENT AND CONNECT NEW 3" ELECTRICAL CONDUIT TYPE NM-PLASTIC THROUGH THE MOMENT SLAB TO THE RELOCATED LIGHT POLE
ADJ
RET
REM
ABAN

CONTINUED ON SHEET NO. 14

ALBANY STREET
ARMORY STREET
AGNEW STREET (PRIVATE)
TAYLOR STREET
1892 CITY LO
1925 CITY LO
ARMORY ST CONST B
TAYLOR ST CONST B
RAILROAD RECORD B
APPROX RR S/L
BOSTON AND MAINE RAILROAD
NYNHRR RECORD B
RET TELECOMM
RAILROAD ALIGNMENT
CITY LO

DRAINAGE STRUCTURE DATA

NO	TYPE	STATION	RIM ELEV	INV ELEV IN	INV ELEV OUT	REMARKS
5	CB	17+23.96 25.00' RT	158.56		6 151.06	3' SUMP AND HOOD 3 FLANGE FRAME FLAT TOP
6	OUTFALL	17+14.58 42.83' RT			149.64	
7	DMH	15+97.55 21.58' RT	157.92	2 147.90	8 147.80	FLAT TOP
8	DMH	16+09.19 33.26' RT	159.13	7 147.70	9 147.60	FLAT TOP
9	OUTFALL	16+09.16 39.67' RT			147.50	

0 20 50 100

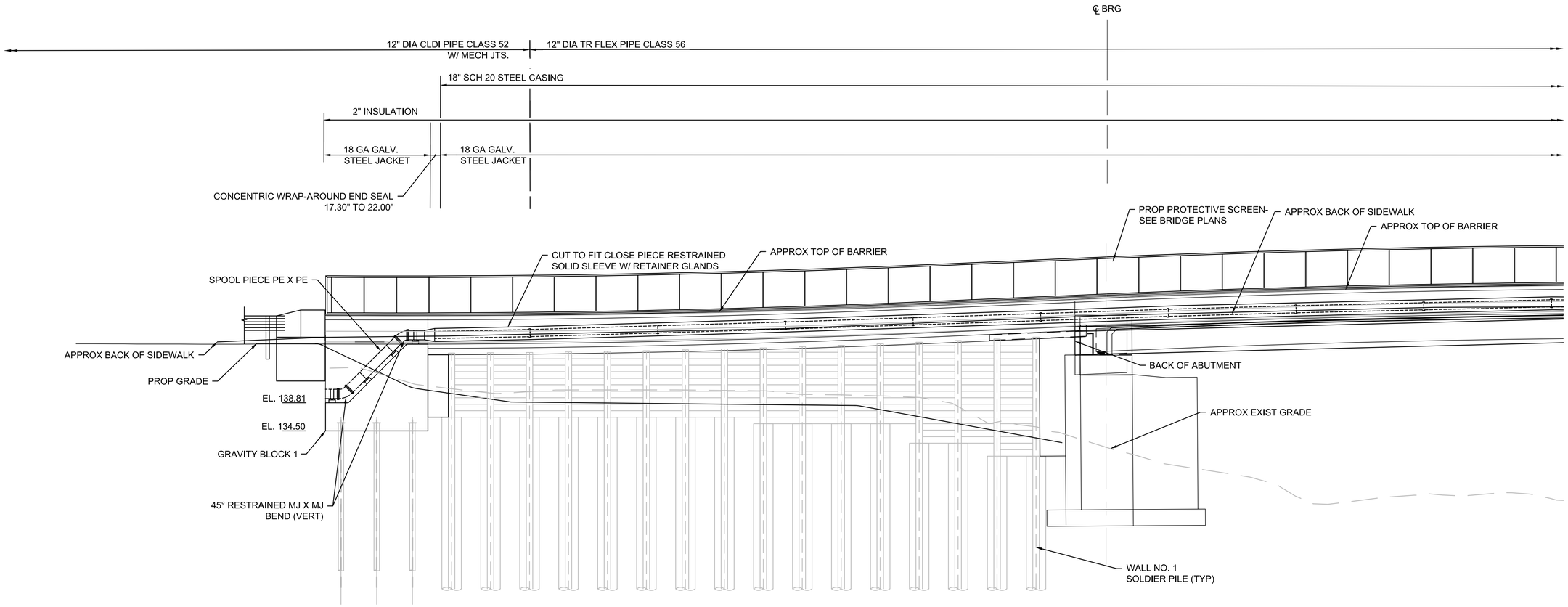
SCALE: 1" = 20'

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	16	204
	PROJECT FILE NO. 609409		

WATER MAIN ELEVATION
SHEET 1 OF 3

609409_HD (TWMD01).DWG Plotted on 19-Nov-2025 9:48 AM



CONTINUED ON
SHEET NO. 17

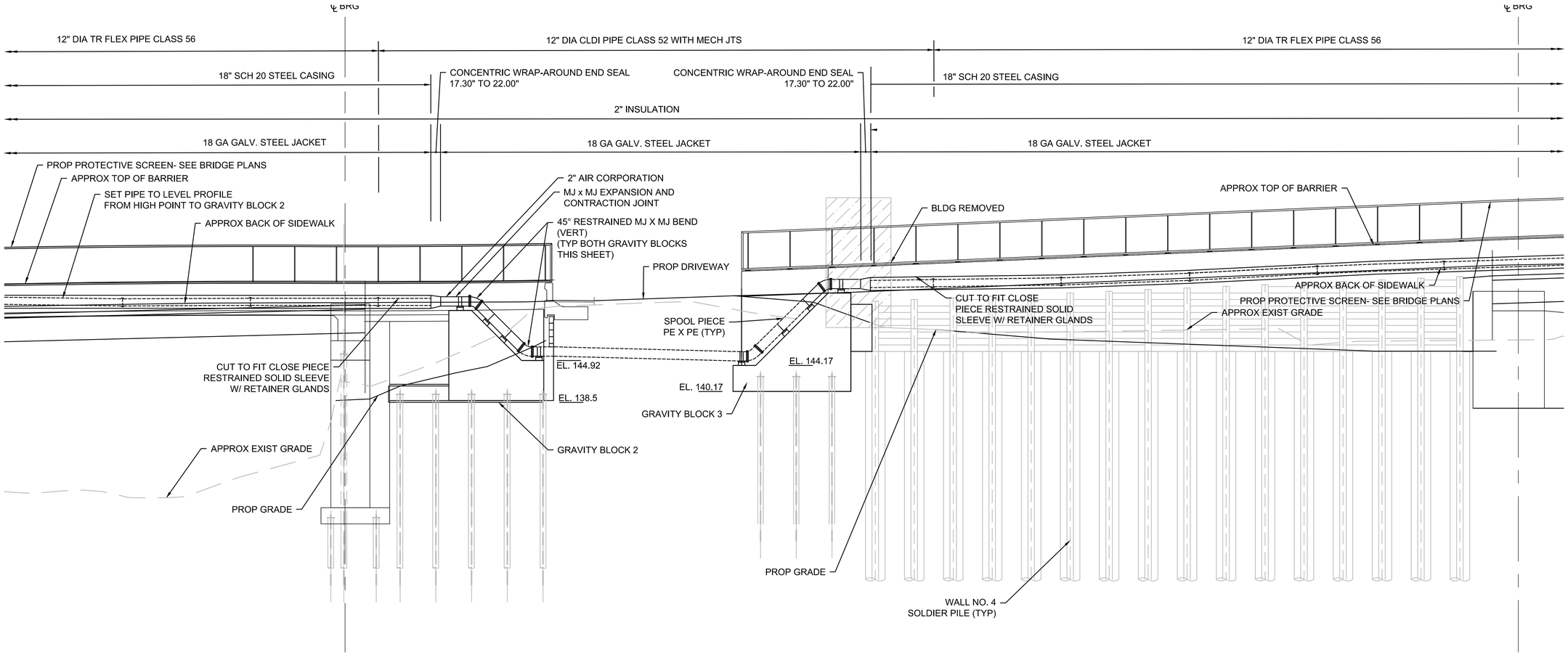
WATERLINE - WEST ELEVATION
SCALE: 1/8" = 1'-0"

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	17	204
	PROJECT FILE NO. 609409		

WATER MAIN ELEVATION

SHEET 2 OF 3



CONTINUED ON SHEET NO. 16

CONTINUED ON SHEET NO. 18

WATERLINE - WEST ELEVATION
SCALE: 1/8" = 1'-0"

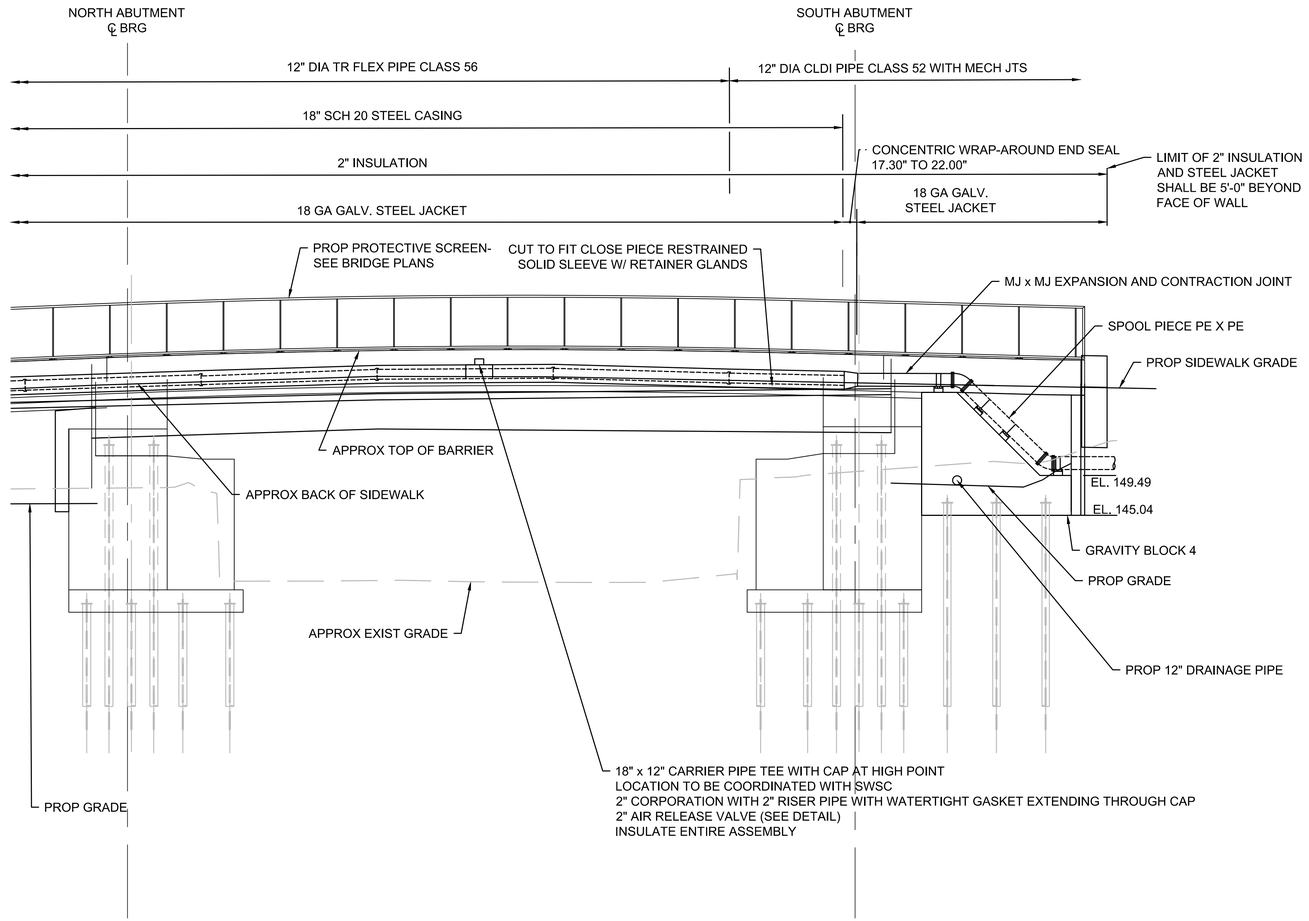
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SPRINGFIELD
ARMORY STREET

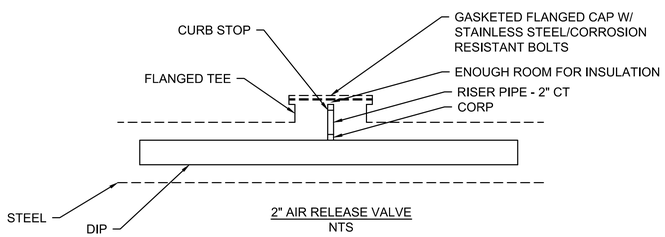
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	18	204
PROJECT FILE NO.	609409		

WATER MAIN ELEVATION
SHEET 3 OF 3

609409_HD (TWMD01).DWG Plotted on 19-Nov-2025 9:49 AM



CONTINUED ON SHEET NO. 17



2" AIR RELEASE VALVE
NTS

WATERLINE - WEST ELEVATION
SCALE: 1/8" = 1'-0"

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	19	204
	PROJECT FILE NO. 609409		

SIGNING & PAVEMENT MARKING PLAN

1 OF 2

609409_HD (TPM011).DWG Plotted on 19-Nov-2025 9:46 AM

N
NAD 83

E 362750

1916 CITY LO
NAPIER STREET
1916 CITY LO
1892 CITY LO
LEDYARD STREET
10+00
220'
S13°02'25"E
156.12'
ARMORY ST CONST ℄
ARMORY STREET
11
6" DBYL
6" SWL
10' CW
12" SL
1'-6"
20
12
+26
RET
6" DYLEx (100' R)
ONLY
6" SWL - 75'
6" DBYL
6" DWLEx
16'-10"
12'-0"
2'-0"
+00
CONC SW
1892 CITY LO
10"CFL
6" SWL
PROP CITY LO AT BACK OF SW
D11-1
M6-3
R6-2L
STA. 31+47.75
OFFSET 22.33' RT
R6-2R
D11-1
M4-6
STA. 11+95.95
OFFSET 51.70' RT
R&D
RET
ARMORY ST
GENESEE ST
WARWICK ST
N 2869250
E 362500
N 2869250
E 362250
R&D
TO REQUEST GREEN WAIT ON
PUERTO RICO BAKERY & RESTAURANT
RET
PROJECT BEGIN
STA 11+00.00
N2869208.4305
E362521.9461
LIMIT OF MILL AND RESURFACING
STA 11+30.00
N2869179.2042
E362528.7152
LIMIT OF MILLING AND RESURFACING
STA 21+44
N/F
AIDA L. APONTE
& WILLIAM APONTE
PARCEL ID 645-42
BOOK 15520 PAGE 208
226 ARMORY ST
N/F
214 ARMORY STREET INC
PARCEL ID 645-41
BOOK 17132 PAGE 307
ARMORY ST
N/F
214 ARMORY STREET INC
PARCEL ID 645-40
BOOK 17132 PAGE 307
214 ARMORY STREET
LIMIT OF WORK
STA 31+34.52
N2869085.0726
E362483.4009
S75°48'02"E
137.97
N41°01'17"E
170.00'
31
WARWICK STREET
1916 CITY LO
1910 CITY LO
1910 CITY LO
STA 21+53.32 GENESEE STREET CONST ℄ =
STA 31+70.00 WARWICK STREET CONST ℄
CONC BLOCK WALL
CONC SW
CENTER FOR ECOTECHNOLOGY, INC.
F/K/A CENTER FOR ECOLOGICAL
TECHNOLOGY, INC.
SPRAGUE OPERATING
RESOURCES LLC
PARCEL ID 645-260
BOOK 21557 PAGE 194
195-225 ARMORY ST
STA 11+79.16 ARMORY STREET CONST ℄ =
STA 22+00.24 GENESEE STREET CONST ℄
STA 13+88.39 ARMORY STREET CONST ℄ =
STA 698+17.05 RAILROAD RECORD ℄
R10-11b
STA. 12+23.40
OFFSET 17.75' LT
R1-1
STA. 11+78.00
OFFSET 19.00' LT
Δ=26°18'48"
R=250.50'
L=115.04'
T=58.55'
PROP CITY LO
R3-8a
STA. 13+00.87
OFFSET 19.88' LT
5'-6" CEM CONC MOMENT SLAB SW
6" SWL @ 45° 10' O.C.
PROP SHLO
R&D
RET
1892 CITY LO
CONC SW
6" SWL
6" SWL - 43'
6" DBYL
6" DWLEx
S39°21'13"E
703.84'
+69
+07
14
13
11'-6"
11'-0"
4'-6"
2'-0"
6" SWL
R3-8a
STA. 13+70.40
OFFSET 26.75' RT
RAILROAD RECORD ℄
NEW YORK CENTRAL LINES RAILROAD
APPROX RR S/L
13'-6" CEM CONC MOMENT SLAB SHARED USE PATH
R&R (BO)
BT PARKING
ECOBUILDING BARGAINS
CET
N 2868000
E 362300
R&D
ARMORY ST
R&D
ALBANY ST
R&R (BO)
DOUBLE FACE BILLBOARD WITH LIGHTING
BILLBOARD
APPROX RR S/L
APPROX RR S/L
AT ST JAMES AVE AND MONTFORD ST INTERSECTION
CITY OF SPRINGFIELD
PARCEL ID 160-1
BOOK 1283 PAGE 335
BOOK 1290 PAGE 294
ALBANY ST
1925 CITY LO
1925 CITY LO
96.82'
S67°51'12"W
41
Δ=26°24'10"
R=156.00'
L=71.89'
T=36.59'
LIMIT OF WORK
STA 41+30.00
N2868993.1293
E362787.0878
MATCH EXIST PVMT MARKINGS
CONTINUED ON SHEET NO. 20
ALBANY ST CONST ℄
ALBANY STREET
6" DBYL
S41°27'02"W
81.80'
5'-6" CEM CONC MOMENT SLAB SW
PROP 8' PEDESTRIAN POST (TYP)
16'
+10
42
18'
12" SL
10' CW
R3-5L
PROP 40' MAST AND FOUNDATION
R=5'
15
+09
+26
15'-2"
STOP
R&D
R1-1
STA. 15+06.10
OFFSET 37.67' RT
ALBANY ST
ARMORY ST
PROP STREET NAME SIGNS
(MA-D3-1A, MA-D3-1B)
STA 14+59.00 ARMORY STREET CONST ℄ =
STA 42+50.51 ALBANY STREET CONST ℄

0 20 50 100
SCALE: 1" = 20'

NOTE:
PROPOSED PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	20	204
	PROJECT FILE NO. 609409		

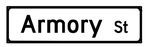
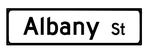
SIGNING & PAVEMENT MARKING PLAN
2 OF 2

609409_HD (TPM011).DWG Plotted on 19-Nov-2025 9:47 AM

R&D
AT ST JAMES AVE AND MONTFORD ST INTERSECTION
APPROX RR S/L
1925 CITY LO
96.82'
S67°51'12"W
41
Δ=26°24'10"
R=156.00'
L=71.89'
T=36.59'
LIMIT OF WORK
STA 41+30.00
N2868993.1293
E362787.0878
MATCH EXIST PVMT MARKINGS
CONTINUED ON SHEET NO. 19
CITY OF SPRINGFIELD PARCEL ID 160-1 BOOK 1281 PAGE 335 BOOK 1290 PAGE 294 ALBANY ST
ALBANY STREET
ALBANY ST CONST ℄
6" DBYL
S41°27'02"W
81.80'
5'-6" CEM CONC MOMENT SLAB SW
PROP 8' PEDESTRIAN POST (TYP)
6" SWL @ 45° 10' O.C.
12" SYL @ 45° 10' O.C.
5–47 ALBANY STREET LLC PARCEL ID 160-159 BOOK 19802 PAGE 295 47 ALBANY STREET
BUCKEYE PIPE LINE COMPANY LP PARCEL ID 645-2653 BOOK 20612 PAGE 124 ARMORY ST
NYNHRR RECORD ℄
STA 16+58.12 ARMORY STREET CONST ℄
STA 31+28.23 NYNHRR RECORD ℄
EIGHT IRON, LLC PARCEL ID 645–270 BOOK 19466 PAGE 7 145 ARMORY ST
N 2868750
E 363000
AGNEW STREET (PRIVATE)
TSLE LLC PARCEL ID 645–272 BOOK 21801 PAGE 547 137 ARMORY ST
TSLE LLC PARCEL ID 645–274 BOOK 21801 PAGE 547 125 ARMORY ST
1 S MET.
RET
ARMORY ST
TAYLOR ST
1 STY BRICK
1 STY METAL
12" SL
LIMIT OF MILLING AND RESURFACING
STA 18+46.00
N2868606.9449
E362949.4562
PROJECT END
STA 19+44.00
N2868531.1667
E363011.5985
1892 CITY LO
10' CW
6" DBYL - 100' (MATCH EXIST)
S39°21'13"E
703.84'
19+75
+43
+10
+07
+26
+9
+47
+22
+11
6" SWL
6" DBYL
6" DWLEx
ARMORY STREET
ARMORY ST CONST ℄
6" SWL -75'
1892 CITY LO
R3-5L
PROP 40' MAST AND FOUNDATION R=5'
R&D SIGN POST
R3-8b
STA. 16+ 49.73
OFFSET 26.75' RT
STOP
R1-1
STA. 15+06.10
OFFSET 37.67' RT
PROP CITY LO AT BACK OF SW
R&R (BO)
JOSEPH FREEDMAN CO. INC. EASTERN VEHICLE RECYCLING 40 ALBANY ST
13'-6" CEM CONC MOMENT SLAB SHARED USE PATH
PROP SHLO
PROP CITY LO
D11-1
M4-6
STA. 17+21.60
OFFSET 27.75' RT
PROP 3' BIKE BUFFER SEE DETAIL ON SHEET 58
MATCH EXIST DBYL
TAYLOR ST CONST ℄
TAYLOR STREET
STA 17+67.39 ARMORY STREET CONST ℄ =
STA 51+50.00 TAYLOR STREET CONST ℄
D11-1
M6-1L
STA. 17+94.81
OFFSET 40.82' RT
R10-6
PROP 6' x 20' GREEN FRICTION SURFACE BIKE BOX
PROP 3' BIKE BUFFER SEE DETAIL ON SHEET 58
LIMIT OF WORK
STA 50+65.00
N2868606.1154
E362841.0731
ALBANY ST
ARMORY ST
PROP STREET NAME SIGNS (MA-D3-1A, MA-D3-1B)
STA 14+59.00 ARMORY STREET CONST ℄ =
STA 42+50.51 ALBANY STREET CONST ℄
JOSEPH FREEDMAN CO. INC. PARCEL ID 645–35 BOOK 4956 PAGE 79 176 ARMORY ST
BOSTON AND MAINE RAILROAD
APPROX RR S/L
BOSTON AND MAINE CORPORATION PARCEL ID 1-645-85 BOOK 5951 PAGE 281
RAILROAD RECORD ℄
ARMORY ST HOLDINGS, LLC PARCEL ID 11–430–92 BOOK 21228 PAGE 29 487 TAYLOR ST
CITY LO
00+00
BILLBOARD
DOUBLE-FACED BILLBOARD WITH LIGHTING
WING WALL
CONC SW
VGC
VCC
RED
4'CFL
7'CFL
4'CRL
7'CRL
0 20 50 100
SCALE: 1" = 20'

NOTE:
PROPOSED PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.

TRAFFIC SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACKGROUND	LEGEND	BORDER			
R1-1	30	30		SEE 2009 MUTCD			2	RED	WHITE	WHITE	P5-1 (2)	6.25	12.50
R3-5L	30	36		SEE 2009 MUTCD			1	WHITE	BLACK	BLACK	MOUNT ON MAST ARM (1)	7.50	7.50
R3-8a	30	30		SEE 2009 MUTCD			2	WHITE	BLACK	BLACK	P5-1 (2)	6.25	12.50
R3-8b	30	30		SEE 2009 MUTCD			1	WHITE	BLACK	BLACK	P5-1 (1)	6.25	6.25
R6-2R	24	30		SEE 2009 MUTCD			1	WHITE	BLACK	BLACK	P5-1 (1)	5.00	5.00
R6-2L	24	30		SEE 2009 MUTCD			1	WHITE	BLACK	BLACK	MOUNT WITH R6-2R	5.00	5.00
R10-3eR	9	15		SEE 2009 MUTCD			6	WHITE	BLACK	BLACK	MOUNT (6) ON APS PUSH BUTTON ASSEMBLY	0.94	PAID UNDER 816.01/02
R10-3eL	9	15		SEE 2009 MUTCD			8	WHITE	BLACK	BLACK	MOUNT (7) ON APS PUSH BUTTON ASSEMBLY	0.94	PAID UNDER 816.01/02
R10-6	24	36		SEE 2009 MUTCD			1	WHITE	BLACK	BLACK	P5-1 (1)	6.00	6.00
R10-11b	36	36		SEE 2009 MUTCD			1	WHITE	BLACK	BLACK	P5-1 (1)	9.00	9.00
MA-D3-1A* (PBS)	45	18		8"D 5.33"D	5.00" 5.00"		1	GREEN	WHITE	WHITE	MOUNT (1) ON MAST POLE	5.625	PAID PER EACH
MA-D3-1B* (PBS)	45	18		8"D / 5.33"D	5.00" 5.00"		1	GREEN	WHITE	WHITE	MOUNT (1) ON MAST POLE	5.625	PAID PER EACH
D11-1	24	18		SEE 2009 MUTCD			4	GREEN	WHITE	WHITE	P5-1 (2) MOUNTED BACK TO BACK	3.00	6.00
M4-6	12	9		SEE 2009 MUTCD			2	GREEN	WHITE	WHITE	MOUNT WITH D11-1 (2)	0.75	1.50
M6-1L	12	9		SEE 2009 MUTCD			1	GREEN	WHITE	WHITE	MOUNT WITH D11-1 (1)	0.75	0.75
M6-3	12	9		SEE 2009 MUTCD			1	GREEN	WHITE	WHITE	MOUNT WITH D11-1 (1)	0.75	0.75

* STREET NAME SIGNS SHALL BE MOUNTED WITH 12' MINIMUM CLEARANCE ON MAST POLE.

TOTAL = 72.75 SF

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	21	204
	PROJECT FILE NO. 609409		

TRAFFIC SIGN SUMMARY

609409_HD (TSS01).DWG Plotted on 19-Nov-2025 9:47 AM

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	22	204
PROJECT FILE NO.	609409		

TRAFFIC SIGNAL PLAN

LOCATION 1 (ARMORY STREET AT ALBANY STREET)

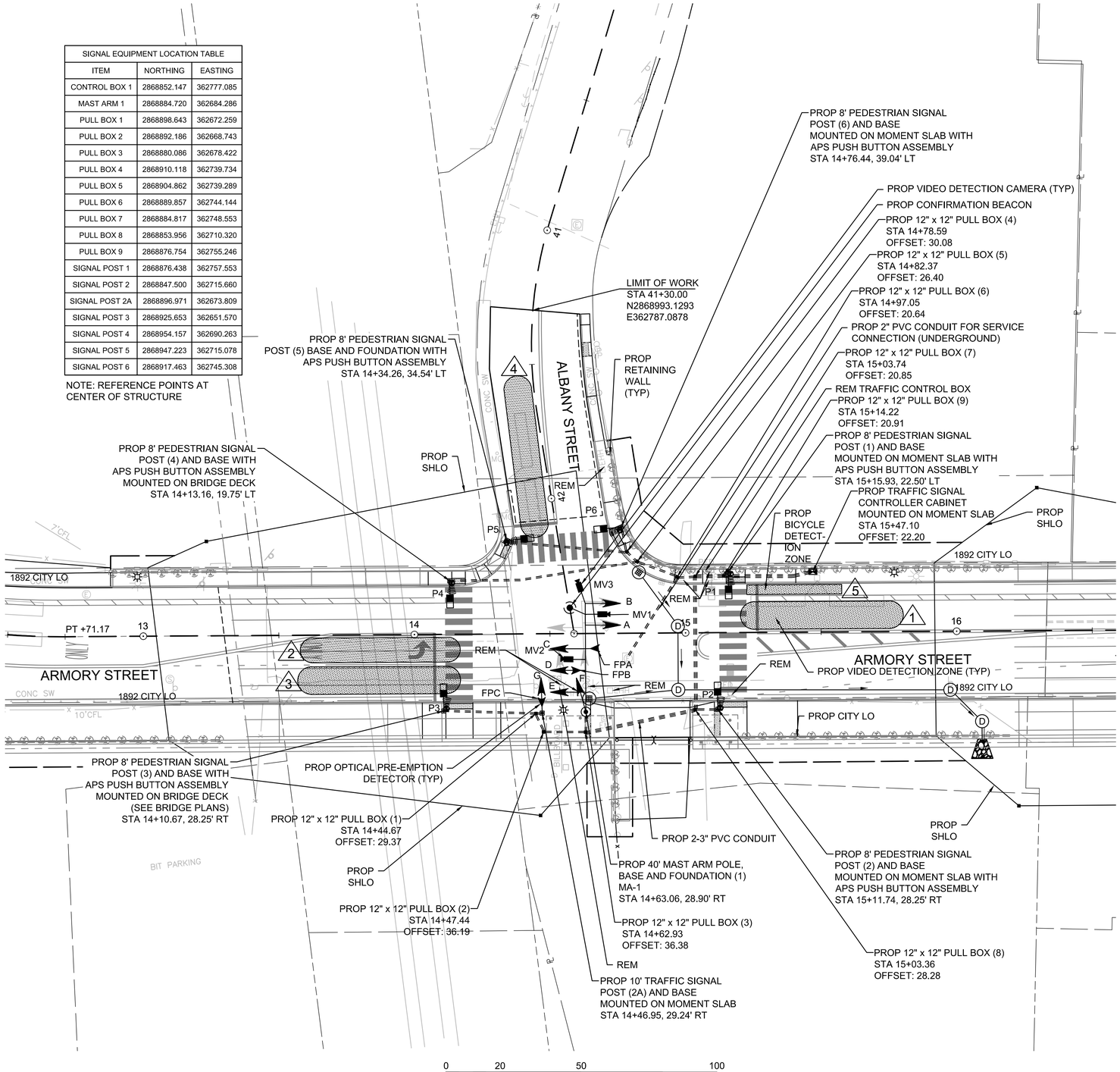
609409_HDJ (TSP01).DWG Plotted on 19-Nov-2025 9:50 AM

N

NAD 83

SIGNAL EQUIPMENT LOCATION TABLE		
ITEM	NORTHING	EASTING
CONTROL BOX 1	2868852.147	362777.085
MAST ARM 1	2868884.720	362684.286
PULL BOX 1	2868898.643	362672.259
PULL BOX 2	2868892.186	362668.743
PULL BOX 3	2868880.086	362678.422
PULL BOX 4	2868910.118	362739.734
PULL BOX 5	2868904.862	362739.289
PULL BOX 6	2868889.857	362744.144
PULL BOX 7	2868884.817	362748.553
PULL BOX 8	2868853.956	362710.320
PULL BOX 9	2868876.754	362755.246
SIGNAL POST 1	2868876.438	362757.553
SIGNAL POST 2	2868847.500	362715.660
SIGNAL POST 2A	2868896.971	362673.809
SIGNAL POST 3	2868925.653	362651.570
SIGNAL POST 4	2868954.157	362690.263
SIGNAL POST 5	2868947.223	362715.078
SIGNAL POST 6	2868917.463	362745.308

NOTE: REFERENCE POINTS AT CENTER OF STRUCTURE



0 20 50 100

SCALE: 1" = 20'

NOTES:

1. THE FINAL LOCATION OF VIDEO DETECTION CAMERAS AND OPTICAL DETECTORS SHALL BE DETERMINED BY THE CONTRACTOR FOR BEST LINE OF SIGHT. THE LIMITS OF THE DETECTION ZONES SHALL BE FIELD ADJUSTED TO PREVENT FALSE CALLS.
2. PEDESTRIAN PUSH BUTTONS SHALL BE MOUNTED TO BE PARALLEL TO THE CROSSWALK PER MUTCD 4E.08.
3. THE CONTRACTOR SHALL USE TRANSITION COUPLING (SCHEDULE 80) WHEN TRANSITIONING FROM ABOVE GROUND (METALLIC) TO UNDERGROUND CONDUIT (PLASTIC).

SIGNAL PHASING AND TIMING CHART - FULLY ACTUATED, COORDINATED

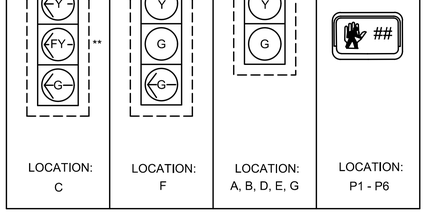


			Ø1			Ø2			Ø6			Ø8			Ø9 (PED)						FIRE PREEMPTION									EMERGENCY
																					PREEMPT "A"			PREEMPT "B"			PREEMPT "C"			FLASH
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15				19	20	21	22	23	24	25	26	27	OPER.
ARMORY STREET	NB	A, B	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R				G	Y	R	R	R	R	R	R	R	FY
ARMORY STREET	SB	D, E	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R				R	R	R	G	Y	R	R	R	R	FY
ARMORY STREET	SB-LT	C	GL	YL	RL	RL	RL	RL	FYL	YL	RL	RL	RL	RL	RL	RL	RL				RL	RL	RL	GL	YL	RL	RL	RL	RL	FRL
ALBANY STREET	WB	F	R	R	R	R	R	R	R	R	R	G/GL	Y	R	R	R	R				R	R	R	R	R	R	G/GL	Y	R	FR
ALBANY STREET	WB	G	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R				R	R	R	R	R	R	G	Y	R	FR
PEDESTRIAN	E-W	P1-P2,P3-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW				DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	N-S	P5-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW				DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT
TIMING IN SECONDS																														
MINIMUM GREEN			6			10			10			6			-						10			10			10			
EXTENSION			2			2			2			2			-						*			*			*			
MAXIMUM I			15			57			70			23			-						*			*			*			
MAXIMUM II			-			-			-			-			-															
YELLOW CLEARANCE				3			4			4			3			-						4			4			3		
RED CLEARANCE					2			2			2			2.5									2			2			2.5	
PEDESTRIAN WALK															7															
PEDESTRIAN CLEARANCE / BUFFER																9	4													
RECALL			OFF			SOFT			SOFT			OFF			OFF															
DETECTOR MEMORY			NON-LOCK			-			-			NON-LOCK			LOCK															

*TIMING SHALL BE VARIABLE AND BASED ON DURATION OF FLASHING OPTICAL SIGNAL FROM APPROACHING EMERGENCY VEHICLE TRANSMITTER. SEE PREEMPTION NOTES.

SIGNAL HEAD DATA

PROPOSED



LOCATION: C | LOCATION: F | LOCATION: A, B, D, E, G | LOCATION: P1 - P6

* SOLID YELLOW LEFT

** FLASHING YELLOW LEFT

NOTES:

1. SIGNAL HEADS SHALL BE LED TYPE WITH 5" LOUVERED BACK PLATES AND 2" RETROREFLECTIVE YELLOW BORDER
2. PEDESTRIAN HOUSINGS SHALL BE LED INTERNATIONAL SYMBOLS WITH 16" FULL OVERLAY LENS AND COUNTDOWN.

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	23	204
PROJECT FILE NO.	609409		

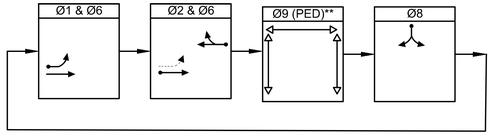
TRAFFIC SIGNAL & TIMING PLAN
LOCATION 1 (ARMORY STREET AT ALBANY STREET)

609409_HD (TTT101).DWG Plotted on 6-Jan-2026 2:39 PM

TRAFFIC SIGNAL NOTES

1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING CLEARANCE INTERVAL.
2. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.
3. THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS A DAY. FLASHING OPERATION SHALL BE FOR EMERGENCY ONLY.
4. A SEPARATE CONDUCTOR SHALL BE PROVIDED TO POWER THE PREEMPTION CONFIRMATION BEACON.
5. THE CONTROLLER SHALL OPERATE UNDER STANDARD NEMA DUAL RING CONFIGURATION.
6. AUTOMATIC FLASHING OPERATION PER 2009 MUTCD.
7. MAX I - NORMAL OPERATION.
8. MAX II - NOT USED.
9. OFFSET - BEGINNING OF CO-ORD PHASE GREEN.
10. PHASES 2 & 6 ARE COORDINATED PHASES.
11. SEE SHEET 28 FOR COORDINATION DATA.

PREFERENTIAL PHASE SEQUENCE



PERMISSIVE MOVEMENT
DETECTED MOVEMENT
EXCLUSIVE PED PHASE
PEDESTRIAN PHASE
** UPON ACTUATION ONLY

VIDEO DETECTOR DATA

CAMERA NO.	DETECTOR ZONE	MODE OF OPERATION	CALL DELAY (SEC.)	CALL EXTENSION (SEC.)	CALL PHASE	EXT. PHASE	DETECTION ZONE
MV1	1, 5	PRESENCE	0	0	Ø2	Ø2	VARIES
MV2	2	PRESENCE	0	0	Ø1	Ø1	VARIES
MV2	3	PRESENCE	0	0	Ø6	Ø6	VARIES
MV3	4	PRESENCE	0	0	Ø8	Ø8	VARIES

ITEM 816.01 MAJOR ITEMS REQUIRED

QUAN	DESCRIPTION
1	ADVANCED TRANSPORTATION CONTROLLER (ATC) AND CABINET WITH GPS UNIT *
1	40' MAST ARM TYPE 2, STEEL, WITH FOUNDATION
1	10' TRAFFIC SIGNAL POST MOUNTED ON MOMENT SLAB
5	8' SIGNAL POST MOUNTED ON MOMENT SLAB
1	8' SIGNAL POST AND BASE WITH FOUNDATION
5	SIGNAL HEAD 1-WAY, 3 SECTION (LED TYPE)
2	SIGNAL HEAD 1-WAY, 4 SECTION (LED TYPE)
6	PEDESTRIAN SIGNAL HEAD (LED TYPE) - 16" LENS WITH COUNTDOWN
6	PEDESTRIAN APS COMPLIANT PUSH BUTTON WITH R10-3e SIGN AND SADDLE
1	CAMERA VIDEO DETECTION SYSTEM
3	VIDEO DETECTION CAMERA WITH MOUNTING HARDWARE
3	OPTICAL DETECTOR (ONE-WAY) FOR FIRE PRE-EMPTION
1	PREEMPTION PHASE SELECTOR (DUAL CHANNEL)
1	PREEMPTION PHASE SELECTOR RACK
1	PREEMPTION CONFIRMATION BEACON (WHITE)
1	SERVICE CONNECTION - UNDERGROUND
1	ETHERNET OVER COPPER ACCESS DEVICE, 8-PAIRS
1	GPS COORDINATION DEVICE
1	REMOVE AND TRANSPORT EXISTING SIGNAL EQUIPMENT TO CITY OF SPRINGFIELD
	MAINTENANCE YARD

PLUS ALL MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL

* THE CABINET IS TO BE MOUNTED ON A CAST-IN-PLACE PEDESTAL ON THE MOMENT SLAB WHICH IS DIMENSIONED ON THE BRIDGE PLANS AND RESULTS IN 3'-3" FROM THE FACE OF PEDESTAL TO THE FACE OF CURB. PEDESTAL DIMENSION SHALL BE CONFIRMED FOLLOWING APPROVAL OF THE CABINET BY THE ENGINEER, BUT IN NO CASE SHALL THE CABINET DIMENSIONS REQUIRE PEDESTAL DIMENSIONS THAT REDUCE THE USABLE SIDEWALK WIDTH BELOW THE ADA-REQUIRED CLEARANCE OF 30" BETWEEN THE FOUNDATION AND FACE OF PROPOSED CURB. MOMENT SLAB DETAILS IN THE BRIDGE PLANS ARE PROVIDED FOR APPROXIMATE INFORMATION ONLY AND SHALL BE MODIFIED AS REQUIRED FOR THE APPROVED CABINET.

PRE-EMPTION PHASING PRIORITY

RECEIVER Ø PRIORITY	PRE-EMPT PHASE ASSIGN	MOVEMENT	VEHICLE PHASE ASSIGN
FPA	1	NB	Ø2
FPB	2	SB	Ø1 & Ø6
FPC	3	WB	Ø8

FIRE PREEMPTION OPERATION

1. PREEMPTION OPERATION UTILIZES AVAILABLE PHASES IN 8 PHASE TIMER THROUGH THE MSD PREEMPT INPUTS TO EFFECT APPROPRIATE SIGNAL DISPLAYS FOR SINGLE APPROACH MOVEMENTS AS SHOWN IN THE PREEMPTION PHASING AND PRIORITY CHART.
2. EMERGENCY VEHICLE PREEMPTION SIGNALS SHALL BE OPTICALLY-TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.
3. PREEMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS 1-3, ASSIGNED DESCENDING PRIORITIES AS FOLLOWS (1 HIGHEST AND 3 LOWEST).
4. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR FPA (FPB, FPC) THE CONTROLLER SHALL MAINTAIN OR ADVANCE TO AND HOLD THE EMERGENCY VEHICLE PREEMPTION PHASE A GREEN FOR A MININUM OF TEN (10) OR FIFTEEN (15) SECONDS OR UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME THE PREEMPTION PHASE CLEARANCE (YELLOW AND ALL RED) AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PREEMPTION PHASES AS NECESSARY.
5. NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PREEMPTION DEMAND.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MOUNT THE OPTICAL DETECTORS TO RECEIVE THE OPTIMAL PRE-EMPTION SIGNAL.
7. NORMAL OPERATION SHALL START-UP ON MAINLINE GREEN.

MAST ARM FOUNDATIONS

MAST ARM	LOCATION		ARM LENGTH (FEET)	FOUNDATION DIAMETER	FOUNDATION DEPTH	VERTICAL BARS	TIE BARS
	STATION	OFFSET					
1	14+63.06	28.90' RT	40	SPECIAL DESIGN (SEE NOTE 1)			

1. MAST ARM FOUNDATION DETAILS FOR SPECIAL DESIGN ARE PROVIDED ON SHEET 125 (STRUCTURAL DETAILS) PER STRUCTURAL DESIGN CALCS.
2. FOR TYPICAL MAST ARM FOUNDATION AND REINFORCING DETAILS, FOLLOW MASSDOT OVERHEAD SIGNAL STRUCTURE & FOUNDATION STANDARD DRAWINGS (DECEMBER 2015)

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	24	204
PROJECT FILE NO.	609409		

TRAFFIC SIGNAL PLAN

LOCATION 2 (ARMORY STREET AT TAYLOR STREET)

609409_HD (TSP01).DWG Plotted on 19-Nov-2025 9:51 AM

NAD 83

PROP 8' PEDESTRIAN SIGNAL POST (7) AND FOUNDATION WITH APS PUSH BUTTON ASSEMBLY STA 17+96.91, 24.29' LT

RET TRAFFIC SIGNAL CONTROL CABINET

PROP 8' PEDESTRIAN SIGNAL POST (1) AND FOUNDATION WITH APS PUSH BUTTON ASSEMBLY STA 17+29.59, 24.46' LT

PROP 2-3" PVC CONDUIT

PROP 12" x 12" PULL BOX (10) STA 17+42.20 OFFSET: 21.08

R&S EXISTING PEDESTRIAN SIGNAL HEAD AND PUSH BUTTON ON MAST ARM POLE

ADJ PULL BOX

RET

PROP SHLO

AGNEW STREET (PRIVATE)

SIGNAL EQUIPMENT LOCATION TABLE		
ITEM	NORTHING	EASTING
PULL BOX 1	2868700.576	362899.934
PULL BOX 2	2868671.205	362850.384
PULL BOX 3	2868632.930	362964.640
SIGNAL POST 1	2868712.474	362894.553
SIGNAL POST 2	2868680.339	362851.954
SIGNAL POST 3	2868665.539	362850.000
SIGNAL POST 5	2868600.169	362924.803
SIGNAL POST 6	2868631.204	362962.475
SIGNAL POST 7	2868660.312	362937.110

NOTE: REFERENCE POINTS AT CENTER OF STRUCTURE

PROP VIDEO DETECTION CAMERA (TYP)

PROP 12" x 12" PULL BOX (6) STA 18+35.54 OFFSET: 28.22

PROP 8' PEDESTRIAN SIGNAL POST (6) AND FOUNDATION WITH APS PUSH BUTTON ASSEMBLY STA 18+35.50, 25.45' LT

PROJECT END
STA 19+44.00
N2868531.1667
E363011.5985

PROP VIDEO DETECTION ZONE (TYP)

MV1 MV2 MV3 MV4

ARMORY STREET

REM PULL BOX

REM PULL BOX

REM PEDESTRIAN SIGNAL POST

PROP SHLO

PROP 8' PEDESTRIAN SIGNAL POST (5) AND FOUNDATION WITH APS PUSH BUTTON ASSEMBLY STA 18+35.61, 23.36' RT

RET

ADJ PULL BOX

REPLACE PEDESTRIAN SIGNAL HEAD DISPLAY ON EXISTING 10' TRAFFIC SIGNAL POST AND FOUNDATION
REPLACE EXISTING PUSHBUTTON WITH APS PUSHBUTTON ASSEMBLY

RET PULL BOX

PROP BICYCLE DETECTION ZONE

PROP 8' PEDESTRIAN SIGNAL POST (2) BASE AND FOUNDATION MOUNTED ON MOMENT SLAB WITH APS PUSH BUTTON ASSEMBLY STA 17+27.42, 28.85' RT

PROP 12" x 12" PULL BOX (9) STA 17+33.49 OFFSET: 35.85

PROP 8' PEDESTRIAN SIGNAL POST (3) BASE AND FOUNDATION WITH APS PUSH BUTTON ASSEMBLY STA 17+37.63, 39.75' RT

ADJUST FOUNDATION LOCATION TO BE BETWEEN THE GUARDRAIL POSTS BEHIND THE THRIE BEAM

PROP RETAINING WALL

PROP CITY LO

TAYLOR STREET

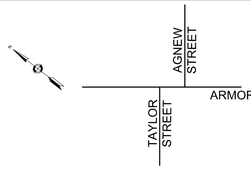
NOTES:

1. PEDESTRIAN PUSH BUTTONS SHALL BE MOUNTED TO BE PARALLEL TO THE CROSSWALK PER MUTCD 4E.08.
2. THE CONTRACTOR SHALL USE TRANSITION COUPLING (SCHEDULE 80) WHEN TRANSITIONING FROM ABOVE GROUND (METALLIC) TO UNDERGROUND CONDUIT (PLASTIC).

0 20 50 100

SCALE: 1" = 20'

SIGNAL PHASING AND TIMING CHART - FULLY ACTUATED, COORDINATED

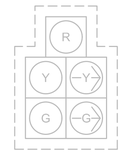


			Ø1			Ø2			Ø3			Ø4			Ø6			Ø9 (PED)**			PREEMPT "A"			PREEMPT "B"			FLASH
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	OPER.
ARMORY STREET	NB	A,B	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FY
ARMORY STREET	SB	C	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	FY
ARMORY STREET	SB	D	R/GR	R/YR	R	R	R	R	R/GR	R/YR	R	R	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	FY
TAYLOR STREET	EB	E	R	R	R	R	R	R	GL/G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
TAYLOR STREET	EB	F	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
AGNEW STREET	WB	H	R	R	R	R	R	R	R	R	R	GL/G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
AGNEW STREET	WB	G	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
PEDESTRIAN	E-W	P1-P2	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	N-S	P3-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	E-W	P5-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	N-S	P7-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OUT
TIMING IN SECONDS																											
MINIMUM GREEN			6			10			6			6			10			-			10			10			
EXTENSION			2			2			2			2			2			-			*			*			
MAXIMUM I			10			50			20			10			65			-			*			*			
MAXIMUM II			-			-			-			-			-			-									
YELLOW CLEARANCE				4			4			4			4			4			-			4			4		
RED CLEARANCE					2			3.5			2			1.5			3.5						3.5			3.5		
PEDESTRIAN WALK																		7									
PEDESTRIAN CLEARANCE / BUFFER																			11	4							
RECALL			OFF			SOFT			OFF			OFF			SOFT			-									
DETECTOR MEMORY			NON-LOCK			-			NON-LOCK			NON-LOCK			-			LOCK									

* TIMING SHALL BE VARIABLE AND BASED ON DURATION OF FLASHING OPTICAL SIGNAL FROM APPROACHING EMERGENCY VEHICLE TRANSMITTER. SEE PREEMPTION NOTES.

** UPON PEDESTRIAN PUSH BUTTON ACTUATION.

SIGNAL HEAD DATA

EXISTING			PROPOSED
	12" 	12" 	16" FULL OVERLAY WITH COUNTDOWN 
LOCATION: D	LOCATION: A,B,C,F,G	LOCATION: E,H	LOCATION: P1-P8

NOTES:
1. ALL SIGNAL HEADS SHALL BE RIGID MOUNTED WITH 5"± LOUVERED BACK PLATES & TUNNEL VISORS.
2. ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.
3. PEDESTRIAN HOUSINGS SHALL BE LED INTERNATIONAL SYMBOLS WITH 16" FULL OVERLAY LENS AND COUNTDOWN.

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	25	204
PROJECT FILE NO.	609409		

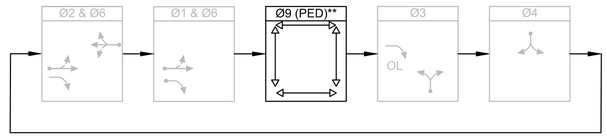
TRAFFIC TIMING PLAN
LOCATION 2 (ARMORY STREET AT TAYLOR STREET)

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TRAFFIC SIGNAL NOTES

1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
2. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OR ANY COMBINATION OF NON-CONFLICTING PHASES.
3. IF CALLS EXIST ON ALL PHASES, THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
4. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.
5. AUTOMATIC FLASHING OPERATION PER M.U.T.C.D. SECTION 4D.12.
6. OL = OVERLAP.
7. PERM = PERMISSIVE
8. MAXIMUM I = NORMAL OPERATION.
9. MAXIMUM II = NOT USED.
10. STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY.
11. DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL BE IN EFFECT.
12. INHIBIT MAX TERMINATION SHALL BE IN EFFECT DURING COORDINATION.
13. SEE SHEET 27 FOR COORDINATION DATA.

PREFERENTIAL PHASE SEQUENCE



PERMISSIVE MOVEMENT
DETECTED MOVEMENT
EXCLUSIVE PED PHASE
PEDESTRIAN PHASE
** UPON ACTUATION ONLY

VIDEO DETECTOR DATA

CAMERA NO.	DETECTOR ZONE	MODE OF OPERATION	CALL DELAY (SEC.)	CALL EXTENSION (SEC.)	CALL PHASE	EXT. PHASE	DETECTION ZONE
MV1	1	PRESENCE	0	0	Ø2	Ø2	VARIES
MV2	2	PRESENCE	0	0	Ø6	Ø6	VARIES
MV3	3	PRESENCE	0	0	Ø1	Ø1	VARIES
MV4	4	PRESENCE	0	0	Ø4	Ø4	VARIES
MV5	5 6	PRESENCE	0	0	Ø3	Ø3	VARIES

ITEM 816.02 MAJOR ITEMS REQUIRED

QUAN	DESCRIPTION
6	8' SIGNAL POST AND BASE WITH FOUNDATION
8	PEDESTRIAN SIGNAL HEAD (LED TYPE) - 16" LENS WITH COUNTDOWN
8	PEDESTRIAN APS COMPLIANT PUSH BUTTON WITH R10-3e SIGN AND SADDLE
1	CAMERA VIDEO DETECTION SYSTEM
4	VIDEO DETECTION CAMERA WITH MOUNTING HARDWARE
1	REMOVE AND TRANSPORT EXISTING SIGNAL EQUIPMENT TO CITY OF SPRINGFIELD
	MAINTENANCE YARD
1	REPROGRAM CABINET

PLUS ALL MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL

PRE-EMPTION PHASING & PRIORITY

DETECTOR & PRIORITY	PRE-EMPT PHASE ASSIGN	MOVEMENT	VEHICLE PHASE ASSIGN
D1	1		Ø2
D2	2		Ø1 & Ø6
D3	3		Ø3

EMERGENCY VEHICLE PRE-EMPTION OPERATION

1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT EACH INTERSECTION.
2. PRE-EMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH DETECTORS D1, D2, OR D3 ASSIGNED DESCENDING PRIORITIES AS FOLLOWS: (D1 HIGHEST AND D3 LOWEST).
3. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED AT AN INTERSECTION BY OPTICAL DETECTOR D1 (OR D2, D3) THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION PHASE #1 (OR #2, #3) GREEN FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PRE-EMPTION PHASE CLEARANCES FOR THE ASSOCIATED PHASE(S) AS SHOWN IN THE SEQUENCE AND TIMING CHART AND SERVICE SUBSEQUENT EMERGENCY VEHICLE PRE-EMPTION PHASES AS NECESSARY.
4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.
6. EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION.

ONLY MODIFICATIONS IN BOLD SHALL BE MADE

SPRINGFIELD
ARMORY STREET

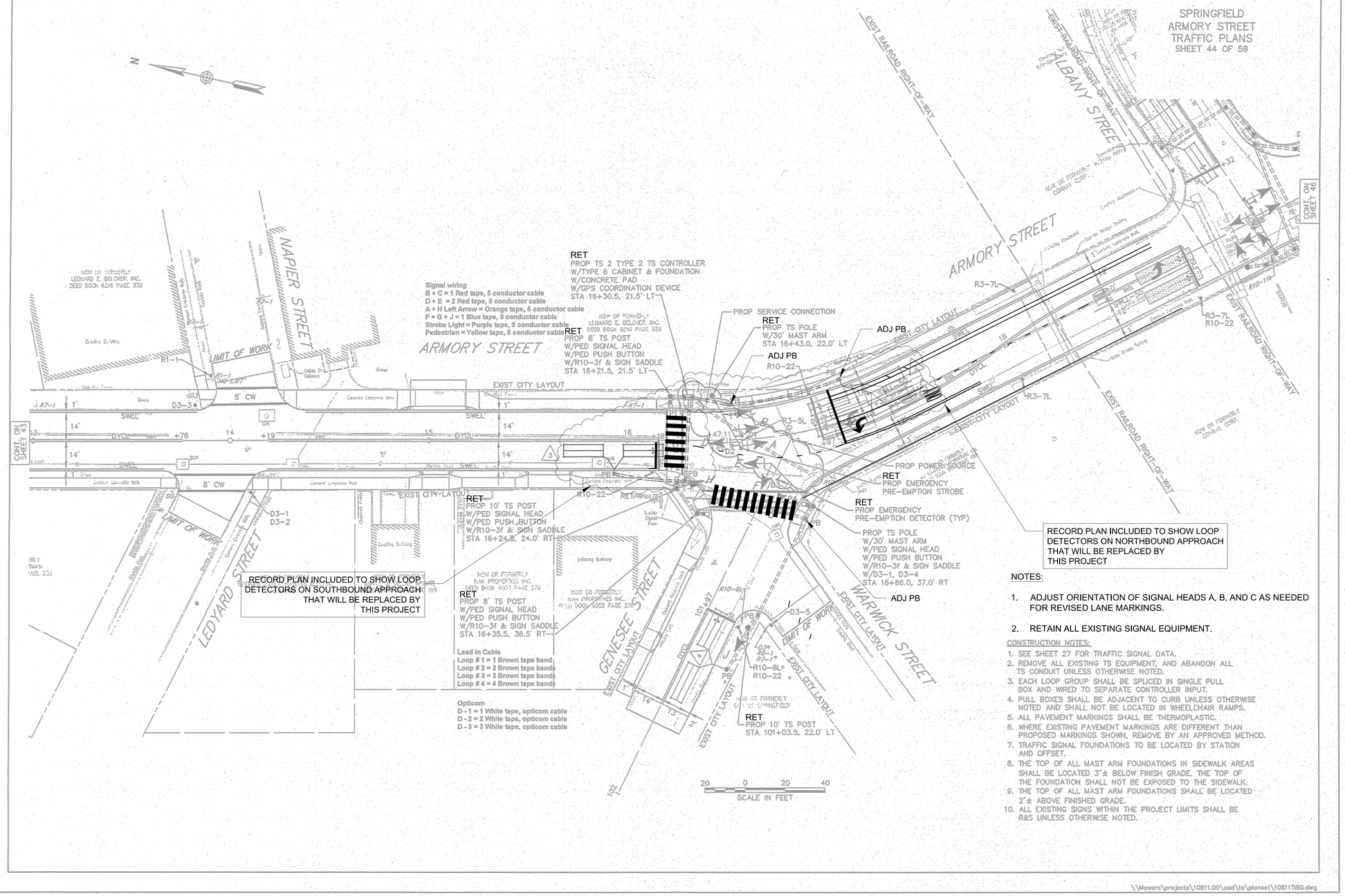
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	26	204
	PROJECT FILE NO. 609409		

TRAFFIC RECORD PLAN

LOCATION 3 (ARMORY STREET AT WARWICK STREET)

609409_HD (TTT101).DWG Plotted on 19-Nov-2025 9:51 AM

SPRINGFIELD
ARMORY STREET
TRAFFIC PLANS
SHEET 44 OF 59



NOTES:

1. ADJUST ORIENTATION OF SIGNAL HEADS A, B, AND C AS NEEDED FOR REVISED LANE MARKINGS.
2. RETAIN ALL EXISTING SIGNAL EQUIPMENT.

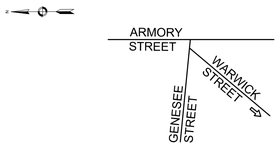
CONSTRUCTION NOTES:

1. SEE SHEET 27 FOR TRAFFIC SIGNAL DATA.
2. REMOVE ALL EXISTING TS EQUIPMENT, AND ABANDON ALL TS CONDUIT UNLESS OTHERWISE NOTED.
3. EACH LOOP GROUP SHALL BE SPLICED IN SINGLE PULL BOX AND WIRED TO SEPARATE CONTROLLER INPUT.
4. PULL BOXES SHALL BE ADJACENT TO CURB UNLESS OTHERWISE NOTED AND SHALL NOT BE LOCATED IN WHEELCHAIR RAMPS.
5. ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
6. WHERE EXISTING PAVEMENT MARKINGS ARE DIFFERENT THAN PROPOSED MARKINGS SHOWN, REMOVE BY AN APPROVED METHOD.
7. TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET.
8. THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED 3"± BELOW FINISH GRADE. THE TOP OF THE FOUNDATION SHALL NOT BE EXPOSED TO THE SIDEWALK.
9. THE TOP OF ALL MAST ARM FOUNDATIONS SHALL BE LOCATED 2"± ABOVE FINISHED GRADE.
10. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE R&S UNLESS OTHERWISE NOTED.

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4-10811TISG-TSIG02.PDF (44% of Scale); Armory St. Prints ASR-273; Projects; 2/2/2010 10:23 AM

SIGNAL PHASING AND TIMING CHART - FULLY ACTUATED, COORDINATED



			Ø2			Ø4			Ø5			Ø6			Ø9 (PED)**			FIRE PREEMPTION PREEMPT "A"			FIRE PREEMPTION PREEMPT "B"			EMERGENCY
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	16	17	18	19	20	21	22	23	24	FLASH
ARMORY STREET	NBL	A,H	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	FRL
ARMORY STREET	NB	B,C	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	FY
ARMORY STREET	SB	D,E	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	FY
GENESEE STREET	EB	F,G,J	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
PEDESTRIAN	E-W	P1-P2	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	N-S	P3-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OUT
TIMING IN SECONDS																								
MINIMUM GREEN			10			6			6			10			-			10			10			
EXTENSION			2			2			2			2			-			*			*			
MAXIMUM I			70			20			15			50			-			*			*			
MAXIMUM II			70			20			15			50			-									
YELLOW CLEARANCE				3			3			3			3						3			3		
RED CLEARANCE					2			3			2			2						3			3	
PEDESTRIAN WALK															7									
PEDESTRIAN CLEARANCE / BUFFER																13	4							
RECALL			SOFT			OFF			OFF			SOFT			-									
DETECTOR MEMORY			-			NON-LOCK			NON-LOCK			-			LOCK									

* TIMING SHALL BE VARIABLE AND BASED ON DURATION OF FLASHING OPTICAL SIGNAL FROM APPROACHING EMERGENCY VEHICLE TRANSMITTER. SEE PREEMPTION NOTES.
** UPON PEDESTRIAN PUSH BUTTON ACTUATION.

NOTES

1. AUTOMATIC FLASHING OPERATION PER M.U.T.C.D. SECTION 4D.12
2. MAXIMUM 1 = NORMAL OPERATION
3. MAXIMUM 2 = NOT USED
4. STOP AND GO OPERATION FOR 24 HOURS PER DAY. FLASHING OPERATION FOR EMERGENCY ONLY
5. DURING PEDESTRIAN INTERVAL, FDW THROUGH YELLOW OPERATION SHALL BE IN EFFECT
6. INHIBIT MAX TERMINATION SHALL BE IN EFFECT DURING COORDINATION

SEQUENCE & TIMING NOTES

1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
2. THE RIGHT OF WAY MAY BE ASSIGNED TO ANY PHASE OF ANY COMBINATION OF NON-CONFLICTING PHASES.
3. IF CALLS EXIST ON ALL PHASES THE ASSIGNMENT OF RIGHT OF WAY SHALL BE IN ACCORDANCE WITH THE PREFERENTIAL PHASE SEQUENCE.
4. IF THE ASSIGNED RIGHT-OF-WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATION FOR THAT MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.

EMERGENCY VEHICLE PRE-EMPTION OPERATION

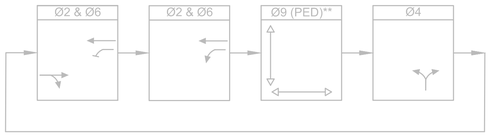
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4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
5. PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.
6. EMERGENCY VEHICLE PRE-EMPTION SHALL OVERRIDE COORDINATION.

PRE-EMPTION PHASING & PRIORITY			
DETECTOR & PRIORITY	PRE-EMPT PHASE ASSIGN	MOVEMENT	VEHICLE PHASE ASSIGN
D1	1		Ø2
D2	2		Ø1 & Ø6
D3	3		Ø3

Opticom

D - 1 = White tape, opticom cable
D - 2 = White tape, opticom cable
D - 3 = White tape, opticom cable

PREFERENTIAL PHASE SEQUENCE



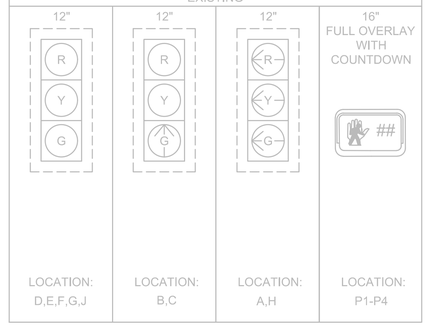
** UPON PUSH BUTTON ACTUATION ONLY

SIGNAL WIRING

B + C = 1 RED TAPE, 5 CONDUCTOR CABLE
D + E = 2 RED TAPE, 5 CONDUCTOR CABLE
A + H LEFT ARROW = ORANGE TAPE, 5 CONDUCTOR CABLE
F + G + J = 1 BLUE TAPE, 5 CONDUCTOR CABLE
STROBE LIGHT = PURPLE TAPE, 5 CONDUCTOR CABLE
PEDESTRIAN = YELLOW TAPE, 5 CONDUCTOR CABLE

SIGNAL HEAD DATA

EXISTING



NOTES:
1. ALL SIGNAL HEADS SHALL BE RIGID MOUNTED WITH 5"± LOUVERED BACK PLATES & TUNNEL VISORS.
2. ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.
3. PEDESTRIAN HOUSINGS SHALL BE LED INTERNATIONAL SYMBOLS WITH 16" FULL OVERLAY LENS AND COUNTDOWN.

ONLY MODIFICATIONS IN BOLD SHALL BE MADE

LOOP DETECTOR DATA						
DETECTOR NO.	NO. SECTION/ SIZE	NO. OF TURNS	OPERATIONS	DELAY/ EXT	CALL PHASE	LOOP CONNECTION
1	2 - 6' X 20' QUADRUPLE	2 - 4 - 2	PRESENCE	0	Ø5	SERIES
2	2 - 6' X 20' QUADRUPLE	2 - 4 - 2	PRESENCE	0	Ø2	SERIES
3	2 - 6' X 20' QUADRUPLE	2 - 4 - 2	PRESENCE	0	Ø6	SERIES
5	2 - 6' X 20' QUADRUPLE	2 - 4 - 2	PRESENCE	0	Ø4	SERIES

LEAD IN CABLE

LOOP #1 = 1 BROWN TAPE USED
LOOP #2 = 2 BROWN TAPE BANDS
LOOP #3 = 3 BROWN TAPE BANDS
LOOP #4 = 4 BROWN TAPE BANDS

NOTES:
1. DELAY AND EXTENSION TIMINGS SHALL BE PROGRAMMED IN THE CONTROLLER ONLY
2. REINSTALL LOOP DETECTION FOR NORTHBOUND APPROACH OF THE INTERSECTION. INSERT DETECTOR 2 FOR NB THROUGH MOVEMENT AND DETECTOR 1 FOR NB LEFT TURN MOVEMENT

ITEM 816.03 MAJOR ITEMS REQUIRED	
QUAN	DESCRIPTION
6	WIRE LOOP DETECTOR
1	REPROGRAM CABINET
	PLUS ALL MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	27	204
	PROJECT FILE NO. 609409		

TRAFFIC TIMING PLAN
LOCATION 3 (ARMORY STREET AT WARWICK STREET)

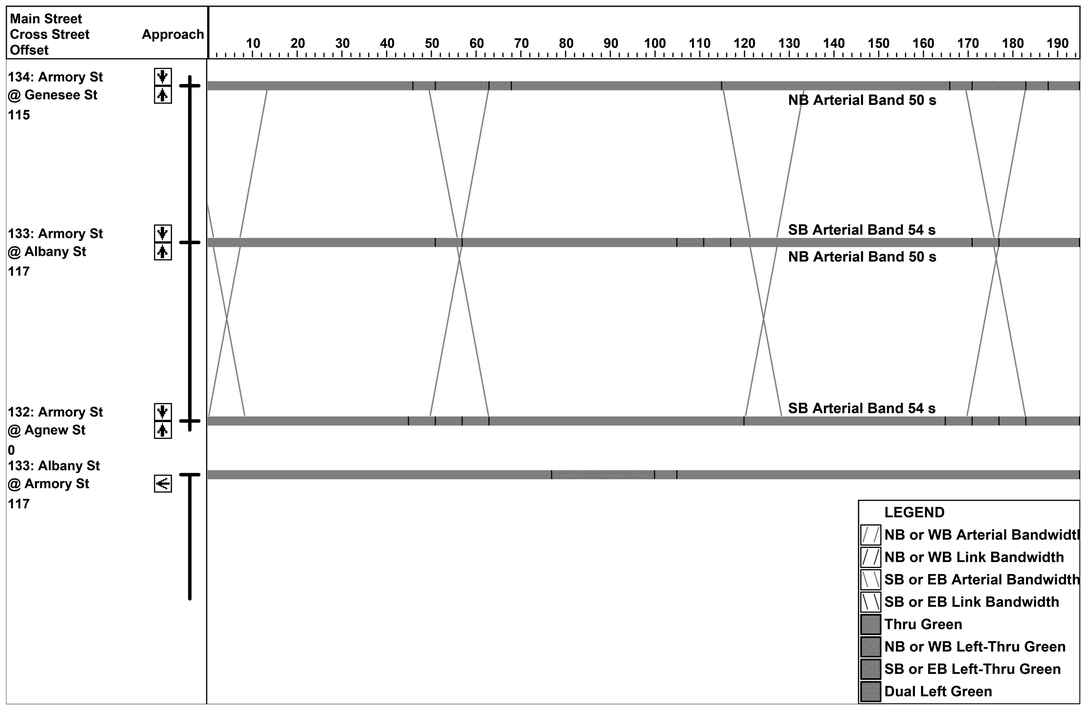
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	28	204
	PROJECT FILE NO. 609409		

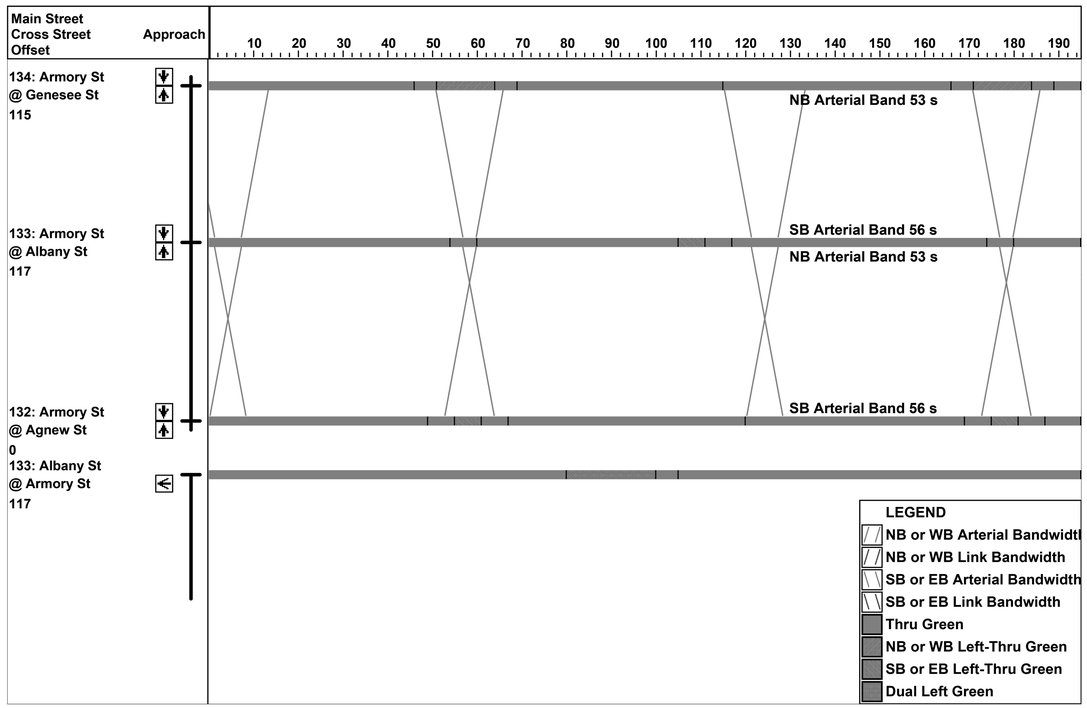
TIME SPACE DIAGRAM

AM Future Conditions (2029) - With Peds



09/09/2024

PM Future Conditions (2029) - With Peds



09/09/2024

COORDINATION DATA
ARMORY ST/GENESEE ST

	PLAN 1	PLAN 2
CYCLE LENGTH	120 SEC	120 SEC
OFFSET	115	115
SPLIT ø2	73 (63)	74 (64)
SPLIT ø9 (PED)	– (10)*	– (10)*
SPLIT ø4	26 (26)	25 (25)
SPLIT ø5	17 (17)	18 (18)
SPLIT ø6	56 (46)	56 (46)
COORDINATED PHASE	ø2&ø6	ø2&ø6

COORDINATION DATA
ARMORY ST/ALBANY ST

	PLAN 1	PLAN 2
CYCLE LENGTH	120 SEC	120 SEC
OFFSET	117	117
SPLIT ø1	12 (12)	12 (12)
SPLIT ø2	60 (50)	63 (53)
SPLIT ø9 (PED)	– (10)*	– (10)*
SPLIT ø6	72 (62)	75 (65)
SPLIT ø8	28 (28)	25 (25)
COORDINATED PHASE	ø2&ø6	ø2&ø6

COORDINATION DATA
ARMORY ST/TAYLOR ST/AGNEW ST

	PLAN 1	PLAN 2
CYCLE LENGTH	120 SEC	120 SEC
OFFSET	0	0
SPLIT ø1	12 (12)	12 (12)
SPLIT ø2	51 (41)	55 (45)
SPLIT ø3	22 (22)	18 (18)
SPLIT ø4	11 (11)	11 (11)
SPLIT ø6	63 (53)	67 (57)
SPLIT ø9 (PED)	– (10)*	– (10)*
COORDINATED PHASE	ø2&ø6	ø2&ø6

DAILY AND WEEKLY COORDINATION PROGRAM

	MONDAY–FRIDAY	SATURDAY	SUNDAY
PLAN 1	07:00–12:00	11:00–14:00	–
PLAN 2	12:00–19:00	–	–
FREE OPERATION	00:00–07:00 19:00–24:00	00:00–11:00 14:00–24:00	00:00–24:00
FLASH OPERATION	–	–	–

NOTES:

1. Ø2 & Ø6 "CALL NOT ACTUATED" DURING COORDINATION.
2. OFFSET REFERENCED TO BEGINNING OF Ø2 & Ø6 GREEN.
3. PLAN FORCE OFF SHALL BE IN EFFECT.
4. SPLIT TIME EQUALS GREEN PLUS CLEARANCES.
5. ( ) = SPLIT TIMES WITH PEDESTRIAN PHASE ACTUATED.
6. INHIBIT MAX SHALL BE IN EFFECT DURING COORDINATION.
7. * THE SPLIT TIME SHOWN DOES NOT ACCOMMODATE THE PEDESTRIAN TIME, IF THE PEDESTRIAN PHASE IS ACTUATED, THE CONTROLLER SHALL DROP OUT OF COORDINATION TO SERVICE THE PEDESTRIAN PHASE.

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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	29	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC CONTROL PLANS

SHEET 1 OF 5

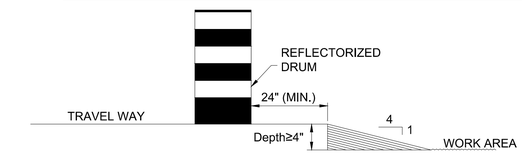
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NOTES:

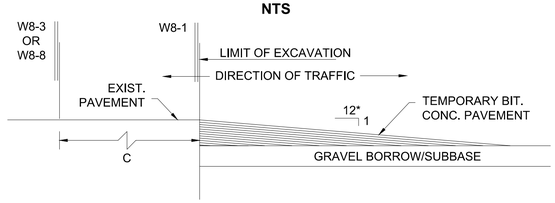
1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, THE MASSACHUSETTS AMENDMENTS TO THE MUTCD, AND MASSDOT'S TMP MANUAL.
2. ALL SIGN LEGENDS, BORDERS AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, CHANNELIZING DEVICES, BARRIERS, AND CRASH ATTENUATORS MUST PASS THE CRITERIA SET FORTH IN NCHRP REPORT 350, "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" AND/OR "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
7. THE FIRST 10 PLASTIC DRUMS OF A TAPER SHALL BE REFLECTORIZED AND MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER. SEPARATE BICYCLE ACCOMMODATION IS PROVIDED FOR EACH CONSTRUCTION STAGE.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
13. CHANNELIZATION WILL BE ACCOMPLISHED THROUGH THE USE OF REFLECTORIZED PLASTIC DRUMS.
14. AT THE END OF EACH CONSTRUCTION DAY, THE CONTRACTOR SHALL ENSURE THAT NECESSARY TRAFFIC CONTROL DEVICES ARE EFFECTIVELY PLACED TO PROVIDE SAFE PASSAGE OF VEHICLES AND PEDESTRIANS BETWEEN THE ZONES AND THE ADJOINING ROADWAYS. THE CONTRACTOR SHALL ENSURE THAT SAFE ACCESS/EGRESS OF SIDE STREETS AND ALL DRIVEWAY ENTRANCES AND EXITS ABUTTING THAT WORK ZONE ARE MAINTAINED DURING NIGHT TIME AND ON WEEKENDS.
15. THE ADVANCED CONSTRUCTION SIGNING PLAN SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT.
16. TEMPORARY PAINTED PAVEMENT MARKINGS (6") SHALL BE APPLIED BETWEEN PAVING COURSES OR AS NEEDED. CONFLICTING LINES SHALL BE REMOVED BY AN APPROVED METHOD.
17. ALL TEMPORARY PEDESTRIAN ACCESS ROUTES SHALL BE IN CONFORMANCE WITH THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS.
18. CONES SHALL BE A MINIMUM OF 36".
19. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PLACED AT LOCATIONS SHOWN FOR 7 DAYS PRIOR TO CONSTRUCTION.
20. PEDESTRIAN ACCESS SHALL BE PROVIDED DURING ALL PHASES OF CONSTRUCTION.

LEGEND:

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- POLICE DETAIL
- FLAGGER DETAIL
- TYPE III BARRICADE
- CHANGEABLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN



LATERAL DROP-OFF DETAIL
NTS



LONGITUDINAL DROP-OFF DETAIL
NTS

* - INCREASE SLOPE RATIO FOR HIGHER SPEEDS

SUGGESTED WORK ZONE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
URBAN (30 MPH OR LESS)	100	100	100
URBAN (35 MPH OR GREATER)	350	350	350
RURAL	500	500	500
FREEWAYS AND EXPRESSWAYS*	1,000	1,500	2,640

* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

** DISTANCES ARE SHOWN IN FEET. THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTCP SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (i.e. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

MA-R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

MA-R2-10a, MA-R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

MA-R2-10e SHALL BE LOCATED 100'-500' BEYOND ENDING TAPER.

Based on: Table 6C-1 MUTCD LATEST EDITION

TAPER LENGTH CRITERIA FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)*
MERGING TAPER	AT LEAST L
SHIFTING TAPER	AT LEAST 0.5L
SHOULDER TAPER	AT LEAST 0.33L
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT MIN. 100 FT MAX.
DOWNSTREAM TAPER	50 FT MIN. 100 FT MAX. PER LANE
TANGENT LENGTH**	AT LEAST 2L

**TANGENT LENGTH MEASURED BETWEEN TWO TAPERS

Source: Table 6C-3 MUTCD LATEST EDITION

FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	L= WS

WHERE: L = TAPER LENGTH IN FEET

W = WIDTH OF OFFSET IN FEET

S = POSTED SPEED LIMIT, OR OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICAPATED OPERATING SPEED IN MPH

Source: Table 6C-4 MUTCD LATEST EDITION

CONVENTIONAL ROADWAY- A STREET OR HIGHWAY OTHER THAN A LOW-VOLUME ROAD, EXPRESSWAY, OR FREEWAY.

EXPRESSWAY- A DIVIDED HIGHWAY WITH PARTIAL CONTROL OF ACCESS.

FREEWAY- A DIVIDED HIGHWAY WITH FULL CONTROL OF ACCESS.

LOW-VOLUME ROAD- A FACILITY LYING OUTSIDE OF BUILT-UP AREAS OF CITIES, TOWNS, AND COMMUNITIES, AND IT SHALL HAVE A TRAFFIC VOLUME OF LESS THAN 400 AADT. IT SHALL NOT BE A FREEWAY, EXPRESSWAY, INTERCHANGE RAMP, FREEWAY SERVICE ROAD OR A ROAD ON A DESIGNATED STATE HIGHWAY SYSTEM.

Source: MUTCD LATEST EDITION

STOPPING SIGHT DISTANCE AS A FUNCTION OF SPEED

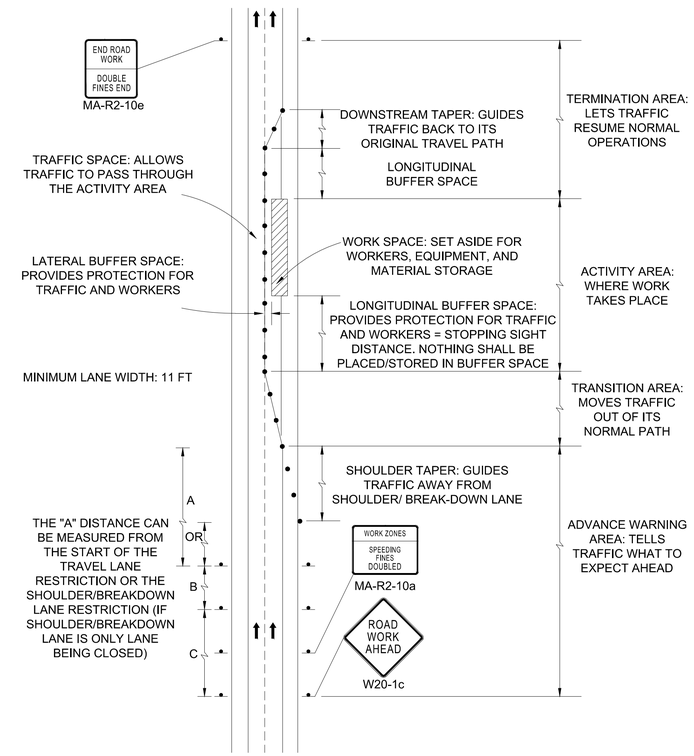
SPEED* (mph)	DISTANCE (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

THESE VALUES MAY BE USED TO DETERMINE THE LENGTH OF LONGITUDINAL BUFFER SPACES.

THE DISTANCES IN THE ABOVE CHART REPRESENT THE MINIMAL VALUES FOR BUFFER SPACING.

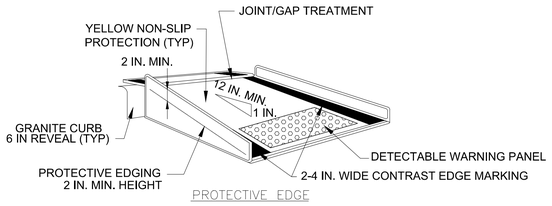
Source: Table 6C-2 MUTCD LATEST EDITION



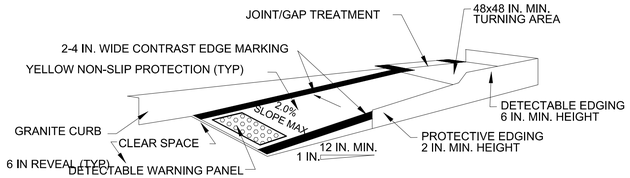
COMPONENT PARTS OF A TEMPORARY TRAFFIC CONTROL (TTC) ZONE
N.T.S.

NOTES:

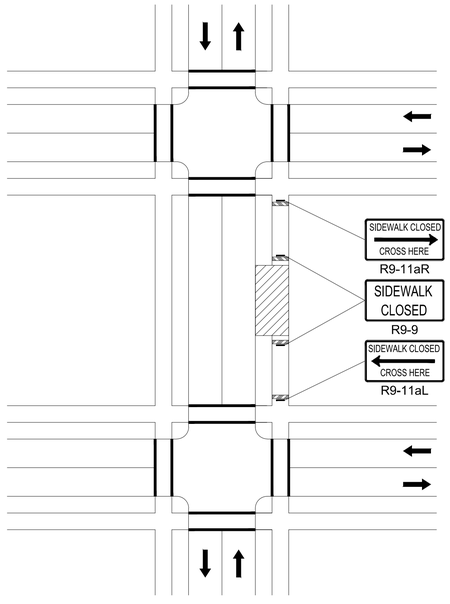
1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB



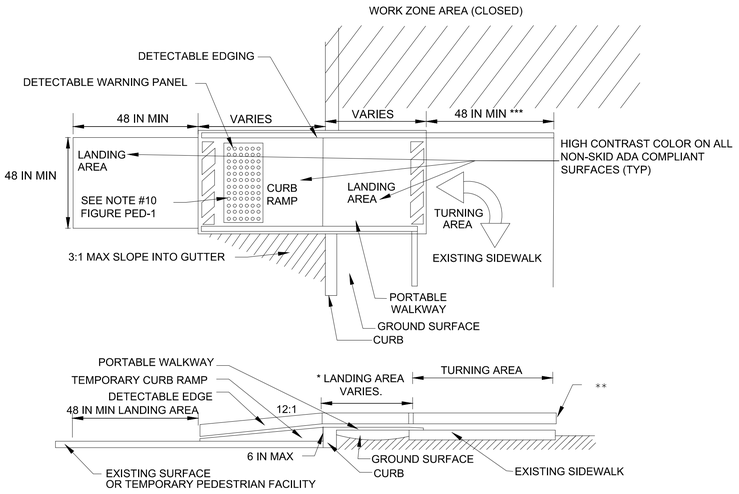
TEMPORARY CURB RAMP-PARALLEL TO CURB



SIDEWALK CLOSED WITHOUT DETOUR
NTS

NOTE:

IF A MINIMUM WIDTH OF 48" OF SOLID SMOOTH UNOBSTRUCTED SURFACE REMAINS ALONG THE WORK AREA THEN THE DETAIL CAN BE DISREGARDED. DELINEATION OF THE WORK AREA WILL STILL BE REQUIRED. All PEDESTRIAN DETOUR ROUTES SHALL BE ADA/MAAB COMPLIANT IN THEIR ENTIRETY.



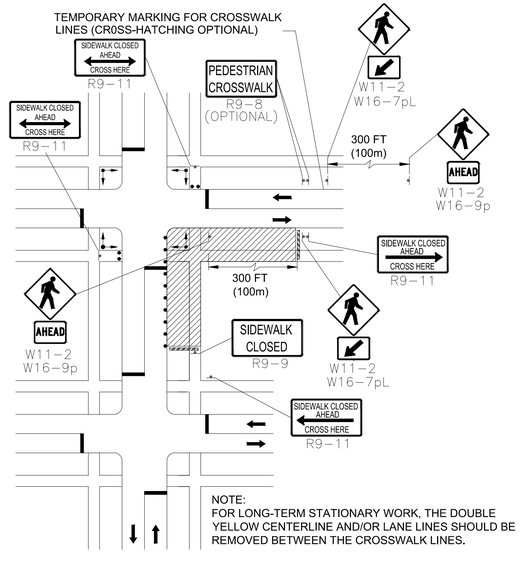
* -LANDING AREA USED TO OVERLAP NON-ADA COMPLIANT SURFACES.

** -DETECTABLE EDGE REMOVED IF A CONTINUOUS SIDEWALK.

*** -60 IN. IF AN OBSTRUCTION IS AT BACK OF SIDEWALK

TEMPORARY CURB RAMP DETAILS

NOT TO SCALE

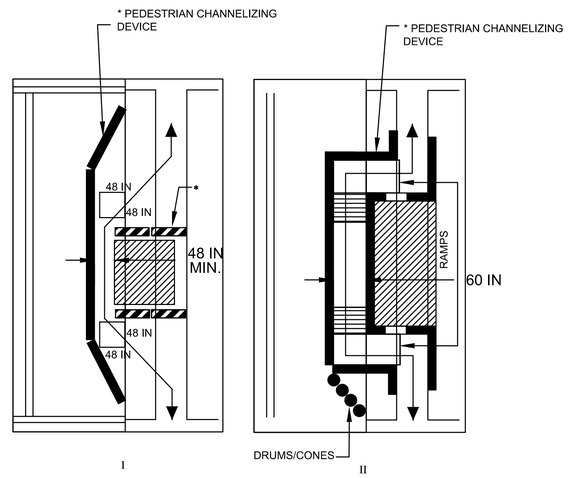


SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	30	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC CONTROL PLANS

SHEET 2 OF 5



TEMPORARY PEDESTRIAN WALKWAY DETAILS

NOT TO SCALE

- DETAIL I IS CONSIDERED AN EXAMPLE OF A SHORT TERM CLOSURE AND PEDESTRIAN ASSISTANCE (PERSONEL) TO NAVIGATE AROUND THE CLOSURE/WORK AREA COULD BE CONSIDERED AS AN OPTION IN PLACE OF PROVIDING ADA/AAB DEVICES. DETAIL II IS CONSIDERED AN EXAMPLE OF A LONG TERM CLOSURE THAT WOULD REQUIRE ADDITIONAL ADA/AAB COMPLIANT DEVICES. IF A SIDEWALK CLOSURE OR RESTRICTION LASTS FOR MORE THAN ONE (1) WORK SHIFT THEN ADA/AAB COMPLIANCE SHALL BE FOLLOWED.
- WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TTC ZONE, TEMPORARY FACILITIES SHALL BE PROVIDED AND THEY SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
- A PEDESTRIAN CHANNELIZING DEVICE THAT IS DETECTABLE BY A PERSON WITH A VISUAL DISABILITY TRAVELING WITH THE AID OF A LONG CANE SHALL BE PLACED ACROSS THE FULL WIDTH OF THE CLOSED SIDEWALK.
- WHEN USED, TEMPORARY RAMPS SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT (SEE FIGURES PED-1 & PED-2).
- THE ALTERNATE PATHWAY SHOULD HAVE A SMOOTH CONTINUOUS HARD SURFACE FOR THE ENTIRE LENGTH OF THE TEMPORARY PEDESTRIAN FACILITY.
- THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THE SIDEWALK EXCEEDS 200 FEET, THEN A 5 FOOT BY 5 FOOT PASSING ZONE SHALL BE PROVIDED.
- THE PROTECTIVE REQUIREMENTS OF A TTC SITUATION HAVE PRIORITY IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN THIS SITUATION SHOULD BE BASED ON ENGINEERING JUDGMENT.
- CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN; VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE. THESE DETAILS ARE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING AS DETERMINED BY THE ENGINEER.
- AUDIBLE INFORMATION DEVICES SHOULD BE CONSIDERED WHERE MIDBLOCK CLOSINGS AND CHANGED CROSSWALK AREAS CAUSE INADEQUATE COMMUNICATION TO BE PROVIDED TO PEDESTRIANS WHO HAVE VISUAL DISABILITIES.
- EXISTING AUDIBLE DEVICES NO LONGER APPLICABLE DUE TO CONSTRUCTION SHALL BE DISABLED.

AUDIBLE DEVICES

FOR LONG TERM SIDEWALK CLOSURES (AT A MINIMUM OVERNIGHT) A FORM OF SPEECH MESSAGING FOR PEDESTRIANS WITH VISUAL DISABILITIES SHALL BE PROVIDED. AUDIBLE INFORMATION DEVICES SUCH AS DETECTABLE BARRIERS OR BARRICADES AND OTHER PASSIVE PEDESTRIAN ACTIVATION (MOTION ACTIVATED) DEVICES SHOULD BE CONSIDERED FOR THESE CASES. THESE AUDIBLE DEVICES CAN BE MOUNTABLE OR STAND ALONE.

PEDESTRIAN DETAILS

609409_HD (TTM02).DWG Plotted on 19-Nov-2025 9:47 AM

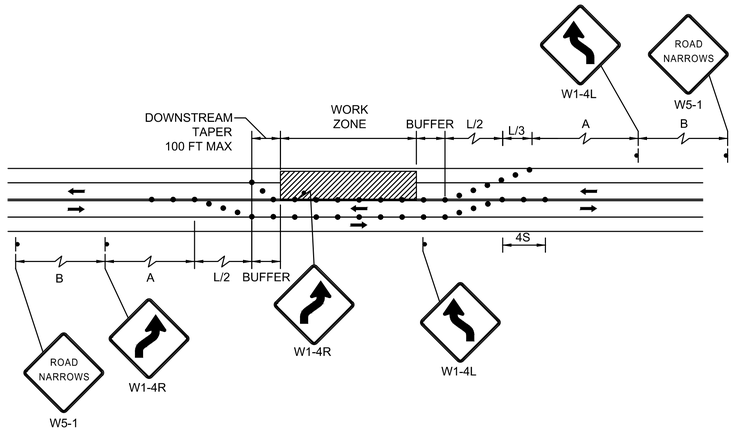
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	31	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC CONTROL PLANS

SHEET 3 OF 5

609409_HD (TTM03).DWG Plotted on 19-Nov-2025 9:48 AM



NTS

CONSTRUCTION STAGING GENERAL NOTES

1. THE STAGING SHOWN ON THE PLANS REPRESENTS MAJOR WORK ELEMENTS AND SIGNIFICANT TRAFFIC MANAGEMENT ALTERATIONS FOR ONE ACCEPTABLE METHOD FOR CONSTRUCTING THE PROJECT WHILE MAINTAINING TRAFFIC. NOT ALL STAGES FOR ALL WORK ARE SHOWN NOR ARE THE STAGES SHOWN INTENDED TO BE EXCLUSIVE OF OTHER POSSIBLE COMBINATIONS OF TASKS OR ACCELERATION OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING THE WORK AND STAGING THE CONSTRUCTION TO MEET THE PROJECT SCHEDULE.
2. SOME WORK SHOWN ON THE CONSTRUCTION STAGING PLANS MAY BE CONDUCTED OVER SEVERAL STAGES, PRIOR TO THE COMMENCEMENT OF THE CONSTRUCTION STAGE IN WHICH IT IS SHOWN, OR SUBSEQUENT TO THE CONSTRUCTION STAGE IN WHICH IT IS SHOWN. THE CONTRACTOR SHALL MAKE HIS OWN DETERMINATION REGARDING THE START AND FINISH OF ALL TASKS.
3. BRIDGE CONSTRUCTION WILL BE STAGED AS INDICATED ON THE BRIDGE PLANS. CONSTRUCTION OF TEMPORARY EXCAVATION AND EMBANKMENT SUPPORT FOR CONSTRUCTION OF BRIDGE FOUNDATIONS AND FOR SUPPORT OF BRIDGE APPROACH EMBANKMENT SHALL BE COORDINATED WITH THE TRAFFIC MANAGEMENT PLANS.
4. THE INSTALLATION AND MAINTENANCE OF THE ROADWAY DRAINAGE SYSTEM MAY BE INDEPENDENT OF OTHER STAGING. NO ADDITIONAL COMPENSATION WILL BE MADE FOR DRAIN PIPE, DRAIN STRUCTURES, AND CONNECTIONS THAT MAY BE NEEDED ON A TEMPORARY BASIS TO MAINTAIN A DRAINAGE SYSTEM.
5. UTILITY RELOCATIONS AND ADJUSTMENTS SHALL BE MADE IN AS MANY STAGES AS REQUIRED AND AS DIRECTED BY THE ENGINEER TO MINIMIZE TRAFFIC IMPACTS.
6. UTILITY CASTINGS SHALL BE ADJUSTED TO FINAL GRADE PRIOR TO APPLICATION OF THE FINAL SURFACE COURSE. CASTINGS SHALL NOT BE SET TO A GRADE HIGHER THAN 2” ABOVE THE PAVEMENT AT ANY TIME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PAVEMENT AND CONSTRUCTING PATCHES THAT ARE UNIFORM WITH ADJACENT PAVEMENT IF REQUIRED IN COORDINATION WITH UTILTY COMPANY PAVEMENT EXCAVATION AND CASTING ADJUSTMENTS.
7. WORK DURING PERIODS OF LOW TRAFFIC VOLUMES AT NIGHT MAY BE REQUIRED FOR SOME WORK. NIGHT WORK MAY BE REQUIRED TO MEET THE PROJECT SCHEDULE AND TO MINIMIZE TRAFFIC IMPACTS.
8. TEMPORARY PAVEMENT SHALL BE CONSTRUCTED TO TRANSITION THE GRADE BETWEEN PROPOSED WORK AND EXISTING ROADWAYS WITH PAYMENT UNDER APPLICABLE PAVEMENT ITEMS. THE LOCATIONS AND EXTENT OF TEMPORARY PAVEMENT GRADE TRANSITIONS SHALL BE DETERMINED AS WORK PROGRESSES AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO WORK.
9. CONSTRUCTION SIGNING AND PAVEMENT MARKINGS SHALL BE MAINTAINED UNTIL WORK UNDER EACH STAGE IS COMPLETED. ALTERATIONS TO CONSTRUCTION SIGNING AND PAVEMENT MARKINGS, INCLUDING REMOVAL, REAPPLICATION (AS REQUIRED FOR VISIBILITY) AND ADJUSTMENT IN LOCATION SHALL BE MADE AT THE BEGINNING OF THE NEXT CONSTRUCTION STAGE AS REQUIRED TO CONFORM WITH THE TRAFFIC MANAGEMENT PLANS AND AS DIRECTED BY THE ENGINEER. PAVEMENT MARKINGS SHALL BE EXTENDED, LOCATIONS ADJUSTED, WIDTHS INCREASED AND DECREASED AND COLORS ALTERED TO MATCH WITH EXISTING MARKINGS AND TO CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES IN ALL STAGES.
10. THE TRAFFIC MANAGEMENT PLANS FOR CONSTRUCTION STAGING DO NOT ILLUSTRATE ALL TYPICAL STANDARD TRAFFIC MANAGEMENT DETAILS THAT WILL BE REQUIRED FOR SOME WORK. THE CONTRACTOR SHALL REFER TO TYPICAL TRAFFIC MANAGEMENT DETAILS THAT ARE PROVIDED FOR LANE CLOSURE, SHOULDER CLOSURE, ADVANCE SIGNING, ETC.
11. EXISTING STREET LIGHTING SHALL BE RETAINED WITHIN THE WORK LIMITS FOR THE LONGEST PRACTICABLE PERIOD UNTIL THE WORK REQUIRES ITS REMOVAL.
12. ADVISORY SPEED LIMITS, IF NECESSARY, SHALL BE DETERMINED BY THE ENGINEER.
13. EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED BY AN APPROVED METHOD.
14. THE ADVANCE WARNING SIGNING PLAN SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF THE CONSTRUCTION PHASE.
15. TEMPORARY HMA PAVEMENT RAMPS GRADED AT NO MORE THAN 1:12 LONGITUDINAL SLOPES AND 1:4 LATERAL SLOPES SHALL BE CONSTRUCTED TO MAINTAIN TRAFFIC AT LOCATIONS WITH GRADE DIFFERENTIAL.

MAINTENANCE OF TRAFFIC

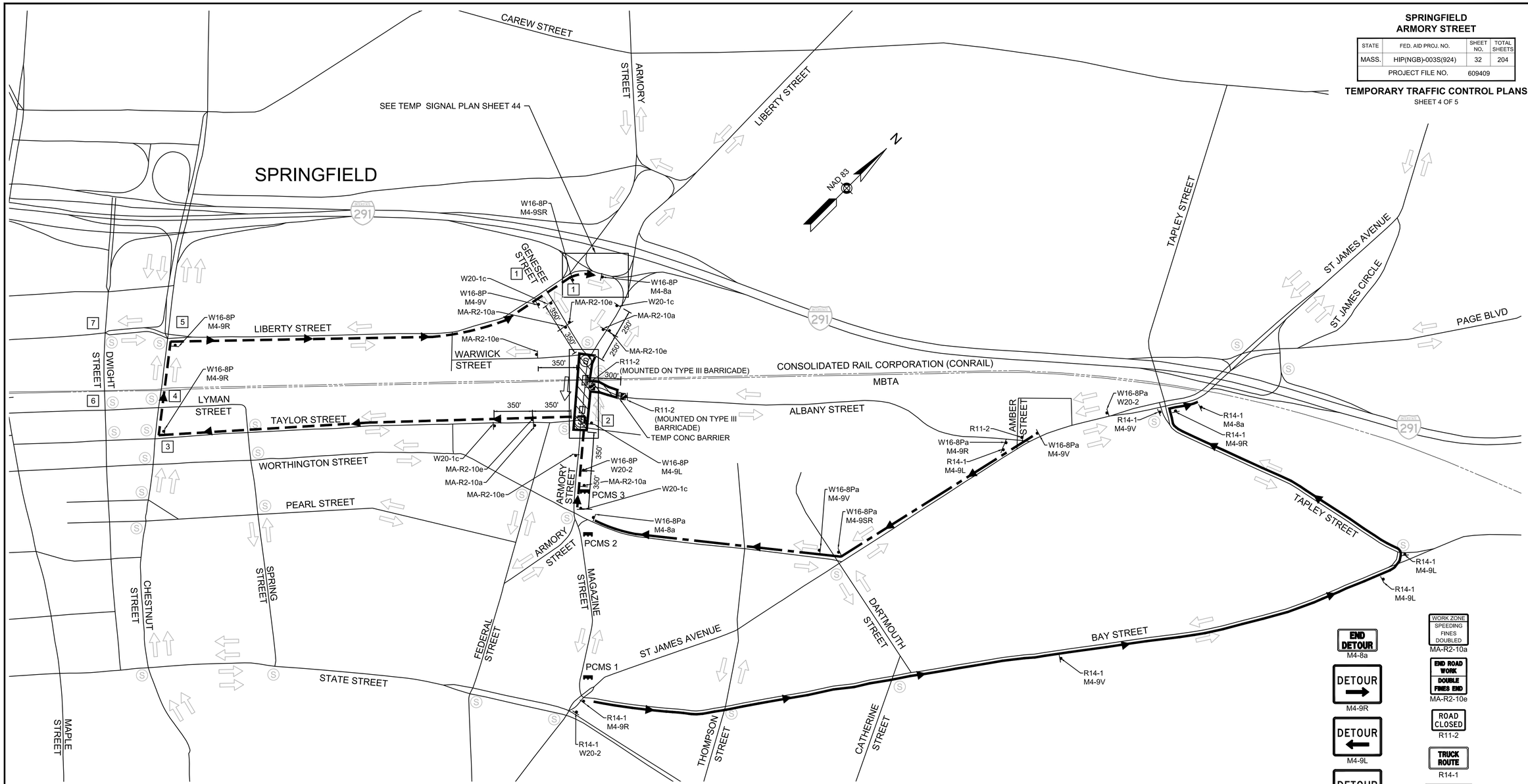
1. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH EACH BRIDGE CONSTRUCTION STAGE. THE SEQUENCING DEPICTED BELOW DEMONSTRATES ONE POSSIBLE ARRANGEMENT WHICH MAINTAINS EACH OF THE FOLLOWING CRITERIA:
    a. PROVIDE ACCESSIBLE PEDESTRIAN ROUTE;
    b. PROVIDE BICYCLE ACCOMMODATION;
    c. MAINTAIN SOUTHBOUND TRAVEL LANE.
2. THE CONTRACTOR IS NOT REQUIRED TO USE THE SEQUENCING SHOWN BUT SHALL MAKE THEIR OWN DETERMINATION ON CONSTRUCTION STAGING. THE CONTRACTORS STAGING SHALL PROVIDE THE CRITERIA LISTED ABOVE.
3. STAGE 1: WESTERN SIDE OF ARMORY STREET AND BOTH BRIDGES WILL BE CLOSED TO TRAFFIC TO PROVIDE WORK ZONE. PROPOSED WORK DURING STAGE 1 WITHIN THE WORK ZONE INCLUDES PARTIAL DEMOLITION OF EXISTING BRIDGES AND BUILDING, UTILITY RELOCATIONS, CONSTRUCTION OF APPROXIMATELY $\frac{1}{2}$ OF THE BRIDGE WIDTHS, ROADWAY, SHARED-USE PATH AND RETAINING WALLS. NORTHBOUND TRAVEL LANE WILL BE CLOSED AND NORTHBOUND TRAFFIC WILL FOLLOW DETOUR. SOUTHBOUND TRAVEL LANE WILL BE MAINTAINED ON EASTERN SIDE OF ARMORY STREET. CONNECTION TO ALBANY STREET WILL BE CLOSED.
4. STAGE 2: EASTERN SIDE OF ARMORY STREET AND BOTH BRIDGES WILL BE CLOSED TO TRAFFIC TO PROVIDE WORK ZONE. PROPOSED WORK DURING STAGE 2 WITHIN THE WORK ZONE INCLUDES REMAINING DEMOLITION OF EXISTING BRIDGES, COMPLETION OF UTILITY RELOCATIONS, REMAINING CONSTRUCTION OF BRIDGES, ROADWAY, SIDEWALK AND RETAINING WALLS. NORTHBOUND TRAFFIC WILL CONTINUE TO FOLLOW DETOUR. SOUTHBOUND TRAFFIC WILL BE RELOCATED TO WESTERN SIDE OF ARMORY STREET. CONNECTION TO ALBANY STREET WILL BE CLOSED.

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	32	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC CONTROL PLANS
SHEET 4 OF 5

609409_HD (TTM04).DWG Plotted on 19-Nov-2025 9:48 AM



PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) KEY

	MESSAGE 1	MESSAGE 2
SCREEN 1	BRIDGE CLOSING ON	BRIDGE CLOSED AHEAD
SCREEN 2	XXX X-X	FOLLOW DETOUR

LEGEND

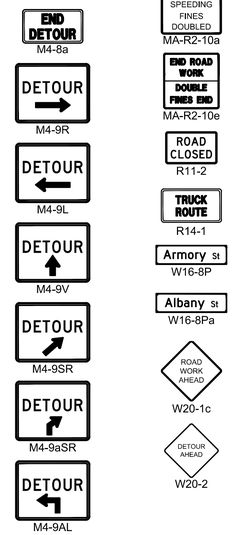
- EXISTING TRAFFIC SIGNAL (S)
- EXISTING TRAVEL LANES
- TRAVEL LANE THROUGH CONSTRUCTION ZONE
- TRAVEL LANE CLOSED THROUGH CONSTRUCTION ZONE

NOTES:

1. THE FOLLOWING INTERSECTIONS ON THE DETOUR ROUTE SHALL BE RE-TIMED AS SHOWN ON SHEETS 44-49
   - 1 LIBERTY ST AT I-291 OFF/ON RAMPS
   - 2 ARMORY ST/GENESEE ST, ARMORY ST/TAYLOR ST
   - 3 TAYLOR ST AT CHESTNUT ST
   - 4 LYMAN ST AT CHESTNUT ST
   - 5 LIBERTY ST AT CHESTNUT ST
   - 6 DWIGHT ST AT LYMAN ST
   - 7 DWIGHT ST AT LIBERTY ST
2. THE TEMPORARY TRAFFIC CONTROL SIGNS AT THE INTERSECTION OF ALBANY STREET AND ST JAMES AVENUE ARE TO BE POSTED DURING STAGES 2A AND 2B.
3. PCMS MESSAGE 1 SHALL BE ACTIVATED 14 DAYS PRIOR TO IMPLEMENTING STAGE 1 LANE CLOSURE. PCMS MESSAGE 2 SHALL BE ACTIVATED WHEN STAGE 1 LANE CLOSURE IS IMPLEMENTED.

DETOUR LEGEND

- ARMORY STREET DETOUR
- ALBANY STREET DETOUR
- TRUCK DETOUR



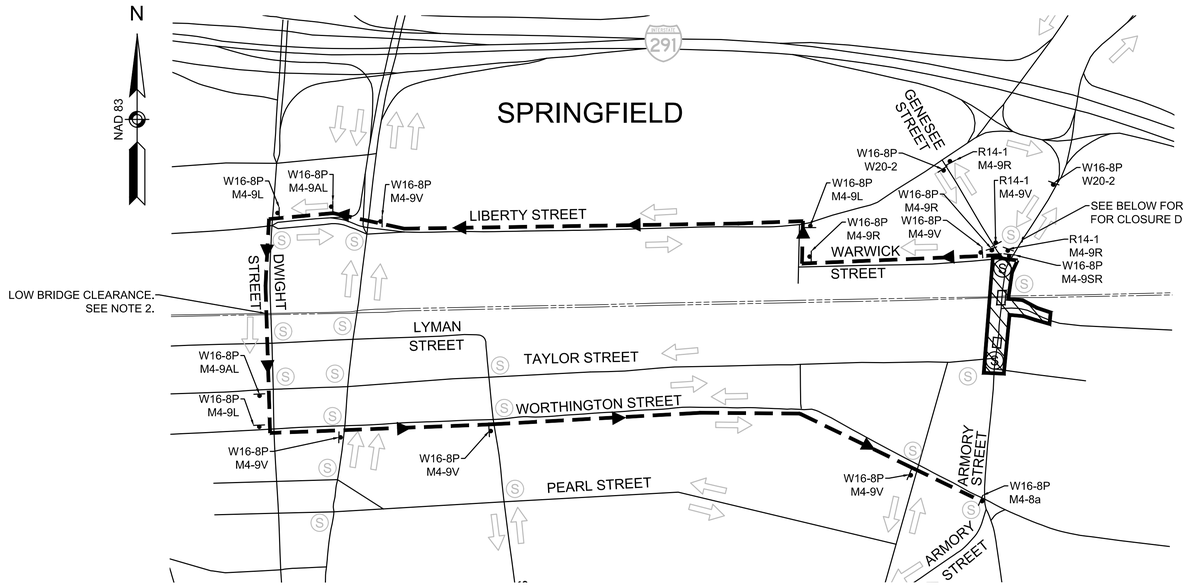
ADVANCE WARNING SIGN AND DETOUR PLAN
NTS

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	33	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC CONTROL PLANS
FULL CLOSURE DETOUR DETAILS

SHEET 5 OF 5



ARMORY STREET SB DETOUR
NTS

DETOUR LEGEND

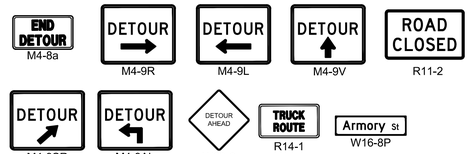
ARMORY STREET DETOUR

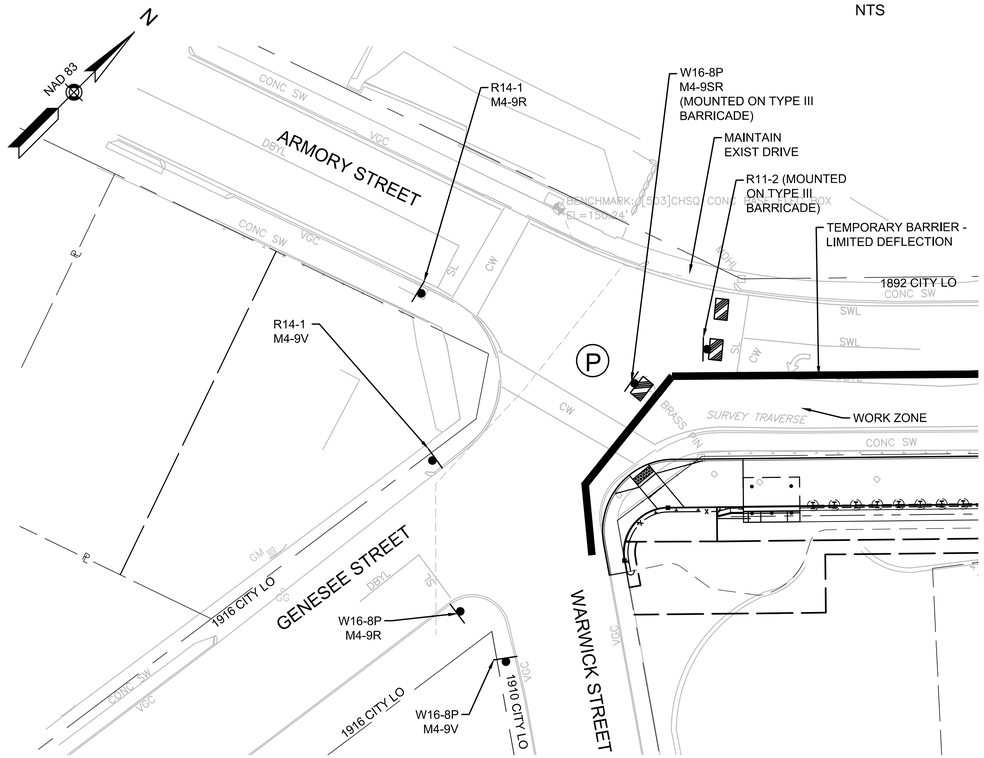
LEGEND

EXISTING TRAFFIC SIGNAL (S)

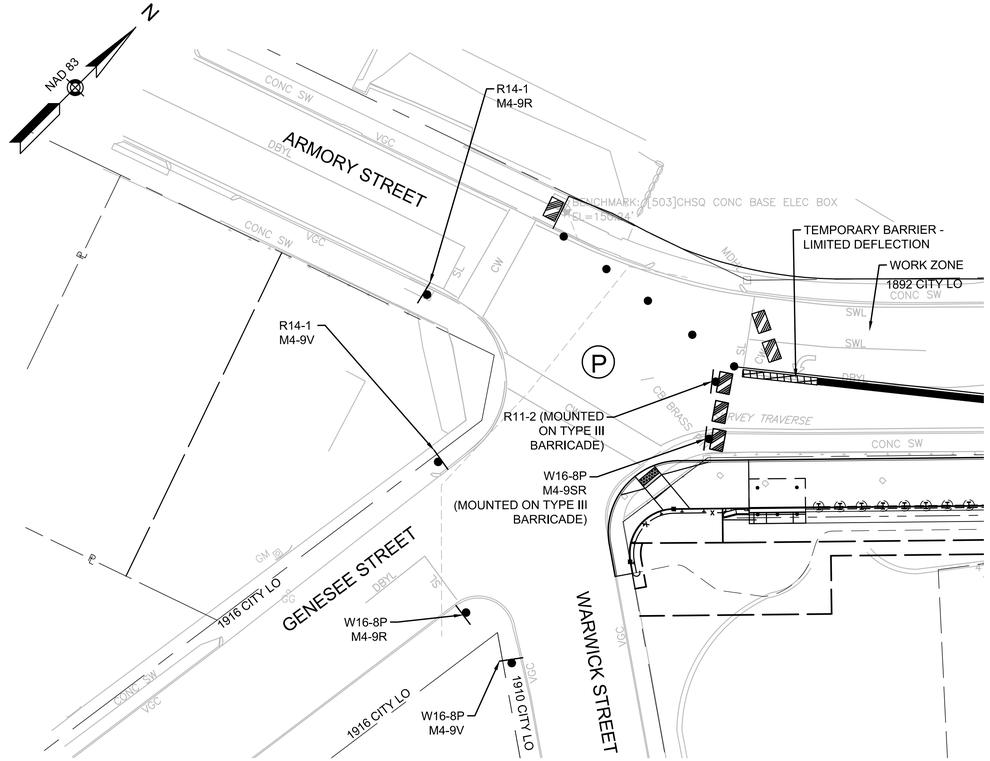
EXISTING TRAVEL LANES

POLICE DETAIL (P)





STAGE 1
NTS



STAGE 2
NTS

NOTES:

1. COMPLETE CLOSURE OF ARMORY STREET SHALL NOT BE ALLOWED UNLESS AUTHORIZED BY THE ENGINEER AND SHALL ONLY BE IMPLEMENTED UNDER POLICE CONTROL DURING LOWEST TRAFFIC VOLUMES AT NIGHT.
2. IMPLEMENT THE SIGNING FOR THE TRUCK ROUTE DETOUR DUE TO LOW VERTICAL CLEARANCE.
3. REFER TO TEMPORARY TRAFFIC CONTROL PLANS SHEETS 1-4 FOR ADDITIONAL TRAFFIC CONTROL.

609409_HD (TTM04A).DWG Plotted on 19-Nov-2025 9:48 AM

SPRINGFIELD
ARMORY STREET

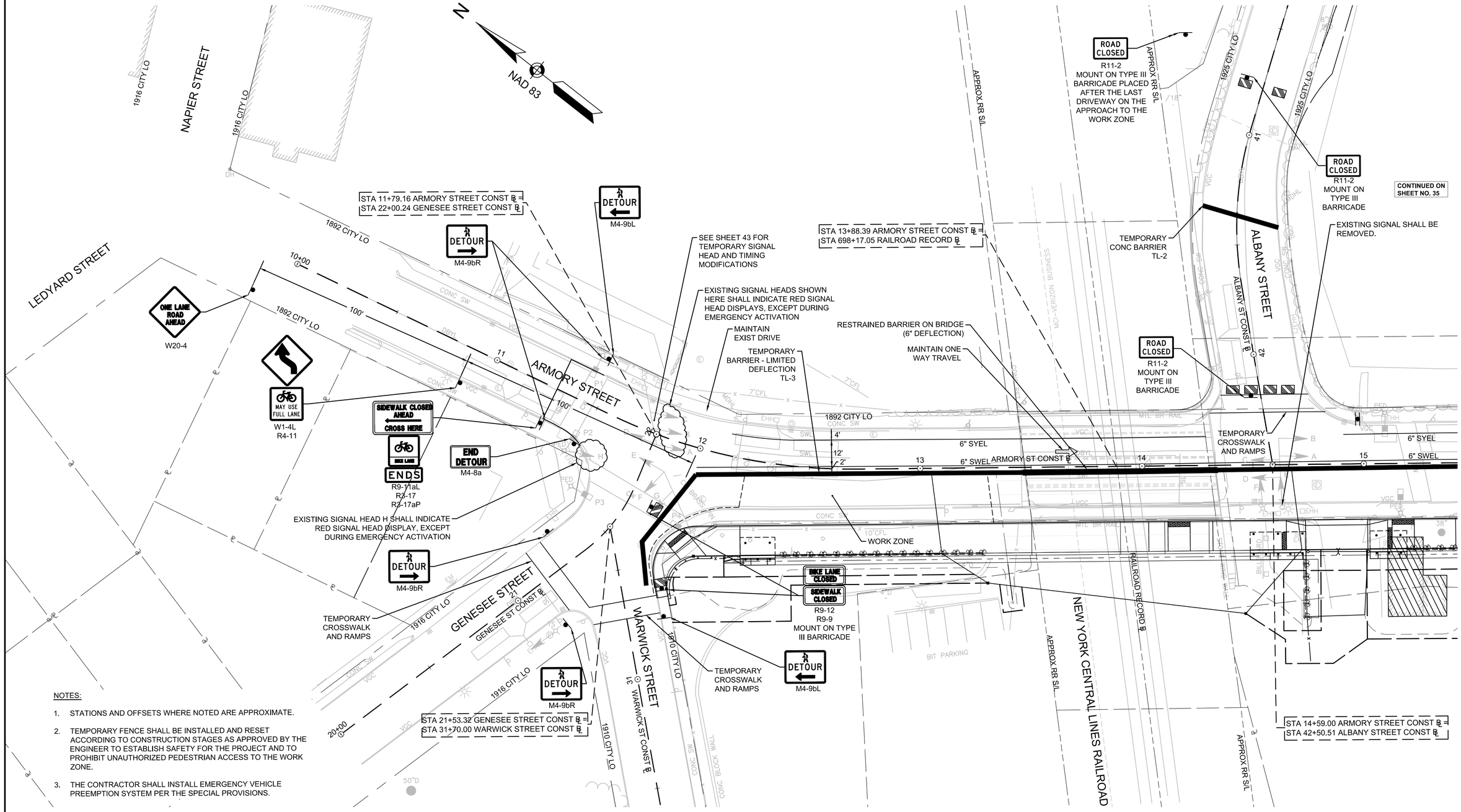
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	34	204
	PROJECT FILE NO. 609409		

CONSTRUCTION STAGING AND TEMPORARY TRAFFIC CONTROL PLAN

STAGE 1

SHEET 1 OF 2

609409_HD (TTM06).DWG Plotted on 19-Nov-2025 9:49 AM



NOTES:

1. STATIONS AND OFFSETS WHERE NOTED ARE APPROXIMATE.
2. TEMPORARY FENCE SHALL BE INSTALLED AND RESET ACCORDING TO CONSTRUCTION STAGES AS APPROVED BY THE ENGINEER TO ESTABLISH SAFETY FOR THE PROJECT AND TO PROHIBIT UNAUTHORIZED PEDESTRIAN ACCESS TO THE WORK ZONE.
3. THE CONTRACTOR SHALL INSTALL EMERGENCY VEHICLE PREEMPTION SYSTEM PER THE SPECIAL PROVISIONS.

SPRINGFIELD
ARMORY STREET

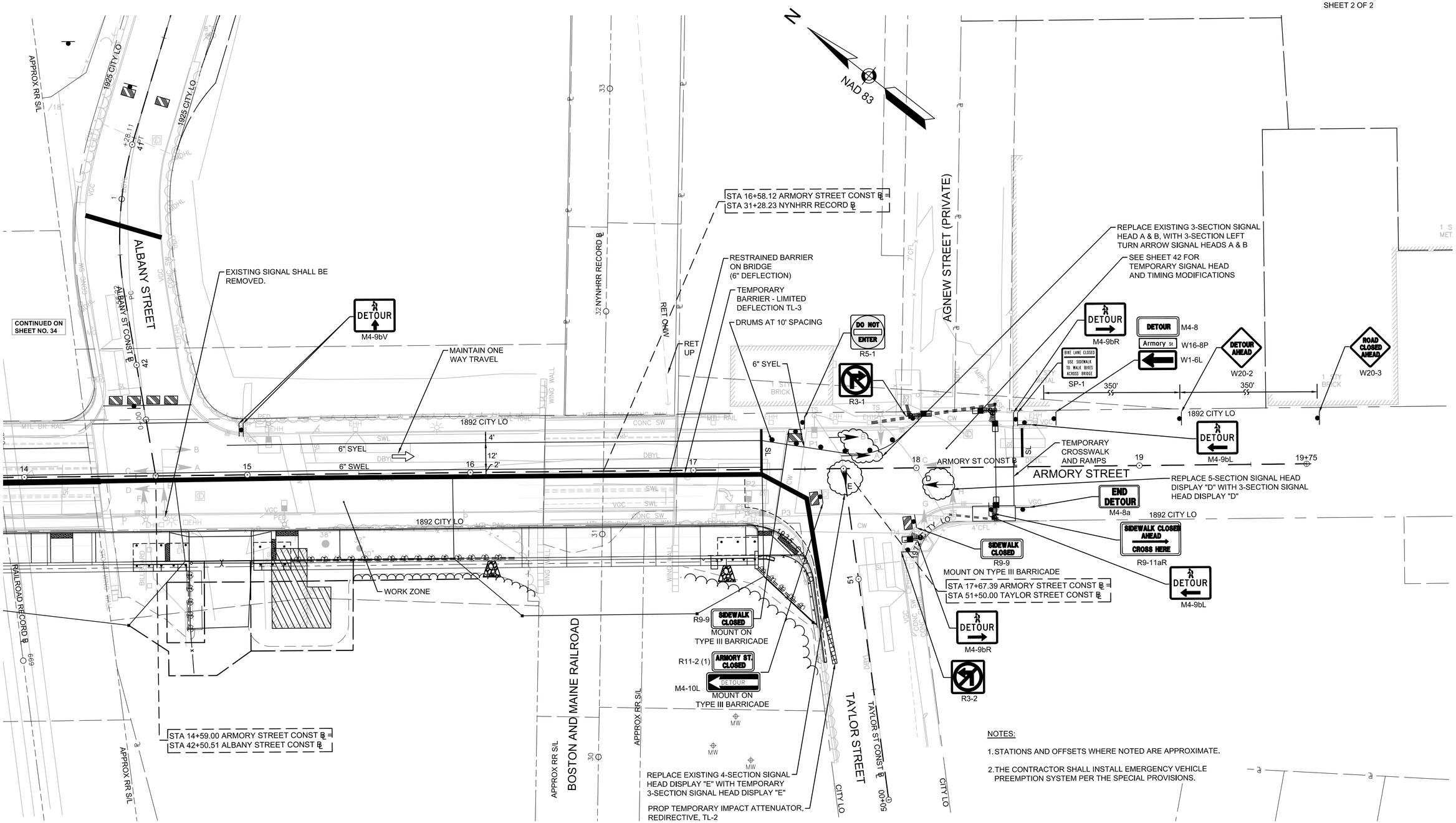
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	35	204
	PROJECT FILE NO. 609409		

CONSTRUCTION STAGING AND TEMPORARY TRAFFIC CONTROL PLAN

STAGE 1

SHEET 2 OF 2

609409_HD (TTM06).DWG Plotted on 19-Nov-2025 9:49 AM



NOTES:

1. STATIONS AND OFFSETS WHERE NOTED ARE APPROXIMATE.
2. THE CONTRACTOR SHALL INSTALL EMERGENCY VEHICLE PREEMPTION SYSTEM PER THE SPECIAL PROVISIONS.

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	36	204
PROJECT FILE NO.	609409		

CONSTRUCTION STAGING AND UTILITY RELOCATION PLAN

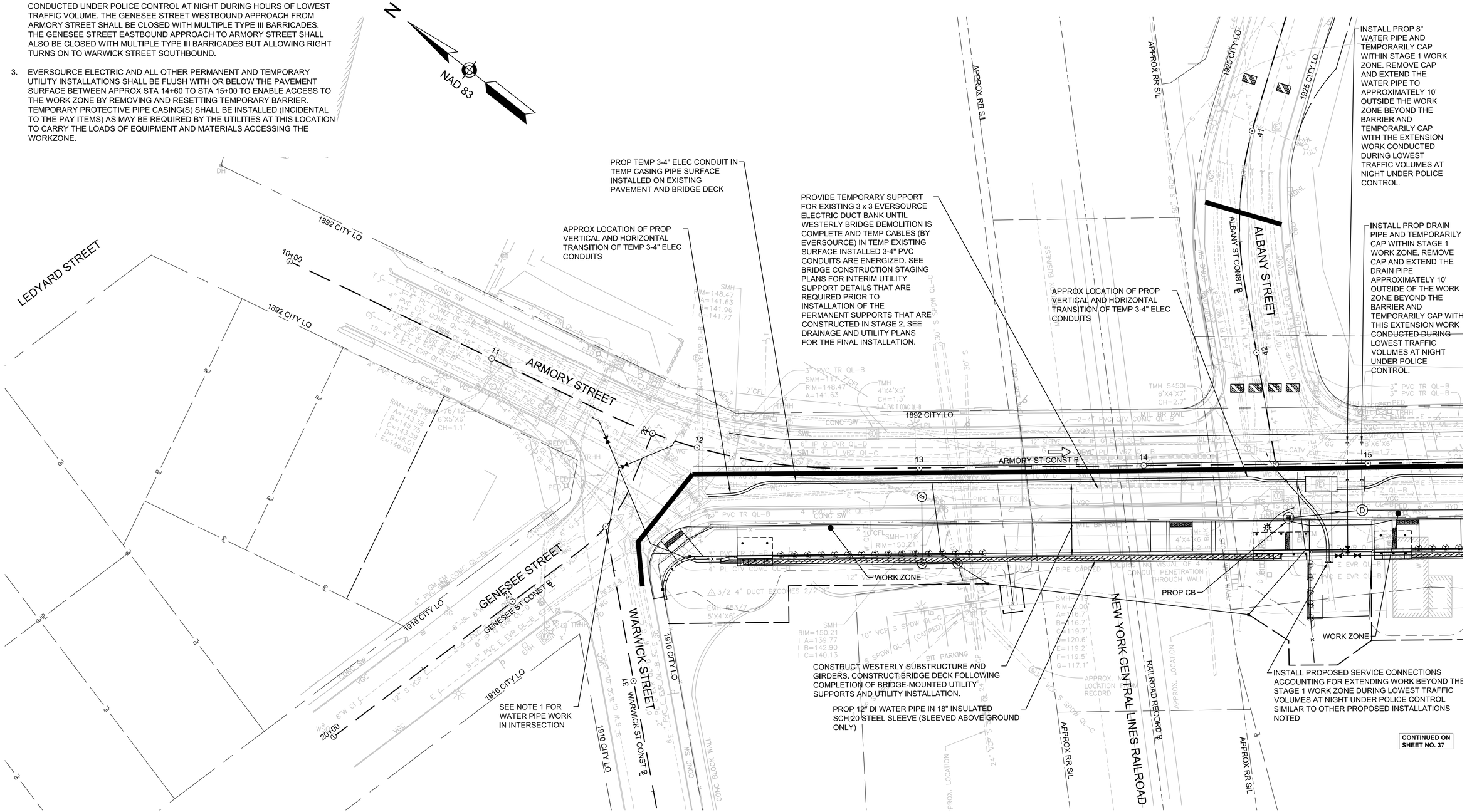
STAGE 1

SHEET 1 OF 2

609409_HD (TTM07).DWG Plotted on 19-Nov-2025 10:07 AM

NOTES:

1. THE CONSTRUCTION STAGING PLANS ARE INTENDED FOR GUIDANCE. WORK MAY NEED TO BE CONDUCTED BEYOND THE WORK ZONES TO A LIMITED EXTENT. NOT ALL WORK REQUIRED IN EACH STAGE IS NOTED. SEE DRAINAGE AND UTILITY PLANS FOR MORE COMPLETE INFORMATION.
2. WATER PIPE WORK IN THE GENESEE STREET INTERSECTION SHALL BE CONDUCTED UNDER POLICE CONTROL AT NIGHT DURING HOURS OF LOWEST TRAFFIC VOLUME. THE GENESEE STREET WESTBOUND APPROACH FROM ARMORY STREET SHALL BE CLOSED WITH MULTIPLE TYPE III BARRICADES. THE GENESEE STREET EASTBOUND APPROACH TO ARMORY STREET SHALL ALSO BE CLOSED WITH MULTIPLE TYPE III BARRICADES BUT ALLOWING RIGHT TURNS ON TO WARWICK STREET SOUTHBOUND.
3. EVERSOURCE ELECTRIC AND ALL OTHER PERMANENT AND TEMPORARY UTILITY INSTALLATIONS SHALL BE FLUSH WITH OR BELOW THE PAVEMENT SURFACE BETWEEN APPROX STA 14+60 TO STA 15+00 TO ENABLE ACCESS TO THE WORK ZONE BY REMOVING AND RESETTING TEMPORARY BARRIER. TEMPORARY PROTECTIVE PIPE CASING(S) SHALL BE INSTALLED (INCIDENTAL TO THE PAY ITEMS) AS MAY BE REQUIRED BY THE UTILITIES AT THIS LOCATION TO CARRY THE LOADS OF EQUIPMENT AND MATERIALS ACCESSING THE WORKZONE.



CONTINUED ON SHEET NO. 37

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	37	204
	PROJECT FILE NO. 609409		

CONSTRUCTION STAGING AND UTILITY RELOCATION PLAN

STAGE 1

SHEET 2 OF 2

609409_HD (TTM07).DWG Plotted on 19-Nov-2025 10:07 AM

INSTALL PROP ELEC SERVICE CONDUIT AND TEMPORARILY CAP WITHIN STAGE 1 WORK ZONE. REMOVE CAP AND EXTEND THE CONDUIT APPROXIMATELY 10' OUTSIDE OF THE WORK ZONE BEYOND THE BARRIER AND TEMPORARILY CAP WITH THE EXTENSION WORK CONDUCTED DURING LOWEST TRAFFIC VOLUMES AT NIGHT UNDER POLICE CONTROL.

INSTALL PROP 8" WATER PIPE AND TEMPORARILY CAP WITHIN STAGE 1 WORK ZONE. REMOVE CAP AND EXTEND THE WATER PIPE TO APPROXIMATELY 10' OUTSIDE THE WORK ZONE BEYOND THE BARRIER AND TEMPORARILY CAP WITH THE EXTENSION WORK CONDUCTED DURING LOWEST TRAFFIC VOLUMES AT NIGHT UNDER POLICE CONTROL.

INSTALL PROP DRAIN PIPE AND TEMPORARILY CAP WITHIN STAGE 1 WORK ZONE. REMOVE CAP AND EXTEND THE DRAIN PIPE APPROXIMATELY 10' OUTSIDE OF THE WORK ZONE BEYOND THE BARRIER AND TEMPORARILY CAP WITH THIS EXTENSION WORK CONDUCTED DURING LOWEST TRAFFIC VOLUMES AT NIGHT UNDER POLICE CONTROL.

APPROX LOCATION OF PROP VERTICAL AND HORIZONTAL TRANSITION OF TEMP 3-4" ELEC CONDUITS

PROP TEMP 3-4" ELEC CONDUIT IN TEMP CASING PIPE SURFACE INSTALLED ON EXISTING PAVEMENT AND BRIDGE DECK

RET EXISTING 3 x 3 EVERSOURCE ELECTRIC DUCT BANK UNTIL WESTERLY BRIDGE DEMOLITION IS COMPLETE AND TEMPORARY CABLES (BY EVERSOURCE) IN TEMP EXISTING SURFACE-INSTALLED 3-4" CONDUITS ARE ENERGIZED. SEE BRIDGE CONSTRUCTION STAGING PLANS FOR INTERIM UTILITY SUPPORT DETAILS THAT ARE REQUIRED PRIOR TO INSTALLATION OF THE PERMANENT SUPPORTS THAT ARE CONSTRUCTED IN STAGE 2. SEE DRAINAGE AND UTILITY PLANS FOR THE FINAL INSTALLATION.

TEMPORARY SUPPORT FOR ALL UTILITIES - ALL STAGES

APPROX LOCATION OF PROP VERTICAL AND HORIZONTAL TRANSITION OF TEMP 3-4" ELEC CONDUITS

INSTALL PROP 8" WATER PIPE AND TEMPORARILY CAP WITHIN STAGE 1 WORK ZONE. REMOVE CAP AND EXTEND THE WATER PIPE TO APPROXIMATELY 10' OUTSIDE THE WORK ZONE BEYOND THE BARRIER AND TEMPORARILY CAP WITH THE EXTENSION WORK CONDUCTED DURING LOW TRAFFIC VOLUMES AT NIGHT UNDER POLICE CONTROL.

REMOVE AND RECONSTRUCT ELECTRICAL MANHOLE (EVERSOURCE ELECTRIC) AND INSTALL INTERIM AND FINAL ELECTRICAL DUCT BANK CONNECTIONS (BY OTHERS) DURING PERIODS OF LOWEST TRAFFIC VOLUME AT NIGHT UNDER POLICE CONTROL

CONNECT TO EXISTING GAS PIPE (BY OTHERS), FINAL CONNECTION BEYOND THE WORK ZONE AND BARRIER SHALL BE CONDUCTED DURING PERIODS OF LOW TRAFFIC VOLUME AT NIGHT UNDER POLICE CONTROL

WORK ZONE

CONNECT TO EXISTING GAS PIPE (BY OTHERS)

PROP 12" DI WATER PIPE IN 18" INSULATED AND JACKETED SCH 20 STEEL SLEEVE (SLEEVED ABOVE GROUND ONLY)

PROP CB

CONSTRUCT WESTERLY SUPERSTRUCTURE AND GIRDERS. CONSTRUCT BRIDGE DECK FOLLOWING COMPLETION OF BRIDGE-MOUNTED UTILITY SUPPORTS AND UTILITY INSTALLATION. SEE BRIDGE PLANS FOR BRIDGE STAGE 1B AND BRIDGE STAGE 1C WORK

INSTALL PROPOSED 10" GAS PIPE (BY OTHERS) AFTER MICROPILE INSTALLATION IS COMPLETED AT THAT LOCATION. REMOVE EXISTING GAS PIPE AND SLEEVE AFTER NEW GAS LINE IS ACTIVATED TO ENABLE INSTALLATION OF THE MICROPILES IN THE AREA FORMERLY OCCUPIED BY THE EXISTING GAS LINE.

LATERAL SHIFTS OF THE EXISTING AT&T CONDUIT SHALL BE CONDUCTED TO ENABLE INSTALLATION OF THE MICROPILES, INCIDENTAL TO THE BRIDGE LUMP SUM ITEMS.

CONTINUED ON SHEET NO. 36

0 20 50 100

SCALE: 1" = 20'

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	38	204
	PROJECT FILE NO. 609409		

CONSTRUCTION STAGING AND TEMPORARY TRAFFIC CONTROL PLAN

STAGE 2

SHEET 1 OF 2

609409_HD (TTM08).DWG Plotted on 19-Nov-2025 9:49 AM

NAD 83

NAPIER STREET

LEDYARD STREET

ARMORY STREET

GENESEE STREET

WARWICK STREET

ALBANY STREET

NEW YORK CENTRAL LINES RAILROAD

1916 CITY LO

1892 CITY LO

1910 CITY LO

1925 CITY LO

APPROX RR S/L

RAILROAD RECORD

STA 11+79.16 ARMORY STREET CONST ℄ =
STA 22+00.24 GENESEE STREET CONST ℄

STA 13+88.39 ARMORY STREET CONST ℄ =
STA 698+17.05 RAILROAD RECORD ℄

STA 21+53.32 GENESEE STREET CONST ℄ =
STA 31+70.00 WARWICK STREET CONST ℄

STA 14+59.00 ARMORY STREET CONST ℄ =
STA 42+50.51 ALBANY STREET CONST ℄

ONE LANE ROAD AHEAD
W20-4

W1-4R

DETOUR
M4-9bL

DETOUR
M4-9bV

SIDEWALK CLOSED AHEAD CROSS HERE
R9-11aR

SIDEWALK CLOSED
R9-9
MOUNT ON TYPE III BARRICADE

SEE SHEET 43 FOR TEMPORARY SIGNAL HEAD AND TIMING MODIFICATIONS

EXISTING SIGNAL HEADS SHOWN HERE SHALL INDICATE RED SIGNAL HEAD DISPLAYS, EXCEPT DURING EMERGENCY ACTIVATION

W1-6R
MOUNT ON TYPE III BARRICADE

EXISTING SIGNAL HEAD H WILL INDICATE RED SIGNAL HEAD DISPLAY, EXCEPT DURING EMERGENCY ACTIVATION

ROAD CLOSED
R11-2
MOUNT ON TYPE III BARRICADE PLACED AFTER THE LAST DRIVEWAY ON THE APPROACH TO THE WORK ZONE

ROAD CLOSED
R11-2
MOUNT ON TYPE III BARRICADE

TEMPORARY CONC BARRIER TL-2

CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING TEMP BARRIER ACROSS THE PAVEMENT IN ADVANCE OF BRIDGE

TEMPORARY BARRIER-LIMITED DEFLECTION TL-3

WORK ZONE

6" SYEL

6" SWEL

2'
11'
1.5'

PROP TYPE III BARRICADE (TYP)

PROP TEMPORARY IMPACT ATTENUATOR, REDIRECTIVE, TL-2

PROP DRUMS SPACED @ 15 FT O.C.

D11-1
M6-3
INSTALL PRIOR TO START OF STAGE 2

MAINTAIN ONE WAY TRAVEL

RESTRAINED BARRIER ON BRIDGE (6" DEFLECTION)

CONTINUED ON SHEET NO. 39

NOTES:

1. STATIONS AND OFFSETS WHERE NOTED ARE APPROXIMATE.
2. SEE SHEET 32 (ADVANCE WARNING SIGN DETAIL AND NORTHBOUND DETOUR PLAN) FOR ADVANCED SIGNS AT THE INTERSECTION OF ALBANY ST AND ST JAMES AVE.

0 20 50 100

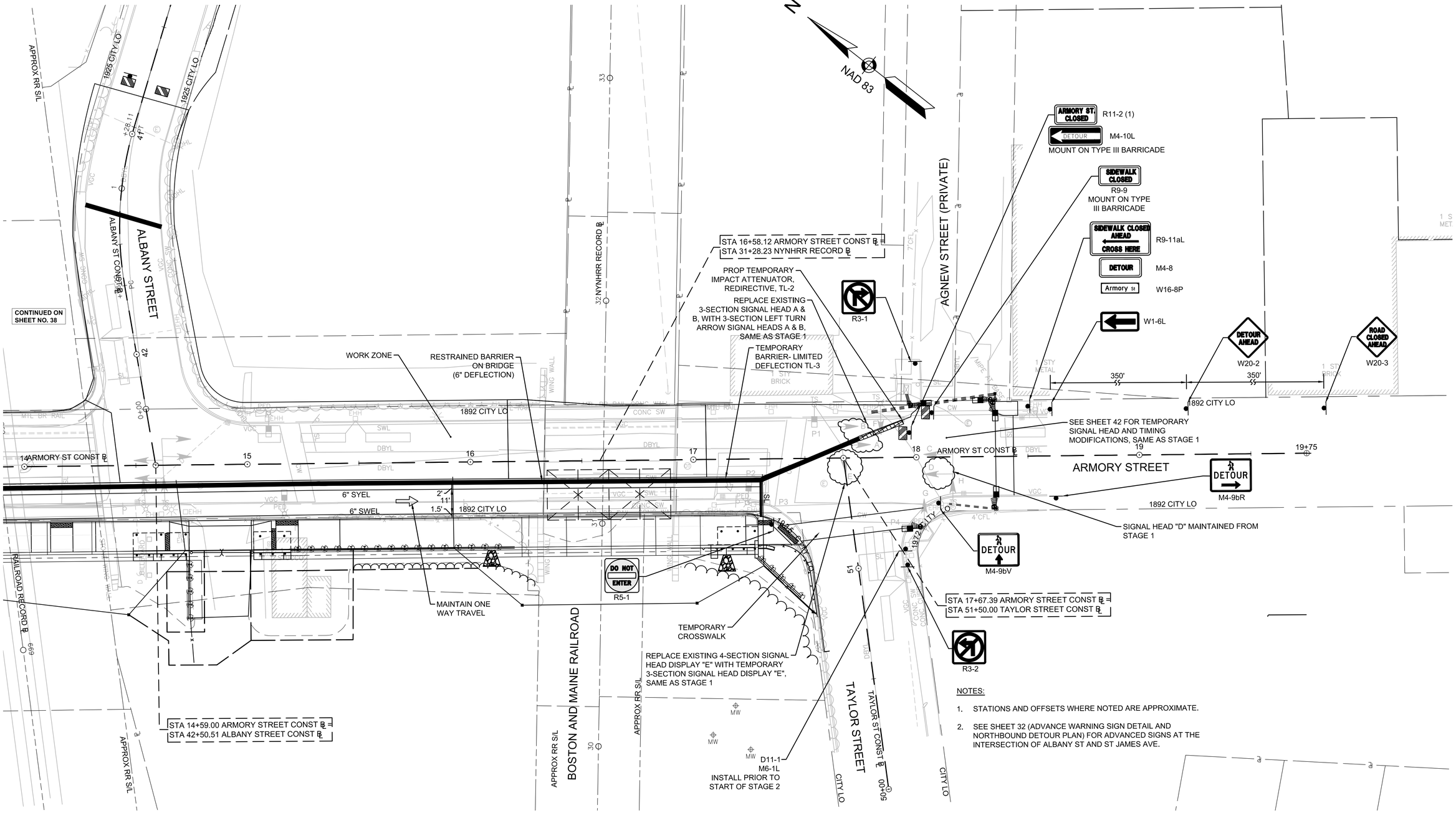
SCALE: 1" = 20'

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	39	204
	PROJECT FILE NO. 609409		

CONSTRUCTION STAGING PLAN
TEMPORARY TRAFFIC CONTROL PLAN
STAGE 2
SHEET 2 OF 2

609409_HD (TTM08).DWG Plotted on 19-Nov-2025 9:49 AM



NOTES:

1. STATIONS AND OFFSETS WHERE NOTED ARE APPROXIMATE.
2. SEE SHEET 32 (ADVANCE WARNING SIGN DETAIL AND NORTHBOUND DETOUR PLAN) FOR ADVANCED SIGNS AT THE INTERSECTION OF ALBANY ST AND ST JAMES AVE.

NOTES:

1. PROVIDE TEMPORARY SUPPORT FOR EXISTING VERIZON CONDUITS OCCUPIED BY CROWN CASTLE UNTIL EASTERLY BRIDGE DEMOLITION IS COMPLETE AND NEW CABLES (BY CROWN CASTLE) ARE ACTIVATED IN PROP 2-4" ELEC CONDUIT TYPE NM - PLASTIC (UL) IN THE COMBINED CROWN CASTLE/COMCAST DUCT BANK. SEE DRAINAGE AND UTILITY PLANS FOR THE FINAL INSTALLATION.

   PROVIDE TEMPORARY SUPPORT FOR THE 2 EXISTING COMCAST CONDUITS UNTIL EASTERLY BRIDGE DEMOLITION IS COMPLETE AND NEW CABLES (BY COMCAST) ARE ACTIVATED IN PROP 2-4" ELEC CONDUIT TYPE NM-PLASTIC (UL) IN THE COMBINED CROWN CASTLE/COMCAST DUCT BANK AT THIS SAME LOCATION. SUPPORT FOR 6-4" CONDUITS IS REQUIRED FOR AN INTERIM PERIOD UNTIL COMCAST ABANDONS THEIR 2 EXISTING CONDUITS. THE ABANDONED CONDUITS SHALL THEN BE REMOVED FROM THE BRIDGE LOCATION. SEE DRAINAGE AND UTILITY PLANS FOR THE FINAL INSTALLATION.

SPRINGFIELD
ARMORY STREET

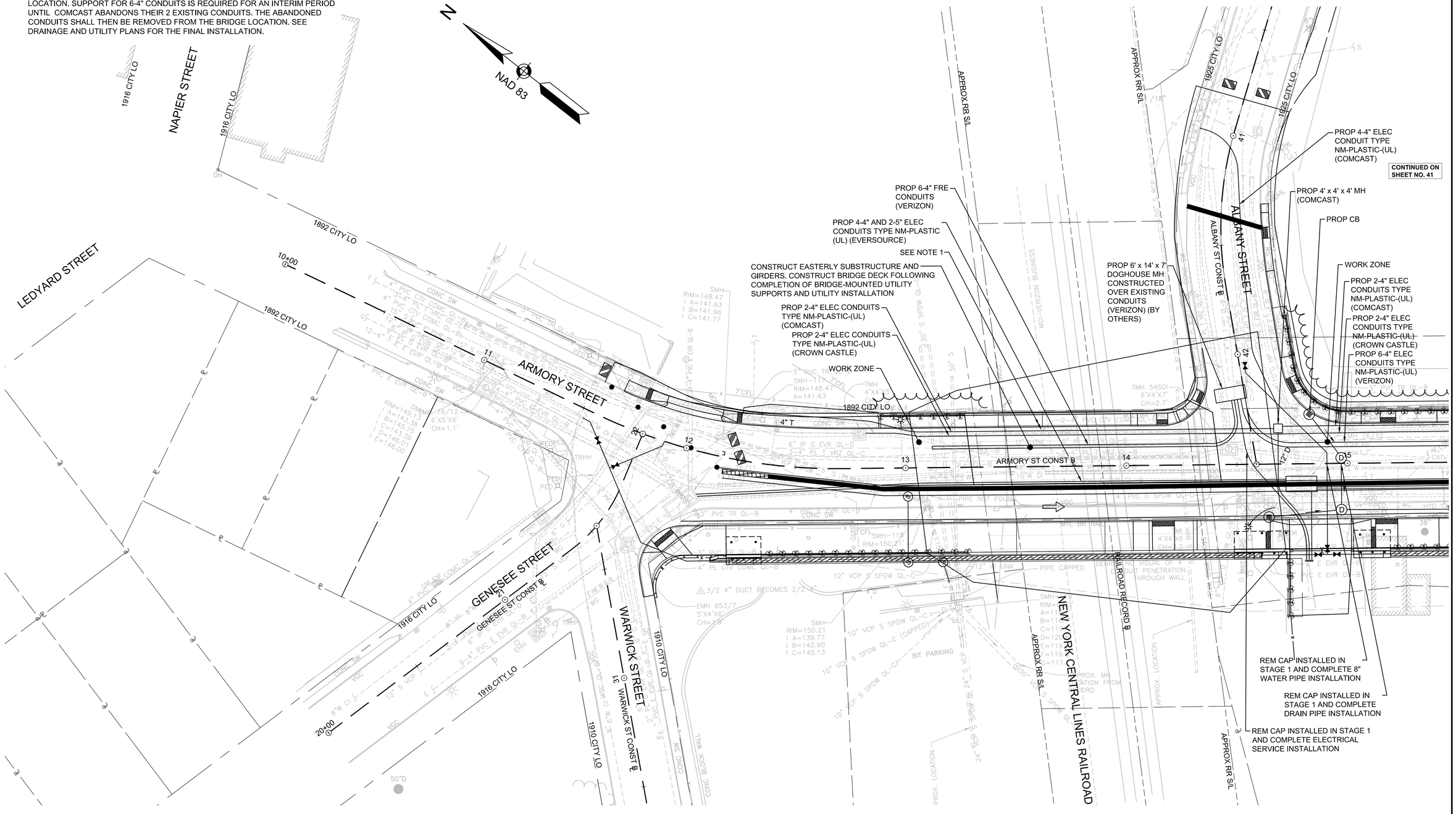
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	40	204
PROJECT FILE NO.	609409		

CONSTRUCTION STAGING AND UTILITY RELOCATION PLAN

STAGE 2

SHEET 1 OF 2

609409_HD (TTM09).DWG Plotted on 19-Nov-2025 10:08 AM



NOTES:
1. TELECOMMUNICATION CONDUIT WORK, CABLE INSTALLATION AND SPLICING IN THE TAYLOR STREET INTERSECTION SHALL BE CONDUCTED UNDER POLICE CONTROL AT NIGHT DURING HOURS OF LOWEST TRAFFIC VOLUME.

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	41	204
PROJECT FILE NO.	609409		

CONSTRUCTION STAGING AND UTILITY RELOCATION PLAN
STAGE 2
SHEET 2 OF 2

INSTALL TEMPORARY 4-4" ELEC CONDUIT TYPE NM-PLASTIC (UL) (2 COMCAST AND 2 CROWN CASTLE) ON TEMPORARY SUPPORT AT THE MOST EASTERLY EXISTING BAY. AFTER COMCAST AND CROWN CASTLE PULL AND ACTIVATE TEMPORARY CABLES IN THE TEMPORARY 2 x 2 DUCT BANK REMOVE THE EXISTING COMCAST AND CROWN CASTLE CONDUITS TO ENABLE INSTALLATION OF MICROPILES WHERE THEIR EXISTING CONDUITS WERE LOCATED. FOLLOWING COMPLETION OF THE MICROPILE INSTALLATION AT THE FINAL PROPOSED COMCAST AND CROWN CASTLE DUCT BANK LOCATION, INSTALL FINAL 4-4" ELEC CONDUIT TYPE NM-PLASTIC (UL) IN A 2 x 2 DUCT BANK CONFIGURATION AT THAT LOCATION. AFTER COMCAST AND CROWN CASTLE PULL AND ACTIVATE THEIR CABLES IN THE FINAL DUCT BANK, REMOVE THE TEMPORARY INSTALLATION. SEE DRAINAGE AND UTILITY PLANS FOR THE FINAL INSTALLATION.

INSTALL TEMPORARY 6-4" FRE CONDUITS SUPPLIED BY VERIZON IN A 2 x 3 DUCT BANK CONFIGURATION ON TEMPORARY SUPPORT AT THE MOST EASTERLY EXISTING BAY. AFTER VERIZON PULLS AND ACTIVATES TEMPORARY CABLES IN THE TEMPORARY 2 x 3 DUCT BANK REMOVE THE EXISTING VERIZON DUCT BANK TO ENABLE INSTALLATION OF MICROPILES AT THAT LOCATION. FOLLOWING COMPLETION OF THE MICROPILE INSTALLATION AT THE FINAL PROPOSED VERIZON DUCT BANK LOCATION, INSTALL FINAL 6-4" FRE CONDUITS SUPPLIED BY VERIZON IN A 2 x 3 DUCT BANK CONFIGURATION AT THAT LOCATION. AFTER VERIZON PULLS AND ACTIVATES THEIR CABLES IN THE FINAL DUCT BANK, REMOVE THE TEMPORARY VERIZON INSTALLATION. SEE DRAINAGE AND UTILITY PLANS FOR THE FINAL INSTALLATION.

CONSTRUCT EASTERLY SUBSTRUCTURE AND GIRDERS. CONSTRUCT BRIDGE DECK FOLLOWING COMPLETION OF BRIDGE -MOUNTED UTILITY SUPPORTS AND UTILITY INSTALLATION

PROP 4' x 4' x 4' MH CONSTRUCTED OVER EXISTING CONDUIT (COMCAST) (BY OTHERS)

CONNECTION OF PROPOSED CONDUITS (CROWN CASTLE AND VERIZON) TO EXISTING MH (BY OTHERS) SHALL BE CONDUCTED DURING LOW TRAFFIC VOLUMES AT NIGHT UNDER POLICE CONTROL

WORK ZONE

PROP VERIZON MH (BY OTHERS)

TEMPORARY SUPPORT FOR ALL UTILITIES - ALL STAGES

CONTINUED ON SHEET NO. 40

ALBANY STREET
ALBANY ST CONST Ⓑ
APPROX RR S/L
1925 CITY LO
1892 CITY LO
NYNHRR RECORD Ⓑ
RAILROAD ALIGNMENT
AGNEW STREET (PRIVATE)
ARMORY ST CONST Ⓑ
ARMORY STREET
19+75
BOSTON AND MAINE RAILROAD
TAYLOR STREET
TAYLOR ST CONST Ⓑ
50+00
RAILROAD RECORD Ⓑ
APPROX. LOCATION
CB MUST BE CLEANED IN ORDER TO DETERMINE PIPE NETWORK CONFIGURATION
CITY LO

NAD 83

0 20 50 100
SCALE: 1" = 20'

609409_HD (TTM09).DWG Plotted on 19-Nov-2025 10:08 AM

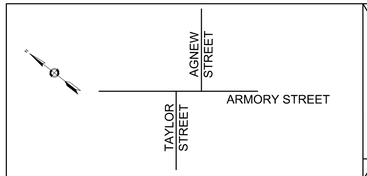
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	42	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC SIGNAL AND TIMING PLAN

ARMORY STREET CORRIDOR
LOCATION NO.2

SIGNAL PHASING AND TIMING CHART - PRE-TIMED, COORDINATED



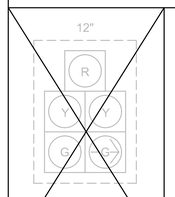
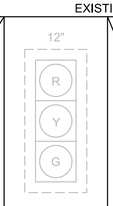
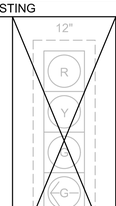
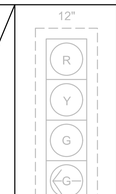
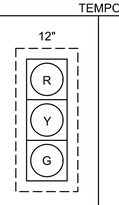
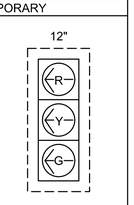
			Ø1			Ø2			Ø3			Ø4			Ø6			Ø9 (PED)**			FIRE PREEMPTION: PREEMPT "A"			FIRE PREEMPTION: PREEMPT "B"			FIRE PREEMPTION: PREEMPT "C"			FIRE PREEMPTION: EMERGENCY
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	22	23	24	OPER.
ARMORY STREET	NB	A,B	R	R	R	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL	OFF
ARMORY STREET	SB	C	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	R	R	R	FY
ARMORY STREET	SB	D	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	R	R	R	FY
TAYLOR STREET	EB	E	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FR
TAYLOR STREET	EB	F	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	FR
AGNEW STREET	WB	H	R	R	R	R	R	R	R	R	R	GL/G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
AGNEW STREET	WB	G	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	FR
PEDESTRIAN	E-W	P1-P2	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	N-S	P3-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	E-W	P5-P6	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	N-S	P7-P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	OUT
TIMING IN SECONDS																														
MINIMUM GREEN			6			10			6			6			10			-			20			25			35			
EXTENSION			2			2			2			2			2			-			*			*			*			
MAXIMUM I			6			38			6			6			48			-			20			35			35			
MAXIMUM II			-			-			-			-			-			-												
YELLOW CLEARANCE				3			3			3			3			3			-			3			3			3		
RED CLEARANCE					1			3			1			2			3						3			3			3	
PEDESTRIAN WALK																		7												
PEDESTRIAN CLEARANCE / BUFFER																			14	4										
RECALL				OFF			SOFT			MIN			MIN			SOFT			-												
DETECTOR MEMORY				NON-LOCK			-			NON-LOCK			NON-LOCK			-			LOCK											

CONSTRUCTION NOTES:

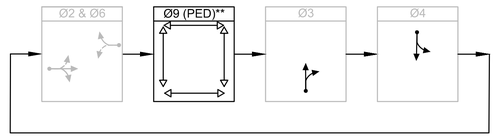
1. SIGNAL SHALL BE UNDER PRE-TIMED CONTROL DURING CONSTRUCTION.
2. GREY INDICATES THAT THE SIGNAL PHASE INACTIVE/DARK MODE DURING CONSTRUCTION.
3. MAXIMUM 1 - ACTIVE THROUGH OUT THE DAY .
4. MAXIMUM 2 - NOT USED.
6. MAINTAIN EXISTING FIRE PREMPTION EQUIPMENT FOR EMERGENCY VEHICLES IN BOTH DIRECTIONS ALONG ARMORY STREET DURING ENTIRE CONSTRUCTION PERIOD.

** UPON PEDESTRIAN PUSH BUTTON ACTUATION.

ARMORY AT TAYLOR/AGNEW STREET

EXISTING				TEMPORARY	
					
LOCATION: D	LOCATION: C,F,G	LOCATION: E	LOCATION: H	LOCATION: D,E	LOCATION: A,B
ACTION: REPLACE WITH 3-SECTION, STAGE 1 &2	ACTION: REPLACES SIGNAL HEADS A & B	ACTION: REPLACE WITH 3-SECTION, STAGE 1 &2	ACTION: NONE	ACTION: REPLACES SIGNAL HEADS, D & E DURING STAGE 1 & 2	ACTION: REPLACES SIGNAL HEADS A & B DURING STAGE 1 & 2

PREFERENTIAL PHASE SEQUENCE



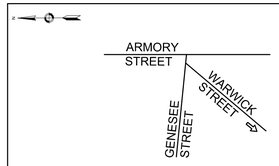
ITEM 816.82 MAJOR ITEMS REQUIRED-ARMORY ST/TAYLOR ST

QUAN	DESCRIPTION
4	3-SECTION 1-WAY SIGNAL HEAD DISPLAY
1	EMERGENCY VEHICLE PREEMPTION SYSTEM
1	WITH FIELD MONITOR UNIT WITH ANTENNA
1	WITH CARD RACK FOR PREEMPTION SYSTEM
2	REPROGRAM CABINET

PLUS ALL MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY
TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL

609409_HD (TTT01).DWG Plotted on 19-Nov-2025 10:08 AM

SIGNAL PHASING AND TIMING CHART - PRE-TIMED, COORDINATED



			Ø2			Ø4			Ø5			Ø6			Ø9 (PED)**			FIRE PREEMPTION: PREEMPT "A"			FIRE PREEMPTION: PREEMPT "B"			EMERGENCY
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	10	11	12	16	17	18	19	20	21	22	23	24	FLASH
																								OPER.
ARMORY STREET	NBL	A,H	RL	RL	RL	RL	RL	RL	GL	YL	RL	RL	RL	RL	RL	RL	RL	RL	RL	RL	GL	YL	RL	OFF
ARMORY STREET	NB	B,C	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	Y	R	OFF
ARMORY STREET	SB	D,E	R	R	R	R	R	R	R	R	R	G	Y	R	R	R	R	G	Y	R	R	R	R	OFF
GENESEE STREET	EB	F,G,J	R	R	R	G	Y	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	OFF
PEDESTRIAN	E-W	P1-P2	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OUT
PEDESTRIAN	N-S	P3-P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	OUT
TIMING IN SECONDS																								
MINIMUM GREEN			10			6			6			10			-			25			25			
EXTENSION			2			2			2			2			-			-			-			
MAXIMUM I			50			20			10			50			-			35			35			
MAXIMUM II			50			20			10			50			-									
YELLOW CLEARANCE				3			3			3			3						3			3		
RED CLEARANCE					2			3			2			2						2			2	
PEDESTRIAN WALK															7									
PEDESTRIAN CLEARANCE / BUFFER																13	4							
RECALL			SOFT			MIN			OFF			SOFT			-									
DETECTOR MEMORY			NON-LOCK			NON-LOCK			NON-LOCK			-			LOCK									

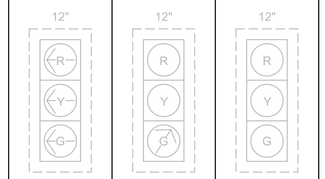
CONSTRUCTION NOTES:

1. SIGNAL SHALL BE UNDER PRE-TIMED CONTROL DURING CONSTRUCTION
2. GREY INDICATES THAT THE SIGNAL HEADS REMAIN DARK DURING BOTH STAGES 1 AND 2 ARE NOT ACTIVE DURING CONSTRUCTION.
3. SIGNAL HEADS A, H, B AND C WILL DISPLAY RED SIGNAL HEAD INDICATIONS EXCEPT DURING PRE-EMPTION PHASE FOR NORTHBOUND EMERGENCY VEHICLES WILL DISPLAY GREEN INDICATIONS.
4. MAXIMUM 1 - ACTIVE DURING PEAK PERIODS FROM 7:00AM TO 7:00PM
5. MAXIMUM 2 - ACTIVE DURING REST OF THE HOURS
6. MAINTAIN FIRE PREMPTION EQUIPMENT FOR EMERGENCY VEHICLES IN BOTH DIRECTIONS ALONG ARMORY STREET DURING ENTIRE CONSTRUCTION PERIOD.

** UPON PEDESTRIAN PUSH BUTTON ACTUATION.

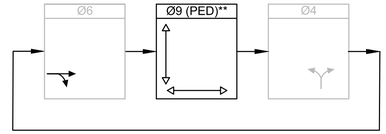
ARMORY ST AT GENESEE ST

EXISTING



ACTION:	ACTION:
RED SIGNAL HEAD INDICATIONS DURING STAGE 1 AND STAGE 2, DISPLAY GREEN INDICATIONS DURING EMERGENCY PREEMPTION ONLY	NONE

PREFERENTIAL PHASE SEQUENCE



** UPON PUSH BUTTON ACTUATION ONLY

ITEM 816.83 MAJOR ITEMS REQUIRED-ARMORY ST/GENESEE ST

QUAN	DESCRIPTION
1	EMERGENCY VEHICLE PREEMPTION SYSTEM
1	WITH FIELD MONITOR UNIT WITH ANTENNA
1	WITH CARD RACK FOR PREEMPTION SYSTEM
2	REPROGRAM CABINET

PLUS ALL MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY
TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	43	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC SIGNAL AND TIMING PLAN
ARMORY STREET CORRIDOR
LOCATION NO.3

609409_HD (TTT01).DWG Plotted on 19-Nov-2025 10:08 AM

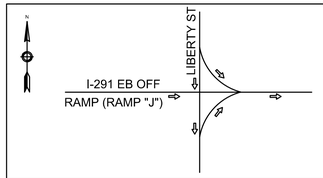
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	44	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC SIGNAL AND TIMING PLAN
LIBERTY ST AT I-291 OFF RAMP
LOCATION NO.4

TEMP - LIBERTY STREET AT I-291 EB OFF-RAMP.DWG Plotted on 9-Dec-2025 9:40 AM

SIGNAL PHASING AND TIMING CHART - FULLY ACTUATED



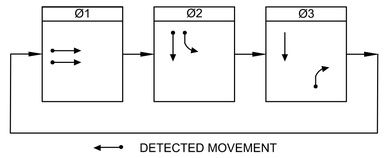
			Ø1			Ø2			Ø3			EMERGENCY
STREET	DIRECTION	HOUSINGS	1	2	3	4	5	6	7	8	9	FLASH OPER.
RAMP "J"	EB	C	G	Y	R	R	R	R	R	R	R	FR
RAMP "J"	EB	D	GV	Y	R	R	R	R	R	R	R	FR
LIBERTY ST.	SB	A,B	R	R	R	GV	Y	R	GV	Y	R	FY
LIBERTY ST.	SB-LT	E	R	R	R	GL	YL	R	G	Y	R	FY
LIBERTY ST.	NB-RT	F,G	R	R	R	R	R	R	GSR	YSR	RSR	FRSR

TIMING IN SECONDS

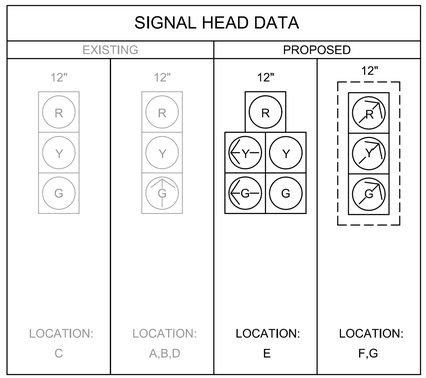
	Ø1			Ø2			Ø3		
MINIMUM GREEN	(7)			(7)			7		
EXTENSION	(5)			(5)			2		
MAXIMUM I	(30) 25			(25) 18			65		
MAXIMUM II	(30) 25			(25) 18			65		
YELLOW CLEARANCE		(3)			(3)			3	
RED CLEARANCE			(2)			(2)			2
PEDESTRIAN WALK									
PEDESTRIAN CLEARANCE/BUFFER									
RECALL	OFF			OFF			OFF		
DETECTOR MEMORY	NON-LOCK			NON-LOCK			NON-LOCK		

(PER RECORD PLAN) PROPOSED

PREFERENTIAL PHASE SEQUENCE



SIGNAL HEAD DATA



NOTES:
1. PROPOSED SIGNAL HEADS SHALL BE LED TYPE WITH 5" NON-LOUVERED BACK PLATES.

TRAFFIC SIGNAL NOTES

1. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO REMAIN IN EFFECT DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL NOT CHANGE DURING THE CLEARANCE INTERVAL.
2. IF THE ASSIGNED RIGHT OF WAY FOR ANY TRAFFIC MOVEMENT IS TO CHANGE DURING THE NEXT CALLED PHASE, THE SIGNAL INDICATIONS FOR THAT TRAFFIC MOVEMENT WILL DISPLAY THE APPROPRIATE CLEARANCE INTERVALS.
3. THE SIGNAL SHALL PROVIDE STOP AND GO OPERATION 24 HOURS A DAY. FLASHING OPERATION SHALL BE FOR EMERGENCY ONLY.
4. THE CONTROLLER SHALL OPERATE UNDER STANDARD NEMA DUAL RING CONFIGURATION.
5. ALL DETECTOR SETTINGS SHALL BE IMPLEMENTED AT THE CONTROLLER ONLY.
6. AUTOMATIC FLASHING OPERATION PER LATEST MUTCD STANDARDS.
7. MAXIMUM I - AM PEAK HOUR (7AM-9AM)
8. MAXIMUM II - PM PEAK HOUR (4PM-6PM)
9. SIGNAL SHALL BE UNDER PRE-TIMED CONTROL DURING CONSTRUCTION.

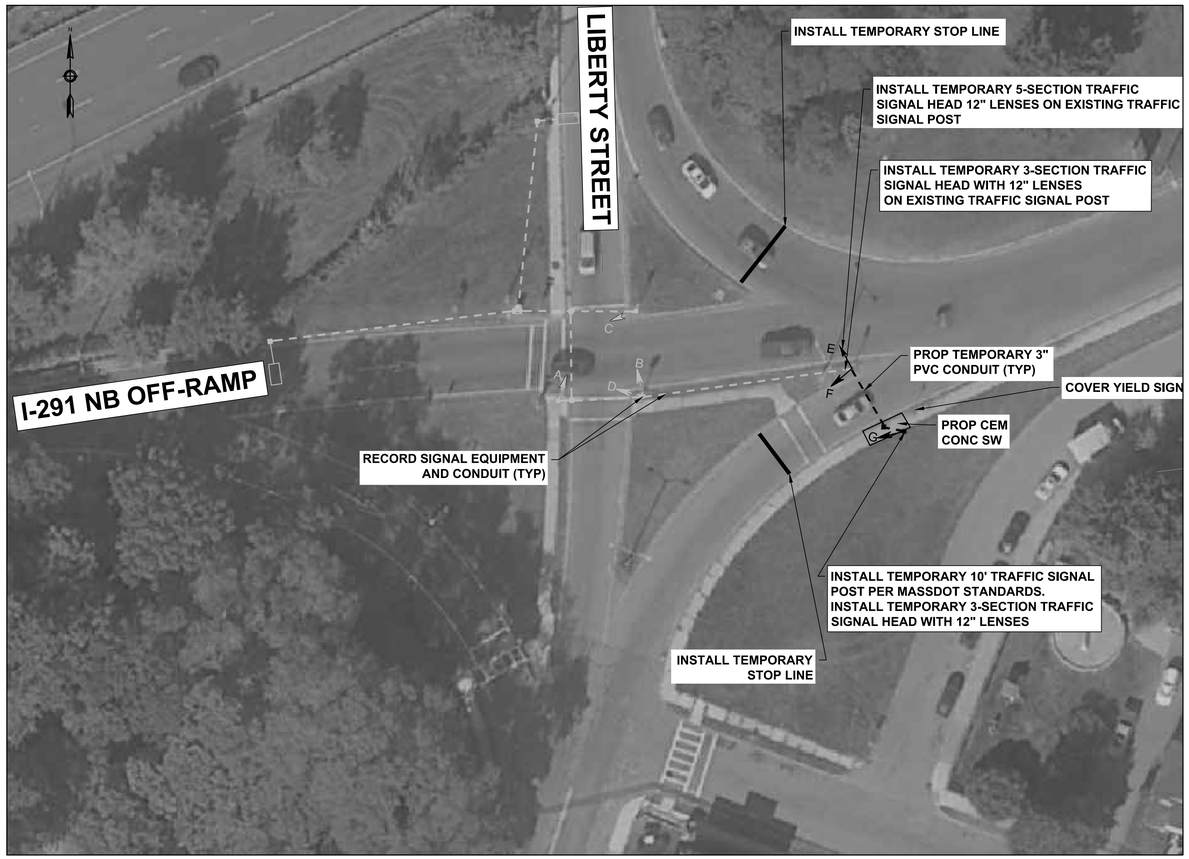
ITEM 816.84 MAJOR ITEMS REQUIRED FOR TEMPORARY SIGNAL

QUAN	DESCRIPTION
1	10' SIGNAL POST AND BASE ON TEMPORARY SUPPORTS/FOUNDATION DURING CONSTRUCTION PERIOD
2	SIGNAL HEAD, 1-WAY, 3 SECTION LED TYPE
1	SIGNAL HEAD, 1-WAY, 5-SECTION LED TYPE
1	SERVICE CONNECTION - UNDERGROUND
2	REPROGRAM CABINET
	ALL MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL

NOTES:

1. ALL TEMPORARY SIGNAL EQUIPMENT SHALL BE REMOVED AND THE TRAFFIC SIGNAL SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AFTER RESTORATION OF TWO-WAY TRAFFIC ON ARMORY STREET.

2. THE CONTRACTOR SHALL MONITOR TRAFFIC CONDITIONS AND ADJUST SIGNAL TIMINGS AS NECESSARY AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.



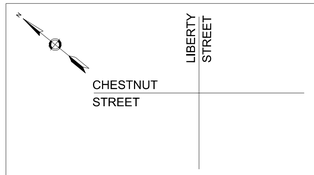
SPRINGFIELD
ARMORY STREET

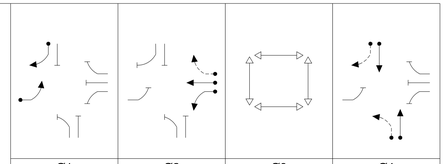
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	45	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC SIGNAL AND TIMING PLAN
LIBERTY ST AT CHESTNUT ST
LOCATION NO.5

TEMP - CHESTNUT STREET AT LIBERTY STREET.DWG Plotted on 18-Dec-2025 9:42 AM

SIGNAL PHASING AND TIMING CHART - ACTUATED, COORDINATED





	Ø1	Ø2	Ø3	Ø4
	TIMING IN SECONDS			
MINIMUM GREEN	(6)	(15)	-	(6)
EXTENSION	(3)	(4)	-	(3)
MAXIMUM I (MON-FRI, 7:00AM-9:00AM)	(20)13	(25)40	-	(25)17
MAXIMUM II (MON-FRI, 4:00PM-6:00PM)	(20)13	(25)46	-	(25)11
YELLOW CLEARANCE	(4)	(4)	-	(4)
RED CLEARANCE	(1)	(1)		(1)
PEDESTRIAN WALK			(5)	
PEDESTRIAN CLEARANCE/BUFFER			(14) (1)	
RECALL	(MAX)	(MAX)	(OFF)	(OFF)
DETECTOR MEMORY	(-)	(NON-LOCK)	(NON-LOCK)	(NON-LOCK)

(PER RECORD PLANS) PROPOSED

PREFERENTIAL PHASE SEQUENCE

PERMISSIVE MOVEMENT
DETECTED MOVEMENT
EXCLUSIVE PED PHASE
** UPON ACTUATION ONLY

NOTES:
1. SIGNAL TIMINGS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AFTER RESTORATION OF TWO-WAY TRAFFIC ON ARMORY STREET.
2. REMOVE ONLY LEGEND FROM RIGHT TURN LANE AND RESTORE EXISTING THROUGH/RIGHT TURN PAVEMENT MARKING AFTER RESTORATION OF TWO-WAY TRAFFIC ON ARMORY.
3. REMOVE R3-8b SIGNS AND POSTS AND REMOVE BAG FROM EXISTING LANE USE SIGN AFTER COMPLETION OF CONSTRUCTION TO RESTORE EXISTING CONDITION.
4. RESTORE TRAFFIC SIGNAL MAST ARM FACING NORTHBOUND CHESTNUT STREET TO PRE-CONSTRUCTION/EXISTING CONDITIONS AFTER RESTORATION OF TWO-WAY TRAFFIC ON ARMORY STREET.
5. THE CONTRACTOR SHALL MONITOR TRAFFIC CONDITIONS AND ADJUST SIGNAL TIMINGS AS NECESSARY DURING CONSTRUCTION.

ITEM 816.85 MAJOR ITEMS REQUIRED FOR TEMPORARY SIGNAL

QUAN	DESCRIPTION
1	SIGNAL HEAD, 1-WAY, 3 SECTION LED TYPE
1	SERVICE CONNECTION - UNDERGROUND
1	REMOVE SIGNAL HEAD, 1-WAY, 3-SECTION LED TYPE
2	REPROGRAM CABINET
1	RESTORE SIGNAL HEAD, 1-WAY, 3-SECTION LED
	ALL MISCELLANEOUS EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL

CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES) WIDTH	HEIGHT	UNIT AREA SF	TEXT	TEXT DIMENSIONS	NUMBER OF SIGNS REQUIRED	COLOR	POST SIZE AND NUMBER REQUIRED PER SIGN	AREA IN SQUARE FEET
R3-8b	48"	30"	10.00	ONLY ONLY ONLY	SEE MUTCD	2	SEE MUTCD	P5-1 POST (2)	20.00
									20.00

EXISTING SIGNS



SIGNAL HEAD DATA

EXISTING	PROPOSED
12"	12"
R	R
Y	Y
G	G
LOCATION: B	LOCATION: B

NOTES:
1. PROPOSED SIGNAL HEADS SHALL BE LED TYPE WITH 5" NON-LOUVERED BACK.

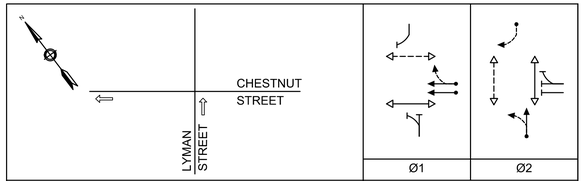
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	46	204
PROJECT FILE NO.	609409		

TEMPORARY TRAFFIC SIGNAL AND TIMING PLAN
LYMAN ST AT CHESTNUT ST
LOCATION NO.6

TEMP - CHESTNUT STREET AT LYMAN STREET.DWG Plotted on 9-Dec-2025 9:43 AM

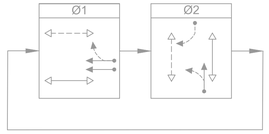
SIGNAL PHASING AND TIMING CHART - ACTUATED, COORDINATED



	Ø1			Ø2		
	TIMING IN SECONDS					
MINIMUM GREEN	(5)			(5)		
EXTENSION	(3)			(3)		
MAXIMUM I (MON-FRI, 7:00AM-9:00AM)	(40)35			(30)35		
MAXIMUM II (MON-FRI, 4:00PM-6:00PM)	(50)63			(30)27		
YELLOW CLEARANCE		(4)			(4)	
RED CLEARANCE			(1)			(1)
PEDESTRIAN WALK	(15)			(4)		
PEDESTRIAN CLEARANCE/BUFFER		(15)			(9)	
RECALL	(MAX)			(OFF)		
DETECTOR MEMORY	(NON-LOCK)			(NON-LOCK)		

(PER RECORD PLANS) PROPOSED

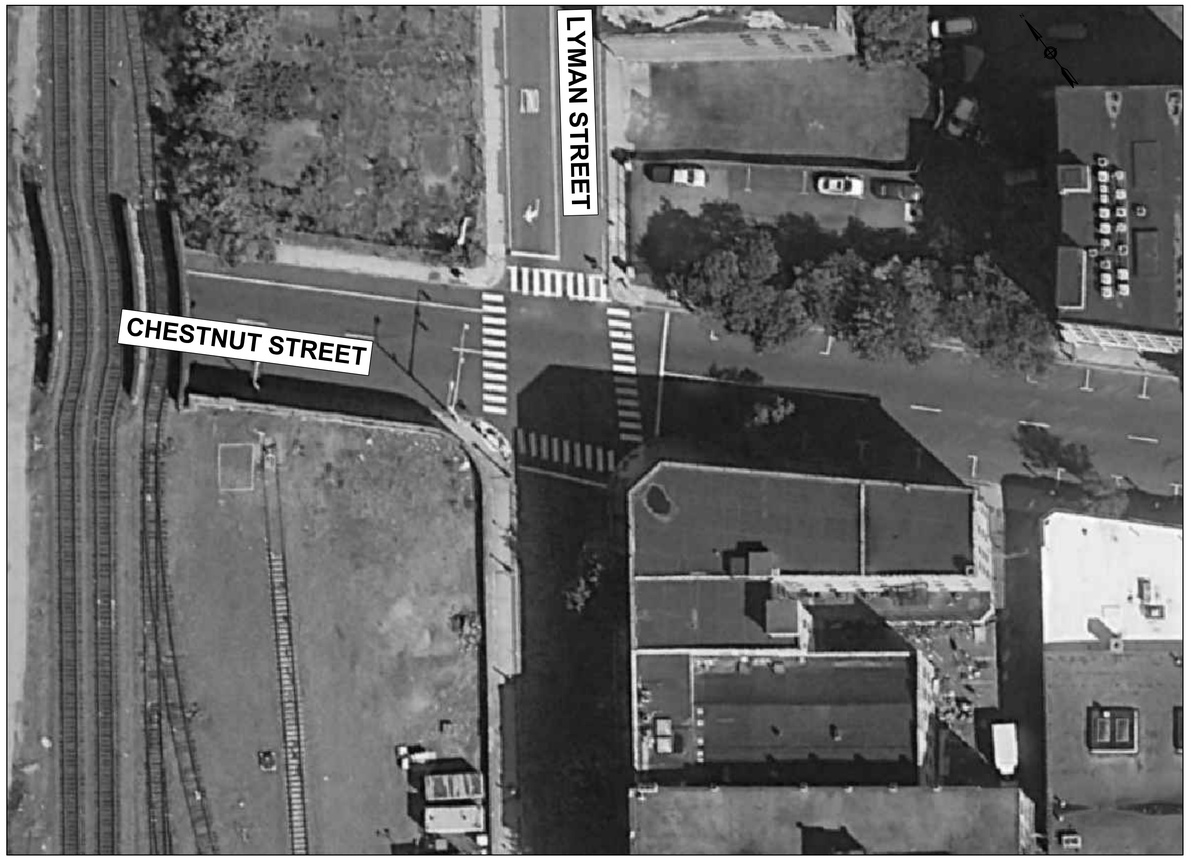
PREFERENTIAL PHASE SEQUENCE



NOTES:

1. SIGNAL TIMINGS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AFTER RESTORATION OF TWO-WAY TRAFFIC ON ARMORY STREET.

2. THE CONTRACTOR SHALL MONITOR TRAFFIC CONDITIONS AND ADJUST SIGNAL TIMINGS AS NECESSARY AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.



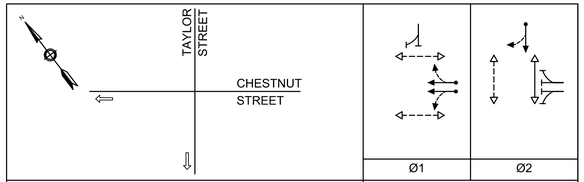
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	47	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC SIGNAL AND TIMING PLAN
TAYLOR ST AT CHESTNUT ST
LOCATION NO.7

TEMP - CHESTNUT STREET AT TAYLOR STREET.DWG Plotted on 9-Dec-2025 9:44 AM

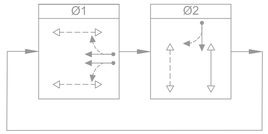
SIGNAL PHASING AND TIMING CHART - ACTUATED, COORDINATED



	Ø1	Ø2
	TIMING IN SECONDS	
MINIMUM GREEN	(5)	(5)
EXTENSION	(3)	(3)
MAXIMUM I (MON-FRI, 7:00AM-9:00AM)	(38)35	(32)35
MAXIMUM II (MON-FRI, 4:00PM-6:00PM)	(48)35	(32)55
YELLOW CLEARANCE	(4)	(4)
RED CLEARANCE	(1)	(1)
PEDESTRIAN WALK	(15)	(4)
PEDESTRIAN CLEARANCE/BUFFER	(15)	(7)
RECALL	(MAX)	(OFF)
DETECTOR MEMORY	(NON-LOCK)	(NON-LOCK)

(PER RECORD PLANS) PROPOSED

PREFERENTIAL PHASE SEQUENCE



DETECTED MOVEMENT
CONCURRENT PED MOVEMENT
EXCLUSIVE PED MOVEMENT

NOTES:

1. SIGNAL TIMINGS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AFTER RESTORATION OF TWO-WAY TRAFFIC ON ARMORY STREET.

2. THE CONTRACTOR SHALL MONITOR TRAFFIC CONDITIONS AND ADJUST SIGNAL TIMINGS AS NECESSARY AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.



SPRINGFIELD
ARMORY STREET

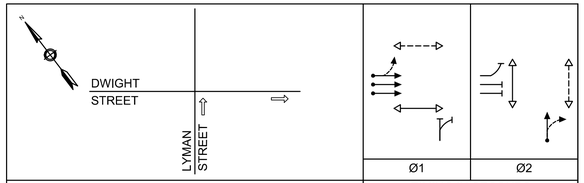
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	48	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC SIGNAL AND TIMING PLAN

DWIGHT ST AT LYMAN ST
LOCATION NO.8

TEMP - DWIGHT STREET AT LYMAN STREET.DWG Plotted on 9-Dec-2025 9:45 AM

SIGNAL PHASING AND TIMING CHART - ACTUATED, COORDINATED



	Ø1			Ø2		
	TIMING IN SECONDS					
MINIMUM GREEN	(5)			(5)		
EXTENSION	(3)			(3)		
MAXIMUM I (MON-FRI, 7:00AM-9:00AM)	(53)40			(17)30		
MAXIMUM II (MON-FRI, 4:00PM-6:00PM)	(53)47			(30)43		
YELLOW CLEARANCE		(4)			(4)	
RED CLEARANCE			(1)			(1)
PEDESTRIAN WALK	(9)			(4)		
PEDESTRIAN CLEARANCE/BUFFER		(20)			(8)	
RECALL	(MAX)			(OFF)		
DETECTOR MEMORY	(NON-LOCK)			(NON-LOCK)		

(PER RECORD PLANS) PROPOSED

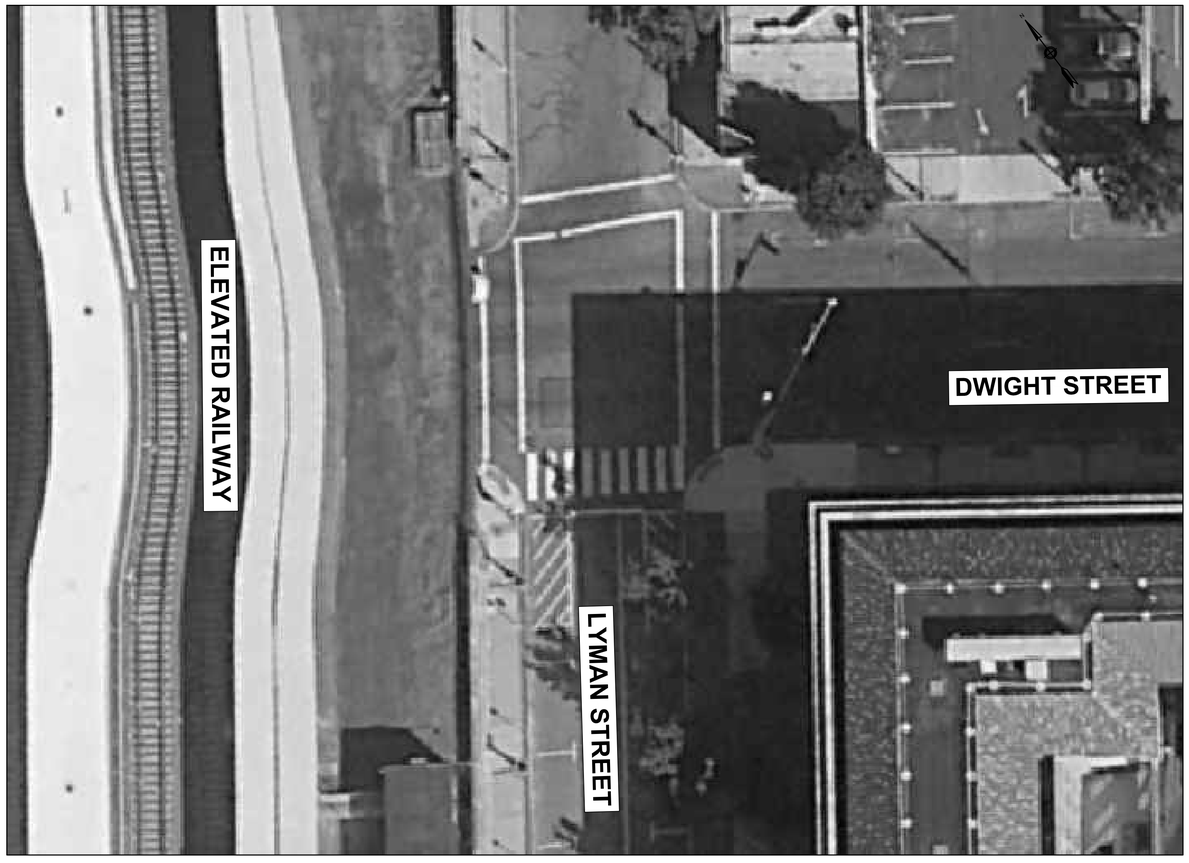
PREFERENTIAL PHASE SEQUENCE

DETECTED MOVEMENT
CONCURRENT PED MOVEMENT
EXCLUSIVE PED MOVEMENT

NOTES:

1. SIGNAL TIMINGS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AFTER RESTORATION OF TWO-WAY TRAFFIC ON ARMORY STREET.

2. THE CONTRACTOR SHALL MONITOR TRAFFIC CONDITIONS AND ADJUST SIGNAL TIMINGS AS NECESSARY AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.



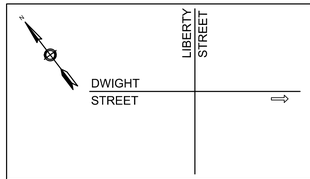
SPRINGFIELD
ARMORY STREET

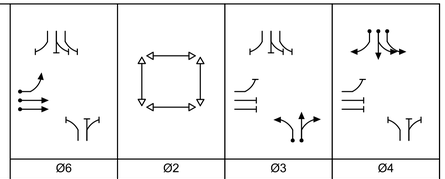
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	49	204
	PROJECT FILE NO. 609409		

TEMPORARY TRAFFIC SIGNAL AND TIMING PLAN
DWIGHT ST AT LIBERTY ST
LOCATION NO.9

TEMP - LIBERTY STREET AT DWIGHT STREET.DWG Plotted on 9-Dec-2025 9:47 AM

SIGNAL PHASING AND TIMING CHART - ACTUATED, COORDINATED

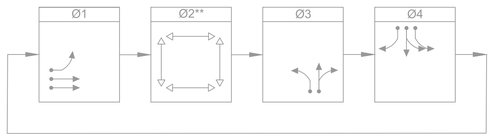




	Ø6	Ø2	Ø3	Ø4
	TIMING IN SECONDS			
MINIMUM GREEN	(15)	-	(6)	(6)
EXTENSION	(3)	-	(2)	(2)
MAXIMUM I (MON-FRI, 7:00AM-9:00AM)	(25)20	-	(20)17	(20)29
MAXIMUM II (MON-FRI, 4:00PM-6:00PM)	(25)20	-	(20)22	(20)24
YELLOW CLEARANCE	(4)	-	(4)	(4)
RED CLEARANCE	(1)	(1)	(1)	(1)
PEDESTRIAN WALK	(5)			
PEDESTRIAN CLEARANCE/BUFFER		(18)		
RECALL	(MIN)	(OFF)	(OFF)	(OFF)
DETECTOR MEMORY	(NON-LOCK)	(NON-LOCK)	(NON-LOCK)	(NON-LOCK)

(PER RECORD PLANS) **PROPOSED**

PREFERENTIAL PHASE SEQUENCE



DETECTED MOVEMENT
EXCLUSIVE PED PHASE
** UPON ACTUATION ONLY



NOTES:

1. SIGNAL TIMINGS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS AFTER RESTORATION OF TWO-WAY TRAFFIC ON ARMORY STREET.

2. THE CONTRACTOR SHALL MONITOR TRAFFIC CONDITIONS AND ADJUST SIGNAL TIMINGS AS NECESSARY AS DIRECTED BY THE ENGINEER DURING CONSTRUCTION.

CONSTRUCTION SIGN SUMMARY

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	50	204
	PROJECT FILE NO. 609409		

CONSTRUCTION SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES) WIDTH	HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND	BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
M4-8	24	12	DETOUR	MUTCD STANDARD			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	2.00	2.00
M4-8a	24	18	END DETOUR	MUTCD STANDARD			5	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	3.00	15.00
M4-9bL	30	24	DETOUR	MUTCD STANDARD			4	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	5.00	20.00
M4-9bR			DETOUR				7					5.00	35.00
M4-9bV	30	24	DETOUR	MUTCD STANDARD			3	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	5.00	15.00
M4-9R	30	30	DETOUR	MUTCD STANDARD			5	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	6.25	31.25
M4-9L			DETOUR				4						25.00
M4-9V	30	30	DETOUR	MUTCD STANDARD			6	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	6.25	37.50
M4-9SR			DETOUR				2						12.50
M4-9AL	30	30	DETOUR	MUTCD STANDARD			2	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	6.25	12.50
M4-10L	48	18	DETOUR	MUTCD STANDARD			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	6.00	6.00
M6-3	21	15		MUTCD STANDARD			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	2.19	2.19
MA-R2-10a	48	36	WORK ZONE SPEEDING FINES DOUBLED	MASSDOT STANDARD			4	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	12.00	48.00
								WHITE	BLACK	BLACK			
MA-R2-10e	36	48	END ROAD WORK / DOUBLE FINES END	MASSDOT STANDARD			5	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	12.00	60.00
								WHITE	BLACK	BLACK			
R3-1	24	24		MUTCD STANDARD			1	WHITE	RED/BLACK	BLACK	-	4.00	4.00
R3-2							1						4.00
R3-17	24	18	BIKE LANE	MUTCD STANDARD			1	WHITE	BLACK	BLACK	-	3.00	3.00
R3-17aP	24	8	ENDS	MUTCD STANDARD			1	WHITE	BLACK	BLACK	-	1.33	1.33
R4-11	30	30	MAY USE FULL LANE	MUTCD STANDARD			1	WHITE	BLACK	BLACK	-	6.25	6.25
R5-1	30	30	DO NOT ENTER	MUTCD STANDARD			1	WHITE	RED	RED	-	6.25	6.25
									WHITE				
R9-9	24	12	SIDEWALK CLOSED	MUTCD STANDARD			3	WHITE	BLACK	BLACK	-	2.00	6.00
R9-10	24	12	SIDEWALK CLOSED / USE OTHER SIDE	MUTCD STANDARD			1	WHITE	BLACK	BLACK	-	2.00	2.00

IDENTIFICATION NUMBER	SIZE OF SIGN (INCHES) WIDTH	HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND	BORDER	POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
R9-11aL	24	12	SIDEWALK CLOSED AHEAD / CROSS HERE	MUTCD STANDARD			1	WHITE	BLACK	BLACK	-	2.00	2.00
R9-11aR	24	12	SIDEWALK CLOSED AHEAD / CROSS HERE	MUTCD STANDARD			1	WHITE	BLACK	BLACK	-	2.00	2.00
R9-12	24	12	BIKE LANE CLOSED	MUTCD STANDARD			1	WHITE	BLACK	BLACK	-	2.00	2.00
R11-2	48	30	ROAD CLOSED	MUTCD STANDARD			3	WHITE	BLACK	BLACK	-	10.00	30.00
R11-2 (1)	48	30	Armory St. CLOSED	MUTCD STANDARD			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	10.00	10.00
R14-1	24	18	TRUCK ROUTE	MUTCD STANDARD			9	WHITE	BLACK	BLACK	-	3.00	27.00
W1-4L	36	36		MUTCD STANDARD			3	FLOUR-ESCENT ORANGE	BLACK	BLACK	-	9.00	27.00
W1-4R							2						18.00
W1-6L	48	24		MUTCD STANDARD			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	8.00	8.00
W1-6R							1						8.00
W5-1	36	36	ROAD NARROWS	MUTCD STANDARD			2	FLOUR-ESCENT ORANGE	BLACK	BLACK	-	9.00	18.00
W11-2	30	30		MUTCD STANDARD			4	FLOUR-ESCENT YELLOW-GREEN	BLACK	BLACK	-	6.25	25.00
W16-7pL	24	12		MUTCD STANDARD			2	FLOUR-ESCENT YELLOW-GREEN	BLACK	BLACK	-	2.00	4.00
W16-8P	45	12	Armory St	6D	2.75 3.25	-	16	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	3.75	60.00
W16-8Pa			Albany St				6						22.50
W16-9p	24	12	AHEAD	MUTCD STANDARD			2	FLOUR-ESCENT ORANGE	BLACK	BLACK	-	2.00	4.00
W20-1c	36	36	ROAD WORK AHEAD	MUTCD STANDARD			4	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	9.00	36.00
W20-2	36	36	DETOUR AHEAD	MUTCD STANDARD			3	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	9.00	27.00
W20-3	36	36	ROAD CLOSED AHEAD	MUTCD STANDARD			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	9.00	9.00
W20-4	36	36	ONE LANE ROAD AHEAD	MUTCD STANDARD			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	9.00	9.00
SP-1	42	36	BIKE LANE CLOSED / USE SIDEWALK TO WALK BIKES ACROSS BRIDGE	MUTCD STANDARD			1	FLUOR-ESCENT ORANGE	BLACK	BLACK	-	10.50	10.50

TOTAL = 713.77 SF

1. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY SHALL MEET CRITERIA SET FORTH IN MASH.

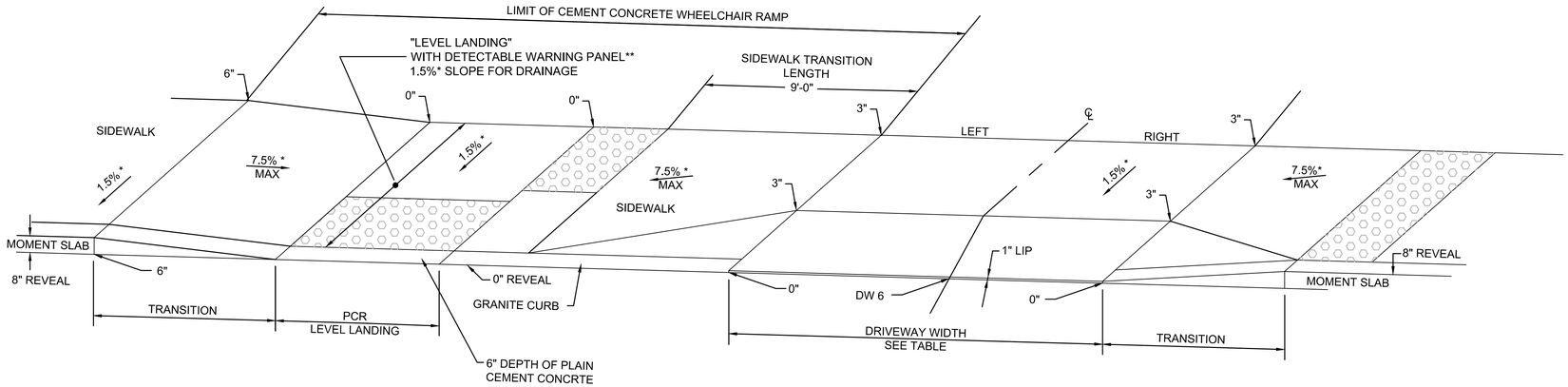
609409_HD (TTM05).DWG Plotted on 19-Nov-2025 9:50 AM

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	51	204
PROJECT FILE NO.	609409		

CONSTRUCTION DETAILS
SHEET 1 OF 10

609409_HD (TCD01).DWG Plotted on 19-Nov-2025 9:51 AM

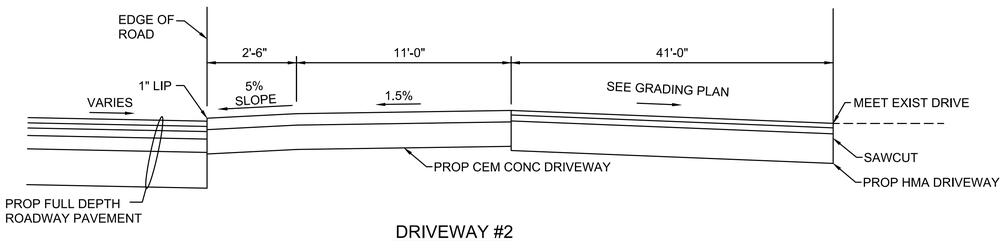


NOTES:

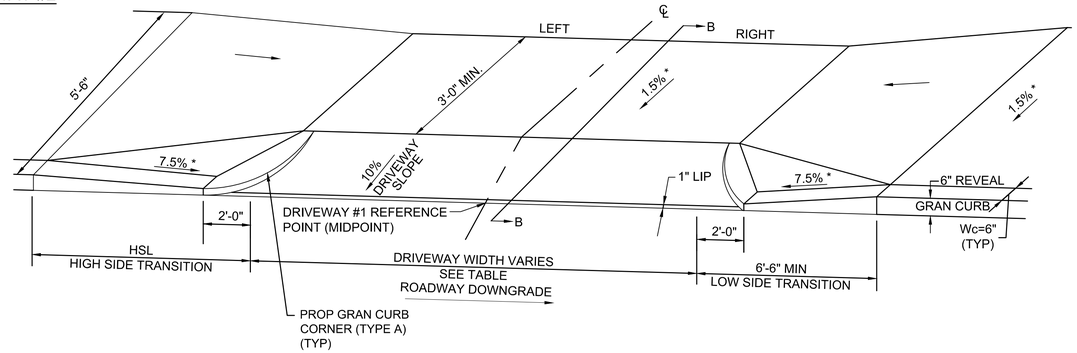
-* CONSTRUCTION TOLERANCE ± 0.5%
-THE SIDEWALK GRADES ARE ONLY TO DEMONSTRATE APPROXIMATE RELATIVE GRADES IN RELATION TO BOTTOM OF CURB.

PEDESTRIAN CURB RAMP #6 AND DRIVEWAY #2
NTS

NOTES FOR PEDESTRIAN CURB RAMP DETAILS:
* CONSTRUCTION TOLERANCE ±0.5%
** PAYMENT INCIDENTAL
*** FACING RAMP FROM ROAD
SEE CONSTRUCTION STANDARD E 107.2.0
SEE CONSTRUCTION STANDARD E 107.6.5
SEE CONSTRUCTION STANDARD E 107.8
SEE CONSTRUCTION STANDARD E 107.9.0



DRIVEWAY #2
NTS



PEDESTRIAN CURB RAMP #6

FOR PLAN LOCATIONS OF PEDESTRIAN CURB RAMPS, SEE CURB TIE AND GRADING PLANS

PCR #	BASELINE NAME	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF RAMP MIN 5'-0"	ROADWAY GUTTER SLOPE	TRANSITION LENGTH***	
		STATION	OFFSET				LEFT SIDE	RIGHT SIDE
6	ARMORY STREET	15+17.49	25.50' RT	13.50'	10.00'	4.0%	18'-8"	11'-0"

DRIVEWAY #1

DRIVEWAY #	BASELINE NAME	DRIVEWAY REFERENCE POINT		WIDTH OF DRIVEWAY	WIDTH OF SIDEWALK AT DRIVEWAY	PATH OF TRAVEL MIN 3'-0"	ROADWAY GUTTER SLOPE	TRANSITION LENGTH***		DRIVEWAY SLOPE
		STATION	OFFSET					LEFT SIDE	RIGHT SIDE	
1	ARMORY STREET	11+98.96	15.04' LT	26.0'	5.50'	3.0'	0.9%	7'-8"	6'-6"	10.0%

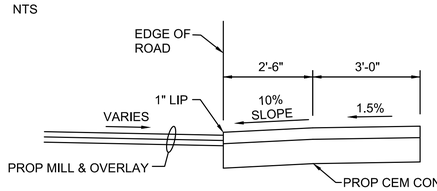
* FACING RAMP FROM ROADWAY

DRIVEWAY #2

DRIVEWAY #	BASELINE NAME	DRIVEWAY REFERENCE POINT		WIDTH OF DRIVEWAY	WIDTH OF SIDEWALK AT DRIVEWAY	PATH OF TRAVEL MIN 3'-0"	ROADWAY GUTTER SLOPE	TRANSITION LENGTH***		DRIVEWAY SLOPE
		STATION	OFFSET					LEFT SIDE	RIGHT SIDE	
2	ARMORY STREET	14+88.04	25.0' RT	15.0'	13.50'	11.0'	1.4%	11'-0"	8'-8"	5.0%

* FACING RAMP FROM ROADWAY

SIDEWALK THROUGH DRIVEWAY WITH CURB RETURNS (DRIVEWAY #1)
NTS



DRIVEWAY #1
NTS

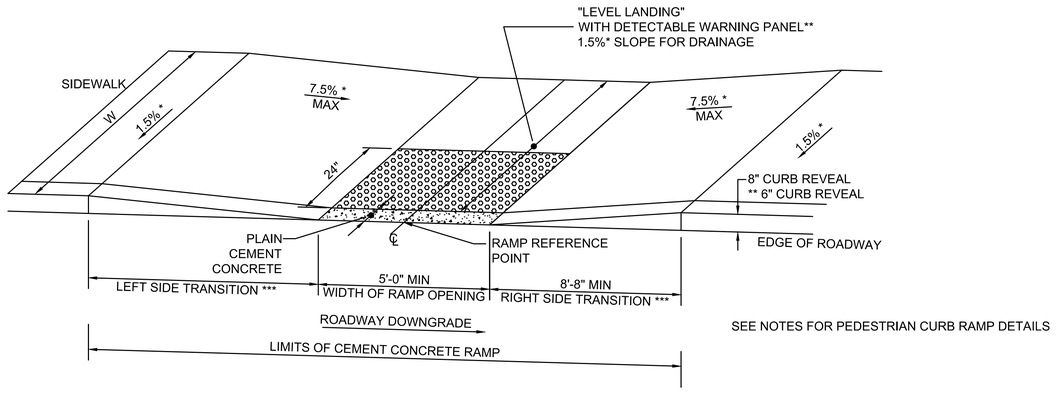
ROADWAY PROFILE GRADE	HIGH SIDE TRANSITION LENGTH BASED ON 7.5% DESIGN SLOPE AND A REVEAL OF 6"	HIGH SIDE TRANSITION LENGTH BASED ON 7.5% DESIGN SLOPE AND A REVEAL OF 8"
%	ENGLISH UNITS	ENGLISH UNITS
=0%	6'-6"	8'-8"
>0% TO 1%	7'-8"	10'-3"
>1% TO 2%	9'-0"	12'-0"
>2% TO 3%	11'-0"	14'-8"
>3% TO 4%	14'-0"	18'-8"
>4% TO 5%	15'-0" MAX	20'-0" MAX

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	52	204
PROJECT FILE NO.	609409		

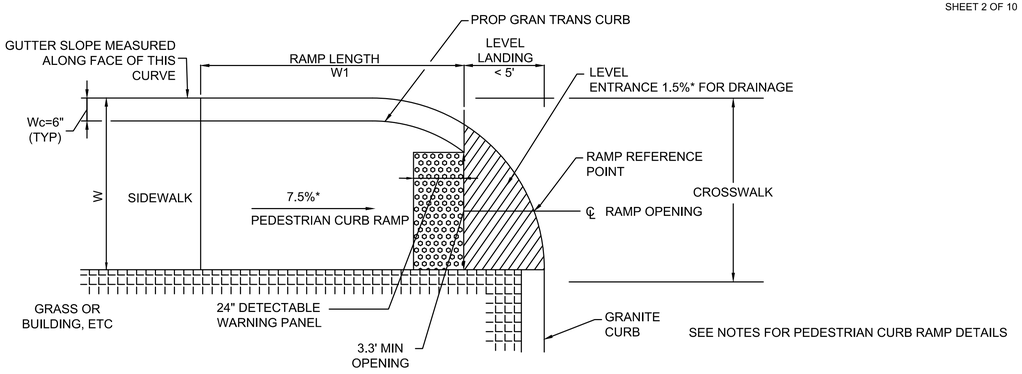
CONSTRUCTION DETAILS
SHEET 2 OF 10

609409_HD (TCD011).DWG Plotted on 19-Nov-2025 9:51 AM



PEDESTRIAN CURB RAMP ON NARROW SIDEWALK AND PEDESTRIAN CURB RAMP #2

NTS



SINGLE DIRECTION PEDESTRIAN CURB RAMP

NTS

PEDESTRIAN CURB RAMP ON NARROW SIDEWALK

FOR PLAN LOCATIONS OF PEDESTRIAN CURB RAMPS, SEE CURB TIE AND GRADING PLANS

PCR #	BASELINE NAME	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF RAMP MIN 5'-0"	ROADWAY GUTTER SLOPE	TRANSITION LENGTH***		COMMENT
		STATION	OFFSET				LEFT SIDE	RIGHT SIDE	
3†	ARMORY STREET	14+16.41	18.00' LT	5.50'	5.00'	0.4%	8'-8"	N/A	BRIDGE NO. S-24-016
5	ALBANY STREET	42+19.67	20.31' LT	5.50'	7.00'	6.0%	8'-8"	8'-6"	MOMENT SLAB
7	ARMORY STREET	15+18.61	18.0' LT	5.50'	7.00'	3.7%	8'-8"	18'-8"	MOMENT SLAB
8	ARMORY STREET	17+32.63	18.0' LT	5.50'	5.00'	2.4%	14'-8"	6'-6"**	
13	ARMORY STREET	18+34.00	17.47' RT	6.75'	5.00'	0.7%	7'-8"**	6'-6"**	
15	ALBANY STREET	41+44.81	18.50' LT	3.67'	5.00'	4.2%	6'-6"	15'-0"	

† SEE CONSTRUCTION STANDARD E 107.6.3 FOR TREATMENT OF 3" REVEAL

NOTES FOR PEDESTRIAN CURB RAMP DETAILS:
* CONSTRUCTION TOLERANCE ±0.5%
** PAYMENT INCIDENTAL
*** FACING RAMP FROM ROAD
SEE CONSTRUCTION STANDARD E 107.2.0
SEE CONSTRUCTION STANDARD E 107.6.5
SEE CONSTRUCTION STANDARD E 107.8
SEE CONSTRUCTION STANDARD E 107.9.0

PEDESTRIAN CURB RAMP #2

FOR PLAN LOCATIONS OF PEDESTRIAN CURB RAMPS, SEE CURB TIE AND GRADING PLANS

PCR #	BASELINE NAME	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	PERPENDICULAR RAMP LENGTH (W1)	WIDTH OF RAMP MIN 5'-0"	ROADWAY GUTTER SLOPE	TRANSITION LENGTH***		COMMENT
		STATION	OFFSET					LEFT SIDE	RIGHT SIDE	
2	ARMORY STREET	14+16.41	25.00' RT	13.50'	13.50'	10.00'	0.4%	10'-3"	8'-8"	BRIDGE NO. S-24-016

SINGLE DIRECTION PEDESTRIAN CURB RAMPS

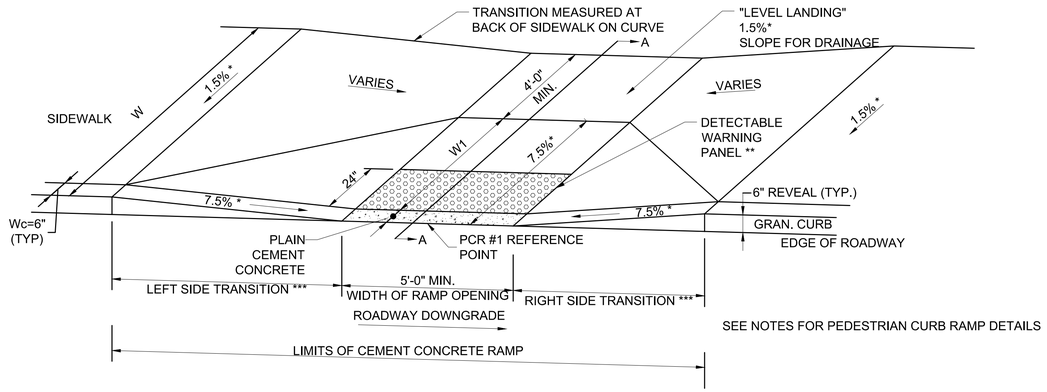
PCR #	BASELINE NAME	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF OPENING	ROADWAY GUTTER SLOPE	PERPENDICULAR RAMP LENGTH (W1)
		STATION	OFFSET				
11	ARMORY STREET	18+00.74	22.07' LT	5.50'	3.25'	1.1%	6.50'
12	ARMORY STREET	18+34.47	20.98' LT	6.00'	7.50'	0.6%	12.5'

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	53	204
	PROJECT FILE NO. 609409		

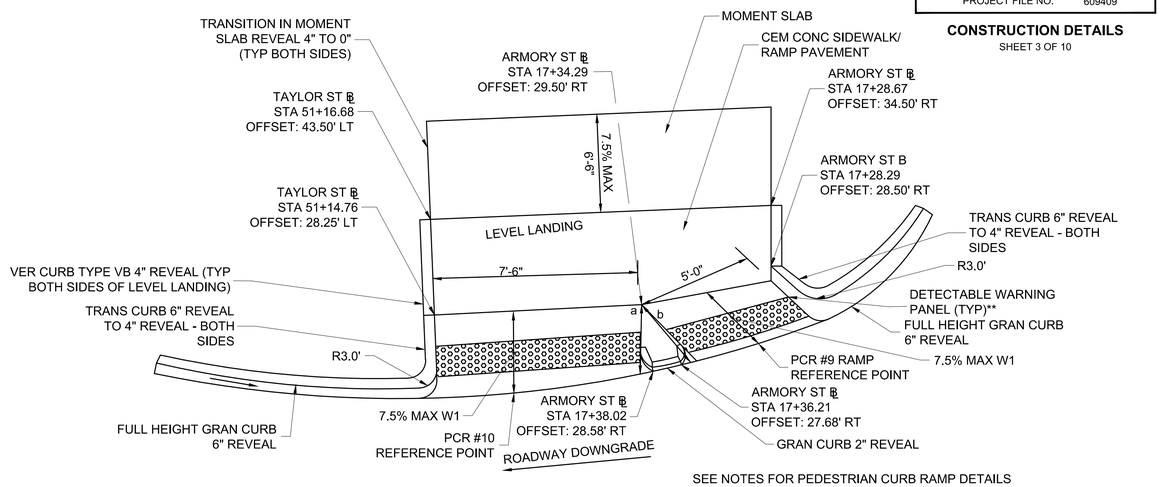
CONSTRUCTION DETAILS
SHEET 3 OF 10

609409_HD (TCD011).DWG Plotted on 19-Nov-2025 9:51 AM



SEE NOTES FOR PEDESTRIAN CURB RAMP DETAILS

PEDESTRIAN CURB RAMP #1 & #14
NTS



SEE NOTES FOR PEDESTRIAN CURB RAMP DETAILS

FOR VALUES OF a AND b REFER TO PCR # BELOW

PEDESTRIAN CURB RAMPS #9 AND #10
NTS

PEDESTRIAN CURB RAMP #1 & #14

PCR #	BASELINE NAME	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF RAMP MIN 5'-0"	PERPENDICULAR RAMP LENGTH (W1)	ROADWAY GUTTER SLOPE	TRANSITION LENGTH***	
		STATION	OFFSET					LEFT SIDE	RIGHT SIDE
1	ARMORY STREET	11+98.71	40.19' RT	8'-6" TO 13'-6"	10.00'	3.00'	5.67%	15.0'	6.5'
14	TAYLOR STREET	51+21.58	21.19' RT	8'-9" TO 8'-10"	8.00'	7.16'	1.94%	9.0'	6.5'

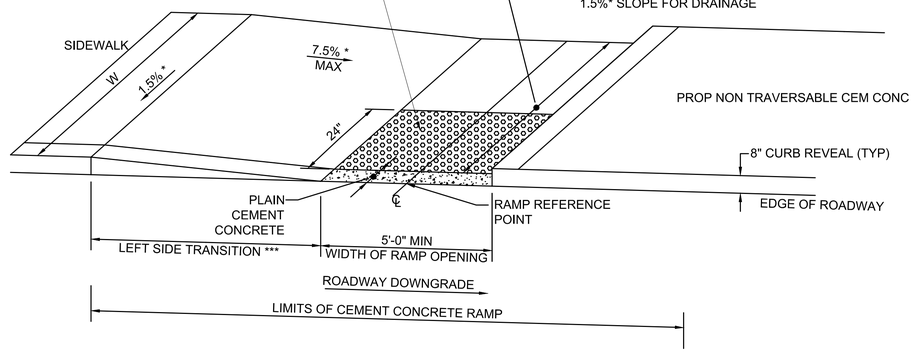
PEDESTRIAN CURB RAMPS #9 AND #10

PCR #	BASELINE NAME	RAMP REFERENCE POINT		WIDTH OF SIDEWALK	WIDTH OF RAMP MIN 5'-0"	PERPENDICULAR RAMP LENGTH (W1)	ROADWAY GUTTER SLOPE	TRANSITION LENGTH***	
		STATION	OFFSET					LEFT SIDE	RIGHT SIDE
9	ARMORY STREET	17+31.62	26.04' RT	> 10'-0"	5.0'	2.98'	2.67%	2.53' $_b$	-
10	ARMORY STREET	17+45.92	34.72' RT	> 10'-0"	7.5'	4.13'	2.67%	-	3.36' $_a$

PEDESTRIAN CURB RAMP #4

PCR #	BASELINE NAME	RAMP REFERENCE POINT		WIDTH OF SIDEWALK (W)	WIDTH OF RAMP MIN 5'-0"	ROADWAY GUTTER SLOPE	TRANSITION LENGTH***	
		STATION	OFFSET				LEFT SIDE	RIGHT SIDE
4†	ALBANY STREET	42+17.24	18.67' RT	5.00'	5.00'	2.4%	5'-6"	N/A

† SEE CONSTRUCTION STANDARD E 107.6.3 FOR TREATMENT OF 3" REVEAL



PEDESTRIAN CURB RAMP #4
NTS

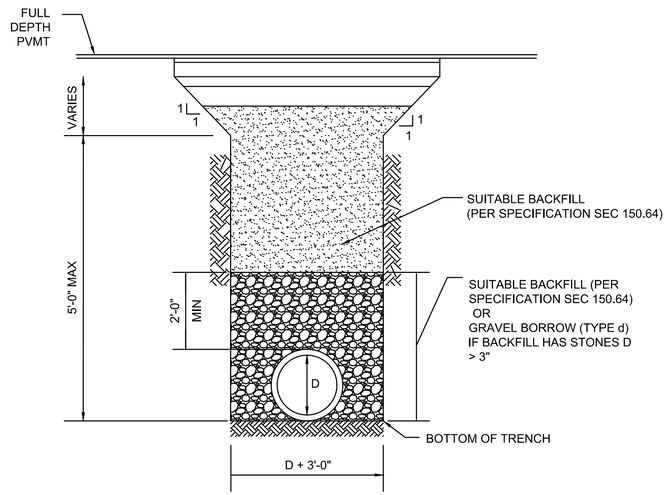
NOTES FOR PEDESTRIAN CURB RAMP DETAILS:
* CONSTRUCTION TOLERANCE ±0.5%
** PAYMENT INCIDENTAL
*** FACING RAMP FROM ROAD
SEE CONSTRUCTION STANDARD E 107.2.0
SEE CONSTRUCTION STANDARD E 107.6.5
SEE CONSTRUCTION STANDARD E 107.8
SEE CONSTRUCTION STANDARD E 107.9.0

SPRINGFIELD
ARMORY STREET

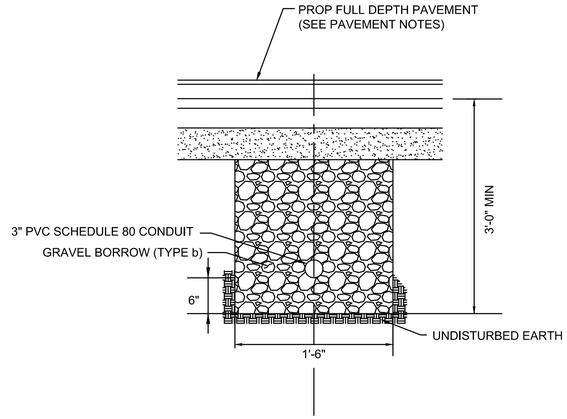
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	54	204
	PROJECT FILE NO. 609409		

CONSTRUCTION DETAILS
SHEET 4 OF 10

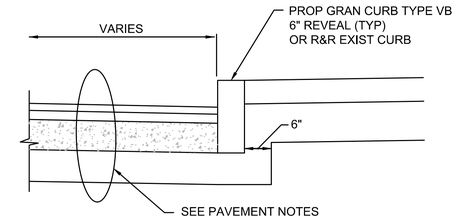
609409_HD (TCD01).DWG Plotted on 17-Dec-2025 1:37 PM



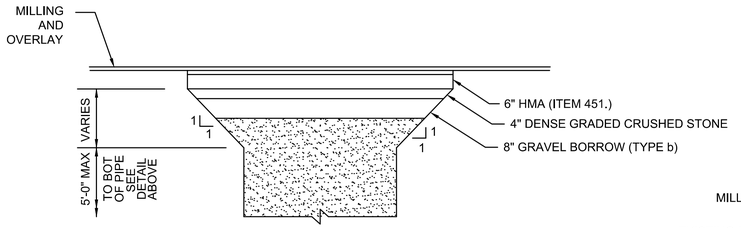
DRAIN PIPE TRENCH
FULL DEPTH PAVEMENT AREAS
NTS



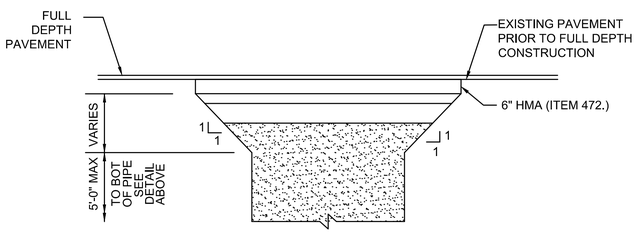
CONDUIT CROSSING FULL DEPTH PAVEMENT ROADWAY
(NO CONTROLLED DENSITY FILL)
NTS



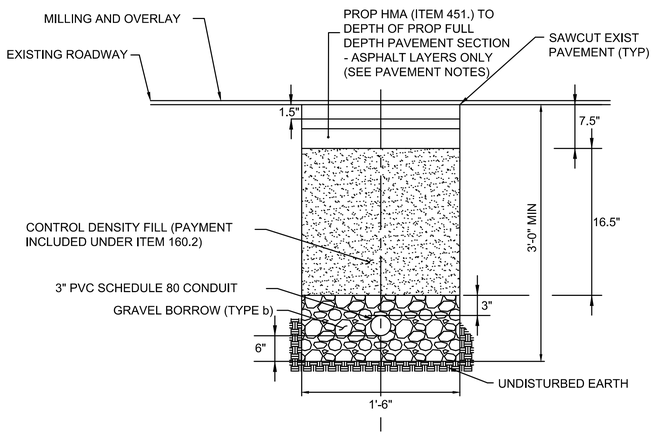
GRANITE CURB SET IN FULL DEPTH PAVEMENT
LESS THAN 4 FEET WIDE
NTS



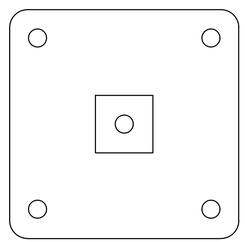
DRAIN PIPE TRENCH
PERMANENT PATCH IN MILLING AND RESURFACING AREAS
NTS

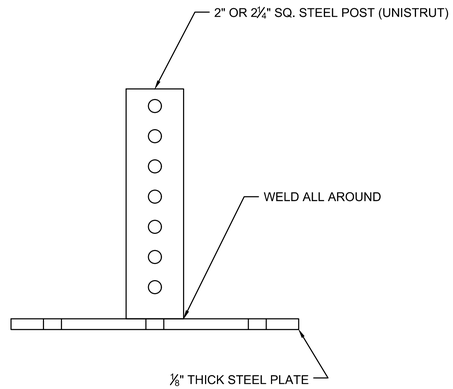


DRAIN PIPE TRENCH
TEMPORARY PATCH IN FULL DEPTH AREAS
NTS



CONDUIT CROSSING MILLING AND OVERLAY ROADWAY
WITH CONTROLLED DENSITY FILL
NTS





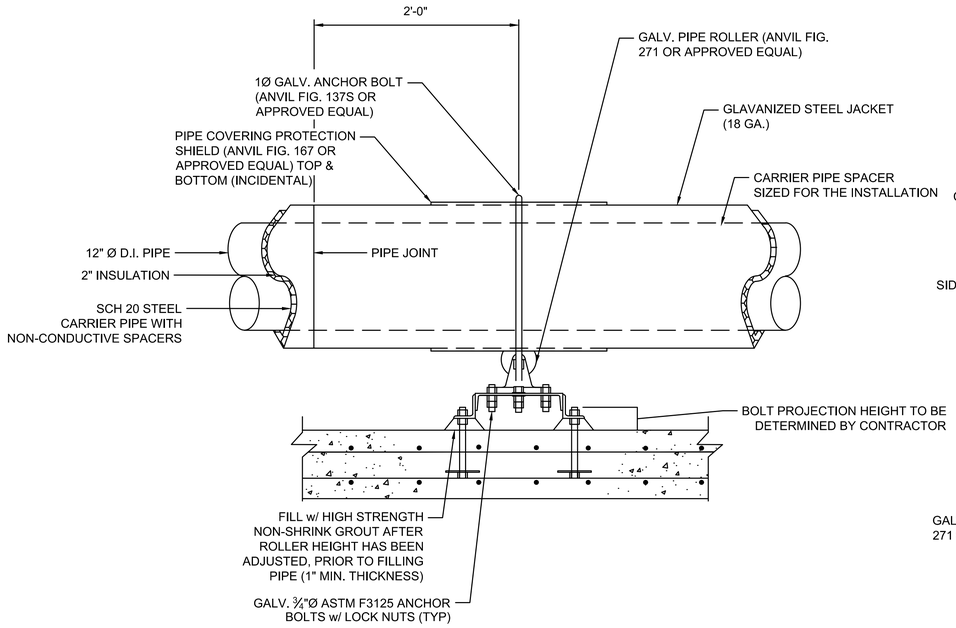
CONC MOMENT SLAB SIGN MOUNT (GALV. STEEL)
NTS

SPRINGFIELD
ARMORY STREET

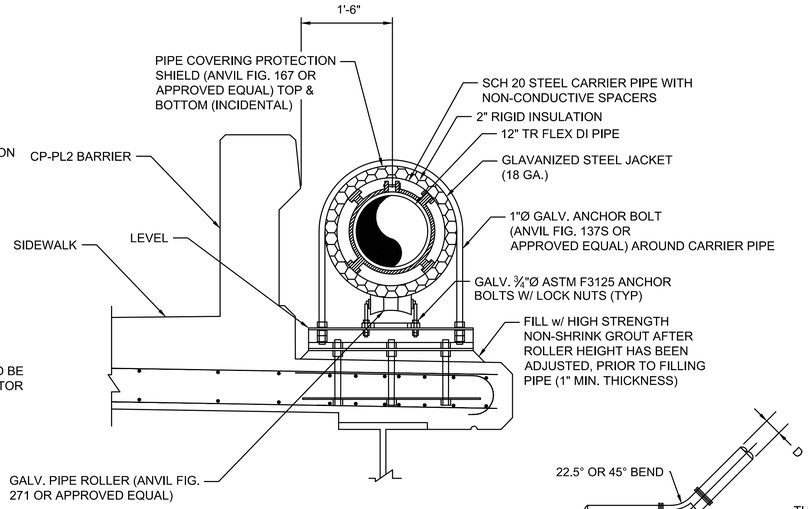
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	55	204
	PROJECT FILE NO. 609409		

CONSTRUCTION DETAILS
SHEET 5 OF 10

609409_HD (TCD01).DWG Plotted on 19-Nov-2025 9:52 AM

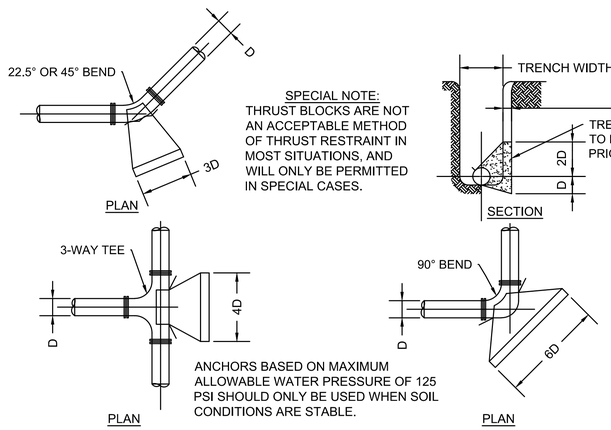


ELEVATION

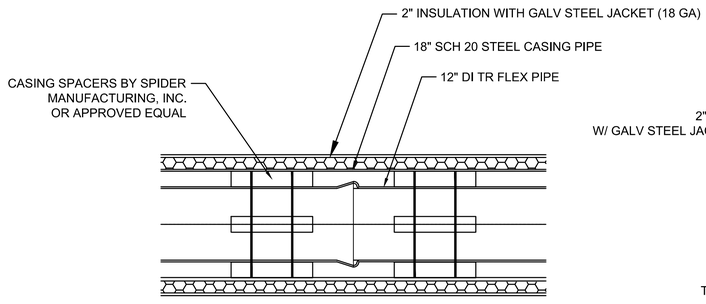


SECTION

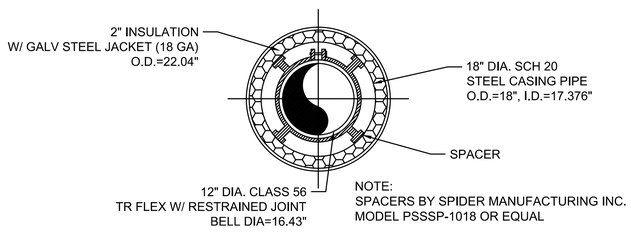
WATER MAIN SUPPORT DETAILS
NTS



THRUST BLOCK DETAILS
NTS



INSULATION DETAIL
NTS



TYPICAL WATER MAIN PIPE SECTION ABOVE GROUND
NTS

WATER MAIN NOTES:

1. CONTAINMENT PIPE SHALL BE SCHEDULE 20, MINIMUM WALL THICKNESS 0.312" WITH MINIMUM YIELD STRENGTH OF 35,000 PSI AS SPECIFIED.
2. 12" DUCTILE IRON CLASS 56 PIPE SHALL BE TR-FLEX OR HDSS BY US PIPE CO. OR EQUAL AS SPECIFIED. ANY FIELD CUTS SHALL REQUIRE A WELDED BEAD. GRIPPER RING RESTRAINED JOINT SHALL BE PROHIBITED.
3. CORPORATION COCKS SHALL BE INSTALLED FOR TESTING AND DISINFECTION OF THE PROPOSED 12" WATER MAIN AT EACH END WITH THE INSTALLATION LOCATION, OPERATION, AND SUBSEQUENT DISPOSITION AS DIRECTED BY SWSC. 1" CORPORATION COCKS SHALL BE INSTALLED FOR SMALLER SIZE PIPE FOR THE SAME PURPOSE UNDER SIMILAR SWSC DIRECTION.

WATER MAIN SUPPORT NOTES

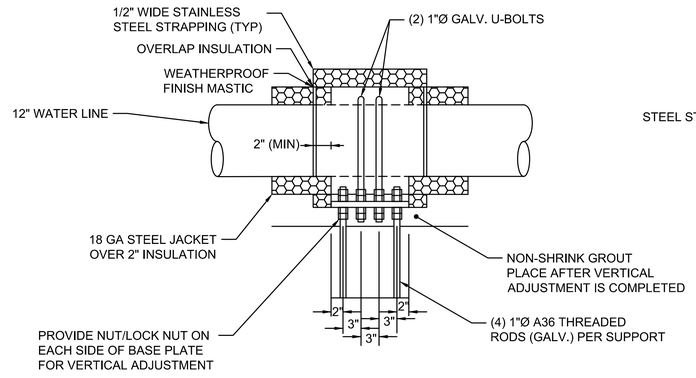
1. THE PROPOSED WATER MAIN SUPPORT SHALL BE INSTALLED AT A MINIMUM OF TWO PER EACH PIPE LENGTH 2' FROM EACH JOINT. THE WATER PIPE SHALL BE SET TO APPROXIMATELY CONFORM TO THE PROFILE OF THE BRIDGE DECK. ANY ADJUSTMENT TO THE PIPE ELEVATION SHOULD BE MADE BY THE PIPE DEFLECTIONS ON THE SETTING HEIGHT OF THE SUPPORT BRACKET. THE ANCHOR BOLT PROJECTION LENGTHS MAY NEED TO BE INCREASED TO ACCOMMODATE THE VERTICAL ALIGNMENT OF THE WATER PIPE. ONCE THE WATER PIPE HAS BEEN SET, THE ANCHOR BOLT PROJECTIONS MAY NEED TO BE CUT OFF (AND THE ENDS TOUCHED UP) TO AVOID INTERFERENCE WITH THE PIPING.
2. ALL WORK ASSOCIATED WITH FURNISHING AND INSTALLING THE WATER MAIN, INSULATION, CASING PIPE, PIPE SUPPORTS, AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIAL PROVISIONS, STANDARD SPECIFICATIONS, AND THE SPRINGFIELD WATER AND SEWER COMMISSION SPECIFICATIONS.
3. GALVANIZED PIPE ROLLER STAND AND GALVANIZED U-BOLT ASSEMBLY SHALL BE PROVIDED AS SHOWN. THE CONTRACTOR MAY SUBMIT ALTERNATE SUPPORT DETAILS FOR APPROVAL BY THE ENGINEER AND UTILITY OWNER.
4. GALVANIZED U-BOLT ASSEMBLY SHALL ONLY BE TIGHTENED AS REQUIRED TO SECURE THE PIPE ASSEMBLY IN PLACE. THEN FULLY SECURED TO THE SUPPORT WITH DOUBLE NUTS ON TOP AND BOTTOM. CONTRACTOR SHALL ENSURE THAT THERE IS NO DISTORTION OF GALVANIZED STEEL JACKET AFTER INSTALLATION OF THE U-BOLT ASSEMBLY, AS APPROVED BY THE SPRINGFIELD WATER AND SEWER COMMISSION.
5. PIPE COVERING PROTECTION SHIELDS SHALL BE INCIDENTAL WITH COST INCLUDED UNDER THE CARRIER PIPE ITEM.
6. ALL BOLTS AND HARDWARE EMBEDDED INTO THE CONCRETE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CONCRETE AND INCLUDED FOR PAYMENT WITHIN THE RESPECTIVE LUMP SUM PAYMENTS FOR CONSTRUCTION OF THE BRIDGES AND WALLS. ALL COSTS ASSOCIATED WITH THE FURNISHING AND INSTALLING ALL OTHER MATERIALS, COMPONENTS, AND HARDWARE DETAILED SHALL BE INCLUDED FOR PAYMENT WITHIN THE CONTRACT UNIT PRICE FOR THE RESPECTIVE PIPE ITEM BEING INSTALLED. NO SEPARATE PAYMENT WILL BE MADE FOR THE PIPE ROLLER SUPPORTS AND FASTENERS.
7. SEE BRIDGE PLANS FOR ADDITIONAL DETAILS.

SPRINGFIELD
ARMORY STREET

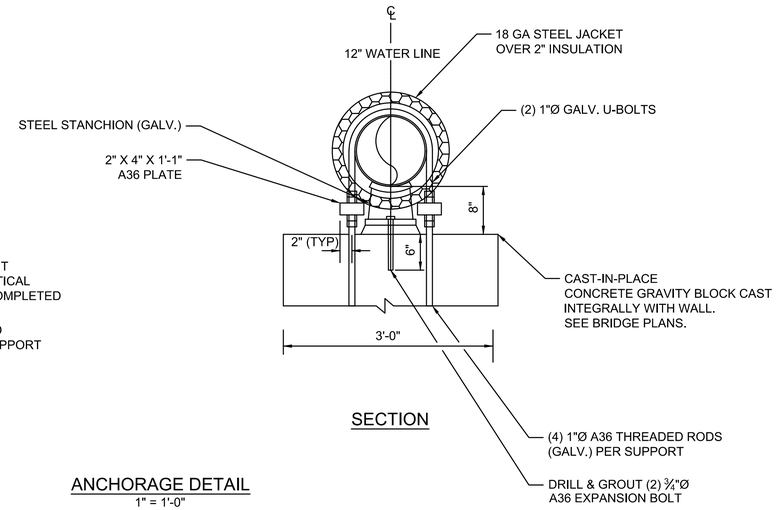
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	56	204
	PROJECT FILE NO. 609409		

CONSTRUCTION DETAILS
SHEET 6 OF 10

609409_HD (TCD01).DWG Plotted on 19-Nov-2025 9:52 AM

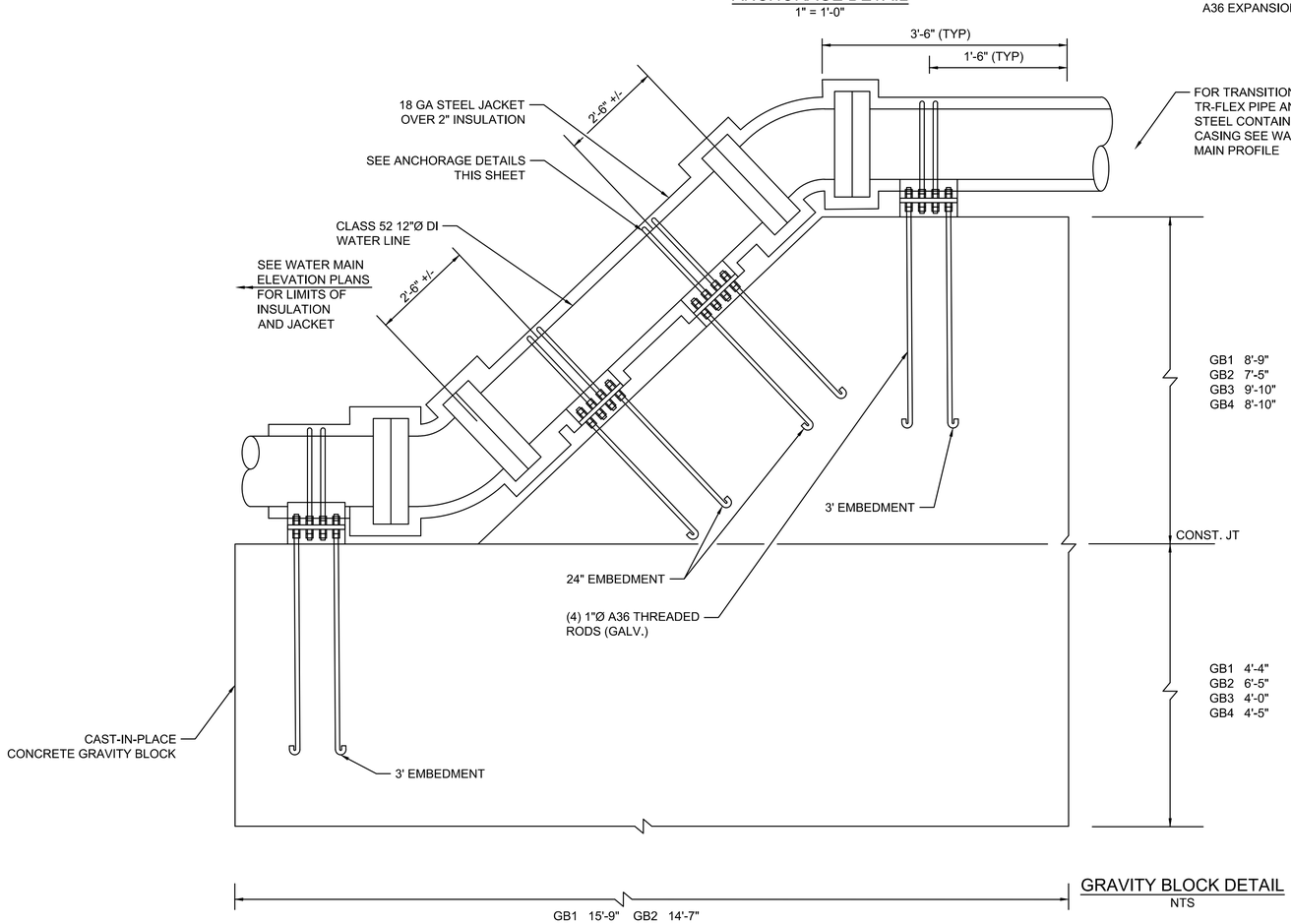


ELEVATION



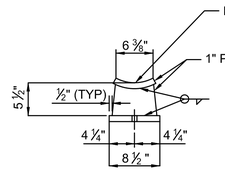
SECTION

ANCHORAGE DETAIL
1" = 1'-0"

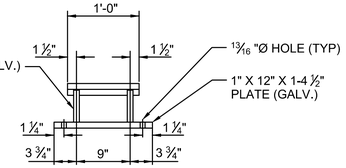


GRAVITY BLOCK DETAIL
NTS

GB1 15'-9" GB2 14'-7"
GB3 18'-2" GB4 16'-9"



END ELEVATION



SIDE ELEVATION

STEEL STANCHION DETAIL
NTS

CONTRACTOR SHALL VERIFY ALL MEASUREMENTS PRIOR TO FABRICATION.

GENERAL STRUCTURAL NOTES:

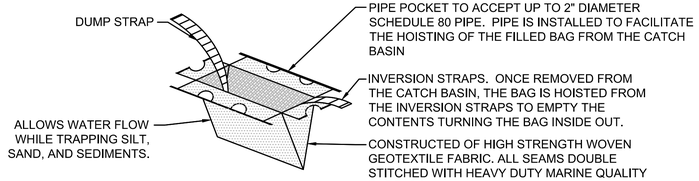
1. ALL STEEL SUPPORT COMPONENTS SHALL BE GALVANIZED AND CONFORM TO ASTM A709, GRADE 36. GALVANIZING SHALL CONFORM TO ASTM A123 OR EQUAL.
2. ALL BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND CONFORM TO ASTM F3125.
3. NO SEPARATE PAYMENT WILL BE MADE FOR STANCHIONS AND FASTENERS.

SPRINGFIELD
ARMORY STREET

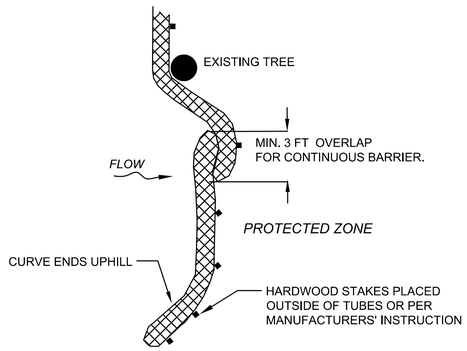
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	57	204
	PROJECT FILE NO.	609409	

CONSTRUCTION DETAILS
SHEET 7 OF 10

609409_HD (TCD01).DWG Plotted on 19-Nov-2025 9:52 AM



SILT SACK
NTS



PLACE TUBE ALONG CONTOURS AND PERPENDICULAR TO FLOW.

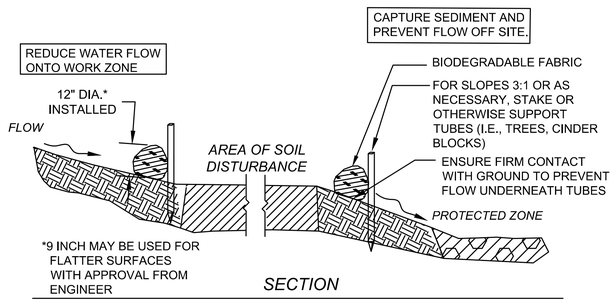
PLACE AS CLOSE TO LIMIT OF SOIL DISTURBANCE AS POSSIBLE

ADJUST LOCATION AS REQUIRED FOR OPTIMUM EFFECTIVENESS. DO NOT INSTALL IN WATERWAYS.

PLACE STAKES AS NEEDED TO SECURE TUBES IN PLACE.

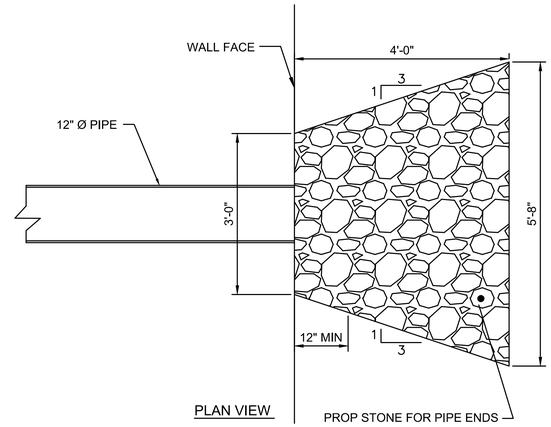
PLAN VIEW

SEDIMENT BARRIERS
NTS

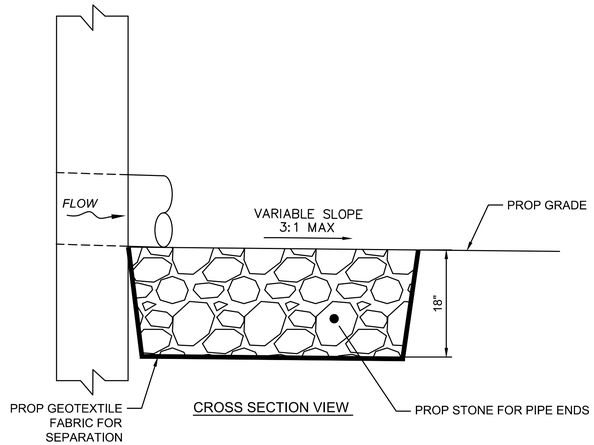


SECTION

SEDIMENT BARRIERS - COMPOST FILTER TUBES
NTS



PLAN VIEW



CROSS SECTION VIEW

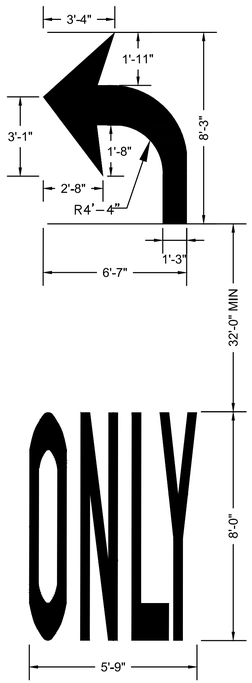
STONE FOR DRAINAGE OUTLETS DETAIL
NTS

SPRINGFIELD
ARMORY STREET

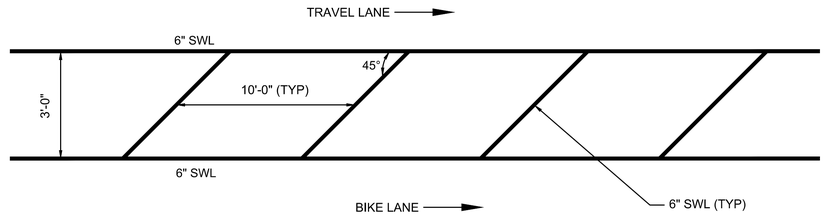
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	58	204
	PROJECT FILE NO.	609409	

CONSTRUCTION DETAILS
SHEET 8 OF 10

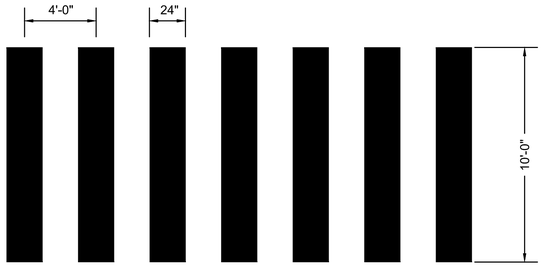
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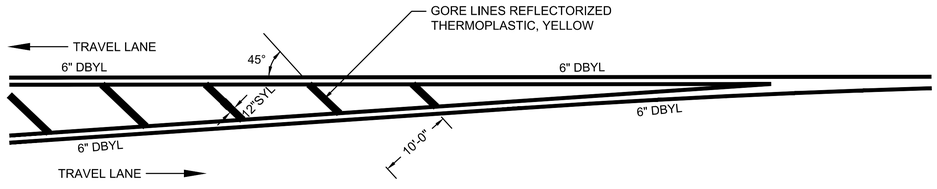
LEFT TURN LANE MARKING
NTS



BIKE BUFFER
NTS



CROSSWALK MARKINGS (CW)
NTS



STANDARD CROSS HATCHING
NTS

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	59	204
PROJECT FILE NO.	609409		

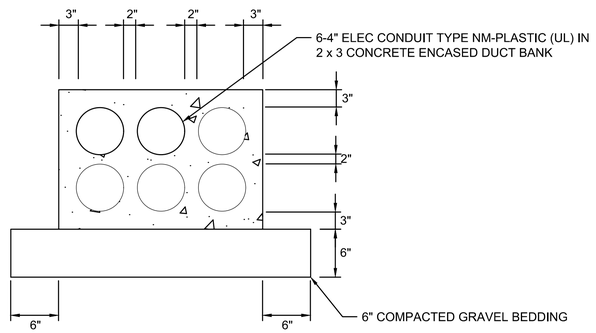
CONSTRUCTION DETAILS
SHEET 9 OF 10

609409_HD (TCD01).DWG Plotted on 19-Nov-2025 9:52 AM

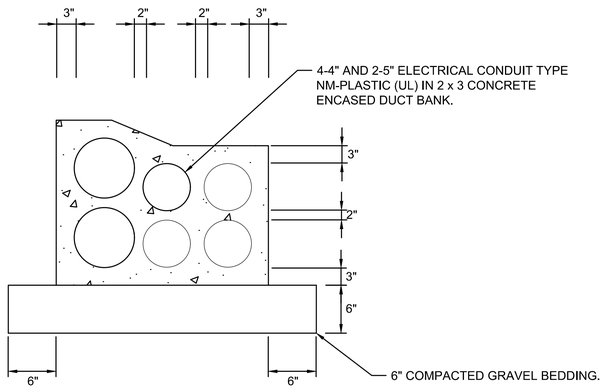
PROPOSED STATE HIGHWAY BOUNDS				
BASELINE NAME	STATION	OFFSET	COORDINATES	COMMENT
ARMORY STREET	13+01.83	25.25' LT	N2869043.7326 E362623.9212	NO BOUND
ARMORY STREET	13+09.43	39.67' RT	N2868996.6939 E362578.5442	NO BOUND
ARMORY STREET	13+23.48	34.81' LT	N2869033.0547 E362645.0451	
ARMORY STREET	13+30.31	52.23' RT	N2868972.5874 E362582.0676	
ARMORY STREET	14+46.13	66.98' RT	N2868873.6743 E362644.1029	
ALBANY STREET	41+91.42	10.70' LT	N2868943.4672 E362751.1292	NO BOUND
ARMORY STREET	14+71.71	39.75' RT	N2868871.1615 E362681.3777	NO BOUND
ARMORY STREET	15+91.85	25.25' LT	N2868819.4762 E362807.8236	NO BOUND
ARMORY STREET	15+92.22	39.75' RT	N2868777.9731 E362757.7953	NO BOUND
ARMORY STREET	16+22.56	64.52' RT	N2868738.8061 E362757.8865	
ARMORY STREET	16+29.88	52.75' LT	N2868807.5058 E362853.2033	
ARMORY STREET	17+00.99	64.43' RT	N2868678.2203 E362807.6873	
ARMORY STREET	17+16.80	28.47' LT	N2868724.8981 E362889.5444	NO BOUND
ARMORY STREET	17+16.96	35.73' LT	N2868729.3835 E362895.2619	NO BOUND
ARMORY STREET	17+30.67	28.50' LT	N2868714.1974 E362898.3612	NO BOUND
ARMORY STREET	17+31.10	48.00' RT	N2868665.3553 E362839.4828	NO BOUND

NOTE: PRIOR TO ORDERING BOUNDS CONFIRM INSTALLATION OF EACH BOUND IS FEASIBLE IN THE VICINITY OF THE BRIDGES AND WALLS

PROPOSED CITY HIGHWAY BOUNDS				
BASELINE NAME	STATION	OFFSET	COORDINATES	COMMENT
WARWICK STREET	31+34.52	20.17' RT	N2869081.7739 E362487.1928	
ARMORY STREET	12+05.88	20.73' LT	N2869115.2796 E362569.4391	FLUSH
ARMORY STREET	12+08.63	47.75' RT	N2869083.9962 E362508.4583	
ARMORY STREET	12+27.40	21.77' LT	N2869098.1869 E362579.2657	
TAYLOR STREET	50+83.44	22.80' LT	N2868635.1809 E362837.2106	
ARMORY STREET	17+91.02	28.64' LT	N2868667.6213 E362936.7375	
ARMORY STREET	17+91.02	34.77' LT	N2868671.5099 E362941.4794	
TAYLOR STREET	51+07.94	33.05' RT	N2868614.5465 E362894.6009	
TAYLOR STREET	51+08.28	28.44' RT	N2868617.9598 E362891.4872	
TAYLOR STREET	51+11.02	35.58' RT	N2868615.0453 E362898.5570	
TAYLOR STREET	51+15.34	33.34' RT	N2868619.7134 E362899.8957	
ARMORY STREET	18+37.01	25.25' LT	N2868629.9061 E362963.2813	
ARMORY STREET	18+37.01	34.77' LT	N2868635.9446 E362970.6449	



VERIZON CONDUIT
NTS



EVERSOURCE ELECTRIC CONDUIT
NTS

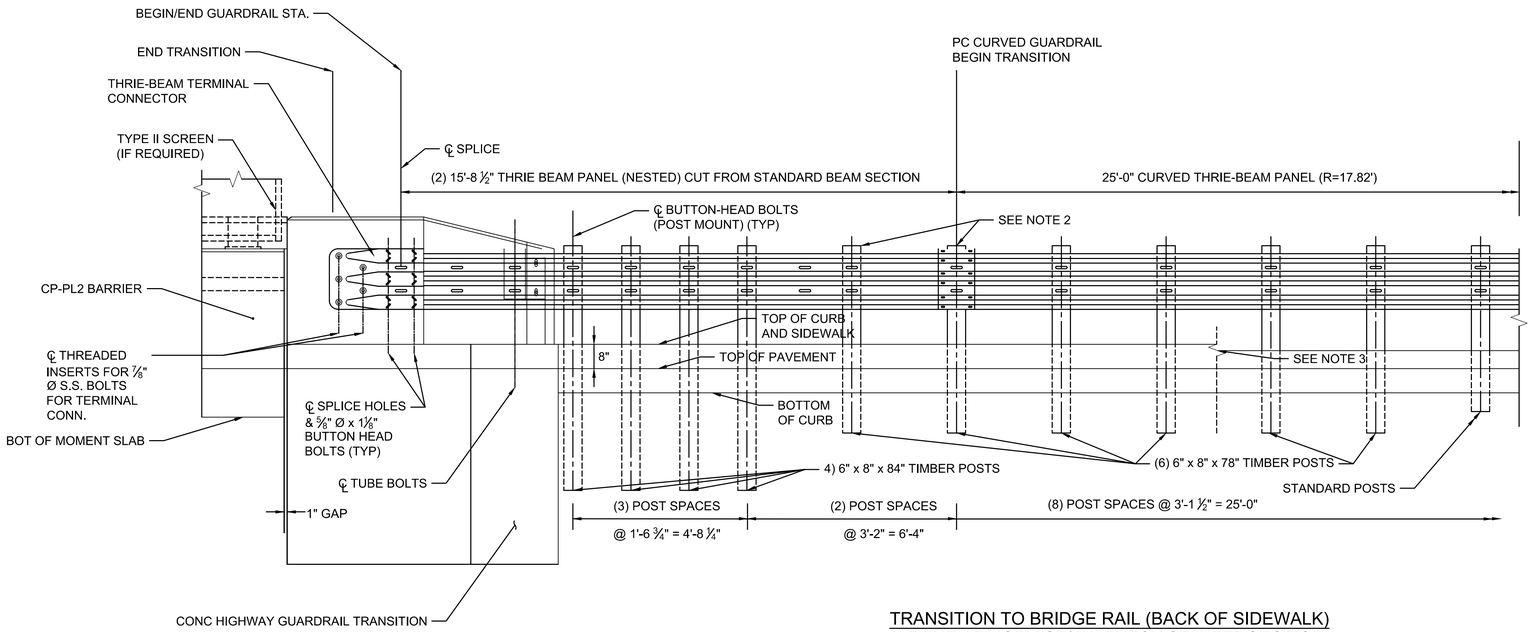
NOTES:
1. CONCRETE ENCASEMENT SHALL BE 4000 PSI, ¾", 610 LB/CY.
2. EVERSOURCE ELECTRIC SHALL DETERMINE POSITION OF PROPOSED CONDUITS.

SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	60	204
	PROJECT FILE NO. 609409		

CONSTRUCTION DETAILS
SHEET 10 OF 10

609409_HD (TCD011).DWG Plotted on 19-Nov-2025 9:52 AM

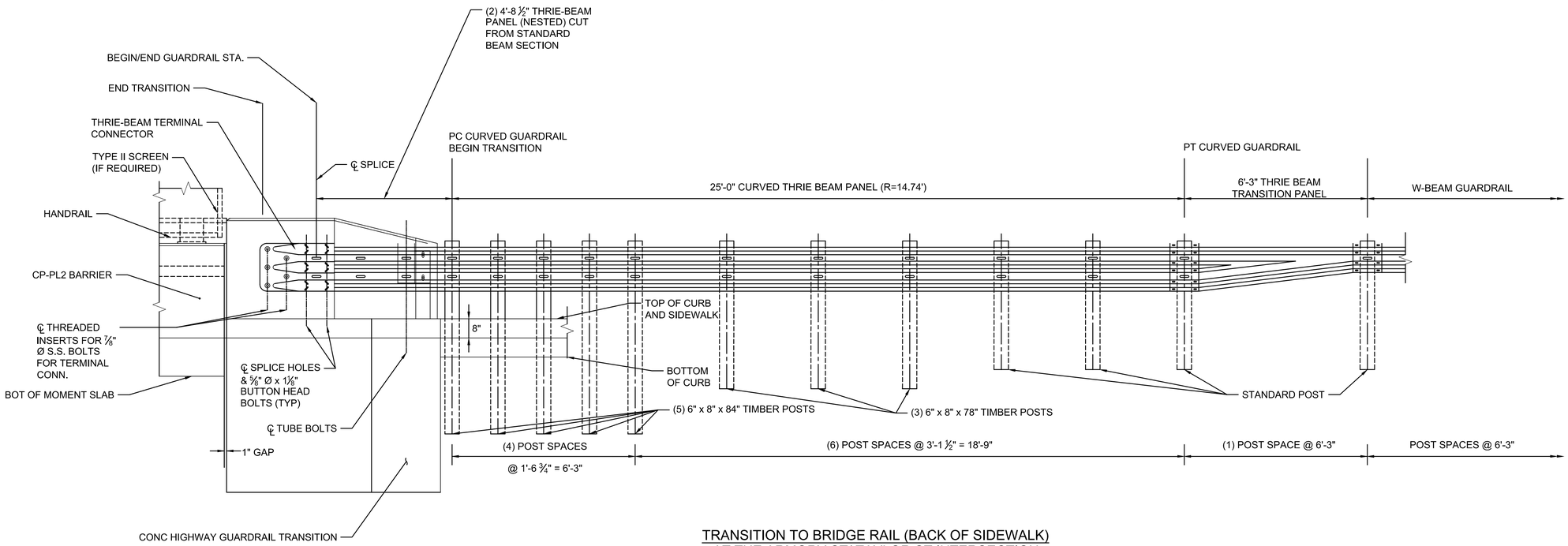


TRANSITION TO BRIDGE RAIL (BACK OF SIDEWALK)
AT THE ARMORY ST/ WARWICK ST INTERSECTION
NTS

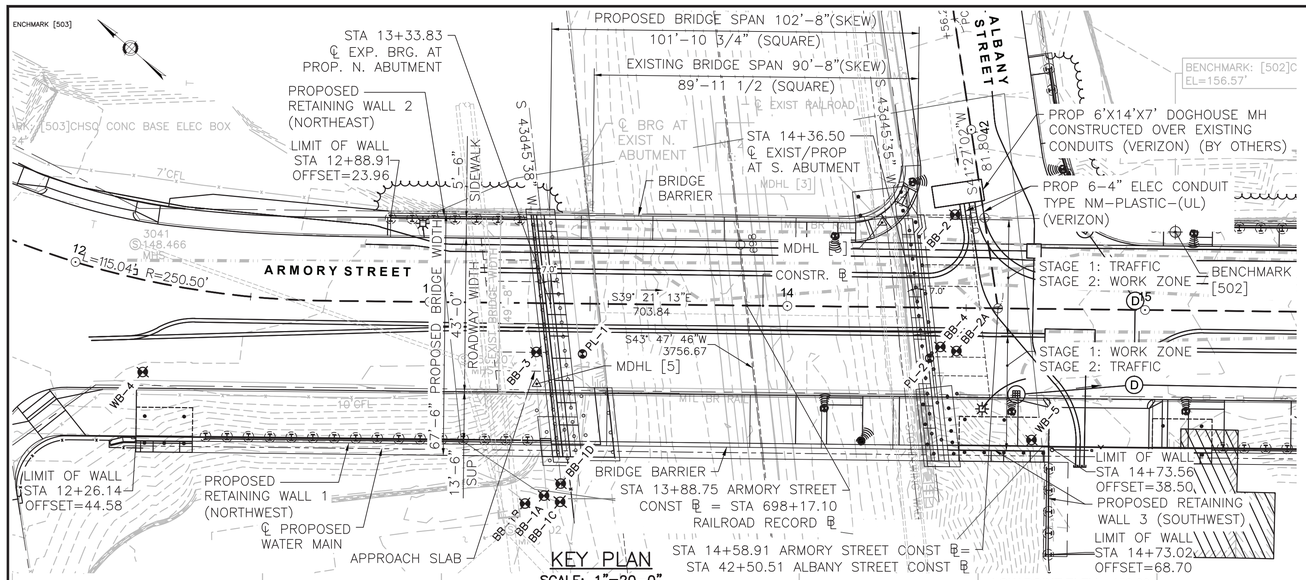
NOTES:
1. REFER TO CONSTRUCTION STANDARD 400.3.5

2. FABRICATE STANDARD ⅜" x 2 ½" POST HOLE SLOTS AND $\frac{15}{32}$" x 1 $\frac{3}{8}$" SPLICE BOLT SLOTS AS APPLICABLE WITH ACCORDANCE WITH CONSTRUCTION STANDARD 400.1.3 FOR THIS NON-STANDARD POST LOCATION. FIELD VERIFY BEGINNING OF CURVED GUARDRAIL LOCATION AND HIGHWAY GUARD TRANSITION PRIOR TO FABRICATION.

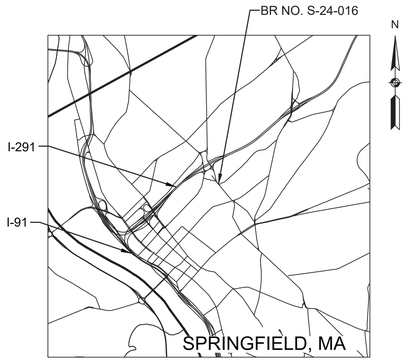
3. SEE CONSTRUCTION PLAN FOR SIDEWALK 8" REVEAL TRANSITION TO 6" REVEAL.



TRANSITION TO BRIDGE RAIL (BACK OF SIDEWALK)
AT THE ARMORY ST/ TAYLOR ST INTERSECTION
NTS



KEY PLAN
SCALE: 1"=20'-0"



LOCUS MAP

0 2000 4000 6000 8000

SCALE: 1" = 2000'

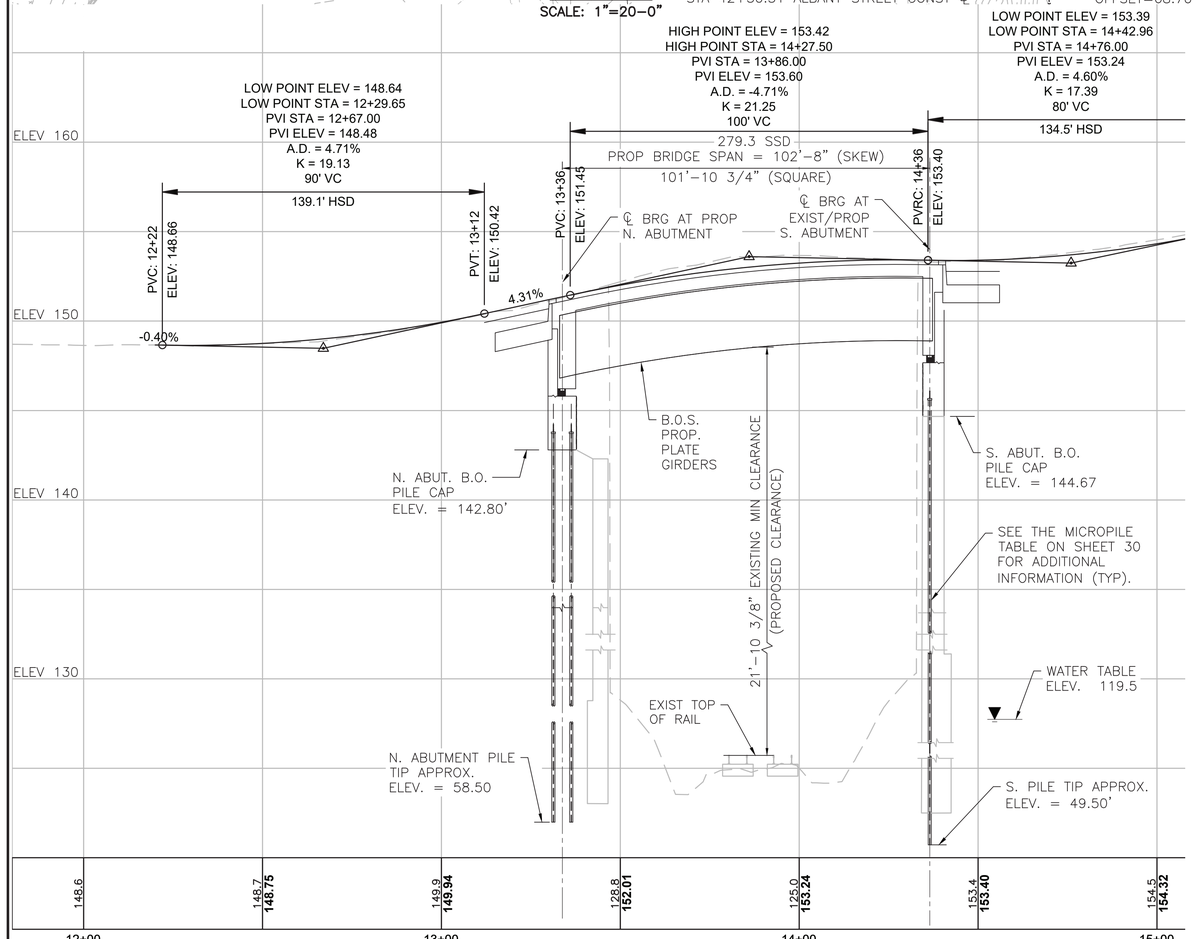
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	61	204
PROJECT FILE NO. 609409			

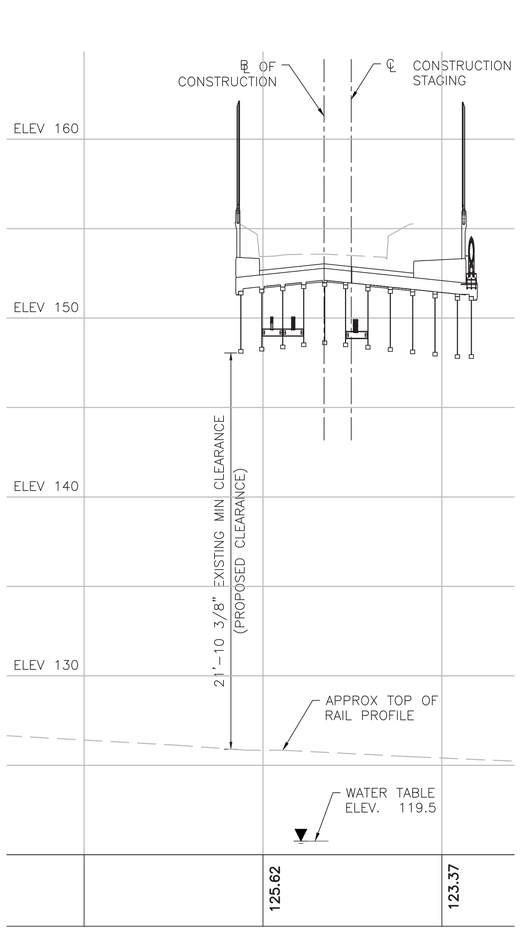
KEY PLAN, PROFILE, INDEX

INDEX

SHEET NO.	DESCRIPTION
01	PLAN & PROFILE
02	GENERAL NOTES & QTY'S
03 – 13	BORING LOGS
14	PLAN & ELEVATION
15 – 16	EXISTING DEMOLITION
17 – 20	CONSTRUCTION STAGING PLANS & DETAILS
21 – 22	ABUTMENT PLAN AND ELEVATION
23 – 25	WALL PLAN AND ELEVATIONS
26 – 29	WALL SECTION AND DETAILS
30 – 31	MICROPILE DETAILS
32 – 33	MICROPILE LAYOUT PLANS
34 – 35	SOLDIER PILE AND LAGGING WALL SECTIONS AND DETAILS
36	BACKFILL
37	JOINTS
38	TYPICAL ABUTMENT SECTIONS & DETAILS
39 – 41	ABUTMENT CURTAIN WALL & KEEPER BLOCK DETAILS
42 – 44	ABUTMENT END DIAPHRAGM DETAILS
45 – 46	PILE CAP DETAILS
47	SOUTHEAST CORNER SUBSTRUCTURE DETAILS
48	APPROACH SLAB PLAN
49	FRAMING PLAN
50	PLATE GIRDER DETAILS
51	CAMBER TABLE & DIAGRAM
52 – 53	END DIAPHRAGM AND UTILITY SUPPORTS
54	BEARING DETAILS
55	TYPICAL SUPERSTRUCTURE CROSS-SECTION
56 – 59	DECK DETAILS
60 – 61	SOUTHEAST CORNER SUPERSTRUCTURE DETAILS
62 – 64	MOMENT SLAB SECTIONS AND DETAILS
65	MODIFIED TRAFFIC AND HIGHWAY DETAILS
66	WATER UTILITY DETAILS
67 – 68	MASSDOT STANDARD SHEETS (TYPE II SCREEN)
69	TYPE I EXTENSION
70	MASSDOT STANDARD SHEET (HGT)



PROFILE – ARMORY STREET (LOOKING EAST)
VERTICAL SCALE: 1"=4'-0"
HORIZONTAL SCALE: 1"=20'-0"



PROFILE – BOSTON & ALBANY RR (LOOKING SOUTH)
VERTICAL SCALE: 1"=4'-0" HORIZONTAL SCALE: 1"=20'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION

COMMONWEALTH OF MASSACHUSETTS
ALAN J. FLAK
NO. 57620
REGISTERED PROFESSIONAL ENGINEER

Alan Flak — Digitally signed by Alan Flak, Date: 2026.01.21 09:15:29 -05'00'

TETRA TECH, INC.
Marlborough Technology Park
100 Nickerson Road,
Marlborough, MA 01752

MassDOT
Massachusetts Department of Transportation
Highway Division

PROPOSED BRIDGE
SPRINGFIELD
ARMORY STREET
OVER RR CSX MAINLINE
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

Alexander K. Bardow, P.E. — Digitally signed by Alexander K. Bardow, P.E. Date: 2026.01.21 09:30:59 -05'00'
STATE BRIDGE ENGINEER:

Carrie Lavallee, P.E. — Digitally signed by Carrie Lavallee, P.E. Date: 2026.01.21 11:37:45 -05'00'
CHIEF ENGINEER

SHEET 1 OF 70 SHEETS BRIDGE NO. S-24-016 (C8G)

S-24-016 (Plan & Profile).dwg
S-24-016 (PLAN & PROFILE).DWG Plotted on 13-Jan-2026 1:28 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

GENERAL NOTES

DESIGN:
IN ACCORDANCE WITH THE 2020 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS 9th EDITION, FOR HL-93 LOADING.

MASSDOT BENCH MARK:
ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

DATE:
TO BE PLACED ON THE INSIDE FACE OF THE NORTHEAST HIGHWAY GUARDRAIL TRANSITION. 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.

MASSDOT SURVEY NOTEBOOKS:
ELECTRONIC SURVEY PERFORMED BY GREEN INTERNATIONAL WAS USED IN THE PREPARATION OF THESE CONSTRUCTION DRAWINGS. FILES CAN BE OBTAINED AT THE SURVEY OFFICE, MASSDOT – HIGHWAY DIVISION, 10 PARK PLAZA, BOSTON, MASSACHUSETTS.

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.

CONCRETE:
UNLESS OTHERWISE SPECIFIED, ALL CONCRETE SHALL BE 5000 HP CONCRETE. ALL CONCRETE POURS SHOWN ON THESE CONSTRUCTION DRAWINGS WHERE ALL VOLUMETRIC DIMENSIONS ARE 4 FEET OR GREATER SHALL BE CONSIDERED TO BE MASS CONCRETE PLACEMENTS AND SHALL REQUIRE A HEAT OF HYDRATION ANALYSIS AND THERMAL CONTROL PLAN, AS SPECIFIED IN THE MASSDOT STANDARD SPECIFICATIONS.

CONCRETE MIX:
UNLESS OTHERWISE NOTED, CONCRETE SHALL BE AS FOLLOWS:

(1)	(2)	(3)	
5000	3/4"	685 HP	CP-PL2 BARRIER, SIDEWALKS, SHARED USE PATHS, MOMENT SLABS, HIGHWAY GUARD TRANSITIONS, DECK SLAB, APPROACH SLABS, ABUTMENTS, PILE CAPS, PRECAST WALL PANELS BACKWALLS, CURTAIN WALLS & KEEPER BLOCKS

REINFORCEMENT:
(1) 28 DAY COMPRESSIVE STRENGTH (PSI)
(2) MAXIMUM AGGREGATE SIZE (INCH)
(3) CEMENTITIOUS CONTENT (POUNDS/CY) CEMENT SHALL CONFORM TO AASHTO M85

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:

MODIFICATION CONDITION	#4 BARS	#5 BARS	#6 BARS	#7 BARS	#8 BARS	#9 BARS
1. NONE	16"	17"	21"	23"	26"	32"
2. 12" OF CONCRETE BELOW BAR	18"	22"	27"	30"	34"	42"
3. EPOXY COATED BARS, COVER < 3db, OR CLEAR SPACING < 6db	21"	26"	31"	36"	41"	46"
4. COATED BARS, ALL OTHER CASES	17"	21"	25"	28"	31"	35"
5. CONDITION 2. AND 3.	23"	29"	35"	42"	55"	70"
6. CONDITION 2. AND 4.	21"	27"	32"	36"	41"	46"

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

ABBREVIATIONS:
GB GRAVITY BLOCK
LFGA LIGHTWEIGHT FOAMED GLASS AGGREGATE

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

RAILROAD REQUIREMENTS:
NO WORK OVER AND ADJACENT TO RAILROAD PROPERTY MAY BE IN PROGRESS DURING THE PASSAGE OF TRAINS, AND ALL WORK ADJACENT TO AND OVER RAILROAD PROPERTY SHALL BE PERFORMED UNDER THE PROTECTION OF A RAILROAD FLAGMAN. RAILROAD PROPERTY SHALL BE KEPT CLEAR OF ALL PROJECT-GENERATED DEBRIS. ALL TEMPORARY STRUCTURES SHALL BE COMPLETELY REMOVED AND THE AREAS RESTORED AT THE COMPLETION OF WORK.

STRUCTURAL STEEL & WELDING:
ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W UNCOATED WEATHERING STEEL UNO.

PAINT ALL SUPERSTRUCTURE STEEL WITHIN A DISTANCE OF 1 1/2 TIMES THE DEPTH OF GIRDER FROM BRIDGE JOINTS. WHEN WEATHERING STEEL IS PAINTED, THE FINISH COAT COLOR SHALL CONFORM TO FEDERAL STANDARD 595B, "COLOR USED IN GOVERNMENT PROCUREMENT, COLOR CHIP NO. 30045.

ALL WELDING, WELDING MATERIAL, PREPARATION AND ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO THE MASSDOT STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION, THE AASHTO/AWS BRIDGE WELDING CODE (ASI/AASHTO/AWS D1.5), AND ALL INTERIM REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE. ALL SUPPORT ANGLES AND MECHANICAL REINFORCING BAR SPLICERS AND COUPLERS SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE; ANSI/AASHTO/AWS D1.5; AND IN ACCORDANCE WITH INTERIM PUBLISHED BY AASHTO AS OF THE BID OPENING DATE.

UTILITIES:
THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE OR RELOCATE, AS NECESSARY, ANY EXISTING UTILITIES/POLES. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE RESPECTIVE UTILITY OWNERS FOR ALL UTILITIES THAT ARE TO BE TEMPORARILY OR PERMANENTLY RELOCATED FOR BRIDGE REPLACEMENT WORK.

TRAFFIC:
CONSTRUCTION SHALL TAKE PLACE IN SEVERAL STAGES AND THE BRIDGE WILL BE OPEN TO THRU-TRAFFIC IN ONE DIRECTION AND DETOURED IN THE OTHER DIRECTION. REFER TO THE STAGE CONSTRUCTION PLANS AND SECTIONS, THE TRAFFIC MANAGEMENT AND/OR DETOUR PLANS FOR TRAFFIC CONTROL DURING DEMOLITION AND CONSTRUCTION.

ESTIMATED QUANTITIES (NOT GUARANTEED)

ITEM NO	DESCRIPTION	QTY	UNIT
100.91	PRECONSTRUCTION SURVEY AND MONITORING OF EXISTING STRUCTURES	1	LS
114.1	DEMOLITION OF SUPERSTRUCTURE OF BRIDGE NO S-24-016	1	LS
127.1	REINFORCED CONCRETE EXCAVATION	320	CY
140	BRIDGE EXCAVATION	1254	CY
144	CLASS B ROCK EXCAVATION	124	CY
151.2	GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES	505	CY
156	CRUSHED STONE	125	TON
450.611	SUPERPAVE BRIDGE SURFACE COURSE - 12.5 POLYMER (SSC-B - 12.5 - P)	45	TON
450.711	SUPERPAVE BRIDGE PROTECTIVE COURSE – 12.5P POLYMER (SPC-B - 12.5 - P)	59	TON
458.7	LIGHTWEIGHT AGGREGATE	1175	CY
853.33	TEMPORARY BARRIER - LIMITED DEFLECTION (TL-3)	127	FT
904.3	5000 PSI 3/4IN 685 HP CEMENT CONCRETE	559	CY
904.33	PRECAST CONCRETE PANELS	2142	SF
909.50	RAPID HARDENING CEMENTITIOUS PRODUCTS	12	CY
910.2	STEEL REINFORCEMENT FOR STRUCTURES - COATED	59682	LB
912.40	DRILLED AND GROUTED #4 DOWELS	14	EA
912.50	DRILLED AND GROUTED #5 DOWELS	57	EA
942.102	STEEL PILE HP 10 X 57	128	FT
942.283	STEEL PILE W18X283	1148	FT
945.10	DRILLED MICROPILES	7697	FT
945.101	DRILLED SHAFT EXCAVATION 3.0 FOOT DIAMETER	901	FT
945.301	OBSTRUCTION EXCAVATION 3.0 FOOT DIAMETER	20	FT
945.501	DRILLED SHAFT 3.0 FOOT DIAMETER	901	FT
948.60	MICROPILE VERIFICATION LOAD TEST	2	EA
948.61	MICROPILE PROOF LOAD TEST	9	EA
951.1	GRANITE CORING	600	FT
951.2	STEEL SLEEVE / CONCRETE CORING	360	FT
953.31	TEMPORARY EXCAVATION SUPPORT SYSTEM	1	LS
970	DAMP-PROOFING	3988	SF
975.4	PROTECTIVE SCREEN TYPE II	200	FT
992.33	TEMPORARY SUPPORTS FOR UTILITIES -SYSTEM 1	1	LS
992.34	TEMPORARY SUPPORTS FOR UTILITIES -SYSTEM 2	1	LS
992.36	TEMPORARY SUPPORTS FOR UTILITIES -SYSTEM 4	1	LS
994.1	TEMPORARY PROTECTIVE SHIELDING	6930	SF
995.01	BRIDGE STRUCTURE, BRIDGE NO. S-24-016	1	LS

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	62	204
PROJECT FILE NO. 609409			

GENERAL NOTES & QTY'S

PROJECT INFORMATION

PROJECT FILE NO.: 609409	
PROJECT DESCRIPTION: BRIDGE REPLACEMENT BRIDGE NO. S-24-016	
BRIDGE DESIGN LOADING: HL-93	
SURVEY: SURVEY BY GREEN INTERNATIONAL AFFILIATES, INC.	
ELEVATION REFERENCE: NAVD OF 1988	
BENCH MARK 3:	BENCH MARK 5:
N: 2868946.498'	N: 2868991.460'
E: 362701.562'	E: 362604.965'
EL: 154.041'	EL: 151.827'
MDHL [3]	MDHL [5]

TRAFFIC DATA

	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2024	
AVERAGE DAILY TRAFFIC-PRESENT	15800	
AVERAGE DAILY TRAFFIC-DESIGN YEAR	16200	
DESIGN HOURLY VOLUME (2019)	1280	
DIRECTIONAL DISTRIBUTION	55%	
TRUCK PERCENTAGE-AVERAGE DAY	3.5%	
TRUCK PERCENTAGE-PEAK HOUR	7.5%	
DESIGN SPEED	30 mph	
DIRECTIONAL DESIGN HOURLY VOLUME (2019)	920	

SEISMIC DESIGN CRITERIA

DESIGN RETURN PERIOD:	1000-YEAR
DESIGN SPECTRA	
As	0.148
SDs	0.325
SD1	0.133
SITE CLASS	E
SEISMIC DESIGN CATEGORY (SDC)	A

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (General Notes & Qty's).dwg
S-24-016 (GENERAL NOTES & QTY'S).DWG Plotted on 5-Feb-2026 7:54 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-1D**
Boring Location: N: 2868967.77
E: 362587.34
Checked by: N. Belanger
Date Start: April 22, 2019
Date Finish: April 25, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 130.5
Datum: NAVD 88

N ABUT B.O. PILE CAP
ELEV 142.80

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 04/25/19	08:00	13.0	51	58	16.5 hrs

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 130.0	S-1	18	0-2	1					TOPSOIL 130.1 / 0.4	S-1A (5"): Loose, brown, fine to medium SAND, some Silt, few roots/grass fibers. Moist.	
1				2						S-1B (13"): Loose, brown, fine to coarse SAND, some Silt, trace fine Gravel, few asphalt fragments, very few brick particles. Moist. One inch seam of brick coloring present.	
2				3						S-2A (8"): Loose, brown, fine to coarse SAND and Silt. very few asphalt and brick fragments/particles. Moist.	
ELEV 128.0	S-2	13	2-4	3						S-2B (5"): Loose, black to brown, fine to coarse SAND, some Silt, trace fine Gravel, few asphalt particles, very few hard plastic pieces. Moist. Faint petroleum odor present.	
3				3						S-3: Very loose, black to brown, fine to coarse SAND, some Silt, few asphalt particles, very few roots. Moist.	1
4				3							
ELEV 126.0	S-3	8	4-6	2							
5				WOH							
				WOH							
6				1							
ELEV 124.0				1					URBAN FILL		
7											
8										See Note 2. Manhole opened by Springfield Water and Sewer showing drainage pipe in the direction of borehole offsets. 4th attempt on 4/24/2019 resulted in bypassing obstruction, consisting of concrete. Remaining split-spoon samples and rock cores taken at 4th offset location (BB-1D).	2
ELEV 122.0											
9											
	S-4	3	9-11	3						S-4: Very loose, gray to brown, fine to coarse SAND, trace Silt, trace fine Gravel, several asphalt particles. Wet. Wash consisted of color and consistency change to more brown coloring and increase in fines, respectively.	
10				2							
ELEV 120.0				1							
11				2							
12											
ELEV 118.0									118.0 / 12.5		
WATER							▼				
ELEV 117.5											
14											
ELEV 116.0	S-5	12	14-16	1					SUBSOIL	S-5: Medium dense, gray to brown, fine to medium SAND, some Silt, trace Clay, very few wood pieces. Wet.	
15				4							
				8							
16				8					114.5 / 16.0		
ELEV 114.0											
17											
18											
ELEV 112.0											
19									VARVED CLAYEY SILT		
	S-6	12	19-21	5						S-6: Stiff, gray to brown, SILT, little Clay, little fine to coarse Sand. Wet.	
20				4							
ELEV 110.0				5							
21				5							
22											
ELEV 108.0	ST-1	19	22-24							ST-1: Soft to stiff, gray, SILT, little Clay, little fine to medium Sand. Wet. Approximately 100 to 0 psf of downward pressure applied from 22 to 22.4 feet bgs, 0 psf applied from 22.4 to 23.5 feet bgs, and 100 to 150 psf from 23.5 to 24 feet bgs. Last 3 inches of Shelby Tube deformed due to stiffness of stratum encountered. [Moisture = 16.8% Gravel = 0.4% Sand = 14.4% Fines = 85.2%].	
23											
24											
ELEV 106.0	S-7	14	24-26	5						S-7: Very stiff, gray, SILT, little Clay, little fine to medium Sand. Wet.	
25				8					VARVED CLAYEY SILT		
				10							
26				11							
ELEV 104.0											
27											
28											
ELEV 102.0											
29											
	S-8	8	29-31	5						S-8: Medium dense, gray, SILT, little fine to medium Sand, trace Clay. Wet. One 1/4-inch thick seam of brown to tan, fine to medium sand present, varved seams containing greater amounts of silt, clay, and fine sand present.	
30				7							
ELEV 100.0				9							
31				10							
32											
ELEV 98.0											
33											
34											
ELEV 96.0	S-9	13	34-36	7						S-9: Medium dense, gray, SILT, little fine Sand, trace Clay. Wet.	
35				9							
				8							
36				11					VARVED SILT WITH SAND AND CLAY		
ELEV 94.0											
37											

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	63	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE PLAN THUS:
   ⊕ TEST BORING LOCATIONS
   ◓ PROBE LINE LOCATIONS
2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 3/8" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
5. 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.
6. ALL BORING WERE MADE IN APRIL TO MAY OF 2019 EXCEPT FOR WB-4 AND WB-5 WHICH WERE MADE IN FEBRUARY OF 2022.
7. BORINGS WERE MADE BY SEABOARD DRILLING, INC. OF CHICOPEE MASSACHUSETTS.
8. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
9. SEE THE GEOTECHNICAL REPORT (TABLE 1) FOR A SUMMARY OF THE PROBE LINES.
10. THE BORING LOG BB-1 CONTINUES ON THE NEXT SHEET.

GROUNDWATER:

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.

GROUNDWATER OBSERVATION (INSTALLED AT BB-2A)				
DATE	TIME	DEPTH BELOW GROUND (FT)	STABILIZATION TIME	WATER EL.
05/15/2019	20:00	13	17.5 HRS	140
07/08/2019	10:30	26.45	54 DAYS	126.6
05/26/2021	12:00	26.10	742 DAYS	126.9

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Boring Logs).dwg
S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 7:56 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-1 D- CONT.**
Boring Location: N: 2868967.77
E: 362587.34
Checked by: N. Belanger
Date Start: April 22, 2019
Date Finish: April 25, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 130.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 04/25/19	08:00	13.0	51	58	16.5 hrs

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 92.0											
38											
39											
	S-10	9	39-41	6						S-10: Medium dense, gray, SILT, some fine Sand, trace Clay. Wet. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness).	
40				7							
ELEV 90.0				11							
41				14							
42											
ELEV 88.0											
43											
44											
ELEV 86.0	S-11	17	44-46	6					VARVED SILT WITH SAND AND CLAY	S-11A (9"): Medium dense, gray, SILT, little fine Sand, trace Clay. Wet. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness).	
45				6							
				7					85.5 / 45.0	S-11B (8"): Medium dense, reddish brown to gray, SILT and fine to coarse Sand, trace fine Gravel. Wet.	
46				12							
ELEV 84.0											
47											
48											
ELEV 82.0											
49											
	S-12	21	49-51	17						S-12: Very dense, reddish brown, SILT, some fine to coarse Sand, trace Clay. Wet.	
50				25							
ELEV 80.0				30							
51				35							
52											
ELEV 78.0									GLACIAL TILL		
53											
54											
ELEV 76.0	S-13	21	54-56	16						S-13: Hard, reddish brown, Clayey SILT, little fine to coarse Sand. Wet.	
55				25							
				26							
56				36							
ELEV 74.0											
57											
58											
ELEV 72.0											
59									71.5 / 59.0		
	S-14	5	59-59.4	120/5"					WEATHERED BEDROCK	S-14: Very dense, reddish brown, fine to coarse SAND, some Silt, little fine Gravel. Wet.	
60											
ELEV 70.0											
61									69.5 / 61.0		
	C-1	60	61-66		100/13	4.5				C-1: Medium Hard, fresh to slightly weathered, moderately to severely fractured, reddish-brown, fine-grained, ARGILLACEOUS SANDSTONE, slightly dipping to horizontal joints, multiple mechanical break joints. Wet.	
62						5.5					
ELEV 68.0											
63						5					
64									BEDROCK		
ELEV 66.0						5					
65											
66						6					
ELEV 64.0	C-2	56	66-71		93/22	4.5				C-2: Medium Hard, fresh to slightly weathered, moderately fractured, reddish-brown, fine-grained, ARGILLACEOUS SANDSTONE, slightly dipping to horizontal joints, multiple mechanical break joints. Wet.	
67						5					
68											
ELEV 62.0						4			BEDROCK		
69											
						4.5					
70											
ELEV 60.0						5.5					
71									59.5 / 71.0	Boring terminated at 71 feet.	3

PILE TIP
APPROX.
ELEV. 58.5

Soil Percentage Non-Soil

trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 4 feet.
2) Samples S-1 through S-3 taken from BB-1A. Refusal on concrete obstruction present at 7.5 feet bgs in area. Multiple offset attempts (BB-1B, BB-1C, and BB-1D) encountered possible same obstruction at similiar depth. Obstruction bypassed on BB-1D.
3) Boring backfilled with spoils and one (1) bag of filter sand.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	64	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING NOTES:
1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Boring Logs).dwg
S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 7:57 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	65	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-2**
Boring Location: N: 2868932.28
E: 362715.93
Checked by: K. Kocia
Date Start: May 7, 2019
Date Finish: May 12, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 153
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4" to 3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/12/19	22:00	Not Encountered	29	39	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 152.0								ASPHALT 152.5 / 0.5	Asphalt approximately 6-inches thick.	
1									Hand cleared to approximately 4 feet bgs, with few asphalt and porcelain fragments in Fill.	
2										
ELEV 150.0 3										
4										
ELEV 148.0 5	S-1	20	4-6	9 10					S-1: Medium dense, brown, fine to coarse SAND, trace fine Gravel, trace Silt. Moist.	
6				14 16						
ELEV 146.0 7	S-2	13	6-8	23 42					S-2: Very dense, brown, fine to coarse SAND, little fine Gravel, trace Silt. Moist.	
S. ABUT B.O. PILE CAP ELEV 144.67 8				16 12						
ELEV 144.0 9	S-3	13	8-10	12 17					S-3: Dense, dark brown to tan, fine to coarse SAND, little Silt, trace fine Gravel. Moist.	
10				27 16						
ELEV 142.0 11	S-4	12	10-12	2 3					S-4: Loose, brown to tan, fine to coarse SAND, some Silt, little fine Gravel. Moist.	
12				3 2				EMBANKMENT FILL		
ELEV 140.0 13	S-5	10	12-14	5 3					S-5: Loose, brown, fine to coarse SAND, little fine to coarse Gravel, little Silt, very few brick fragments. Wet.	1
14				4 3						
ELEV 138.0 15										
16	S-6	3	15-17	3 1					S-6: Very loose, brown, fine to coarse SAND, some fine Gravel, trace Silt. Wet.	
ELEV 136.0 17				2 1						
18	S-7	8	17-19	3 2					S-7: Very loose, brown, fine to coarse SAND, little fine Gravel, trace Silt. Wet.	
ELEV 134.0 19				1 2						
20										
ELEV 132.0 21	S-8	6	20-22	WOH WOH					S-8: Very loose, brown to tan, fine to coarse SAND, trace Silt. Wet. One piece of wood/root present in tip of split-spoon.	
22				WOH 1						
ELEV 130.0 23	S-9	13	22-24	1 1					S-9: Very loose, brown to tan, fine to medium SAND, trace Silt. Wet. Very faint redoximorphic staining present.	
24				1 1						
ELEV 128.0 25										
26	S-10	14	25-27	WOH 1				EMBANKMENT FILL	S-10: Very loose, brown, fine to medium SAND, trace Silt. Wet.	
ELEV 126.0 27				1 2						
28	S-11	13	27-28.6	3 2					S-11A (12"): Very loose, brown to tan, fine to medium SAND, trace Silt. Wet.	
				1				124.4 / 28.6	S-11B (1"): Very dense, brown to black, fine to coarse SAND, some fine Gravel, trace Silt. Wet. Wood / rotted wood pieces present in wash and spoon sample.	
ELEV 124.0 29				50/1"						
30	C-1	44	29-34		3.25				C-1: Very Hard, fresh to slightly weathered, slightly fractured, gray, CONCRETE, Section from existing concrete wingwall.	
ELEV 122.0 31					3			CONCRETE		
32					2.5					
ELEV 120.0 33					4.5			120.0 / 33.0		

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-2 - CONT.**
Boring Location: N: 2868932.28
E: 362715.93
Checked by: K. Kocia
Date Start: May 7, 2019
Date Finish: May 12, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 153
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4" to 3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/12/19	22:00	Not Encountered	29	39	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
34					4.5				Wood present within wash, transition occurred at approximately 33 feet bgs.	
ELEV 118.0 35										
36	S-12	10	35-37	3 2				VARVED SILT AND CLAY	S-12: Soft, gray, Clayey SILT. Wet.	
ELEV 116.0 37				1 4						
38	S-13	19	37-39	5 5					S-13: Stiff, gray, Clayey SILT, trace fine Sand. Wet.	
ELEV 114.0 39				5 7				114.0 / 39.0	Boring terminated at 39 feet.	2

PILE TIP APPROX ELEV 49.5

Soil Percentage Non-Soil		
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 8 feet.
2) Boring backfilled with spoils and one (1) bag of filter sand.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

S-24-016 (Boring Logs).dwg
S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 7:58 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-2A**
Boring Location: N: 2868907.37 E: 362687.09
Checked by: K. Kocia
Date Start: May 14, 2019
Date Finish: May 16, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 153
Top of Riser Elev.: 152
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 05/15/19	20:00	13	60	62	17.5 hr
▼ 07/08/19	10:30	26.45	0	45	2 mon

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	WELL DETAIL	NOTES
ELEV 152.0									ASPHALT 151.9 / 1.1	Asphalt approximately 6-inches thick.	6" Road Box	1
1												
2										Drive and wash techmiques performed to 20 feet bgs.		
ELEV 150.0												
3												
4												
ELEV 148.0												
5												
6												
ELEV 146.0												
B.O. PILE CAP ELEV 144.67 (S) 8												
ELEV 144.0									EMBANKMENT FILL		#2 Filter Sand	
9												
10												
ELEV 142.0												
11												
12												
ELEV 140.0							▽					
13												
14												
ELEV 138.0												
15												
16												
ELEV 136.0												
17												
18												
ELEV 134.0												
19												
20												
21	S-1	18	20-22	1 2						S-1: Very loose, brown to tan, fine to coarse SAND & SILT. Wet.	Bentonite	
ELEV 132.0												
22				1 2								
ELEV 130.0												
23												
24									EMBANKMENT FILL		#2 Filer Sand	
ELEV 128.0												
25												
26	S-2	13	25-27	WOH 1 5					127.2 / 25.8	S-2A (10"): Loose, brown to tan, fine to medium SAND and Silt, trace fine Gravel, very few brick fragments. Wet.		
WATER ELEV 126.55							▼					
ELEV 126.0				8						S-2B (3"): Medium stiff, gray, Clayey SILT, trace fine Sand. Wet.		
27												
28												
ELEV 124.0												
29												
30												
31	S-3	15	30-32	1 1						S-3: Soft, tan to gray, SILT & CLAY, trace fine Sand, trace fine Gravel. Wet.		
ELEV 122.0												
32				2 3								
ELEV 120.0												
33												
34												
ELEV 118.0												
35									VARVED SILT AND CLAY		10-Slot PVC	
36	S-4	24	35-37	2 2						S-4: Medium stiff, gray, Clayey SILT. Wet. [Laboratory analysis pending].		
37				3 3								
ELEV 116.0												

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	66	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.
2. BORING LOG BB-2A CONTINUES ON THE NEXT SHEET.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Boring Logs).dwg
S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 8:00 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-2A - CONT.**
Boring Location: N: 2868907.37
E: 362687.09
Checked by: K. Kocia
Date Start: May 14, 2019
Date Finish: May 16, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 153
Top of Riser Elev.: 152
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 05/15/19	20:00	13	60	62	17.5 hr
▼ 07/08/19	10:30	26.45	0	45	2 mon

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	WELL DETAIL	NOTES
ELEV 114.0 38												
39												
40												
	S-5	12	40-42	3						S-5: Soft, gray, Clayey SILT. Wet.		
ELEV 112.0 41				1								
				2								
42				4								
ELEV 110.0 43												
44												
ELEV 108.0 45												
	S-6	7	45-47	3						S-6: Medium stiff, gray, Clayey SILT. Wet.		
46				3								
ELEV 106.0 47				4								
48									VARVED SILT AND CLAY			
ELEV 104.0 49												
50												
	S-7	17	50-52	5						S-7A (5"): Medium dense, gray, fine to coarse SAND and fine Gravel, trace Silt. Wet.		
ELEV 102.0 51				6								
				7						S-7B (12"): Stiff, gray, SILT & CLAY, trace fine to medium Sand. Wet. Seams less than approximately 1/6 of an inch, containing clayey silt and fine sand, present.		
52				8								
ELEV 100.0 53												
54												
ELEV 98.0 55												
	S-8	18	55-57	4						S-8: Medium dense, gray, SILT, little fine Sand, trace Clay. Wet.		
56				5								
				7								
ELEV 96.0 57				7								
58									VARVED SILT AND SAND			
ELEV 94.0 59												
60												
	S-9	8	60-62	8						S-9: Medium dense, gray, SILT, little fine to coarse Sand, little fine Gravel, trace clay. Wet.		
ELEV 92.0 61				16								
				12								
62				16								
ELEV 90.0 63												
64												
ELEV 88.0 65												
	S-10	15	65-67	8						S-10: Medium dense, gray, SILT, little fine Sand. Wet.		
66				13								
				14								
ELEV 86.0 67				17								
68												
ELEV 84.0 69												
70												
	S-11	15	70-72	8					VARVED SILT AND SAND	S-11: Medium dense, gray, fine SAND and Silt. Wet. Very faint redoximorphic staining present.		
ELEV 82.0 71				13								
				12								
72				13								
ELEV 80.0 73												

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-2A - CONT.**
Boring Location: N: 2868907.37
E: 362687.09
Checked by: K. Kocia
Date Start: May 14, 2019
Date Finish: May 16, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 153
Top of Riser Elev.: 152
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▽ 05/15/19	20:00	13	60	62	17.5 hr
▼ 07/08/19	10:30	26.45	0	45	2 mon

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	WELL DETAIL	NOTES
74												
ELEV 78.0 75									78.0 / 75.0			
	S-12	15	75-77	48						S-12: Very dense, reddish-brown, SILT, little fine to coarse Sand, little fine to coarse Gravel, trace clay. Wet.		
76				25								
ELEV 76.0 77				34								
				47					GLACIAL TILL			
78												
ELEV 74.0 79												
80									73.0 / 80.0			
	S-13	5	80-80.4	100/5"						S-13: Very dense, reddish-brown, Clayey SILT, trace fine to coarse Sand. Wet.		
ELEV 72.0 81									WEATHERED BEDROCK			
82									70.5 / 82.5			
ELEV 70.0 83	C-1	58	82.5-87.5		97/43	4.25				C-1: Medium Hard to Hard, fresh to slightly weathered, moderately to severely fractured, reddish-brown, fine-grained, ARGILLACEOUS SANDSTONE, slightly dipping to horizontal joints, multiple mechanical break joints. Wet.		
84						4						
ELEV 68.0 85						5			BEDROCK			
86						5						
ELEV 66.0 87						5						
88	C-2	60	87.5-92.5		100/23	6				C-2: Medium Hard, fresh to slightly weathered,		
				14								
ELEV 64.0 89						6.5				moderately fractured, reddish-brown, fine-grained, ARGILLACEOUS SANDSTONE, slightly dipping to horizontal joints, multiple mechanical break joints. Wet.		
90						7.5						
ELEV 62.0 91						6			BEDROCK			
92						7						
ELEV 60.0 93									60.5 / 92.5	Boring terminated at 92.5 feet.		2

PILE TIP APPROX ELEV 49.5

Soil Percentage Non-Soil		
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 0 feet.
2) Boring backfilled with spoils and filter sand to 45 feet bgs and a monitoring well was installed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	67	204
PROJECT FILE NO. 609409			

BORING LOGS

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Boring Logs).dwg
S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 8:01 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	68	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.
2. THE APPROXIMATE PILE TIP ELEVATION IS 60.9' AT THE NORTH ABUTMENT.

BORING LOG

Boring No.: **BB-3**
Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Boring Location: N: 2868996.76 E: 362611.00
Location: Springfield, Massachusetts
Checked by: K. Kocia
Nobis Project No.: 94184.00
Date Start: May 13, 2019
Date Finish: May 14, 2019
Contractor: Seaboard Drilling, Inc.
Rig Type / Model: Truck / B-53 Mobile
Ground Surface Elev.: (+/-) 151
Driller: M. Glynn
Hammer Type: Automatic Hammer
Datum: NAVD 88
Nobis Rep.: S. Kurtzer
Hammer Hoist: Automatic

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/14/19	01:30	Not Encountered	35	39	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 150.0 1							ASPHALT 150.0 / 1.0	Asphalt approximately 12-inches thick.	
2	S-1	14	1-3	9			URBAN FILL	S-1: Medium dense, brown to black, fine to coarse SAND, some fine to coarse Gravel, little Silt, few brick and asphalt particles. Moist.	
ELEV 148.0 3				8					
				14					
	S-2	13	3-5	7				S-2: Loose, brown to tan, fine to coarse SAND, trace fine Gravel, trace Silt, very few brick fragments. Moist.	
4				4					
				4					
ELEV 146.0 5				2					
	S-3	10	5-7	1				S-3: Loose, tan, fine to coarse SAND, some Silt. Moist.	1
6				3					
ELEV 144.0				3					
N. ABUT 7				2					
B.O. PILE CAP				3					
ELEV 142.80 8									
ELEV 142.0 9							EMBANKMENT FILL		
10									
	S-4	11	10-12	1				S-4: Very loose, tan, fine to coarse SAND, some Silt. Moist to Wet. [Gravel = 0.5% Sand = 78.6% Fines = 20.9%].	
ELEV 140.0 11				1					
				1					
12				2					
ELEV 138.0 13									
14									
ELEV 136.0 15									
	S-5	6	15-17	WOH				S-5: Very loose, tan, fine to medium SAND, little Silt. Wet.	
16				1					
				1					
ELEV 134.0 17				1					
18									
ELEV 132.0 19									
20									
	S-6	8	20-22	WOH				S-6: Very loose, tan, fine to coarse SAND, little Silt. Wet.	
ELEV 130.0 21				1					
				1					
22				1					

BORING LOG

Boring No.: **BB-3 - CONT.**
Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Boring Location: N: 2868996.76 E: 362611.00
Location: Springfield, Massachusetts
Checked by: K. Kocia
Nobis Project No.: 94184.00
Date Start: May 13, 2019
Date Finish: May 14, 2019
Contractor: Seaboard Drilling, Inc.
Rig Type / Model: Truck / B-53 Mobile
Ground Surface Elev.: (+/-) 151
Driller: M. Glynn
Hammer Type: Automatic Hammer
Datum: NAVD 88
Nobis Rep.: S. Kurtzer
Hammer Hoist: Automatic

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/14/19	01:30	Not Encountered	35	39	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 128.0 23									
24									
ELEV 126.0 25									
	S-7	8	25-27	3				S-7: Loose, tan, fine to coarse SAND, little Silt. Wet.	
26				3					
				2					
ELEV 124.0 27				3					
28									
ELEV 122.0 29									
30									
	S-8	10	30-32	WOH			EMBANKMENT FILL	S-8: Very loose, tan to gray, fine to coarse SAND, trace Silt. Wet. Petroleum odor and staining present within sample.	
ELEV 120.0 31				WOH					
				WOH					
32				1					
ELEV 118.0 33									
34									
ELEV 116.0 35									
	S-9	12	35-37	WOH				S-9A (7"): Very loose, brown to gray, fine to coarse SAND, trace Silt. Wet. Petroleum odor and staining present within sample.	
36				1					
				2				S-9B (5"): Numerous wood fibers and pieces. Wet. Odor of kerosene present within sample.	
ELEV 114.0 37				3					
	S-10	13	37-39	3				S-10A (10"): Medium dense, dark gray, fine to coarse SAND, trace Silt. Wet.	
38				5					
				6			112.5 / 38.5		
ELEV 112.0 39				6			VARVED SILT AND CLAY 112.0 / 39.0	S-10B (3"): Stiff, dark gray, Clayey SILT, little fine to coarse Sand. Wet.	
								Boring terminated at 39 feet.	2

Soil Percentage Non-Soil		
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 5 feet.
2) Boring backfilled with spoils and four (4) bags of filter sand. Roadway patched with cold patch asphalt.

PILE TIP APPROX ELEV 58.5

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Boring Logs).dwg
S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 8:01 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-4**
Boring Location: N: 2868911.51
E: 362685.09
Checked by: K. Kocia
Date Start: May 9, 2019
Date Finish: May 9, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 153
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4" to 3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/09/19	01:30	Not Encountered	21.5	41	5 min

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 152.0 1	S-1	17	0.5-2.5	61			ASPHALT 152.5 / 0.5	Asphalt approximately 6-inches thick.	
2				21			ROADWAY FILL	S-1A (12"): Numerous cobbles and asphalt fragments. Dry to moist.	
				10				S-1B (5"): Dense, gray, fine to coarse SAND and fine to coarse Gravel, trace Silt, few asphalt fragments. Wet.	
ELEV 150.0 3				22					
4									
ELEV 148.0 5									
	S-2	11	5-7	1				S-2: Very loose, brown to tan, fine to medium SAND, some Silt, trace fine Gravel. Wet. [Gravel = 1.4% Sand = 77.6% Fines = 21.0%].	1
6				2					
				1					
ELEV 146.0 7				1					
S. ABUT B.O. PILE CAP ELEV 144.67 8									
ELEV 144.0 9									
10									
	S-3	7	10-12	1				S-3: Very loose, dark brown to brown, fine to coarse SAND, little Silt. Wet.	
ELEV 142.0 11				WOH					
				1					
12				1			EMBANKMENT FILL		
ELEV 140.0 13									
14									
ELEV 138.0 15									
	S-4	6	15-17	2				S-4: Very loose, brown to tan, fine to medium SAND, little Silt. Wet.	
16				2					
				1					
ELEV 136.0 17				3					
18									
ELEV 134.0 19									
20									
	S-5	7	20-21.4	2				S-5: Dense, brown, fine to coarse SAND, some Silt. Wet.	
ELEV 132.0 21				5					
				50/5"			131.5 / 21.5		
22	C-1	51	21.5-26					C-1: Hard, gray, GRANITE, block fragments and sections connected with grout. Wet.	2
ELEV 130.0 23									
24									
ELEV 128.0 25									
26									
	S-6	4	26-26.4	50/5"				S-6: Numerous granite block / concrete fragments. Wet.	
ELEV 126.0 27	C-2	29	26.5-30					C-2: Hard, gray, GRANITE, block fragments and sections connected with grout. Wet.	
28							GRANITE BLOCKS		
ELEV 124.0 29									
30									
	C-3	29	30-34					C-3: Hard, gray, GRANITE, block fragments and sections connected with grout. Wet.	
ELEV 122.0 31									
32									
ELEV 120.0 33									
34							119.0 / 34.0		

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-4 - CONT.**
Boring Location: N: 2868911.51
E: 362685.09
Checked by: K. Kocia
Date Start: May 9, 2019
Date Finish: May 9, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 153
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4" to 3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/09/19	01:30	Not Encountered	21.5	41	5 min

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 118.0 35									
	S-7	22	35-37	2				S-7: Soft, gray, CLAY, trace fine Sand. Wet. [Moisture = 35.0% Gravel = 0.0% Sand = 2.8% Fine = 97.2% LL = 35 PL = 20 PI = 15 LI = 1].	
36				1					
				2					
ELEV 116.0 37				2					
	S-8	18	37-39	2			VARVED SILT AND CLAY	S-8: Medium stiff, gray, Clayey SILT. Wet.	
38				4					
				4					
ELEV 114.0 39				4					
	S-9	17	39-41	3				S-9: Medium stiff, gray, SILT, little fine Sand, trace Clay. Wet.	
40				3					
				2					
ELEV 112.0 41				4			112.0 / 41.0	Boring terminated at 41 feet.	3

PILE TIP APPROX ELEV 49.5

Soil Percentage Non-Soil		
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 5 feet.
2) One (1) bag of portland cement added, grouting borehole.
3) Boring backfilled with spoils and four (4) bags of filter sand. Roadway patched with cold patch asphalt.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	69	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 8:04 PM
S-24-016 (Boring Logs).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	70	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING LOG

Boring No.: **WB-4**
Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Boring Location: N: 2869068.16 E: 362544.67
Location: Springfield, Massachusetts
Checked by: K. Stanway
Nobis Project No.: 94184.01
Date Start: November 15, 2022
Date Finish: November 16, 2022
Contractor: Seaboard Drilling, Inc.
Rig Type / Model: Truck / B-53 Mobile
Ground Surface Elev.: (+/-) 148
Driller: M. Glynn
Hammer Type: Safety Hammer
Nobis Rep.: K. Kocia
Hammer Hoist: Wire Winch
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
11/16/22	18:30	Not Encountered	25	27	20 hr
▼11/16/22	22:15	15.5	71	74	15 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 148.0							CONCRETE SIDEWALK 147.6 / 0.4	Concrete encountered was approximately 4.5-inches thick.	
1								Base Coarse encountered underlying asphalt, approximately 3-inches thick, consisting primarily of fine to coarse gravel.	
ELEV 146.0									
2									
3								Soil was hand cleared from approximately 0.7 to 4 feet bgs by Seaboard. Fill material consisted of primarily brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt.	
ELEV 144.0									
4	S-1	22	4-6	3				S-1: Loose, brown - gray, fine to coarse SAND and Silt, trace Clay. Faint redoximorphic staining present. Moist.	
5				3					
ELEV 142.0				4					
6				4					
7	S-2	19	6-8	3				S-2: Loose, brown - gray, fine to coarse SAND and Silt. Faint redoximorphic staining present. Moist.	
				4					
8				5					
ELEV 140.0				5					
9							FILL		1
10	S-3	17	9-11	2				S-3: Loose, brown - gray - orangish-brown, fine to coarse SAND and Silt, trace fine Gravel. Redoximorphic staining present. Moist.	
ELEV 138.0				2					
				4					
11				4					
ELEV 136.0									
12									
B.O. GRAVITY BLOCK #1 ELEV 134.5									
13									
ELEV 134.0									
14									
15	S-4	18	14-16	1				S-4: Very loose, brown, fine to coarse SAND, some Silt, trace fine Gravel. Wet. [Laboratory Analysis Performed - Grain Size, Sieve Only: 1.2% Gravel, 69.4% Sand, 29.4% Fines].	
T.O. WATER ELEV 132.5				1					
				2	▼				
ELEV 132.0				4					
16									
17									
ELEV 130.0									
18									
19									
20	S-5	20	19-21	6			REWORKED SILT AND CLAY	S-5: Stiff, brown - orangish-brown, SILT, some fine Sand. Redoximorphic staining present. Seams of 1/16-inch in thickness present. Wet.	
ELEV 128.0				6					
				7					
21				7					
ELEV 126.0									
22									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water was introduced into borehole starting at approximately 8 feet below ground surface (bgs).

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Boring No.: **WB-4 CONT.**
Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Boring Location: N: 2869068.16 E: 362544.67
Location: Springfield, Massachusetts
Checked by: K. Stanway
Nobis Project No.: 94184.01
Date Start: November 15, 2022
Date Finish: November 16, 2022
Contractor: Seaboard Drilling, Inc.
Rig Type / Model: Truck / B-53 Mobile
Ground Surface Elev.: (+/-) 148
Driller: M. Glynn
Hammer Type: Safety Hammer
Nobis Rep.: K. Kocia
Hammer Hoist: Wire Winch
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
11/16/22	18:30	Not Encountered	25	27	20 hr
▼11/16/22	22:15	15.5	71	74	15 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
23									
ELEV 124.0									
24									
	S-6	18	24-26	4				S-6: Stiff, brown, Clayey SILT, little fine Sand. Faint redoximorphic staining present. Seams of 1/16-inch in thickness present Wet.	
25				4					
				6					
ELEV 122.0				8					
26									
27									
ELEV 120.0									
28							REWORKED SILT AND CLAY		
29									
	S-7	16	29-31	4				S-7: Stiff, brown - orangish-brown, Clayey SILT, little fine Sand. Redoximorphic staining present in spots. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness) every 3 to 9 inches Wet.	
ELEV 118.0				5					
30				6					
31				8					
ELEV 116.0									
32									
33									
ELEV 114.0							114.0 / 34.0		
34	S-8	15	34-36	5				S-8: Stiff, brownish-gray to gray, SILT, little fine Sand, trace Clay. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness) every 2 to 9 inches. Wet.	
35				6					
				8					
ELEV 112.0				7					
36									
37									
ELEV 110.0									
38									
39							VARVED SAND AND SILT		
	S-9	19	39-41	4				S-9: Stiff, brownish-gray, Clayey SILT, some fine Sand. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness) every 2 to 6 inches. Wet.	
ELEV 108.0				7					
40				7					
41				7					
ELEV 106.0									
42									
43									
ELEV 104.0									
44									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.
2. THE BORING LOG WB-4 CONTINUES ON THE NEXT SHEET.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Boring Logs).dwg

S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 8:04 PM

Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	71	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-4 CONT.**
Boring Location: N: 2869068.16 E: 362544.67
Checked by: K. Stanway
Date Start: November 15, 2022
Date Finish: November 16, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 148
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
11/16/22	18:30	Not Encountered	25	27	20 hr
▼11/16/22	22:15	15.5	71	74	15 min

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV. 103.0	S-10	18	44-46	7				S-10: Stiff, brownish-gray, SILT, some fine Sand, trace Clay. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness) every 3 to 9 inches. Wet.	
45				7					
				8					
46				9					
ELEV. 101.0									
47									
48									
ELEV. 99.0									
	S-11	11	49-51	7				S-11: Very stiff, brown - gray, SILT, little fine Sand, trace Clay. Wet.	
50				10					
				11					
ELEV. 97.0				13					
51									
52							VARVED SAND AND SILT		
ELEV. 95.0									
53									
54									
	S-12	20	54-56	8				S-12: Very stiff, gray, SILT and fine Sand. Wet.	
ELEV. 93.0				11					
55				17					
				21					
56									
ELEV. 91.0									
57									
58									
ELEV. 89.0									
59							89.0 / 59.0		
	S-13	18	59-61	11				S-13: Hard, gray - reddish-brown, SILT, some fine to coarse Sand, little fine Gravel, trace clay. Wet.	
60				13					
				17					
ELEV. 87.0				26					
61									
62									
ELEV. 85.0							GLACIAL TILL		
63									
64									
	S-14	23	64-66	15				S-14: Hard, reddish-brown, SILT, some fine to coarse Sand, trace Clay. Wet.	
ELEV. 83.0				20					
65				24					
				33					
66									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-4 CONT.**
Boring Location: N: 2869068.16 E: 362544.67
Checked by: K. Stanway
Date Start: November 15, 2022
Date Finish: November 16, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 148
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
11/16/22	18:30	Not Encountered	25	27	20 hr
▼11/16/22	22:15	15.5	71	74	15 min

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV. 81.0									
67									
68									
ELEV. 79.0									
69									
	S-15	19	69-71	18			GLACIAL TILL	S-15: Hard, reddish-brown, SILT, some fine to coarse Sand. Wet.	
70				24					
				40					
ELEV. 77.0				70					
71									
72									
ELEV. 75.0									
73							75.0 / 73.0		
74							INFERRED BEDROCK 74.0 / 74.0	Based on increased drilling resistance and presence of rock cuttings in wash, evidence of inferred bedrock present.	
ELEV. 73.0								Boring terminated at 74 feet.	2
75									
76									
77									
78									
79									
80									
81									
82									
83									
84									
PILE TIP APPROX ELEV 62.0									
85									
86									
87									
88									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Borehole was backfilled with spoils, three (3) bags of filter sand, and topped with concrete mix at the ground surface.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING NOTES:
1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Boring Logs).dwg
S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 8:05 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-5**
Boring Location: N: 2868871.48 E: 362684.29
Checked by: K. Stanway
Date Start: November 18, 2022
Date Finish: November 18, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 154
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations					
Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼11/18/22	13:20	14	20	76	20 min

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Lithology: Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 154.0							153.9 / 0.1 ASPHALT	Asphalt encountered was approximately 1-inch thick.	
1							CONCRETE SIDEWALK 153.3 / 0.7	Concrete present underlying existing asphalt, with a thickness of approximately 6-inches thick.	
ELEV 152.0								Base Coarse encountered underlying asphalt, approximately 4-inches thick, consisting primarily of cobbles and fine to coarse gravel.	
2								Soil was hand cleared from approximately 1 to 4 feet bgs by Seaboard. Fill material consisted primarily of brown - gray, fine to coarse SAND, little Silt, trace fine Gravel, with few cobbles present.	
3									
ELEV 150.0									
4	S-1	18	4-6	2				S-1: Very loose, tan - dark brown, fine to coarse SAND, trace Silt, few asphalt fragments/particles, very few roots. Moist.	
5				2					
6				1			FILL		
ELEV 148.0				2					
7	S-2	19	6-8	1				S-2: Very loose, tan - black, fine to coarse SAND, trace Silt, few asphalt fragments/particles. Moist.	
				2					
ELEV 146.0				1					
8				2					
9									1
	S-3	15	9-11	WOH				S-3A: Very loose, brown, fine to coarse SAND, trace Silt. Faint redoximorphic staining present. Wet.	
ELEV 144.0				1					
10				2				S-3B: Soft, brown, SILT & CLAY, little fine to medium Sand, few roots. Wet. [Laboratory Analysis Performed - Grain Size, Sieve Only: 0.0% Gravel, 14.8% Sand, 85.2% Fines].	
11				2					
	S-4	14	11-13	2				S-4: Medium stiff, tan - brownish-gray, SILT, little fine to coarse Sand, trace fine Gravel, trace clay, few wood fibers / roots. Redoximorphic staining present. Wet.	
ELEV 142.0				2					
12				3					
13				4					
T.O. WATER ELEV 140.0					▼				
14	S-5	14	14-16	3				S-5: Loose to medium dense, orangish-brown - gray, Clayey SILT, some fine to coarse Sand, very few roots. Strong redoximorphic staining present. Varved pockets / seams (ranging in 0.25 inches to 3 inches in thickness) every 2 to 6 inches. Wet.	
B.O. GRAVITY BLOCK #2 ELEV 138.5				4					
15				6					
ELEV 138.0				6					
16							REWORKED SILT AND CLAY		
17									
ELEV 136.0									
18									
19									
	S-6	17	19-21	2				S-6: Soft, orangish-brown - gray, SILT, little fine to coarse Sand, trace Clay. Varved pockets / seams (ranging in 0.5 inches to 2 inches in thickness) every 2 to 9 inches. Wet.	
ELEV 134.0				2					
20				2					
21				4					
ELEV 132.0									
22									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water was introduced into borehole starting at approximately 8 feet below ground surface (bgs).

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-5**
Boring Location: N: 2868871.48 E: 362684.29
Checked by: K. Stanway
Date Start: November 18, 2022
Date Finish: November 18, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 154
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations					
Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼11/18/22	13:20	14	20	76	20 min

Depth (ft.)	Sample Info: Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Lithology: Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
23									
ELEV 130.0									
24	S-7	16	24-26	6				S-7: Very stiff, brownish-gray, SILT, some fine Sand, trace Clay. Faint redoximorphic staining present. Varved pockets / seams (ranging in 0.5 inches to 2 inches in thickness). Wet.	
25				7					
				10					
ELEV 128.0				11					
26							REWORKED SILT AND CLAY		
27									
ELEV 126.0									
28									
29							125.0 / 29.0		
	S-8	17	29-31	2				S-8: Medium stiff, brownish-gray, Clayey SILT, trace fine Sand. Faint redoximorphic staining present. Varved pockets / seams (ranging in 0.5 inches to 1 inches in thickness). Wet.	
ELEV 124.0				4					
30				3					
31				4					
ELEV 122.0									
32									
33									
ELEV 120.0									
34	S-9	21	34-36	2				S-9: Medium stiff, gray, SILT & CLAY. Varved pockets / seams (ranging in 0.25 inches to 2 inches in thickness) every 3 to 9 inches. Wet.	
35				3					
				2					
ELEV 118.0				3					
36							VARVED CLAYEY SILT		
37									
ELEV 116.0									
38									
39									
	S-10	16	39-41	1				S-10: Soft, gray, Clayey SILT, trace fine Sand. Varved pockets / seams (ranging in 0.25 inches to 2 inches in thickness) every 2 to 9 inches. Wet.	
ELEV 114.0				2					
40				2					
41				3					
ELEV 112.0									
42									
43									
ELEV 110.0									
44									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	72	204
PROJECT FILE NO. 609409			

BORING LOGS

BORING NOTES:
1. SEE SHEET 3 FOR TYPICAL BORING NOTES.
2. THE BORING LOG WB-5 CONTINUES ON THE NEXT SHEET.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 8:05 PM
S-24-016 (Boring Logs).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-5**
Boring Location: N: 2868871.48 E: 362684.29
Checked by: K. Stanway
Date Start: November 18, 2022
Date Finish: November 18, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 154
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations					
Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼11/18/22	13:20	14	20	76	20 min

ELEV	Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 110.0		S-11	20	44-46	3				S-11: Soft, brownish-gray, SILT & CLAY, trace fine Sand. Varved pockets / seams (ranging in 0.25 inches to 2 inches in thickness) every 2 to 6 inches. Wet.	
	45				2					
ELEV 108.0	46				1					
	47									
ELEV 106.0	48									
	49									
		S-12	15	49-51	4				S-12: Stiff, gray, Clayey SILT, trace fine Sand. Varved pockets / seams (ranging in 0.25 inches to 2 inches in thickness) every 2 to 9 inches. Wet.	
ELEV 104.0	50				5					
					7					
	51				9			VARVED CLAYEY SILT		
ELEV 102.0	52									
	53									
ELEV 100.0	54									
		S-13	18	54-56	6				S-13: Stiff, gray, SILT & CLAY, trace fine Sand. Wet.	
	55				7					
					8					
ELEV 98.0	56				9					
	57									
ELEV 96.0	58									
	59									
		S-14	13	59-61	6				S-14: Very stiff, gray, SILT, little fine Sand, trace Clay. Wet.	
ELEV 94.0	60				7					
					9					
	61				11					
ELEV 92.0	62							VARVED SAND, SILT, AND CLAY		
	63									
ELEV 90.0	64									
		S-15	11	64-66	6				S-15: Stiff, brownish-gray, SILT, little fine Sand, trace Clay. Wet.	
	65				7					
					8					
ELEV 88.0	66				10					

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 3 of 4

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-5**
Boring Location: N: 2868871.48 E: 362684.29
Checked by: K. Stanway
Date Start: November 18, 2022
Date Finish: November 18, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 154
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations					
Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼11/18/22	13:20	14	20	76	20 min

ELEV	Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 88.0										
	67									
ELEV 86.0	68									
	69							VARVED SAND, SILT, AND CLAY		
		S-16	12	69-71	5				S-16: Stiff, reddish-brown - gray, Clayey SILT, little fine Sand. Wet.	
ELEV 84.0	70				6					
					5					
	71				5					
ELEV 82.0	72							82.0 / 72.0		
	73									
ELEV 80.0	74									
		S-17	15	74-76	19			GLACIAL TILL	S-17: Hard, reddish-brown - gray, Clayey SILT, some fine to coarse Sand, trace fine Gravel. Wet.	
	75				15					
					15					
ELEV 78.0	76				20			78.0 / 76.0		
	77								Boring terminated at 76 feet.	2
ELEV 76.0	78									
	79									
	80									
	81									
	82									
	83									
	84									
	85									
	86									
	87									
PILE TIP APPROX ELEV 63.5	88									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Borehole was backfilled with spoils, two (2) bags of filter sand, and topped with asphalt cold patch at the ground surface.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 4 of 4

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

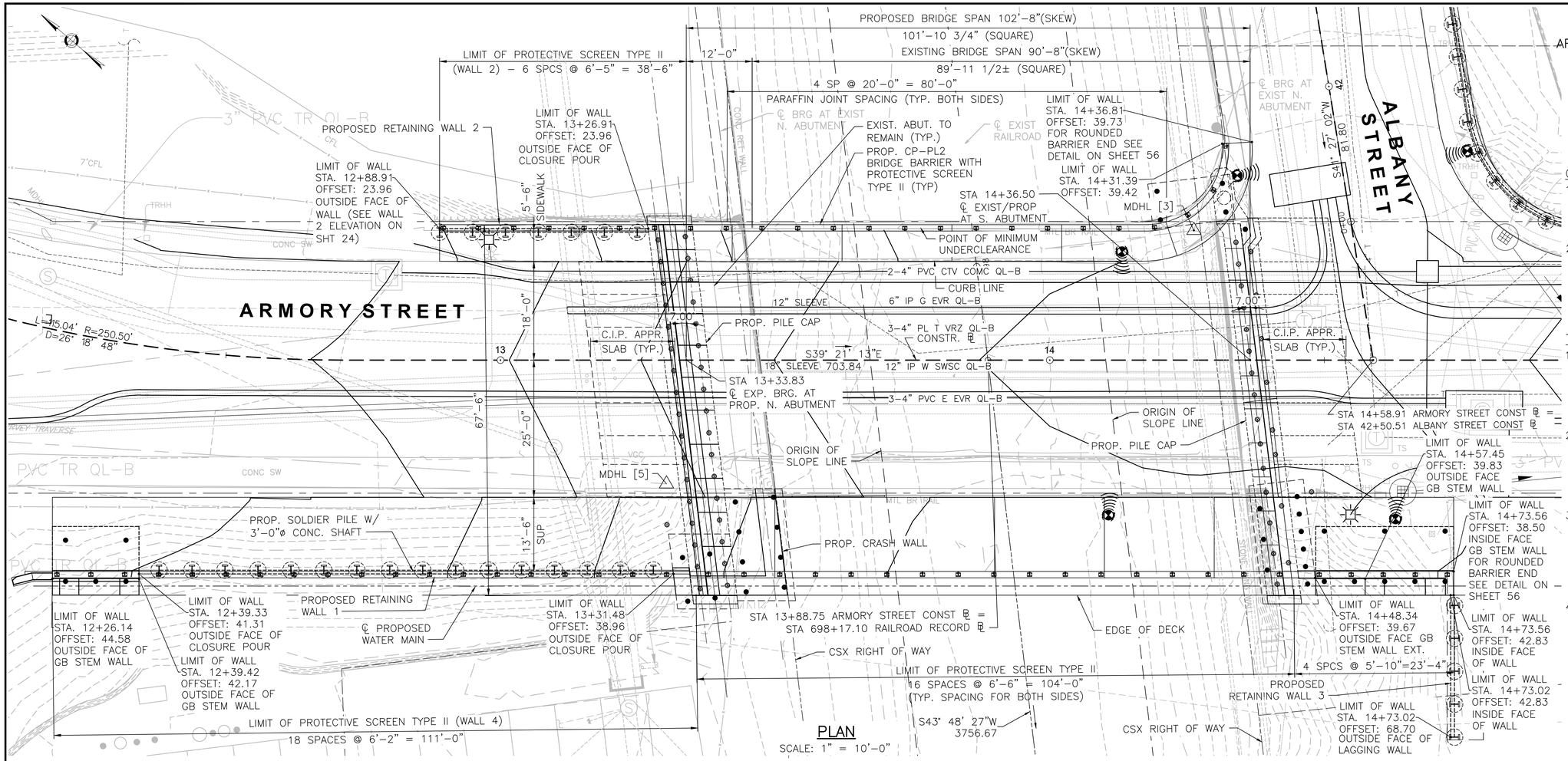
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (BORING LOGS).DWG Plotted on 5-Feb-2026 8:06 PM
S-24-016 (Boring Logs).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

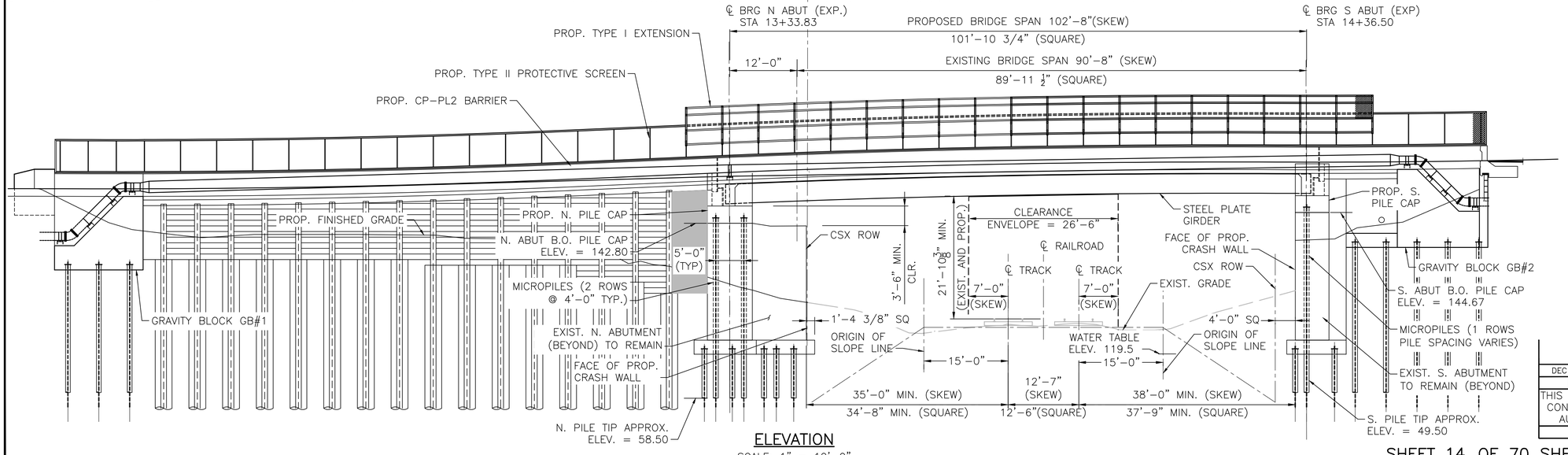
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	74	204
PROJECT FILE NO. 609409			

PLAN AND ELEVATION



PLAN
SCALE: 1" = 10'-0"



ELEVATION
SCALE: 1" = 10'-0"

GENERAL NOTES:

1. MICROPILES ARE NOT SHOWN ON THE PLAN FOR CLARITY. SEE THE MICROPILE TABLE ON SHEET 30 FOR ADDITIONAL INFORMATION.
2. THE WALLS NOTED AS "CRASH" WALLS ARE LOCATED OUTSIDE THE AREA OF INFLUENCE, AND AS SUCH, THE AREMA DESIGN STANDARDS FOR CRASH WALLS WERE NOT REQUIRED OR APPLICABLE. CONSEQUENTLY, THE CRASH WALL DESIGN DID NOT INCORPORATE AREMA STANDARDS.

TRAFFIC EQUIPMENT NOTES:

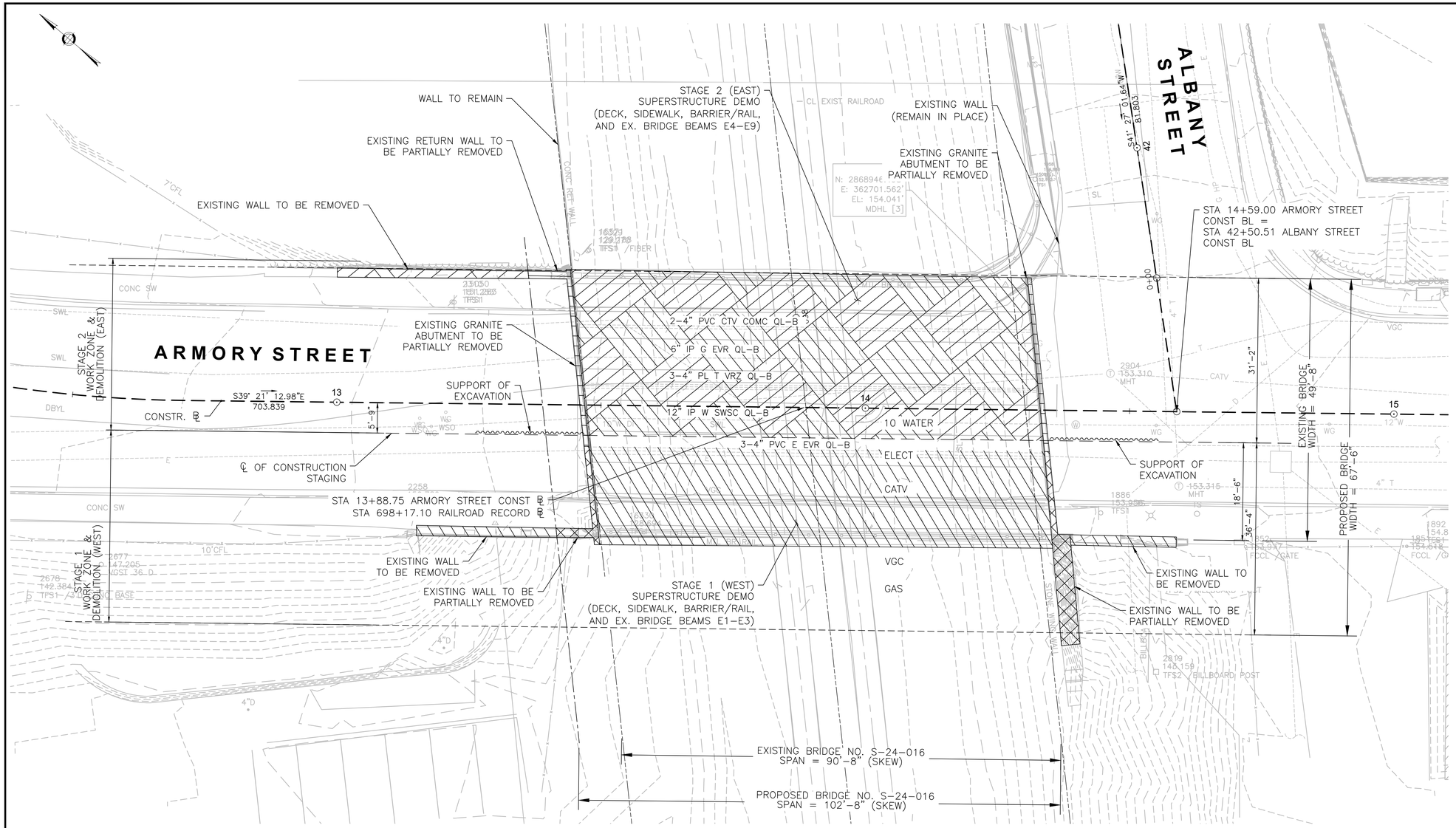
1. MAST ARMS ARE TO BE SUPPORTED ON A STANDARD FOUNDATION AND THE MOMENT SLAB TO BE CAST AROUND IT. SEE MOMENT SLAB DETAILS ON SHEETS 62-64, DETAILS ON 65. FOR LOCATIONS SEE HIGHWAY SHEET 22.
2. FOR WHEELCHAIR RAMPS LOCATED WITHIN THE LIMITS OF THE BRIDGE OR THE MOMENT SLAB SEE MOMENT SLAB DETAILS ON SHEETS 62-64, DETAILS ON 65. SEE HIGHWAY PLANS FOR ADDITIONAL INFORMATION.
3. TRAFFIC SIGNAL POSTS LOCATED WITHIN THE LIMITS OF THE BRIDGE OR MOMENT SLAB ARE TO BE CAST WITHIN THE DECK OR MOMENT SLAB. SEE MOMENT SLAB DETAILS ON SHEETS 62-64, DETAILS ON 65. FOR LOCATIONS SEE HIGHWAY SHEET 22.
4. TRAFFIC SIGNAL PULL BOXES ARE LOCATED THROUGHOUT THE CORRIDOR AND WITHIN THE LIMITS OF THE MOMENT SLAB (NOT SHOWN FOR CLARITY). THE MOMENT SLABS TO BE CAST AROUND THE PULL BOXES. SEE MOMENT SLAB DETAILS ON SHEET 62-64, DETAILS ON 65. FOR LOCATIONS AND ADDITIONAL DETAILS SEE HIGHWAY SHEET 22

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (PROPOSED PLAN-ELEV).DWG Plotted on 5-Feb-2026 8:08 PM

Xxxxxx Structural Submittal (S#) DD-Month-YYYY



CONSTRUCTION STAGING AND DEMOLITION PLAN

SCALE: 1"=10'–0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	75	204
PROJECT FILE NO. 609409			

CONSTRUCTION STAGING AND DEMOLITION PLAN

NOTES:

1. EXISTING DIMENSIONS ARE BASED UPON EXISTING DRAWINGS AND SURVEY DATA AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
2. SEE SHEETS 16–20 FOR ADDITIONAL DEMOLITION DETAILS AND CONSTRUCTION STAGING.

	STAGE 1 (WEST)	STAGE 2 (EAST)
DEMOLITION OF EXISTING STRUCTURE/WALL		
PARTIAL DEMOLITION OF EXISTING STRUCTURE/WALL		

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

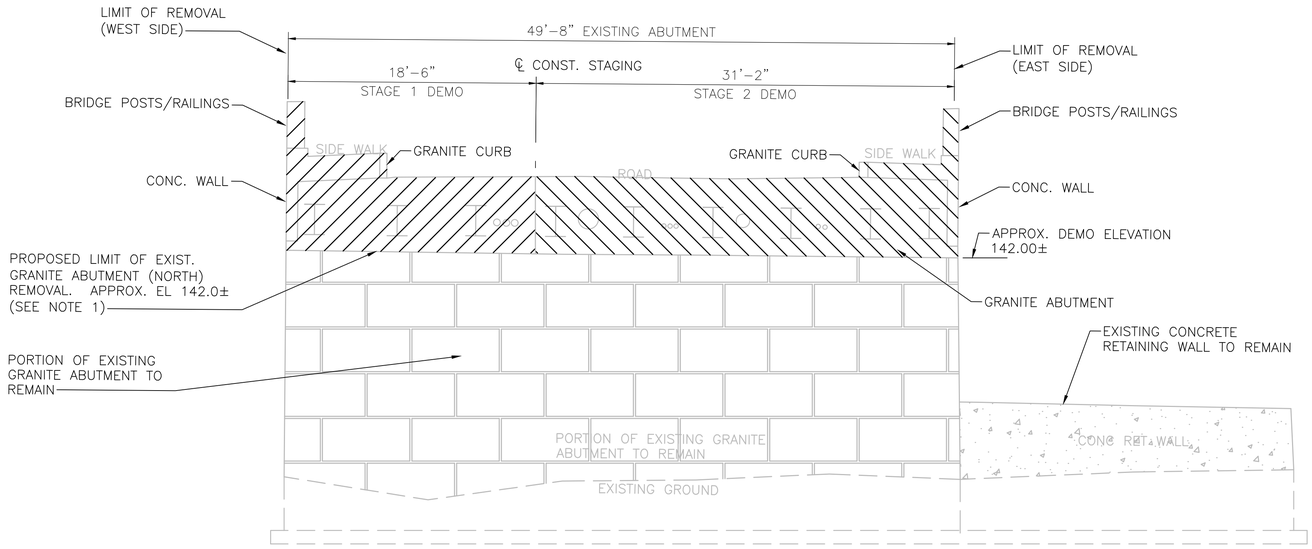
S-24-016 (EXIST WALL DEMOLITION PLAN).DWG Plotted on 5-Feb-2026 8:10 PM

Xxxxx Structural Submittal (S#) DD-Month-YYYY

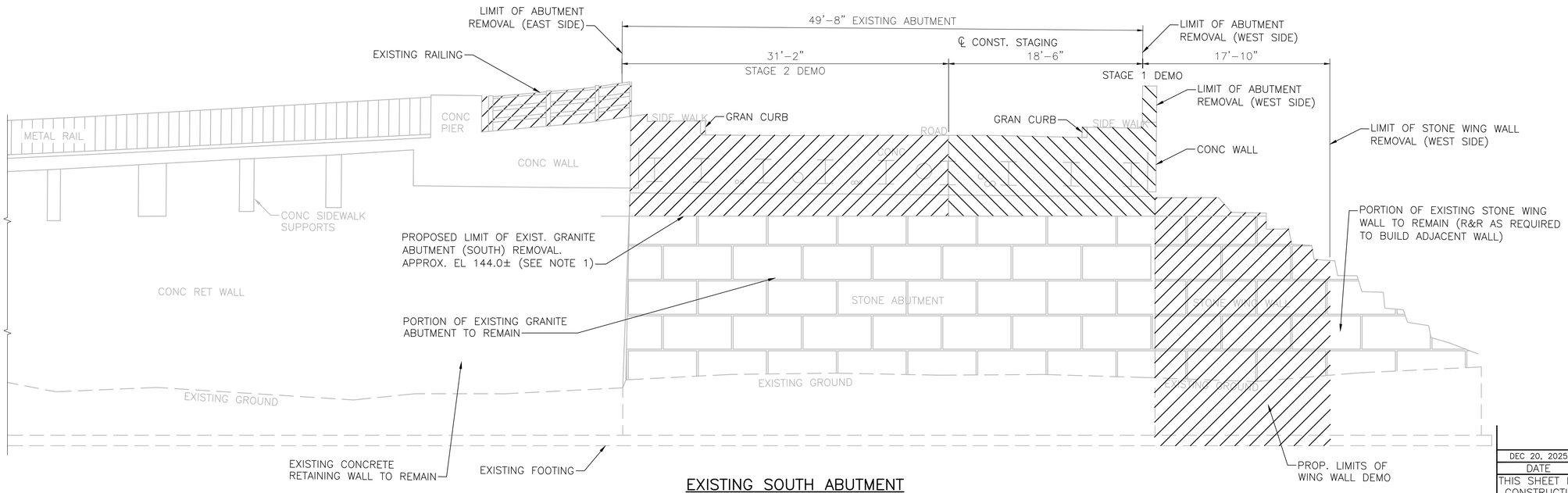
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	76	204
PROJECT FILE NO. 609409			

EXISTING SUBSTRUCTURE
REMOVAL DETAILS



EXISTING NORTH ABUTMENT
SCALE: $\frac{3}{16}$" = 10'-0"



EXISTING SOUTH ABUTMENT
SCALE: $\frac{3}{16}$" = 10'-0"

NOTES:

1. ELEVATIONS SHOWN OF REMOVAL LIMIT ARE APPROXIMATE. THE INTENT IS TO REMOVE THE UPPER MOST LAYER OF STONE BELOW THE BRIDGE SEAT.
2. STONE HATCH SHOWN IS APPROXIMATE AND DOES NOT REPRESENT ACTUAL FIELD LAYOUT OF STONE BLOCKS OR PROPOSED LOCATION OF BLOCKS.
3. RELOCATE OR SUPPORT UTILITIES (SEE CONSTRUCTION STAGING SHEETS) PRIOR TO DEMOLITION.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

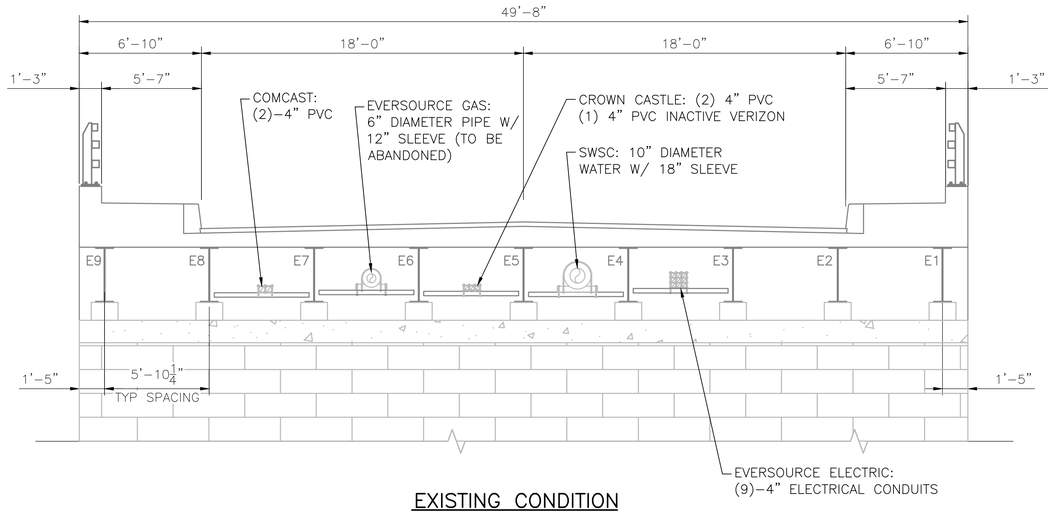
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (EXISTING WALL DEMOLITION ELEVATIONS).DWG Plotted on 5-Feb-2026 8:11 PM
S-24-016 (Existing Wall Demolition Elevations).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

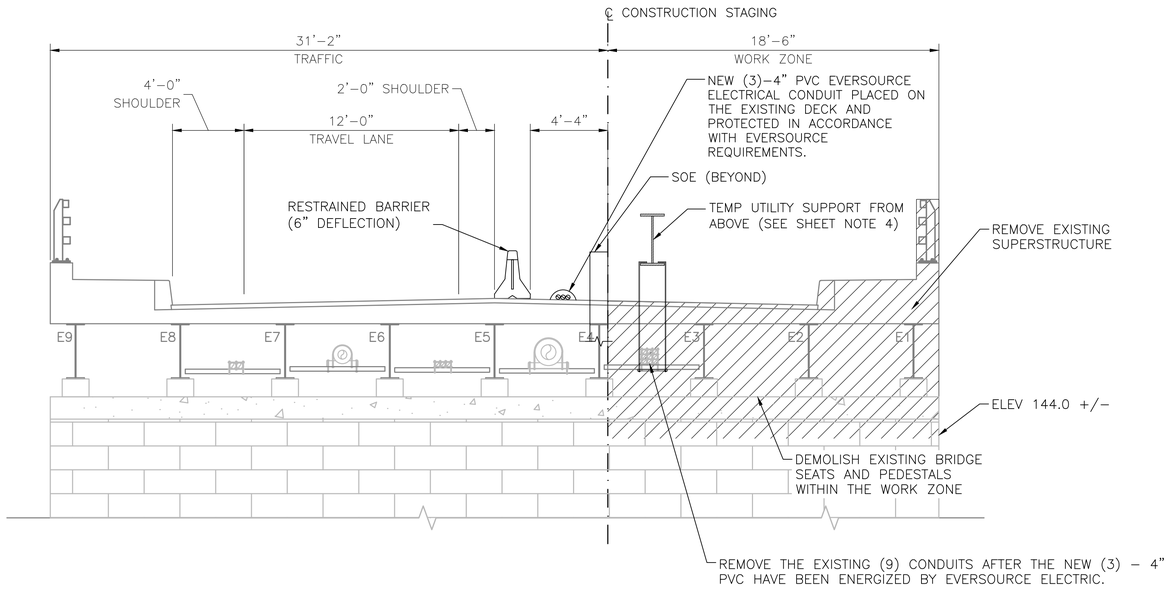
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	77	204
PROJECT FILE NO. 609409			

CONSTRUCTION STAGING
PLANS & DETAILS



EXISTING CONDITION

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



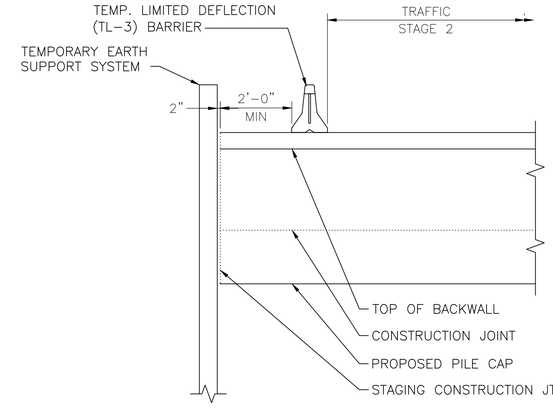
NOTE:
DEMOLISH EXISTING DECK, GIRDERS, ABUTMENT SEAT AND PEDESTALS. SUPPORT EVERSOURCE ELECTRIC OFF EXISTING GIRDER (NO UTILITY BRIDGE NEEDED) (OPTION 1) OR SUPPORT EVERSOURCE ELECTRIC FROM TEMP UTILITY SUPPORT (OPTION 2)

STAGE 1A (SOUTH ABUTMENT)

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

SHEET NOTES:

1. REPLACE BOTH BRIDGE NO. S-24-016 AND S-24-026 USING STAGED CONSTRUCTION. STAGE 1 INCLUDES DEMOLITION / CONSTRUCTION OF THE WESTERN SIDE OF BOTH BRIDGES. STAGE 2 INCLUDES THE DEMOLITION / CONSTRUCTION OF THE EASTERN SIDE OF BOTH BRIDGES. THE INTENT IS THAT STAGE 1 FOR EACH BRIDGE OCCURS CONCURRENTLY, AND THEN STAGE 2 FOR EACH BRIDGE OCCURS CONCURRENTLY.
2. THE PROPOSED EASTERN LIMIT OF THE BRIDGE/ROADWAY CORRIDOR WILL MATCH EXISTING, THE PROPOSED WESTERN SIDE OF THE BRIDGE/ROADWAY CORRIDOR WILL BE WIDENED TO ACCOMMODATE A NEW SHARED-USE PATH AND WATER MAIN.
3. THE INTENT IS FOR ALL EXISTING UTILITIES TO BE LOCATED ON THE WESTERN SIDE OF EACH BRIDGE WITH THE EXCEPTION OF THE PROPOSED CROWN CASTLE, COMCAST CABLES, AND VERIZON.
4. THE STAGE 1A (DEMOLITION OF WESTERN SIDE OF THE BRIDGES) CROSS-SECTION USES A TEMPORARY UTILITY SUPPORT BEAM TO HOLD THE EXISTING ELECTRICAL CONDUIT DURING DEMOLITION. ONCE THE NEW CONDUIT ARE INSTALLED AND ENERGIZED, THE EXISTING CONDUIT AND SUPPORT BEAM ARE REMOVED IN ORDER TO ALLOW FOR THE MICROPILE INSTALLATION.
5. IN LIEU OF SUPPORTING FROM ABOVE, THE CONTRACTOR MAY SUBMIT AN ALTERNATE SUPPORT SCHEME FOR REVIEW AS PART OF THE DEMOLITION PLAN.
6. SOUTH ABUTMENT SHOWN & NORTH ABUTMENT SIMILAR.
7. THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.



1. LIMITED DEFLECTION (TL-3) TEMPORARY BARRIER SYSTEM USED ON THE BRIDGE REQUIRES AN ANCHORAGE SYSTEM WHICH PROVIDES A MAXIMUM SIX INCH DYNAMIC LATERAL DEFLECTION REQUIREMENT AS RECORDED IN THE CRASH TEST DOCUMENTATION. TEMPORARY BARRIER SHOWN IS CONCEPTUAL.
2. PROVIDE A MINIMUM OF 2'-6" FOR WORKING WIDTH OF THE TEMPORARY BARRIER SYSTEM ALLOWING A MAXIMUM OF SIX INCHES DYNAMIC LATERAL DEFLECTION.
3. EXISTING DIMENSIONS ARE BASED UPON EXISTING DRAWINGS AND SURVEY DATA AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
4. TEMPORARY EARTH SUPPORT SYSTEM SHOWN IS CONCEPTUAL. THE CONTRACTOR SHALL DESIGN TEMPORARY SUPPORT SYSTEM TO SAFELY WITHSTAND ALL APPLICABLE DEAD AND LIVE LOADS WITHIN THE LIMITS OF THE AVAILABLE SPACE AND SHALL SUBMIT ALL RELEVANT COMPUTATIONS FOR THE REVIEW AND APPROVAL OF THE ENGINEER.
5. THE CONTRACTOR SHALL SUBMIT, FOR THE REVIEW AND APPROVAL OF THE ENGINEER. COMPUTATIONS THAT DEMONSTRATE THAT ALL ELEMENTS OF THE EXISTING AND PROPOSED STRUCTURES ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL LOADS AND CONSTRUCTION EQUIPMENT DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION. SEE ITEM 114.1 FOR SUBMITTAL FOR THE DEMOLITION PROCEDURE.
6. TEMPORARY BARRIER AND EARTH SUPPORT SYSTEM MAY BE REQUIRED FOR THE ENTIRE LENGTH OF THE CORRIDOR.

TEMPORARY BARRIER AND EARTH SUPPORT SYSTEM FOR STAGED CONSTRUCTION

NTS

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DATE	DESCRIPTION

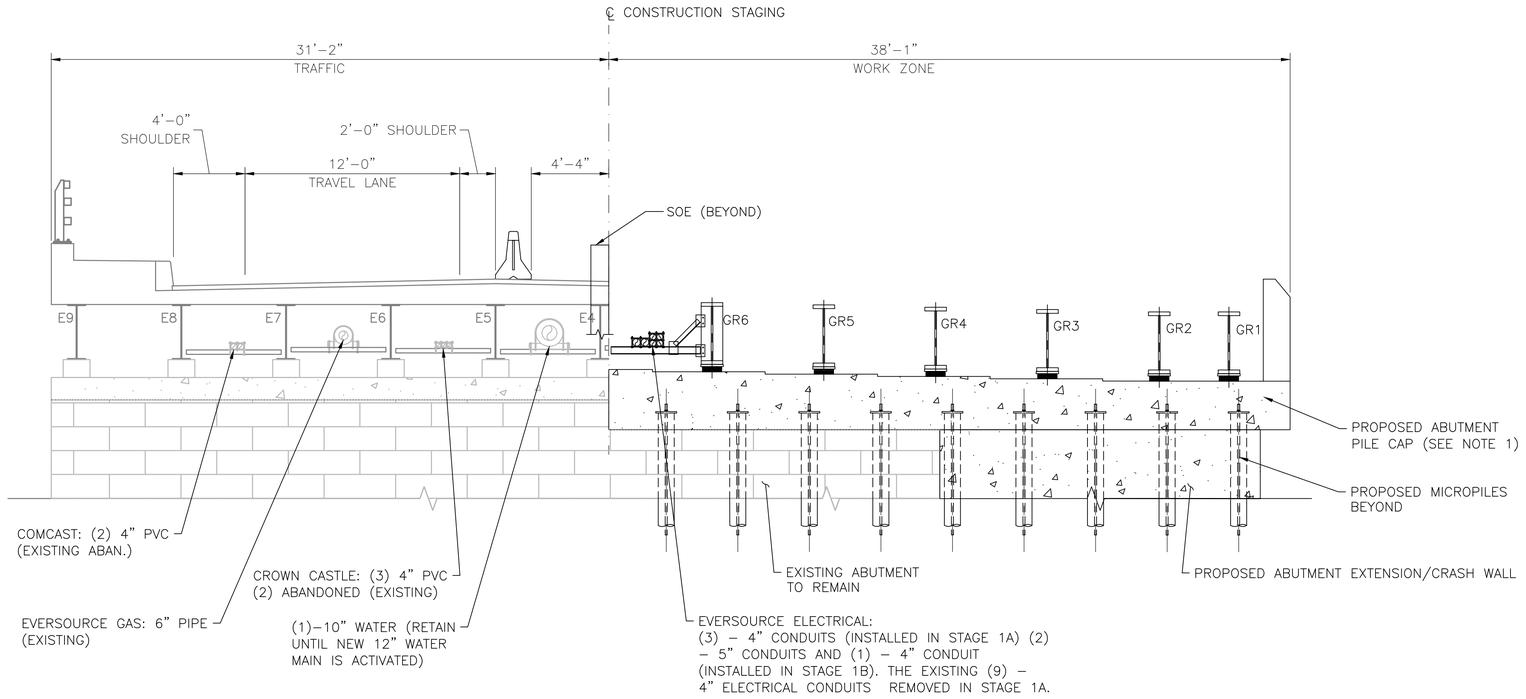
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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S-24-016 (Construction Staging Plan-Det).dwg
S-24-016 (CONSTRUCTION STAGING PLAN-DET).DWG Plotted on 5-Feb-2026 8:13 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	78	204
PROJECT FILE NO. 609409			

CONSTRUCTION STAGING
PLANS & DETAILS

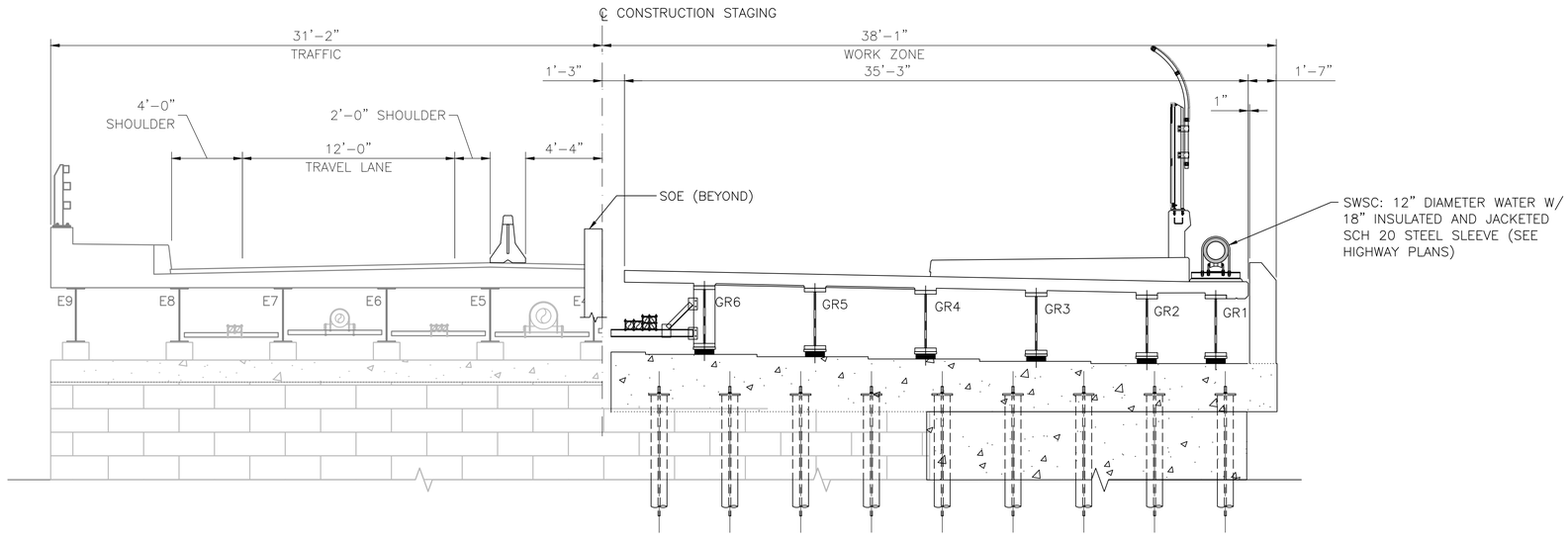


NOTES:

1. THE PROPOSED PILE CAPS WILL BE INSTALLED BEHIND THE EXISTING ABUTMENT AND THE PROPOSED ABUTMENT EXTENSION/CRASH WALL.
2. THE SOUTH ABUTMENT MICROPILES ARE TO BE CORED INTO THE EXISTING GRANITE ABUTMENT AND THE PROPOSED CRASH WALL (EXTENSION). THE NORTH ABUTMENT MICROPILES ARE TO BE INSTALLED INTO SOIL BEHIND THE EXISTING GRANITE ABUTMENT (NORTH).
3. SOUTH ABUTMENT SHOWN & NORTH ABUTMENT SIMILAR.
4. THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.

STAGE 1B (SOUTH ABUTMENT)

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



NOTE:
CONSTRUCT DECK, DECK SLAB EXTENSION, SHARED USED PATH & BRIDGE BARRIER.
PROPOSED WATER MAIN TO BE INSTALLED ON PROPOSED DECK SLAB EXTENSION.

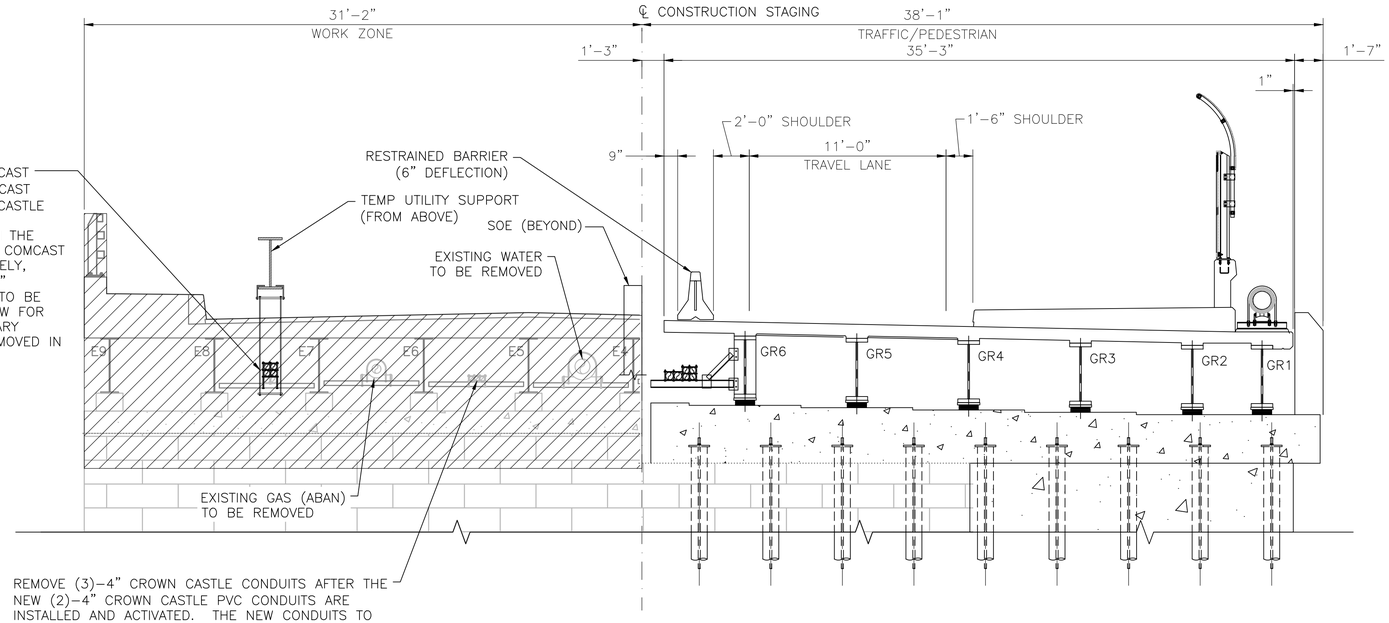
STAGE 1C (SOUTH ABUTMENT)

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

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

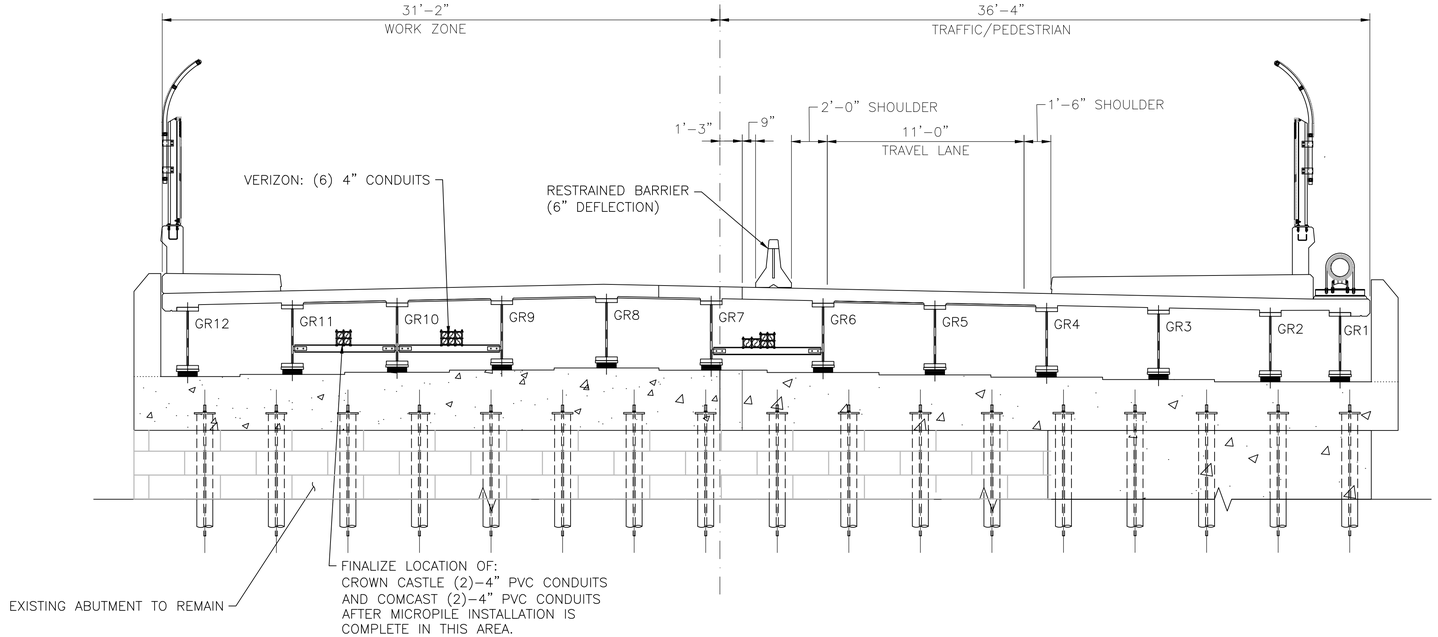
S-24-016 (CONSTRUCTION STAGING PLAN-DET).DWG Plotted on 5-Feb-2026 8:13 PM
S-24-016 (Construction Staging Plan-Det).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



NOTE:
DEMOLISH EXISTING DECK, GIRDERS, ABUTMENT SEAT AND PEDESTALS.
SUPPORT COMCAST AND CROWN CASTLE FROM TEMP UTILITY SUPPORT.

STAGE 2A

SCALE: $\frac{1}{4}$"=1'–0"



NOTE:
1. CONSTRUCT ABUTMENT PILE CAP, MICROPILES AND GIRDERS.
2. RELOCATE UTILITIES IN PROPOSED BAYS.
3. CONSTRUCT DECK SLAB, SIDEWALK & BARRIER.

STAGE 2B (NORTH ABUTMENT, LOOKNG SOUTH)

SCALE: $\frac{1}{4}$"=1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	79	204
PROJECT FILE NO. 609409			

CONSTRUCTION STAGING
PLANS & DETAILS

NOTES:

1. THE PROPOSED PILE CAPS WILL BE INSTALLED BEHIND THE EXISTING ABUTMENT AND THE PROPOSED ABUTMENT EXTENSION/CRASH WALL.
2. THE SOUTH ABUTMENT MICROPILES ARE TO BE CORED INTO THE EXISTING GRANITE ABUTMENT AND THE PROPOSED CRASH WALL (EXTENSION). THE NORTH ABUTMENT MICROPILES ARE TO BE INSTALLED INTO SOIL BEHIND THE EXISTING GRANITE ABUTMENT (NORTH).
3. SOUTH ABUTMENT SHOWN STAGE 2A (LOOKING SOUTH) & NORTH ABUTMENT SIMILAR.
4. NORTH ABUTMENT SHOWN STAGE 2B (LOOKING SOUTH). SOUTH ABUTMENT STAGING SIMILAR. SEE NEXT SHEET FOR FINAL CROSS SECTION AT THE SOUTH ABUTMENT.
5. THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

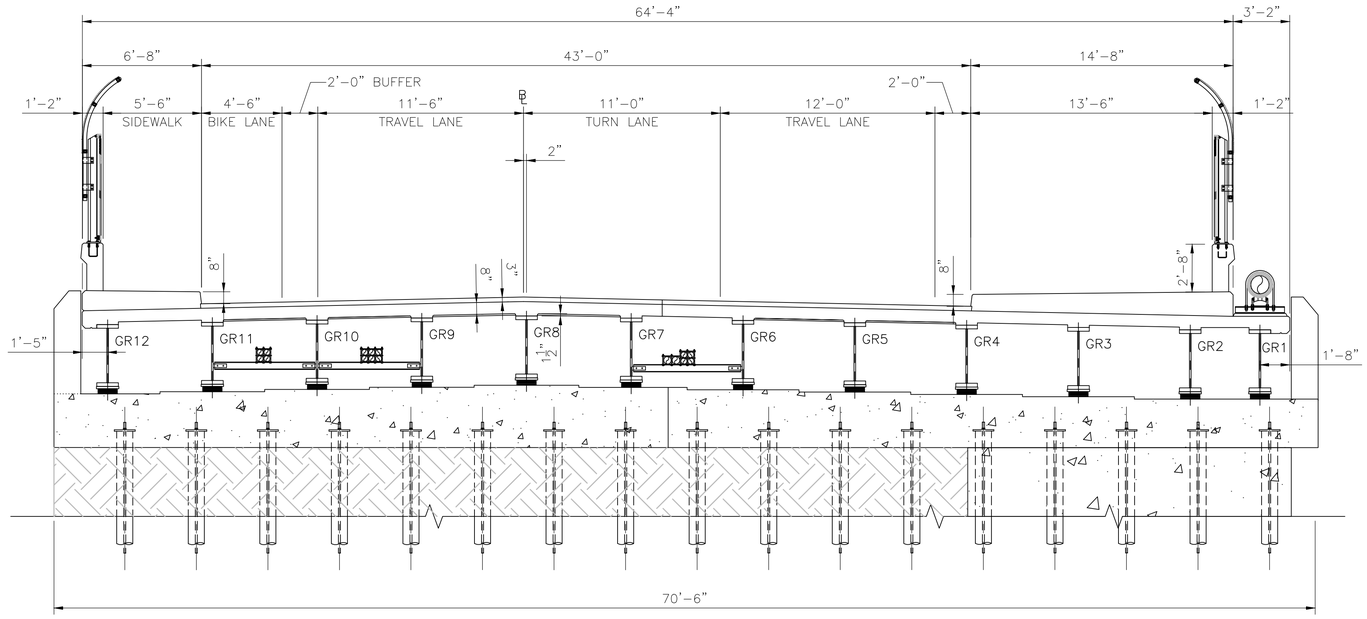
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (CONSTRUCTION STAGING PLAN-DET).DWG Plotted on 5-Feb-2026 8:13 PM
S–24–016 (Construction Staging Plan–Det).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY

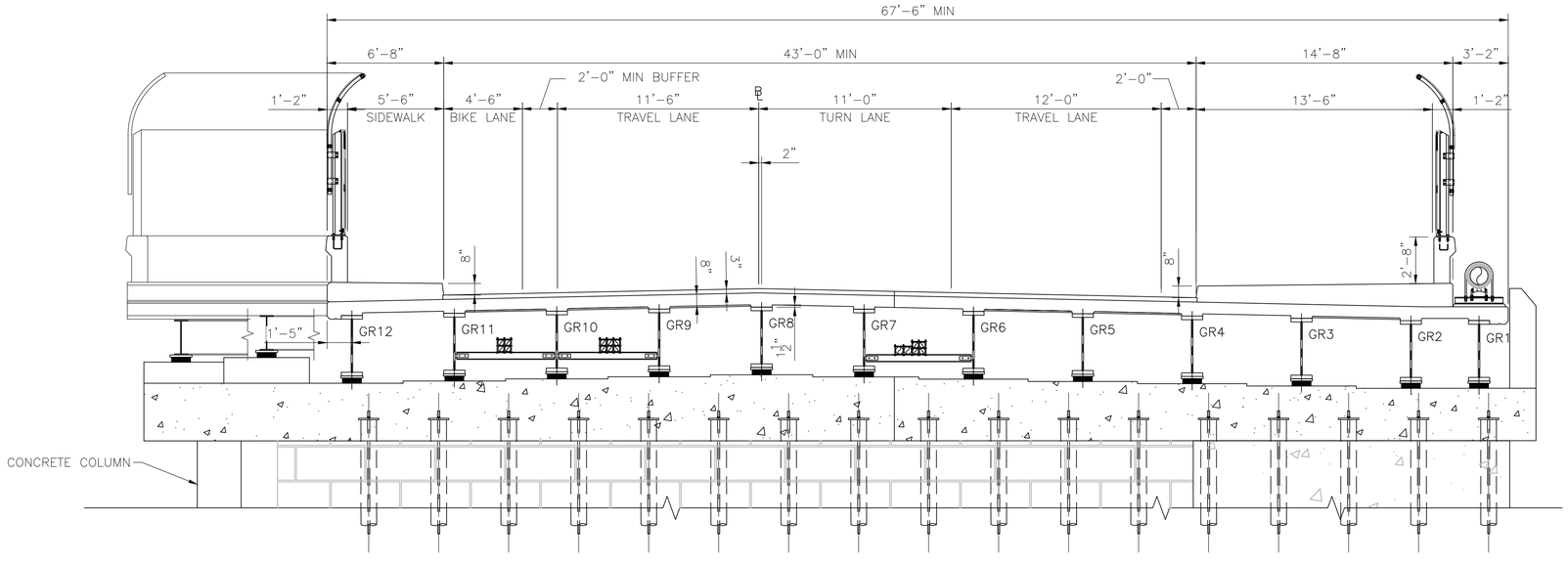
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	80	204
PROJECT FILE NO. 609409			

CONSTRUCTION STAGING
PLANS & DETAILS



STAGE 3
ROADWAY PAVING (NORTH ABUTMENT, LOOKING SOUTH)
SCALE: $\frac{1}{4}$"=1'-0"



STAGE 3
ROADWAY PAVING (SOUTH ABUTMENT)
SCALE: $\frac{1}{4}$"=1'-0"

NOTES:

1. ROADWAY WORK TO BE COMPLETED.
2. THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

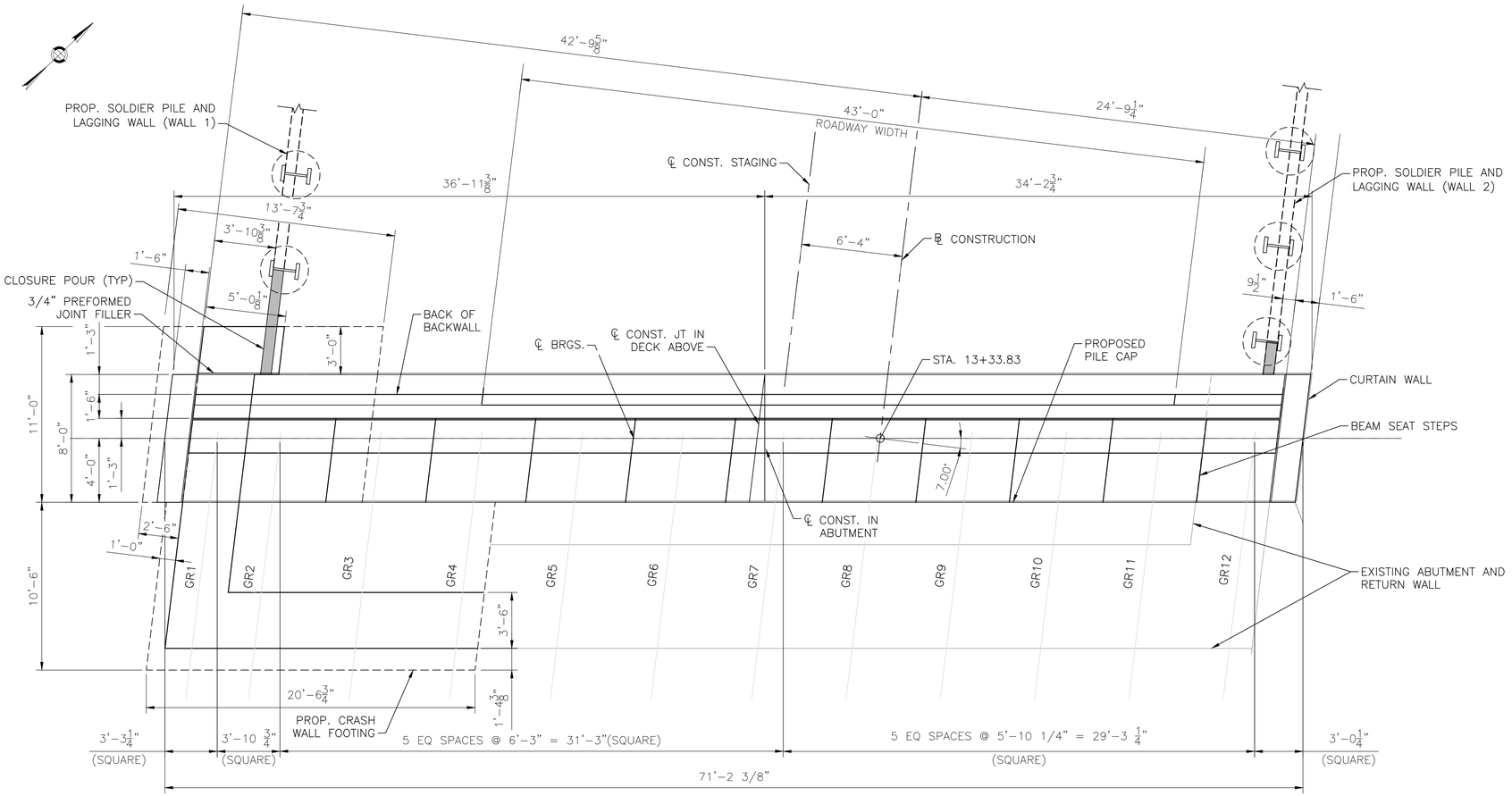
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (CONSTRUCTION STAGING PLAN-DET).DWG Plotted on 5-Feb-2026 8:14 PM
S-24-016 (Construction Staging Plan-Det).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

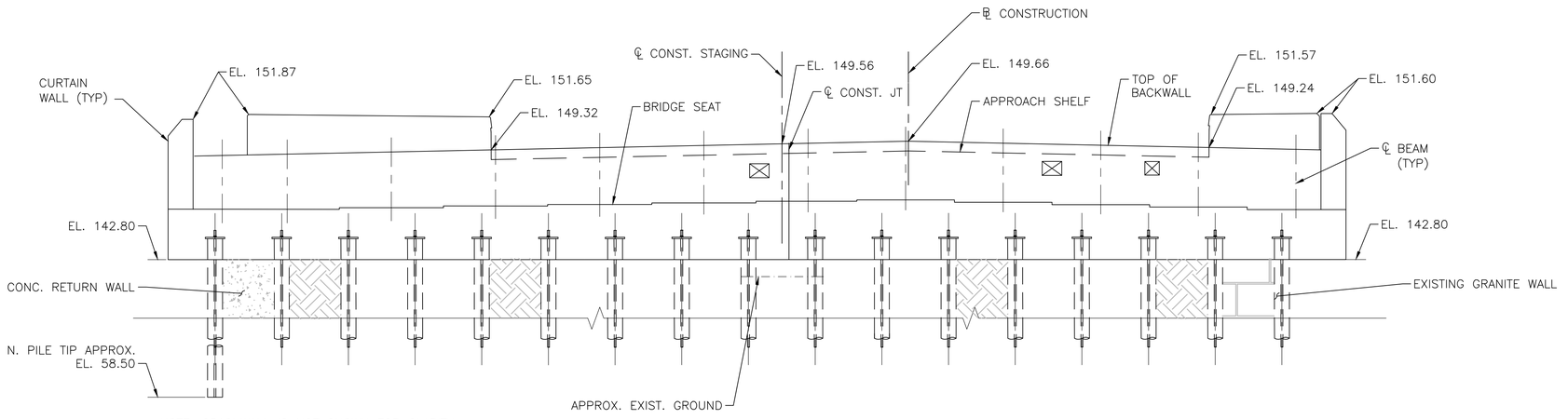
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	81	204
PROJECT FILE NO. 609409			

ABUTMENT PLAN & ELEVATION
(NORTH)



NOTE: BRIDGE SEAT LINES NOT SHOWN FOR CLARITY.

NORTH ABUTMENT PLAN
SCALE: 1/4" = 1'-0"



NOTE: CRASHWALL IS NOT SHOWN FOR CLARITY.

NORTH ABUTMENT ELEVATION
SCALE: 1/4" = 1'-0"

BRIDGE SEAT ELEVATIONS AT THE ℄ OF BEARING	
GR. NO.	NORTH
1	145.85
2	145.85
3	145.95
4	146.05
5	146.15
6	146.25
7	146.35
8	146.44
9	146.30
10	146.15
11	146.00
12	145.85

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

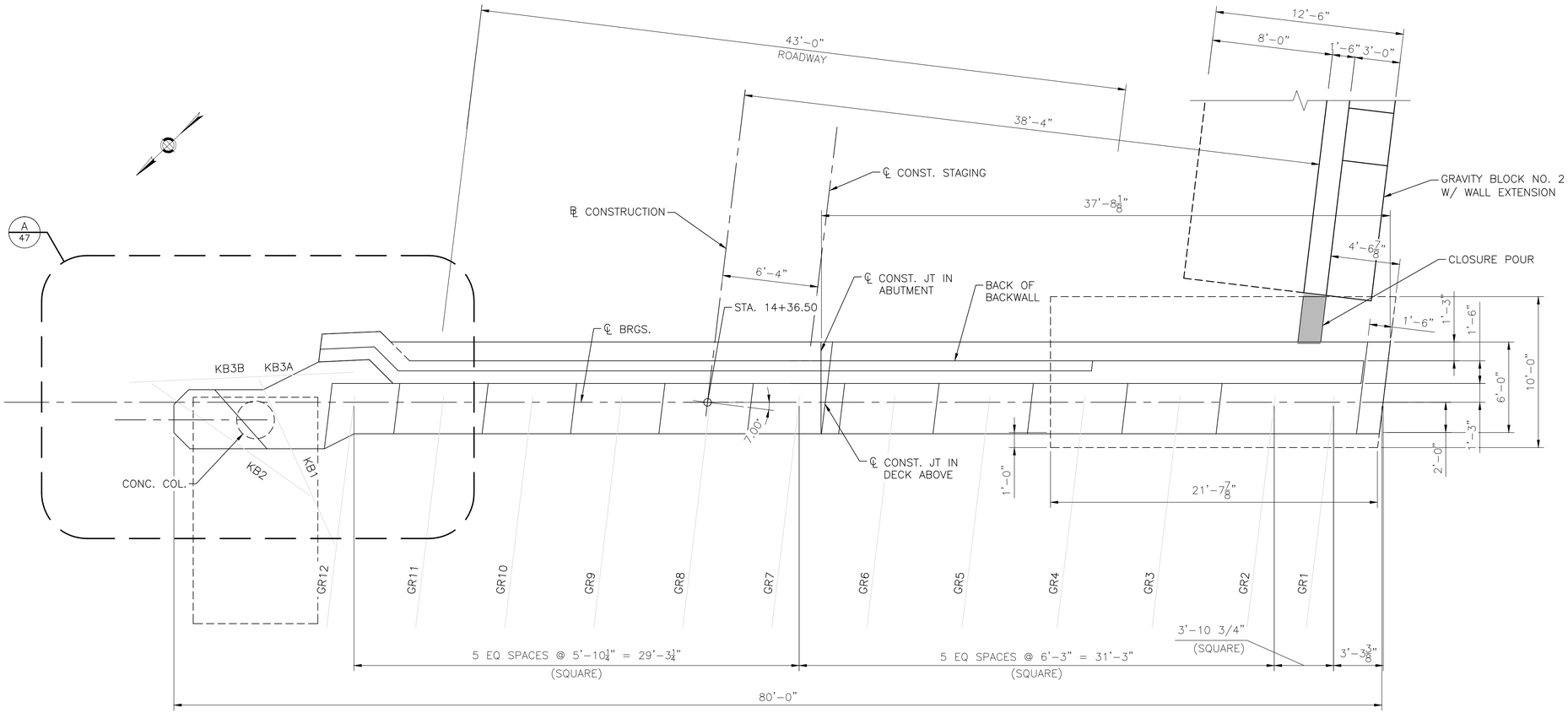
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (PROP ABUT PLAN_ELEV).DWG Plotted on 5-Feb-2026 8:15 PM
S-24-016 (Prop Abut Plan_Elev).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY

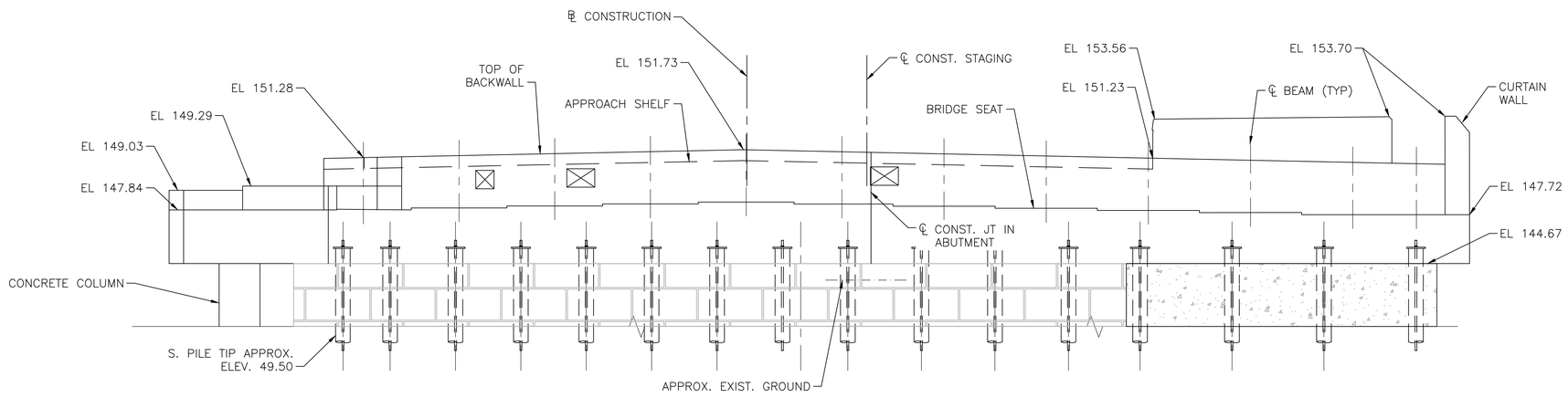
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	82	204
PROJECT FILE NO. 609409			

ABUTMENT PLAN & ELEVATION
(SOUTH)



SOUTH ABUTMENT PLAN
SCALE: 1/4" = 1'-0"



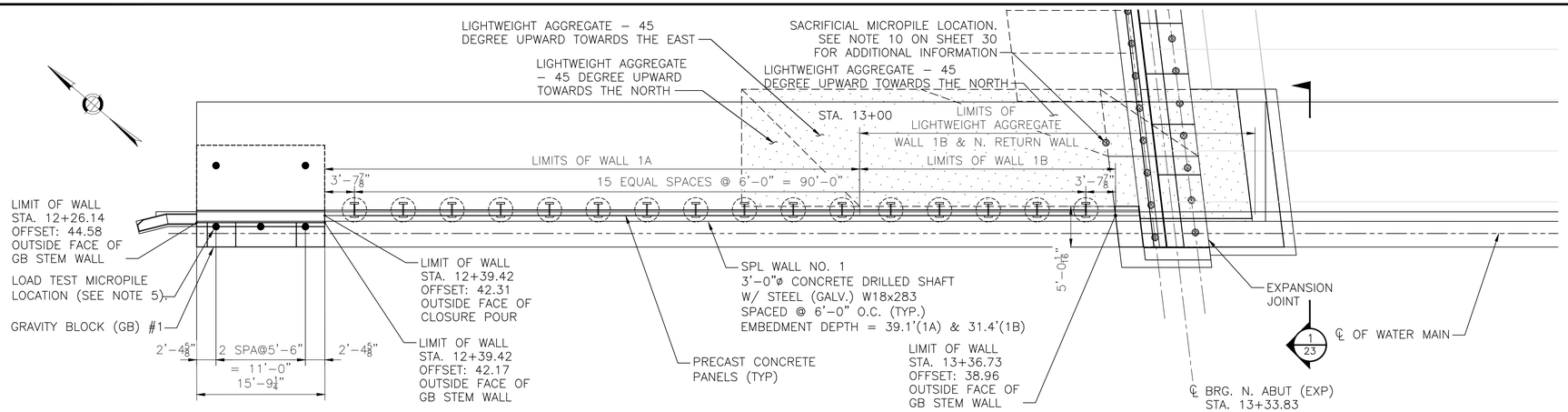
SOUTH ABUTMENT ELEVATION
SCALE: 1/4" = 1'-0"

BRIDGE SEAT ELEVATIONS AT THE ℄ OF BEARING	
GR. NO.	SOUTH
1	147.72
2	147.72
3	147.85
4	147.97
5	148.10
6	148.23
7	148.36
8	148.48
9	148.37
10	148.25
11	148.13
12	148.01

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

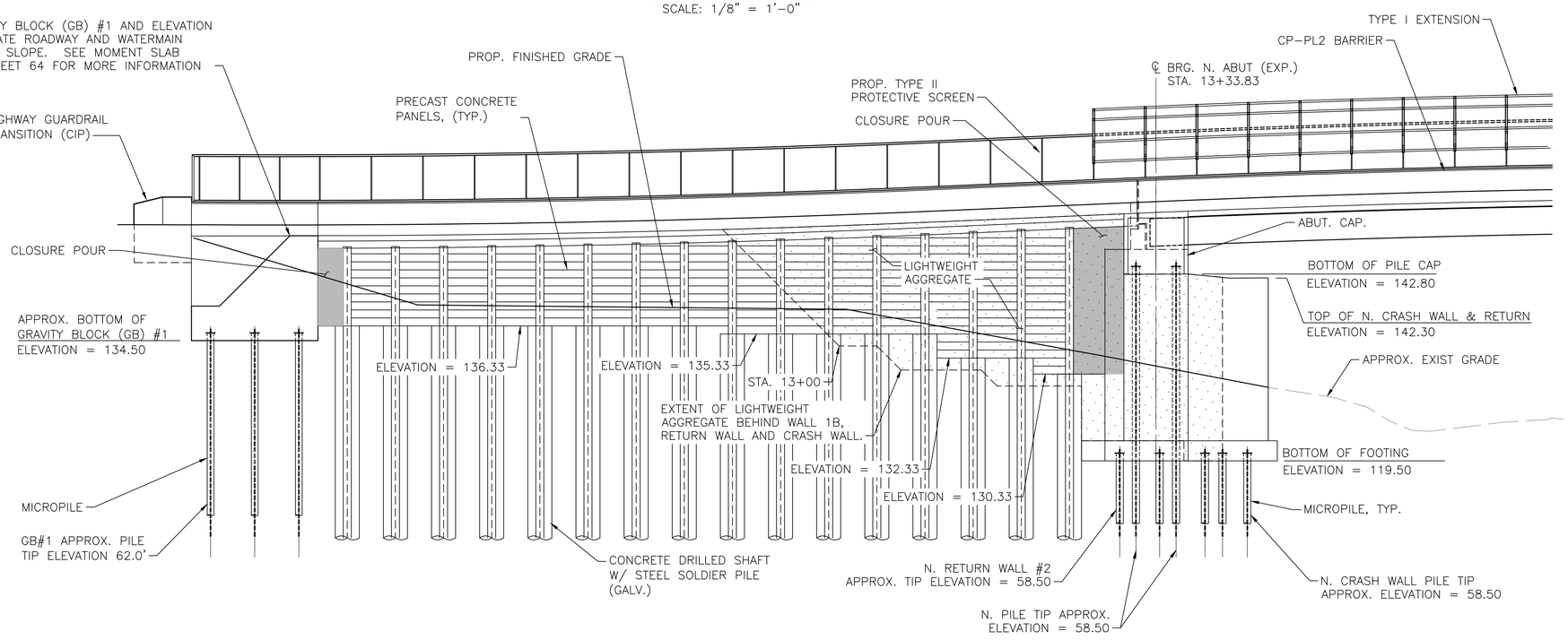
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (PROP ABUT PLAN_ELEV).DWG Plotted on 5-Feb-2026 8:15 PM
S-24-016 (Prop Abut Plan_Elev).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



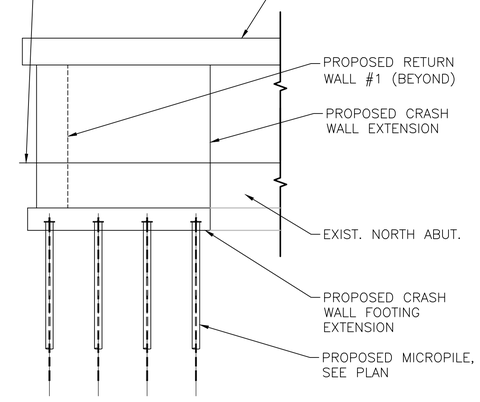
WALL NO. 1 PLAN

SCALE: 1/8" = 1'–0"



WALL NO. 1 ELEVATION

SCALE: 1/8" = 1'–0"



WALL SECTION

SCALE: 1/8"= 1'–0"

1/23

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	83	204
PROJECT FILE NO. 609409			

PROPOSED RETAINING WALLS, SOLDIER PILE AND LAGGING WALL NO. 1

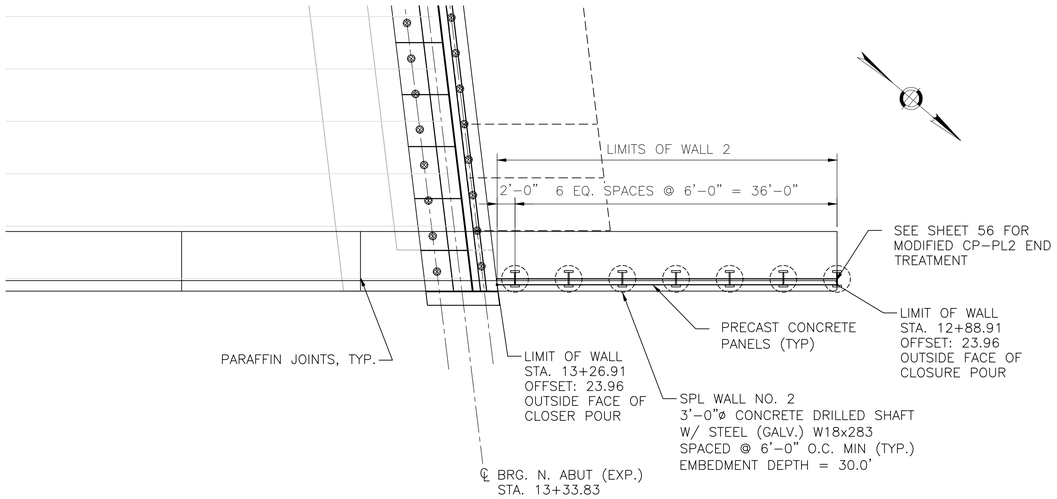
NOTES:

1. SEE SHEETS 26 TO 29 FOR WALL SECTIONS AND DETAILS.
2. SEE SHEETS 34 AND 35 FOR SOLDIER PILE AND LAGGING WALL DETAILS AND ADDITIONAL INFORMATION.
3. SEE SHEETS 30 AND 31 FOR MICROPILE DETAILS AND ADDITIONAL INFORMATION.
4. REFER TO HIGHWAY PLANS FOR ROADWAY GRADES TO DETERMINE WALL ELEVATIONS.
5. SUGGESTED LOCATION(S) OF PRODUCTION MICROPILE FOR PROOF LOAD TEST (ITEM 948.61). CONTRACTOR TO SELECT THE PROOF LOAD TEST LOCATION(S) WITH THE APPROVAL OF THE ENGINEER.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

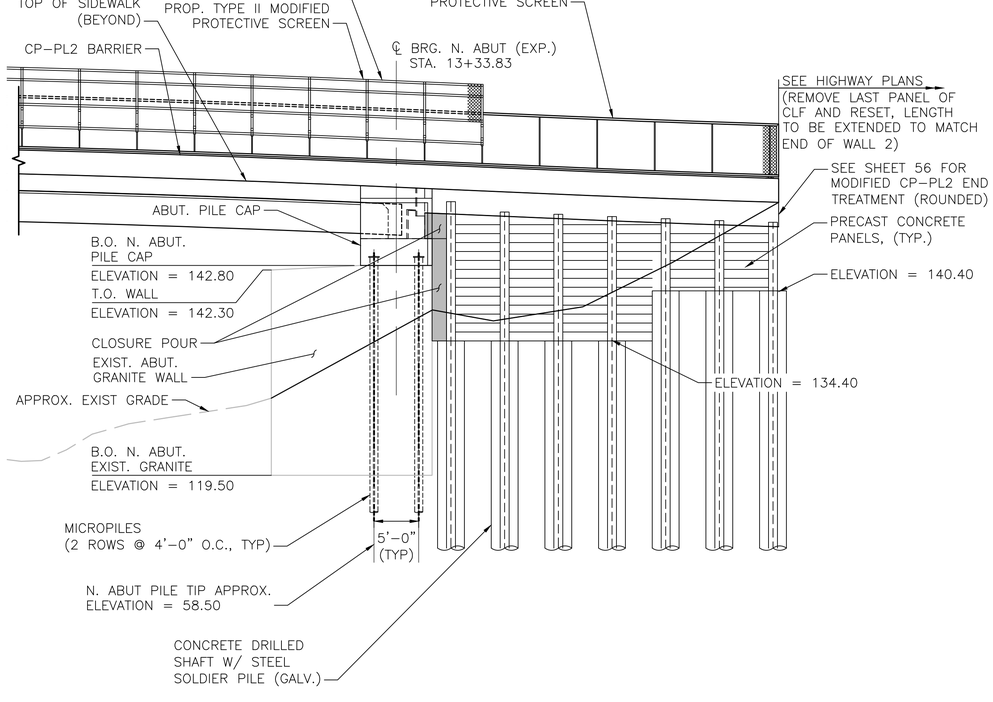
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (PROPOSED RETAINING WALLS NO 1-3).DWG Plotted on 5-Feb-2026 8:17 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



WALL NO. 2 PLAN

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



WALL NO. 2 ELEVATION

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

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	84	204
PROJECT FILE NO. 609409			

PROPOSED RETAINING WALLS, SOLDIER PILE AND LAGGING WALL NO. 2

NOTES:

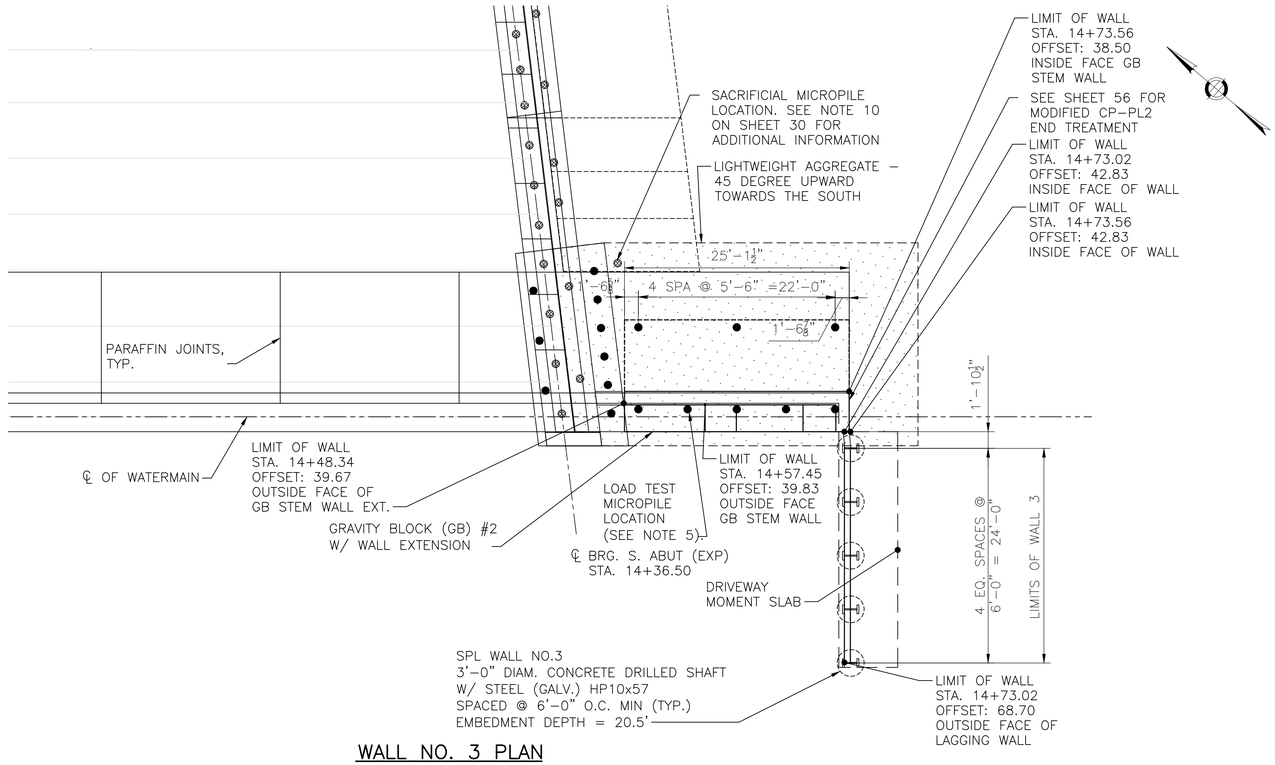
1. SEE SHEETS 26 TO 29 FOR WALL SECTIONS AND DETAILS.
2. SEE SHEETS 34 AND 35 FOR SOLDIER PILE AND LAGGING WALL DETAILS AND ADDITIONAL INFORMATION.
3. SEE SHEETS 30 AND 31 FOR MICROPILE DETAILS AND ADDITIONAL INFORMATION.
4. REFER TO HIGHWAY PLANS FOR ROADWAY GRADES TO DETERMINE WALL ELEVATIONS.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

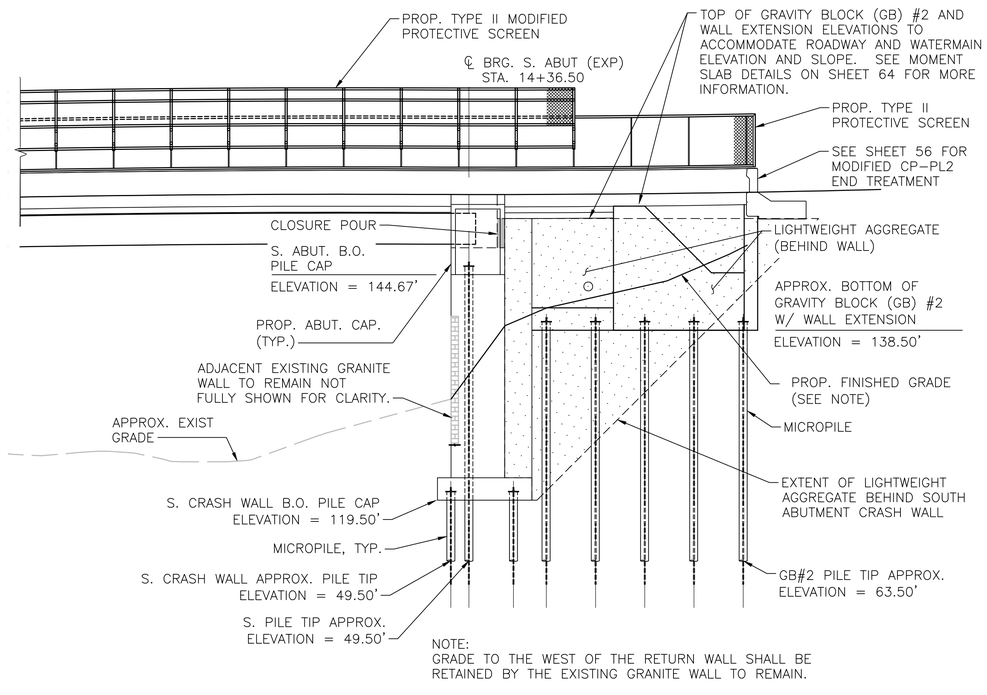
USE ONLY PRINTS OF LATEST DATE

S-24-016 (PROPOSED RETAINING WALLS NO 1-3).DWG Plotted on 5-Feb-2026 8:17 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



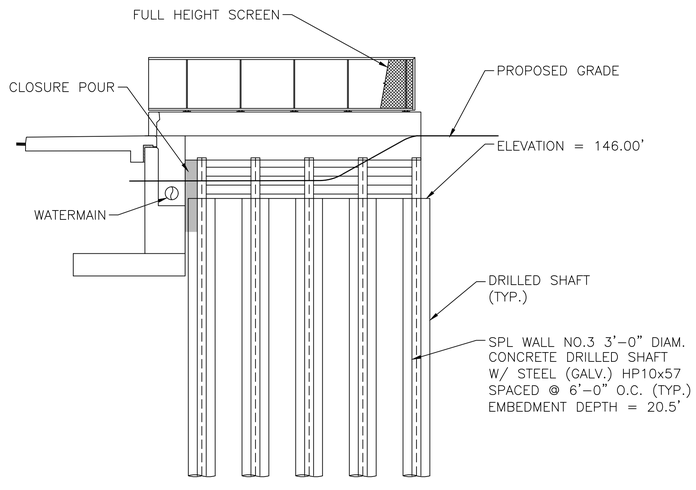
WALL NO. 3 PLAN

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



GRAVITY BLOCK NO. 2 W/ WALL EXTENSION

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



WALL NO. 3 ELEVATION

1/8" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	85	204
PROJECT FILE NO. 609409			

PROPOSED RETAINING WALLS, SOLDIER PILE AND LAGGING WALL NO. 3

NOTES:

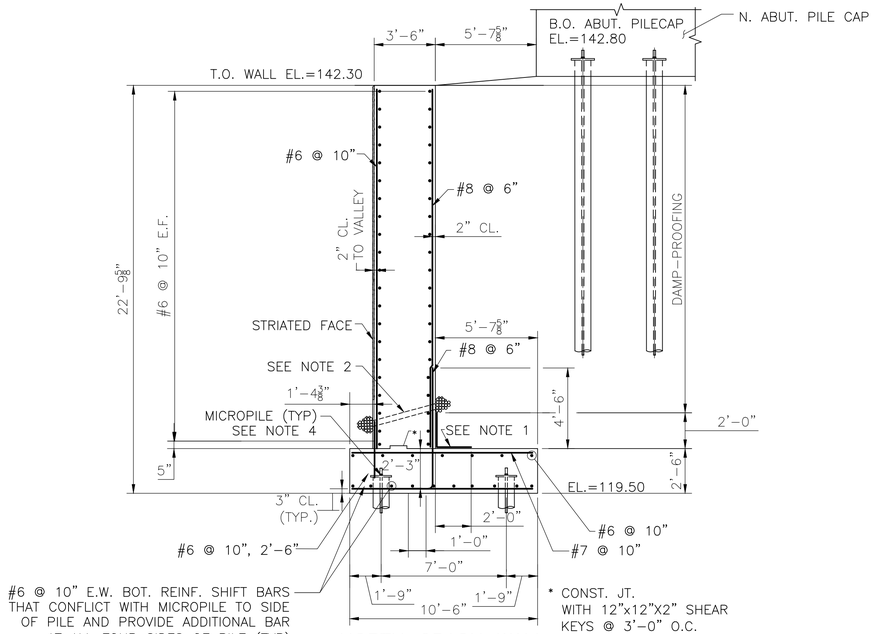
1. SEE SHEETS 26 TO 29 FOR WALL SECTIONS AND DETAILS.
2. SEE SHEETS 34 AND 35 FOR SOLDIER PILE AND LAGGING WALL DETAILS AND ADDITIONAL INFORMATION.
3. SEE SHEETS 30 AND 31 FOR MICROPILE DETAILS AND ADDITIONAL INFORMATION.
4. REFER TO HIGHWAY PLANS FOR ROADWAY GRADES TO DETERMINE WALL ELEVATIONS.
5. SUGGESTED LOCATION(S) OF PRODUCTION MICROPILE FOR PROOF LOAD TEST (ITEM 948.61). CONTRACTOR TO SELECT THE PROOF LOAD TEST LOCATION(S) WITH THE APPROVAL OF THE ENGINEER.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

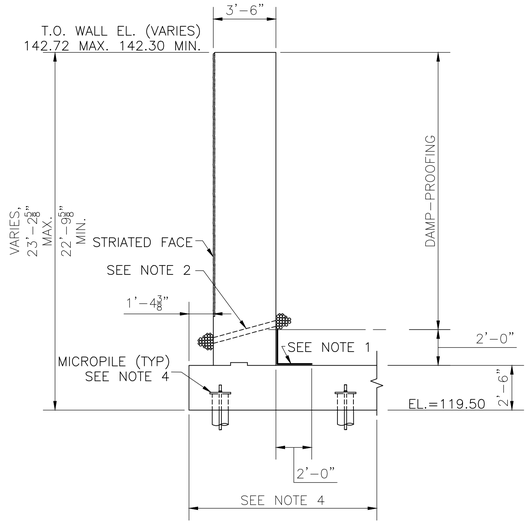
USE ONLY PRINTS OF LATEST DATE

S-24-016 (PROPOSED RETAINING WALLS NO 1-3).DWG Plotted on 5-Feb-2026 8:18 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



NORTH CRASH WALL SECTION 2

SCALE: ¼" = 1'-0"



NOTE: WALL AND FOOTING REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SECTION 2 ON THIS SHEET FOR WALL AND FOOTING REINFORCEMENT.

NORTH CRASH RETURN WALL #1 SECTION 3

SCALE: ¼" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	86	204
PROJECT FILE NO. 609409			

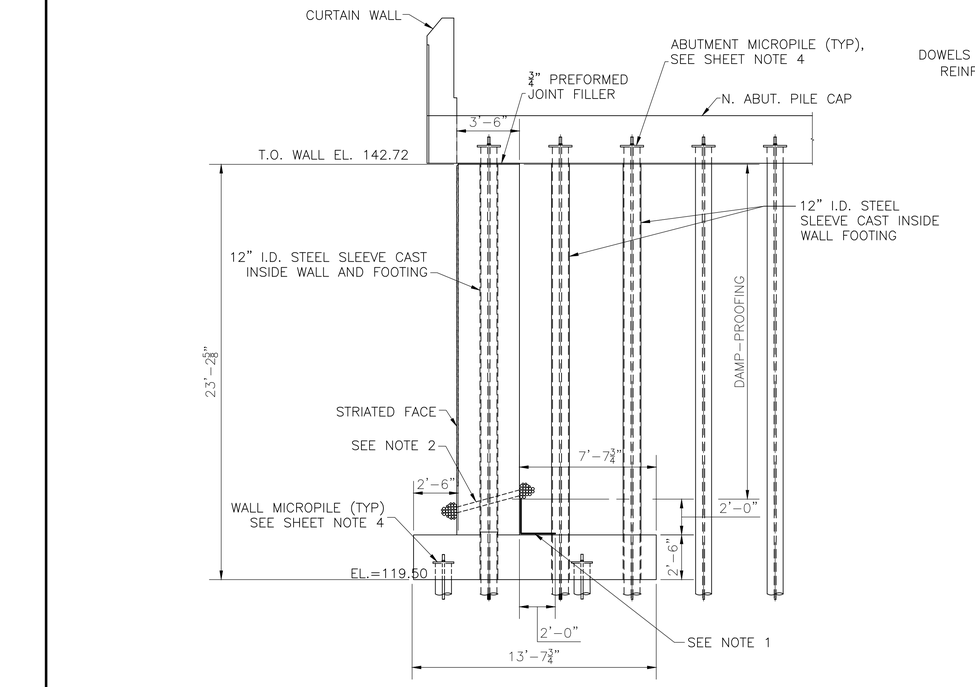
PROPOSED CRASH & RETURN WALL SECTIONS

NOTES:

1. MEMBRANE WATERPROOFING AND 8"x16"x2", 4000 PSI, 3/4 IN, 610 CEMENT CONCRETE BLOCKS LAID IN MORTAR OR OTHER WATERPROOFING PROTECTIVE COURSE, MIN. 2" THICK AS SPECIFIED IN MASSDOT'S STANDARD SPECIFICATIONS.
2. 4" DIAMETER WEEP HOLES SPACED 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
3. ALL CONCRETE SHALL BE 5000 PSI, ¾ IN, 685 HP CEMENT CONCRETE.
4. SEE SHEETS 30 AND 31 FOR MICROPILE DETAILS, SHEETS 32 AND 33 FOR MICROPILE LAYOUTS, AND SEE SHEETS 21 AND 22 FOR WALL AND FOOTING LAYOUTS.
5. THE WALLS NOTED AS "CRASH" WALLS ARE LOCATED OUTSIDE THE AREA OF INFLUENCE, AND AS SUCH, THE AREMA DESIGN STANDARDS FOR CRASH WALLS WERE NOT REQUIRED OR APPLICABLE. CONSEQUENTLY, THE CRASH WALL DESIGN DID NOT INCORPORATE AREMA STANDARDS.

PILES:

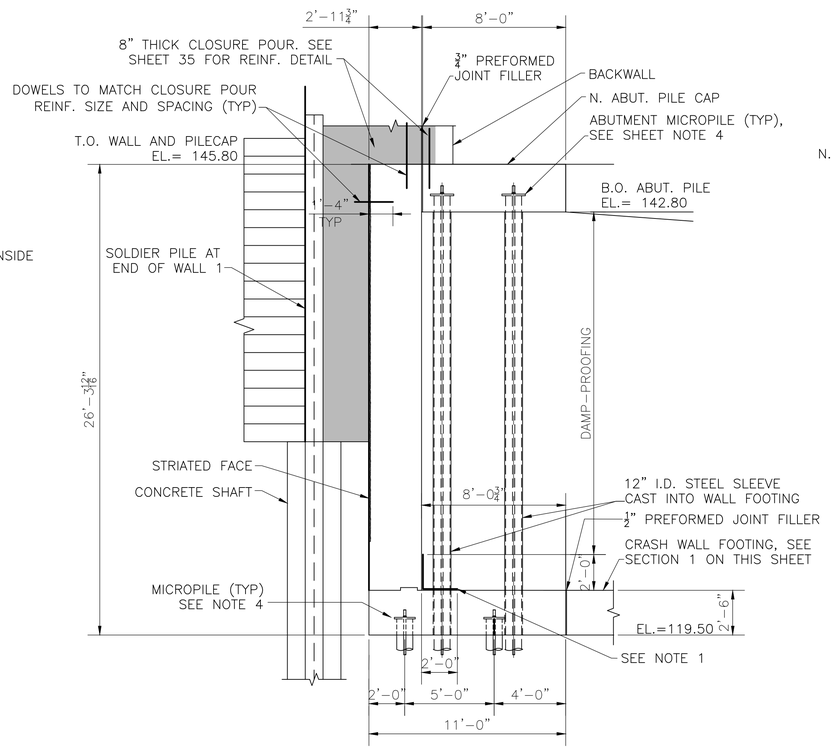
1. FOR MICROPILE INFORMATION REFER TO SHEETS 30 AND 31.



NOTE: WALL AND FOOTING REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SECTION 2 ON THIS SHEET FOR WALL AND FOOTING REINFORCEMENT.

NORTH RETURN WALL #2 SECTION 4

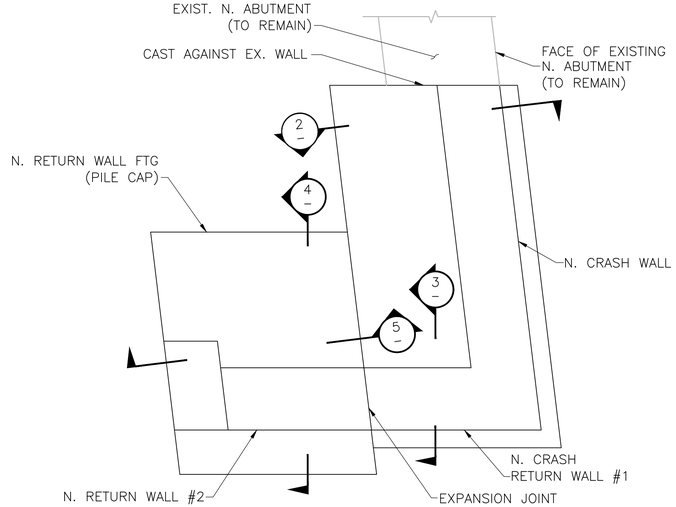
SCALE: ¼" = 1'-0"



NOTE: WALL AND FOOTING REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SECTION 2 ON THIS SHEET FOR WALL AND FOOTING REINFORCEMENT.

SECTION 5

SCALE: ¼" = 1'-0"



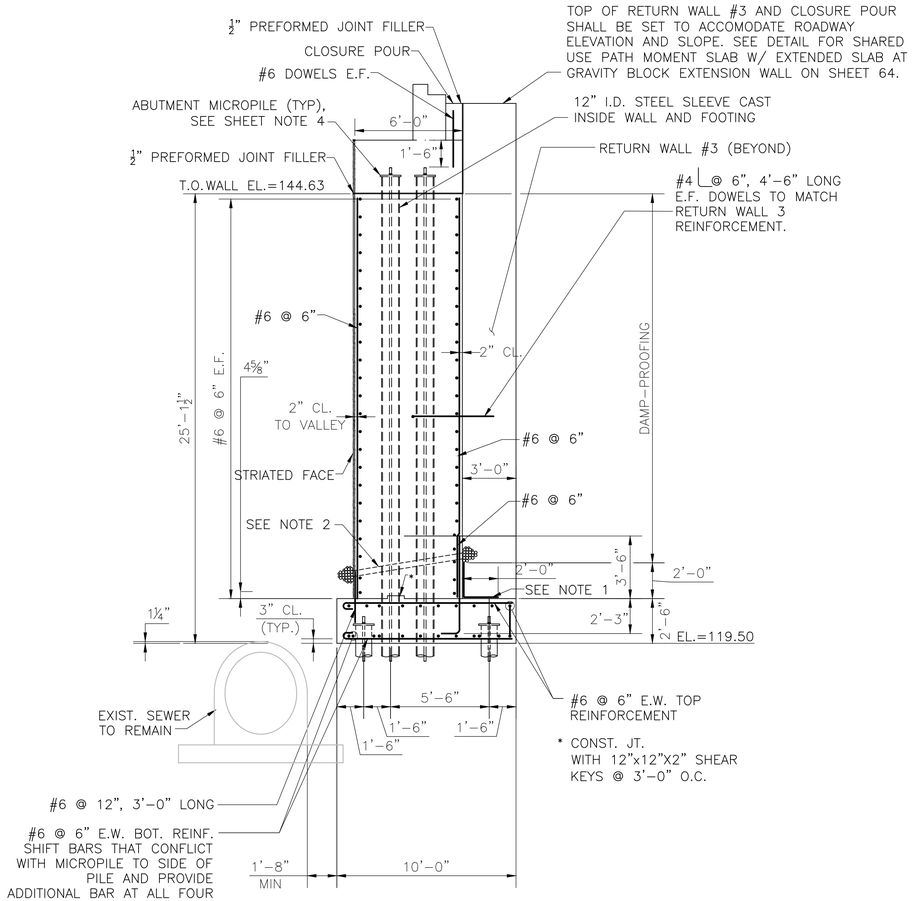
CRASH WALL AND RETURN WALL NORTH ABUTMENT (WEST) – KEY PLAN

SCALE: NTS

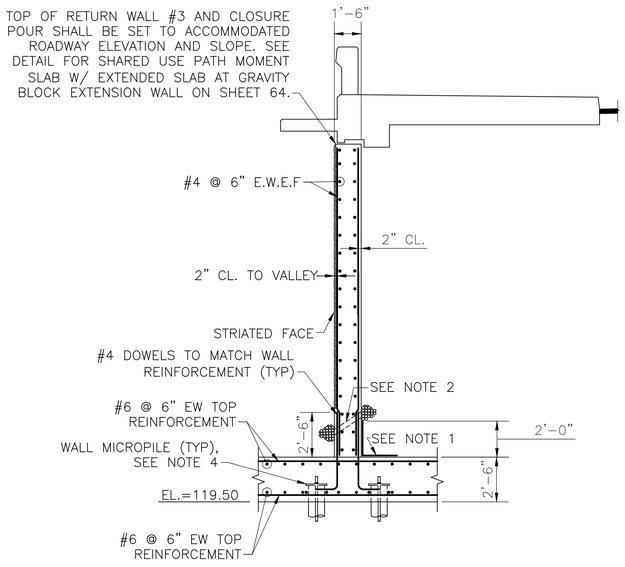
DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

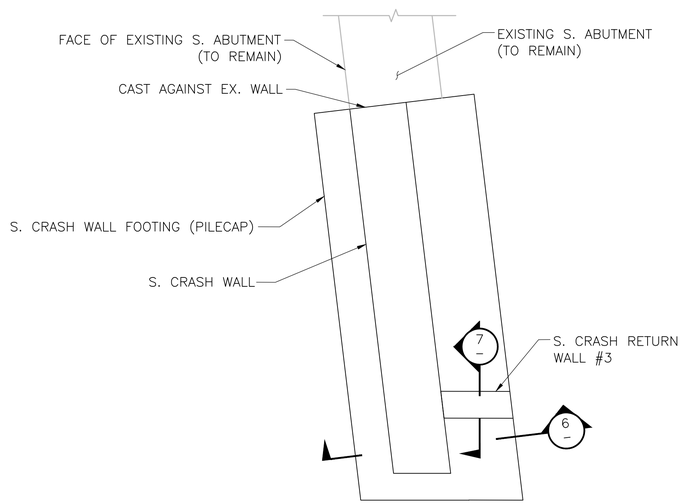
S-24-016 (PROPOSED CRASH-RETURN WALL-NORTH).DWG Plotted on 5-Feb-2026 8:19 PM
S-24-016 (Proposed Crash-Return Wall-North).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY



SOUTH CRASH WALL
SECTION 6
SCALE: ¼" = 1'-0"



SOUTH CRASH RETURN WALL #3
SECTION 7
SCALE: ¼" = 1'-0"



CRASH WALL AND RETURN WALL
SOUTH ABUTMENT (WEST) – KEY PLAN
SCALE: NTS

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	87	204
PROJECT FILE NO. 609409			

PROPOSED CRASH & RETURN WALL SECTIONS

NOTES:

1. MEMBRANE WATERPROOFING AND 8"x16"x2", 4000 PSI, 3/4 IN, 610 CEMENT CONCRETE BLOCKS LAID IN MORTAR OR OTHER WATERPROOFING PROTECTIVE COURSE, MIN. 2" THICK AS SPECIFIED IN MASSDOT'S STANDARD SPECIFICATIONS.
2. 4" DIAMETER WEEP HOLES SPACED 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
3. ALL CONCRETE SHALL BE 5000 PSI, ¾ IN, 685 HP CEMENT CONCRETE.
4. SEE SHEETS 30 AND 31 FOR MICROPILE DETAILS, SEE SHEETS 32 AND 33 FOR MICROPILE LAYOUTS, AND SEE SHEETS 21 AND 22 FOR WALL AND FOOTING LAYOUT.
5. THE WALLS NOTED AS "CRASH" WALLS ARE LOCATED OUTSIDE THE AREA OF INFLUENCE, AND AS SUCH, THE AREMA DESIGN STANDARDS FOR CRASH WALLS WERE NOT REQUIRED OR APPLICABLE. CONSEQUENTLY, THE CRASH WALL DESIGN DID NOT INCORPORATE AREMA STANDARDS.

PILES:

1. FOR MICROPILE INFORMATION REFER TO SHEET 30-31.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

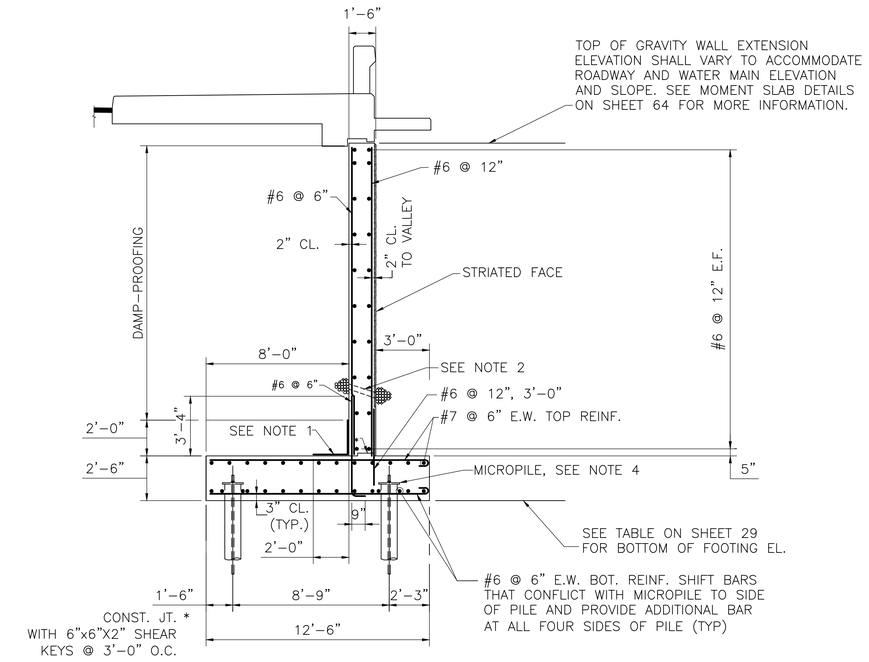
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Proposed Crash-Return Wall-North).dwg
S-24-016 (PROPOSED CRASH-RETURN WALL-NORTH).DWG Plotted on 5-Feb-2026 8:19 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

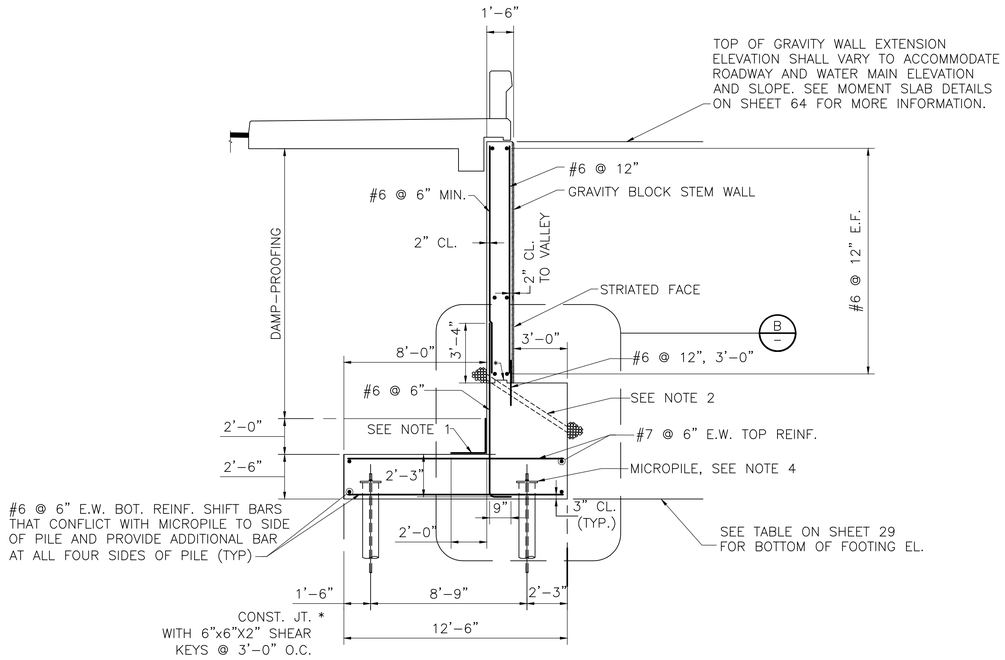
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	88	204
PROJECT FILE NO. 609409			

WALL SECTIONS



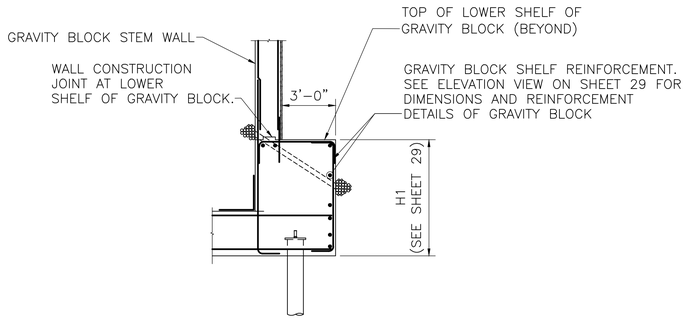
GRAVITY BLOCK (GB)#2
WALL EXTENSION SECTION
SCALE: $\frac{1}{4}$" = 1'-0"



GRAVITY BLOCK (GB)#1 AND (GB)#2 WALL SECTION
SCALE: $\frac{1}{4}$" = 1'-0"

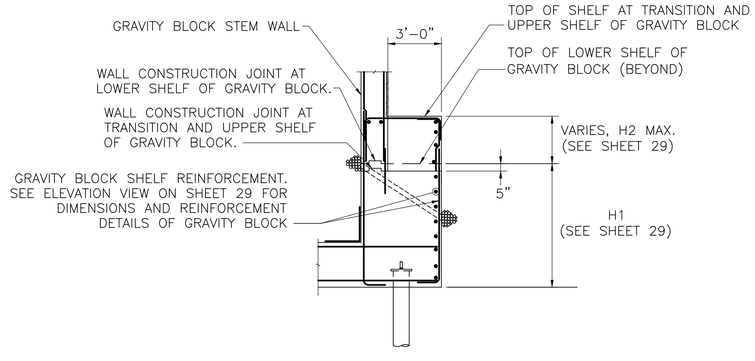
NOTES:
1. MEMBRANE WATERPROOFING AND 8"x16"x2", 4000 PSI, 3/4 IN, 610 CEMENT CONCRETE BLOCKS LAID IN MORTAR OR OTHER WATERPROOFING PROTECTIVE COURSE, MIN. 2" THICK AS SPECIFIED IN MASSDOT'S STANDARD SPECIFICATIONS.
2. 4" DIAMETER WEEP HOLES SPACED 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
3. ALL CONCRETE SHALL BE 5000 PSI, $\frac{3}{4}$ IN, 685 HP CEMENT CONCRETE.
4. SEE SHEETS 30 AND 31 FOR MICROPILE DETAILS, AND SHEETS 32 AND 33 FOR MICROPILE LAYOUTS, AND SEE SHEETS 21 AND 22 FOR WALL AND FOOTING LAYOUTS.

PILES:
1. FOR MICROPILE INFORMATION SEE SHEET 30-31
2. FOR MICROPILE LAYOUT SEE SHEETS 23 AND 25.



NOTE: THIS DETAIL IS TO BE WORKED WITH GRAVITY BLOCK SHELF REINFORCEMENT DETAIL ON SHEET 29.

AT LOWER SHELF OF GRAVITY BLOCK
SCALE: $\frac{1}{4}$" = 1'-0"



NOTE: THIS DETAIL IS TO BE WORKED WITH GRAVITY BLOCK SHELF REINFORCEMENT DETAIL ON SHEET 29.

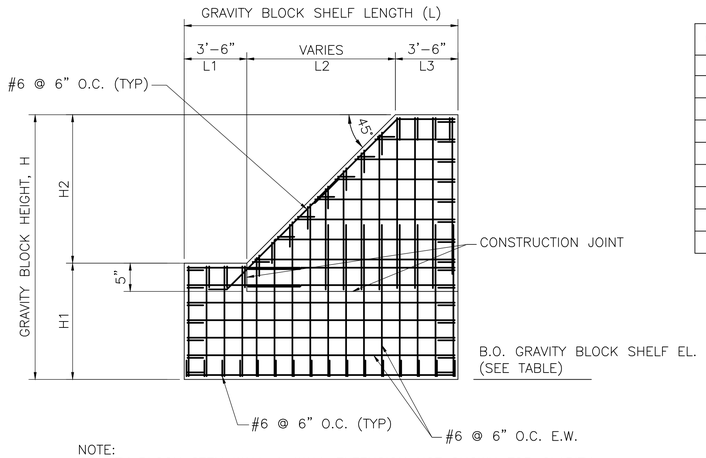
AT TRANSITION AND UPPER SHELF OF GRAVITY BLOCK
SCALE: $\frac{1}{4}$" = 1'-0"

REINFORCEMENT DETAIL AT GRAVITY BLOCK SHELF – DETAIL B

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Wall Sections).dwg
S-24-016 (WALL SECTIONS).DWG Plotted on 5-Feb-2026 8:21 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



NOTE:
GRAVITY BLOCK STEM WALL & WALL EXTENSION NOT SHOWN FOR CLARITY,
FOR GRAVITY BLOCK STEM WALL REINFORCEMENT SEE SHEET 28.

GRAVITY BLOCK SHELF – REINFORCEMENT
NTS

GRAVITY SHELF BLOCK (GB)	#1	#2
B.O. GB EL.	134.50	138.50
GB SHELF WIDTH W (FT)	3'-0"	3'-0"
*HEIGHT,H (FT)	13.07	13.87
*APPROX. H1 (FT)	4.30	6.42
*APPROX. H2 (FT)	8.77	7.45
LENGTH, L (FT)	15.77	14.45
L1 (FT)	3.50	3.50
L2 (FT)	8.77	7.45
L3 (FT)	3.50	3.50

* TOP OF THE GRAVITY BLOCK SHALL BE SO CONSTRUCTED TO ACCOMMODATED THE ROADWAY AND WATER MAIN ELEVATION AND SLOPE. SEE MOMENT SLAB DETAILS ON SHEET 64 FOR MORE INFORMATION ON THE TOP OF THE GRAVITY BLOCK AND ITS STEM WALL.

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

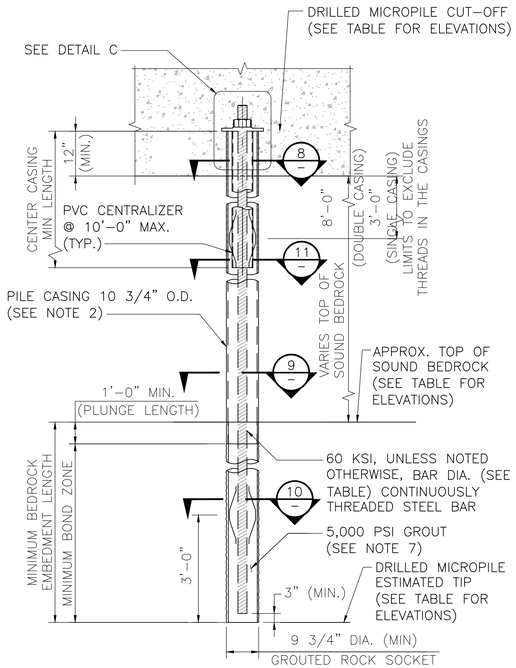
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	89	204
PROJECT FILE NO. 609409			

WALL SECTIONS

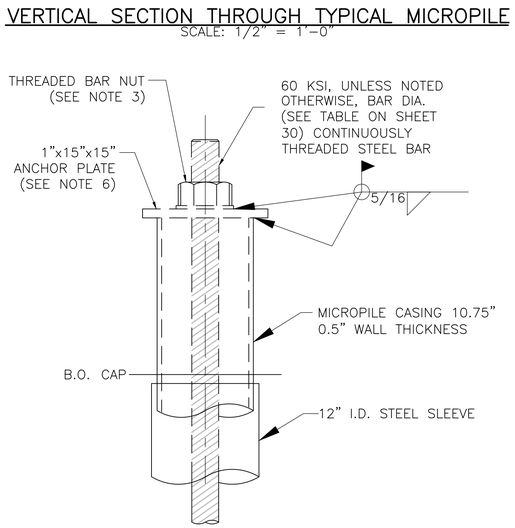
DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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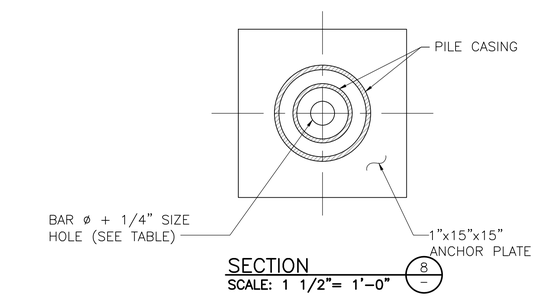
S-24-016 (Wall Sections).dwg
S-24-016 (WALL SECTIONS).DWG Plotted on 5-Feb-2026 8:21 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



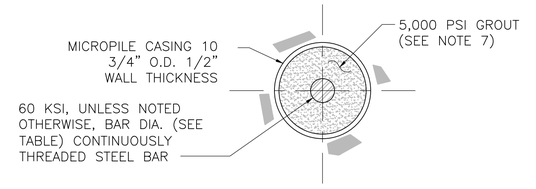
VERTICAL SECTION THROUGH TYPICAL MICROPILE
SCALE: 1/2" = 1'–0"



DETAIL
SCALE: 1 1/2"= 1'–0" (C)

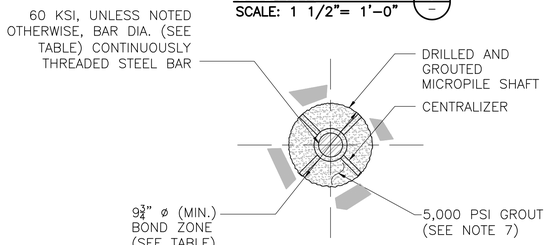


SECTION
SCALE: 1 1/2"= 1'–0" (8)



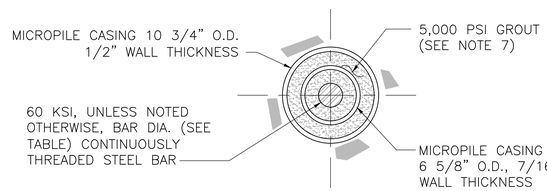
(CASED ZONE)

SECTION
SCALE: 1 1/2"= 1'–0" (9)



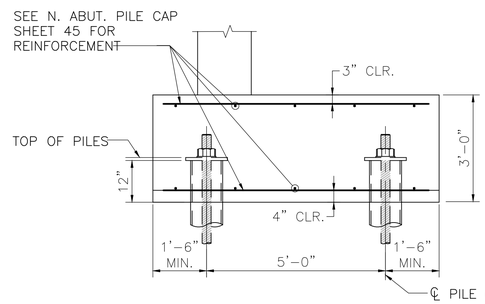
(BONDED ZONE)

SECTION
SCALE: 1 1/2"= 1'–0" (10)

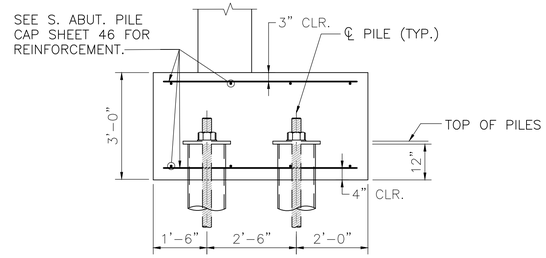


(DOUBLE CASED ZONE)

SECTION
SCALE: 1 1/2"= 1'–0" (11)



SECTION THROUGH NORTH PILE CAP
SCALE: 1/2" = 1'–0"



SECTION THROUGH SOUTH PILE CAP
SCALE: 1/2" = 1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	90	204
PROJECT FILE NO. 609409			

MICROPILE DETAILS

MICROPILE NOTES:

1. FACTORED AXIAL DESIGN LOAD PER MICROPILE PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.
2. STEEL CASING SHALL BE PRIME STEEL AND MEET THE REQUIREMENTS OF API 5L PSL1 GRADE 52 WITH SR 15 SUPPLEMENTAL REQUIREMENTS.
3. THREADED STEEL BAR SHALL BE CONTINUOUSLY THREADED FOR THE ENTIRE BAR LENGTH CONFORMING TO AASHTO M31 GRADE 60 OR 75 HAVING A MINIMUM YIELD STRENGTH OF 60 KSI OR 75 KSI AS NOTED IN THE TABLE ON THIS SHEET.
4. NUT AND BAR COUPLING SHALL BE PROVIDED FROM THE SAME MANUFACTURER AS THE THREADED STEEL BAR.
5. BAR COUPLING SHALL BE FULLY ENGAGED ON THE THREADED STEEL BAR AND SHALL NOT BE LOCATED IN THE TOP THIRD OF THE MICROPILE LENGTH.
6. ANCHOR PLATE SHALL MEET THE REQUIREMENTS OF AASHTO M270 GRADE 50.
7. GROUT SHALL HAVE A MINIMUM 28–DAY COMPRESSIVE STRENGTH OF 5 KSI AND CEMENT SHALL CONFORM TO AASHTO M85 (TYPE I/II).
8. GROUT SHALL BE PLACED USING TREMIE METHODS.
9. THE CONTRACTOR SHALL SUBMIT A MICROPILE SCHEDULE, MICROPILE INSTALLATION, AND MICROPILE TESTING PLAN FOR REVIEW AND APPROVAL BY THE ENGINEER.
10. THE VERIFICATION OF TEST MICROPILE SHALL BE A SACRIFICIAL MICROPILE. THE VERIFICATION TEST SHALL BE PERFORMED PRIOR TO CONSTRUCTION OF PRODUCTION MICROPILES. THE VERIFICATION TEST LOCATION IS APPROXIMATE AS SHOWN. CONTRACTOR TO SELECT THE EXACT LOCATION OF THE VERIFICATION TEST MICROPILE WITH APPROVAL BY THE ENGINEER.

TABLE 1

LOCATION		N. ABUT. PILE CAP (*1)	N. CRASH WALL (*2)	N. RETURN WALL #2	S. ABUT PILE CAP	SE COLUMN PILE CAP	S. CRASH WALL (*2)	GRAVITY BLOCK (GB) #1	GRAVITY BLOCK (GB) #2
MICROPILE CUT–OFF ELEVATION	FT	143.80	120.50	120.50	145.67	124.50	120.50	135.50	139.50
APPROX. TOP OF SOUND BEDROCK	FT	69.50	69.50	69.50	70.50	70.50	70.50	73.00	70.50
APPROX. PILE TIP ELEVATION	FT	58.50	58.50	58.50	49.50	59.50	49.50	62.00	63.50
CENTER BAR		#8	#8	#8	#14(75 KSI)	#8	#14(75 KSI)	#14(75 KSI)	#8
APPROX. TOTAL LENGTH	FT	85.30	62.00	62.00	96.17	65.00	71.00	73.50	76.00
APPROX. CASED LENGTH	FT	75.30	52.00	52.00	76.17	54.00	51.00	63.50	70.00
APPROX DOUBLE CASED LENGTH	FT	0	0	0	9.00	0	9.00	9.00	0
BOND ZONE LENGTH (MIN.)	FT	10.00	10.00	10.00	20.00	11.00	20.00	10.00	6.00
GOVERNING AXIAL LOAD COMBINATION		STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)
FACTORED AXIAL DESIGN LOAD PER MICROPILE	KIPS	125.00	150.00	150.00	296.00	143.00	282.00	150.00	80.00
FACTORED GEOTECHNICAL RESISTANCE	KIPS	154.40	154.40	154.40	308.90	156.80	308.90	154.40	92.70
NOMINAL GEOTECHNICAL RESISTANCE	KIPS	280.80	280.80	280.80	561.60	285.10	561.60	280.80	168.50
GEOTECHNICAL RESISTANCE FACTOR		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
FACTORED STRUCTURAL RESISTANCE	KIPS	691.00	691.00	691.00	735.00	486.60	735.00	735.00	691.00
NOMINAL STRUCTURAL RESISTANCE	KIPS	921.00	921.00	921.00	980.00	648.70	980.00	980.00	921.00
STRUCTURAL RESISTANCE FACTOR		0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75

NOTES: *1. NORTH RETURN WALL #1 AND SOUTH RETURN WALL #3 ARE SUPPORTED ON THE N. CRASH WALL PILE CAP AND S. CRASH WALL PILE CAP RESPECTIVELY.

*2. THE MICROPILES WILL EXTEND THROUGH THE EXISTING GRANITE BLOCK AT THE SOUTH ABUTMENT AND THE PROPOSED CONCRETE ABUTMENT EXTENSION TO THE WEST. PRIOR TO INSTALLING THE MICROPILES THROUGH THE EXISTING ABUTMENT, AN APPROXIMATELY 12–INCH DIAMETER HOLE NEEDS TO BE CORED THROUGH THE ENTIRE HEIGHT OF THE EXISTING ABUTMENT. AFTER THE MICROPILE INSTALLATION, THE ANNULUS OF THE MICROPILE CASING AND THE CORED HOLES IN THE EXISTING ABUTMENT OR PREVIOUSLY EMBEDDED OPENING THROUGH THE ABUTMENT EXTENSION WILL BE FILLED WITH SAND AFTER THE MICROPILES ARE INSTALLED.

CONSTRUCTION TOLERANCES:

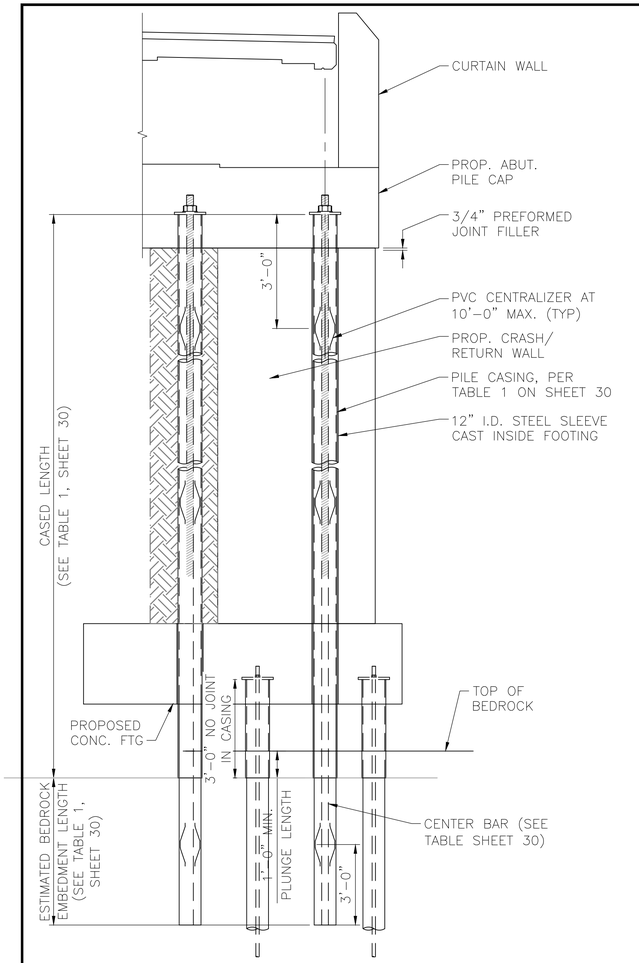
THE FOLLOWING ARE THE MAXIMUM TOLERANCES SPECIFIED BY MASSDOT MICROPILE SPECIAL PROVISIONS.

1. CENTERLINE OF PILING SHALL NOT BE MORE THAN 3" FROM INDICATED PLAN LOCATION.
2. PILE SHALL BE PLUMB WITHIN 2% OF TOTAL–LENGTH DESIGN PLAN ALIGNMENT.
3. TOP ELEVATION OF PILE SHALL BE PLUS +1" OR –2" MAX. FROM VERTICAL DESIGN ELEVATION INDICATED.
4. CENTERLINE OF REINFORCING STEEL SHALL NOT BE MORE THAN ¾" FROM THE INDICATED CENTER OF THE PILE.
5. MIN. VOLUME OF GROUT PLACED SHALL BE THE 110% OF THE THEORETICAL VOLUME OF THE WHOLE MICROPILE LENGTH FROM BOTTOM TO TOP AT TIME OF GROUTING.

DATE	DESCRIPTION
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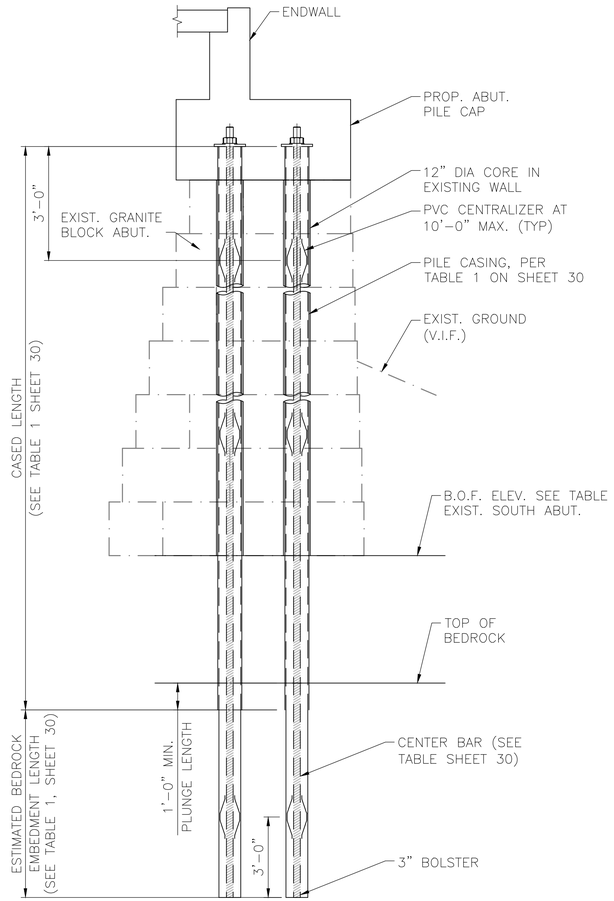
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
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USE ONLY PRINTS OF LATEST DATE

S-24-016 (MICROPILE DETAILS).DWG Plotted on 5-Feb-2026 8:22 PM
S–24–016 (Micropile Details).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY



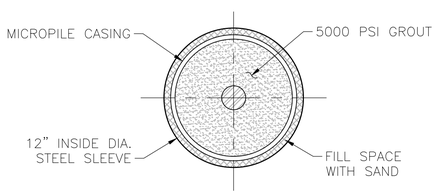
MICROPILE SLEEVE SECTION @ NORTH RETURN WALL AND SOUTH CRASHWALL

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

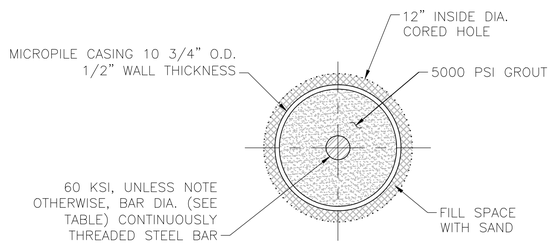


MICROPILE CORED SECTION @ SOUTH ABUTMENT

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



MICROPILE AT SLEEVE ZONE



MICROPILE AT CORED ZONE

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	91	204
PROJECT FILE NO. 609409			

MICROPILE DETAILS

NOTES:

1. SEE TABLE ON SHEET 30 FOR FACTORED AXIAL DESIGN LOAD PER MICROPILE.
2. STEEL SLEEVE SHALL BE PRIME STEEL AND MEET THE REQUIREMENTS OF API 5L PSL1 GRADE 52 WITH SR 15 SUPPLEMENTAL REQUIREMENTS. NO CASING JOINT SHALL BE IN THE TOP THREE FEET OF THE PILE BELOW THE PILE CAP AND PROPOSED CONCRETE FOOTING.
3. THE PROPOSED MICROPILES AT THE SOUTH ABUTMENT WILL BE INSTALLED THROUGH THE EXISTING SOUTH ABUTMENT OR THE PROPOSED ABUTMENT EXTENSION (PILE CAP WITH A CONCRETE CRASH WALL BELOW).
4. THE PROPOSED MICROPILES AT THE SOUTH ABUTMENT WILL BE INSTALLED THROUGH THE EXISTING SOUTH ABUTMENT OR THE PROPOSED ABUTMENT EXTENTION (PILE CAP WITH A CONCRETE CRASH WALL BELOW).

PRE-DRILLING NOTES:

1. PRIOR TO INSTALLING THE MICROPILES THROUGH THE EXISTING ABUTMENT, AN APPROXIMATELY 12-INCH DIAMETER HOLE NEEDS TO BE CORED THROUGH THE ENTIRE HEIGHT OF THE EXISTING ABUTMENT. AFTER THE MICROPILE DRILLING AND INSTALLATION, THE ANNULUS OF THE MICROPILE CASING AND THE CORED HOLES IN THE EXISTING ABUTMENT OR PREVIOUSLY EMBEDDED OPENING THROUGH THE ABUTMENT EXTENSION SHALL BE FILLED WITH SAND AFTER THE MICROPILES ARE INSTALLED.

MICROPILE STEEL SLEEVE NOTES:

1. STEEL SLEEVES SHALL HAVE AN INSIDE DIA. OF 12" MIN. AND EXTEND FROM THE BOTTOM OF THE BRIDGE PILE CAP TO THE APPROX. PILE TIP.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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S-24-016 (Micropile Details).dwg
S-24-016 (MICROPILE DETAILS).DWG Plotted on 5-Feb-2026 8:23 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

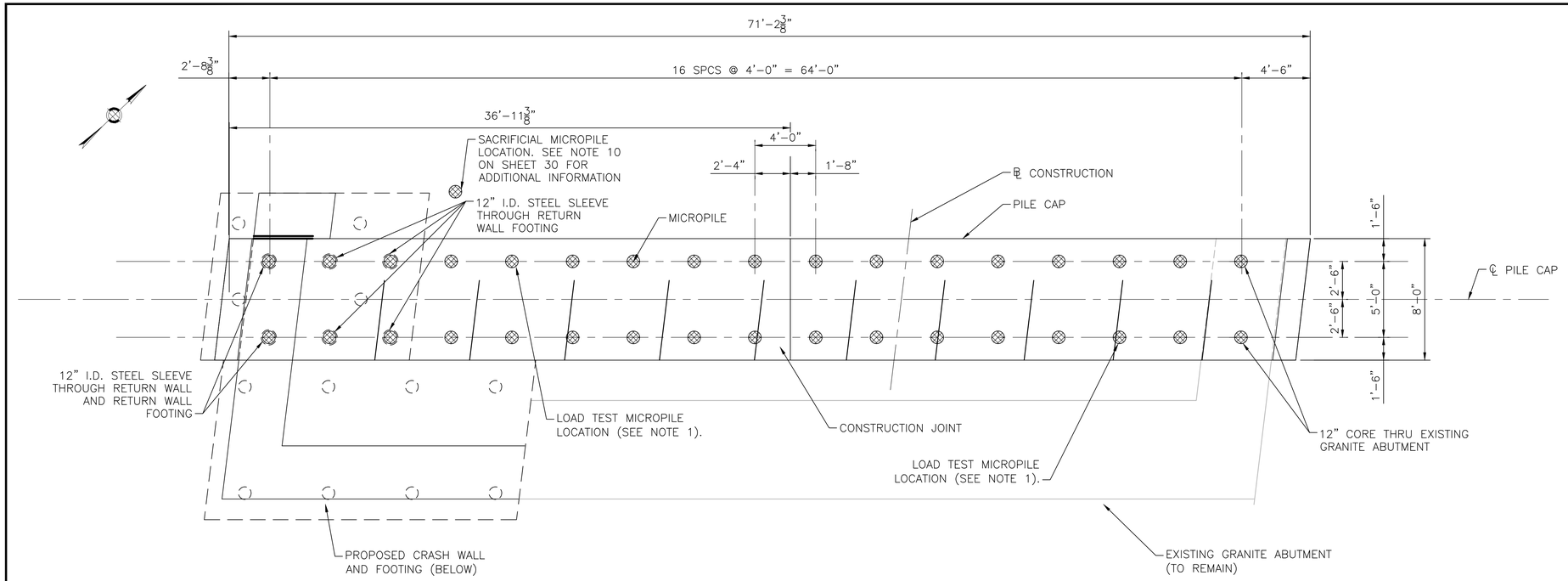
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	92	204
PROJECT FILE NO. 609409			

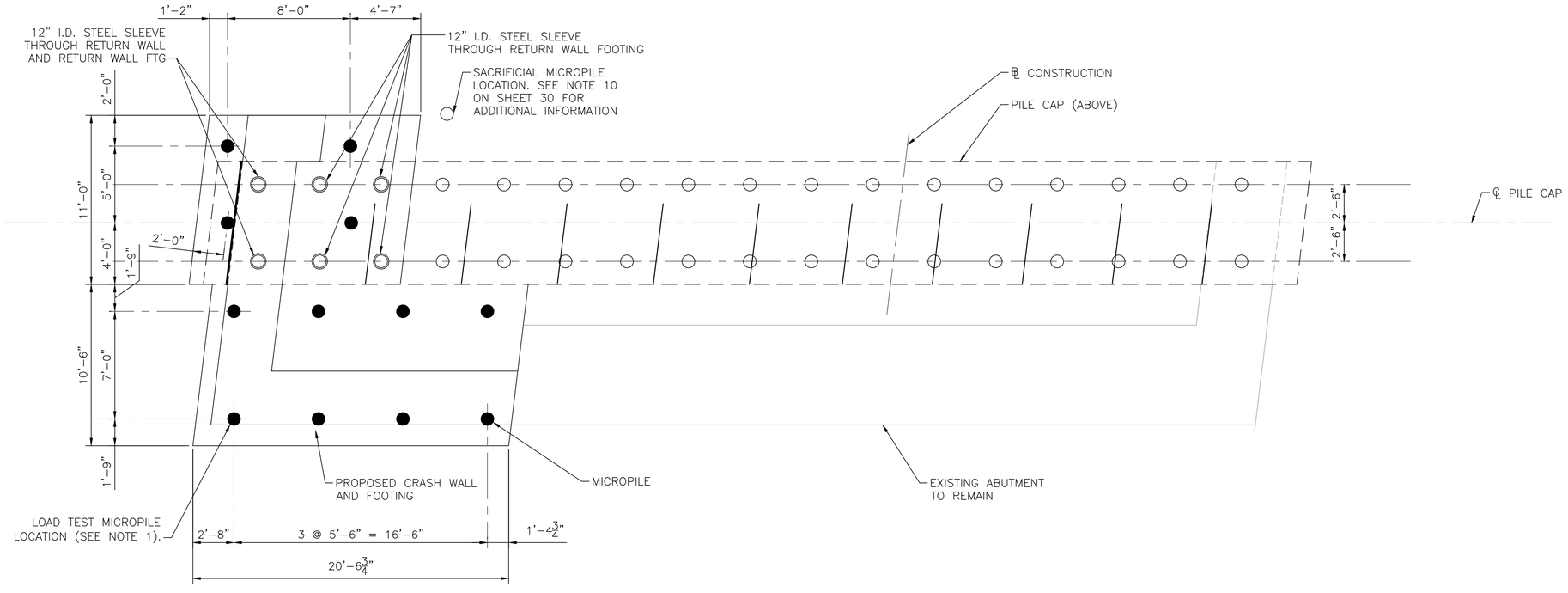
MICROPILE LAYOUT PLAN (NORTH)

NOTES:

1. SUGGESTED LOCATION(S) OF PRODUCTION MICROPILE FOR PROOF LOAD TEST (ITEM 948.61). CONTRACTOR TO SELECT THE PROOF LOAD TEST LOCATION(S) WITH THE APPROVAL OF THE ENGINEER.



MICROPILE LAYOUT AT THE NORTH ABUTMENT PILE CAP
SCALE: 1/4"= 1'-0"



MICROPILE LAYOUT AT THE CRASH AND RETURN WALL FOOTING (PILE CAP)
SCALE: 1/4"= 1'-0"

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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S-24-016 (Prop Micropile Layout Plans).dwg
S-24-016 (PROP MICROPILE LAYOUT PLANS).DWG Plotted on 5-Feb-2026 8:24 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

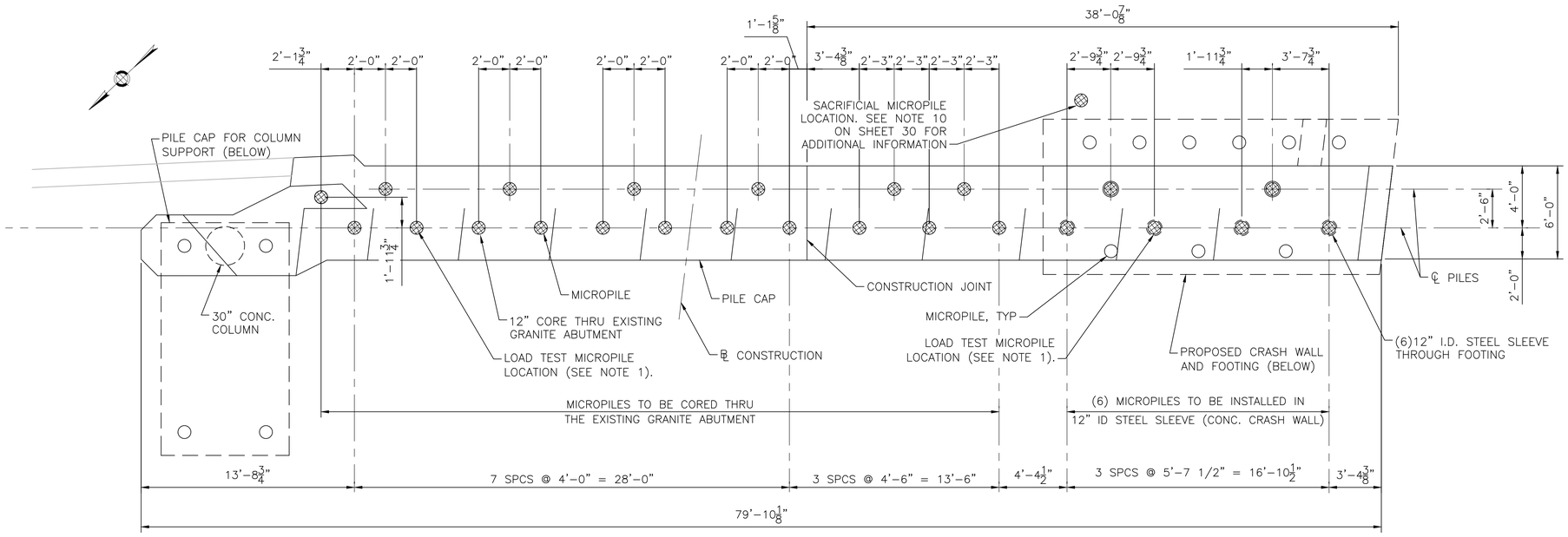
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	93	204
PROJECT FILE NO. 609409			

MICROPILE LAYOUT PLAN (SOUTH)

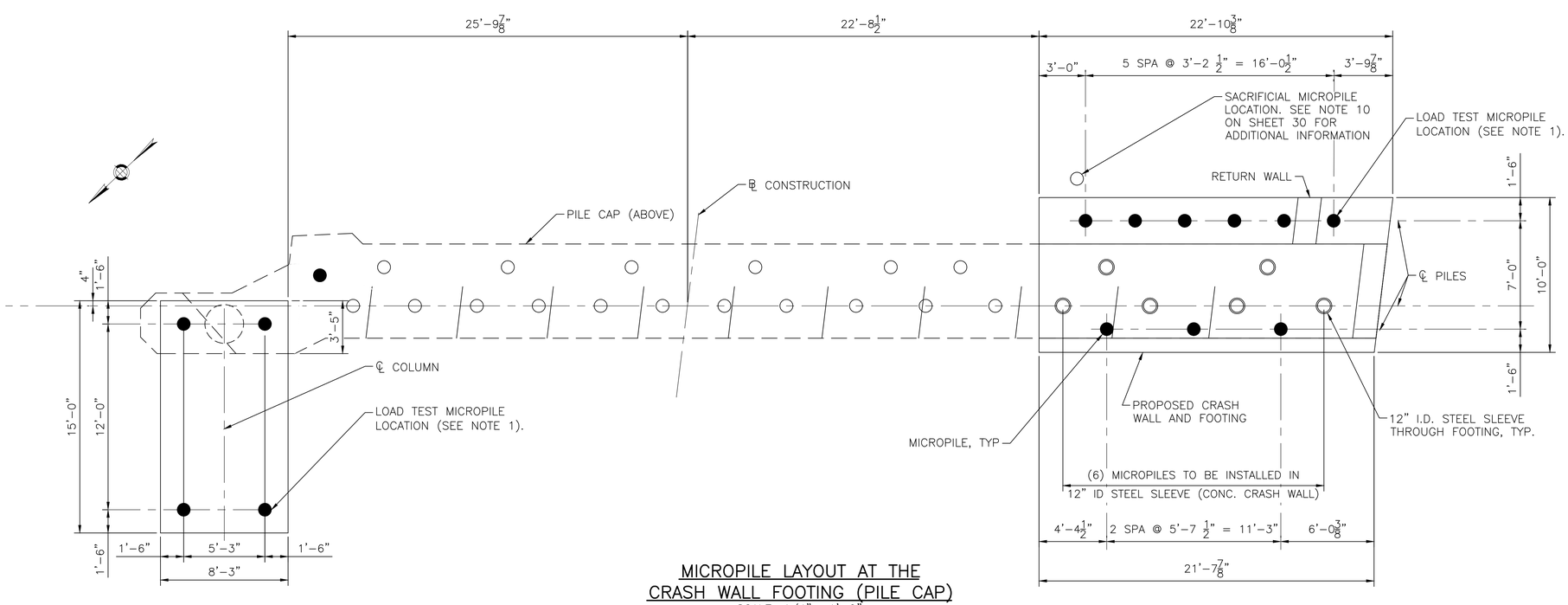
NOTES:

1. SUGGESTED LOCATION(S) OF PRODUCTION MICROPILE FOR PROOF LOAD TEST (ITEM 948.61). CONTRACTOR TO SELECT THE PROOF LOAD TEST LOCATION(S) WITH THE APPROVAL OF THE ENGINEER.



MICROPILE LAYOUT AT THE SOUTH ABUTMENT PILE CAP

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



MICROPILE LAYOUT AT THE CRASH WALL FOOTING (PILE CAP)

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

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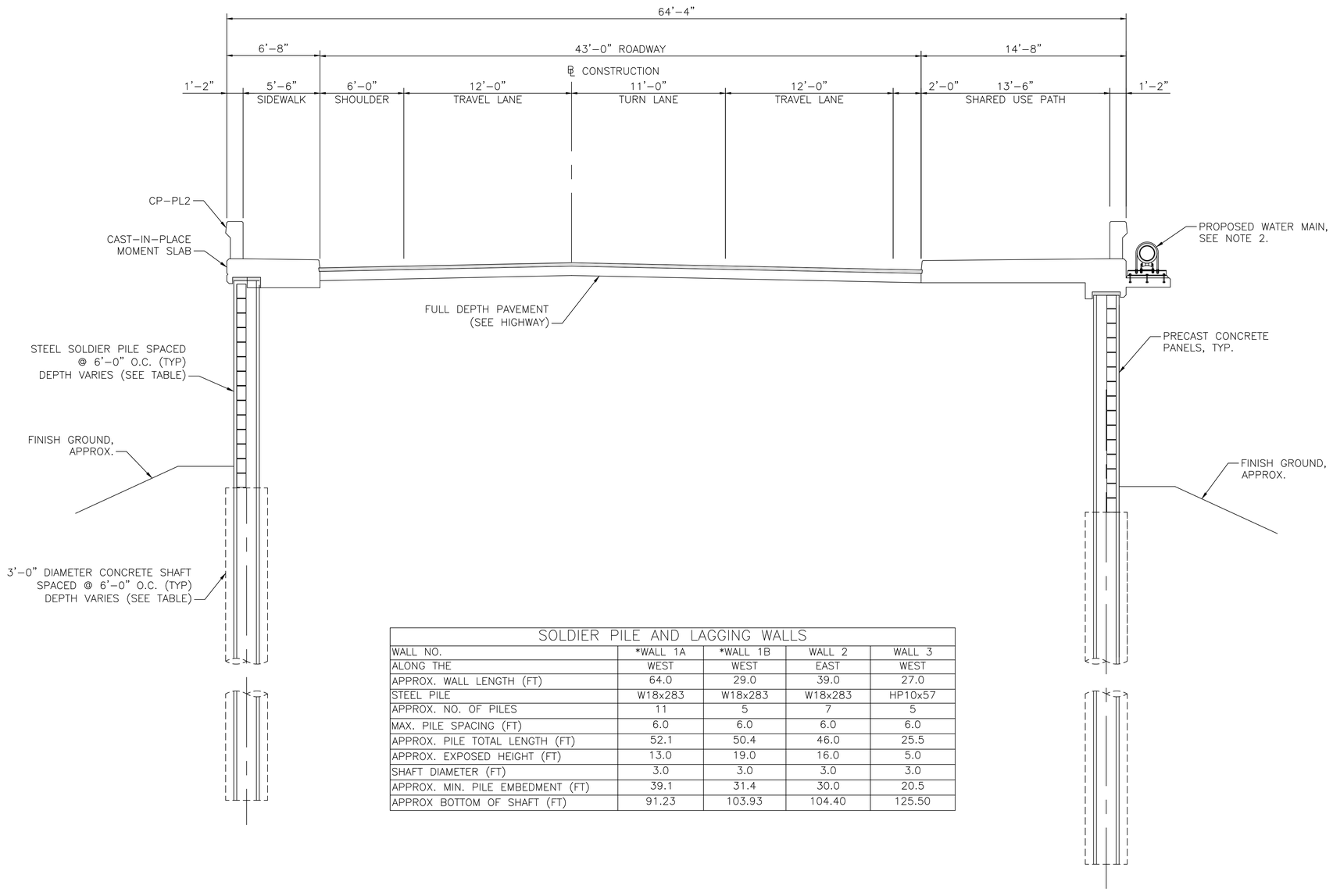
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	94	204
PROJECT FILE NO. 609409			

SOLDIER PILES AND LAGGING

NOTES:

1. FOR SOLDIER PILE AND LAGGING WALL DETAILS, SEE NEXT SHEET.
2. FOR WATER MAIN DETAILS, SEE SHEET 66.



SOLDIER PILE AND LAGGING WALLS				
WALL NO.	*WALL 1A	*WALL 1B	WALL 2	WALL 3
ALONG THE	WEST	WEST	EAST	WEST
APPROX. WALL LENGTH (FT)	64.0	29.0	39.0	27.0
STEEL PILE	W18x283	W18x283	W18x283	HP10x57
APPROX. NO. OF PILES	11	5	7	5
MAX. PILE SPACING (FT)	6.0	6.0	6.0	6.0
APPROX. PILE TOTAL LENGTH (FT)	52.1	50.4	46.0	25.5
APPROX. EXPOSED HEIGHT (FT)	13.0	19.0	16.0	5.0
SHAFT DIAMETER (FT)	3.0	3.0	3.0	3.0
APPROX. MIN. PILE EMBEDMENT (FT)	39.1	31.4	30.0	20.5
APPROX BOTTOM OF SHAFT (FT)	91.23	103.93	104.40	125.50

*NOTE: WALL 1 HAS 2 SEGMENTS (WALL 1A AND WALL 1B) DUE TO BACKFILL AND EMBEDMENT REQUIREMENTS. SEE SHEET 23 FOR ADDITIONAL INFORMATION.

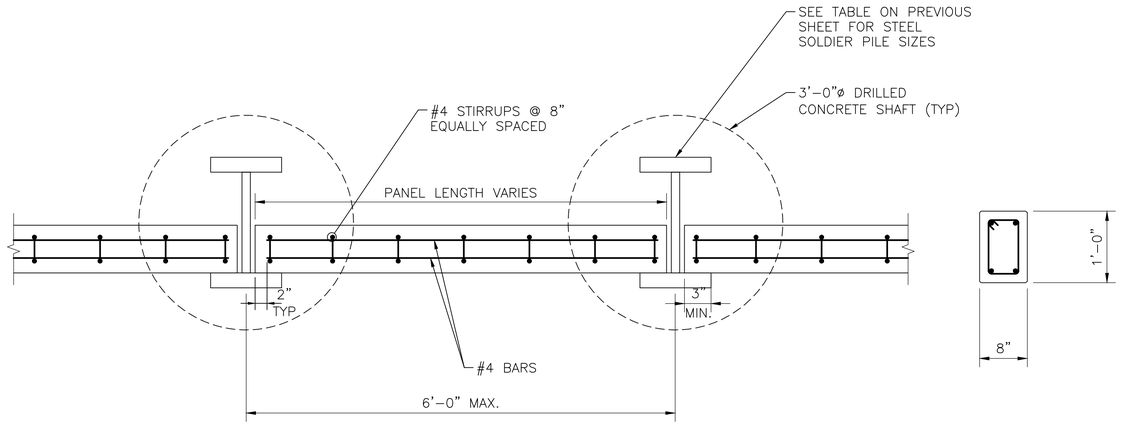
ARMORY STREET – ROADWAY APPROACH (LOOKING SOUTH)

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

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

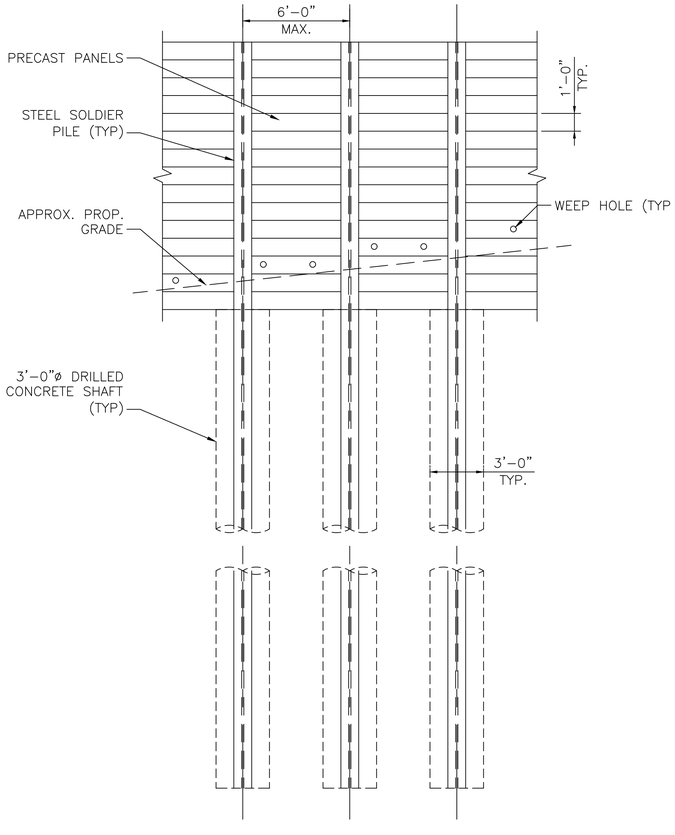
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
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S-24-016 (LAGGING WALL AND SOLDIER PILES).DWG Plotted on 5-Feb-2026 8:25 PM
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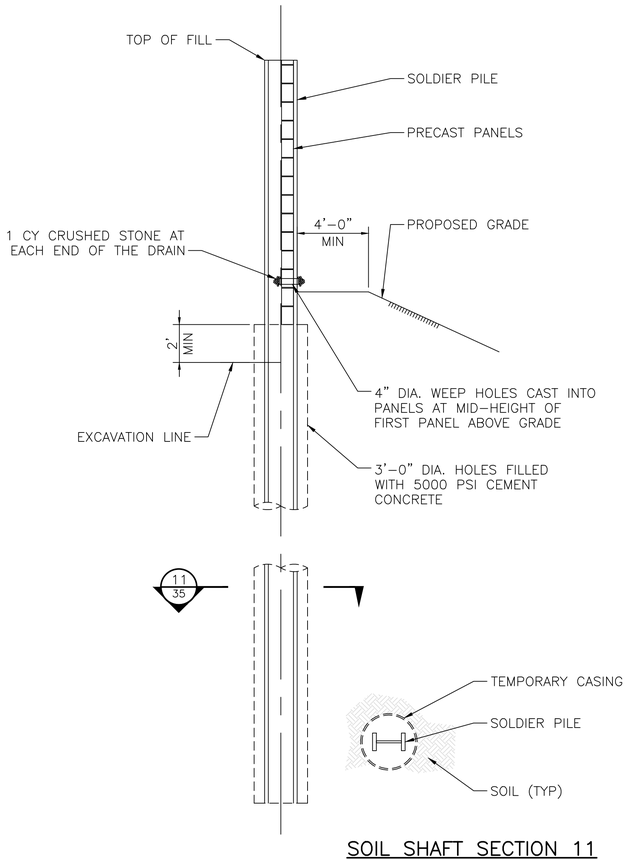
SOLDIER PILE WALL PLAN
SCALE: 1" = 1'-0"

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



NOTE:
MOMENT SLAB AND BARRIER NOT SHOWN FOR CLARITY.

ELEVATION OF STEEL SOLDIER PILE WITH CONCRETE PRECAST PANELS
SCALE: 1/4" = 1'-0"



SOIL SHAFT SECTION 11

SECTION OF STEEL SOLDIER PILE WITH CONCRETE PRECAST PANELS
SCALE: 1/4" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	95	204
PROJECT FILE NO. 609409			

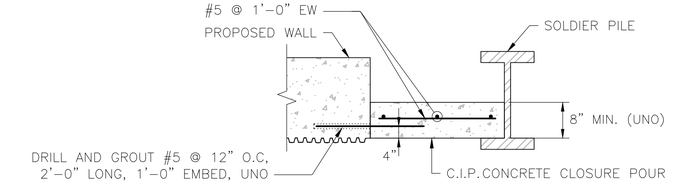
SOLDIER PILES AND LAGGING

SHEET NOTES:
1. SEE KEY PLAN FOR WALL LOCATIONS OF WALL 1, WALL 2, AND WALL 3.
2. MOMENT SLABS ARE REQUIRED ALONG THE SOLDIER PILE & LAGGING WALLS. SEE SHEETS 62 TO 64 FOR MOMENT SLAB DETAILS.
3. FOR MOMENT SLAB JOINTS SEE SHEET 62.
4. ANTICIPATED DEFLECTION AT THE TOP OF THE WALL:
   - WALL 1 = 1.8"
   - WALL 2 = 1.9"
   - WALL 3 = 1.1"
5. FOR MORE INFORMATION ON THE SOLDIER PILE AND LAGGING WALLS SEE GEOTECHNICAL REPORT BY THE NOBIS GROUP DATED JANUARY 2026.

SOLDIER PILE NOTES:
1. FOR MINIMUM EMBEDMENT OF THE SOLDIER PILES SEE TABLE ON SHEET 34.
2. THE SOLDIER PILES ARE TO BE INSTALLED ABOVE BEDROCK. OBSTRUCTIONS MAY BE ENCOUNTERED IN THE URBAN FILL STRATUM DURING THE CONSTRUCTION OF THE DRILLED SOLDIER PILES. IF ENCOUNTERED, NOBIS ANTICIPATES THAT SHALLOW OBSTRUCTIONS CAN BE EXCAVATED AND REMOVED. FOLLOWING REMOVAL OF THE OBSTRUCTION, THE EXCAVATION SHOULD BE BACKFILLED WITH A GRANULAR FILL MATERIAL AND COMPACTED PRIOR TO ADVANCING THE SOLDIER PILE. CONTRACTOR NEEDS ALSO TO BE PREPARED TO REMOVE OBSTRUCTIONS AT GREATER DEPTH AND USE APPROPRIATE MEANS AND METHODS ACCORDING TO THE ENCOUNTERED OBSTRUCTION.
3. OBSERVATION OF SOLDIER PILE DRILLED SHAFT INSTALLATION SHOULD BE MADE BY A GEOTECHNICAL ENGINEER TO VERIFY SOIL LAYERING AND ENGINEERING PROPERTIES AND ASSUMPTIONS MADE IN THE DESIGN ANALYSES. THE DEPTH DRILLED, SHAFT DIAMETER, ALIGNMENT AND BOTTOM ELEVATION SHOULD BE VERIFIED AND DOCUMENTED FOR EACH SHAFT PRIOR TO PLACEMENT OF CONCRETE.
4. PILES SHALL CONFORM TO THE SIZES AND LENGTHS SHOWN ON THE PLANS. PILES SHALL BE GRADE 50. THE FULL EXPOSED HEIGHT AND THE UPPER 2 FEET OF THE CONCRETE CASING SHALL BE GALVANIZED.

PRECAST PANELS NOTES:
1. PRECAST PANELS PAID UNDER ITEM NO. 904.33.
2. ALL PRECAST PANELS SHALL BE INSTALLED LEVEL.
3. FOR BACKFILL AND LIMIT REQUIREMENTS SEE SHEETS 23-25 AND SHEET 36.
4. WEEP HOLES SHALL BE CAST INTO THE FIRST PANEL ABOVE GRADE AT EACH BAY. IT IS RECOMMENDED THAT THE WEEP HOLE IS PLACED AT THE $\frac{1}{3}$ PTS OF THE PANEL.

CONSTRUCTION SEQUENCE:
1. IT IS RECOMMENDED THAT FILL PLACEMENT AT THE SITE BE PERFORMED AS FAR IN ADVANCE AS POSSIBLE PRIOR TO THE FINAL GRADING AND PLACEMENT OF ASPHALT PAVEMENT TO LIMIT POST-CONSTRUCTION SETTLEMENTS. PAVING ACTIVITIES SHOULD TAKE PLACE AT LEAST 3 MONTHS AFTER CONSTRUCTION OF THE RETAINING WALL AND PLACEMENT OF THE BACKFILL MATERIAL.

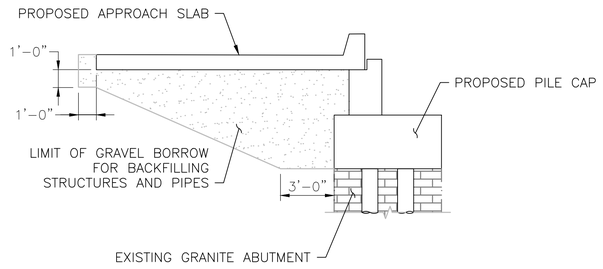


CAST-IN-PLACE CLOSURE POUR PLAN
SCALE: $\frac{3}{4}$" = 1'-0"

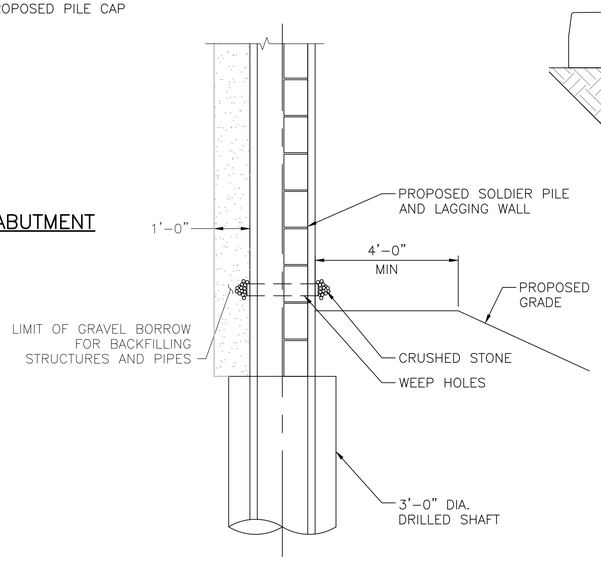
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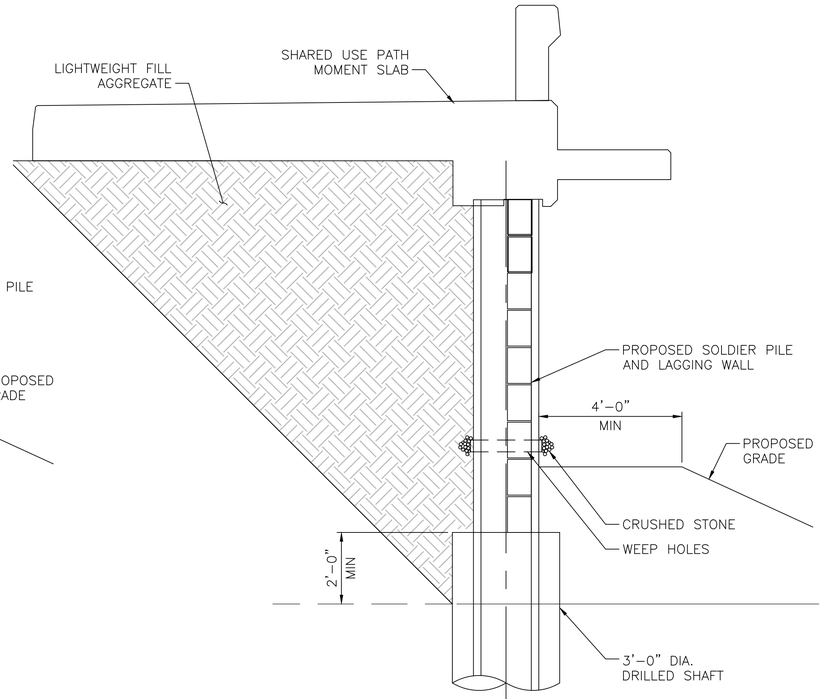
S-24-016 (LAGGING WALL AND SOLDIER PILES).DWG Plotted on 5-Feb-2026 8:26 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



SOUTH ABUTMENT PILE CAP AT EXISTING GRANITE ABUTMENT
$\frac{1}{4}$" = 1'-0"



LIMITS OF GRAVEL BORROW FOR BACKFILLING SOLDIER PILE AND LAGGING WALLS
$\frac{1}{2}$" = 1'-0"



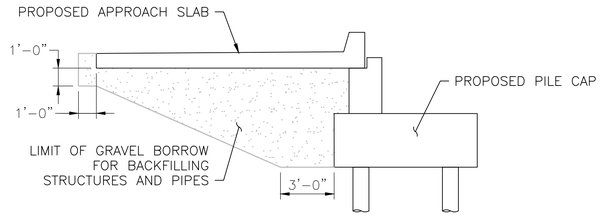
LIMITS OF LIGHTWEIGHT AGGREGATE FOR BACKFILLING SOLDIER PILE AND LAGGING WALL 1B FROM STA 13+00 TO 13+30
$\frac{1}{2}$" = 1'-0"

NOTES:

1. HATCHED AREA INDICATES LIMIT OF GRAVEL BORROW OR LIGHTWEIGHT AGGREGATE FOR BACKFILLING STRUCTURES AND PIPES.

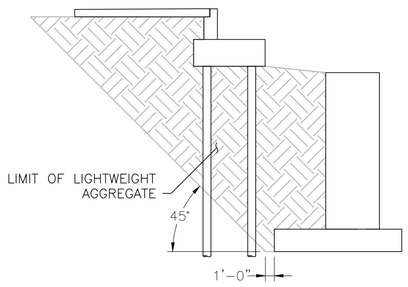
LIGHTWEIGHT AGGREGATE NOTES:

1. LIGHTWEIGHT AGGREGATE SHALL BE PLACED AT 45° BETWEEN DEPTH OF EXPOSED HEIGHT OF THE WALL AND THE BOTTOM OF THE FOOTING.
2. LIGHTWEIGHT AGGREGATE SHALL ALSO BE USED AT A 45-DEGREE UPWARD ANGLE TO CREATE A TRANSITION ZONE BETWEEN REGULAR WEIGHT AND LIGHTWEIGHT AGGREGATE.
3. NORTH & SOUTH CRASH WALLS TRANSITION TO THE EAST. NORTH RETURN WALLS TRANSITION TO THE NORTH. SOUTH RETURN WALLS TRANSITION TO THE SOUTH. SPL WALL 1B TRANSITIONS TO THE NORTH.
4. A GEOTEXTILE SHALL BE PLACED AS A SEPARATOR BETWEEN SUBGRADE AND THE INITIAL LIFTS OF LIGHTWEIGHT AGGREGATE, AS WELL AS ABOVE THE FINAL LIFT AND ON SIDE SLOPES TO PROVIDE SEPARATION BETWEEN THE LIGHTWEIGHT AGGREGATE MATERIAL AND ADJACENT SOIL AND CAPPING LAYER. CARE SHOULD BE TAKEN DURING PLACEMENT OF CAPPING LAYER TO PREVENT DAMAGE TO GEOTEXTILE. ADJACENT PANELS OF GEOTEXTILE SHALL BE SEWN TOGETHER OR OVERLAPPED A MINIMUM OF 12 INCHES. THE GEOTEXTILE SHALL NOT BE LEFT EXPOSED FOR LONGER THAN 14 DAYS, OR AS OTHERWISE RECOMMENDED BY THE GEOTEXTILE MANUFACTURER.

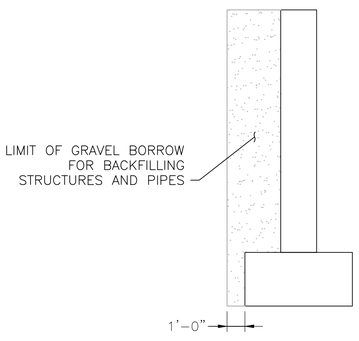


NOTE: BACKFILLING LIMITS BELOW PILE CAP NOT SHOWN FOR CLARITY.

NORTH ABUTMENT PILE CAP

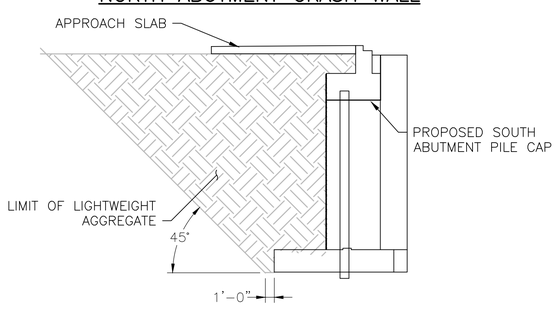


NORTH ABUTMENT CRASH WALL



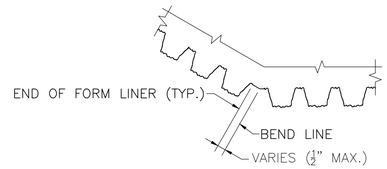
TYPICAL GRAVITY BLOCK 1

LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES
$\frac{1}{4}$" = 1'-0"

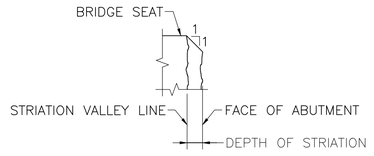


SOUTH ABUTMENT CRASH/RETURN WALL

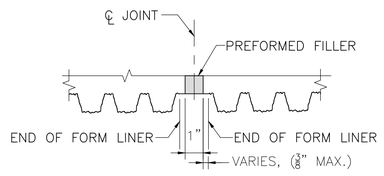
LIMITS OF LIGHTWEIGHT AGGREGATE FOR BACKFILLING CRASH AND RETURN WALLS
$\frac{1}{8}$" = 1'-0"



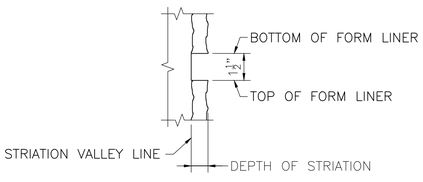
DETAIL AT WALL CORNER
SCALE: 3" = 1'-0"



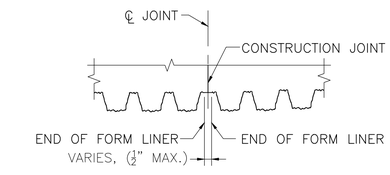
DETAIL AT BRIDGE SEAT
SCALE: 3" = 1'-0"



EXPANSION JOINT
SCALE: 3" = 1'-0"



HORIZONTAL PANEL JOINT
SCALE: 3" = 1'-0"

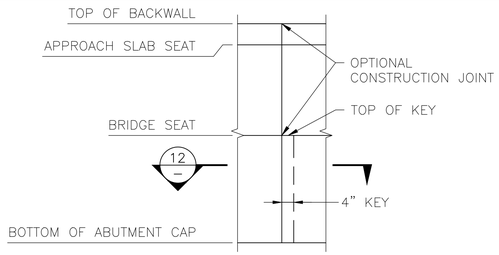


CONSTRUCTION JOINT
SCALE: 3" = 1'-0"

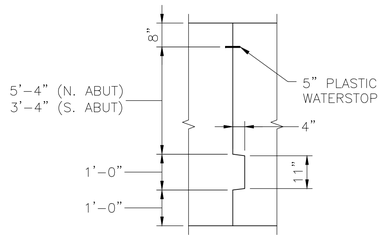
DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (BRIDGE JOINT_BACKFILL_CLOSURE POUR).DWG Plotted on 5-Feb-2026 8:27 PM
S-24-016 (Bridge Joint_Backfill_Closure Pour).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY



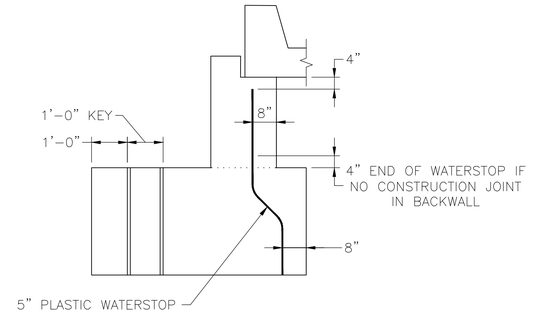
ELEVATION



SECTION 12

PILE CAP CONSTRUCTION JOINT DETAIL

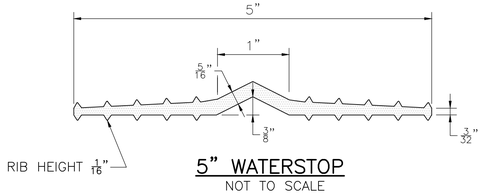
½" = 1'-0"



NOTE:
REINFORCEMENT SHALL BE CONTINUOUS THRU CONSTRUCTION JOINTS.

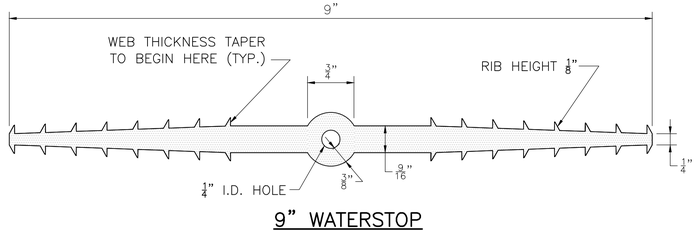
PILE CAP CONSTRUCTION JOINT DETAIL

½" = 1'-0"



5" WATERSTOP

NOT TO SCALE



9" WATERSTOP

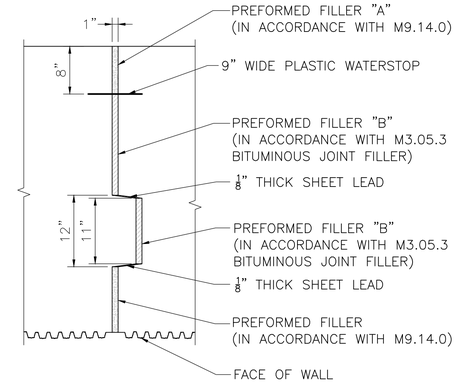
NOT TO SCALE

NOTES:

1. THE CONTRACTOR SHALL MAKE SURE THAT THE STRIATION FINS ARE PLUMB AND LINED UP VERTICALLY FROM PANEL TO PANEL FOR THE FULL HEIGHT OF THE WALL.
2. THE HORIZONTAL JOINT MAY BE OMITTED IF THE CONTRACTOR CAN DEMONSTRATE THAT THE FORM LINER PANELS CAN BE INSTALLED END TO END WITHOUT CREATING A VISIBLE SEAM IN THE FINAL CAST CONCRETE.

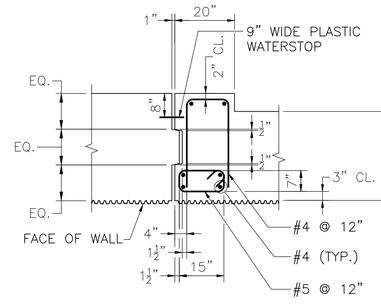
TYPICAL STRIATION DETAIL

SCALE: 3" = 1'-0"



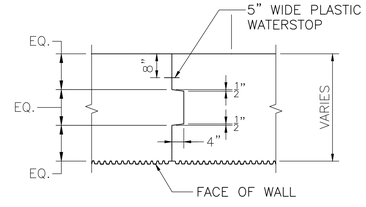
LIMITS OF PREFORMED FILLER

SCALE: 1" = 1'-0"



EXPANSION JOINT SECTION

½" = 1'-0"



CONSTRUCTION JOINT SECTION

½" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	97	204
PROJECT FILE NO. 609409			

JOINT DETAILS

BRIDGE JOINT NOTES:

1. CENTER 19" WIDE STRIP OF ROOFING FELT OVER THE JOINT LOCATION.
2. PLACE WATERPROOFING MEMBRANE AND HMA WEARING SURFACE UNIFORMLY ACROSS THE DECK AND JOINT LOCATIONS.
3. SAW CUT AND REMOVE THE HMA WEARING SURFACE AND MEMBRANE WATERPROOFING TO THE LIMITS REQUIRED.
4. PLACE BACKER ROD, POLYMER MODIFIED BINDER AND STEEL PLATE SECURED IN PLACE WITH GALVANIZED NAILS.
5. COAT THE SURFACES OF THE BLOCK-OUT WITH THE POLYMER MODIFIED ASPHALTIC BINDER.
6. PLACE COMPACTED AGGREGATE/BINDER TO FILL ALL VOIDS AND OBTAIN A FINAL AND EVEN SURFACE WITH THE ADJACENT WEARING SURFACE.
7. IT IS NOT NECESSARY TO CONSTRUCT THE JOINT AT MEAN TEMPERATURE, HOWEVER, THE MANUFACTURER SHOULD BE CONSULTED FOR INSTALLATION GUIDELINES FOR EXTREME CLIMATE CONDITIONS.

CONSTRUCTION JOINT NOTES:

1. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
2. CONSTRUCTION JOINTS SHALL BE LOCATED IN INTERVALS OF NOT MORE THAN 24'-0".

EXPANSION JOINT (WALLS) NOTES:

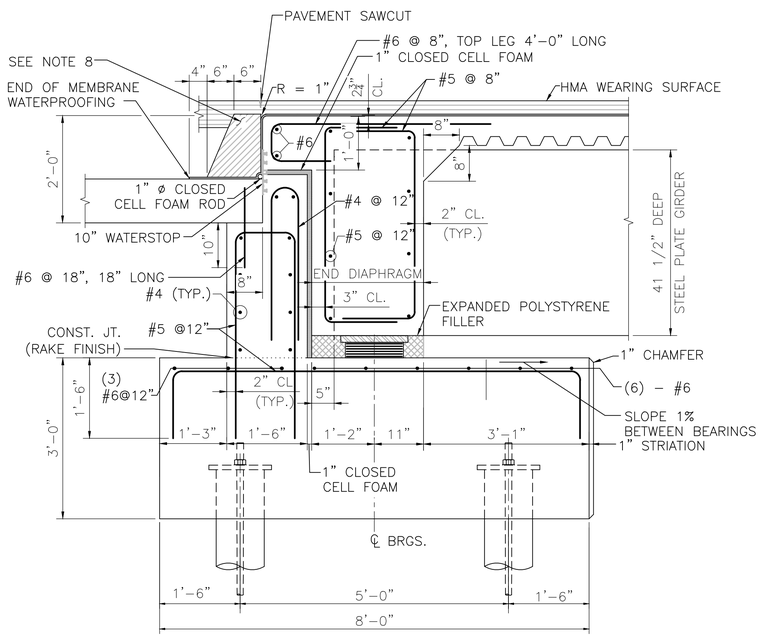
1. LONGITUDINAL REINFORCEMENT SHALL END 2" CLEAR OF EXPANSION JOINTS.
2. EXPANSION JOINTS SHALL BE LOCATED IN INTERVALS OF NOT MORE THAN 72'-0".
3. "A" PREFORMED FILLER IN ACCORDANCE WITH M9.14.0.
4. "B" PREFORMED FILLER IN ACCORDANCE WITH M3.05.3 BITUMINOUS JOINT FILLER.
5. FILLER MATERIAL SHALL BE FASTENED SECURELY TO ONE SIDE OF THE JOINT.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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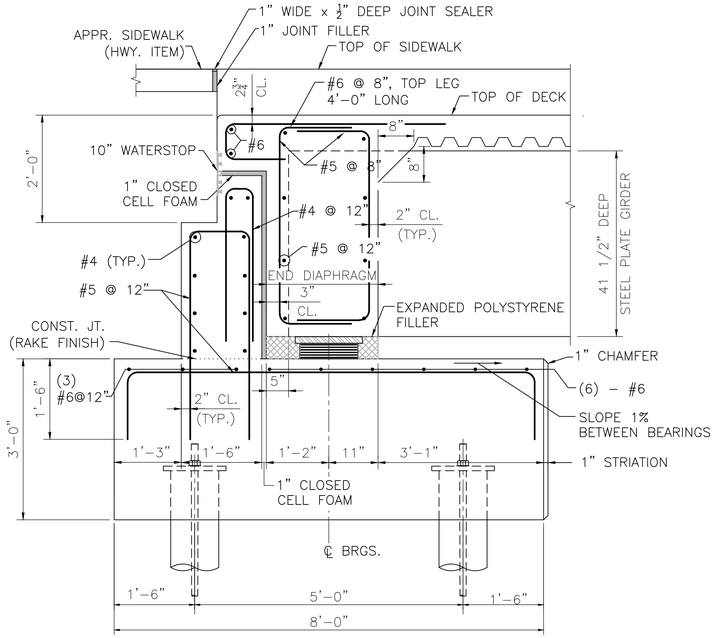
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Bridge_Joint_Backfill_Closure Pour).dwg
S-24-016 (BRIDGE JOINT_BACKFILL_CLOSURE POUR).DWG Plotted on 5-Feb-2026 8:28 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



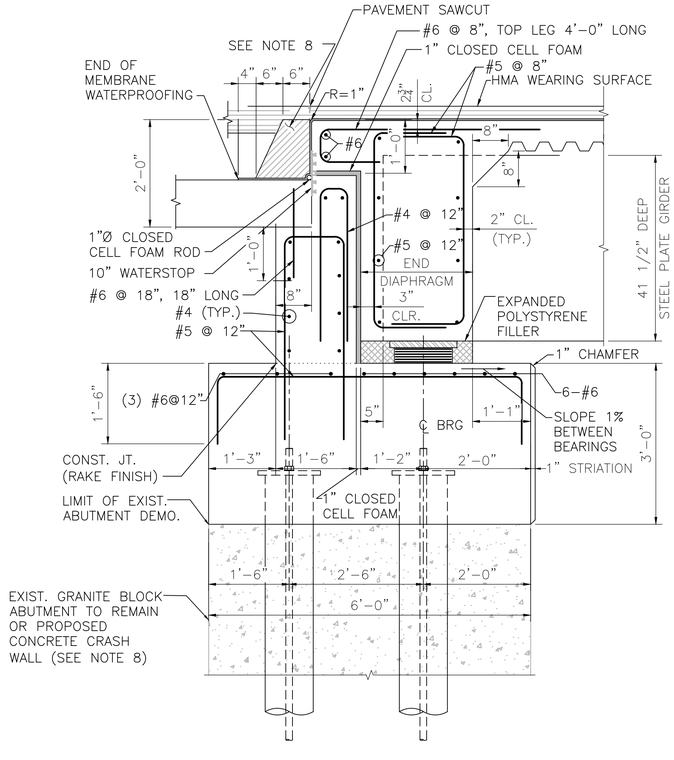
DETAILS AT NORTH ABUTMENT – ROADWAY SECTION

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



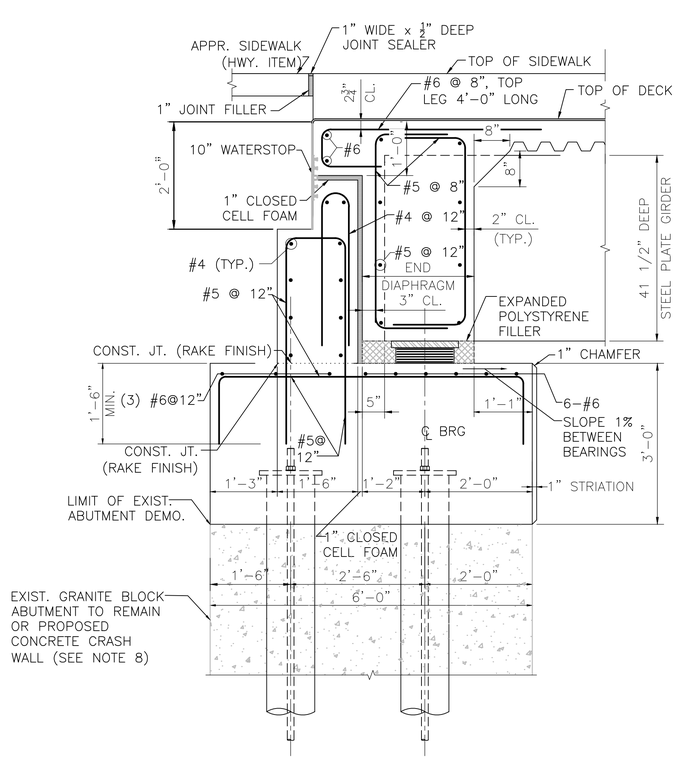
DETAILS AT NORTH ABUTMENT – SIDEWALK SECTION

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



DETAILS AT SOUTH ABUTMENT – ROADWAY SECTION

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



DETAILS AT SOUTH ABUTMENT – SIDEWALK SECTION

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

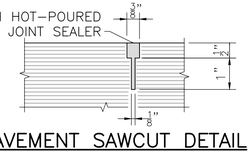
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	98	204
PROJECT FILE NO. 609409			

TYPICAL ABUTMENT SECTIONS AND DETAILS

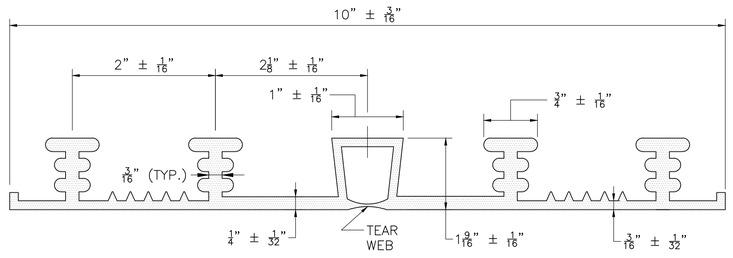
ROADWAY/SIDEWALK SECTION NOTES:

1. ALL REINFORCEMENT SHOWN IN THIS DETAIL SHALL BE COATED EXCEPT FOR THE APPROACH SLAB REINFORCEMENT.
2. ALL BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT LOCATED AT THE BRIDGE SEAT SHALL BE 5000 PSI, $\frac{3}{4}$ IN, 685 HP CEMENT CONCRETE. THE CONSTRUCTION JOINT SHALL BE GIVEN A RAKE FINISH WITH A $\frac{1}{4}$" MINIMUM AMPLITUDE.
3. TOP OF BACKWALL SHALL BE TROWELED SMOOTH PARALLEL TO THE PROFILE GRADE.
4. THE BACKWALL, KEEPER BLOCK, AND CURTAIN WALL CONCRETE MUST BE PLACED AND SUFFICIENTLY CURED PRIOR TO PLACING THE END DIAPHRAGM CONCRETE.
5. THE END DIAPHRAGM CONCRETE SHALL BE 5000 PSI, $\frac{3}{4}$ IN, 685 HP CEMENT CONCRETE AND SHALL BE PLACED MONOLITHICALLY WITH THE DECK.
6. 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 INSURE THAT ALL ABUTMENT CONCRETE IS PROPERLY LINED. END DIAPHRAGM CONCRETE MUST NOT COME IN DIRECT CONTACT WITH ABUTMENT CONCRETE.
7. DRAPE MEMBRANE WATERPROOFING OVER CLOSED CELL FOAM BACKER ROD.
8. PROTECTIVE COURSE TO BE SUPERPAVE BRIDGE PROTECTIVE COARSE –12.5 POLYMER (SSC–B–12.5), PLACED IN 2" LAYERS AND COMPACTED WITH A MECHANICAL HAND–GUIDED TAMPER WITHIN 12 HOURS AFTER PLACING MEMBRANE WATERPROOFING.
9. PILE CAP REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SHEET 45 AND 46 FOR PILE CAP REINFORCEMENT.



PAVEMENT SAWCUT DETAIL

NOT TO SCALE



10" WATERSTOP

NOT TO SCALE

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

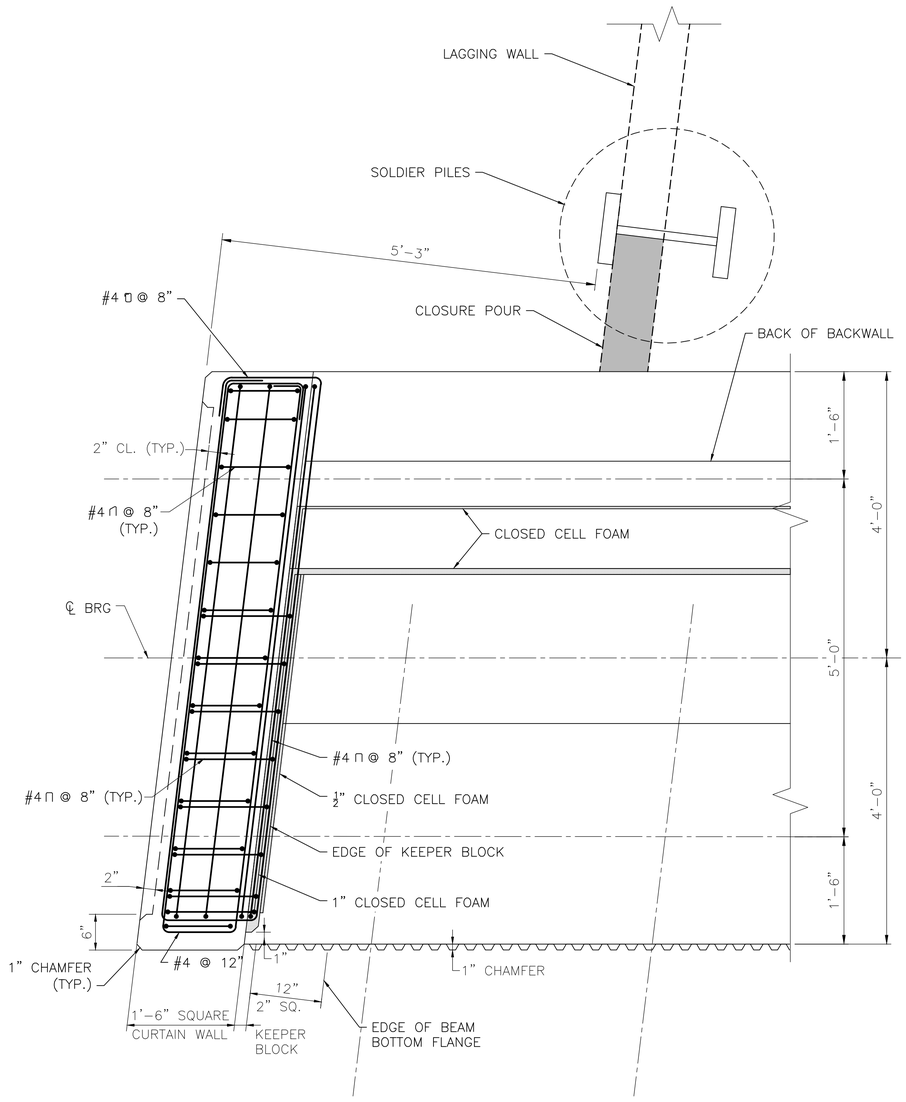
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Typ Abut Sect & Det).dwg
S-24-016 (TYP ABUT SECT & DET).DWG Plotted on 5-Feb-2026 8:30 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

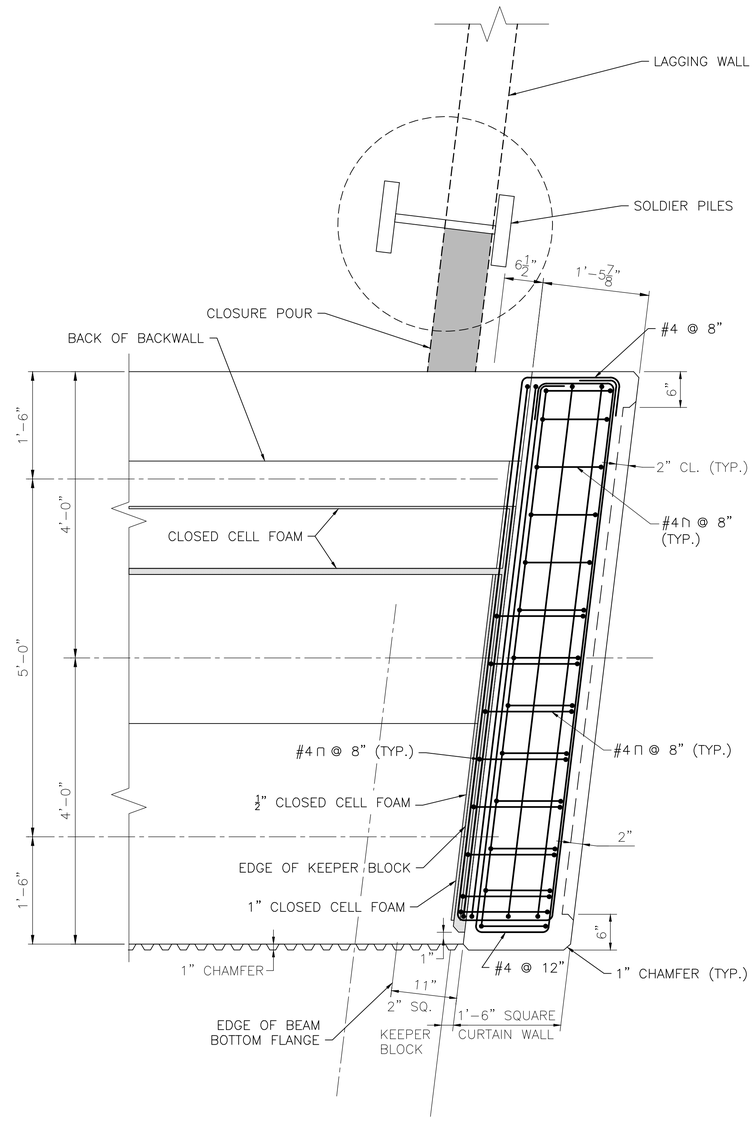
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	99	204
PROJECT FILE NO. 609409			

ABUTMENT CURTAIN WALL
AND KEEPER BLOCK DETAILS



ENLARGED PLAN AT THE NW CURTAIN WALL
AND KEEPER BLOCK

SCALE: 1" = 1'-0"



ENLARGED PLAN AT THE NE CURTAIN WALL
AND KEEPER BLOCK

SCALE: 1" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

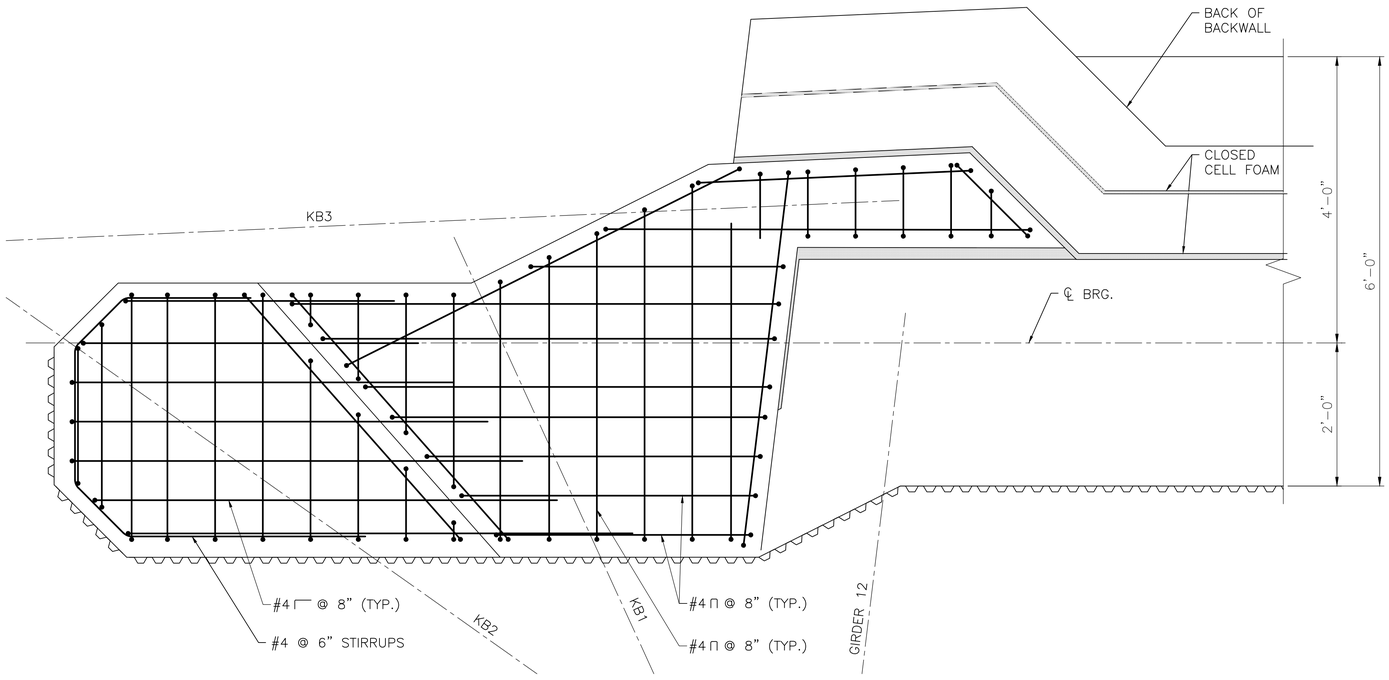
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Abut Curtain Wall & Keeper Block).dwg
S-24-016 (ABUT CURTAIN WALL & KEEPER BLOCK).DWG Plotted on 5-Feb-2026 8:31 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

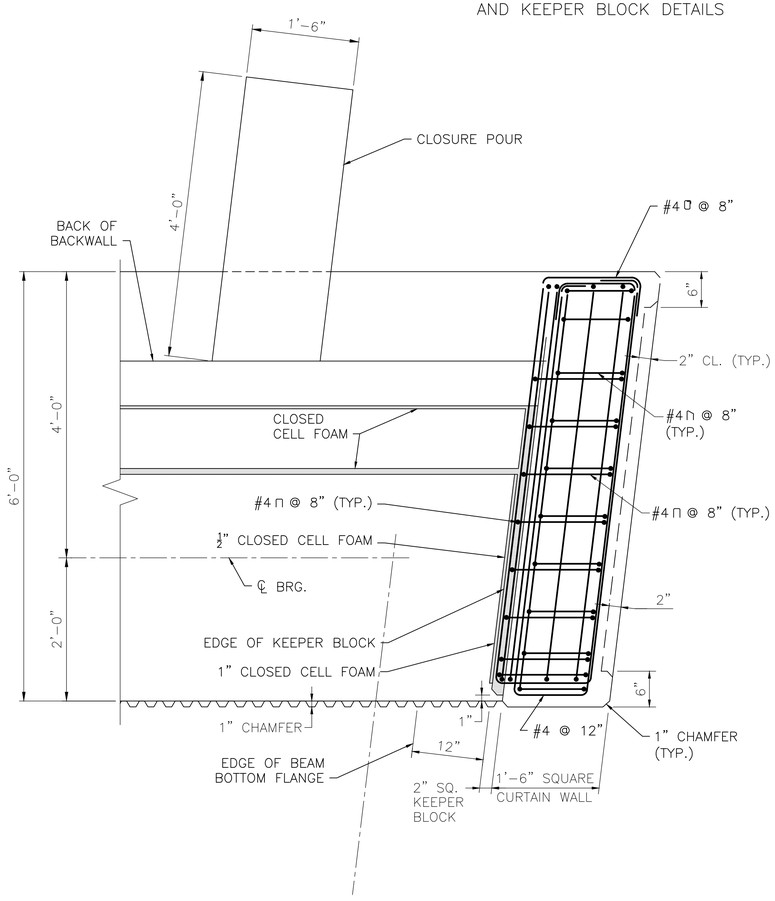
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	100	204
PROJECT FILE NO. 609409			

ABUTMENT CURTAIN WALL AND KEEPER BLOCK DETAILS



SOUTH ABUTMENT PLAN – SOUTHEAST CORNER
SCALE: 1" = 1'-0"



HORIZONTAL SECTION WEST SIDE OF SOUTH ABUTMENT
SCALE: 1" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

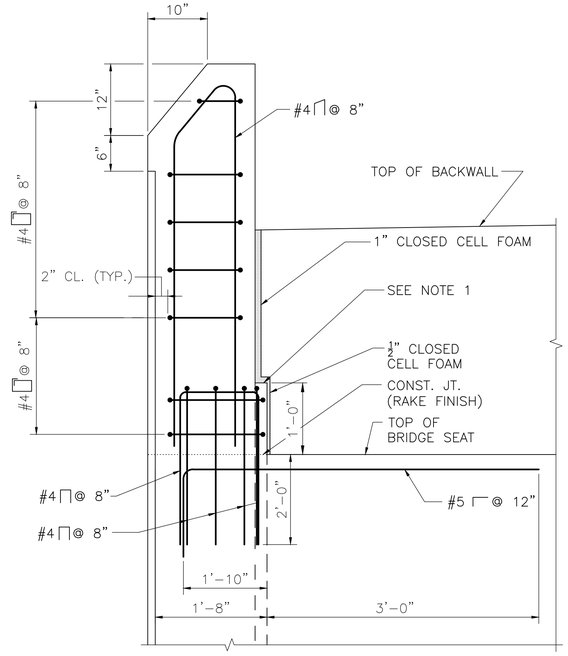
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Abut Curtain Wall & Keeper Block).dwg
S-24-016 (ABUT CURTAIN WALL & KEEPER BLOCK).DWG Plotted on 5-Feb-2026 8:31 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	101	204
PROJECT FILE NO. 609409			

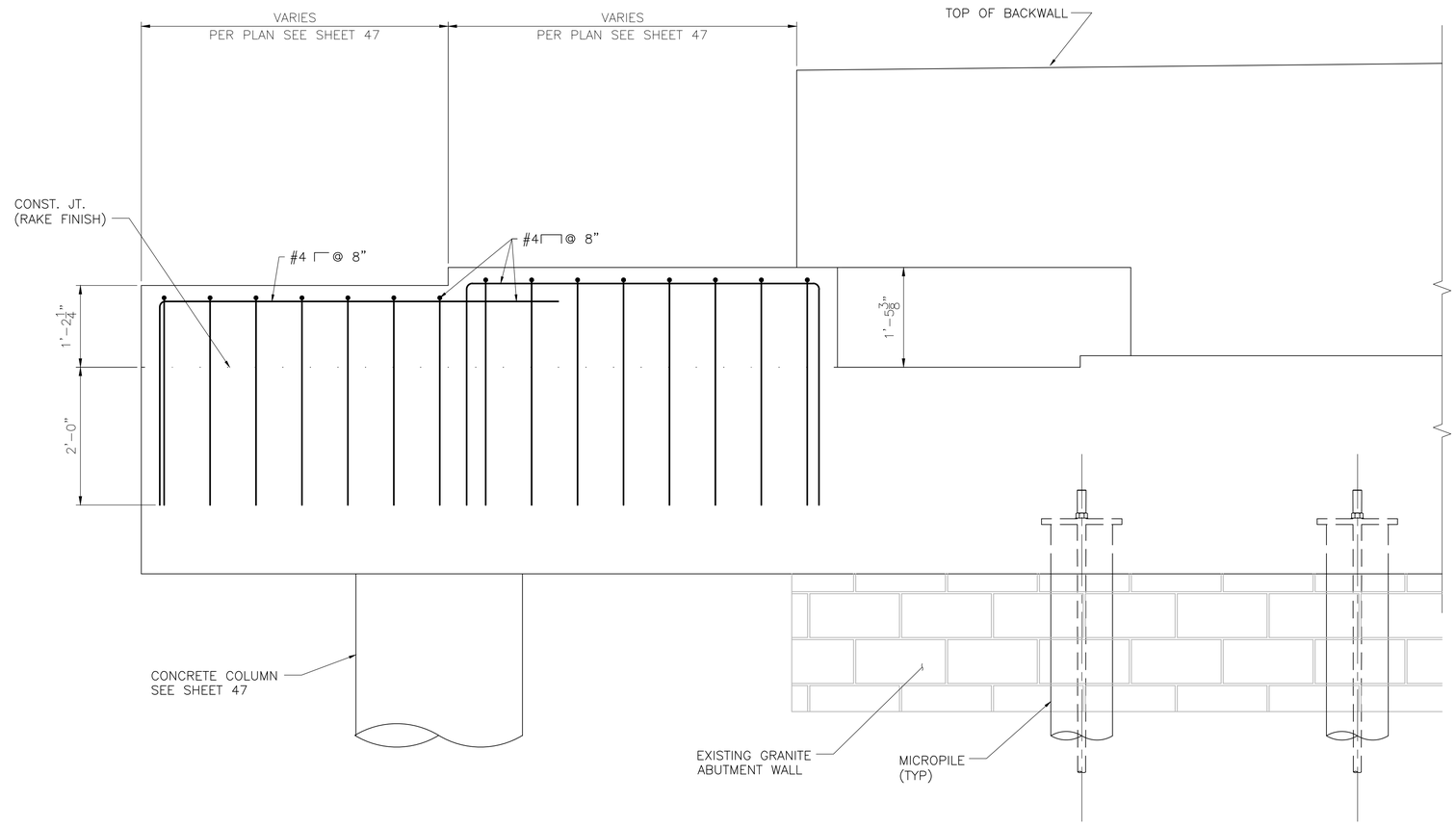
ABUTMENT CURTAIN WALL
AND KEEPER BLOCK DETAILS



NOTES:

1. TOP OF KEEPER BLOCK SHALL BE TROWELED SMOOTH PARALLEL TO PROFILE GRADE.
2. REINFORCEMENT BELOW CONSTRUCTION JOINT HAS BEEN OMITTED FOR CLARITY. SEE SHEET 43 of 70 FOR DETAILS

SECTION AT CURTAIN WALL / KEEPER BLOCK
SCALE: 1" = 1'-0"



SOUTH ABUTMENT ELEVATION – SOUTHEAST CORNER
SCALE: 1" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

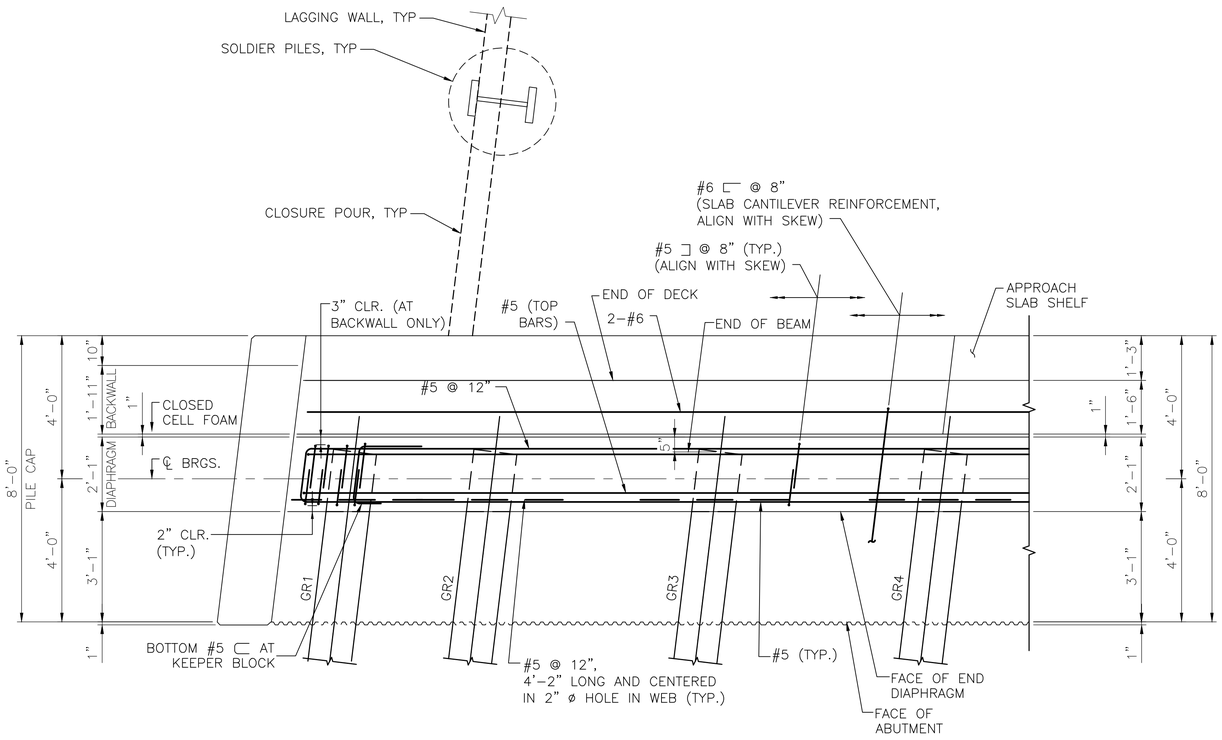
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (ABUT CURTAIN WALL & KEEPER BLOCK).DWG Plotted on 5-Feb-2026 8:32 PM
S-24-016 (Abut Curtain Wall & Keeper Block).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

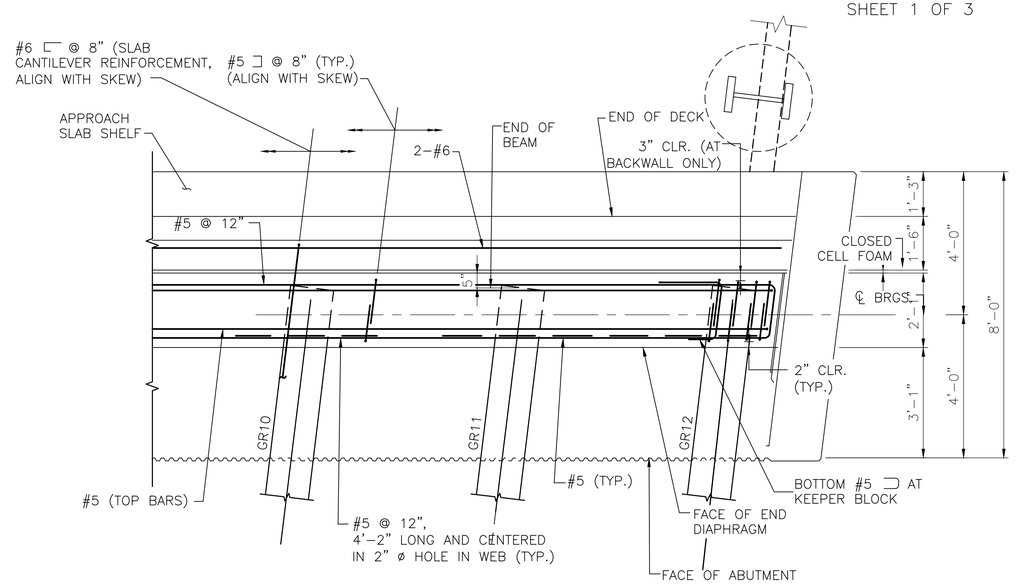
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	102	204
PROJECT FILE NO. 609409			

ABUTMENT END DIAPHRAGM DETAILS
SHEET 1 OF 3



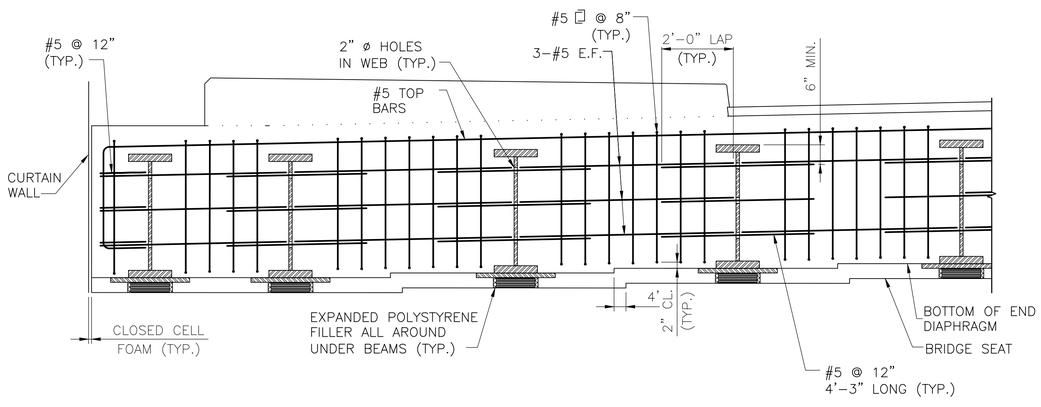
AT KEEPER BLOCK/CURTAIN WALL TYPICAL INTERIOR BAY

NORTH END DIAPHRAGM PLAN
SCALE: 1/2" = 1'-0"



TYPICAL INTERIOR BAY AT KEEPER BLOCK/CURTAIN WALL

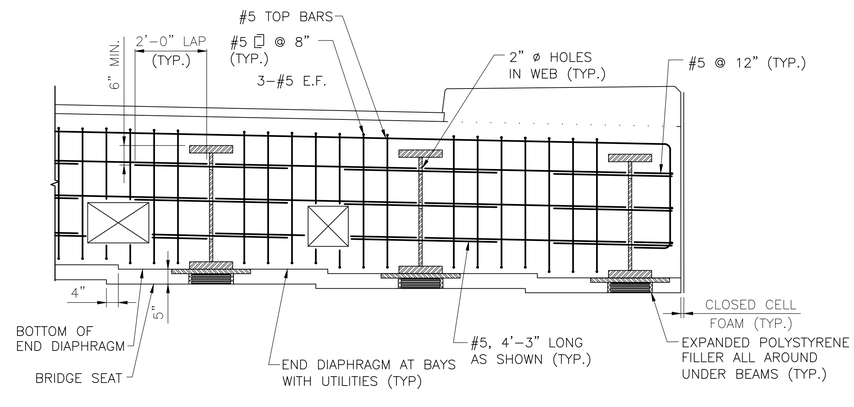
NORTH END DIAPHRAGM PLAN
SCALE: 1/2" = 1'-0"



AT KEEPER BLOCK/CURTAIN WALL TYPICAL INTERIOR BAY

NORTH END DIAPHRAGM ELEVATION
SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR MAY USE EXPANDED POLYSTYRENE FILLER OR A REMOVABLE FORM TO FORM THE BOTTOM OF THE END DIAPHRAGM.
2. FOR REINFORCEMENT IN THE SIDEWALK SEE SHEET 56.



TYPICAL INTERIOR BAY AT KEEPER BLOCK/CURTAIN WALL

NORTH END DIAPHRAGM ELEVATION
SCALE: 1/2" = 1'-0"

NOTES:
1. CONTRACTOR MAY USE EXPANDED POLYSTYRENE FILLER OR A REMOVABLE FORM TO FORM THE BOTTOM OF THE END DIAPHRAGM.
2. FOR REINFORCEMENT IN THE SIDEWALK SEE SHEET 56.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

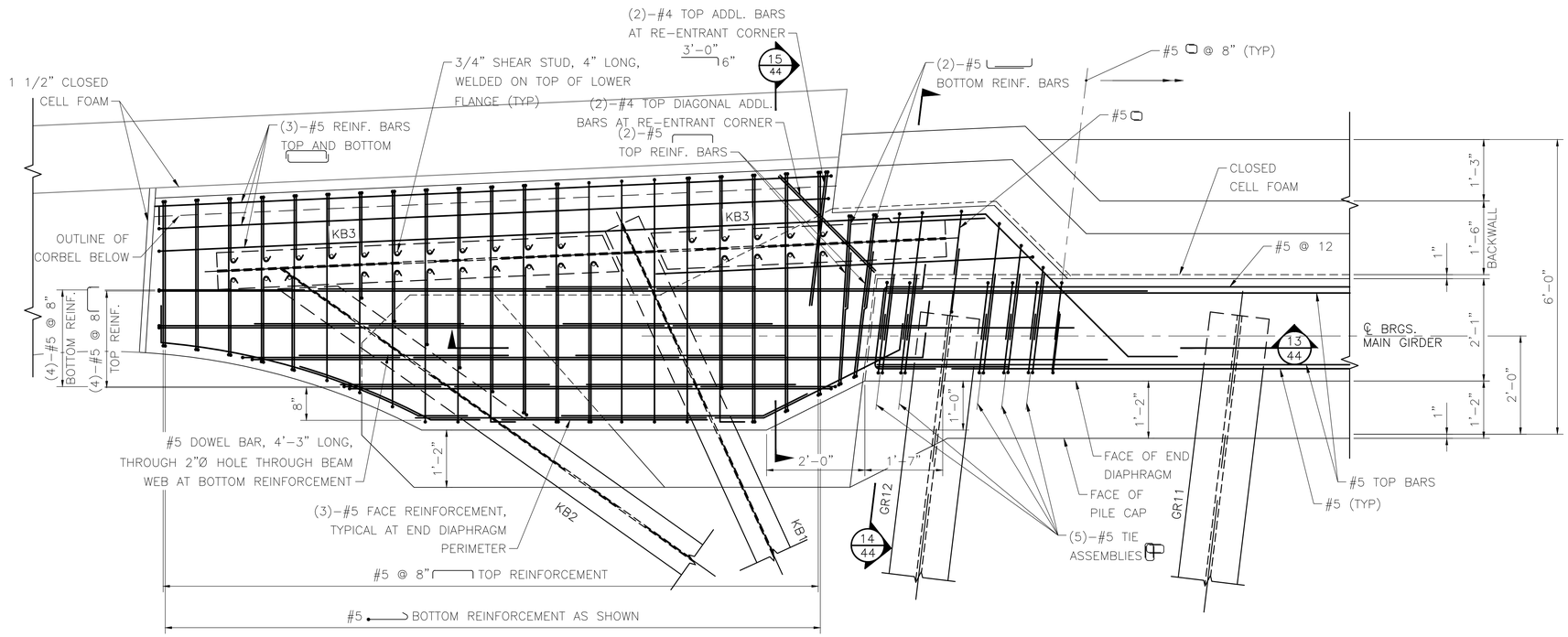
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Abut End Diaphragm Det).dwg
S-24-016 (ABUT END DIAPHRAGM DET).DWG Plotted on 5-Feb-2026 8:33 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

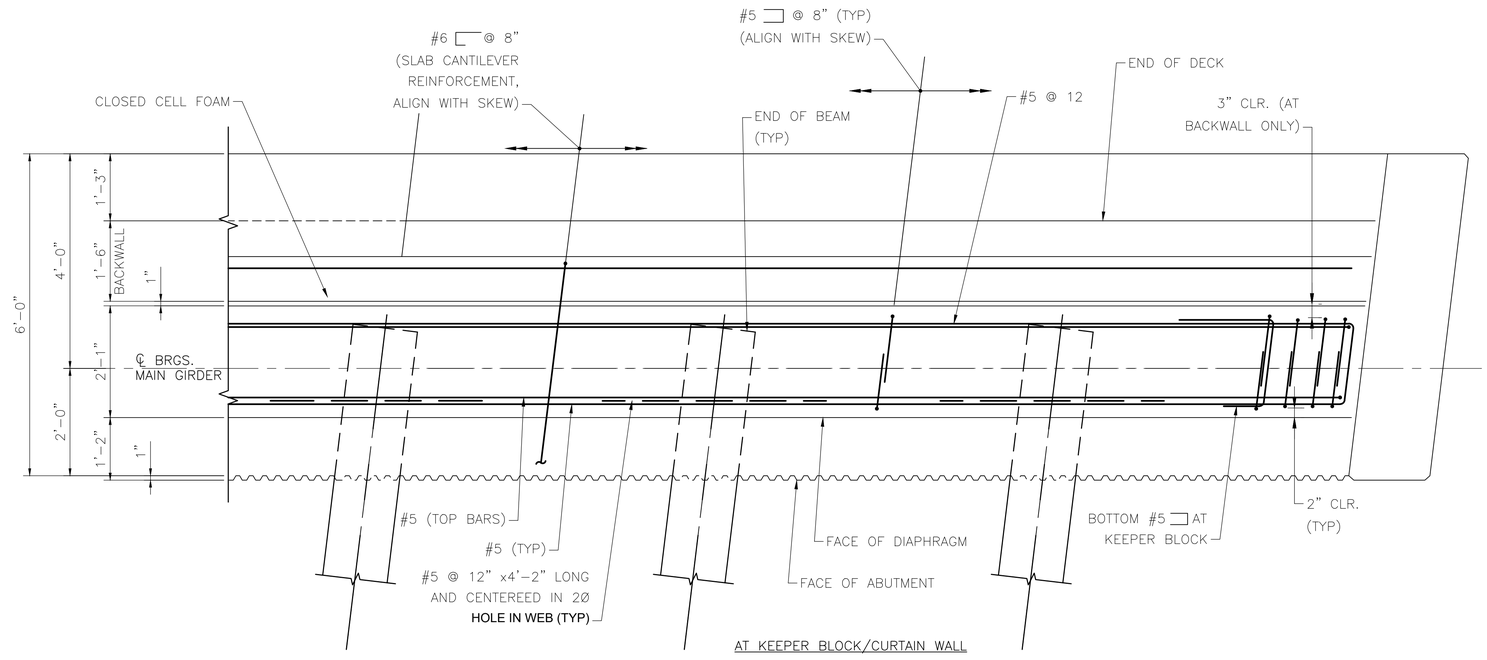
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	103	204
PROJECT FILE NO. 609409			

ABUTMENT END DIAPHRAGM DETAILS
SHEET 2 OF 3



SOUTHEAST CORNER END DIAPHRAGM – PLAN
SCALE: 3/4" = 1'-0"



AT KEEPER BLOCK/CURTAIN WALL

SOUTH END DIAPHRAGM – PLAN
SCALE: 3/4" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

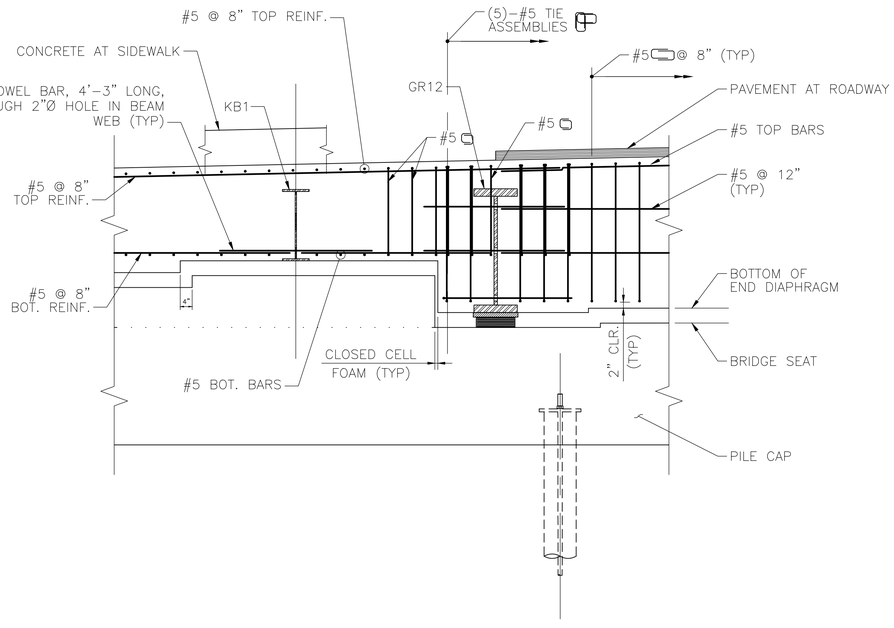
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Abut End Diaphragm Det).dwg
S-24-016 (ABUT END DIAPHRAGM DET).DWG Plotted on 5-Feb-2026 8:33 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

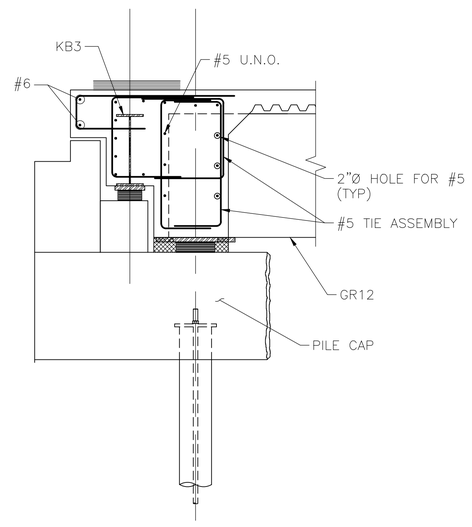
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	104	204
PROJECT FILE NO. 609409			

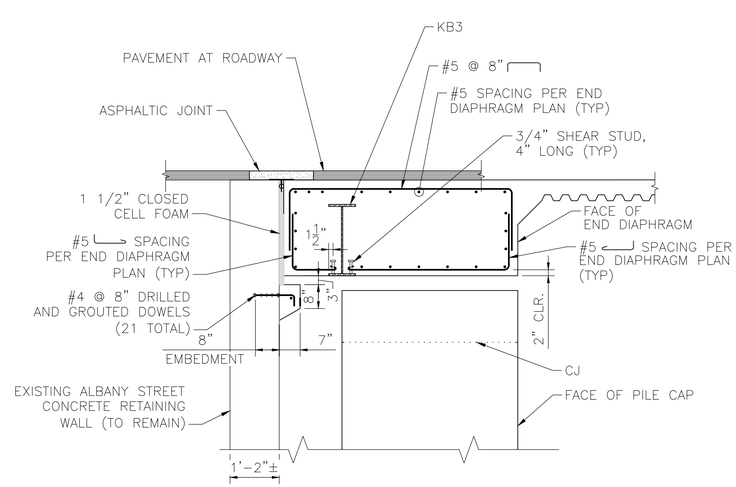
ABUTMENT END DIAPHRAGM DETAILS
SHEET 3 OF 3



SECTION 13
SCALE: 1/2" = 1'-0"



SECTION 14
SCALE: 1/2" = 1'-0"



SECTION 15
SCALE: 1/2" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

SHEET 44 OF 70 SHEETS BRIDGE NO. S-24-016 (C8G)

S-24-016 (ABUT END DIAPHRAGM DET).DWG Plotted on 5-Feb-2026 8:33 PM

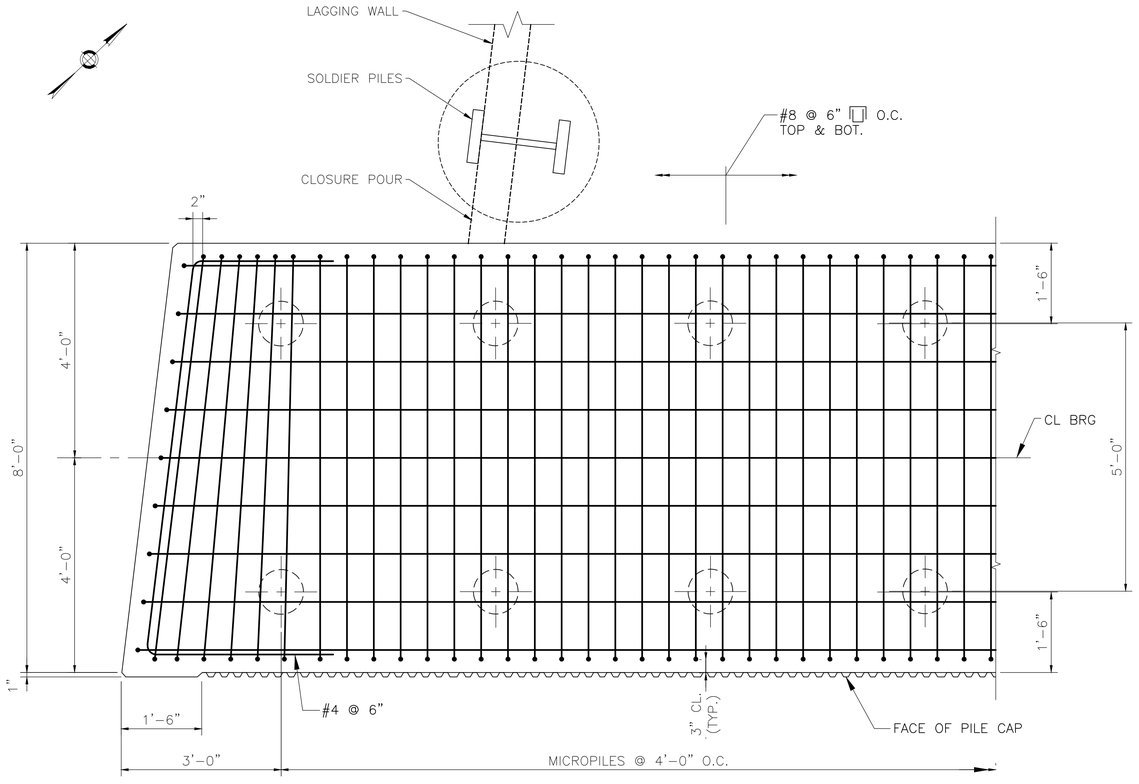
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

S-24-016 (Abut End Diaphragm Det).dwg

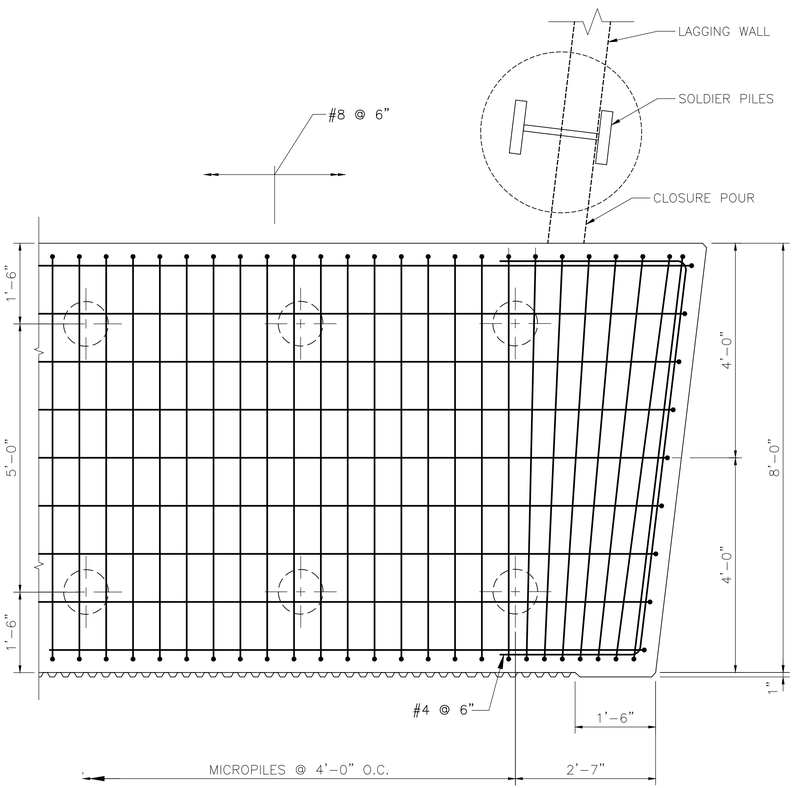
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	105	204
PROJECT FILE NO. 609409			

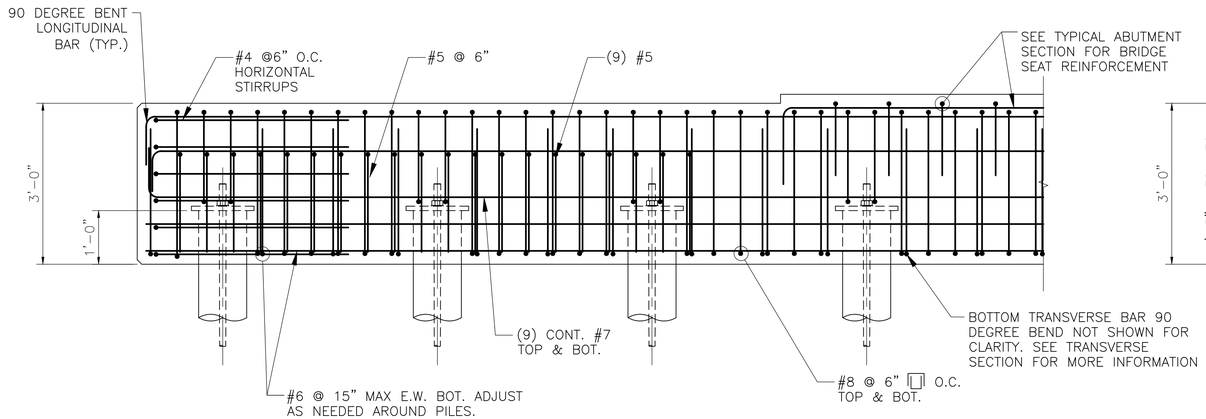
PROPOSED PILE CAP DETAIL



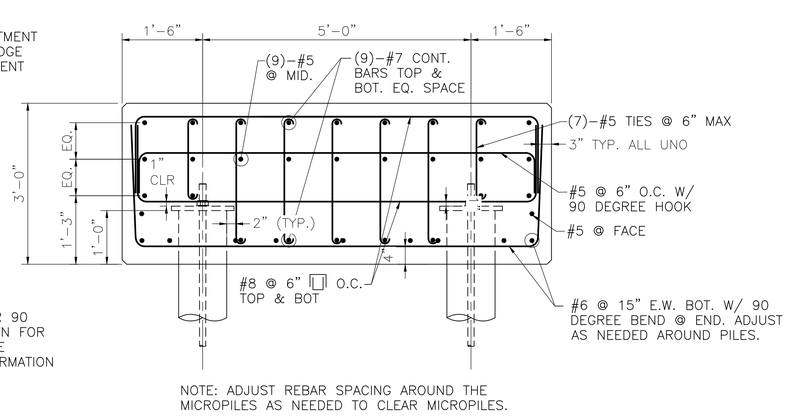
NORTH PILE CAP PLAN (SECTION)
SCALE: $\frac{3}{4}$" = 1'-0"



NORTH PILE CAP PLAN (SECTION)
SCALE: $\frac{3}{4}$" = 1'-0"



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



NOTE: ADJUST REBAR SPACING AROUND THE MICROPILES AS NEEDED TO CLEAR MICROPILES.

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

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

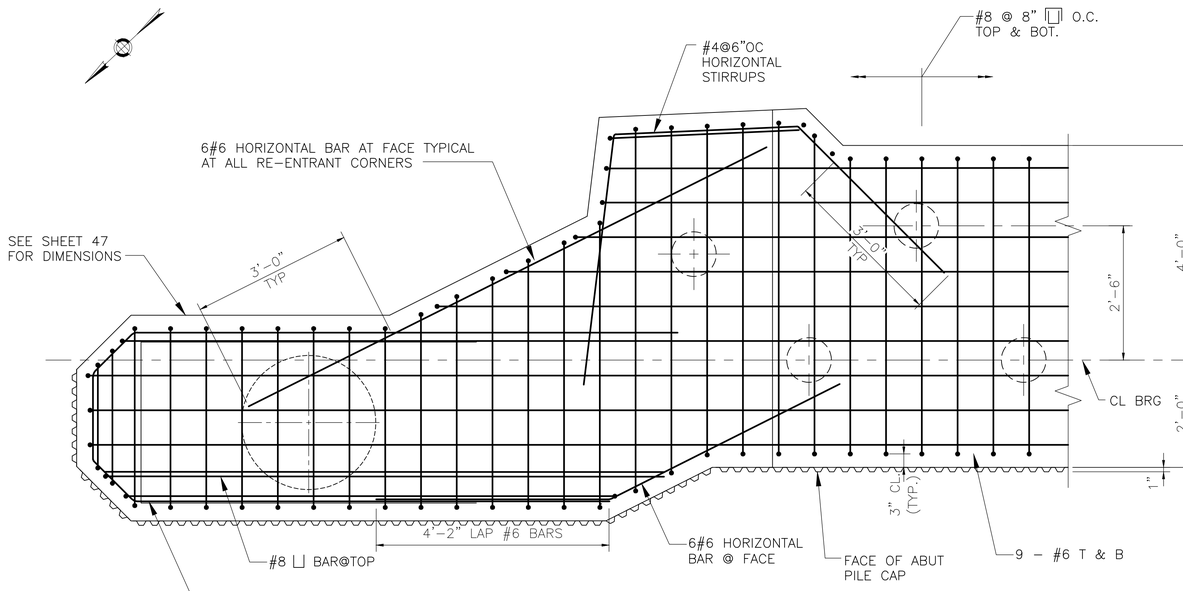
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (PROP PILE CAP DET).DWG Plotted on 5-Feb-2026 8:35 PM
S-24-016 (Prop. Pile Cap Det).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

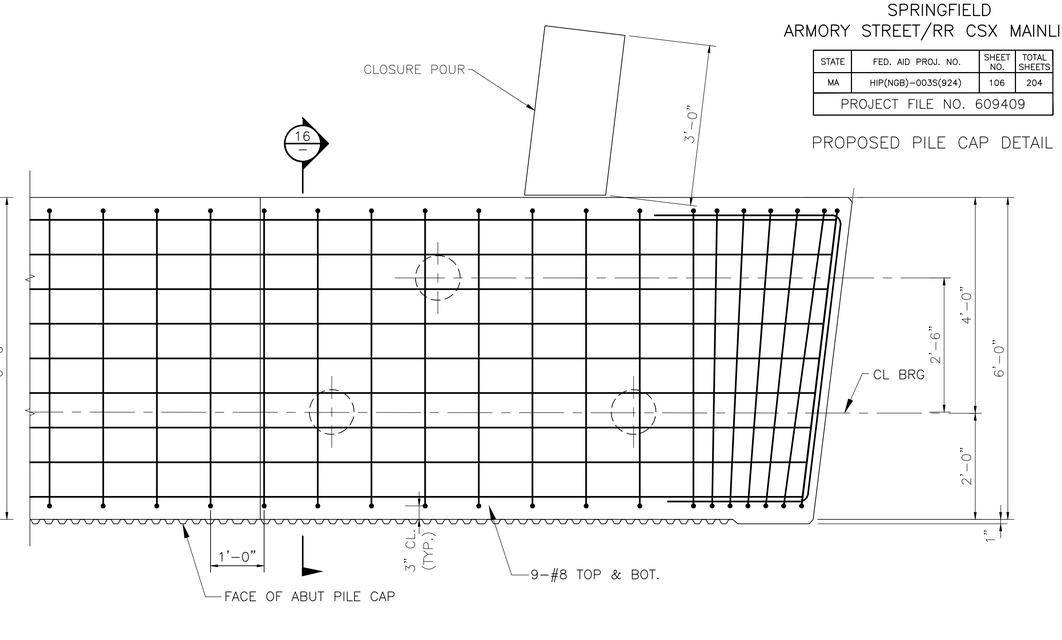
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

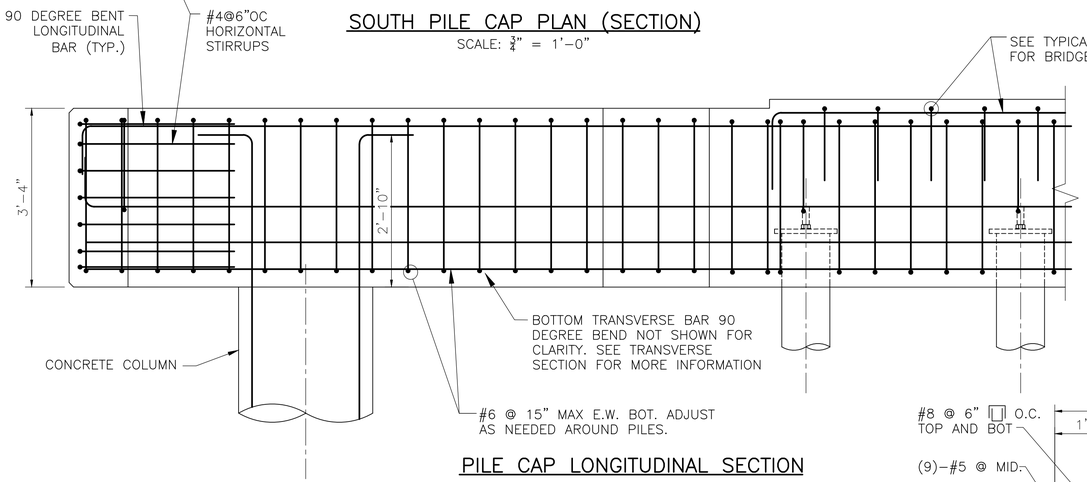
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	106	204
PROJECT FILE NO. 609409			

PROPOSED PILE CAP DETAIL

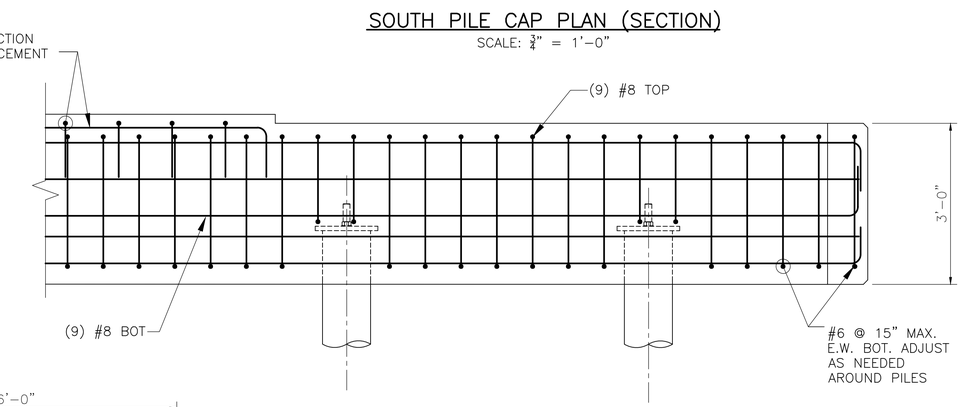


SOUTH PILE CAP PLAN (SECTION)
SCALE: ¾" = 1'-0"

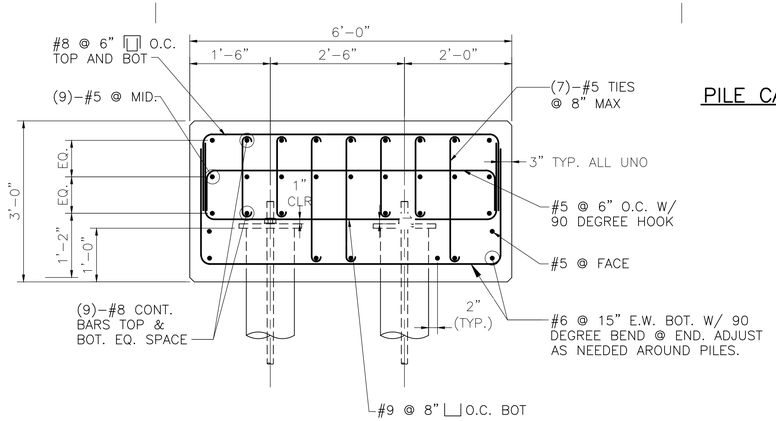




PILE CAP LONGITUDINAL SECTION
SCALE: ¾" = 1'-0"



PILE CAP LONGITUDINAL SECTION
SCALE: ¾" = 1'-0"



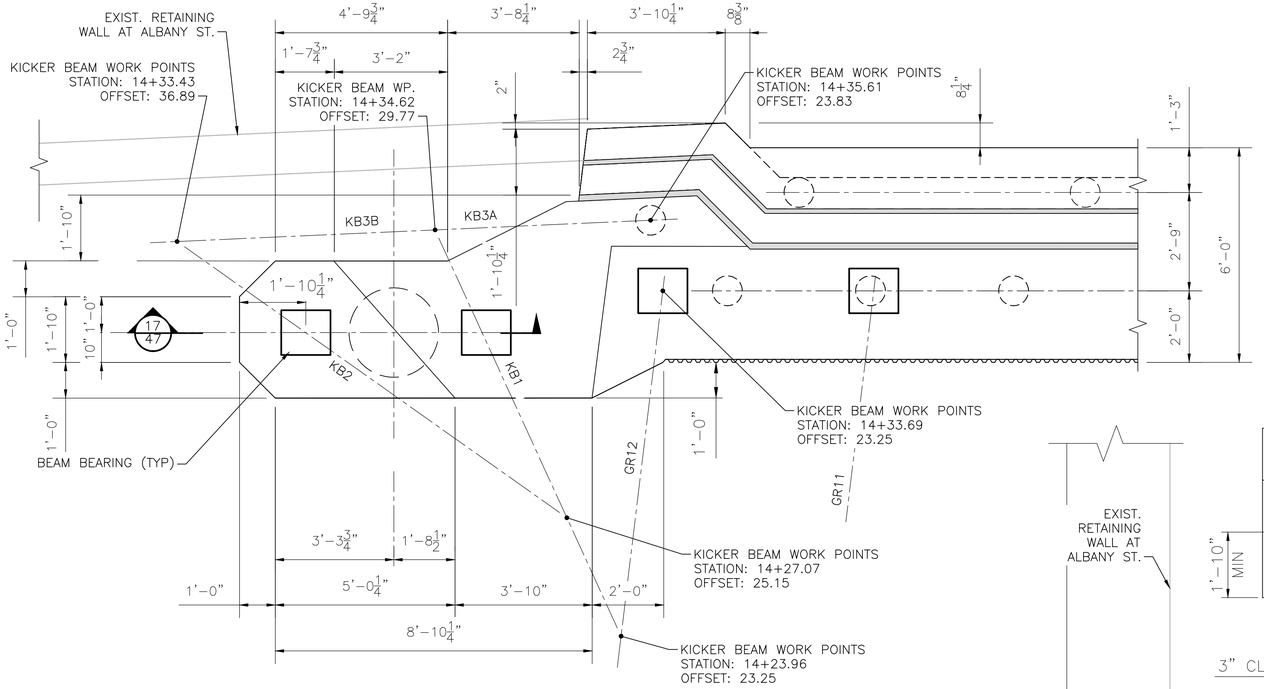
NOTE: ADJUST REBAR SPACING AROUND THE
MICROPILES AS NEEDED TO CLEAR MICROPILES.

PILE CAP TRANSVERSE SECTION - 16
SCALE: ¾" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

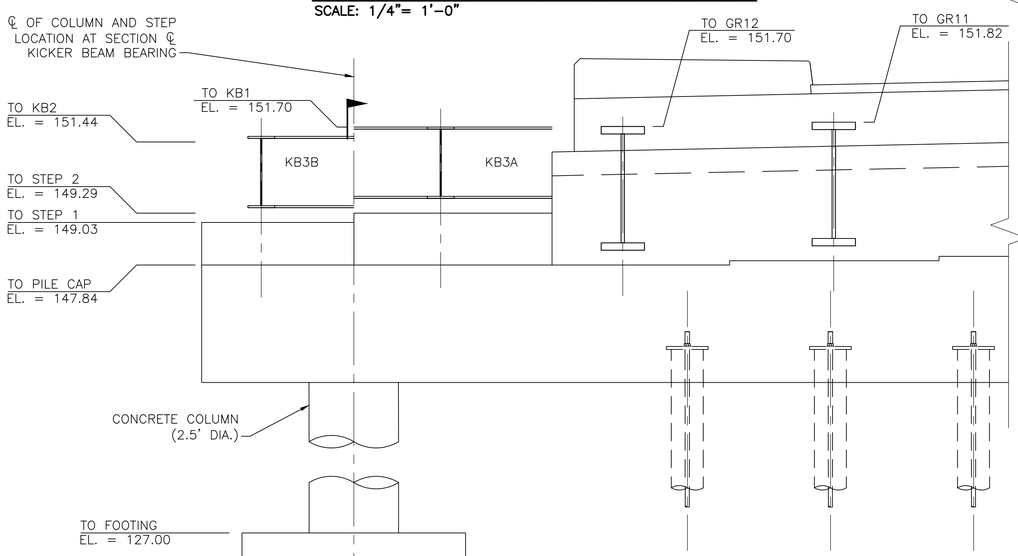
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Prop Pile Cap Det).dwg
S-24-016 (PROP PILE CAP DET).DWG Plotted on 5-Feb-2026 8:35 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



ENLARGED PLAN OF SOUTHEAST CORNER OF SOUTH ABUTMENT – DETAIL A

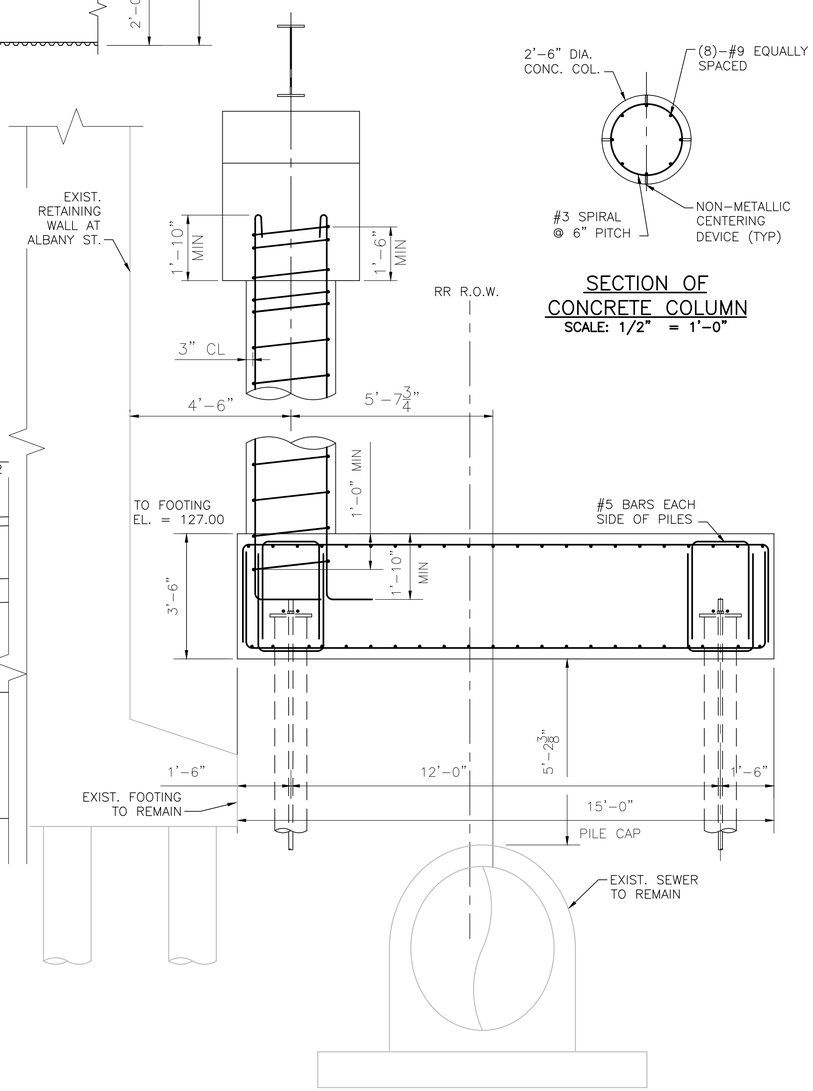
SCALE: 1/4"= 1'-0"



SECTION

SCALE: 1/2"= 1'-0" (17/47)

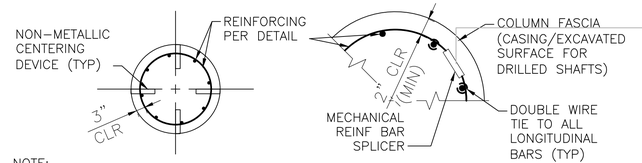
NOTE:
FOR MICROPILE INFORMATION SEE SHEETS 30 AND 31.



NOTE:
MICROPILES ARE NOT DESIGNED FOR AN UNSUPPORTED EXCAVATION FOR SEWER REPLACEMENT.

CONCRETE COLUMN SECTION

SCALE: 1/4"= 1'-0" (18/47)



NOTE:
NON-METALLIC CENTERING DEVICES TO BE PLACED AT 1/4 POINTS IN COLUMN. DETAILS OF ALTERNATIVE CENTERING DEVICES MUST BE SUBMITTED TO AND APPROVED BY THE DIRECTOR OF BRIDGES AND STRUCTURES.

COLUMN CENTERING DEVICE

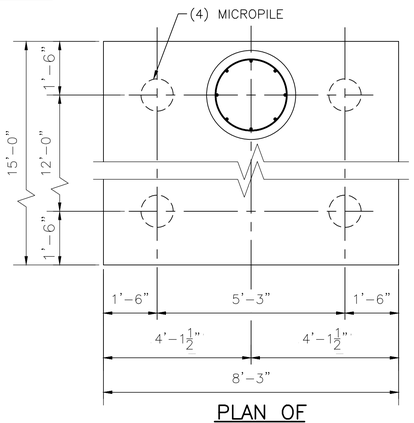
SCALE: 1/2" = 1'-0"

SPIRAL REINFORCEMENT SPLCE DETAIL

SCALE: NO SCALE

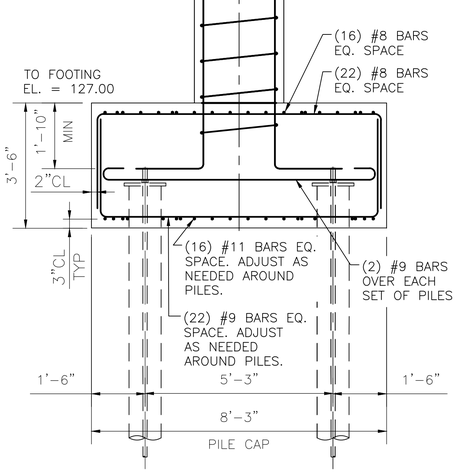
SECTION OF CONCRETE COLUMN

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



PLAN OF CONCRETE FOUNDATION

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



SECTION OF CONCRETE COLUMN AND FOUNDATION (2.5' DIA.)

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

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

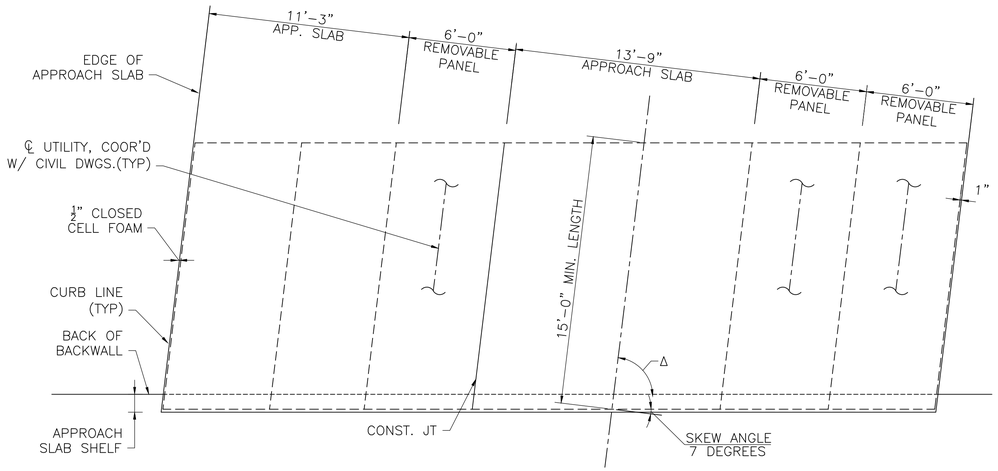
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	107	204
PROJECT FILE NO. 609409			

SE CORNER SUBSTRUCTURE DETAILS

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

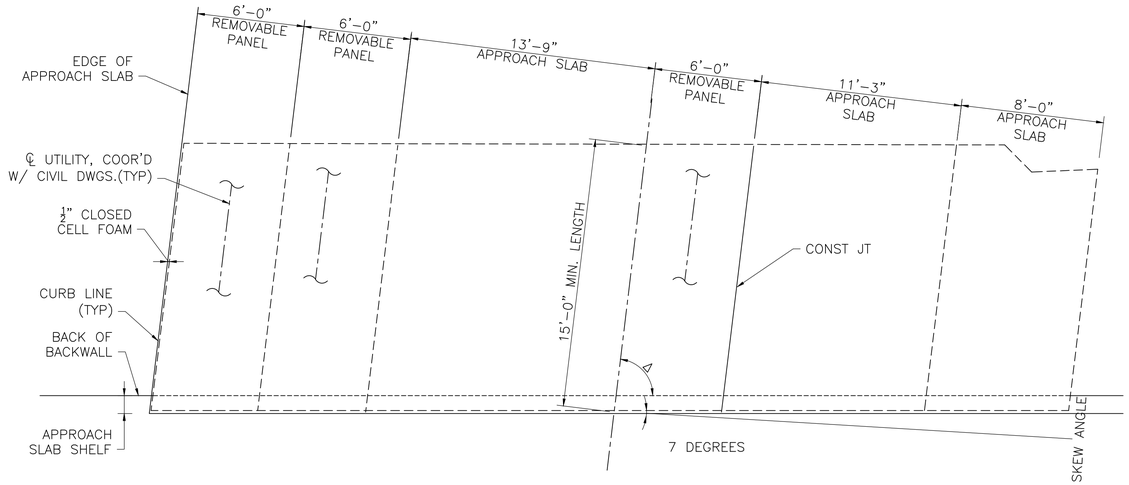
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Substructure Details).dwg
S-24-016 (SUBSTRUCTURE DETAILS).DWG Plotted on 5-Feb-2026 8:36 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



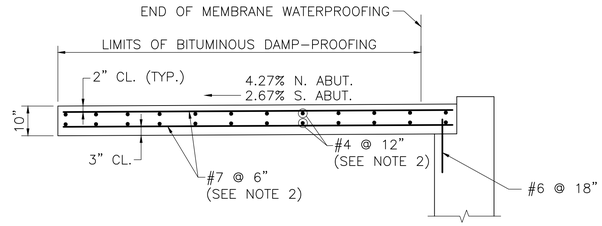
NORTH APPROACH SLAB–PLAN

NOT TO SCALE



SOUTH APPROACH SLAB–PLAN

NOT TO SCALE

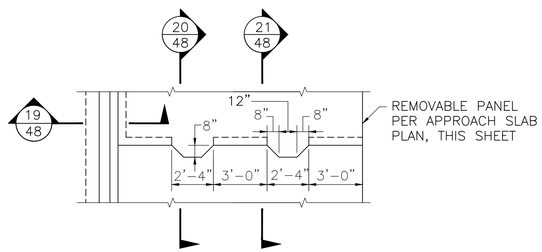


APPROACH SLAB DETAILS (TYPE 1)

SCALE: ½" = 1'–0"

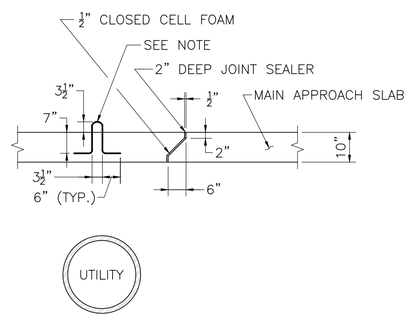
NOTES:

1. APPROACH SLAB TO BE 5000 PSI, ¾ IN, 685 HP CEMENT CONCRETE.
2. PLACE LONGITUDINAL REINFORCEMENT PARALLEL TO CENTERLINE OF CONSTRUCTION. PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT.
3. APPROACH SLAB REINFORCEMENT SHALL BE UNCOATED UNO.
4. APPROACH SLAB SHALL BE LIFTED AT QUARTER POINTS. USE #5 COATED BARS. TWO (2) LIFT HOOKS REQUIRED.
5. THE FABRICATOR IS FULLY RESPONSIBLE FOR THE DESIGN OF THE LIFTING DEVICES WHICH SHALL BE ADEQUATE FOR THE SAFETY FACTORS REQUIRED BY ERECTION PROCEDURE.



PLAN OF REMOVABLE PANEL

SCALE: ¼" = 1'–0"

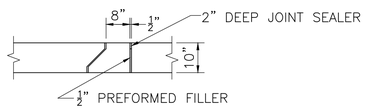


NOTE:

2 LIFT HOOKS REQUIRED. USE #5 COATED REBAR AT QUARTER POINTS.

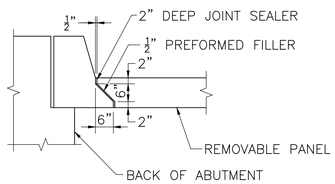
SECTION 20

SCALE: ½" = 1'–0"



SECTION 21

SCALE: ½" = 1'–0"



SECTION 19

SCALE: ½" = 1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	108	204
PROJECT FILE NO. 609409			

TYPICAL ABUTMENT SECTIONS & DETAILS

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

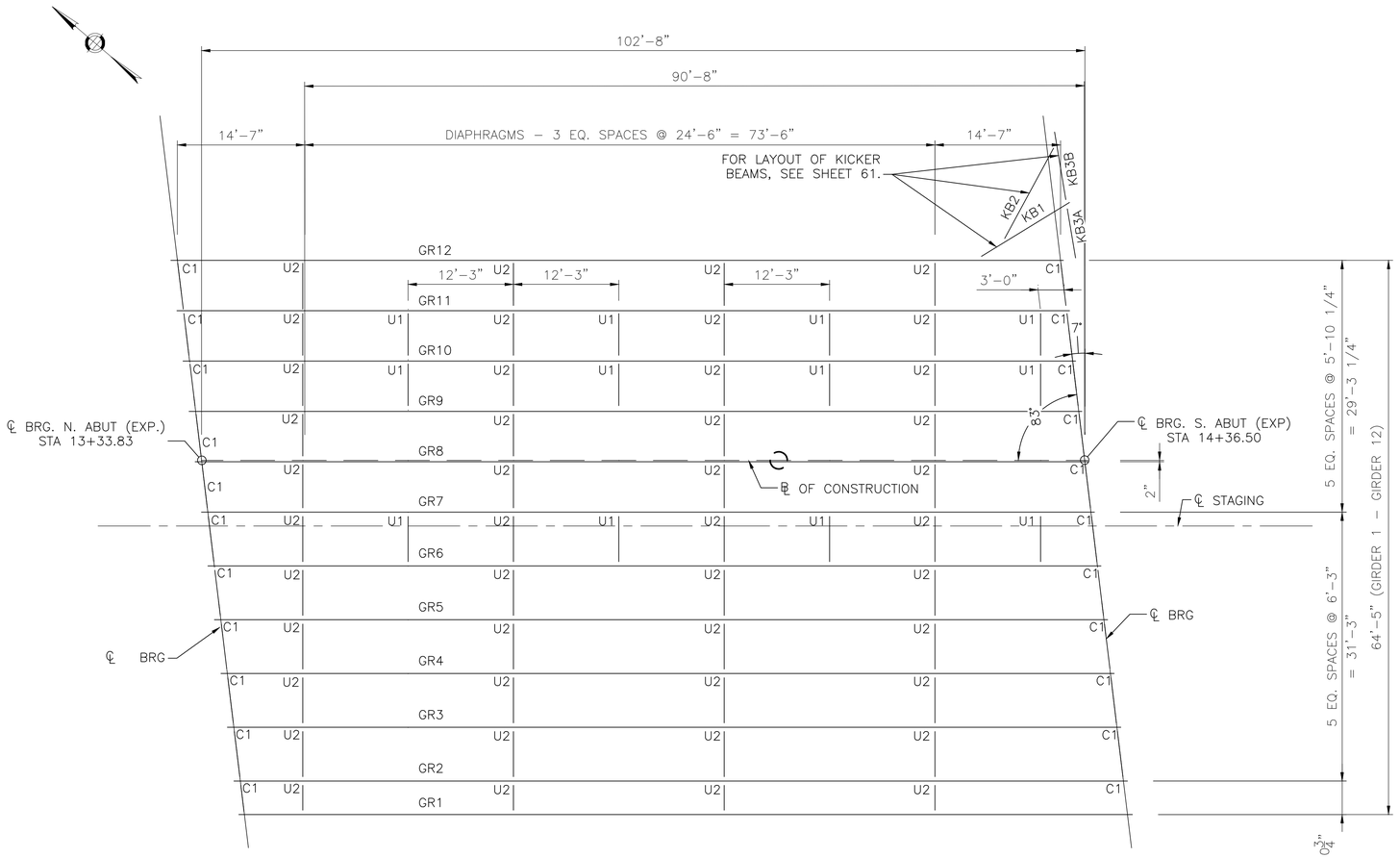
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (TYP ABUT SECT & DET).DWG Plotted on 5-Feb-2026 8:38 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	109	204
PROJECT FILE NO. 609409			

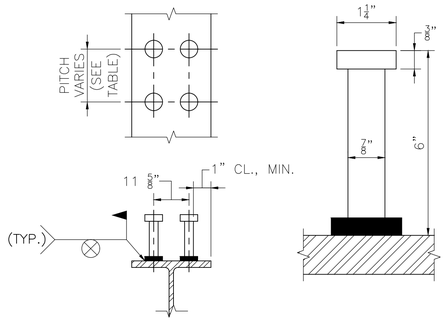
FRAMING PLAN



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

NOTES:

1. C1 = C15x33.9 (TYPICAL END DIAPHRAGM)
   U1 = UTILITY SUPPORT BETWEEN DIAPHRAGMS
   U2 = UTILITY SUPPORT AT INTERMEDIATE DIAPHRAGMS
2. SEE SHEETS 52 TO 53 FOR DIAPHRAGM AND UTILITY SUPPORT DETAILS.
3. THE MAIN LOAD CARRYING MEMBERS ARE GIRDERS 1 THROUGH 12.
4. ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO AASHTO M270 GRADE 50W UNLESS NOTED OTHERWISE.



STUD SHEAR CONNECTORS
NOT TO SCALE

GIRDER	STUDS/ROW	PITCH (in)	TOTAL SHEAR STUDS
1	2	22.00	116
2	2	6.00	414
3	2	6.00	414
4	2	6.00	414
5	2	6.00	414
6	2	6.00	414
7	2	6.00	414
8	2	6.00	414
9	2	6.00	414
10	2	6.00	414
11	2	6.00	414
12	2	14.00	180

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

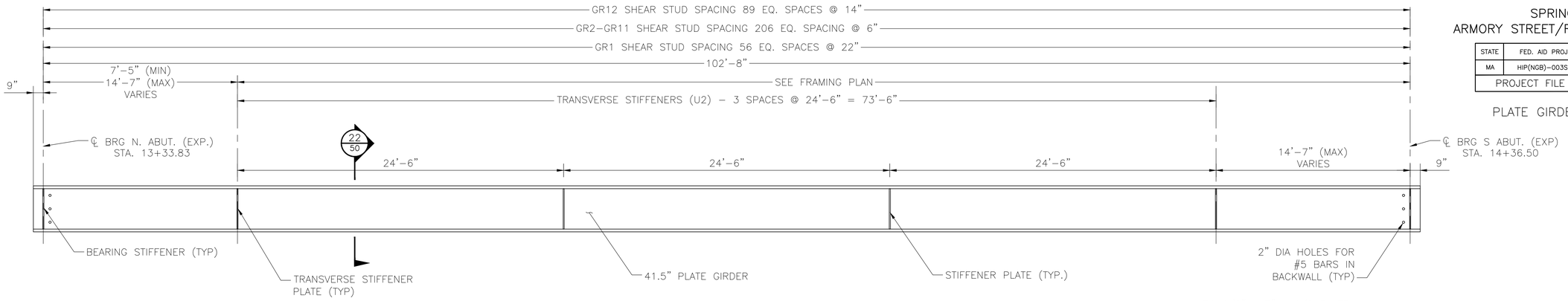
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Framing Plan).dwg
S-24-016 (FRAMING PLAN).DWG Plotted on 5-Feb-2026 8:40 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

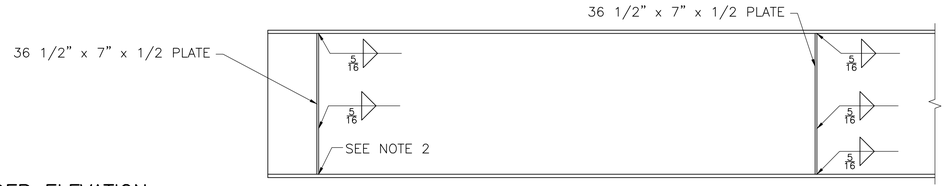
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	110	204
PROJECT FILE NO. 609409			

PLATE GIRDER DETAILS



NOTES:
1. ALL INTERMEDIATE STIFFENERS SHALL BE PERPENDICULAR TO THE GIRDER FLANGES.
2. ALL BEARING STIFFENERS SHALL BE PLUMB.
3. ENDS OF BEAMS SHALL BE FABRICATED SO THAT UNDER FULL DEAD LOAD THE ENDS WILL BE PLUMB.

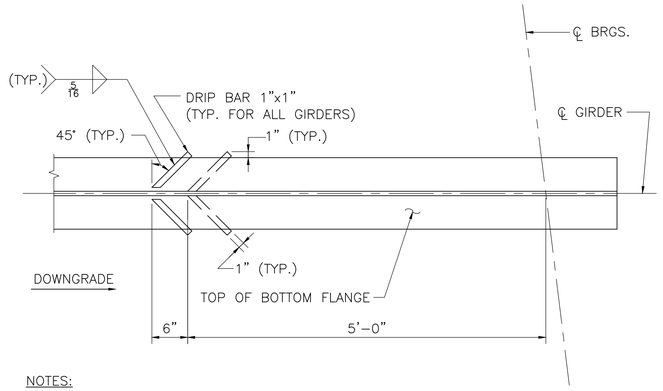
PLATE GIRDER ELEVATION
SCALE: 1/4"= 1'-0"



END BEARING AT C1

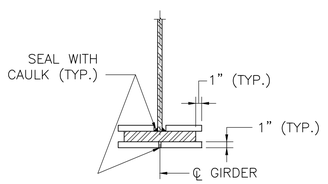
STIFFENERS/CONNECTION PLATE AT U2

NOTES:
1. SEE CLIP DETAIL ON THIS SHEET.
2. BEARING STIFFENER PLATE AT BOTTOM FLANGE SHALL BE MILLED FOR TIGHT FIT AND WELDED WITH 5/16" FILLET WELDS BOTH SIDES OF PLATE.

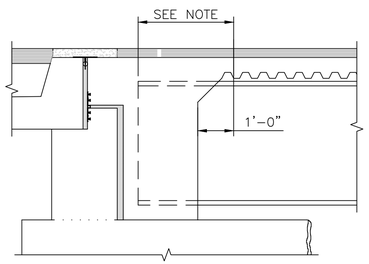


NOTES:
1. DRIP BARS SHALL BE LOCATED ON THE LOW END OF EACH SPAN FOR ALL GIRDERS.
2. SEE DRIP BAR SECTION, BELOW.

DRIP BAR DETAIL
SCALE: 1" = 1'-0"



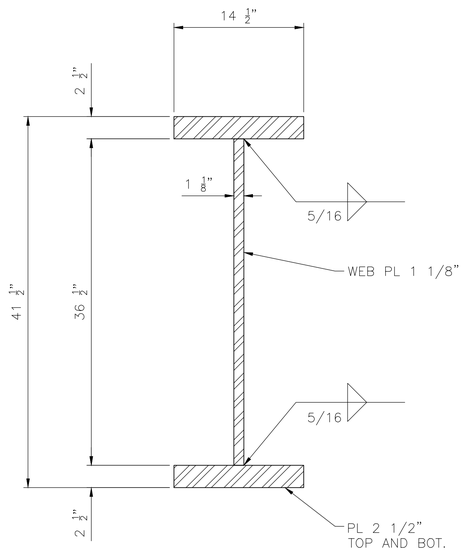
DRIP BAR SECTION
SCALE: 1" = 1'-0"



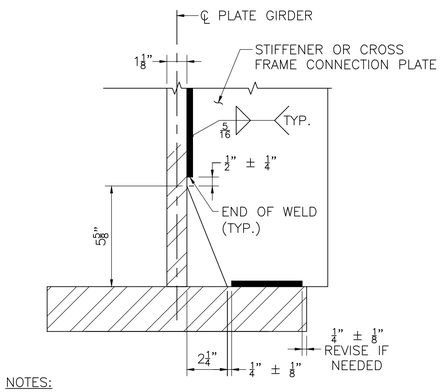
NOTE:
PAINT ALL SUPERSTRUCTURE STEEL WITHIN A DISTANCE OF 1 1/2 TIMES THE DEPTH OF GIRDER FROM BRIDGE JOINTS. WHEN WEATHERING STEEL IS PAINTED, THE FINISH COAT COLOR SHALL CONFORM TO FEDERAL STANDARD 595B, "COLORS USED IN GOVERNMENT PROCUREMENT", COLOR CHIP NO. 30045

LIMITS OF PAINTED WEATHERING STEEL
SCALE: 1/2" = 1'-0"

STIFFENER ATTACHMENT DETAILS
SCALE: 3/4"= 1'-0"



TYPICAL PLATE GIRDER SECTION 22
SCALE: 1 1/2"= 1'-0"



NOTES:
1. AT STIFFENER LOCATIONS, MODIFY THE PLATE ATTACHMENT TO THE FLANGES AS SHOWN IN THE TYPICAL STIFFENER ATTACHMENTS ON THIS SHEET.
2. TERMINATE WELD 1/4" FROM EDGE OF FLANGE OR CONNECTION PLATE, WHICHEVER IS ENCOUNTERED FIRST.

CLIP DETAIL
NOT TO SCALE

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

S-24-016 (PLATE GIRDER DETAILS).DWG Plotted on 5-Feb-2026 8:41 PM
S-24-016 (Plate Girder Details).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

CAMBER TABLE

BM. NO.		SPAN NO. 1										
		CL BRG. N. ABT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. S. ABT.
1	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.431	0.816	1.117	1.308	1.374	1.308	1.117	0.816	0.431	0.000
	S.D.L. DEFLECTION	0.000	0.568	1.075	1.472	1.724	1.810	1.724	1.472	1.075	0.568	0.000
	VERT. CURVE CAMBER	0.000	2.475	4.401	5.776	6.601	6.876	6.601	5.776	4.401	2.475	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	4.054	7.360	9.805	11.304	11.809	11.304	9.805	7.360	4.054	0.000
2	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.546	1.034	1.415	1.657	1.740	1.657	1.415	1.034	0.546	0.000
	S.D.L. DEFLECTION	0.000	0.493	0.933	1.277	1.496	1.571	1.496	1.277	0.933	0.493	0.000
	VERT. CURVE CAMBER	0.000	2.475	4.401	5.776	6.601	6.876	6.601	5.776	4.401	2.475	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	4.094	7.436	9.908	11.425	11.937	11.425	9.908	7.436	4.094	0.000
3	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.589	1.114	1.526	1.787	1.876	1.787	1.526	1.114	0.589	0.000
	S.D.L. DEFLECTION	0.000	0.415	0.785	1.075	1.260	1.323	1.260	1.075	0.785	0.415	0.000
	VERT. CURVE CAMBER	0.000	2.478	4.404	5.781	6.607	6.882	6.607	5.781	4.404	2.478	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	4.061	7.373	9.822	11.324	11.831	11.324	9.822	7.373	4.061	0.000
4	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.589	1.114	1.526	1.787	1.876	1.787	1.526	1.114	0.589	0.000
	S.D.L. DEFLECTION	0.000	0.361	0.683	0.936	1.096	1.151	1.096	0.936	0.683	0.361	0.000
	VERT. CURVE CAMBER	0.000	2.484	4.416	5.796	6.624	6.900	6.624	5.796	4.416	2.484	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	4.013	7.283	9.697	11.178	11.677	11.178	9.697	7.283	4.013	0.000
5	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.621	1.175	1.608	1.884	1.978	1.884	1.608	1.175	0.621	0.000
	S.D.L. DEFLECTION	0.000	0.301	0.569	0.779	0.913	0.958	0.913	0.779	0.569	0.301	0.000
	VERT. CURVE CAMBER	0.000	2.501	4.447	5.836	6.670	6.948	6.670	5.836	4.447	2.501	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	4.002	7.260	9.664	11.138	11.634	11.138	9.664	7.260	4.002	0.000
6	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.660	1.248	1.709	2.001	2.102	2.001	1.709	1.248	0.660	0.000
	S.D.L. DEFLECTION	0.000	0.301	0.569	0.779	0.913	0.958	0.913	0.779	0.569	0.301	0.000
	VERT. CURVE CAMBER	0.000	2.495	4.435	5.821	6.653	6.930	6.653	5.821	4.435	2.495	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	4.034	7.321	9.749	11.238	11.740	11.238	9.749	7.321	4.034	0.000
7	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.611	1.156	1.583	1.854	1.947	1.854	1.583	1.156	0.611	0.000
	S.D.L. DEFLECTION	0.000	0.303	0.574	0.785	0.920	0.966	0.920	0.785	0.574	0.303	0.000
	VERT. CURVE CAMBER	0.000	2.506	4.454	5.846	6.682	6.960	6.682	5.846	4.454	2.506	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	3.999	7.253	9.655	11.127	11.622	11.127	9.655	7.253	3.999	0.000
8	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.553	1.047	1.433	1.678	1.762	1.678	1.433	1.047	0.553	0.000
	S.D.L. DEFLECTION	0.000	0.306	0.578	0.792	0.927	0.974	0.927	0.792	0.578	0.306	0.000
	VERT. CURVE CAMBER	0.000	2.523	4.485	5.887	6.728	7.008	6.728	5.887	4.485	2.523	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	3.960	7.179	9.551	11.005	11.494	11.005	9.551	7.179	3.960	0.000
9	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.610	1.153	1.579	1.849	1.942	1.849	1.579	1.153	0.610	0.000
	S.D.L. DEFLECTION	0.000	0.306	0.578	0.792	0.927	0.974	0.927	0.792	0.578	0.306	0.000
	VERT. CURVE CAMBER	0.000	2.514	4.470	5.867	6.705	6.984	6.705	5.867	4.470	2.514	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	4.008	7.270	9.677	11.153	11.649	11.153	9.677	7.270	4.008	0.000
10	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.623	1.179	1.614	1.890	1.985	1.890	1.614	1.179	0.623	0.000
	S.D.L. DEFLECTION	0.000	0.306	0.578	0.792	0.927	0.974	0.927	0.792	0.578	0.306	0.000
	VERT. CURVE CAMBER	0.000	2.510	4.462	5.856	6.693	6.972	6.693	5.856	4.462	2.510	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	4.017	7.288	9.702	11.182	11.680	11.182	9.702	7.288	4.017	0.000
11	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.596	1.128	1.544	1.808	1.899	1.808	1.544	1.128	0.596	0.000
	S.D.L. DEFLECTION	0.000	0.290	0.549	0.752	0.881	0.925	0.881	0.752	0.549	0.290	0.000
	VERT. CURVE CAMBER	0.000	2.506	4.454	5.846	6.682	6.960	6.682	5.846	4.454	2.506	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	3.971	7.200	9.583	11.042	11.534	11.042	9.583	7.200	3.971	0.000
12	**STEEL DL DEFLECTION**	0.000	0.348	0.658	0.901	1.055	1.108	1.055	0.901	0.658	0.348	0.000
	CONC. DL DEFLECTION	0.000	0.455	0.860	1.178	1.379	1.448	1.379	1.178	0.860	0.455	0.000
	S.D.L. DEFLECTION	0.000	0.343	0.649	0.888	1.040	1.092	1.040	0.888	0.649	0.343	0.000
	VERT. CURVE CAMBER	0.000	4.314	7.668	10.065	11.503	11.982	11.503	10.065	7.668	4.314	0.000
	ADDITIONAL CAMBER	0.000	0.231	0.411	0.539	0.616	0.642	0.616	0.539	0.411	0.231	0.000
	TOTAL CAMBER	0.000	5.690	10.246	13.571	15.593	16.272	15.593	13.571	10.246	5.690	0.000

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	111	204
PROJECT FILE NO. 609409			

CAMBER TABLE AND DIAGRAM

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

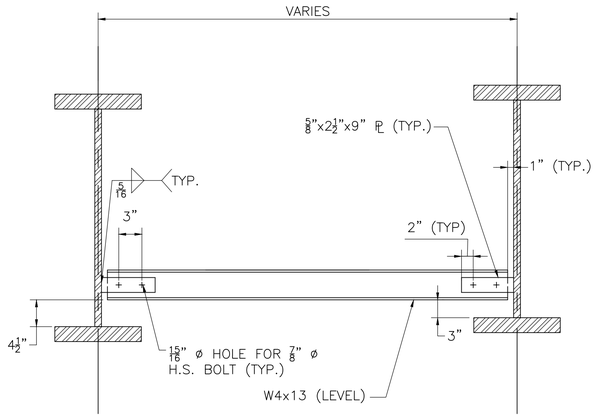
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

SHEET 51 OF 70 SHEETS BRIDGE NO. S-24-016 (C8G)

S-24-016 (Camber Table).dwg

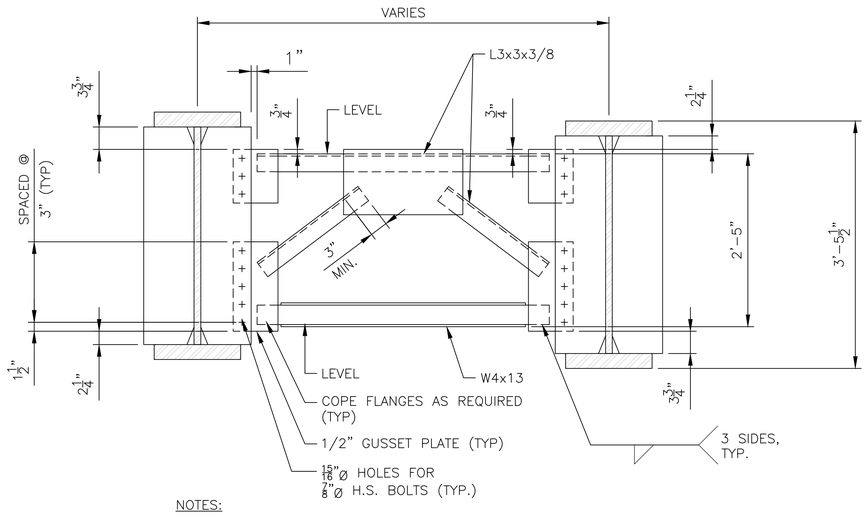
S-24-016 (CAMBER TABLE).DWG Plotted on 5-Feb-2026 8:42 PM

Xxxxxx Structural Submittal (S#) DD-Month-YYYY



UTILITY SUPPORT DETAIL BETWEEN DIAPHRAGMS (TYPE U1)

SCALE: 1" = 1'–0"

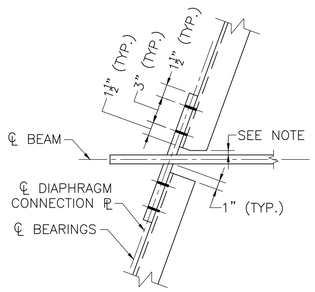


NOTES:

1. SEE CLIP DETAIL ON SHEET 50.
2. TERMINATE FILLET WELDS 1/2" SHORT OF ALL PLATE EDGES.

TYPICAL INTERMEDIATE DIAPHRAGM/UTILITY SUPPORT FRAME DETAIL (U2)

SCALE: 3/4" = 1'–0"



NOTE:
FLANGE OF CHANNEL MAY BE CLIPPED TO AVOID INTERFERENCE WITH WEB.

END DIAPHRAGM CONNECTION DETAIL

SCALE: 1 1/2" = 1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

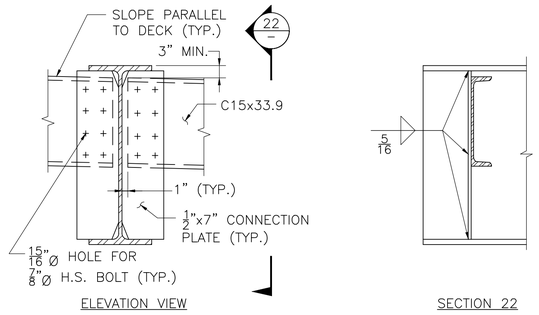
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–003S(924)	112	204
PROJECT FILE NO. 609409			

UTILITY SUPPORT DETAILS

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (UTILITY SUPPORT DETAILS).DWG Plotted on 5-Feb-2026 8:44 PM
S–24–016 (Utility Support Details).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY



END DIAPHRAGM ELEVATION AND SECTION (TYPE C1)

SCALE: 1" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

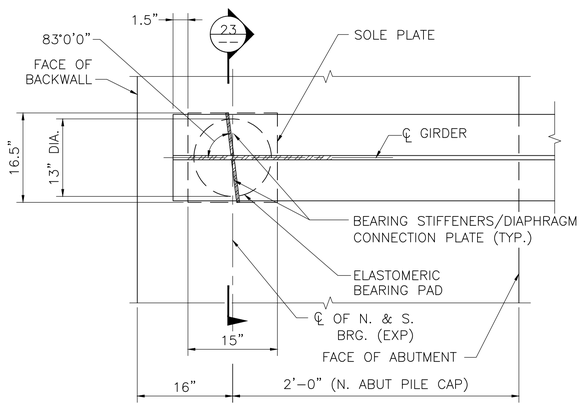
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	113	204
PROJECT FILE NO. 609409			

UTILITY SUPPORT
DETAILS

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

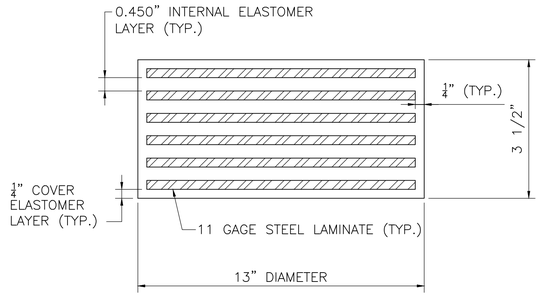
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Utility Support Details).dwg
S-24-016 (UTILITY SUPPORT DETAILS).DWG Plotted on 5-Feb-2026 8:45 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



PLAN – EXPANSION BEARING

SCALE: 1" = 1'-0"

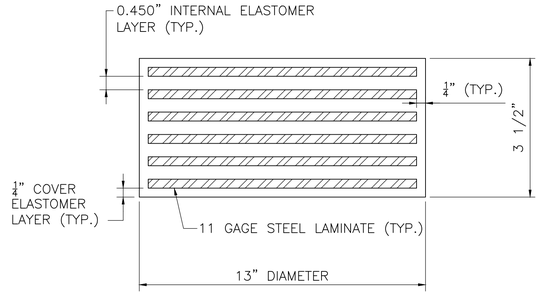


NOTES:

1. ELASTOMER SHALL HAVE A SHEAR MODULUS OF 0.160 KSI.
2. STEEL LAMINATES SHALL CONFORM TO ASTM A 1011 GRADE 36.
3. THE COMPRESSIVE DESIGN LOAD ON THE BEARING PAD IS 194.1 KIPS. THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO 1.46 KSI.
4. ELASTOMERIC BEARING PAD SHALL NOT BE VULCANIZED TO THE SOLE PLATE.

ELASTOMETRIC BEARING PAD – (TYPICAL)

NOT TO SCALE



NOTES:

1. ELASTOMER SHALL HAVE A SHEAR MODULUS OF 0.160 KSI.
2. STEEL LAMINATES SHALL CONFORM TO ASTM A 1011 GRADE 36.
3. THE COMPRESSIVE DESIGN LOAD ON THE BEARING PAD IS 55.09 KIPS. THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO 0.415 KSI.
4. ELASTOMERIC BEARING PAD SHALL NOT BE VULCANIZED TO THE SOLE PLATE.

ELASTOMETRIC BEARING PAD – (SE CORNER)

NOT TO SCALE

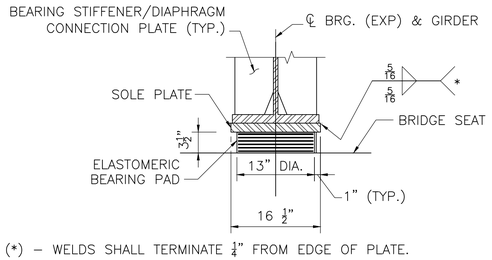
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	114	204
PROJECT FILE NO. 609409			

BEARING DETAILS

BEARING NOTES (EXPANSION):

1. STEEL SOLE PLATE SHALL CONFORM TO AASHTO M 270 GRADE 36 AND SHALL BE HOT-DIP GALVANIZED.
2. CENTER THE ELASTOMERIC PAD UNDER THE SOLE PLATE DURING BEAM ERECTION.
3. 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.



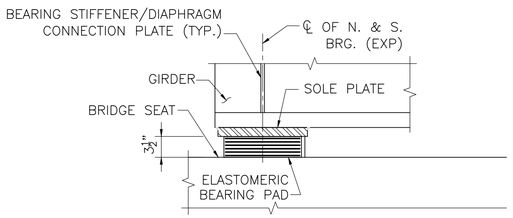
(*) – WELDS SHALL TERMINATE ¼" FROM EDGE OF PLATE.

SECTION 23 – EXPANSION BEARING

SCALE: 1" = 1'-0"

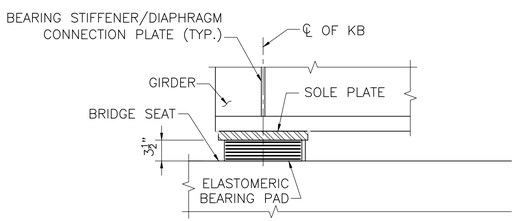
SOLE PLATE DETAIL – EXPANSION BEARING

SCALE: 3" = 1'-0"



ELEVATION – EXPANSION BEARING

SCALE: 1" = 1'-0"



ELEVATION – EXPANSION BEARING

SCALE: 1" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

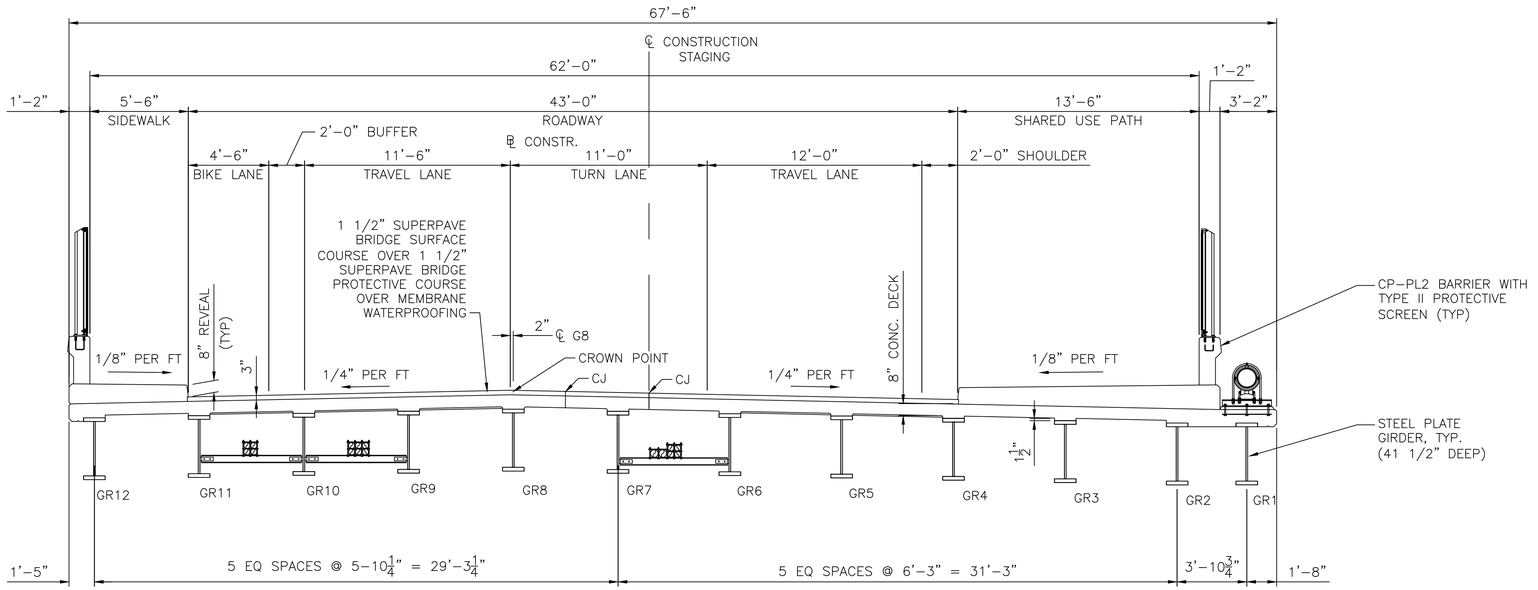
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (BEARING DETAILS).DWG Plotted on 5-Feb-2026 8:46 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY
S-24-016 (Bearing Details).dwg

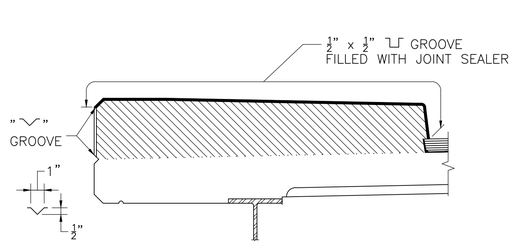
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	115	204
PROJECT FILE NO. 609409			

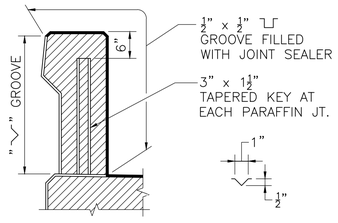
TYPICAL SUPERSTRUCTURE
CROSS-SECTION



TRANSVERSE SECTION OF SUPERSTRUCTURE
SCALE: $\frac{1}{4}$"=1'-0"



SIDEWALK



SIDEWALK SIDE
CP-PL2 BARRIER

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

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

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

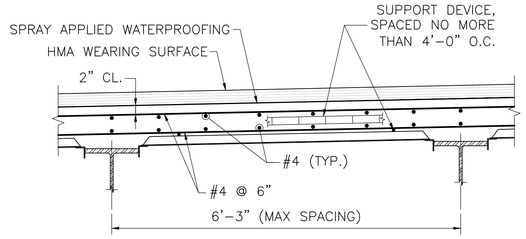
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (TYP. BRIDGE TRAN._SW_SUP SECT.).DWG Plotted on 5-Feb-2026 8:48 PM
S-24-016 (Typ. Bridge Tran._SW_SUP Sect.).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	116	204
PROJECT FILE NO. 609409			

DECK DETAILS 1 OF 4

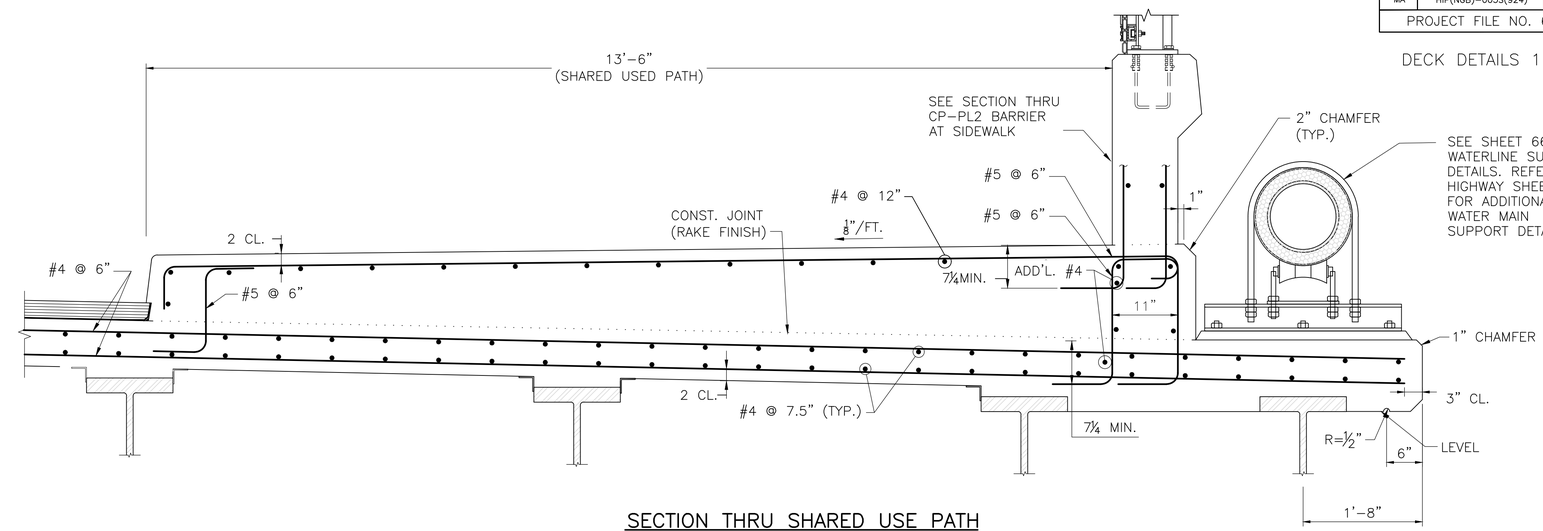


NOTES:

1. ROADWAY DECK SLAB SHALL BE 904.3 – 5000 PSI, ¾ IN, 685 HP CEMENT CONCRETE.
2. LONGITUDINAL REINFORCEMENT SHALL BE PLACED PARALLEL TO THE ℄ OF CONSTRUCTION. TRANSVERSE (PRIMARY) REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE ℄ OF CONSTRUCTION.
3. ALL REINFORCEMENT AND SUPPORT DEVICES SHALL BE COATED.
4. THE FINISHED SURFACE OF BRIDGE DECK SHALL BE SMOOTH AND WITHOUT ANY PROJECTIONS THAT COULD PUNCTURE THE WATERPROOFING OR DEPRESSIONS THAT COULD RETAIN WATER.

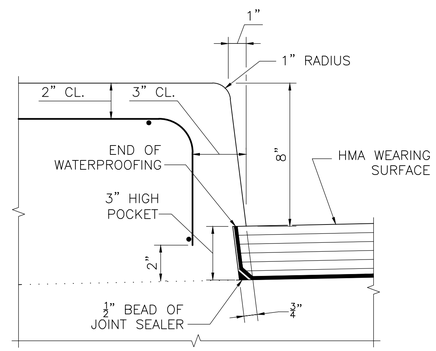
TYPICAL DECK REINFORCEMENT

SCALE: ¾" = 1'-0"



SECTION THRU SHARED USE PATH

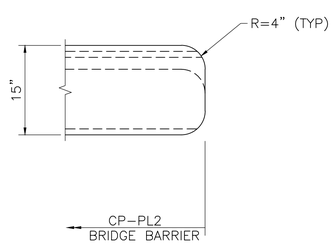
SCALE: 1" = 1'-0"



NOTE:
1. APPLY WATERPROOFING INTO 3" HIGH POCKET.

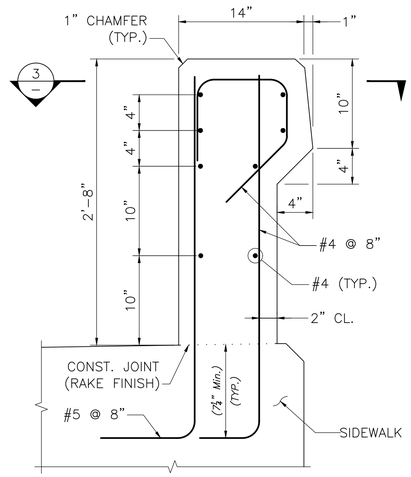
FACE OF SIDEWALK CURB DETAILS

SCALE: 3" = 1'-0"



SECTION 3: MODIFIED CP-PL2 END TREATMENT

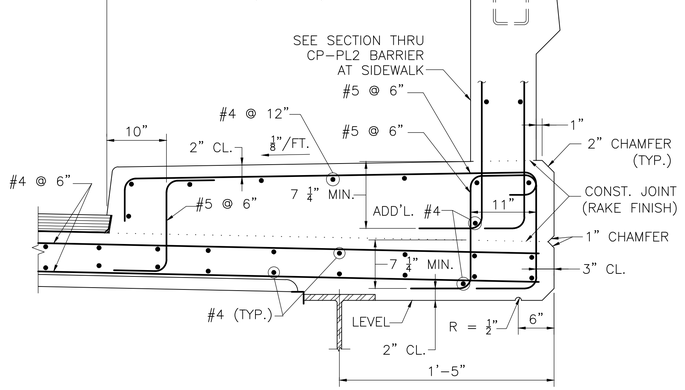
SCALE: 1" = 1'-0"



NOTE:
FOR SIDEWALK REINFORCEMENT SEE SECTION THRU SIDEWALK.

SECTION THRU BARRIER AT SIDEWALK

SCALE: 1½" = 1'-0"



SECTION THRU SIDEWALK

SCALE: 1" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

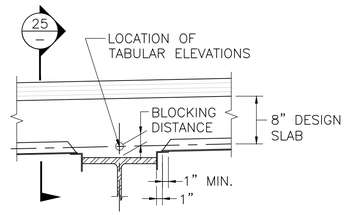
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

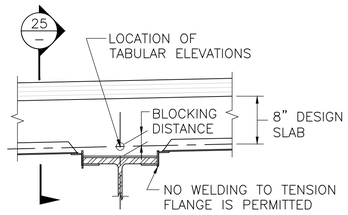
S-24-016 (DECK DETAILS 1-4).DWG Plotted on 5-Feb-2026 8:50 PM
S-24-016 (Deck Details 1-4).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

GIRDER NO.	TOP OF FORM ELEVATIONS FOR DECK SLAB PRIOR TO PLACEMENT OF CONCRETE										
	INCREASING STATIONS →										
	℄ BRG. N. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. S. ABUT.
1	149.85	150.34	150.74	151.12	151.42	151.62	151.80	151.86	151.83	151.78	151.72
2	149.85	150.35	150.75	151.13	151.43	151.63	151.81	151.87	151.83	151.78	151.72
3	149.95	150.44	150.83	151.22	151.53	151.74	151.92	151.98	151.95	151.90	151.85
4	150.05	150.54	150.95	151.32	151.63	151.84	152.02	152.09	152.12	152.06	152.97
5	150.15	150.63	151.05	151.42	151.74	151.95	152.13	152.21	152.24	152.19	152.10
6	150.25	150.74	151.16	151.53	151.87	152.07	152.25	152.34	152.37	152.33	152.23
7	150.35	150.83	151.26	151.63	151.97	152.18	152.36	152.45	152.49	152.45	152.36
8	150.44	150.92	151.36	151.72	152.07	152.27	152.45	152.56	152.60	152.57	152.48
9	150.30	150.79	151.23	151.60	151.94	152.16	152.34	152.45	152.49	152.46	152.37
10	150.15	150.64	151.09	151.45	151.80	152.03	152.21	152.32	152.36	152.34	152.25
11	150.00	150.48	150.94	151.30	151.65	151.88	152.06	152.19	152.23	152.21	152.13
12	149.85	150.33	150.78	151.14	151.49	151.72	151.91	152.04	152.12	152.19	152.01

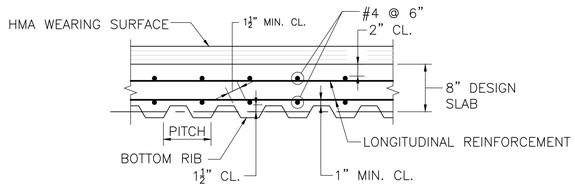
NOTE:
AFTER THE BEAMS ARE ERECTED BUT BEFORE THE FORMS ARE BUILT, ELEVATIONS ON TOP OF THE FLANGE OF THE BEAMS ARE TO BE OBTAINED AT THE POINTS INDICATED IN THE TABLE. THE DIFFERENCE BETWEEN THE ELEVATIONS OBTAINED AND THOSE SHOWN IN THE TABLE GIVES THE ACTUAL BLOCKING DISTANCE FROM THE TOP OF BEAM TO THE BOTTOM OF THE SLAB AT CENTER LINE OF BEAM.



HAUNCH DETAIL AT NON–TENSION FLANGE AREA
SCALE: 1" = 1'–0"



HAUNCH DETAIL AT TENSION FLANGE AREA
SCALE: 1" = 1'–0"



SECTION 25

STAY–IN–PLACE FORM DETAILS
NOT TO SCALE

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	117	204
PROJECT FILE NO. 609409			

DECK DETAILS 2 OF 4

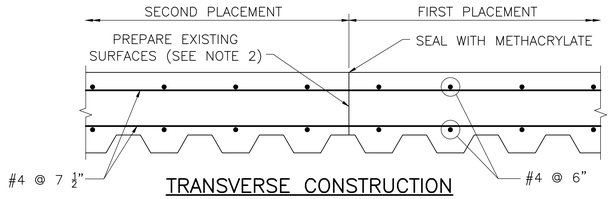
NOTES:

1. FOR 2" S.I.P. FORM, SET BOTTOM OF FORM 1" BELOW ELEVATION GIVEN IN TABLE. FOR 3" S.I.P. FORM, SET BOTTOM OF FORM 1½" BELOW TABLE ELEVATIONS.
2. FORM ENDS SHALL BE CRIMPED CLOSED IN A TAPERED MANNER. SEPARATE END CLOSURE PIECES WILL NOT BE ALLOWED.
3. SUPPORT ANGLES SHALL BE PLACED IN THE "LEG DOWN" POSITION WHERE POSSIBLE. WHERE "LEG UP" POSITION IS NECESSARY, THE UPPER MOST PORTION OF THE ANGLE SHALL NOT PROJECT MORE THAN 1" ABOVE THE TOP FLANGE OR COVER PLATE. THE CONTRACTOR SHALL HAVE AN ASSORTMENT OF ANGLES OF VARIOUS SIZES AVAILABLE ON THE SITE TO CONFORM TO THIS REQUIREMENT.
4. ALL MAIN STEEL REINFORCEMENT IN THE LOWER MAT SHALL BE CENTERED OVER THE VALLEY OF THE S.I.P. FORM.
5. CONTRACTOR SHALL DESIGN AND DETAIL ALL ELEMENTS OF THE FORMING SYSTEM AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL.
6. IN CASES WHERE STANDARD 2" OR 3" DEEP S.I.P. FORMS DO NOT SATISFY DESIGN REQUIREMENTS AN ALTERNATIVE FORMING SYSTEM CONSISTING OF DEEPER S.I.P. FORMS OR REMOVABLE FORMS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. THE DESIGN THICKNESS OF THE SLAB SHALL NOT BE REDUCED.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

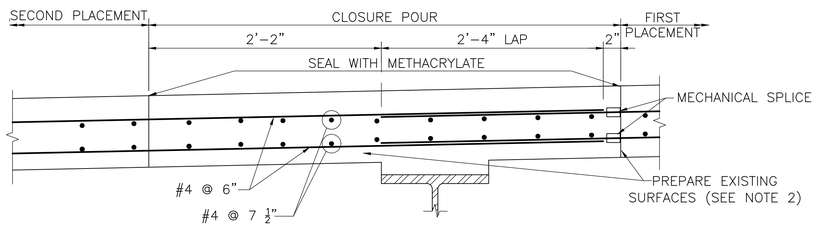
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Deck Details 1-4).dwg
S-24-016 (DECK DETAILS 1-4).DWG Plotted on 5-Feb-2026 8:51 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



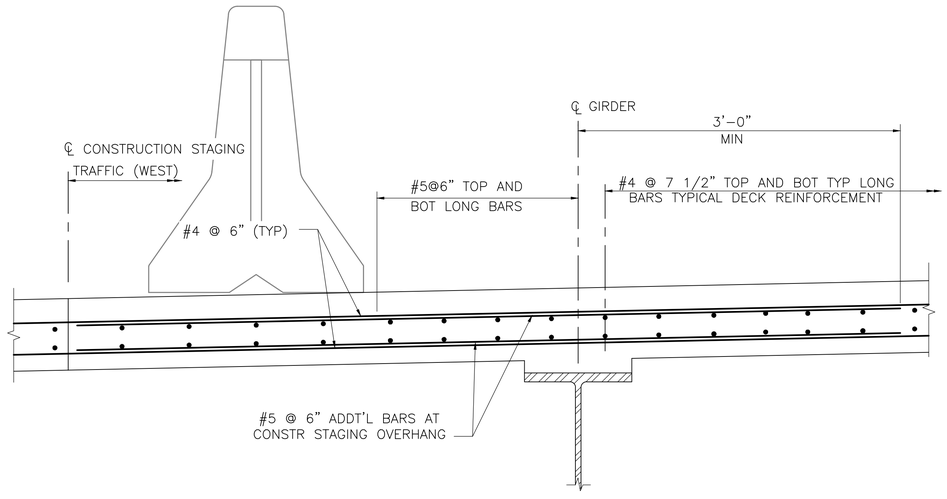
TRANSVERSE CONSTRUCTION JOINT DETAIL IN DECK SLAB

SCALE: 1½" = 1'–0"



LONGITUDINAL CONSTRUCTION JOINT DETAIL IN DECK SLAB

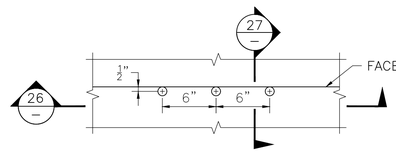
SCALE: 1½" = 1'–0"



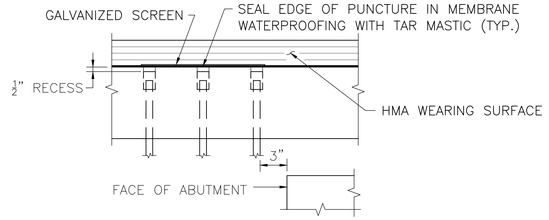
NOTE:
ADDITIONAL REINFORCEMENT IS REQUIRED ON THE WESTERN SIDE OF THE CONSTRUCTION STAGING JOINT TO SUPPORT THE TRAFFIC ON THE WEST SIDE.

LONGITUDINAL CONSTRUCTION STAGING JOINT DETAIL IN DECK SLAB (WEST SIDE)

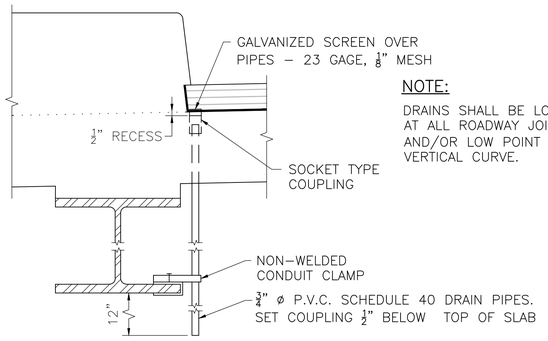
SCALE: 1½" = 1'–0"



DECK PLAN



SECTION 26



NOTE:
DRAINS SHALL BE LOCATED AT ALL ROADWAY JOINTS AND/OR LOW POINT OF VERTICAL CURVE.

SECTION 27

DECK DRAIN PIPES

SCALE: 1½" = 1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	118	204
PROJECT FILE NO. 609409			

DECK DETAILS 3 OF 4

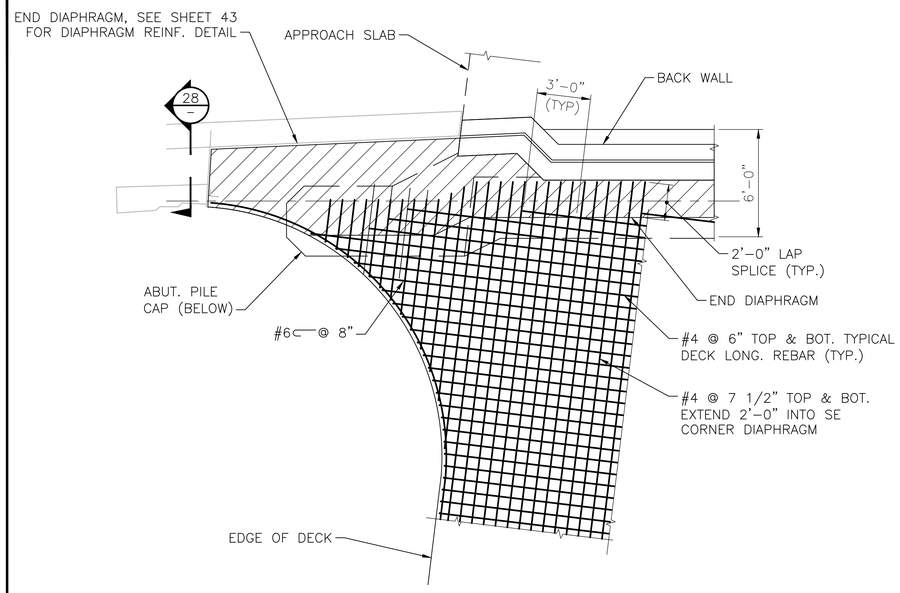
NOTES:

1. 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.
2. 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.
3. THE CONTRACTOR MAY SUBMIT A PROPOSAL DETAILING THE ELIMINATION OF THE CLOSURE POUR FOR THE APPROVAL OF THE ENGINEER. THE PROPOSAL SHALL DETAIL THE CONTRACTOR'S MEANS AND METHODS FOR ACCURATELY CONSTRUCTING THE DECK SLAB TO THE LINES, GRADES, AND THICKNESS SHOWN ON THE PLANS WITHOUT LEAKAGE OF CONCRETE.
4. DOWEL BAR SPLICERS SHALL BE USED WHERE USE OF LAP SPLICES IS NOT FEASIBLE.

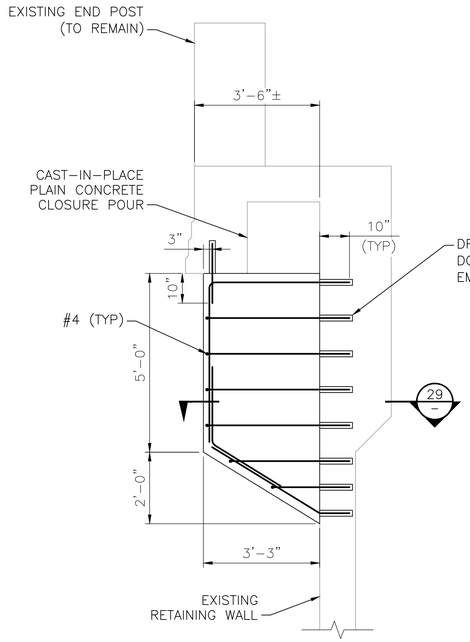
DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

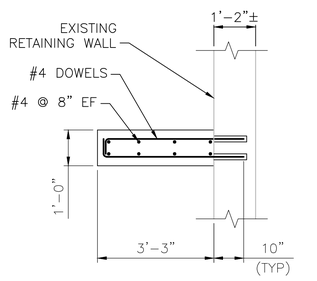
S-24-016 (Deck Details 1-4).dwg
S-24-016 (DECK DETAILS 1-4).DWG Plotted on 5-Feb-2026 8:51 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



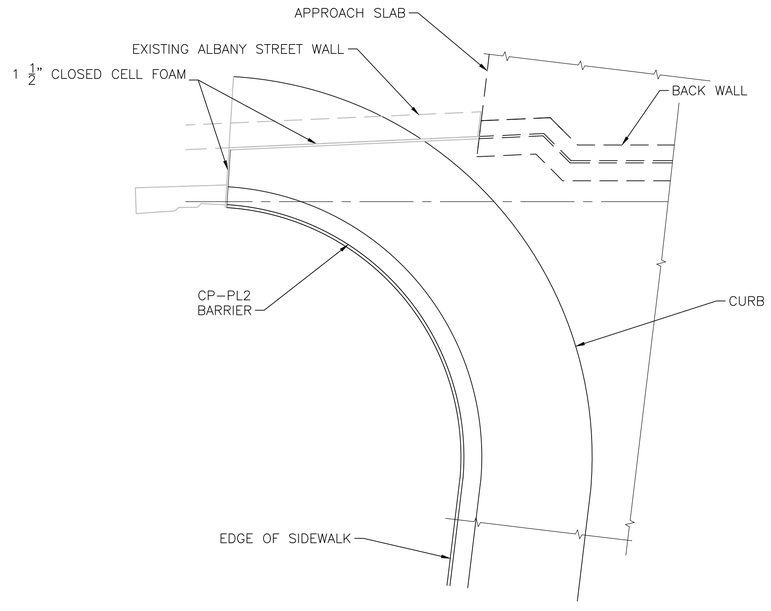
ENLARGED PLAN OF SOUTHEAST
CORNER DECK REINFORCEMENT
SCALE: 1/4"= 1'-0"



SECTION 28
SCALE: 1/2"= 1'-0"



SECTION 29
SCALE: 1/2"= 1'-0"



ENLARGED PLAN OF SOUTHEAST
CORNER SIDEWALK LAYOUT
SCALE: 1/4"= 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	119	204
PROJECT FILE NO. 609409			

DECK DETAILS 4 OF 4

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

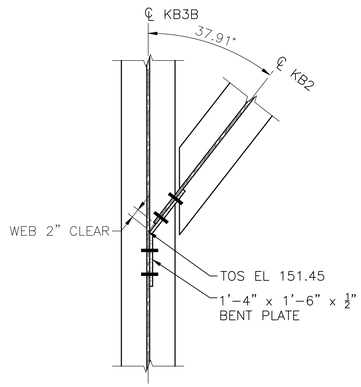
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (Deck Details 1-4).dwg
S-24-016 (DECK DETAILS 1-4).DWG Plotted on 5-Feb-2026 8:52 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

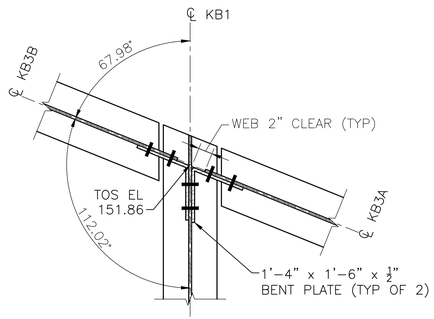
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	120	204
PROJECT FILE NO. 609409			

SE CORNER DETAILS SHEET 1 OF 2



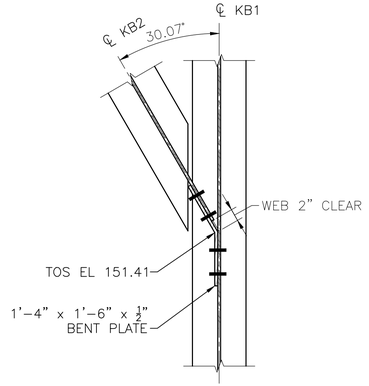
NOTE: TOP FLANGES NOT SHOWN FOR CLARITY.

KB3B – KB2 CONNECTION PLAN
SCALE: 1" = 1'–0"



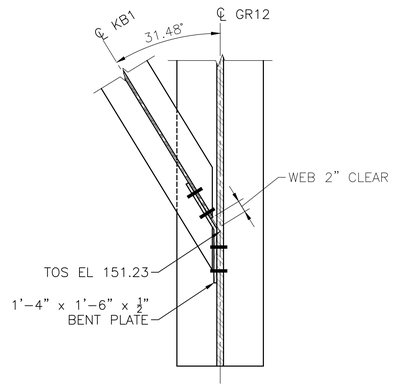
NOTE: TOP FLANGES NOT SHOWN FOR CLARITY.

KB1 – KB3A – KB3B CONNECTION PLAN
SCALE: 1" = 1'–0"



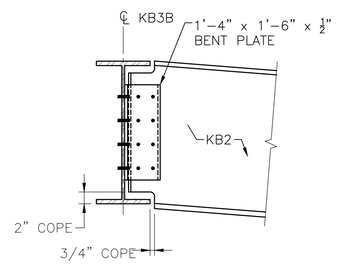
NOTE: TOP FLANGES NOT SHOWN FOR CLARITY.

KB1 – KB2 CONNECTION PLAN
SCALE: 1" = 1'–0"

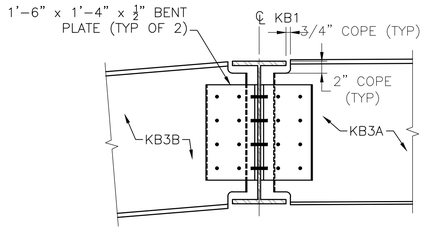


NOTE: TOP FLANGES NOT SHOWN FOR CLARITY.

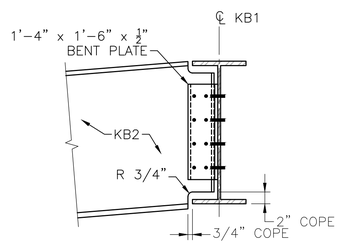
GR12 – KB1 CONNECTION PLAN
SCALE: 1" = 1'–0"



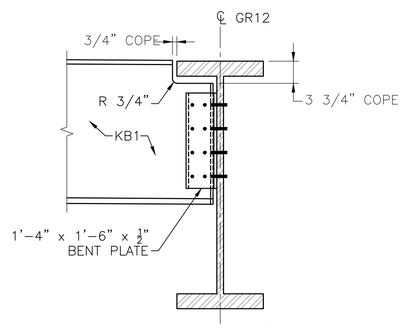
KB3B – KB2 CONNECTION ELEVATION
SCALE: 1" = 1'–0"



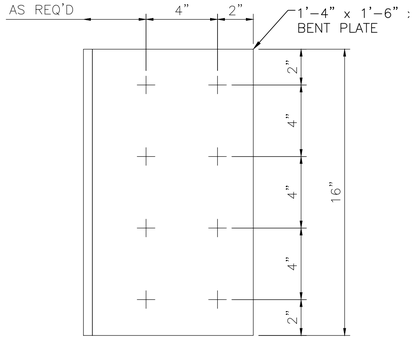
KB1 – KB3A – KB3B CONNECTION ELEVATION
SCALE: 1" = 1'–0"



KB1 – KB2 CONNECTION ELEVATION
SCALE: 1" = 1'–0"



GR12 – KB1 CONNECTION ELEVATION
SCALE: 1" = 1'–0"



TYPICAL BENT PLATE BOLT PATTERN
SCALE: 3" = 1'–0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

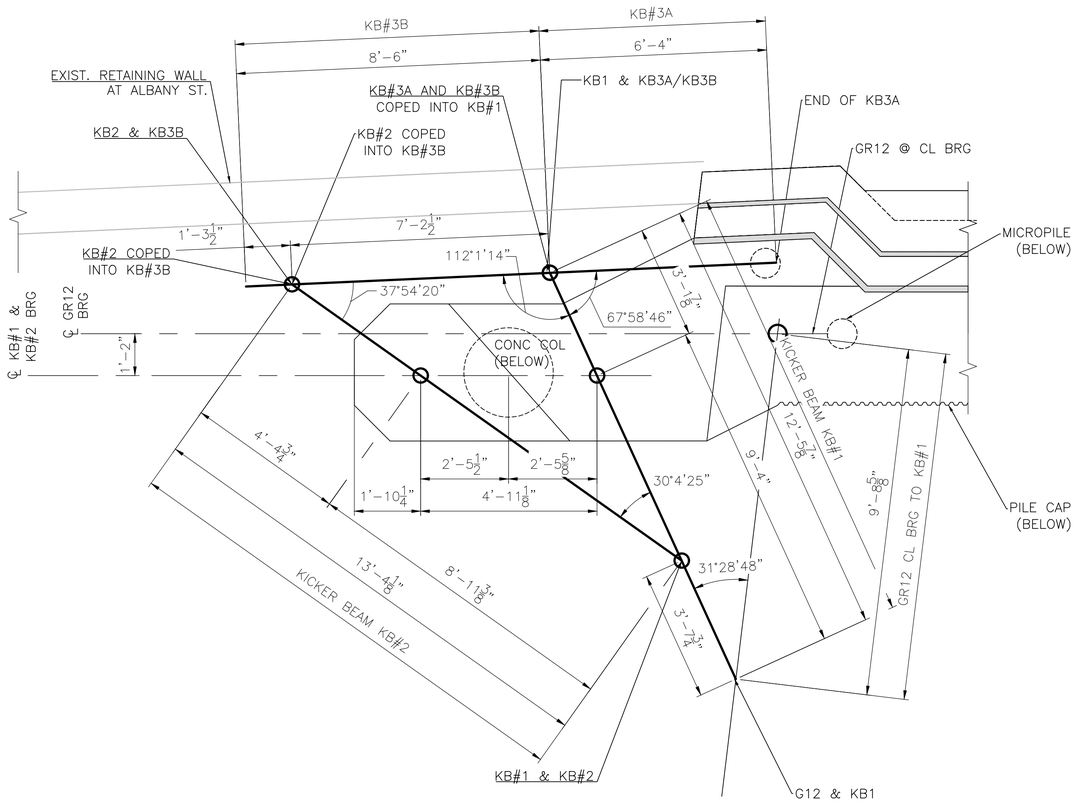
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (SOUTHEAST CORNER DETAILS).DWG Plotted on 5-Feb-2026 8:53 PM
S-24-016 (Southeast Corner Details).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY

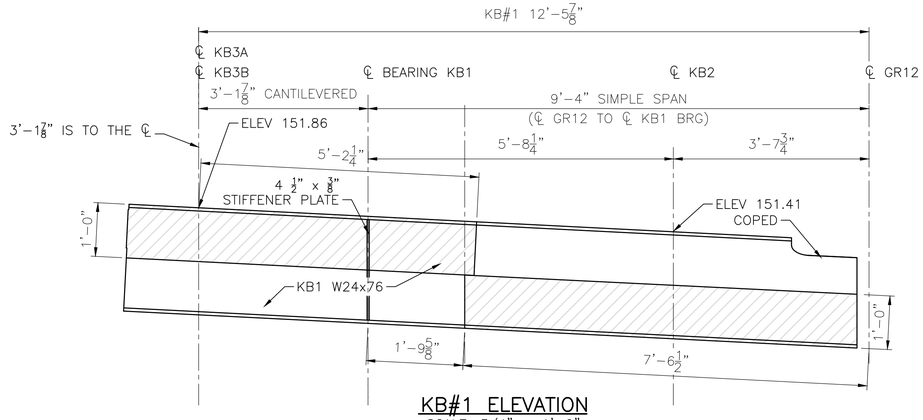
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	121	204
PROJECT FILE NO. 609409			

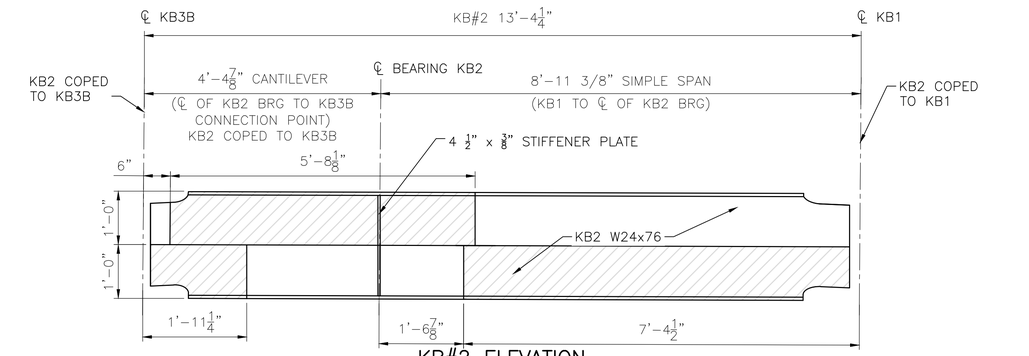
SE CORNER DETAILS SHEET 2 OF 2



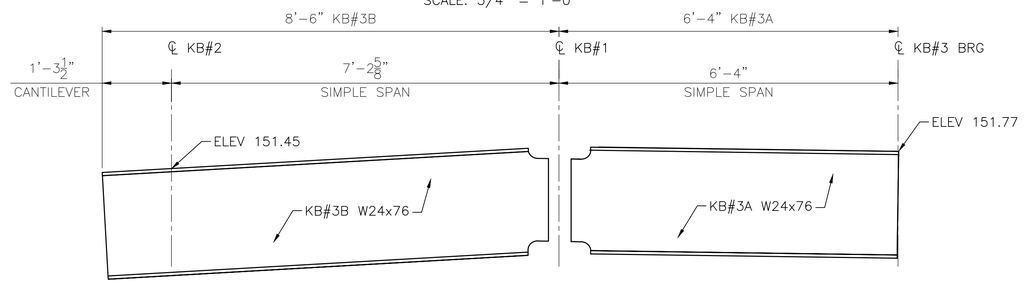
ENLARGED PLAN OF SOUTHEAST FRAMING AND BEARING LOCATIONS
SCALE" 1/2" = 1'-0"



KB#1 ELEVATION
SCALE: 3/4" = 1'-0"



KB#2 ELEVATION
SCALE: 3/4" = 1'-0"



DENOTES LIMITS OF NET TENSILE STRESS UNDER STRENGTH 1 LOADING COMBINATION

KB#3 ELEVATION
SCALE: 3/4" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

SHEET 61 OF 70 SHEETS BRIDGE NO. S-24-016 (C8G)

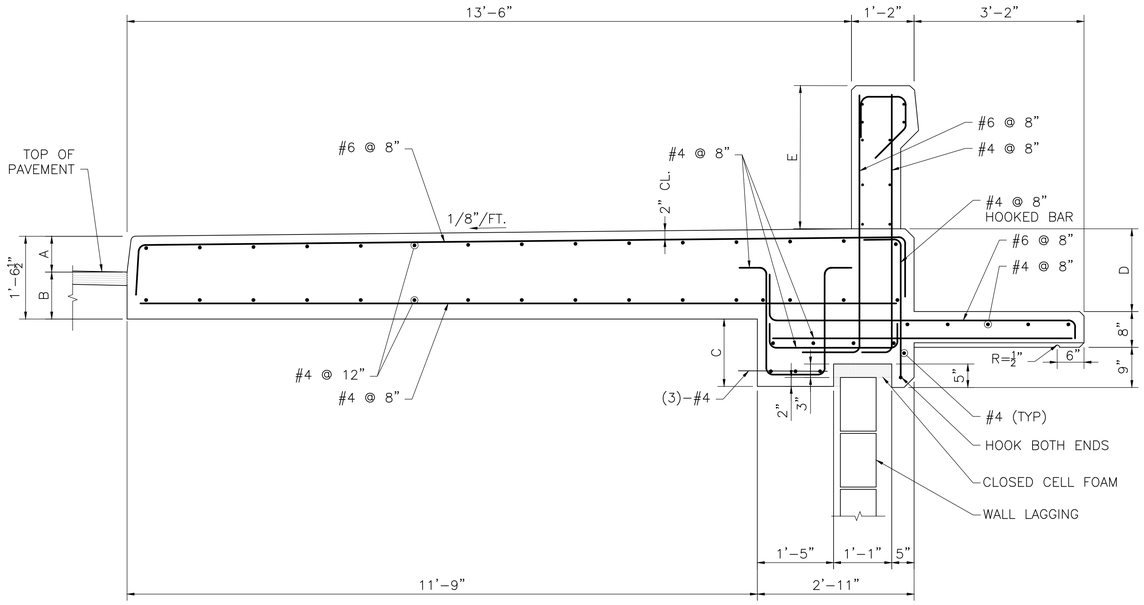
S-24-016 (SOUTHEAST CORNER DETAILS).DWG Plotted on 5-Feb-2026 8:53 PM
S-24-016 (Southeast Corner Details).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	122	204
PROJECT FILE NO. 609409			

MOMENT SLAB SECTIONS

NOTE:

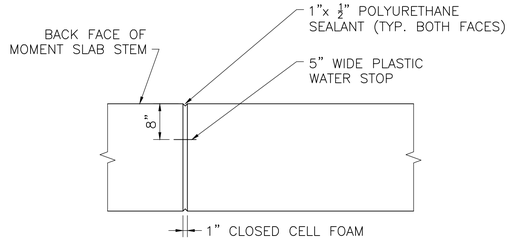
1. SEE SHEET 65 AND HIGHWAY SHEET 22 FOR DETAILS AND LOCATIONS OF PROPOSED TRAFFIC EQUIPMENT WHERE APPLICABLE.



NOTE:
DIMENSIONS A, B, C, D, AND E PER SHARED USED PATH W/ EXTENDED SLAB TABLE THIS SHEET.

SHARED USE PATH MOMENT SLAB W/ EXTENDED SLAB AT WALL LAGGING

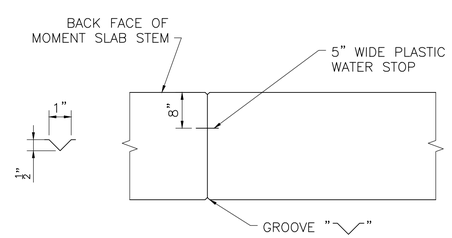
SCALE: 3/4"= 1'-0"



NOTE:
1. LONGITUDINAL REINFORCEMENT SHALL END 2" CLEAR OF EXPANSION JOINT.
2. SIDEWALK EXPANSION JOINT MUST BE SPACED AT A MINIMUM OF 32'-0".

MOMENT SLAB EXPANSION JOINT PLAN

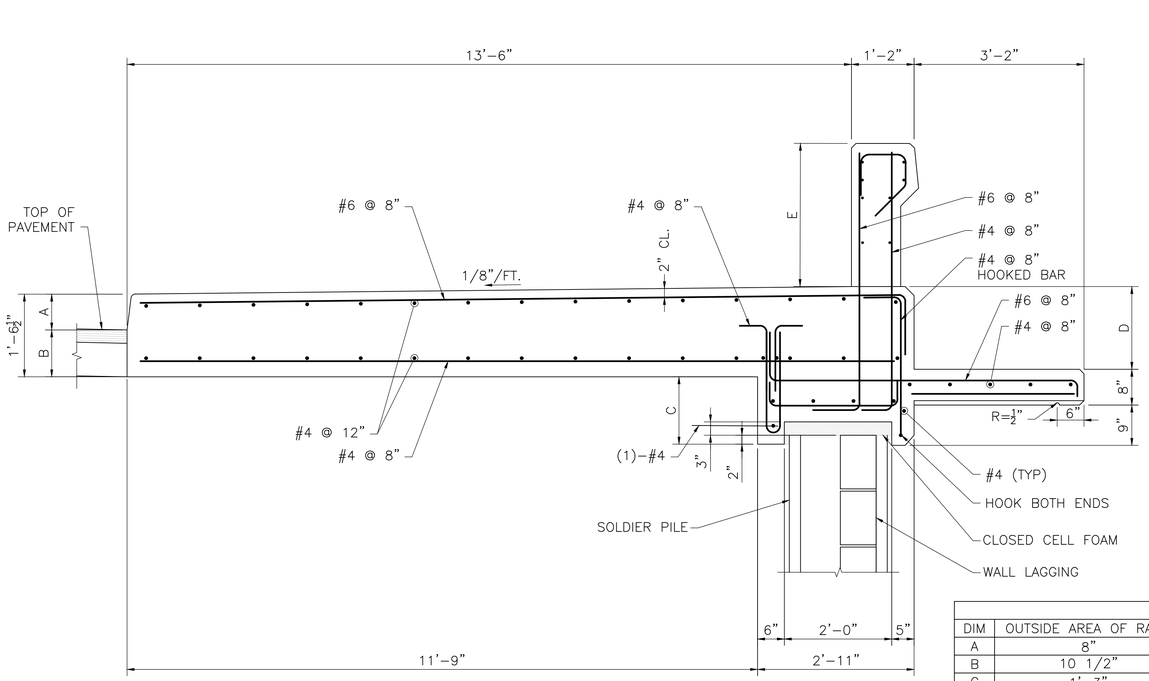
NOT TO SCALE



NOTES:
1. REINFORCEMENT SHALL BE CONTINUOUS THRU THE CONSTRUCTION JOINT. CONSTRUCTION JOINTS SHALL BE LOCATED IN INTERVALS OF NOT MORE THAN 24'-0".
2. CONSTRUCTION JOINTS SHALL BE LOCATED IN INTERVALS NOT MORE THAN 24'-0".

MOMENT SLAB CONSTRUCTION JOINT PLAN

NOT TO SCALE



NOTE:
DIMENSIONS A, B, C, D, AND E PER SHARED USED PATH W/ EXTENDED SLAB TABLE THIS SHEET.

SHARED USE PATH MOMENT SLAB W/ EXTENDED SLAB AT SOLDIER PILES

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

SHARED USE PATH W/ EXTENDED SLAB				
DIM	OUTSIDE AREA OF RAMP	AT AREA OF RAMP		
A	8"	(VARIES)	8" AT HIGH POINT OF RAMP	0" AT LOW POINT OF RAMP
B	10 1/2"	(VARIES)	1'-6 1/2" AT LOW POINT OF RAMP	0'-10 1/2" AT HIGH POINT OF RAMP
C	1'-3"	(VARIES)	1'-3" AT HIGH POINT OF RAMP	0'-7" AT LOW POINT OF RAMP
D	1'-4 1/4"	(VARIES)	1'-4 1/4" AT HIGH POINT OF RAMP	0'-8 1/4" AT LOW POINT OF RAMP
E	2'-8"	(VARIES)	3'-4" AT LOW POINT OF RAMP	2'-8" AT HIGH POINT OF RAMP

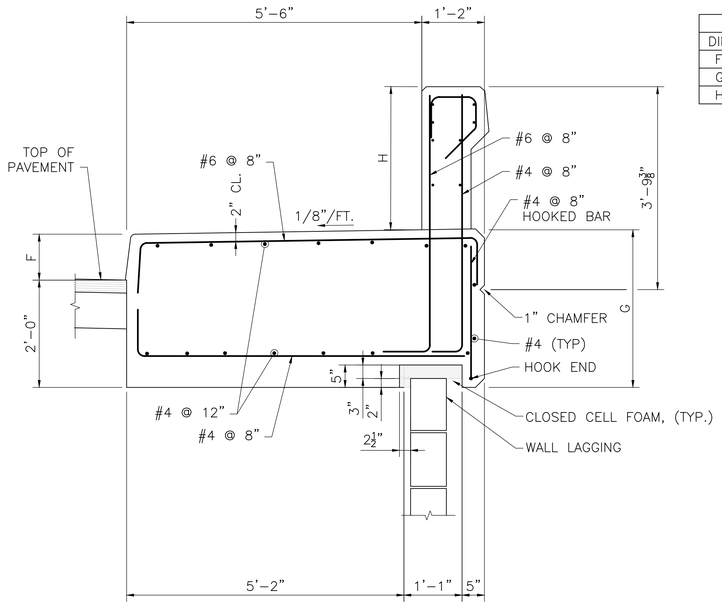
DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

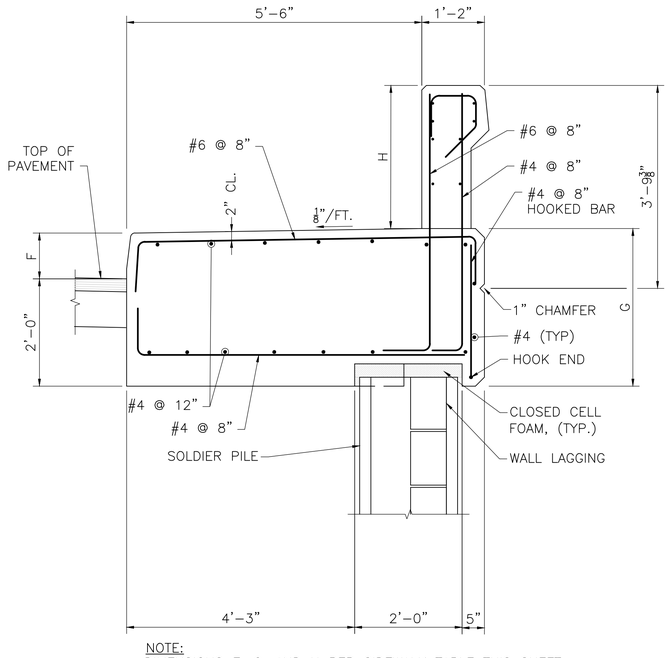
S-24-016 (Moment Slab_Corner Details).dwg
S-24-016 (MOMENT SLAB_CORNER DETAILS).DWG Plotted on 5-Feb-2026 8:54 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SIDEWALK				
DIM	OUTSIDE AREA OF RAMP	AT AREA OF RAMP		
F	8"	(VARIES)	8" AT HIGH POINT OF RAMP	0" AT LOW POINT OF RAMP
G	2'-8 3/4"	(VARIES)	2'-8 3/4" AT HIGH POINT OF RAMP	2'-0 3/4" AT LOW POINT OF RAMP
H	2'-8"	(VARIES)	3'-4" AT LOW POINT OF RAMP	2'-8" AT HIGH POINT OF RAMP



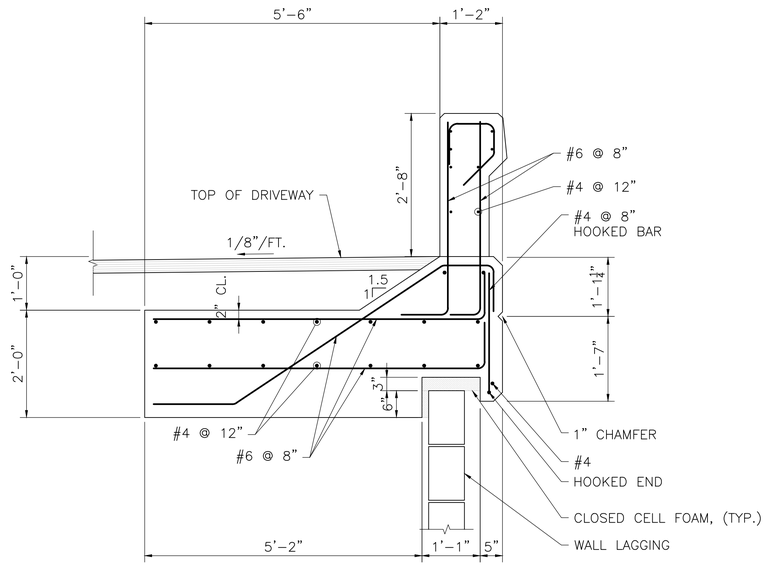
NOTE:
DIMENSIONS F, G, AND H PER SIDEWALK TABLE THIS SHEET.

SIDEWALK MOMENT SLAB AT WALL LAGGING
SCALE: 3/4"= 1'-0"



NOTE:
DIMENSIONS F, G, AND H PER SIDEWALK TABLE THIS SHEET.

SIDEWALK MOMENT SLAB AT SOLDIER PILES
SCALE: 3/4"= 1'-0"



SIDEWALK MOMENT SLAB AT DRIVEWAY
SCALE: 3/4" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	123	204
PROJECT FILE NO. 609409			

MOMENT SLAB SECTIONS

NOTE:

1. SEE SHEET 65 AND HIGHWAY SHEET 22 FOR DETAILS AND LOCATIONS OF PROPOSED TRAFFIC EQUIPMENT WHERE APPLICABLE.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
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S-24-016 (Moment Slab_Corner Details).dwg
S-24-016 (MOMENT SLAB_CORNER DETAILS).DWG Plotted on 5-Feb-2026 8:55 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

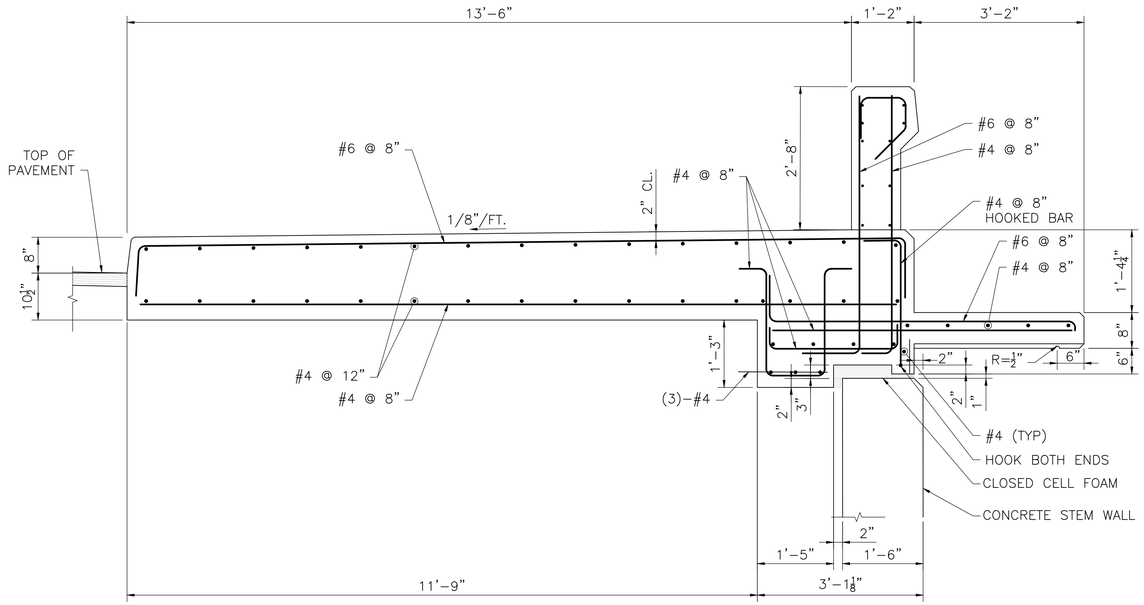
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	124	204
PROJECT FILE NO. 609409			

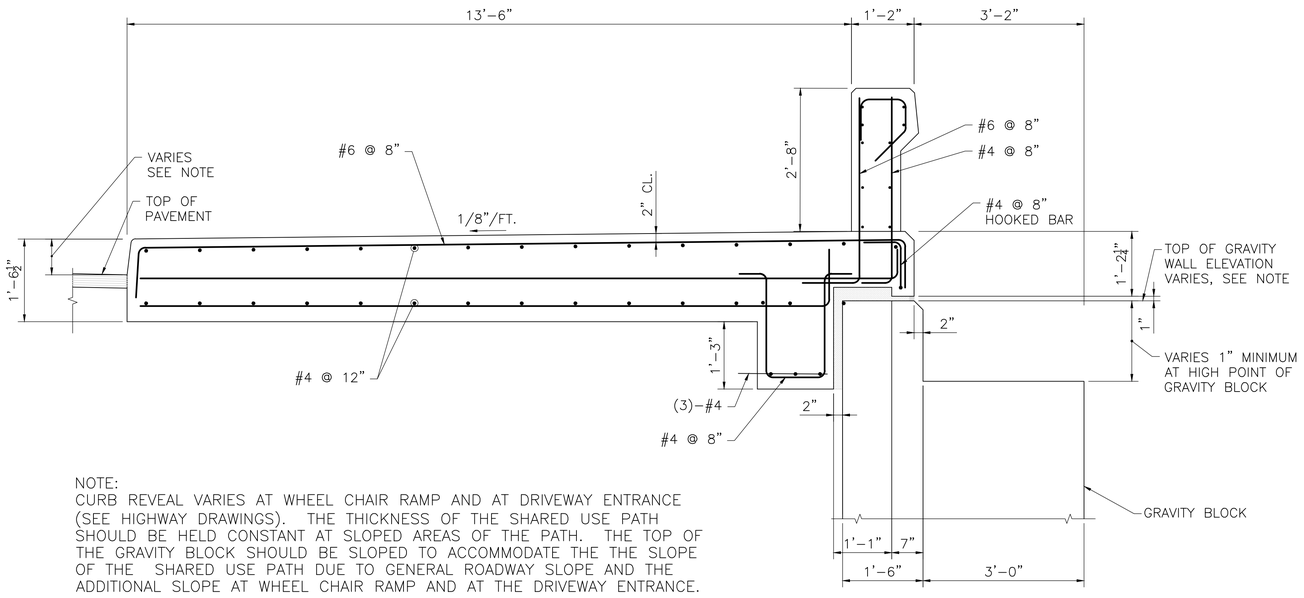
MOMENT SLAB SECTIONS

NOTE:

1. SEE SHEET 65 AND HIGHWAY SHEET 22 FOR DETAILS AND LOCATIONS OF PROPOSED TRAFFIC EQUIPMENT WHERE APPLICABLE.



SHARED USE PATH MOMENT SLAB W/ EXTENDED SLAB AT GRAVITY BLOCK WALL EXTENSION
SCALE: 3/4"= 1'-0"



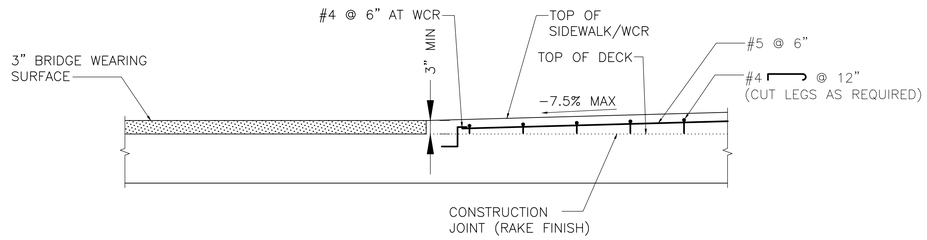
NOTE:
CURB REVEAL VARIES AT WHEEL CHAIR RAMP AND AT DRIVEWAY ENTRANCE (SEE HIGHWAY DRAWINGS). THE THICKNESS OF THE SHARED USE PATH SHOULD BE HELD CONSTANT AT SLOPED AREAS OF THE PATH. THE TOP OF THE GRAVITY BLOCK SHOULD BE SLOPED TO ACCOMMODATE THE THE SLOPE OF THE SHARED USE PATH DUE TO GENERAL ROADWAY SLOPE AND THE ADDITIONAL SLOPE AT WHEEL CHAIR RAMP AND AT THE DRIVEWAY ENTRANCE.

SHARED USE PATH MOMENT SLAB AT CONCRETE GRAVITY BLOCK
SCALE: 3/4"= 1'-0"

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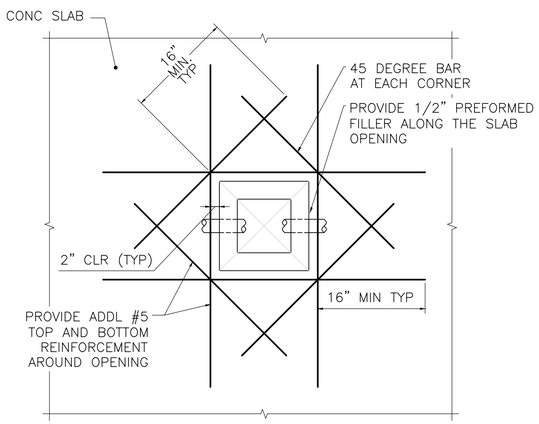
S-24-016 (Moment Slab_Corner Details).dwg
S-24-016 (MOMENT SLAB_CORNER DETAILS).DWG Plotted on 5-Feb-2026 8:55 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



NOTES:
1. SEE HIGHWAY PLANS FOR LOCATIONS, DETAILS AND SLOPE REQUIREMENTS.
2. DECK REINFORCEMENT NOT SHOWN FOR CLARITY.

SECTION THRU BRIDGE SIDEWALK AT PEDESTRIAN CURB RAMP (PCR)

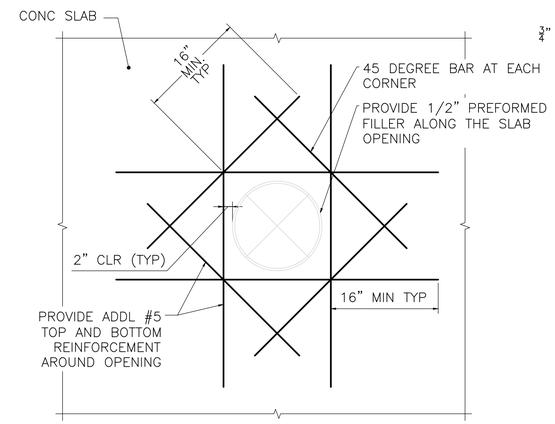
SCALE: $\frac{3}{4}$" = 1'–0"



NOTE:
TYP. MOMENT SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.

TYPICAL RECTANGULAR MOMENT SLAB BLOCKOUT

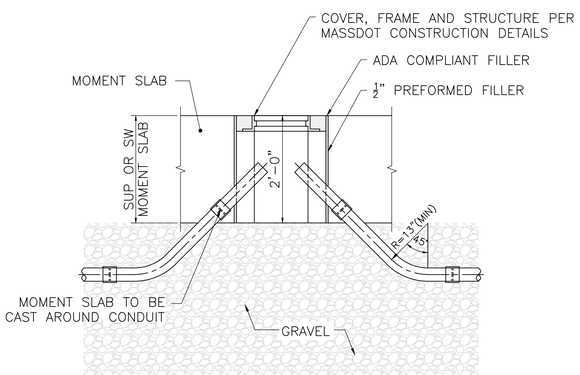
SCALE: 1" = 1'–0"



NOTE:
TYP MOMENT SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.

TYPICAL CIRCULAR MOMENT SLAB BLOCKOUT

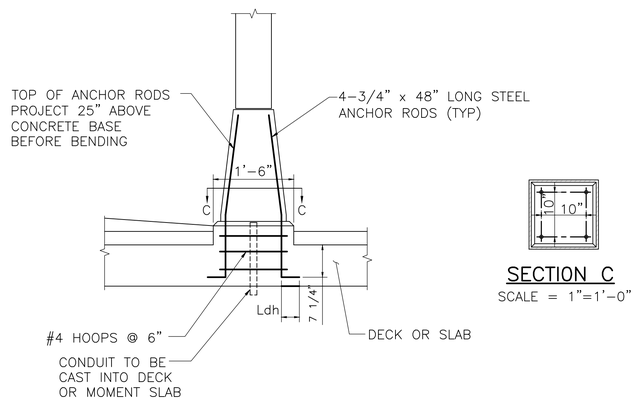
SCALE: 1" = 1'–0"



NOTE: 12" x 12" PULL BOX SHOWN. OPENINGS FOR OTHER TRAFFIC STRUCTRES SIMILAR.

TYPICAL DETAIL FOR 12"x12" PULL BOX

SCALE: 1" = 1'–0"

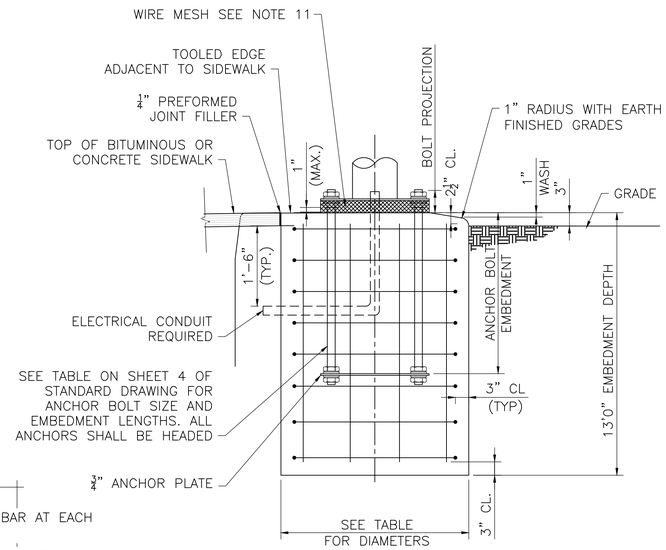


SIGNAL POST ANCHORS INSTALLED ON BRIDGE OR MOMENT SLAB

SCALE = 1"=1'–0"

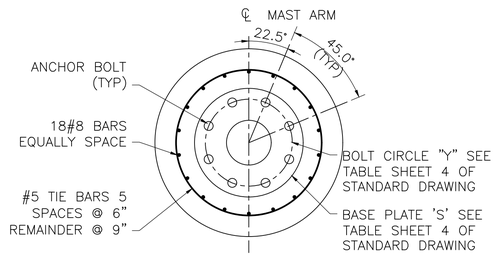
SECTION C

SCALE = 1"=1'–0"



MAST ARM FOUNDATION DETAIL

NO SCALE



MAST ARM FOUNDATION PLAN

NO SCALE

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	125	204
PROJECT FILE NO. 609409			

MODIFIED TRAFFIC AND HYW DETAILS

NOTES:
1. SEE HIGHWAY SHEET 22 FOR LOCATIONS AND ADDITIONAL DETAILS.

TRAFFIC SIGNAL POST ANCHORS INSTALLED ON BRIDGE OR MOMENT SLAB NOTES:
1. CONCRETE BASE FOR A TRAFFIC SIGNAL POST PER MASSDOTS STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING (1968), PAGE 32, 38–40 & 42–43 LOCATED PER TRAFFIC SIGNAL PLANS.
2. MODIFICATIONS FOR CONCRETE BASES INSTALLED ON BRIDGES OR MOMENT SLABS.

12IN X 12IN PULL BOX NOTES:
1. 20"W X 20"L X 24"H PULL BOX PER STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING (1968), PAGE 23, LOCATED PER TRAFFIC SIGNAL PLANS.

MAST ARM FOUNDATION NOTES:
1. MAST ARM PER MASSDOT'S OVERHEAD SIGNAL STRUCTURE & FOUNDATION STANDARDS DRAWINGS (2015) UNLESS NOTED OTHERWISE.
2. LOCATIONS PER HIGHWAYS TRAFFIC & SIGNAL PLANS.
3. MODIFICATIONS FOR MAST ARM FOUNDATION INSTALLED WITHIN A MOMENT SLAB.
4. FOUNDATIONS SHALL BE 4000 PSI, 565 MASSDOT APPROVED MIX DESIGN.
5. FOUNDATIONS SHALL BE INSTALLED IN ACCORDANCE WITH MASSDOT STANDARD ITEM 945 – DRILLED SHAFTS
6. REINFORCEMENT SHALL BE ASTM A615 GRADE 60.
7. ANCHOR BOLTS SHALL BE SET BY TEMPLATE.
8. PROVIDE ELECTRICAL CONDUIT.
9. EXCAVATION SHALL BE BY THE AUGER METHOD TO THE NEAT LINES OF THE OUTSIDE DIMENSION OF THE FOUNDATIONS WITHOUT DISTURBING THE SOIL AROUND AND BELOW THE PROPOSED FOUNDATION BOTTOM. ALTERNATE METHODS OF EXCAVATION MAY BE SUBMITTED TO MASSDOT FOR APPROVAL IF THEY MEET THE REQUIREMENTS LISTED IN NOTES 6, 7 AND 8.
10. THE EARTH WALLS OF THE FOUNDATION SHALL BE ADEQUATELY AND SECURELY PROTECTED AT ALL TIMES AGAINST CAVE–INS, DISPLACEMENT OF THE SURROUNDING EARTH AND FOR THE EXCLUSION OF GROUND WATER. THIS MAY BE DONE BY THE USE OF STEEL CYLINDER LINERS OR CASINGS THAT ARE APPROVED BY MASSDOT. IF LINERS ARE USED THEY MAY BE RECLAIMED PROVIDED THAT THEY ARE WITHDRAWN AS THE CONCRETE IS BEING PLACE, MAINTAINING A SUFFICIENT HEAD OF CONCRETE WITHIN THE LINER TO PREVENT REDUCTION IN THE FOUNDATION DIAMETER AND TO PREVENT EXTRANEOUS MATERIAL FROM FALLING IN FROM THE SIDES AND MIXING WITH THE CONCRETE.
11. IF THE SOIL IS DISTURBED OR REMOVED BEYOND THE NEAT LINES OF THE OUTSIDE DIMENSIONS OF THE FOUNDATION, IT SHALL BE REPLACED WITH CONCRETE. ANY ADDITIONAL COST FOR THE CONCRETE SHALL BE PAID FOR BY THE CONTRACTOR.
12. IF LEDGE OR UNSUITABLE SOIL IS ENCOUNTERED (IE ONE WHICH DOES NOT APPLY TO THE DESIGN TABLES SHOWN ON THIS SHEET), AN ALTERNATIVE DESIGN SHALL BE PROVIDED BY THE DESIGN ENGINEER. IF UTILITIES OR OTHER UNDERGROUND OBSTRUCTIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL CONTRACTOR SHALL BACKFILL THE AREA TO ITS ORIGINAL CONDITION UNTIL AN ALTERNATE DESIGN HAS BEEN PROVIDED BY THE DESIGN ENGINEER AND APPROVED BY MASSDOT. SPECIAL FOUNDATIONS SHALL BE DESIGNED IN ACCORDANCE WITH BASIS OF DESIGN TABLE ABOVE.
13. A GALVANIZED WIRE MESH SCREEN SHALL BE INSTALLED AT BASE OF POLE. SCREEN SHALL BE PRESS–FORMED OF 3 OR 4 MESH, 21 GAGE OR HEAVIER, STAINLESS STEEL OR HOT DIPPED GALVANIZED WIRE SCREEN OR APPROVED EQUIVALENT. SCREEN SHALL BE SCREWED INTO POLE BASE PLATE, AND SHALL BE FLUSH WITH THE TOP OF THE PIER FOUNDATION.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE FOUNDATION DIAMETER IS AT LEAST 17.5" GREATER THAN BOLT CIRCLE DIAMETER FOR ALL STRUCTURES.
15. IN ORDER TO CREATE A FLUSH SURFACE, CONTRACTOR SHALL REFER TO THE FINAL ELEVATIONS SHOWN ON THE DESIGN PLANS WHEN INSTALLING FOUNDATIONS IMMEDIATELY ADJACENT TO OR WITHIN A SIDEWALK AREA.

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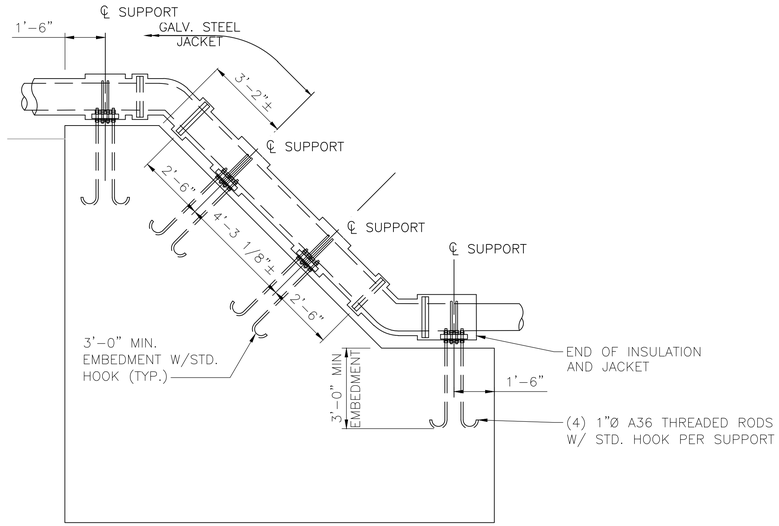
USE ONLY PRINTS OF LATEST DATE

S–24–016 (Modified Traffic And Hyw Details).dwg
S-24-016 (MODIFIED TRAFFIC AND HYW DETAILS).DWG Plotted on 5-Feb-2026 8:56 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

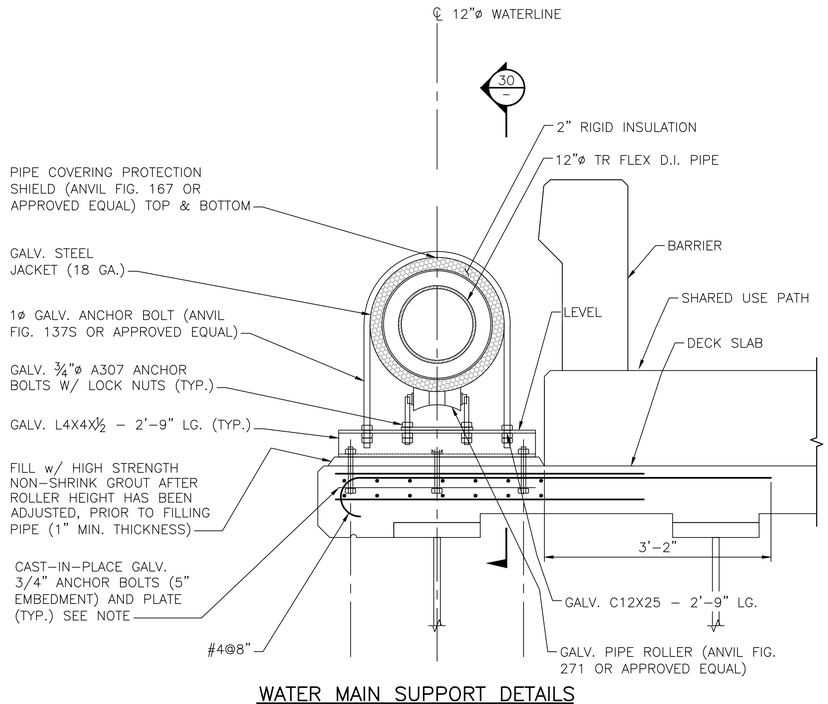
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

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MA	HIP(NGB)-0035(924)	126	204
PROJECT FILE NO. 609409			

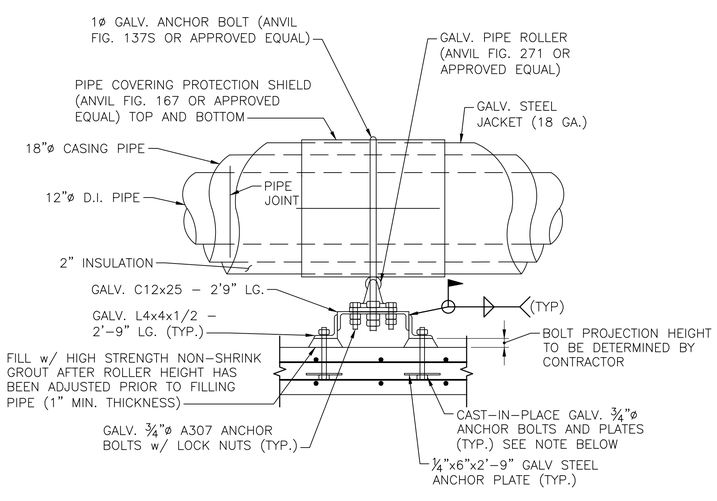
WATER MAIN & MISC UTILITY
SPECIFIC DETAILS



WATER MAIN ANCHORAGE AT GRAVITY BLOCK ELEVATION
SCALE: 3/8"=1'-0"



WATER MAIN SUPPORT DETAILS



SECTION 30

WATER MAIN SUPPORT BRACKET DETAILS
SCALE: 1" = 1'-0"

NOTE:
THE PROPOSED SUPPORT BRACKET SHALL BE INSTALLED AT A MINIMUM OF TWO PER EACH PIPE LENGTH 2' FROM EACH JOINT. THE WATER PIPE SHALL BE SET TO CONFORM TO THE PROFILE OF THE BRIDGE DECK. ANY ADJUSTMENT TO THE PIPE ELEVATION SHOULD BE MADE BY THE PIPE DEFLECTIONS ON THE SETTING HEIGHT OF THE SUPPORT BRACKET. THE ANCHOR BOLT PROJECTION LENGTHS MAY NEED TO BE INCREASED TO ACCOMMODATE THE VERTICAL ALIGNMENT OF THE WATER PIPE. ONCE THE WATER PIPE HAS BEEN SET, THE ANCHOR BOLT PROJECTIONS MAY NEED TO BE CUT OFF (AND THE ENDS TOUCHED UP) TO AVOID INTERFERENCE WITH THE PIPING.

WATER MAIN SUPPORT NOTES:

1. ALL WORK ASSOCIATED WITH FURNISHING AND INSTALLING THE WATER MAIN, INSULATION, CASING PIPE, PIPE SUPPORTS, AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIAL PROVISIONS, STANDARD SPECIFICATIONS, AND THE SPRINGFIELD WATER AND SEWER COMMISSION SPECIFICATIONS.
2. GALVANIZED PIPE ROLLER STAND AND GALVANIZED U-BOLT ASSEMBLY SHALL BE PROVIDED AS SHOWN. THE CONTRACTOR MAY SUBMIT ALTERNATE SUPPORT DETAILS FOR APPROVAL BY THE ENGINEER AND UTILITY OWNER.
3. GALVANIZED U-BOLT ASSEMBLY SHALL ONLY BE TIGHTENED AS REQUIRED TO SECURE THE PIPE ASSEMBLY IN PLACE. THEN FULLY SECURED TO THE C12X25 SUPPORT WITH DOUBLE NUTS ON TOP AND BOTTOM. CONTRACTOR SHALL ENSURE THAT THERE IS NO DISTORTION OF GALVANIZED STEEL JACKET AFTER INSTALLATION OF THE U-BOLT ASSEMBLY, AS APPROVED BY THE SPRINGFIELD WATER AND SEWER COMMISSION.
4. ALL STRUCTURAL STEEL PLATES AND SHAPES DETAILED ON THIS SHEET SHALL BE ASTM A36 UNLESS NOTED OTHERWISE.
5. ALL BOLTS AND HARDWARE EMBEDDED INTO THE CONCRETE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CONCRETE AND INCLUDED FOR PAYMENT WITHIN THE LUMP SUM PAYMENT FOR ITEM 995.02. ALL COSTS ASSOCIATED WITH THE FURNISHING AND INSTALLING ALL OTHER MATERIALS, COMPONENTS, AND HARDWARE DETAILED SHALL BE INCLUDED FOR PAYMENT WITHIN THE CONTRACT UNIT PRICE FOR THE RESPECTIVE PIPE ITEM BEING INSTALLED.

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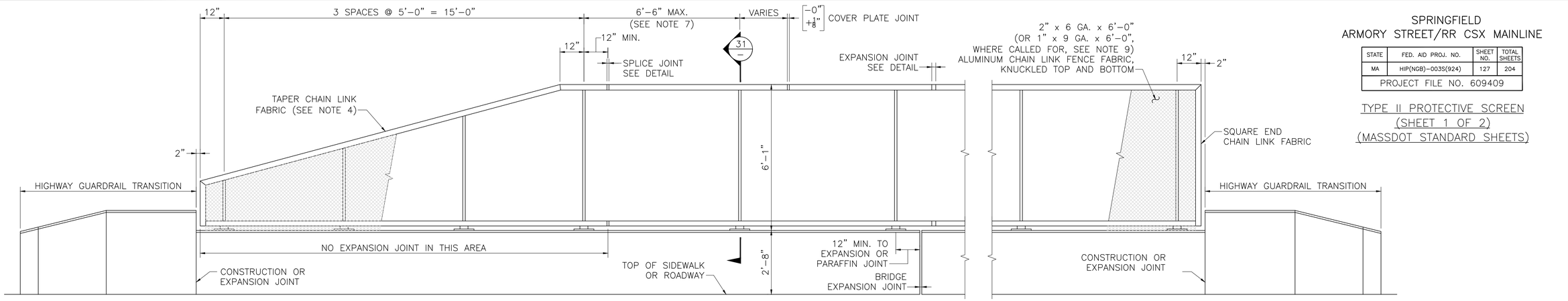
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (WATER & UTILITY SPECIFC DETAILS).DWG Plotted on 5-Feb-2026 8:58 PM
S-24-016 (Water & Utility Specifc Details).dwg
Xxxxx Structural Submittal (S#) DD-Month-YYYY

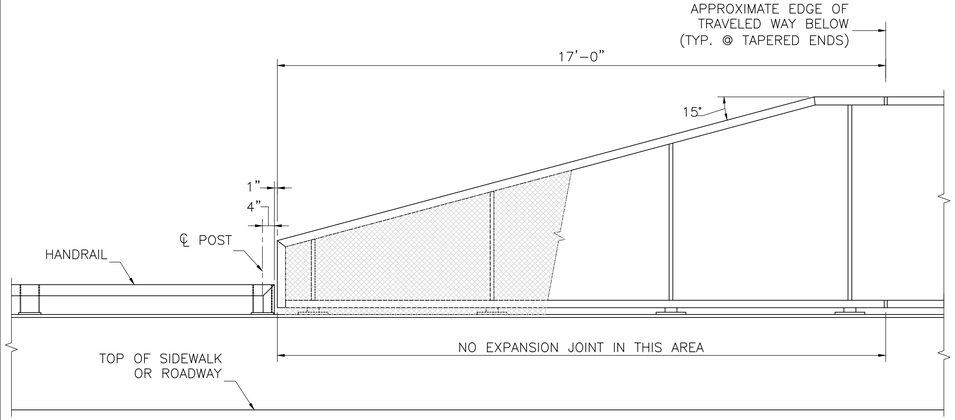
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	127	204
PROJECT FILE NO. 609409			

TYPE II PROTECTIVE SCREEN
(SHEET 1 OF 2)
(MASSDOT STANDARD SHEETS)

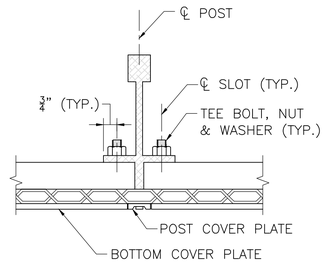


PROTECTIVE SCREEN ELEVATION



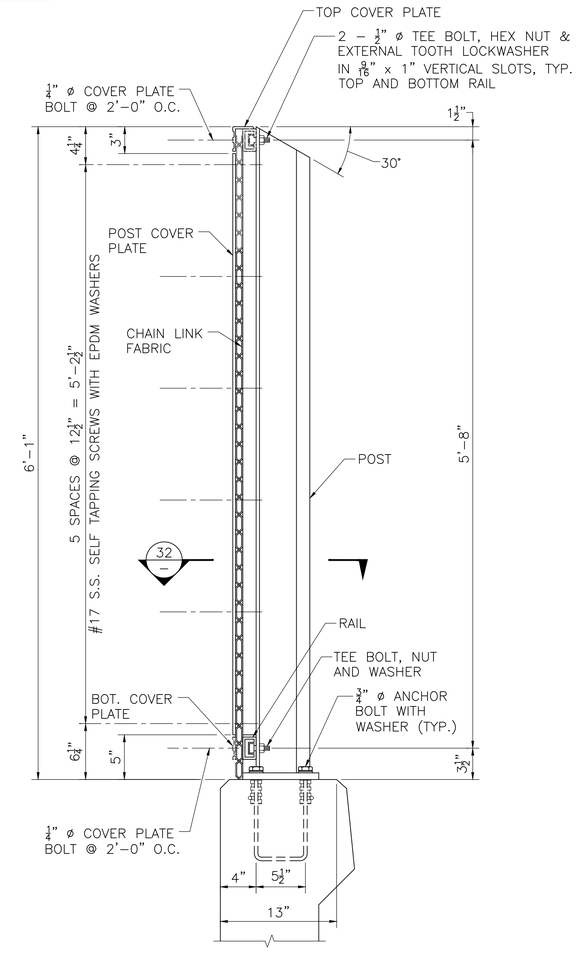
DETAIL AT HANDRAIL

SCALE: ½" = 1'-0"



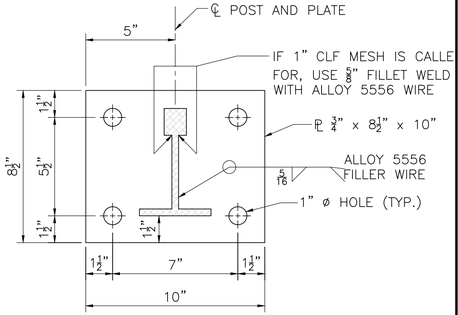
SECTION 32

SCALE: 3" = 1'-0"



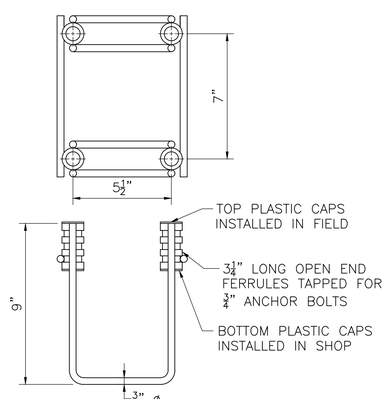
SECTION 31

SCALE: 1½" = 1'-0"



BASE PLATE DETAIL

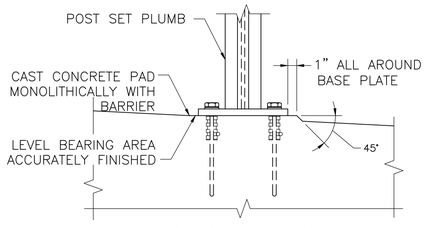
SCALE: 3" = 1'-0"



NOTE:
GALVANIZED OR ELECTROPLATE FINISH.

ANCHOR CAGE

SCALE: 3" = 1'-0"



SETTING OF POSTS
(PROFILE GRADE OVER 3%)

SCALE: 1½" = 1'-0"

GENERAL NOTES:

1. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR POSTS, IF POSSIBLE.
2. RAILS SHALL HAVE AN EXPANSION JOINT IN THE PANEL OVER A BRIDGE EXPANSION JOINT AND AT 30 FOOT MAXIMUM SPACING ELSEWHERE.
3. BOTTOM OF POST BASE PLATE TO BE SET ON A ⅛" MOLDED FABRIC BEARING PAD (M9.16.2). THE THICKNESS OF THE PAD SHALL BE IGNORED BY THE DETAILER.
4. 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.
5. WHERE THE R.O.W. FENCE MUST MEET THE SCREEN, USE THE SQUARE END TO HIGHWAY GUARDRAIL TRANSITION DETAIL.
6. THE SCREEN END TREATMENT TO BE USED (SQUARE OR TAPERED) IS SPECIFIED ELSEWHERE ON THE CONSTRUCTION DRAWINGS.
7. POST SPACING SHALL BE UNIFORM BETWEEN TAPERED ENDS.
8. SET POSTS PERPENDICULAR TO GRADE FOR GRADES UP TO 3%. SET POSTS PLUMB FOR GRADES GREATER THEN 3%.
9. USE 2" x 6 GA. FABRIC EXCEPT OVER MBTA RAPID TRANSIT LINES WHERE 1" x 9 GA. FABRIC SHALL BE USED.

FINISHES:

1. POSTS, RAILS, COVER PLATES AND SPLICE PLATES SHALL RECEIVE A DARK BRONZE ANODIZED FINISH.
2. CHAIN LINK FABRIC SHALL RECEIVE A 4±1 MIL POLYESTER POWDER COAT FINISH. THE COLOR SHALL BE DARK BRONZE TO MATCH COLOR OF ANODIZED ALUMINUM FRAMEWORK.
3. #17 SELF TAPPING SCREWS AND ¼" 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 ¼" 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

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

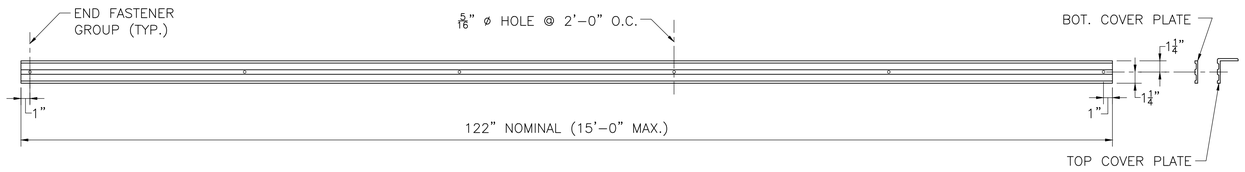
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (MASSDOT STANDARD SHEETS).DWG Plotted on 5-Feb-2026 8:59 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

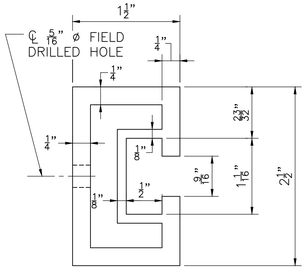
SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	128	204
PROJECT FILE NO. 609409			

TYPE II PROTECTIVE SCREEN
(SHEET 2 OF 2)
(MASSDOT STANDARD SHEETS)

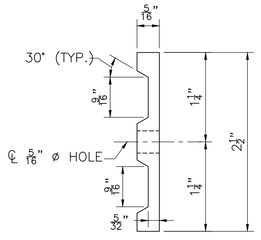


TOP AND BOTTOM COVER PLATE
SCALE: 1½" = 1'-0"

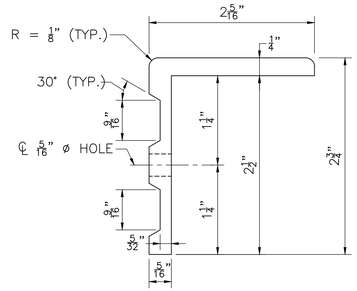


NOTE:
OTHER CONFIGURATIONS OF THE INTERNAL WALLS OF THE RAIL EXTRUSION MAY BE SUBMITTED FOR APPROVAL.

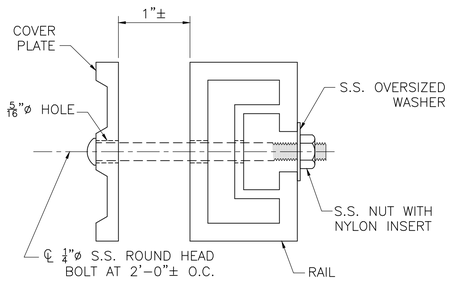
RAIL EXTRUSION
FULL SCALE



BOTTOM COVER PLATE EXTRUSION
FULL SCALE

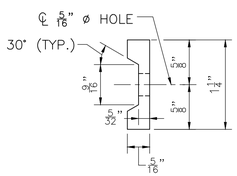


TOP COVER PLATE EXTRUSION
FULL SCALE

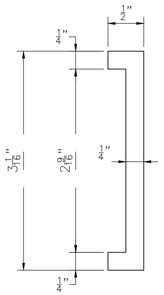


NOTE:
BOLTS SHALL BE TYPE 304 WITH A DRIVE HEAD TO BE COLORED TO MATCH ANODIZING.

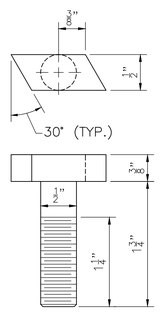
RAIL AND COVER PLATE DETAIL
FULL SCALE



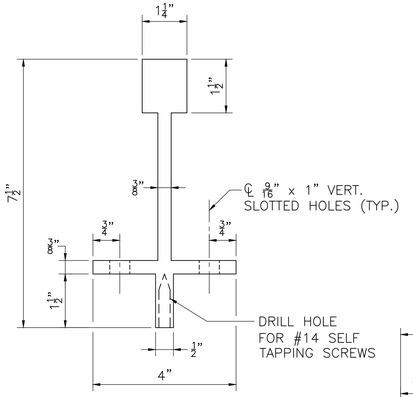
POST COVER PLATE EXTRUSION
FULL SCALE



SPLICE PLATE EXTRUSION
FULL SCALE



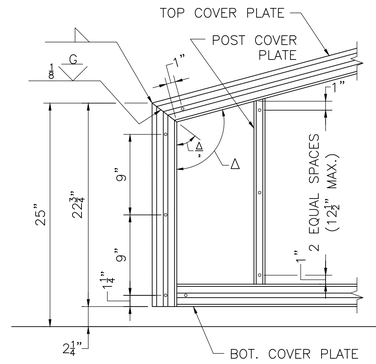
TEE BOLT
FULL SCALE



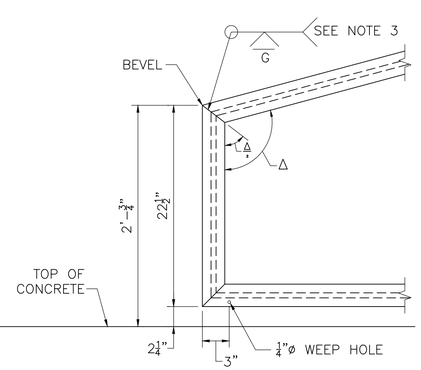
POST EXTRUSION
SCALE: 6" = 1'-0"

COVER PLATE NOTES:

1. COVER PLATES MAY BE CONTINUOUS OVER A RAIL SPLICE. COVER PLATES SHALL BE FIELD CUT AS REQUIRED TO CLEAR THE EXPANSION JOINT. SEE DETAIL AT EXPANSION JOINT.
2. FIELD DRILL 5/16" ø 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 ANODIZED COLOR.



COVER PLATE DETAILS

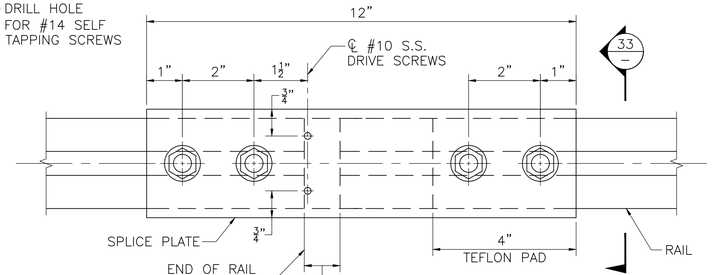


RAIL DETAILS

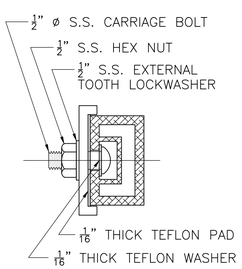
NOTES:

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.

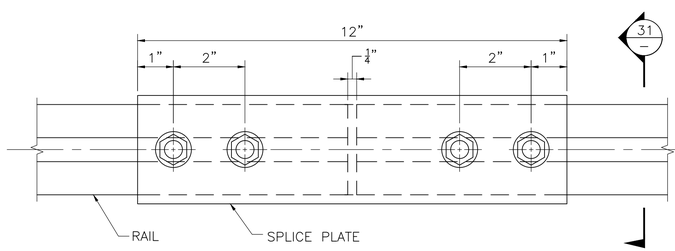
TAPERED END DETAILS
SCALE: 1½" = 1'-0"



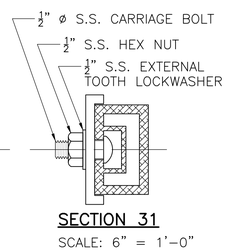
DETAIL AT EXPANSION JOINT
SCALE: 6" = 1'-0"



SECTION 33
SCALE: 6" = 1'-0"



DETAIL AT SPLICE JOINT
SCALE: 6" = 1'-0"



SECTION 31
SCALE: 6" = 1'-0"

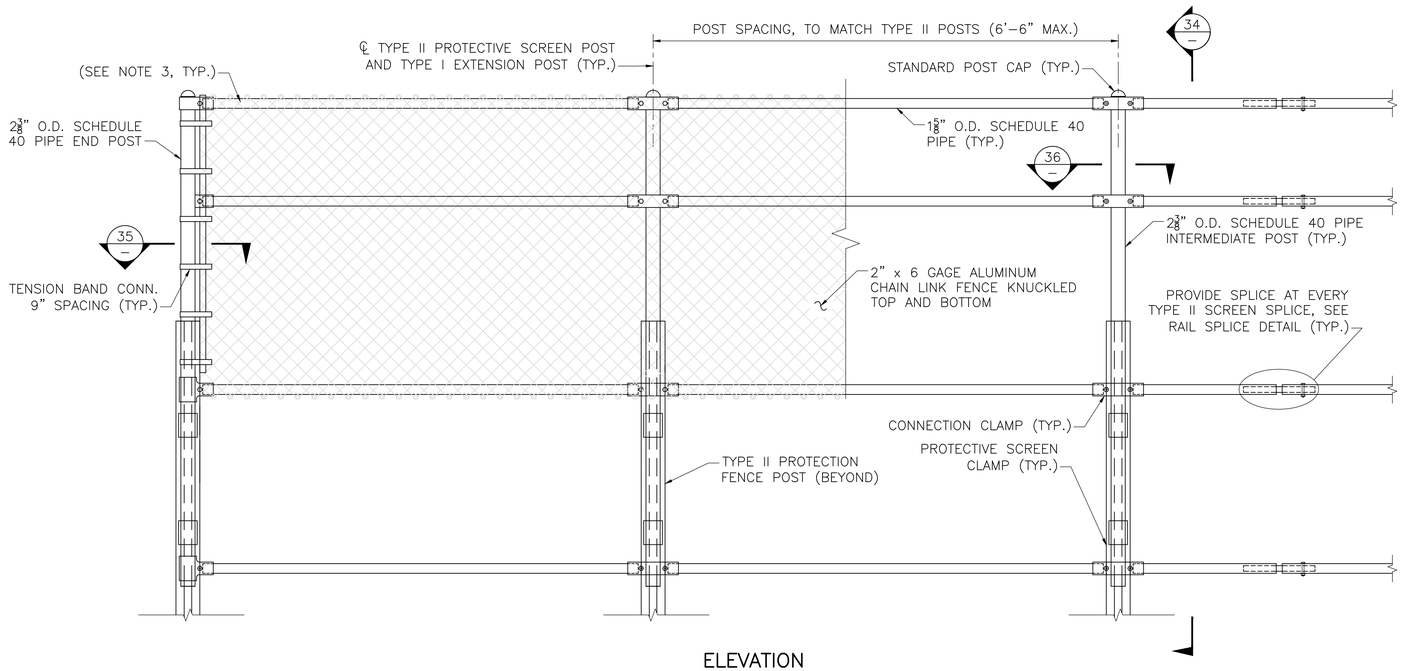
DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

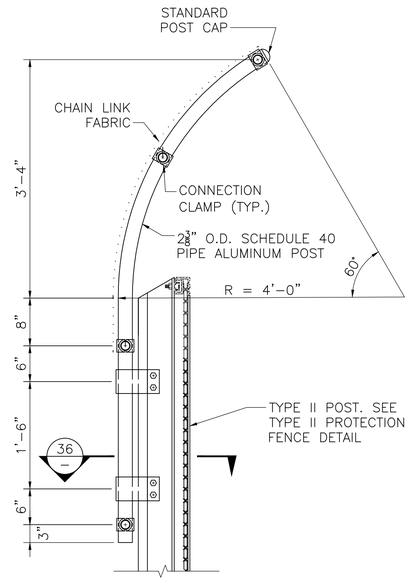
S-24-016 (MassDot Standard Sheets).dwg
S-24-016 (MASSDOT STANDARD SHEETS).DWG Plotted on 5-Feb-2026 9:00 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	129	204
PROJECT FILE NO. 609409			

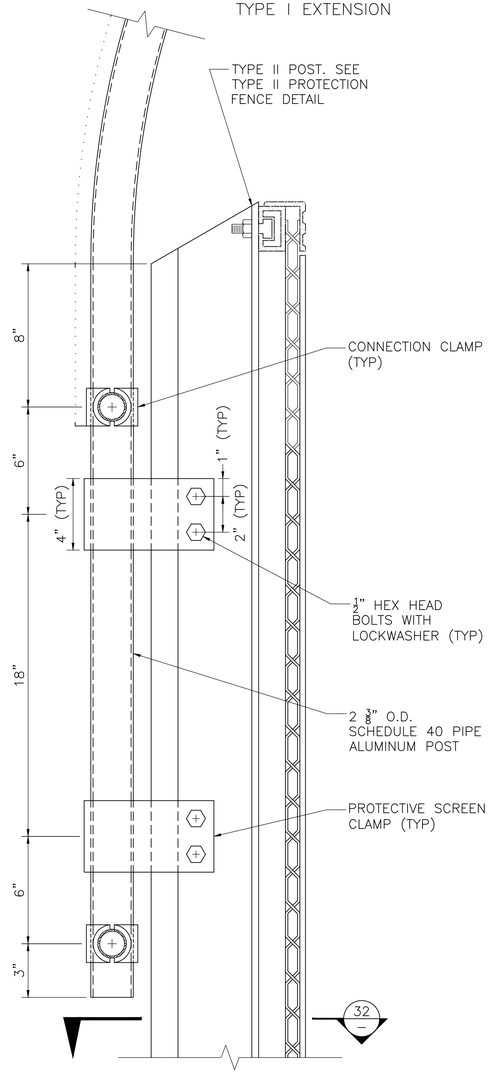


ELEVATION
SCALE: 1" = 1'-0"

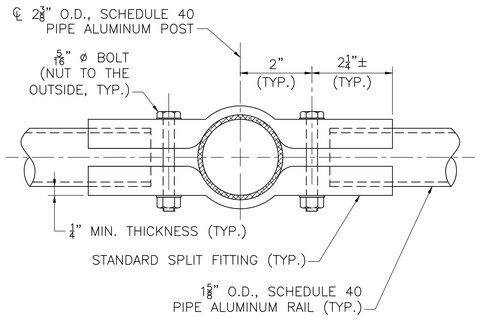


SECTION 34
SCALE: 1" = 1'-0"

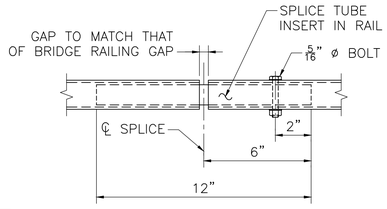
TYPE I EXTENSION



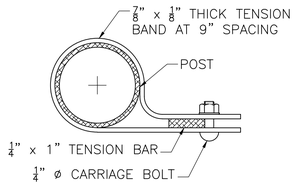
ELEVATION PROTECTIVE SCREEN CLAMPS
SCALE: 3" = 1'-0"



SECTION 36
SCALE: 6" = 1'-0"

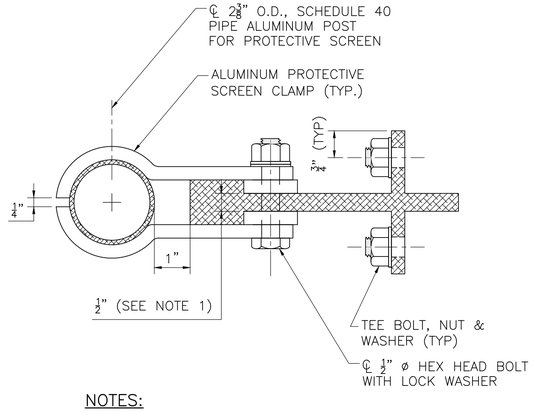


RAIL SPLICE
SCALE: 3" = 1'-0"



TENSION BAND CONNECTION

SECTION 35
SCALE: 6" = 1'-0"



NOTES:

1. DRAW FOR FABRICATION TO ENSURE CLAMPING ACTION.
2. SLIGHT VARIATIONS IN EXTRUSION DIMENSIONS MAY BE SUBMITTED FOR APPROVAL.

SECTION 37
SCALE: 6" = 1'-0"

GENERAL NOTES:

1. USE 6 GAGE TIES AT 12" O.C. TO ALL POSTS AND TOP 2 RAILS OR 3 RAILS (CURVED TOP). SPACE TIES TO BOTTOM RAIL AT 6" O.C.
2. ALL ALUMINUM, INCLUDING HARDWARE AND FABRIC, SHALL RECEIVE A 4±1 MIL POLYESTER POWDER COAT FINISH. THE COLOR SHALL MATCH THE COLOR OF THE TYPE II PROTECTIVE FENCING.
3. 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.

MATERIALS:

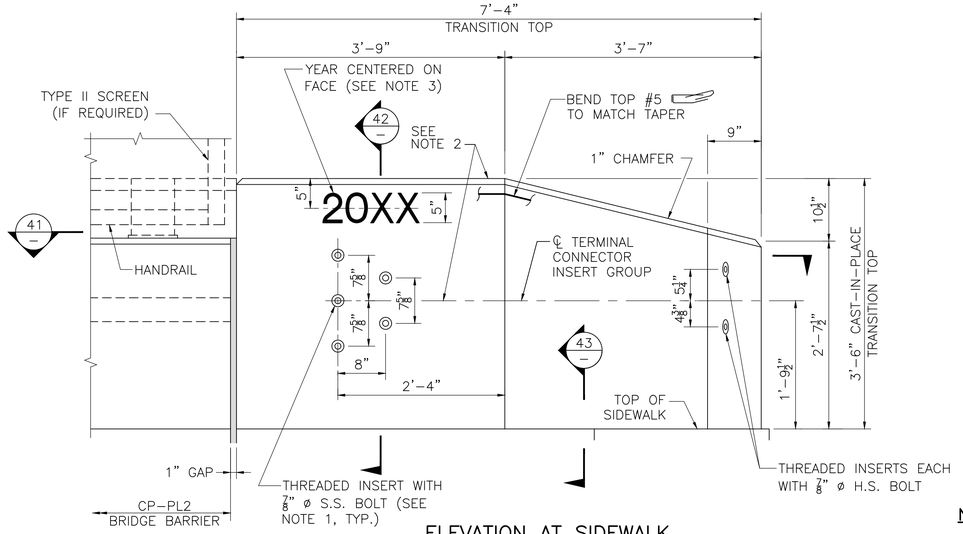
POST AND RAILS	ASTM B 221, ALLOY 6061-T6, SCHEDULE 40 PIPE
TENSION BARS, RAIL SPLICES, WASHERS, AND POST CONN. CLAMPS	ASTM B 221, ALLOY 6061-T6
FABRIC AND TIES	AASHTO M 181 TYPE III, ALLOY 6061-T89 OR T94; 6 GAGE
TENSION BANDS	ASTM B 221, ALLOY 6063-T5
BOLTS	ASTM B 316, ALLOY 2024-T4
NUTS	ASTM B 316, ALLOY 6061-T6
PROTECTIVE SCREEN CLAMPS	ASTM B 221, ALLOY 6061-T6

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

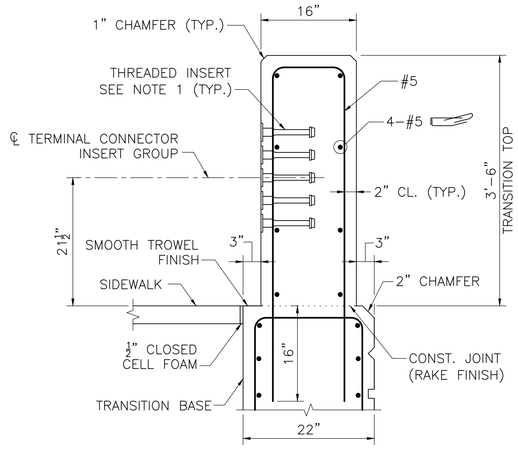
USE ONLY PRINTS OF LATEST DATE

S-24-016 (TYPE I FENCE EXTENSION).DWG Plotted on 5-Feb-2026 9:01 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



ELEVATION AT SIDEWALK

SCALE: 1" = 1'-0"



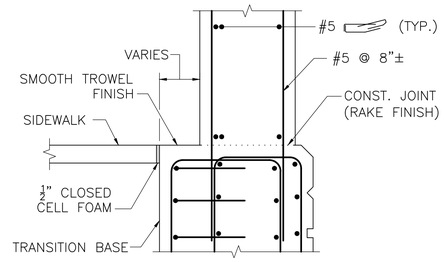
SECTION 42 AT SIDEWALK

SCALE: 1" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX MAINLINE

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	130	204
PROJECT FILE NO. 609409			

HIGHWAY GUARDRAIL TRANSITION (MASSDOT STANDARD SHEETS)



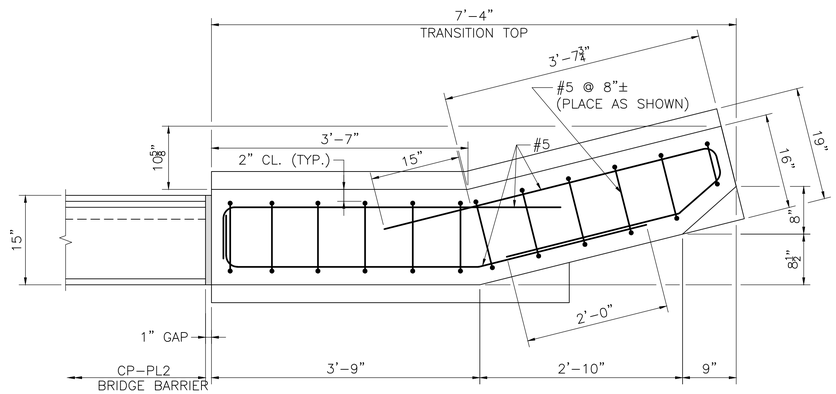
SECTION 43 AT SIDEWALK

SCALE: 1" = 1'-0"

NOTES:

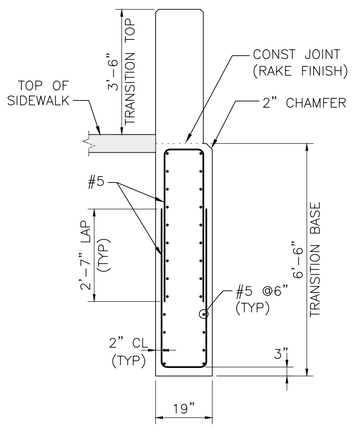
1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER ⅞" ø S.S. BOLT. S.S. BOLTS SHALL BE ⅞" ø x 1½" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR ⅞" S.S. BOLTS SHALL BE GALVANIZED AND CAST INTO THE TRANSITION.
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, ¾", 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 1½" 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.



SECTION 41

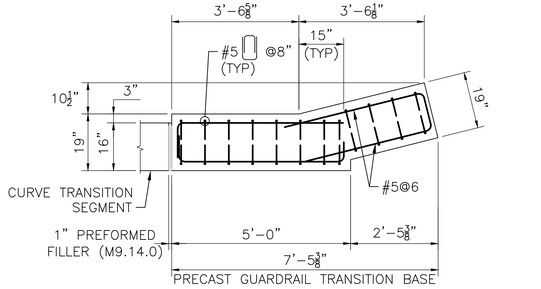
SCALE: 1" = 1'-0"



NOTE:
REINFORCEMENT OF THE TRANSITION TOP NOT SHOWN FOR CLARITY

SECTION 29

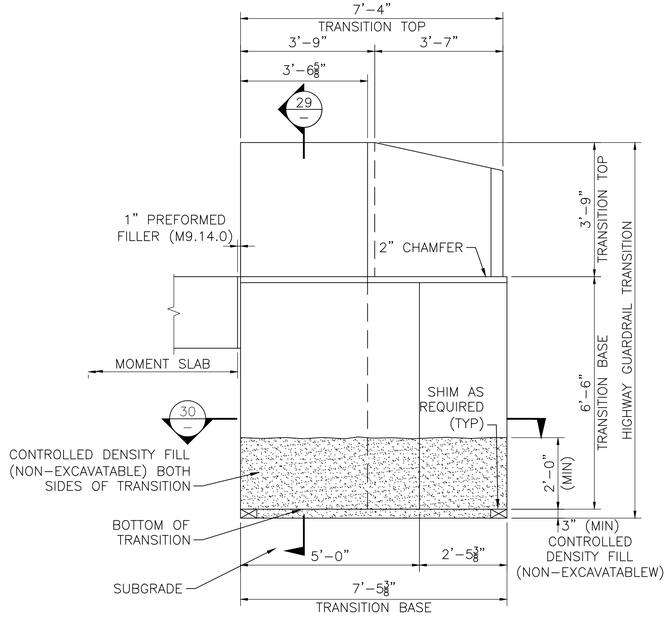
SCALE: 1/2" = 1'-0"



NOTE:
MOMENT SLAB REINFORCEMENT NOT SHOWN FOR CLARITY

SECTION 30

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



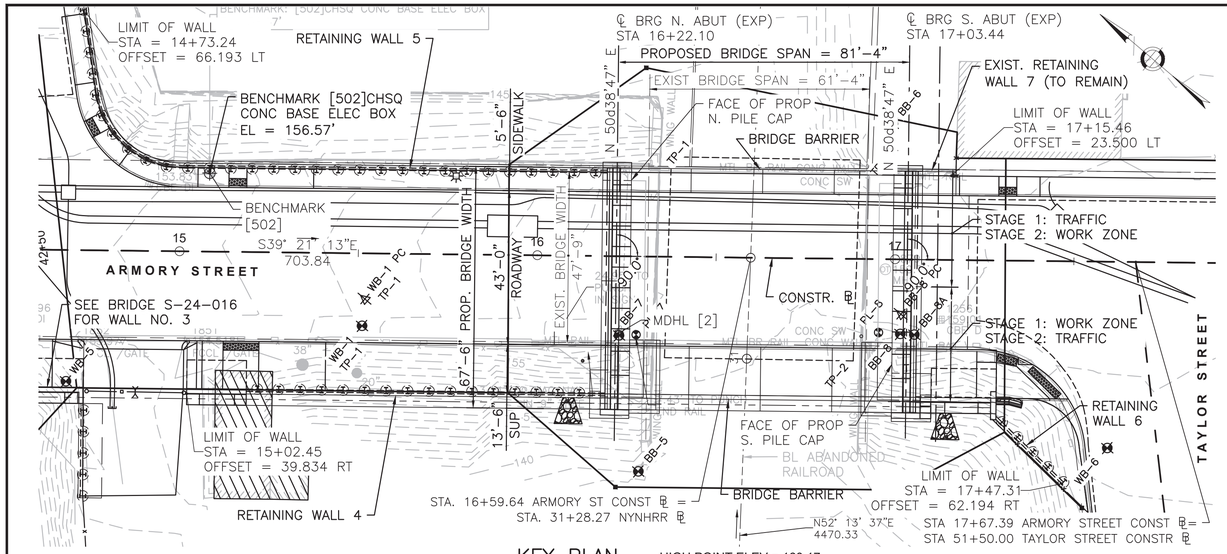
CIP GUARDRAIL TRANSITION ELEVATION

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

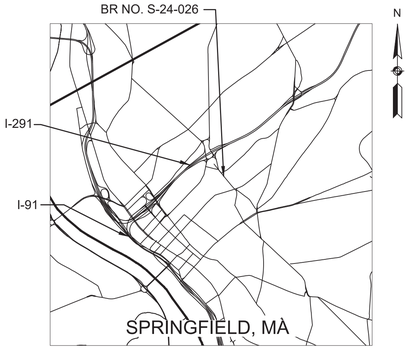
DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-016 (MassDot Standard Sheets).dwg
S-24-016 (MASSDOT STANDARD SHEETS).DWG Plotted on 5-Feb-2026 9:03 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



KEY PLAN
SCALE: 1"=20'-0"



LOCUS MAP

0 2000 4000 6000 8000

SCALE: 1" = 2000'

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	131	204
PROJECT FILE NO. 609409			

KEY PLAN, PROFILE, INDEX

PROFILE – ARMORY STREET (LOOKING EAST)
VERTICAL SCALE: 1/4"=1'-0" / HORIZONTAL SCALE: 1"=20'-0"

PROFILE – ABANDONED BOSTON & ALBANY RR (LOOKING NORTH)
VERTICAL SCALE: 1"=4'-0"
HORIZONTAL SCALE: 1"=20'-0"

INDEX

SHEET NO.	DESCRIPTION
1	PLAN & PROFILE
2	GENERAL NOTES & QUANTITIES
3 – 12	BORING LOGS
13	PLAN & ELEVATION
14	CONSTRUCTION STAGING AND DEMOLITION PLAN
15	EXISTING SUBSTRUCTURE DEMOLITION
16 – 17	EXISTING WALL DEMOLITION
18 – 21	CONSTRUCTION STAGING PLANS
22 – 23	ABUTMENT PLANS AND ELEVATIONS
24 – 26	WALL PLANS AND ELEVATIONS
27 – 29	WALL SECTIONS AND DETAILS
30 – 31	MICROPILE DETAILS
32	MICROPILE LAYOUT PLAN
33 – 34	LAGGING WALL AND SOLDIER PILES
35	BACKFILL
36	JOINTS
37	TYPICAL ABUTMENT SECTIONS
38	ABUTMENT CURTAIN WALL & KEEPER BLOCK DETAILS
39 – 40	ABUTMENT END DIAPHRAGM DETAILS
41	PILE CAP DETAILS
42	APPROACH SLAB
43	FRAMING PLAN
44	GIRDER DETAILS
45	CAMBER TABLE
46 – 47	DIAPHRAGMS AND UTILITY SUPPORT DETAILS
48	BEARING DETAILS
49	TYPICAL SUPERSTRUCTURE CROSS-SECTION
50 – 52	DECK DETAILS
53 – 55	MOMENT SLAB DETAILS
56	MODIFIED HIGHWAY AND TRAFFIC DETAILS
57	WATER UTILITY DETAILS
58 – 61	MASSDOT STANDARD SHEETS

COMMONWEALTH OF MASSACHUSETTS
ALAN J. FLAK
NO. 57620
REGISTERED PROFESSIONAL ENGINEER

Alan Flak — Digitally signed by Alan Flak 16:09:25:19 -05'00'

TETRA TECH, INC.
Marlborough Technology Park
100 Nickerson Road,
Marlborough, MA 01752

DEC 20, 2025	ISSUED FOR CONSTRUCTION

MassDOT Massachusetts Department of Transportation Highway Division

PROPOSED BRIDGE
SPRINGFIELD
ARMORY STREET
OVER RR CSX (ABANDONED)
MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
10 PARK PLAZA BOSTON, MASS

Alexander K. Bardow, P.E. — Digitally signed by Alexander K. Bardow, P.E. Date: 2026.02.02 09:49:29 -05'00'
STATE BRIDGE ENGINEER:

Carrie Lavallee, P.E. — Digitally signed by Carrie Lavallee, P.E. Date: 2026.02.02 12:32:18 -05'00'
CHIEF ENGINEER

SHEET 1 OF 61 SHEETS BRIDGE NO. S-24-026 (C8H)

S-24-026 (PLAN & PROFILE).DWG Plotted on 22-Dec-2025 1:06 PM

Xxxxxx Structural Submittal (S#) DD-Month-YYYY

GENERAL NOTES

DESIGN:
IN ACCORDANCE WITH THE 2020 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS 9th EDITION, FOR HL-93 LOADING.

MASSDOT BENCH MARK:
ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

DATE:
TO BE PLACED ON THE INSIDE FACE OF THE SOUTHEAST AND NORTHWEST 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.

MASSDOT SURVEY NOTEBOOKS:
ELECTRONIC SURVEY PERFORMED BY GREEN INTERNATIONAL WAS USED IN THE PREPARATION OF THESE CONSTRUCTION DRAWINGS. FILES CAN BE OBTAINED AT THE SURVEY OFFICE, MASSDOT – HIGHWAY DIVISION, 10 PARK PLAZA, MASSACHUSETTS.

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.

CONCRETE:
ALL CONCRETE SHALL BE 5000 HP CONCRETE, EXCEPT AS NOTED BELOW.

CONCRETE MIX:
UNLESS OTHERWISE NOTED, CONCRETE SHALL BE AS FOLLOWS

(1)	(2)	(3)
5000	3/4"	685 HP

(1) 28 DAY COMPRESSIVE STRENGTH (PSI)
(2) MAXIMUM AGGREGATE SIZE (INCH)
(3) CEMENTITIOUS CONTENT (POUNDS/CY) CEMENT SHALL CONFORM TO AASHTO M85

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:

MODIFICATION CONDITION	#4 BARS	#5 BARS	#6 BARS	#7 BARS
1. NONE	16"	17"	21"	23"
2. 12" OF CONCRETE BELOW BAR	18"	22"	27"	30"
3. EPOXY COATED BARS, COVER < 3db, OR CLEAR SPACING < 6db	21"	26"	31"	36"
4. COATED BARS, ALL OTHER CASES	17"	21"	25"	28"
5. CONDITION 2. AND 3.	23"	29"	35"	42"
6. CONDITION 2. AND 4.	21"	27"	32"	36"

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

ABBREVIATIONS:
GB GRAVITY BLOCK
UF-LGA LIGHTWEIGHT FOAMED GLASS AGGREGATE

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

RAILROAD REQUIREMENTS:
NO WORK OVER ADJACENT TO RAILROAD PROPERTY MAY BE IN PROGRESS DURING THE PASSAGE OF TRAINS, AND ALL WORK ADJACENT TO AND OVER RAILROAD PROPERTY SHALL BE PERFORMED UNDER THE PROTECTION OF A RAILROAD FLAGMAN. RAILROAD PROPERTY SHALL BE KEPT CLEAR OF ALL PROJECT-GENERATED DEBRIS. ALL TEMPORARY STRUCTURES SHALL BE COMPLETELY REMOVED AND THE AREAS RESTORED AT THE COMPLETION OF WORK.

STRUCTURAL STEEL & WELDING:
ALL STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50W UNCOATED WEATHERING STEEL UNO.

PAINT ALL SUPERSTRUCTURE STEEL WITHIN A DISTANCE OF 1 1/2 TIMES THE DEPTH OF GIRDER FROM BRIDGE JOINTS. WHEN WEATHERING STEEL IS PAINTED, THE FINISH COAT COLOR SHALL CONFORM TO FEDERAL STANDARD 595B, "COLOR USED IN GOVERNMENT PROCUREMENT, COLOR CHIP NO. 30045.

ALL WELDING, WELDING MATERIAL, PREPARATION AND ASSEMBLY OF MATERIAL FOR WELDING SHALL CONFORM TO THE MASSDOT STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES, THE AASHTO LRFD BRIDGE DESIGN SPECIFICATION, THE AASHTO/AWS BRIDGE WELDING CODE (ASI/AASHTO/AWS D1.5), AND ALL INTERIM REVISIONS PUBLISHED BY AASHTO AS OF THE BID OPENING DATE. ALL SUPPORT ANGLES AND MECHANICAL REINFORCING BAR SPLICERS AND COUPLERS SHALL BE IN ACCORDANCE WITH THE BRIDGE WELDING CODE; ANSI/AASHTO/AWS D1.5; AND IN ACCORDANCE WITH INTERIM PUBLISHED BY AASHTO AS OF THE BID OPENING DATE.

UTILITIES:
THE CONTRACTOR SHALL LOCATE AND PROTECT FROM DAMAGE OR RELOCATE, AS NECESSARY, ANY EXISTING UTILITIES/POLES. THE CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE RESPECTIVE UTILITY OWNERS FOR ALL UTILITIES THAT ARE TO BE TEMPORARILY OR PERMANENTLY RELOCATED FOR BRIDGE REPLACEMENT WORK.

TRAFFIC:
CONSTRUCTION SHALL TAKE PLACE IN SEVERAL STAGES AND THE BRIDGE WILL BE OPEN TO THRU-TRAFFIC IN ONE DIRECTION AND DETOURED IN THE OTHER DIRECTION. REFER TO THE STAGE CONSTRUCTION PLANS AND SECTIONS, THE TRAFFIC MANAGEMENT AND/OR DETOUR PLANS FOR TRAFFIC CONTROL DURING DEMOLITION AND CONSTRUCTION.

ESTIMATED QUANTITIES (NOT GUARANTEED)

ITEM NO	DESCRIPTION	QTY	UNIT
100.91	PRECONSTRUCTION SURVEY AND MONITORING OF EXISTING STRUCTURES	1	LS
114.2	DEMOLITION OF SUPERSTRUCTURE OF BRIDGE NO S-24-026	1	LS
127.1	REINFORCED CONCRETE EXCAVATION	180	CY
140.0	BRIDGE EXCAVATION	1627	CY
144	CLASS B ROCK EXCAVATION	172	CY
151.2	GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES	815	CY
156	CRUSHED STONE	191	TON
450.611	SUPERPAVE BRIDGE SURFACE COURSE - 12.5 POLYMER (SSC-B - 12.5 - P)	35	TON
450.711	SUPERPAVE BRIDGE PROTECTIVE COURSE – 12.5P POLYMER (SPC-B - 12.5 - P)	47	TON
458.7	LIGHTWEIGHT AGGREGATE	1048	CY
853.33	TEMPORARY BARRIER - LIMITED DEFLECTION (TL-3)	106	FT
904.3	5000 PSI 3/4IN 685 HP CEMENT CONCRETE	623	CY
904.33	PRECAST CONCRETE PANELS	2439	SF
909.5	RAPID HARDENING CEMENTITIOUS PRODUCTS	8	CY
910.2	STEEL REINFORCEMENT FOR STRUCTURES - COATED	62090	LB
912.5	DRILLED AND GROUTED #5 DOWELS	57	EA
942.283	STEEL PILE W18X283	326	FT
942.311	STEEL PILE W18X311	1006	FT
942.89	STEEL PILE W16X89	1119	FT
945.10	DRILLED MICROPILES	9076	FT
945.101	DRILLED SHAFT EXCAVATION 3.0 FOOT DIAMETER	2039	FT
945.301	OBSTRUCTION EXCAVATION 3.0 FOOT DIAMETER	25	FT
945.501	DRILLED SHAFT 3.0 FOOT DIAMETER	2039	FT
948.60	MICROPILE VERIFICATION LOAD TEST	2	EA
948.61	MICROPILE PROOF LOAD TEST	8	EA
951.1	GRANITE CORING	120	FT
951.2	STEEL SLEEVE / CONCRETE CORING	360	FT
953.31	TEMPORARY EXCAVATION SUPPORT SYSTEM	1	LS
970	DAMP-PROOFING	4165	SF
975.4	PROTECTIVE SCREEN TYPE II	168	FT
975.5	ALUMINUM HANDRAIL	150	FT
992.35	TEMPORARY SUPPORTS FOR UTILITIES - SYSTEM 3	1	LS
995.02	BRIDGE STRUCTURE, BRIDGE NO. S-24-026	1	LS

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	132	204
PROJECT FILE NO. 609409			

GENERAL NOTES & QTY'S

PROJECT INFORMATION

PROJECT FILE NO.: 609409
PROJECT DESCRIPTION: BRIDGE REPLACEMENT BRIDGE NO. S-24-026
BRIDGE DESIGN LOADING: HL-93
SURVEY: SURVEY BY GREEN INTERNATIONAL AFFILIATES, INC.
ELEVATION REFERENCE: NAVD OF 1988
BENCH MARK [502] CHSQ CONC BASE ELEC BOX EL = 156.57'

TRAFFIC DATA

	ROADWAY OVER	ROADWAY UNDER
DESIGN YEAR	2024	
AVERAGE DAILY TRAFFIC-PRESENT	15800	
AVERAGE DAILY TRAFFIC-DESIGN YEAR	16200	
DESIGN HOURLY VOLUME (2019)	1280	
DIRECTIONAL DISTRIBUTION	55%	
TRUCK PERCENTAGE-AVERAGE DAY	3.5%	
TRUCK PERCENTAGE-PEAK HOUR	7.5%	
DESIGN SPEED	25 mph	
DIRECTIONAL DESIGN HOURLY VOLUME (2019)	920	

SEISMIC DESIGN CRITERIA

DESIGN RETURN PERIOD:	1000-YEAR
DESIGN SPECTRA	
As	0.148
SDs	0.325
SD1	0.133
SITE CLASS	E
SEISMIC DESIGN CATEGORY (SDC)	A

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (GENERAL NOTES & QTY'S).DWG Plotted on 5-Feb-2026 9:13 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Boring No.: **BB-5**
Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Boring Location: N: 2868736.94
E: 362765.84
Location: Springfield, Massachusetts
Checked by: K. Kocia
Nobis Project No.: 94184.00
Date Start: May 28, 2019
Date Finish: May 30, 2019
Contractor: Seaboard Drilling, Inc.
Rig Type / Model: Truck / B-53 Mobile
Ground Surface Elev.: (+/-) 138
Driller: M. Glynn
Hammer Type: Automatic Hammer
Datum: NAVD 88
Nobis Rep.: S. Kurtzer
Hammer Hoist: Automatic

N. ABUT B.O. PILE CAP ELEV 151.23

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼05/29/19	09:00	8.2	30	34	18 hr

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 138.0	S-1	18	0-2	18						S-1: Medium dense, dark brown to black, fine to coarse SAND, some fine to coarse Gravel, some Silt, several pieces of glass, concrete, brick, and other debris. Moist.	
1				12							
				10					URBAN FILL		
ELEV 136.0	S-2	14	2-4	9						S-2: Medium dense, brown to black, fine to coarse SAND, some fine to coarse Gravel, some Silt, several coal ash fragments, few brick fragments, few organics. Moist. obstruction between 4 and 5 feet bgs.	
2				9							
3				7							
				6							
ELEV 134.0				5							
4											
5											1
	S-3	18	5-7	3						S-3A (10"): Very loose, reddish-brown to gray, Clayey SILT, some fine to coarse Sand, few coal ash fragments. Moist. Redoximorphic staining present.	
ELEV 132.0				2						S-3B (8"): Very loose, reddish-brown to gray, SILT & CLAY, trace fine Sand. Moist.	
6				1							
7				4						S-4A (4"): Medium dense, tan, fine to medium SAND, some Silt. Wet.	
	S-4	10	7-9	7						S-4B (6"): Medium dense, reddish-brown, Clayey SILT, little fine Gravel. Moist to wet.	
ELEV 130.0				6							
8				9			▼				
WATER ELEV 129.8				11							
9											
ELEV 128.0									REWORKED SANDY SILT AND CLAY		
10	S-5	12	10-12	4						S-5: Medium dense, reddish-brown, Clayey SILT, some fine to coarse Gravel. Wet.	
11				4							
				5							
ELEV 126.0				8							
12	S-6	10	12-14	6						S-6: Medium dense, reddish-brown to gray, SILT & CLAY, some fine to coarse Gravel, little fine to coarse Sand. Wet.	
13				5							
				7							
ELEV 124.0				7							
14											
15									123.0 / 15.0		
	S-7	14	15-17	3						S-7: Medium dense, reddish-brown to gray, SILT, trace Clay, trace fine Sand. Wet.	
ELEV 122.0				6							
16				5							
17				7							
									VARVED SILT AND CLAY		
ELEV 120.0											
18											
19											
ELEV 118.0											
20											
	S-8	10	20-22	1						S-8: Medium stiff, gray, Clayey SILT, trace fine Sand. Wet.	
21				4							
				4							
ELEV 116.0				3							
22											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 5 feet.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Boring No.: **BB-5 - CONT.**
Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Boring Location: N: 2868736.94
E: 362765.84
Location: Springfield, Massachusetts
Checked by: K. Kocia
Nobis Project No.: 94184.00
Date Start: May 28, 2019
Date Finish: May 30, 2019
Contractor: Seaboard Drilling, Inc.
Rig Type / Model: Truck / B-53 Mobile
Ground Surface Elev.: (+/-) 138
Driller: M. Glynn
Hammer Type: Automatic Hammer
Datum: NAVD 88
Nobis Rep.: S. Kurtzer
Hammer Hoist: Automatic

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼05/29/19	09:00	8.2	30	34	18 hr

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 116.0											
23											
	ST-1	0	23-25							ST-1: Approximately 200 psf of downward pressure applied from 23 to 24.5 feet bgs and 500 psf applied from 24.5 to 25 feet bgs. Last 12 inches of shelby tube crushed upon removal. Sample discarded.	
ELEV 114.0											
24											
25											
	S-9	16	25-27	6						S-9: Stiff, gray, Clayey SILT, trace fine Sand. Wet.	
ELEV 112.0				6							
26				8							
27				10							
ELEV 110.0											
28											
	ST-2	0	28-30							ST-2: Approximately 100 to 0 psf of downward pressure applied. No recovery.	
29											
30											
ELEV 108.0											
	ST-3	24	30-32						VARVED SILT AND CLAY	ST-3: Stiff, gray, CLAY, trace fine Sand. Wet. Approximately 100 to 0 psf of downward pressure applied. Shelby Tube was left overnight. [Moisture = 25.7% Gravel = 0.0% Sand = 1.6% Fines = 98.4% LL = 38 PL = 23 PI = 15 LI = 0.2].	
31											
ELEV 106.0											
32											
	S-10	18	32-34	9						S-10: Stiff, gray, SILT, trace fine Sand, trace Clay. Wet.	
33				7							
				7							
ELEV 104.0				7							
34											
35											
	S-11	19	35-37	3						S-11: Medium stiff, gray, Silty CLAY. Wet.	
ELEV 102.0				4							
36				4							
37				5							
	ST-4	12	37-39							ST-4: Medium stiff, gray, Silty CLAY, trace fine Sand. Wet. Approximately 0 to 150 psf of downward pressure applied. [Moisture = 27.7% Gravel = 0.1% Sand = 1.5% Fines = 98.4% LL = 29 PL = 18 PI = 11 LI = 0.9].	
ELEV 100.0											
38											
39									99.0 / 39.0		
	S-12	18	39-41	3						S-12: Loose, gray, SILT, little fine Sand, trace Clay. Wet.	
ELEV 98.0				2							
40				6							
41				8							
									SILT		
ELEV 96.0											
42											
43											
ELEV 94.0											
44											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE PLAN THUS:
   - ⊕ TEST BORING LOCATIONS
   - ⊗ PROBE LINE LOCATIONS
   - △ PAVEMENT CORE LOCATION
   - ⊞ TEST PIT LOCATIONS
2. BORINGS ARE TAKEN FOR PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
3. WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 3/8" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
5. 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.
6. ALL BORINGS WERE MADE IN APRIL TO MAY OF 2019.
7. BORINGS WERE MADE BY SEABOARD DRILLING, INC. OF CHICOPEE MASSACHUSETTS.
8. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
9. SEE THE GEOTECHNICAL REPORT (TABLE 1) FOR A SUMMARY OF THE PROBE LINES.
10. THE BORING LOG BB-5 CONTINUES ON THE NEXT SHEET.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:14 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-5 - CONT.**
Boring Location: N: 2868736.94
E: 362765.84
Checked by: K. Kocia
Date Start: May 28, 2019
Date Finish: May 30, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 138
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 05/29/19	09:00	8.2	30	34	18 hr

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 94.0											
45											
	S-13	17	45-47	16						S-13: Very dense, gray, SILT, some fine Sand, trace Clay. Wet.	
ELEV 92.0				36							
46				33							
47				32							
ELEV 90.0											
48											
49											
ELEV 88.0											
50											
	S-14	18	50-52	12					SILT	S-14: Medium dense, gray, SILT, little fine Sand, trace Clay. Wet.	
51				13							
				14							
ELEV 86.0				18							
52											
53											
ELEV 84.0											
54											
55									83.0 / 55.0		
	S-15	16	55-57	21						S-15A (6"): Dense, reddish-brown, fine to coarse SAND and fine to coarse Gravel, little Silt. Wet.	
ELEV 82.0				17						S-15B (5"): Dense, gray, SILT, little fine Sand, trace Clay. Wet.	
56				18							
57				32						S-15C (5"): Dense, reddish-brown, fine to coarse SAND, little fine Gravel, trace Silt. Wet.	
ELEV 80.0									GLACIAL TILL		
58											
59											
ELEV 78.0											
60									78.0 / 60.0		
	S-16	0	60-60.1	50/1"					WEATHERED ROCK	S-16: No recovery. Weathered rock in spoon tip.	
61	C-1	60	60.5-65.5		100/50	4.25			77.5 / 60.5	C-1: Medium Hard, fresh to slightly weathered, moderately to severely fractured, reddish-brown, fine-grained, ARGILLACEOUS SANDSTONE, slightly dipping to horizontal joints, multiple mechanical break joints. Wet.	
ELEV 76.0						5.25					
62											
63						7.5					
ELEV 74.0									BEDROCK		
64						6					
65						6.5					
ELEV 72.0											
66	C-2	60	65.5-70.5		100/23	4.25				C-2: Medium Hard, fresh to slightly weathered, moderately to severely fractured,	
67						6.75				reddish-brown, fine-grained, ARGILLACEOUS SANDSTONE, slightly dipping to horizontal joints, multiple mechanical break joints. Wet.	
ELEV 70.0						8					
68						7.25			BEDROCK		
ELEV 68.0						10.25					
70									67.5 / 70.5		2
71										Boring terminated at 70.5 feet.	

PILE TIP APPROX ELEV. 62.0

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Boring backfilled with spoils.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-7**
Boring Location: N: 2868765.58
E: 362791.38
Checked by: K. Kocia
Date Start: May 20, 2019
Date Finish: May 20, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 159.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/20/19	22:00	Not Encountered	15	17	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1							CONCRETE SIDEWALK 159.1 / 0.4	Concrete sidewalk approximately 4-inches thick.	
ELEV 158.0	S-1	3	1-3	6				S-1: Loose, brown to black, fine to coarse SAND, some Silt, some fine Gravel, few asphalt fragments. Moist.	
2				4					
				5					
3				4					
ELEV 156.0	S-2	8	3-5	8				S-2: Loose, brown to tan, fine to coarse SAND, some Silt, some fine to coarse Gravel, few asphalt fragments. Moist.	
4				5					
				3					
5				2					
ELEV 154.0	S-3	2	5-7	5				S-3: Loose, brown, fine to coarse SAND, little Silt, little fine Gravel, very few wood fragments. Moist. Rock in spoon tip.	1
6				3					
				2					
7				3					
ELEV 152.0									
NORTH ABUT B.O. PILE CAP ELEV 151.23									
8									
ELEV 150.0							URBAN FILL		
9									
10									
	S-4	8	10-12	WOH				S-4: Very loose, brown, fine to coarse SAND, some Silt. Wet.	
11				WOH					
ELEV 148.0				1					
12				1					
13									
ELEV 146.0									
14									
15									
ELEV 144.0	S-5	9	15-15.8	1				S-5: Dense, brown to tan, fine to medium SAND, some Silt, few roots, faint redoximorphic staining. Wet. Granite pieces in spoon tip.	
16				50/4"					
17							142.5 / 17.0		2
ELEV 142.0								Boring terminated at 17 feet on roller bit refusal.	3
18									
19									
ELEV 140.0									
20									
21									
ELEV 138.0									
22									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 5 feet.
2) Upon casing refusal at 17 feet bgs, the boring was attempted to be advanced using the roller bit. The roller bit was unable to be advanced due to an obstruction.
3) Boring backfilled with spoils and two (2) bags of filter sand. Concrete sidewalk patched with quick set concrete.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	134	204
PROJECT FILE NO. 609409			

BORING SHEET

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.
2. THE BOTTOM OF NORTH PILE CAP ELEVATION 151.23'.
3. THE NORTH PILE CAP TIP APPROX. ELEVATION 62.00'.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:15 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	135	204
PROJECT FILE NO. 609409			

BORING SHEET

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.
2. THE BORING LOG BB-6 CONTINUES ON THE NEXT SHEET.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-6**
Boring Location: N: 2868745.48
E: 362886.02
Checked by: N. Belanger
Date Start: April 17, 2019
Date Finish: April 19, 2019

Contractor: Seaboard Drilling, Inc.
Driller: D. Feeley / M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 145
Datum: NAVD 88

SOUTH ABUT
B.O. PILE CAP
ELEV 151.48

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼04/18/19	08:20	10.4	51	51	16 hrs

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 144.0											
1	S-1	16	0-2	2					URBAN FILL	S-1A (7"): Loose, brown and red, fine to coarse SAND, little Silt, numerous brick pieces / fragments. Dry to Moist.	
				2							
2				3						S-1B (9"): Loose, black, SILT, some fine to medium Sand, numerous coal/ash particles / fragments. Moist.	
				3							
ELEV 142.0	S-2	18	2-4	3						S-2A (3"): Loose, black to gray, SILT and fine to medium Sand. numerous coal/ash particles / fragments, few brick fragments. Moist. Very faint red smearing / staining present.	
3				3						S-2B (15"): Medium stiff, brown, SILT & CLAY, some fine to medium Sand, very few coal/ash particles. Moist.	
				4							
4				4							
ELEV 140.0	S-3	12	4-6	4						S-3: Stiff, brown, SILT & CLAY, some fine Sand, very few coal/ash particles. Moist. Faint black smearing present within sample.	1
5				6							
				6							
6				6							
ELEV 138.0									REWORKED SANDY SILT AND CLAY	Casing commenced after sample S-3 obtained. Wash color change from black to brown at approximately 2.5 feet bgs.	
7											
8											
ELEV 136.0											
9	S-4	20	9-11	3						S-4: Medium stiff, brown to gray, Silty CLAY, little fine Sand. Wet. Multiple redoximorphic staining seams / pockets present. [Gravel = 0.2% Sand = 2.1% Fine = 97.7%].	
WATER TABLE ELEV 134.6											
10				3							
				4							
ELEV 134.0									134.0 / 11.0		
11				4							
12											
ELEV 132.0											
13											
14											
	S-5	21	14-16	4						S-5: Medium stiff, brown to gray, Clayey SILT, little fine Sand. Wet. Varved pockets / seams (ranging in 0.5 inches to 4 inches in thickness). Faint redoximorphic staining pockets present.	
ELEV 130.0				2							
15				5							
				5							
16											
ELEV 128.0									VARVED CLAYEY SILT		
17											
18											
ELEV 126.0											
19											
	S-6	21	19-21	9						S-6: Very stiff, gray, Clayey SILT, some fine Sand. Wet.	
20				10							
				8							
ELEV 124.0				10							
21											
22											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 4 feet.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-6 - CONT.**
Boring Location: N: 2868745.48
E: 362886.02
Checked by: N. Belanger
Date Start: April 17, 2019
Date Finish: April 19, 2019

Contractor: Seaboard Drilling, Inc.
Driller: D. Feeley / M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 145
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼04/18/19	08:20	10.4	51	51	16 hrs

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 122.0									VARVED CLAYEY SILT		
23											
24										Change in precent of sand and silt during drive and wash procedure at approximately 23.5 feet bgs.	
	S-7	14	24-26	16						S-7: Medium dense, reddish-brown to gray, SILT and fine to coarse Sand, little fine Gravel. Wet.	
ELEV 120.0				15							
25				13							
				14							
26											
ELEV 118.0											
27											
28											
ELEV 116.0											
29											
	S-8	13	29-31	3					VARVED SANDY SILT	S-8: Loose, gray, SILT, little fine Sand. Wet. Very faint reddish-brown smearing / staining present.	
30				4							
				4							
ELEV 114.0				5							
31											
32											
ELEV 112.0											
33											
34											
	S-9	17	34-36	7						S-9: Medium dense, gray, SILT, some fine Sand, trace fine Gravel. Wet. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness).	
ELEV 110.0				5							
35				7							
				8							
36											
ELEV 108.0											
37											
38											
ELEV 106.0											
39											
	S-10	18	39-41	4					VARVED SILT AND CLAY	S-10: Medium stiff, gray, Clayey SILT, little fine Sand. Wet. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness).	
40				3							
				4							
ELEV 104.0				5							
41											
42											
ELEV 102.0											
43											
44											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

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BORING NOTES:
1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-6 - CONT.**
Boring Location: N: 2868745.48
E: 362886.02
Checked by: N. Belanger
Date Start: April 17, 2019
Date Finish: April 19, 2019

Contractor: Seaboard Drilling, Inc.
Driller: D. Feeley / M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 145
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 04/18/19	08:20	10.4	51	51	16 hrs

Elev.	Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 100.0	45	S-11	14	44-46	6					VARVED SILT AND CLAY	S-11: Medium dense, gray, Clayey SILT, little fine Sand. Wet.	
	46				5 8 8							
ELEV 98.0	47											
	48											
ELEV 96.0	49									VARVED SANDY SILT	S-12: Medium dense, gray, SILT, some fine Sand. Wet.	
	50	S-12	15	49-51	4 6							
ELEV 94.0	51				6 6					94.0 / 51.0		
	52											
ELEV 92.0	53											
	54											
ELEV 90.0	55	S-13	16	54-56	7 8					SILT	S-13: Medium dense, gray, Clayey SILT, little fine Sand. Wet. Very faint reddish-brown smearing / staining present.	
	56				9 11							
ELEV 88.0	57											
	58											
ELEV 86.0	59											
	60	S-14	16	59-61	3 3						S-14: Loose, gray, SILT, little fine Sand, trace fine Gravel. Wet. Faint reddish-brown smearing / staining present.	
ELEV 84.0	61				3 4							
	62											
ELEV 82.0	63									82.5 / 62.5	Increase drilling resistance occurred at approximately 62.5 feet bgs, with wash color change to reddish-brown and increase in sand percent in wash.	
	64											
ELEV 80.0	65	S-15	17	64-66	14 23					GLACIAL TILL	S-15: Dense, reddish-brown to gray, SILT and fine to medium Sand, some fine to coarse Gravel. Wet.	
	66				20 22							

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-6 - CONT.**
Boring Location: N: 2868745.48
E: 362886.02
Checked by: N. Belanger
Date Start: April 17, 2019
Date Finish: April 19, 2019

Contractor: Seaboard Drilling, Inc.
Driller: D. Feeley / M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 145
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 04/18/19	08:20	10.4	51	51	16 hrs

Elev.	Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	REC % / RQD %	Drilling Rate (min/ft)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 78.0	67											
	68									GLACIAL TILL		
ELEV 76.0	69											
	70	S-16	5	69-69.5	62 60/0"					75.4 / 69.6	S-16: Very dense, reddish-brown, fine to coarse SAND, some Silt, few weathered rock fragments. Wet. Increase drilling resistance occurred at approximately 69.6 feet bgs, with presence of weathered rock within wash.	
ELEV 74.0	71									WEATHERED BEDROCK		
	72											
ELEV 72.0	73											
	74									71.0 / 74.0		
ELEV 70.0	75	C-1	58	74-79	97/45	5 7.5				BEDROCK	C-1: Medium Hard to Hard, fresh to slightly weathered, slightly to moderately fractured, reddish-brown, fine-grained, ARGILLACEOUS SANDSTONE, slightly dipping to horizontal joints, multiple mechanical break joints. Wet.	
	76					8.5						
ELEV 68.0	77					6.5						
	78					9.5						
ELEV 66.0	79	C-2	52	79-84	87/25	10					C-2: Medium Hard, fresh to slightly weathered, moderately fractured, reddish-brown, fine-grained, ARGILLACEOUS SANDSTONE, vertical to horizontal joints, multiple mechanical break joints. Wet.	
	80					9.5						
ELEV 64.0	81											
	82					7						
ELEV 62.0	83					9						
SOUTH ABUT APPROX. TIP ELEV 62.00'	84					9				61.0 / 84.0	Boring terminated at 84 feet.	2
ELEV 60.0	85											
	86											
ELEV 58.0	87											
	88											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Boring backfilled with spoils.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
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S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:16 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-8**
Boring Location: N: 2868705.94
E: 362842.55
Checked by: K. Kocia
Date Start: May 22, 2019
Date Finish: May 23, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 159.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/23/19	00:00	Not Encountered	25	25	2 hours

	Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 160.0								CONCRETE SIDEWALK 159.1 / 0.4	Concrete sidewalk approximately 4.5-inches thick.	
	1									
ELEV 158.0		S-1	11	1-3	2				S-1: Loose, black to brown, fine to coarse SAND, little Silt, little fine Gravel, several asphalt pieces. Moist.	
	2				3					
					4					
	3				3					
ELEV 156.0		S-2	18	3-5	3				S-2: Loose, tan, fine to medium SAND, trace Silt, trace fine Gravel. Moist. [Gravel = 1.6% Sand = 92.7% Fines = 5.7%].	
	4				3					
	5				2					
					2					
ELEV 154.0		S-3	8	5-7	WOH				S-3: Very loose, brown to tan, fine to medium SAND, little Silt, very few wood pieces. seams of redoximorphic staining present Moist.	1
	6				1					
					WOH					
	7				1					
SOUTH ABUT B.O. PILE CAP ELEV 151.48 ELEV 152.0	8									
	9									
ELEV 150.0										
	10									
		S-4	9	10-12	3				S-4: Very loose, brown, fine to medium SAND, little Silt. Moist to wet.	
	11				2			EMBANKMENT FILL		
ELEV 148.0					1					
	12				2					
	13									
ELEV 146.0										
	14									
	15									
ELEV 144.0		S-5	6	15-17	8				S-5: Loose, gray to brown, fine to coarse SAND, trace Silt, several pieces of decomposed granite. Wet.	
	16				3					
					2					
	17				4					
ELEV 142.0										
	18									
	19									
ELEV 140.0										
	20									
		S-6	1	20-22	WOH				S-6: Very loose, brown, fine to coarse SAND, trace Silt, few pieces of granite and decomposed granite.	
	21				1					
ELEV 138.0					1					
	22				3					
	23									
ELEV 136.0								EMBANKMENT FILL		
	24									
	25							134.5 / 25.0		
ELEV 134.0									Drilling becomes difficult on presumed boulder cluster. Boring terminated at 25 feet.	2
	26									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 5 feet.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	137	204
PROJECT FILE NO. 609409			

BORING SHEET

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.
2. THE APPROXIMATE PILE TIP ELEVATION 62.00' AT THE NORTH ABUTMENT.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:16 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-8A**
Boring Location: N: 2868702.80
E: 362844.90
Checked by: K. Kocia
Date Start: May 23, 2019
Date Finish: May 23, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 159.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations					
Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/23/19	22:30	Not Encountered	30	34	5 mins

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 158.0							CONCRETE SIDEWALK 159.1 / 0.4	Concrete sidewalk approximately 4-inches thick.	1
1								Drive and wash techniques performed to 20 feet bgs.	
2									
ELEV 156.0									
3									
4									
ELEV 154.0									
5									
6									
ELEV 152.0									
SOUTH ABUT B.O. PILE CAP ELEV 151.48									
7									
8									
ELEV 150.0									
9									
10									
ELEV 148.0									
11									
12									
ELEV 146.0									
13									
14									
ELEV 144.0									
15									
16									
ELEV 142.0									
17									
18									
ELEV 140.0									
19									
20									
ELEV 138.0	S-1	3	20-22	WOH			EMBANKMENT FILL	S-1: Very loose, tan, fine to medium SAND, little Silt. Wet.	
21				WOH					
				WOH					
22				1					
ELEV 136.0									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 0 feet.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **BB-8A - CONT.**
Boring Location: N: 2868702.80
E: 362844.90
Checked by: K. Kocia
Date Start: May 23, 2019
Date Finish: May 23, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 159.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations					
Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/23/19	22:30	Not Encountered	30	34	5 mins

Depth (ft.)	SAMPLE INFORMATION Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	LITHOLOGY Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
23							EMBANKMENT FILL		
ELEV 134.0									
24									
25									
	S-2	16	25-27	4				S-2: Loose, tan to gray, Clayey SILT, little fine to coarse Sand. Moist.	
26				4					
ELEV 132.0				5					
27				10					
28									
ELEV 130.0									
29									
30							REWORKED SILT AND CLAY		
ELEV 128.0	S-3	14	30-32	9				S-3: Medium dense, brown, Clayey SILT, some fine to coarse Sand, trace fine Gravel. Moist.	
31				10					
				10					
32				12					
ELEV 126.0	S-4	0	32-34	5				S-4: No recovery.	
33				7					
				12					
34				12			125.5 / 34.0		
ELEV 124.0								Boring terminated at 34 feet.	2
35									
36									
ELEV 122.0									
37									
38									
ELEV 120.0									
39									
40									
ELEV 118.0									
41									
42									
ELEV 116.0									
43									
44									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Boring backfilled with spoils and 4 bags of filter sand. Concrete sidewalk patched with quick set concrete.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	138	204
PROJECT FILE NO. 609409			

BORING SHEET

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.
2. THE SOUTH PILE TIP APPROXIMATE ELEVATION 62.00'.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:17 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	139	204
PROJECT FILE NO. 609409			

BORING SHEET

BORING NOTES:

1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **WB-1**
Boring Location: N: 2868822.12
E: 362746.98
Checked by: K. Kocia
Date Start: May 19, 2019
Date Finish: May 19, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Track / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 156.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/19/19	22:30	Not Encountered	20	32	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 156.0							CONCRETE SIDEWALK 156.1 / 0.4	Concrete sidewalk approximately 4-inches thick.	
1	S-1	10	1-3	4				S-1A (6"): Loose, brown, fine to coarse SAND, little Silt, little fine Gravel. Wet.	
2				3					
ELEV 154.0				2				S-1B (4"): Loose, dark brown, fine to medium SAND, little Silt, trace fine Gravel, very few asphalt and brick fragments. Moist.	
3	S-2	10	3-5	3				S-2: Loose, tan to brown, fine to coarse SAND, little Silt, trace fine Gravel. Moist.	
4				4					
ELEV 152.0				3					
5	S-3	24	5-7	2			EMBANKMENT FILL	S-3: Loose, tan, fine SAND, some Silt. Moist.	1
6				3					
ELEV 150.0				5					
7				4					
8				6					
ELEV 148.0									
9									
10									
ELEV 146.0	S-4	13	10-12	3				S-4: Medium dense, tan and gray, SILT, little fine Sand, trace Clay, faint redoximorphic staining present. Wet.	
11				5					
12				5					
ELEV 144.0				4					
13									
14									
ELEV 142.0									
B.O. GRAVITY BLOCK #3 ELEV 140.17									
15	S-5	13	15-17	2				S-5A (9"): Stiff, gray to brown, Clayey SILT, little fine Sand. Wet.	
16				7			REWORKED SILT AND CLAY		
ELEV 140.0				6				S-5B (4"): Medium dense, tan to orangish brown, fine to coarse SAND, little Silt. Wet.	
17				6					
18									
ELEV 138.0									
19									
20									
ELEV 136.0	S-6	14	20-22	4				S-6: Loose, tan, fine to coarse SAND, some Silt, redoximorphic staining present. Wet.	
21				4					
22				5					
ELEV 134.0				6					

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water introduced into borehole via drive and wash methods at a depth of 5 feet.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 1 of 2

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.00

Boring No.: **WB-1 - CONT.**
Boring Location: N: 2868822.12
E: 362746.98
Checked by: K. Kocia
Date Start: May 19, 2019
Date Finish: May 19, 2019

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: S. Kurtzer

Rig Type / Model: Track / B-53 Mobile
Hammer Type: Automatic Hammer
Hammer Hoist: Automatic

Ground Surface Elev.: (+/-) 156.5
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	3"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
05/19/19	22:30	Not Encountered	20	32	5 min

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 134.0									
23									
24							REWORKED SILT AND CLAY		
ELEV 132.0									
25							131.5 / 25.0		
26	S-7	14	25-27	3				S-7: Loose, brown to gray, SILT, little fine Sand, trace Clay, faint redoximorphic staining present. Wet.	
ELEV 130.0				4					
27				3					
28				4					
ELEV 128.0							VARVED SAND AND SILT		
29									
30									
ELEV 126.0	S-8	0	30-32	2				S-8: No recovery.	
31				1					
32				1					
ELEV 124.0				2			124.5 / 32.0	Boring terminated at 32 feet.	2
33									
ELEV 122.0									
34									
35									
36									
ELEV 120.0									
37									
38									
ELEV 118.0									
39									
40									
ELEV 116.0									
41									
42									
ELEV 114.0									
43									
PILE TIP APPROX ELEV. 59.5									
44									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Boring backfilled with spoils and one (1) bag of filter sand. Concrete sidewalk patched with quick set concrete.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

Page No. 2 of 2

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:17 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	140	204
PROJECT FILE NO. 609409			

BORING SHEET

BORING NOTES:
1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-6**
Boring Location: N: 2868631.27 E: 362849.63
Checked by: K. Stanway
Date Start: November 14, 2022
Date Finish: November 15, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 158
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼11/15/22	23:50	15.8	69	73	20 min

ELEV	Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 158.0								ASPHALT 156.9 / 1.1	Asphalt encountered was approximately 13-inches thick, consisting of two-layers, top portion being 7-inches thick and bottom portion being 6-inches.	
	1									
ELEV 156.0	2								Base Coarse encountered underlying asphalt, approximately 3-inches thick, consisting primarily of fine to coarse gravel and fine to coarse sand.	
	3									
ELEV 154.0	4								Soil was hand cleared from approximately 1 to 4 feet bgs by Seaboard. Fill material consisted primarily of brown - gray, fine to coarse SAND, little Silt, trace fine Gravel, with few cobbles present.	
	5	S-1	19	4-6	2 2				S-1: Loose, brown, fine to medium SAND, trace Silt, very few asphalt fragments/particles. Moist.	
ELEV 152.0	6				3 3					
	7	S-2	18	6-8	3 3				S-2: Loose, brown - tan, fine to medium SAND, trace Silt, very few asphalt fragments/particles. Moist.	
ELEV 150.0	8				3					
	9									1
		S-3	17	9-11	2				S-3: Loose, brown - dark brown, fine to coarse SAND, some Silt, very few brick fragments/particles. Moist.	
ELEV 148.0	10				3					
	11				3 9					
		S-4	19	11-13	16			FILL	S-4A (10"): Medium dense, dark brown, fine to coarse SAND and Silt. Wet.	
ELEV 146.0	12				12					
B.O. GRAVITY BLOCK #4 ELEV 145.04	13				7 7				S-4B (9"): Medium dense, tan - orangish-brown, fine SAND, little Silt. Faint redoximorphic staining present. Wet.	
ELEV 144.0	14									
		S-5	20	14-16	5				S-5: Stiff, brown, Clayey SILT, little fine Sand. Faint redoximorphic staining present. Wet.	
	15				5					
					5					
ELEV 142.0	16				8	▼				
	17									
ELEV 140.0	18									
	19									
		S-6	20	19-21	6				S-6: Stiff, brown, Clayey SILT, trace fine Sand. Wet.	
ELEV 138.0	20				6 7					
	21				9					
ELEV 136.0	22									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Water was introduced into borehole starting at approximately 8 feet below ground surface (bgs).

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-6 CONT.**
Boring Location: N: 2868631.27 E: 362849.63
Checked by: K. Stanway
Date Start: November 14, 2022
Date Finish: November 15, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 158
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼11/15/22	23:50	15.8	69	73	20 min

ELEV	Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 136.0								FILL 135.5 / 22.5		
	23									
ELEV 134.0	24									
	25	S-7	16	24-26	4 5				S-7: Stiff, brown - reddish-brown, Clayey SILT, little fine to coarse Sand. Varved pockets / seams (ranging in 0.5 inches to 2 inches in thickness) every 2 to 6 inches. Wet.	
ELEV 132.0	26				5					
	27									
ELEV 130.0	28									
	29									
		S-8	16	29-31	6			VARVED CLAYEY SILT	S-8: Stiff, brown - reddish-brown, Clayey SILT, little Gravel, little fine to coarse Sand. Varved pockets / seams (ranging in 0.25 inches to 3 inches in thickness) every 2 to 9 inches. Wet.	
ELEV 128.0	30				6					
	31				6 5					
ELEV 126.0	32									
	33									
ELEV 124.0	34									
		S-9	15	34-36	8				S-9: Stiff, brown - reddish-brown, Clayey SILT, little fine to coarse Sand. Varved pockets / seams (ranging in 0.5 inches to 3 inches in thickness) every 2 to 6 inches. Wet.	
	35				7					
ELEV 122.0	36				7 6					
	37									
ELEV 120.0	38									
	39									
		S-10	19	39-41	6				S-10: Stiff, brown - gray, SILT, some fine to coarse Sand, trace Clay. Wet.	
ELEV 118.0	40				6					
	41				5 5			SILT		
ELEV 116.0	42									
	43									
ELEV 114.0	44									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:17 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-6 CONT.**
Boring Location: N: 2868631.27 E: 362849.63
Checked by: K. Stanway
Date Start: November 14, 2022
Date Finish: November 15, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 158
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations					
Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼11/15/22	23:50	15.8	69	73	20 min

ELEV	Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 114.0		S-11	15	44-46	5				S-11: Stiff, brownish-gray, SILT, little fine to coarse Sand, trace Clay. Wet.	
	45				5					
					5					
ELEV 112.0	46				5					
	47									
ELEV 110.0	48									
	49							SILT		
		S-12	8	49-51	8				S-12: Medium dense, brown - gray, fine to coarse SAND and Silt. Wet.	
ELEV 108.0	50				7					
					8					
	51				9					
ELEV 106.0	52									
	53							105.5 / 52.5		
ELEV 104.0	54									
		S-13	17	54-56	6				S-13: Very stiff, brown - gray, SILT & CLAY, little fine to coarse Sand. Wet.	
	55				7					
					8					
ELEV 102.0	56				12					
	57									
ELEV 100.0	58									
	59									
		S-14	18	59-61	7			GLACIAL TILL	S-14: Medium dense, gray, SILT, little fine to coarse Sand, trace fine Gravel. Wet. [Laboratory Analysis Performed - Grain Size, Sieve Only: 6.6% Gravel, 13.1% Sand, 80.3% Fines].	
ELEV 98.0	60				10					
					12					
	61				12					
ELEV 96.0	62									
	63									
ELEV 94.0	64									
		S-15	18	64-66	8				S-15: Dense, gray, SILT and fine to coarse Sand. Wet.	
	65				12					
					18					
ELEV 92.0	66				17					

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

BORING LOG

Project: MassDOT Armory Street Over CSX Mainline and Abandoned CSX Spur
Location: Springfield, Massachusetts
Nobis Project No.: 94184.01

Boring No.: **WB-6 CONT.**
Boring Location: N: 2868631.27 E: 362849.63
Checked by: K. Stanway
Date Start: November 14, 2022
Date Finish: November 15, 2022

Contractor: Seaboard Drilling, Inc.
Driller: M. Glynn
Nobis Rep.: K. Kocia

Rig Type / Model: Truck / B-53 Mobile
Hammer Type: Safety Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: (+/-) 158
Datum: NAVD 88

	Drilling Method	Sampler
Type	Casing	Split-Spoon
Size ID (in.)	4"	1-3/8
Advancement	Drive and Wash	140-lb Hammer

Groundwater Observations					
Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼11/15/22	23:50	15.8	69	73	20 min

ELEV	Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
ELEV 92.0										
	67									
ELEV 90.0	68									
	69									
		S-16	22	69-71	11			GLACIAL TILL	S-16: Very stiff, brownish-gray, SILT and fine to coarse Sand, trace Clay. Wet.	
ELEV 88.0	70				10					
					10					
	71				12					
		S-17	4	71-73	11				S-17: Dense, brownish-gray, fine to coarse SAND and Silt, trace Clay. Wet.	
ELEV 86.0	72				12					
					20					
	73				24			85.0 / 73.0		
ELEV 84.0	74								Boring terminated at 73 feet.	2
	75									
ELEV 82.0	76									
	77									
ELEV 80.0	78									
	79									
ELEV 78.0	80									
	81									
ELEV 76.0	82									
	83									
ELEV 74.0	84									
	85									
ELEV 72.0	86									
	87									
ELEV 70.0	88									

PILE TIP
APPROX
ELEV. 63.0

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
2) Borehole was backfilled with spoils, one (1) bag of filter sand, and topped with asphalt cold patch at ground surface.

Soil descriptions, and lithology, are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	141	204
PROJECT FILE NO. 609409			

BORING SHEET

BORING NOTES:
1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:18 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	142	204
PROJECT FILE NO. 609409			

BORING SHEET

BORING NOTES:
1. SEE SHEET 3 FOR TYPICAL BORING NOTES.

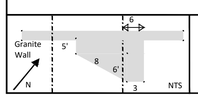
TEST PIT LOG

PROJECT		TEST PIT NO.	TP-1
Armory Street over CSX Mainline and		SHEET	1 of 2
Abandoned CSX Spur		FILE NO.	94184.00
Springfield, Massachusetts		CHKD BY	JV
Engineer	S. Kurtzer	Make	Komatsu
Contractor	Seaboard Drilling, Inc. Model		PC 40
Operator	A. Griswold	Capacity	4.08 CF
Weather	75°F Partly Cloudy	Reach	10 FT
		Ground El.	±138 FT
		Datum	NAVD88
		Date Start	7/8/2019
		Date Finish	7/8/2019

Depth Strata Below Change & Grade Water (ft)	Level	Subsurface Description	Excavation Effort	Boulder Qty/Class	USDA Textural Class
1	0.5'	Brown and red, fine to coarse SAND, little Silt, numerous brick pieces / fragments. Dry to Moist. (URBAN FILL)	M	-	Sandy Loam
2		Dark brown to black, fine to coarse SAND, some fine to coarse Gravel, some Silt, several pieces of glass, concrete, brick, ties, and other debris. Moist. (URBAN FILL)	M-E	-	Gravelly, Sandy Loam
3	3.5'				
4		Tan, fine to medium SAND, some clumps of clayey Silt and Silt. Moist. (REWORKED FILL)	E	1B	Loam
5		Granite Block Wall			
6		Brown, coarse GRAVEL, some Clay. Moist. (FILL) abandoned 4-6" jetline pipe unearthed approx. 5' from granite block wall		A	Gravelly Clay
7	7.0'				
8	8.0'	Gray, Clayey SILT, trace fine Sand. Moist. (VARVED SILT AND CLAY)	E	-	Silty Loam
9		Test pit terminated at approximately 8.0' bgs.			
10					
11					
12					
13					
14					
15					

Notes: 1.) Test pit backfilled with excavated soils and compacted with excavator bucket in 12" lifts, to ground surface.
2.) Groundwater not encountered.

WATER SYMBOLS
- Groundwater
- Estimated Seasonal High Groundwater



BOULDER	CLASS
12" - 24"	A
24" - 36"	B
>36"	C

PROPORTIONS USED
0-10% Trace
10-20% Little
20-35% Some
35-50% And

EXCAVATION EFFORT
E = Easy
M = Moderate
D = Difficult

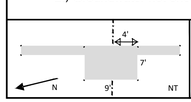
TEST PIT LOG

PROJECT		TEST PIT NO.	TP-2
Armory Street over CSX Mainline and		SHEET	1 of 2
Abandoned CSX Spur		FILE NO.	94184.00
Springfield, Massachusetts		CHKD BY	JV
Engineer	S. Kurtzer	Make	Komatsu
Contractor	Seaboard Drilling, Inc. Model		PC 40
Operator	A. Griswold	Capacity	4.08 CF
Weather	80°F Sunny	Reach	10 FT
		Ground El.	±138 FT
		Datum	NAVD88
		Date Start	7/8/2019
		Date Finish	7/8/2019

Depth Strata Below Change & Grade Water (ft)	Level	Subsurface Description	Excavation Effort	Boulder Qty/Class	USDA Textural Class
1	0.5'	Brown and red, fine to coarse SAND, little Silt, numerous brick pieces / fragments. Dry to Moist. (URBAN FILL)	M	-	Sandy
2		Dark brown to black, fine to coarse SAND, some fine to coarse Gravel, some Silt, several pieces of glass, concrete with rebar, brick, wood, and metal. Moist. (URBAN FILL)	M-E	-	Gravelly, Loamy Sand
3	2.5'	Tan, Clayey SILT, Moist. (REWORKED FILL)			
4		Granite Block Wall	E	-	Silty Loam
5		Water seeping in at ~5'-6' between granite blocks and bottom of wall, indicating retained water between clay and granite blocks.			
6	6.0'	Test pit terminated at approximately 6.0' bgs.			
7					
8					
9					
10					
11					
12					
13					
14					
15					

Notes: 1.) Test pit backfilled with excavated soils and compacted with excavator bucket in 12" lifts, to ground surface.
2.) Groundwater not encountered.

WATER SYMBOLS
- Groundwater
- Estimated Seasonal High Groundwater



BOULDER	CLASS
12" - 24"	A
24" - 36"	B
>36"	C

PROPORTIONS USED
0-10% Trace
10-20% Little
20-35% Some
35-50% And

EXCAVATION EFFORT
E = Easy
M = Moderate
D = Difficult

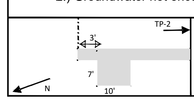
TEST PIT LOG

PROJECT		TEST PIT NO.	TP-2A
Armory Street over CSX Mainline and		SHEET	1 of 2
Abandoned CSX Spur		FILE NO.	94184.00
Springfield, Massachusetts		CHKD BY	JV
Engineer	S. Kurtzer	Make	Komatsu
Contractor	Seaboard Drilling, Inc. Model		PC 40
Operator	A. Griswold	Capacity	4.08 CF
Weather	80°F Sunny	Reach	10 FT
		Ground El.	±138 FT
		Datum	NAVD88
		Date Start	7/8/2019
		Date Finish	7/8/2019

Depth Strata Below Change & Grade Water (ft)	Level	Subsurface Description	Excavation Effort	Boulder Qty/Class	USDA Textural Class
1	0.5'	Brown and red, fine to coarse SAND, little Silt, numerous brick pieces / fragments. Dry to Moist. (URBAN FILL)	M	-	Sandy
2		Brown, fine to medium SAND and Silt, some fine to coarse Gravel, some Silt, several pieces of glass, concrete blocks, and brick. Moist. (URBAN FILL)	M-E	-	Gravelly Loam
3	2.5'	Tan, SILT, some Clay, trace Sand. Moist. (REWORKED FILL)			
4					
5		Granite Block Wall	E	-	Sily Clay
6					
	6.5'	Water seeping in at bottom of granite footing at ~6.5' bgs.			
7	7.0'	Gray, Clayey SILT, trace fine Sand. Moist. (VARVED SILT AND CLAY)	E	-	Silty Loam
8		Test pit terminated at approximately 7.0' bgs.			
9					
10					
11					
12					
13					
14					
15					

Notes: 1.) Test pit backfilled with excavated soils and compacted with excavator bucket in 12" lifts, to ground surface.
2.) Groundwater not encountered.

WATER SYMBOLS
- Groundwater
- Estimated Seasonal High Groundwater



BOULDER	CLASS
12" - 24"	A
24" - 36"	B
>36"	C

PROPORTIONS USED
0-10% Trace
10-20% Little
20-35% Some
35-50% And

EXCAVATION EFFORT
E = Easy
M = Moderate
D = Difficult

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

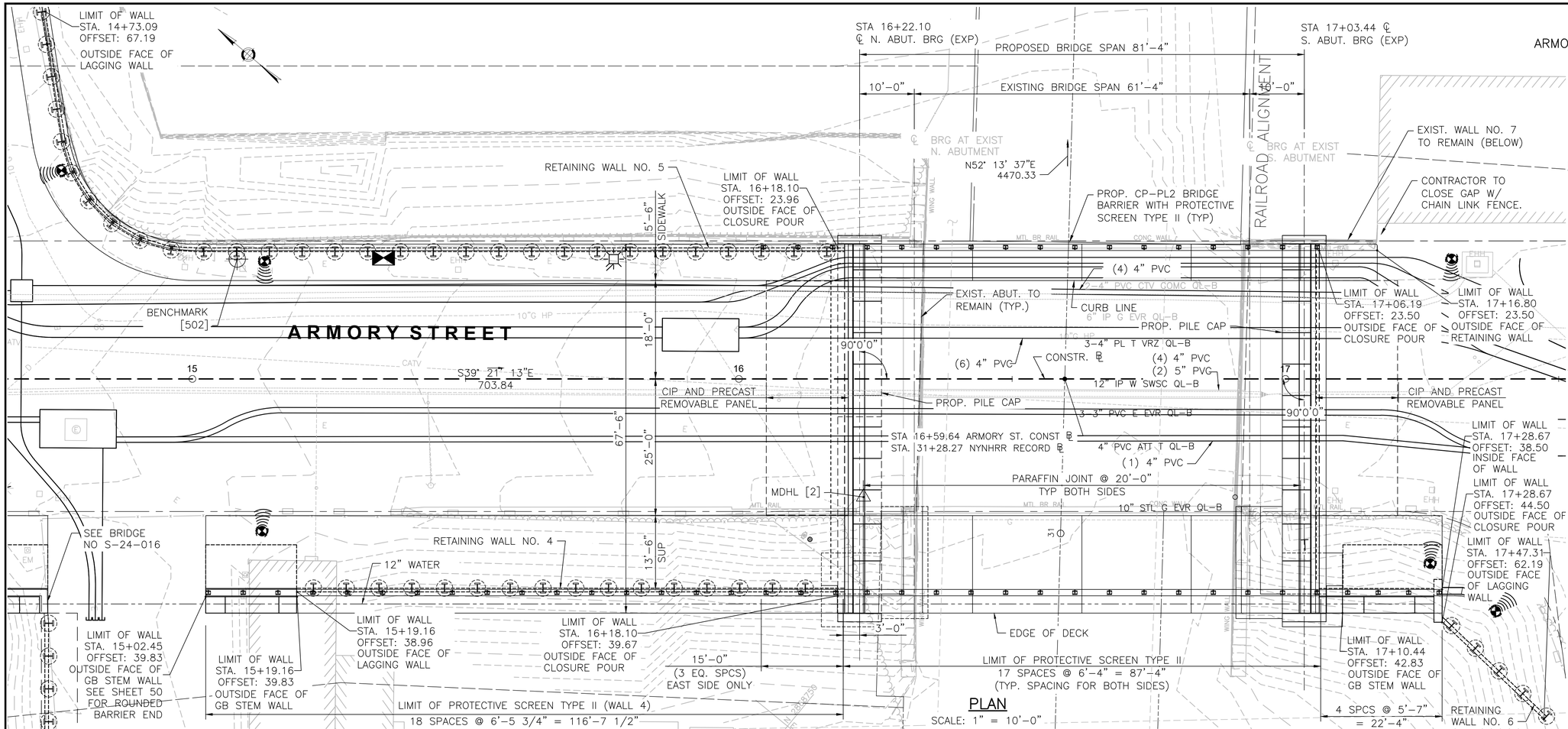
S-24-026 (BORING LOGS).DWG Plotted on 5-Feb-2026 9:19 PM

Xxxxxx Structural Submittal (S#) DD-Month-YYYY

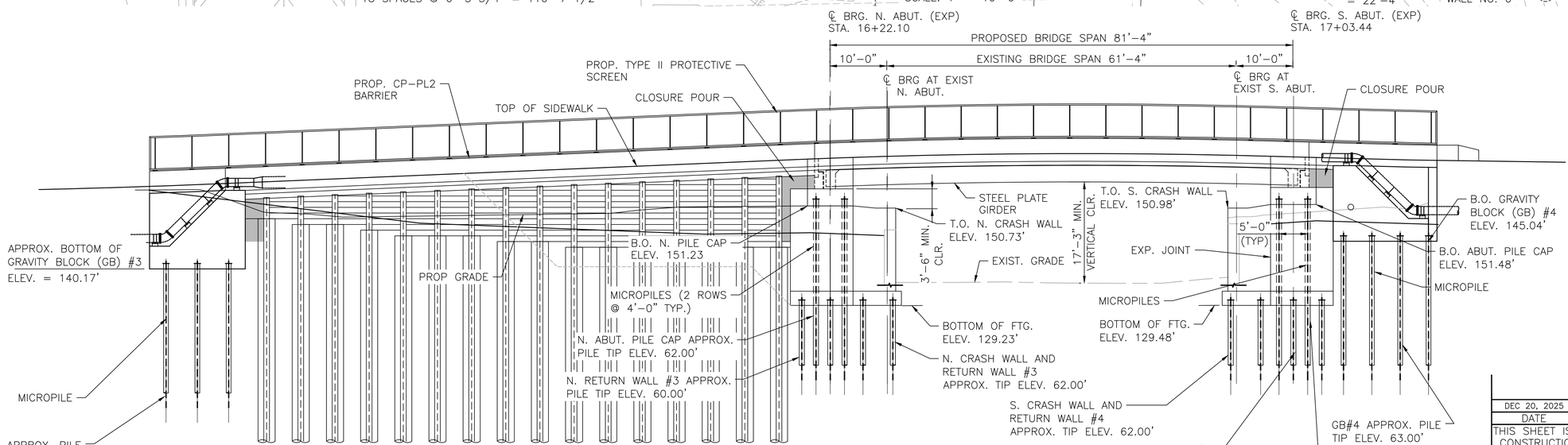
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	143	204
PROJECT FILE NO. 609409			

PLAN AND ELEVATION



PLAN
SCALE: 1" = 10'-0"



ELEVATION
SCALE: 1" = 10'-0"

GENERAL NOTES:

1. MICROPILES ARE NOT SHOWN ON THE PLAN FOR CLARITY. SEE MICROPILE TABLE ON SHEET 30 FOR ADDITIONAL INFORMATION.
2. THE WALLS NOTED AS "CRASH WALLS" ARE LOCATED OUTSIDE THE AREA OF INFLUENCE, AND AS SUCH, THE AREMA DESIGN STANDARDS FOR CRASH WALLS ARE NOTE REQUIRED OR APPLICABLE. CONSEQUENTLY, THE CRASH WALL DESIGN DID NOT INCORPORATE AREMA STANDARDS.
3. THE FENCING IS PER THE DETAILS ON THE HIGHWAY PLANS.

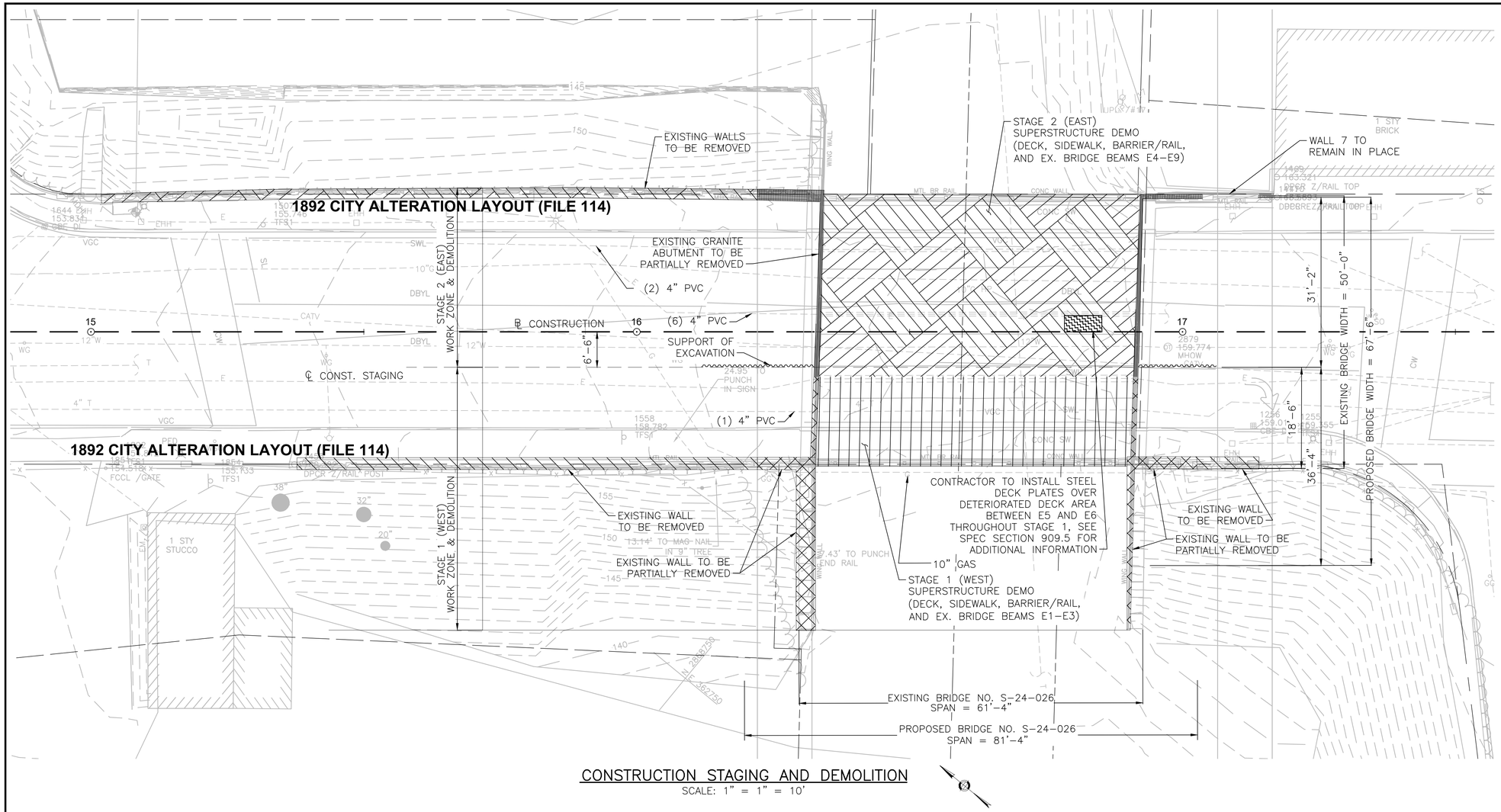
TRAFFIC EQUIPMENT NOTES:

1. MOMENT SLAB TO BE CAST AROUND MANHOLES. SEE MOMENT SLAB DETAILS ON SHEETS 53–55, DETAILS ON 56. FOR LOCATIONS SEE HIGHWAY SHEET 22.
2. FOR WHEELCHAIR RAMPS LOCATED WITHIN THE LIMITS OF THE BRIDGE OR THE MOMENT SLAB . SEE MOMENT SLAB DETAILS ON SHEETS 53–55 AND DETAILS ON 56. SEE HIGHWAY PLANS FOR ADDITIONAL INFORMATION.
3. TRAFFIC SIGNAL POSTS LOCATED WITHIN THE LIMITS OF THE BRIDGE OR MOMENT SLAB ARE TO BE CAST WITHIN THE DECK OR MOMENT SLAB. SEE MOMENT SLAB DETAILS ON SHEETS 53–55, DETAILS ON 56. FOR LOCATIONS SEE HIGHWAY SHEET 22.
4. TRAFFIC SIGNAL PULL BOXES ARE LOCATED THROUGHOUT THE CORRIDOR AND WITHIN THE LIMITS OF THE MOMENT SLAB (NOT SHOWN FOR CLARITY). THE MOMENT SLABS TO BE CAST AROUND THE PULL BOXES. SEE MOMENT SLAB DETAILS ON SHEETS 53–55 AND DETAILS ON 56. FOR LOCATIONS AND ADDITIONAL DETAILS SEE HIGHWAY SHEET 22

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (PROPOSED PLAN-ELEV).DWG Plotted on 5-Feb-2026 9:21 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



CONSTRUCTION STAGING AND DEMOLITION

SCALE: 1" = 1" = 10'

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	144	204
PROJECT FILE NO. 609409			

CONSTRUCTION STAGING AND DEMOLITION

NOTES:

1. AREA SHOWN THUS ▨ & ▨ INDICATES A THE EXISTING STRUCTURE/WALL TO BE DEMOLISHED IN STAGE 1 AND STAGE 2 RESPECTIVELY.
2. AREA SHOWN THUS ▩ & ▩ INDICATES A PORTION OF EXISTING STRUCTURE/WALL TO BE DEMOLISHED IN STAGE 1 AND STAGE 2 RESPECIVELY.
3. EXISTING DIMENSIONS ARE BASED UPON EXISTING DRAWINGS AND SURVEY DATA AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
4. SEE SHEETS 15–21 FOR ADDITIONAL DEMOLITION DETAILS AND CONSTRUCTION STAGING.

	STAGE 1 (WEST)	STAGE 2 (EAST)
DEMOLITION OF EXISTING STRUCTURE/WALL	▨	▨
PARTIAL DEMOLITION OF EXISTING STRUCTURE/WALL	▩	▩

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

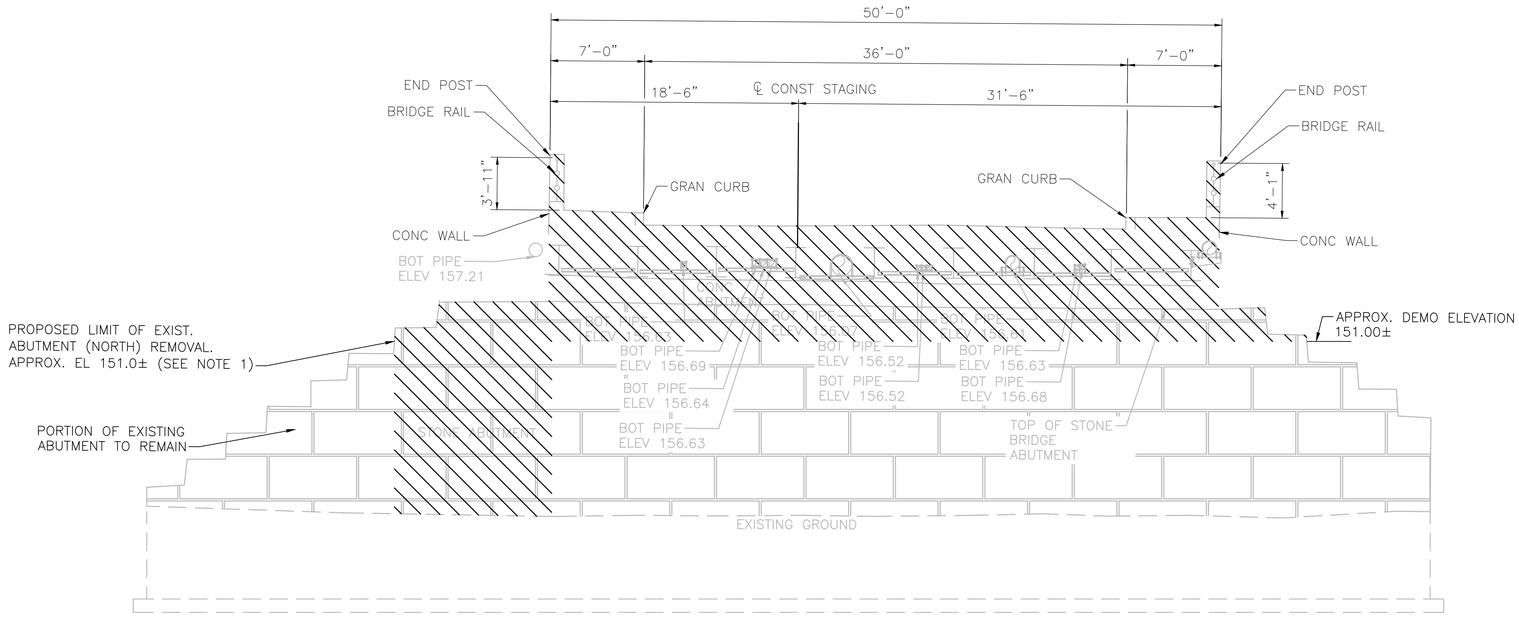
USE ONLY PRINTS OF LATEST DATE

S-24-026 (EXIST WALL DEMOLITION PLAN).DWG Plotted on 5-Feb-2026 9:23 PM
S-24-026 (Exist Wall Demolition Plan).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

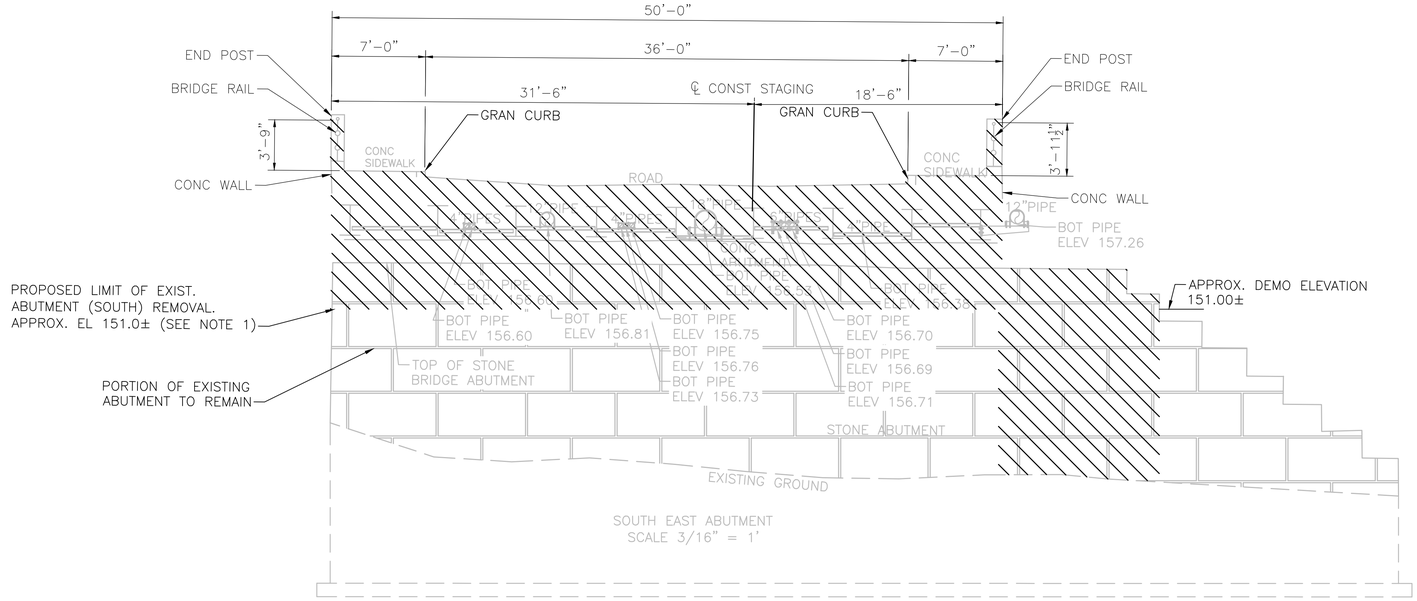
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	145	204
PROJECT FILE NO. 609409			

EXISTING SUBSTRUCTURE DEMOLITION



EXISTING NORTH ABUTMENT
SCALE: 3/16" = 1'-0"



EXISTING SOUTH ABUTMENT
SCALE: 3/16" = 1'-0"

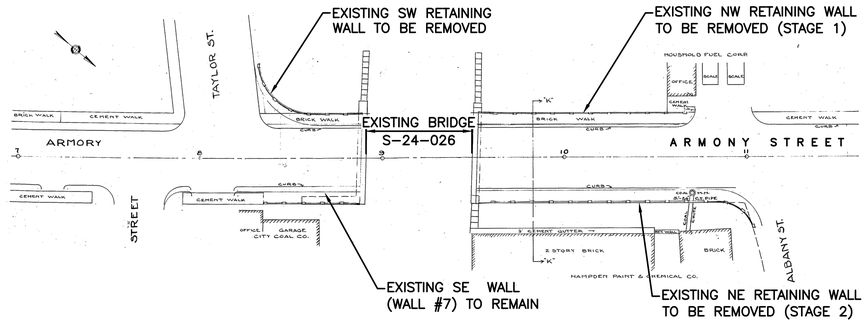
NOTES:

1. ELEVATIONS SHOWN OF REMOVAL LIMIT ARE APPROXIMATE. THE INTENT IS TO REMOVE THE UPPER MOST LAYER OF STONE BELOW THE BRIDGE SEAT.
2. STONE HATCH SHOWN IS APPROXIMATE AND DOES NOT REPRESENT ACTUAL FIELD LAYOUT OF STONE BLOCKS OR PROPOSED LOCATION OF BLOCKS.
3. RELOCATE OR SUPPORT UTILITIES (SEE CONSTRUCTION STAGING SHEETS) PRIOR TO DEMOLITION.
4. FOR LIMITS OF DEMOLITION TO BE PERFORMED IN EACH STAGE, SEE SHEET 14.

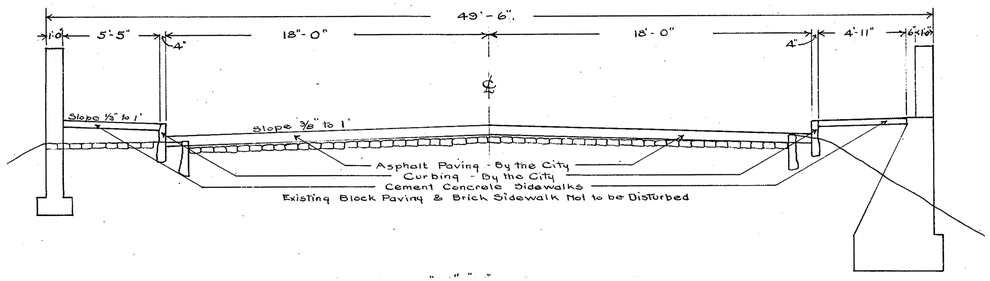
DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

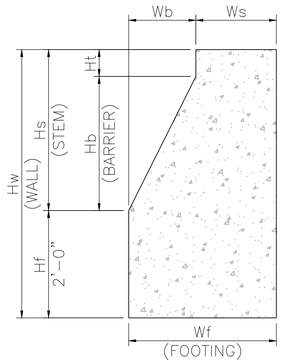
S-24-026 (EXISTING SUBSTRUCTURE REMOVAL).DWG Plotted on 5-Feb-2026 9:24 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



EXISTING WALL PLAN
SCALE: 1"=40'-0"



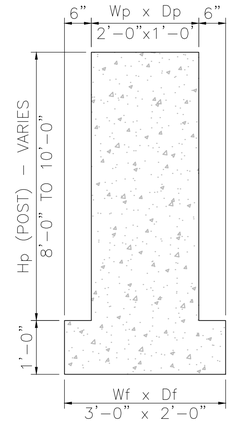
(LOOKING NORTH) EXISTING CROSS SECTION
SCALE: 1/4"=1'-0"



NOTE:
HEIGHT IS ASUMED 6" FOR ALL SECTIONS.
CONTRACTOR SHALL FIELD VERIFY.

NORTHWEST AND SOUTHWEST EXISTING RETAINING WALL AND BARRIER DEMOLITION			
WALL	A–A SW	B–B SW	F–F NW
L	21.00	11.00	11.00
Hw	5.00	4.50	4.67
Hf	2.00	2.00	2.00
Wf	2.75	2.50	2.58
Hs	3.00	2.50	2.67
Ws	1.50	1.50	1.50
*Ht	0.50	0.50	0.50
Hb	2.50	2.00	2.17
Wb	1.25	1.00	1.08

EXISTING NORTHWEST AND SOUTHWEST WALL SECTION
N.T.S.



EXISTING RETAINING WALL POSTS		
	SW	NW
H	10.00	10.00
Hf	1.00	1.00
Wf	3.00	3.00
Df	2.00	2.00
Hp	9.00	9.00
Wp	2.00	2.00
Dp	1.00	1.00
QTY	4	7

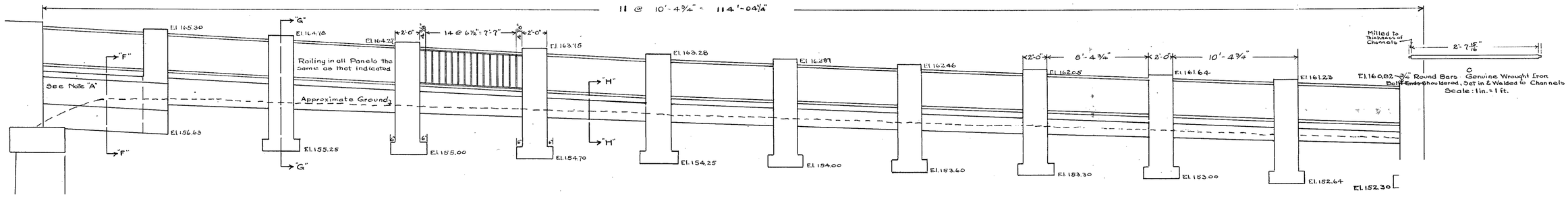
EXISTING NORTHWEST AND SOUTHWEST WALL POST SECTION
N.T.S.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

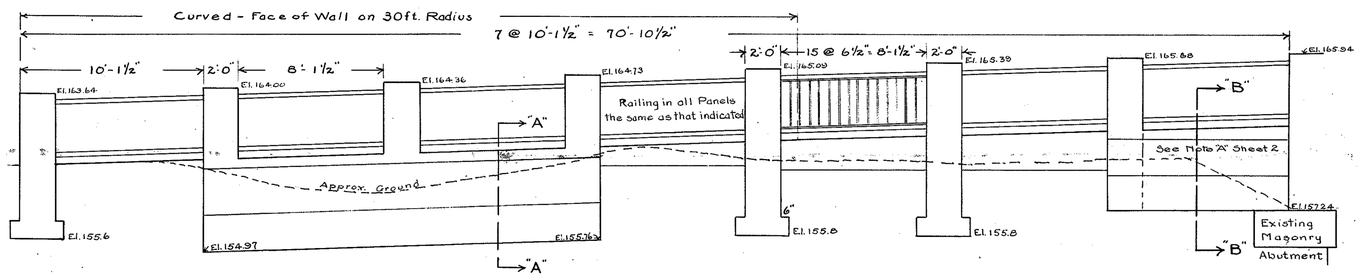
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	146	204
PROJECT FILE NO. 609409			

EXISTING WALL DEMOLITION
SHEET 1 OF 2

NOTES:
1. DIMENSIONS NOTED IN THE TABLES, SECTIONS AND PLANS FOR DEMOLITION ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO DEMOLITION.
2. ALL UNITS ARE IN FEET UNO
3. EXISTING RAIL TO BE REMOVED WITH WALL AND BARRIER.
4. CONTRACTOR TO RELOCATE OR SUPPORT UTILITIES PRIOR TO DEMOLITION.



EXISTING NORTHWEST (NW) RETAINING WALL PROFILE
SCALE: 1/4"=1'-0"



EXISTING SOUTHWEST (SW) RETAINING WALL PROFILE
SCALE: 1/4"=1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (EXIST WALL REMOVE DET - TYP ELEV).DWG Plotted on 5-Feb-2026 9:25 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

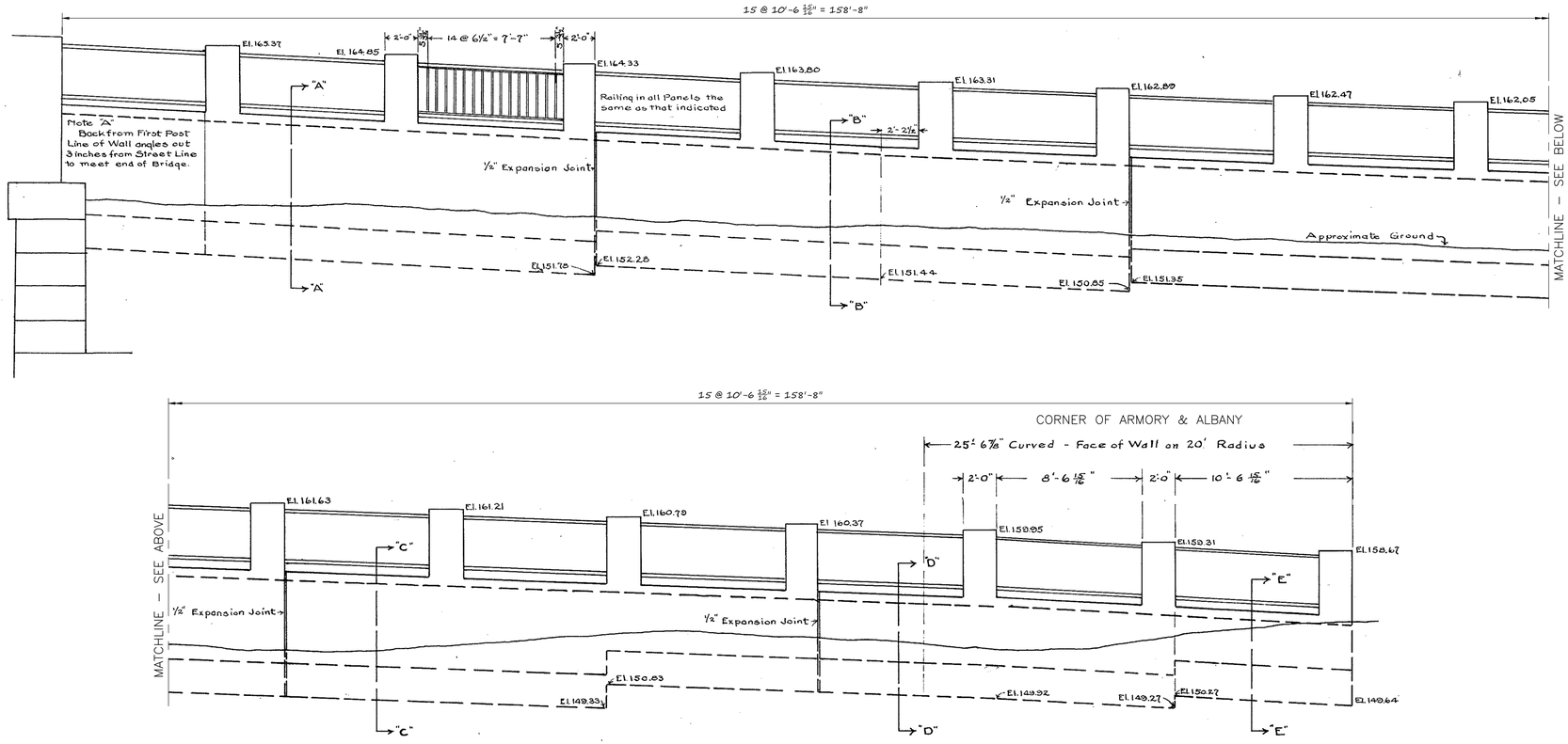
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	147	204
PROJECT FILE NO. 609409			

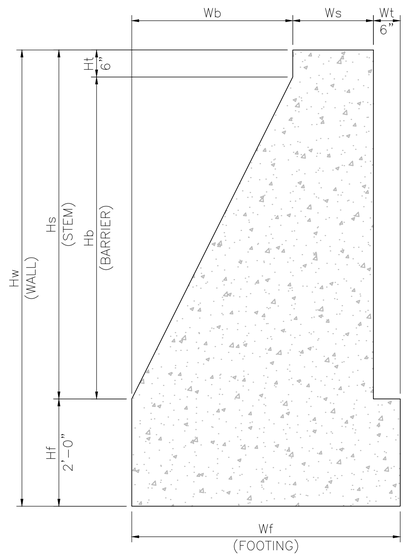
EXISTING WALL DEMOLITION
SHEET 2 OF 2

NOTES:

1. DIMENSIONS NOTED IN THE TABLES, SECTIONS AND PLANS FOR DEMOLITION ARE APPROXIMATE. CONTRACTOR TO FIELD VERIFY PRIOR TO DEMOLITION.
2. ALL UNITS ARE IN FEET UNO
3. EXISTING RAIL TO BE REMOVED WITH WALL AND BARRIER.
4. CONTRACTOR TO RELOCATE OR SUPPORT UTILITIES PRIOR TO DEMOLITION.



EXISTING NORTHEAST (NE) RETAINING WALL PROFILE
SCALE: 1/4"=1'-0"



NORTHEAST EXISTING RETAINING WALL AND BARRIER DEMOLITION					
WALL	A-A	B-B	C-C	D-D	E-E
L	43.00	53.00	32.00	22.00	11.00
Hw	8.50	8.00	7.50	6.00	5.00
Hf	2.00	2.00	2.00	2.00	2.00
Wf	5.00	4.75	4.50	3.75	3.25
Wt	0.50	0.50	0.50	0.50	0.50
Hs	6.50	6.00	5.50	4.00	3.00
Ws	1.50	1.50	1.50	1.50	1.50
Hb	6.00	5.50	5.00	3.50	2.50
Wb	3.00	2.75	2.50	1.75	1.25

CONCRETE BARRIER 1' W x 2' L x 4' H					
QTY	4.00	5.00	3.00	2.00	1.00

EXISTING NORTHEAST (NE) WALL SECTION
N.T.S.

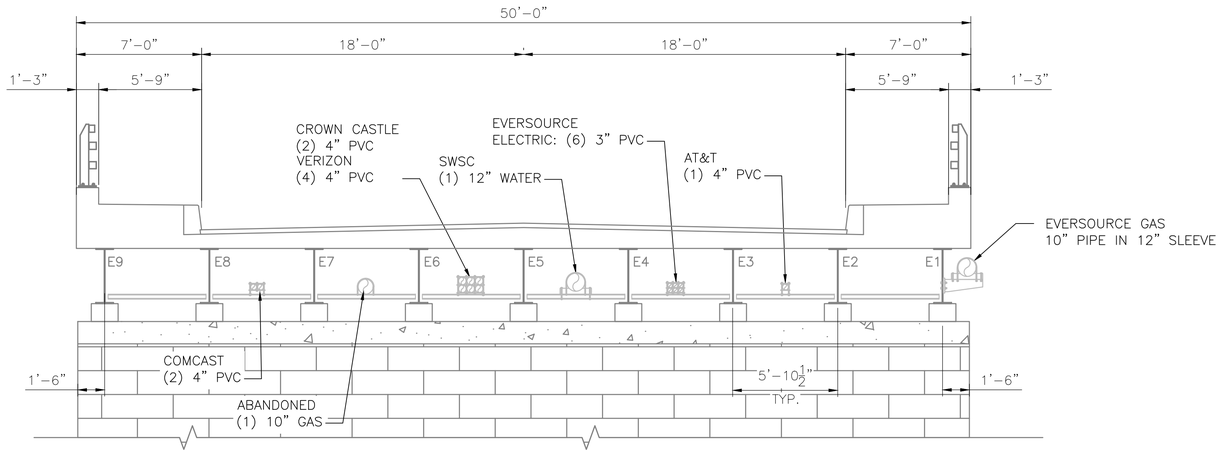
DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

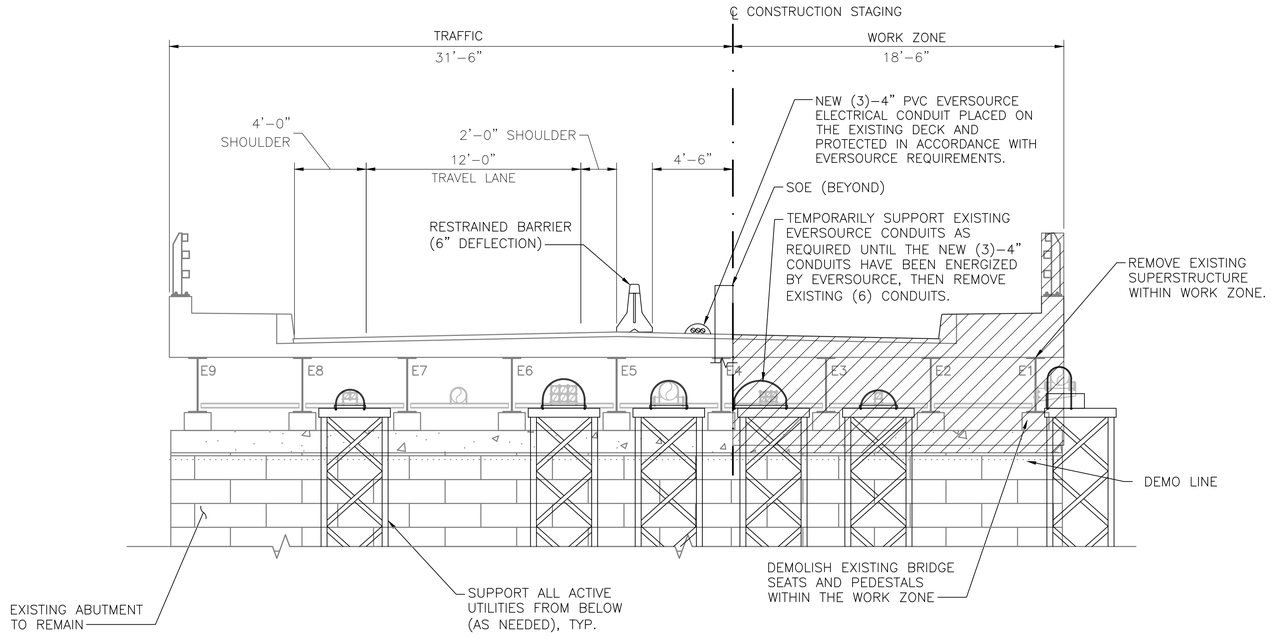
S-24-026 (EXIST WALL REMOVE DET - TYP ELEV).DWG Plotted on 5-Feb-2026 9:26 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	148	204
PROJECT FILE NO. 609409			



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



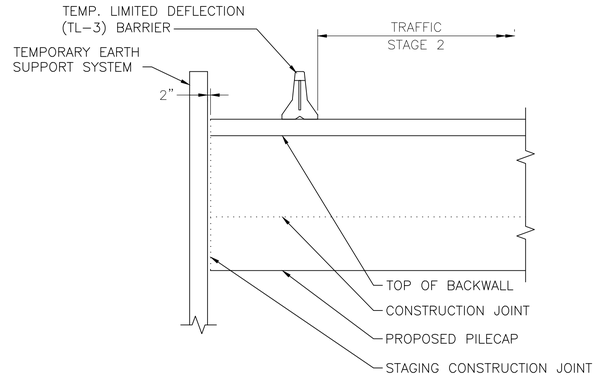
STAGE 1A
SCALE: 1/4"=1'-0"

NOTE:
DEMOLISH EXISTING SUPERSTRUCTURE (BRIDGE BARRIER, SIDEWALK, DECK, GIRDERS).
DEMOLISH EXISTING BRIDGE SEATS, PEDESTALS, TOP LAYER OF EXISTING GRANITE ABUTMENT.
CONSTRUCT UTILITY SUPPORT STRUCTURES FOR ALL ACTIVE UTILITIES.

CONSTRUCTION STAGING

SHEET NOTES:

1. REPLACE BOTH BRIDGE NO. S -24-016 AND S -24-026 USING STAGED CONSTRUCTION. STAGE 1 INCLUDES DEMOLITION/CONSTRUCTION OF THE WESTERN SIDE OF BOTH BRIDGES. STAGE 2 INCLUDES THE DEMOLITION/CONSTRUCTION OF THE EASTERN SIDE OF BOTH BRIDGES. THE INTENT IS THAT STAGE 1 FOR EACH BRIDGE OCCURS CONCURRENTLY, AND THEN STAGE 2 FOR EACH BRIDGE OCCURS CONCURRENTLY.
2. THE PROPOSED EASTERN LIMIT OF THE BRIDGE/ROADWAY CORRIDOR WILL MATCH EXISTING. THE PROPOSED WESTERN SIDE OF THE BRIDGE/ROADWAY CORRIDOR WILL BE WIDENED TO ACCOMMODATE A NEW SHARED USE PATH (SUP) AND AN EXTENDED SLAB TO SUPPORT THE WATERMAIN.
3. THE INTENT IS FOR ALL EXISTING AND PROPOSED UTILITIES TO BE RELOCATED WITHIN THE ROADWAY BAYS WITH EXCEPTION OF THE WATERMAIN WHICH WILL BE SUPPORTED ON THE EXTENDED SLAB.
4. STAGE 1A (DEMOLITION OF WESTERN SIDE OF THE BRIDGES), THE EXISTING CROSS-SECTION SHOWS TEMPORARY UTILITY SUPPORT STRUCTURE(S) CONSTRUCTED BELOW THE DESIGNATED UTILITIES IN ORDER TO HOLD THE EXISTING UTILITIES IN-PLACE UNTIL THE PROPOSED GIRDERS AND PERMANENT UTILITY SUPPORT FRAMING IS IN INSTALLED.
5. IN LIEU OF SUPPORTING FROM BELOW, THE CONTRACTOR MAY SUBMIT AN ALTERNATE SUPPORT SCHEME FOR REVIEW AS PART OF THE DEMOLITION PLAN.
6. SOUTH ABUTMENT SHOWN & NORTH ABUTMENT SIMILAR.
7. THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.



1. LIMITED DEFLECTION (TL-3) TEMPORARY BARRIER SYSTEM USED ON THE BRIDGE REQUIRES AN ANCHORAGE SYSTEM WHICH PROVIDES A MAXIMUM SIX INCH DYNAMIC LATERAL DEFLECTION REQUIREMENT AS RECORDED IN THE CRASH TEST DOCUMENTATION. TEMPORARY BARRIER SHOWN IS CONCEPTUAL.
2. PROVIDE A MINIMUM OF 2'-6" FOR WORKING WIDTH OF THE TEMPORARY BARRIER SYSTEM ALLOWING A MAXIMUM OF SIX INCHES DYNAMIC LATERAL DEFLECTION.
3. EXISTING DIMENSIONS ARE BASED UPON EXISTING DRAWINGS AND SURVEY DATA AND SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
4. TEMPORARY EARTH SUPPORT SYSTEM SHOWN IS CONCEPTUAL. THE CONTRACTOR SHALL DESIGN TEMPORARY SUPPORT SYSTEM TO SAFELY WITHSTAND ALL APPLICABLE DEAD AND LIVE LOADS WITHIN THE LIMITS OF THE AVAILABLE SPACE AND SHALL SUBMIT ALL RELEVANT COMPUTATIONS FOR THE REVIEW AND APPROVAL OF THE ENGINEER.
5. THE CONTRACTOR SHALL SUBMIT, FOR THE REVIEW AND APPROVAL OF THE ENGINEER. COMPUTATIONS THAT DEMONSTRATE THAT ALL ELEMENTS OF THE EXISTING AND PROPOSED STRUCTURES ARE STRUCTURALLY ADEQUATE TO SUPPORT ALL LOADS AND CONSTRUCTION EQUIPMENT DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION. SEE ITEM 114.2 FOR SUBMITTAL FOR THE DEMOLITION PROCEDURE.

TEMPORARY BARRIER AND EARTH SUPPORT SYSTEM FOR STAGED CONSTRUCTION
NOT TO SCALE

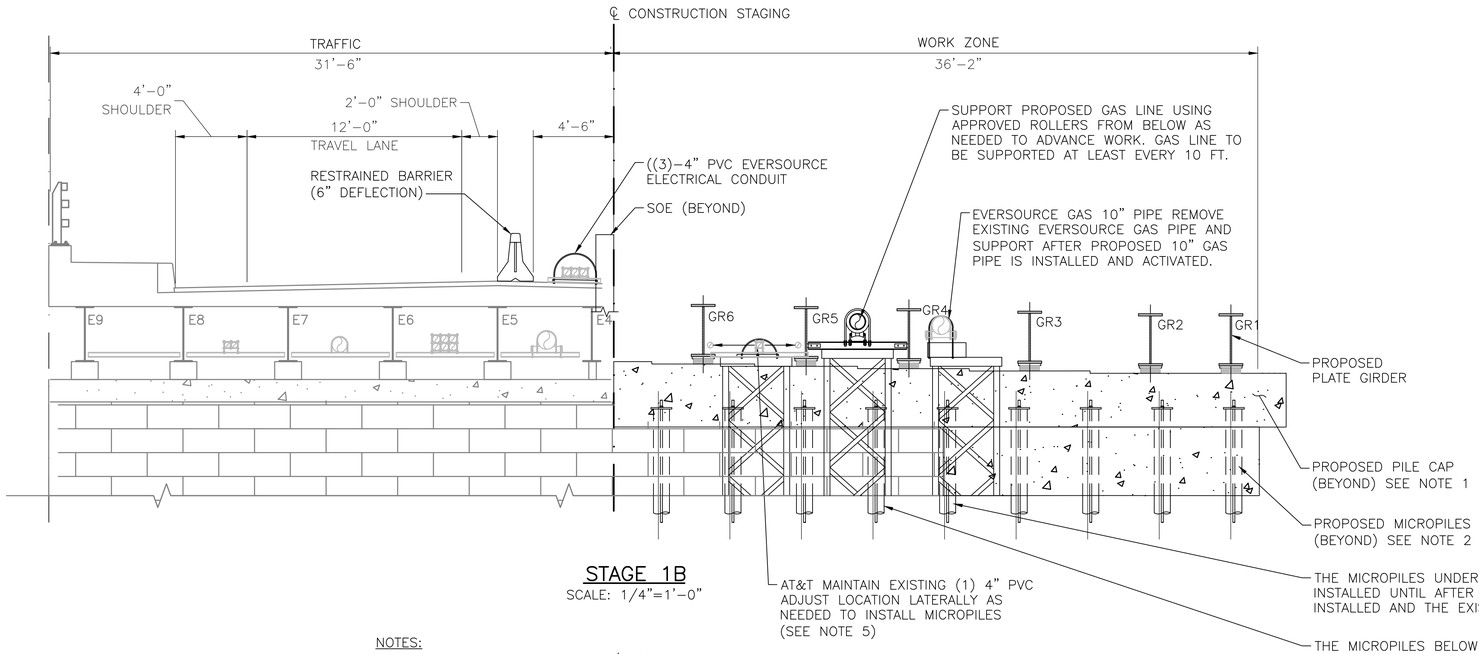
DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION
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USE ONLY PRINTS OF LATEST DATE	

S-24-026 (CONSTRUCTION STAGING PLAN-DET).DWG Plotted on 5-Feb-2026 9:27 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	149	204
PROJECT FILE NO. 609409			

CONSTRUCTION STAGING

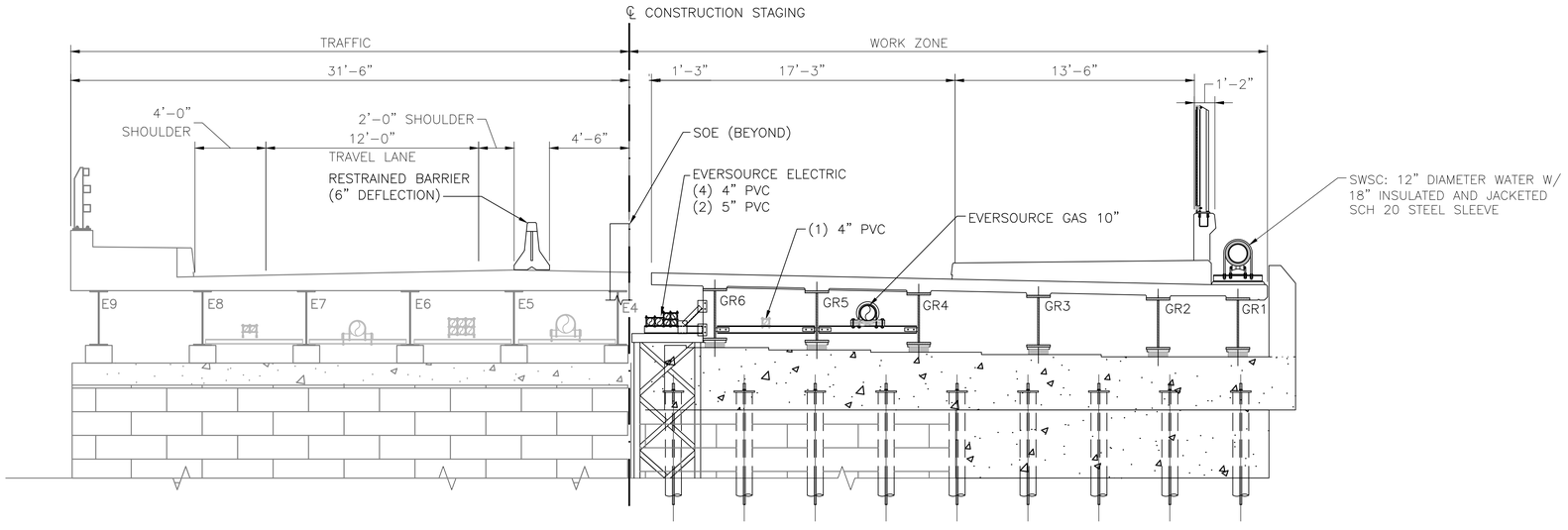


STAGE 1B
SCALE: 1/4"=1'-0"

NOTES:
CONSTRUCT ABUTMENT EXTENSION/CRASH WALL. CONSTRUCT ABUTMENT PILE CAP AND BRIDGE SEATS INSTALL MICROPILES (INTO SOIL) BEHIND THE EXISTING GRANITE ABUTMENT. INSTALL NEW GIRDERS. RELOCATE UTILITIES IN PROPOSED BAYS. MAINTAIN UTILITY SUPPORT STRUCTURE FOR ALL ACTIVE UTILITIES AS NOTED.

NOTES:

1. THE PROPOSED SOUTH AND NORTH PILE CAP IS TO BE INSTALLED BEHIND THE EXISTING GRANITE ABUTMENT AND THE PROPOSED ABUTMENT EXTENSION (CRASH WALL).
2. THE PROPOSED SOUTH AND NORTH ABUTMENT MICROPILES ARE TO BE BE INSTALLED INTO SOIL AND BEHIND THE EXISTING GRANITE ABUTMENT AND THE PROPOSED ABUTMENT EXTENSION (CRASH WALL).
3. SOUTH ABUTMENT SHOWN AND NORTH ABUTMENT SIMILAR.
4. THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.
5. AT&T SHALL BREAK THE LINE OUT OF THE CONDUIT TO ACHIEVE THE DESIRED SLACK DURING THE TEMPORARY RELOCATION AND INSTALLING SPLIT CASING AFTER THE MICROPILE WORK IS COMPLETE. WHEN IN CONDUIT, SUPPORT MUST BE PROVIDED AT LEAST EVERY 10 FT. WHEN OUT OF THE CONDUIT, CONTINUOUS SUPPORT IS REQUIRED.



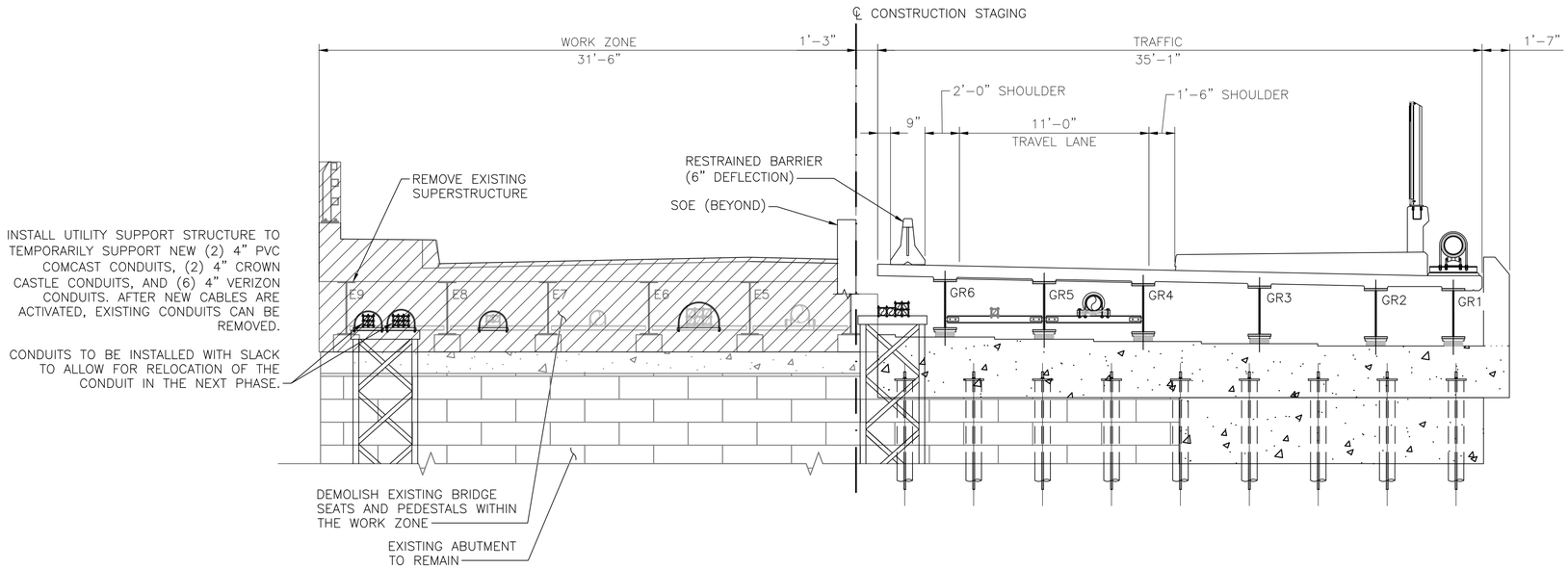
STAGE 1C
SCALE: 1/4"=1'-0"

NOTES:
CONSTRUCT DECK, DECK SLAB EXTENSION, SHARED USED PATH & BRIDGE BARRIER.
PROPOSED WATER MAIN TO BE INSTALLED ON PROPOSED DECK SLAB EXTENSION.
REMOVE UTILITY SUPPORTS AFTER RELOCATED UTILITIES HAVE BEEN ACTIVATED.

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USE ONLY PRINTS OF LATEST DATE

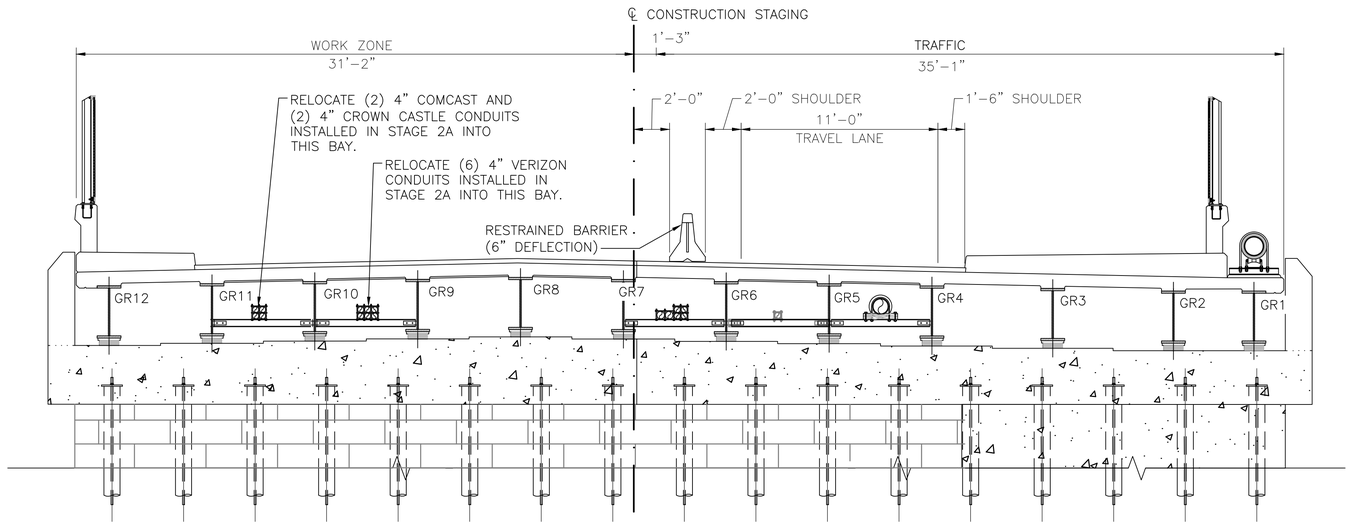
S-24-026 (CONSTRUCTION STAGING PLAN-DET).DWG Plotted on 5-Feb-2026 9:28 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



STAGE 2A

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

NOTES:
DEMOLISH EXISTING SUPERSTRUCTURE (BRIDGE BARRIER, SIDEWALK, DECK, GIRDERS). DEMOLISH EXISTING BRIDGE SEATS, PEDESTALS, TOP LAYER OF EXISTING GRANITE ABUTMENT. REMOVE ABANDONED EXISTING UTILITIES. REMOVE UTILITY SUPPORTS AFTER RELOCATED UTILITIES HAVE BEEN ACTIVATED.



STAGE 2B

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

NOTES:
CONSTRUCT ABUTMENT PILE CAP, MICROPILES AND GIRDERS. RELOCATE UTILITIES IN PROPOSED BAYS. CONSTRUCT DECK SLAB, SIDEWALK AND BARRIER.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	150	204
PROJECT FILE NO. 609409			

CONSTRUCTION STAGING

NOTES:

1. THE PROPOSED SOUTH AND NORTH PILE CAP IS TO BE INSTALLED BEHIND THE EXISTING GRANITE ABUTMENT AND THE PROPOSED ABUTMENT EXTENSION (CRASH WALL).
2. THE PROPOSED SOUTH AND NORTH ABUTMENT MICROPILES ARE TO BE BE INSTALLED INTO SOIL AND BEHIND THE EXISTING GRANITE ABUTMENT AND THE PROPOSED ABUTMENT EXTENSION (CRASH WALL).
3. SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR.THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.
4. THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.

DATE	DESCRIPTION
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Xxxxxx Structural Submittal (S#) DD-Month-YYYY

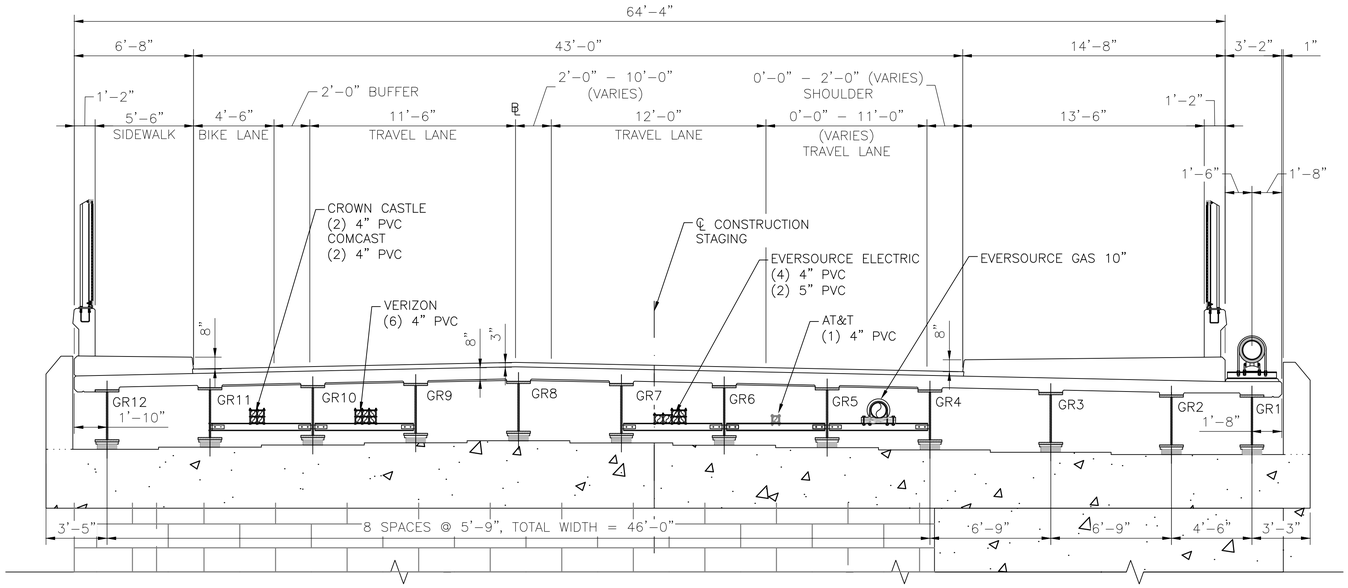
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	151	204
PROJECT FILE NO. 609409			

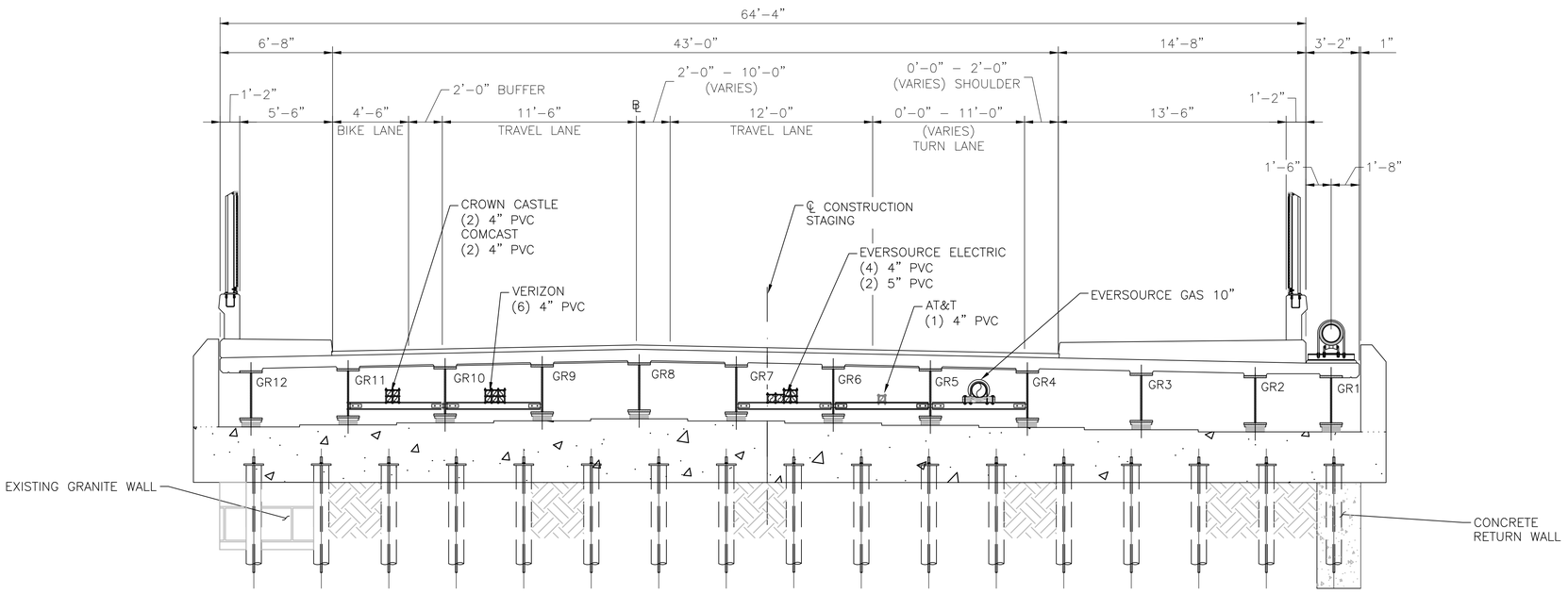
CONSTRUCTION STAGING

NOTES:

1. ROADWAY WORK TO BE COMPLETED.
2. THROUGHOUT CONSTRUCTION, UTILITIES SHALL BE PROTECTED FROM FALLING DEBRIS AND CONSTRUCTION OPERATIONS BY THE CONTRACTOR.



STAGE 3
ROADWAY PAVING (EXISTING SOUTH ABUTMENT/PROPOSED CRASH WALL)
SCALE: 1/4"=1'-0"



STAGE 3
ROADWAY PAVING (AT PROPOSED SOUTH PILE CAP)
SCALE: 1/4"=1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

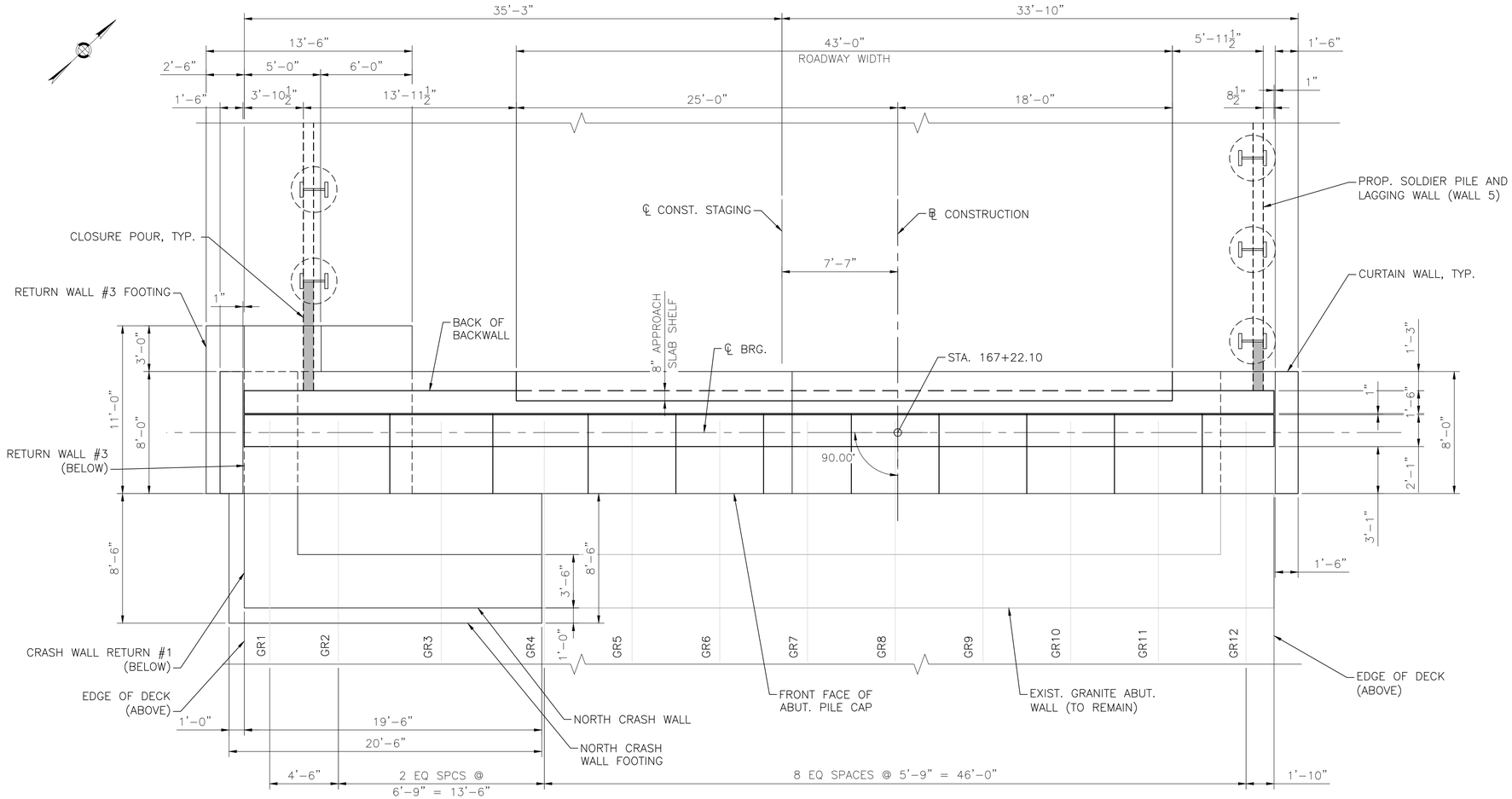
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SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	152	204
PROJECT FILE NO. 609409			

ABUTMENT PLAN & ELEVATION

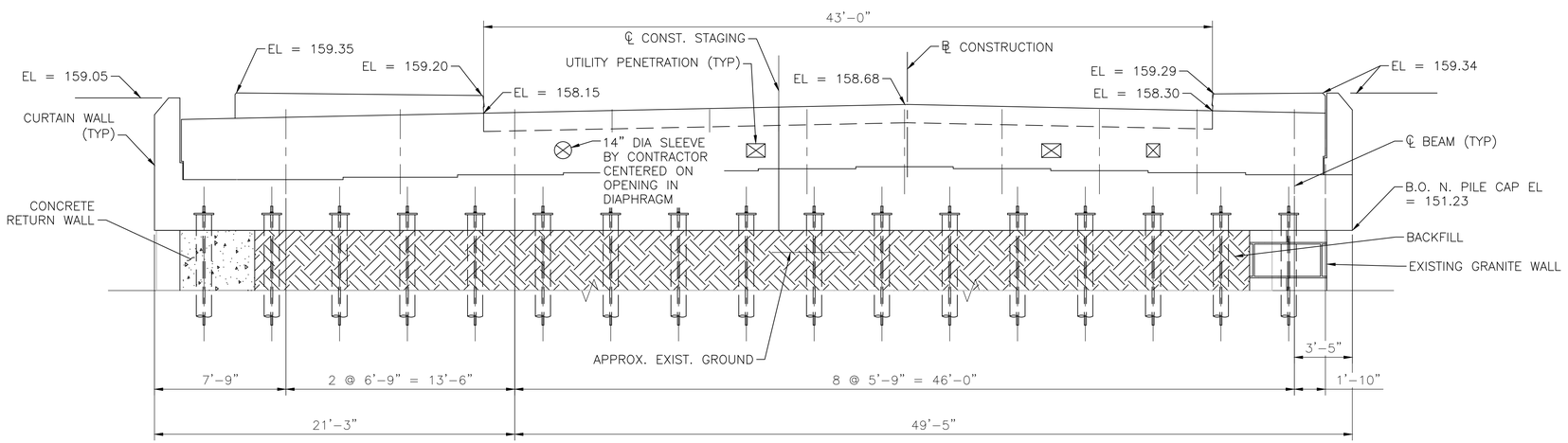


NOTE: BRIDGE SEAT LINES NOW SHOWN FOR CLARITY.

NORTH ABUTMENT PLAN

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

PROPOSED BRIDGE SEAT ELEVATIONS AT THE CL	
GR NO.	NORTH
1	154.27
2	154.27
3	154.42
4	154.57
5	154.68
6	154.80
7	154.91
8	155.03
9	154.92
10	154.80
11	154.69
12	154.57



NOTE: CRASH WALL NOT SHOWN FOR CLARITY.

NORTH ABUTMENT ELEVATION

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

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DATE	DESCRIPTION

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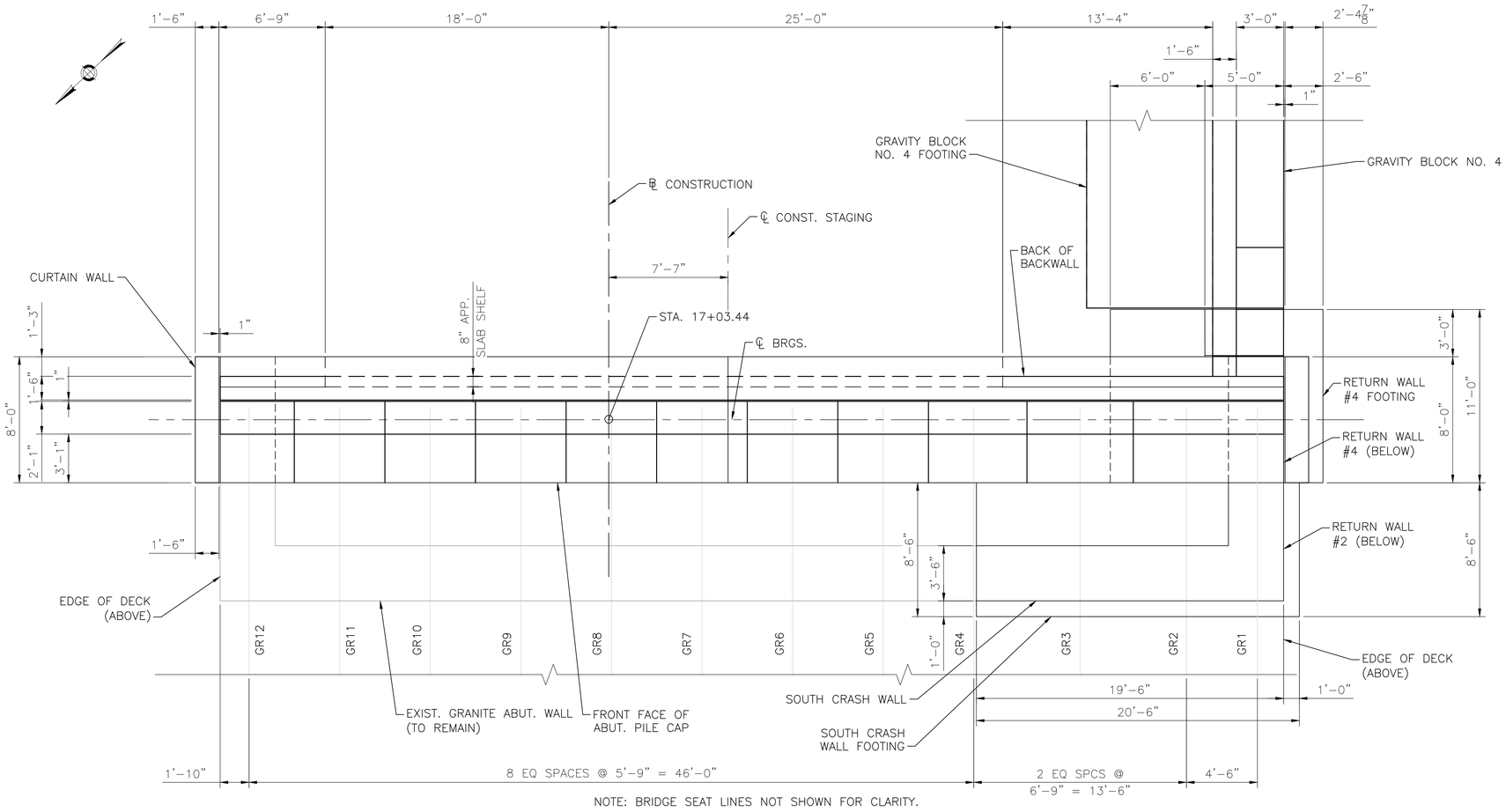
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Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	153	204
PROJECT FILE NO. 609409			

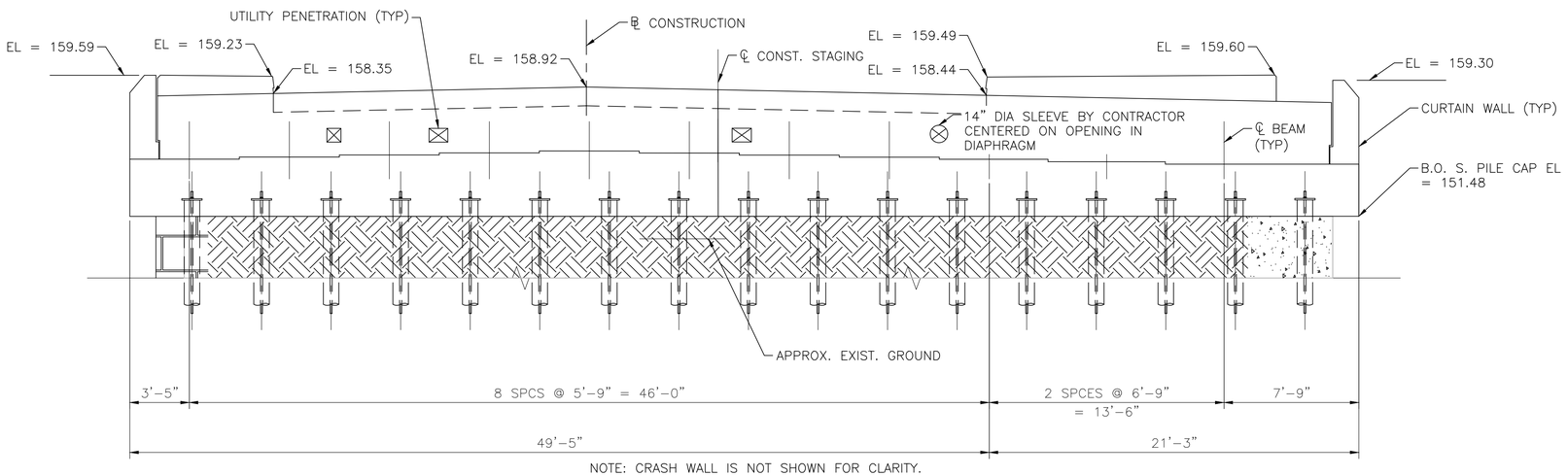
ABUTMENT PLAN & ELEVATION

PROPOSED BRIDGE SEAT ELEVATIONS AT THE CL OF BRG.	
GR NO.	SOUTH
1	154.51
2	154.51
3	154.65
4	154.79
5	154.91
6	155.03
7	155.15
8	155.27
9	155.15
10	155.03
11	154.91
12	154.80



NOTE: BRIDGE SEAT LINES NOT SHOWN FOR CLARITY.

SOUTH ABUTMENT PLAN
SCALE: 1/4" = 1'-0"



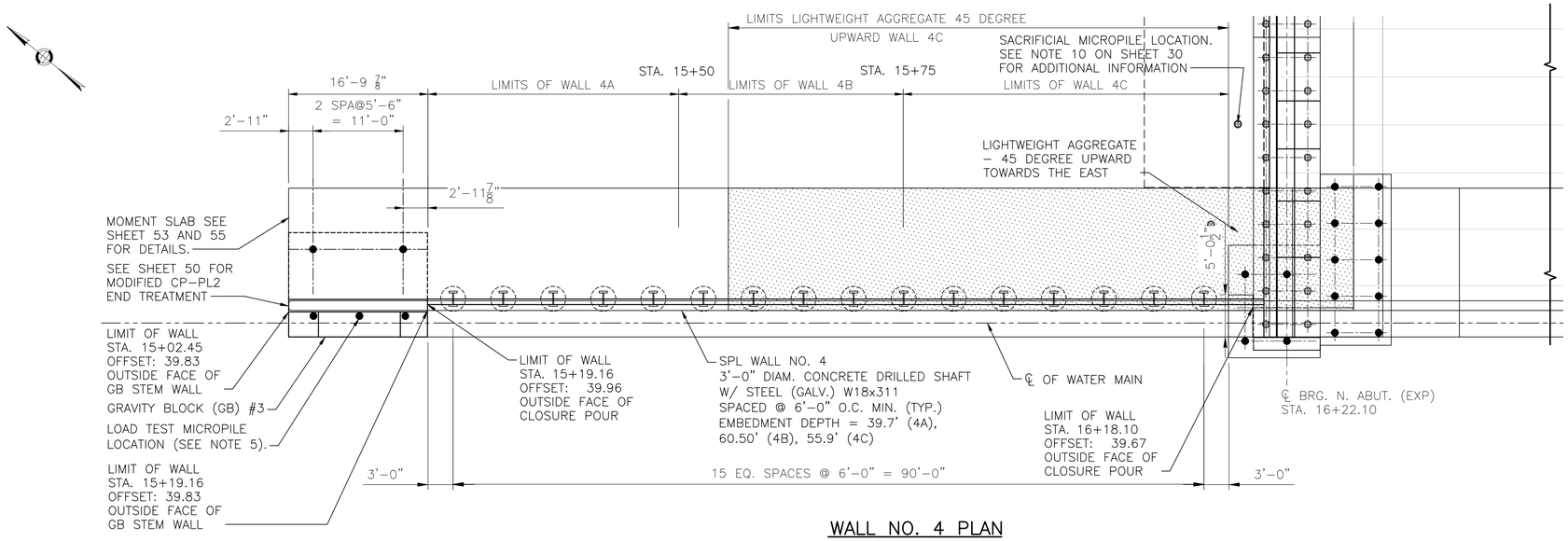
NOTE: CRASH WALL IS NOT SHOWN FOR CLARITY.

SOUTH ABUTMENT ELEVATION
SCALE: 1/4" = 1'-0"

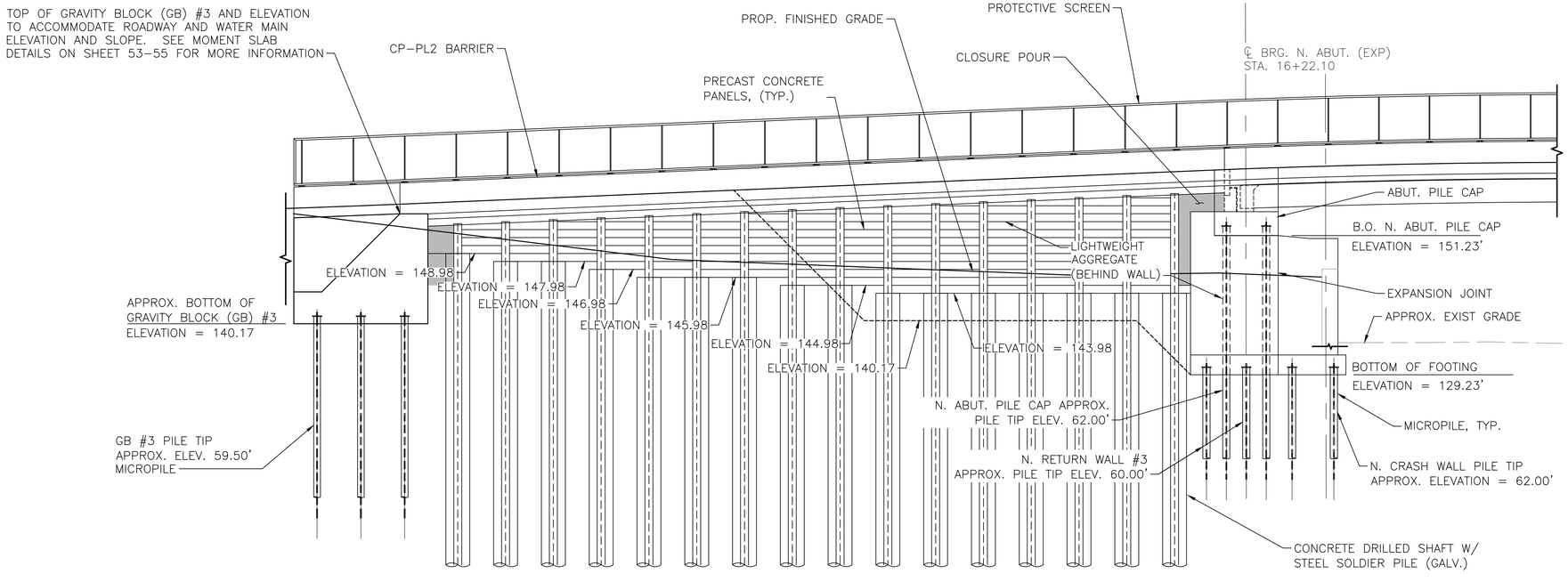
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S-24-026 (PROP. ABUT PLAN_ELEV).DWG Plotted on 5-Feb-2026 9:30 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



WALL NO. 4 PLAN
SCALE: 1/8" = 1'-0"



WALL NO. 4 ELEVATION
SCALE: 1/8" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	154	204
PROJECT FILE NO. 609409			

RETAINING WALLS, SOLDIER PILE AND LAGGING WALL NO. 4

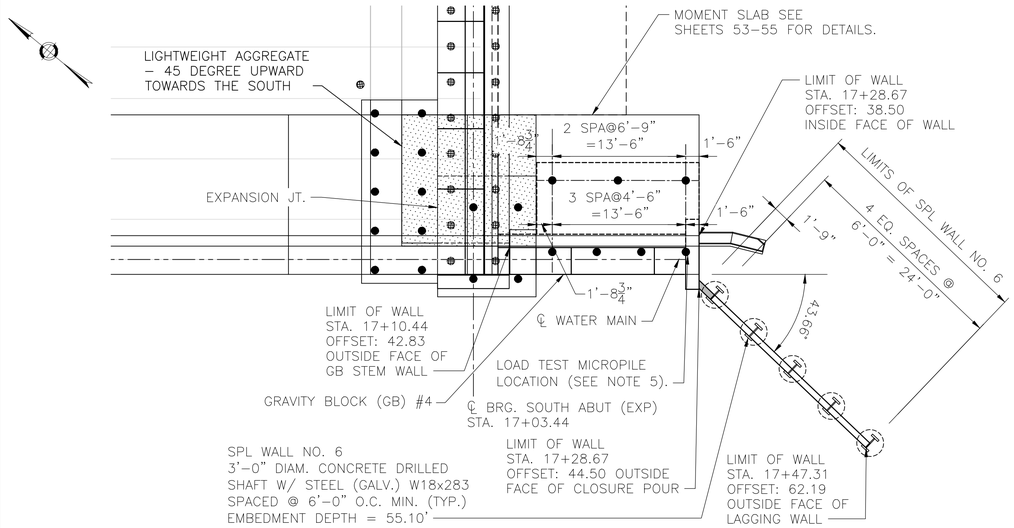
NOTES:

1. SEE SHEETS 27, 28 & 29 FOR WALL SECTIONS AND DETAILS.
2. SEE SHEETS 33 & 34 FOR SOLDIER PILE AND LAGGING WALL DETAILS AND ADDITIONAL INFORMATIONS.
3. SEE SHEETS 30 & 31 FOR MICROPILE DETAILS AND ADDITIONAL INFORMATION.
4. REFER TO HIGHWAY PLANS FOR ROADWAY GRADES TO DETERMINE WALL ELEVATIONS.
5. SUGGESTED LOCATION(S) OF PRODUCTION MICROPILE FOR PROOF LOAD TEST (ITEM 948.61). CONTRACTOR TO SELECT THE PROOF LOAD TEST LOCATION(S) WITH THE APPROVAL OF THE ENGINEER.

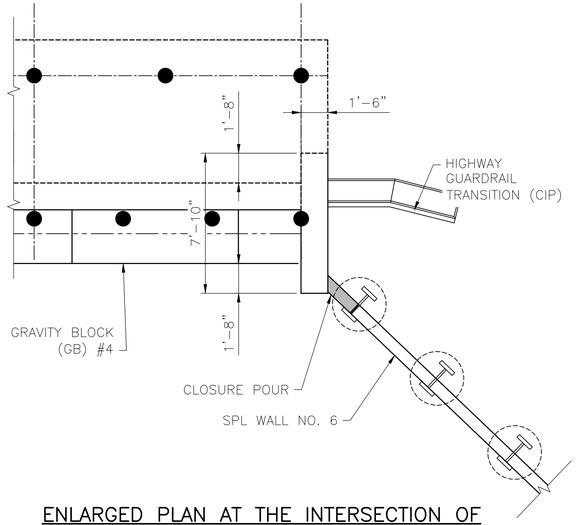
DATE	DESCRIPTION
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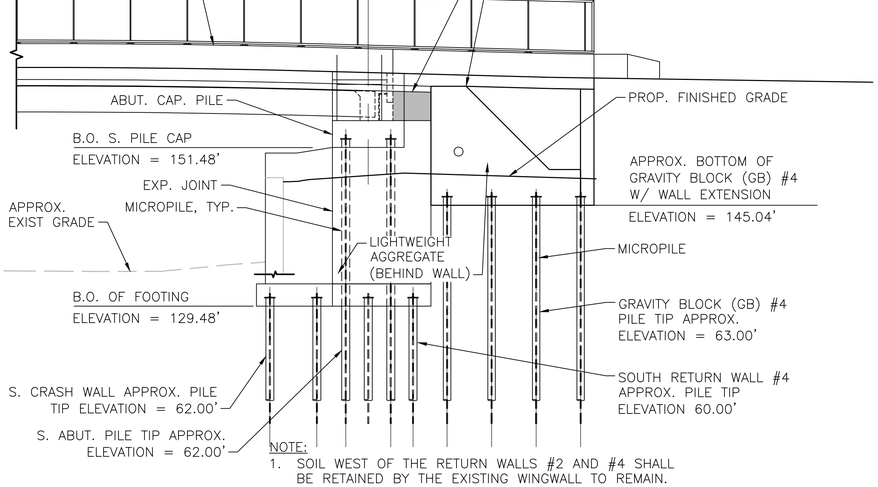
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Xxxxx Structural Submittal (S#) DD-Month-YYYY



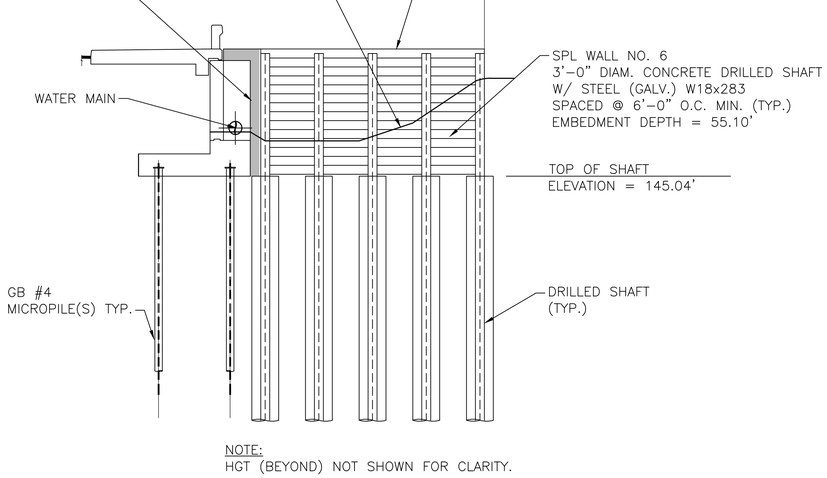
WALL NO. 6 PLAN
SCALE: 1/8" = 1'–0"



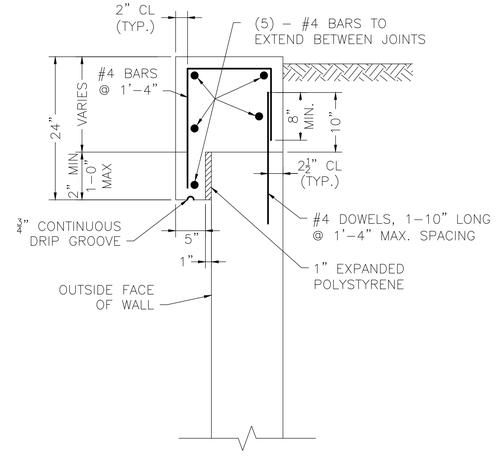
ENLARGED PLAN AT THE INTERSECTION OF GB #4 AND SPL WALL NO. 6 PLAN
SCALE: 1/4" = 1'–0"



GRAVITY BLOCK (GB) #4
SCALE: 1/8" = 1'–0"



WALL NO. 6 ELEVATION
SCALE: 1/8" = 1'–0"



CAST–IN–PLACE CONCRETE COPING DETAIL
SCALE: 1 1/2" = 1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	155	204
PROJECT FILE NO. 609409			

RETAINING WALLS, SOLIDER PILE AND LAGGING WALL NO. 6

NOTES:

1. SEE SHEETS 27, 28 & 29 FOR WALL SECTIONS AND DETAILS.
2. SEE SHEETS 33 & 34 FOR SOLDIER PILE AND LAGGING WALL DETAILS AND ADDITIONAL INFORMATION.
3. SEE SHEETS 30 & 31 FOR MICROPILE DETAILS AND ADDITIONAL INFORMATION.
4. REFER TO HIGHWAY PLANS FOR ROADWAY GRADES TO DETERMINE WALL ELEVATIONS.
5. SUGGESTED LOCATION(S) OF PRODUCTION MICROPILE FOR PROOF LOAD TEST (ITEM 948.61). CONTRACTOR TO SELECT THE PROOF LOAD TEST LOCATION(S) WITH THE APPROVAL OF THE ENGINEER.

DATE	DESCRIPTION
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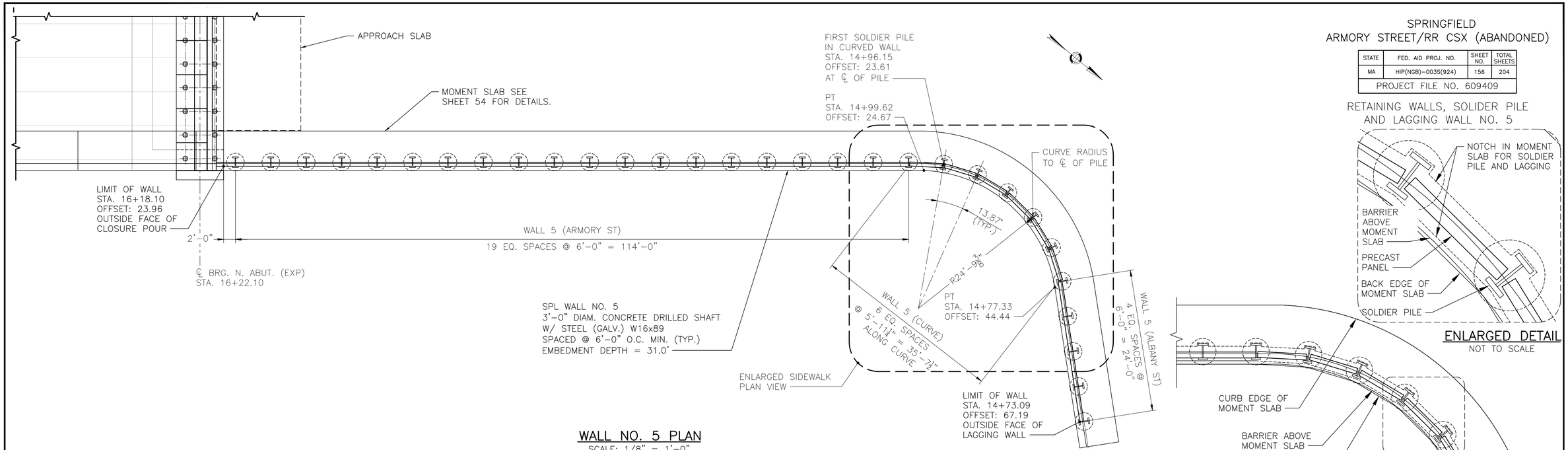
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (PROPOSED RETAINING WALLS NO 4-7).DWG Plotted on 5-Feb-2026 9:32 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

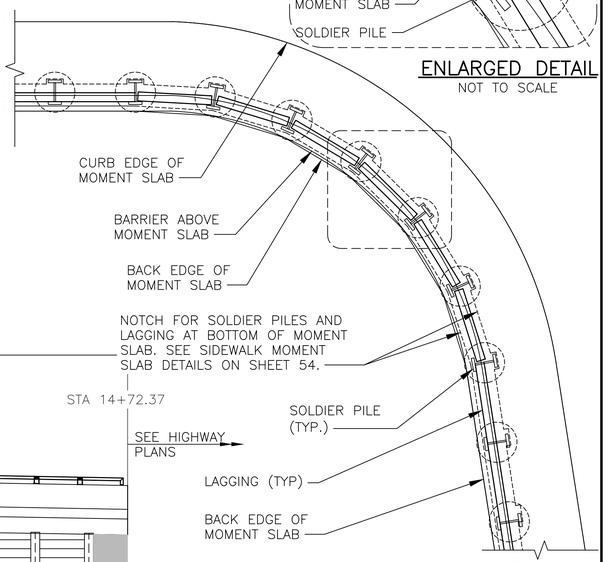
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	156	204
PROJECT FILE NO. 609409			

RETAINING WALLS, SOLIDER PILE AND LAGGING WALL NO. 5

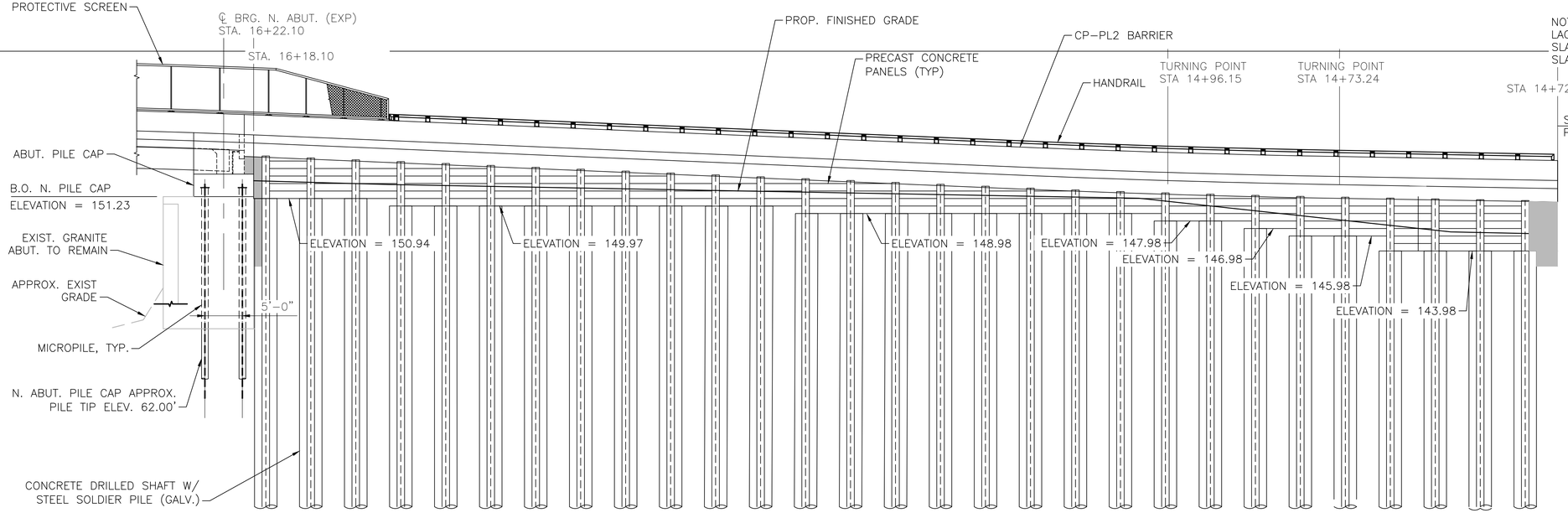


WALL NO. 5 PLAN
SCALE: 1/8" = 1'-0"

ENLARGED DETAIL
NOT TO SCALE



SIDEWALK PLAN VIEW
NOT TO SCALE



NOTE:
1. SOIL EAST OF THE EXISTING GRANITE ABUTMENT AND RETURN WALLS SHALL BE RETAINED BY THE EXISTING GRANITE WINGWALL TO REMAIN.

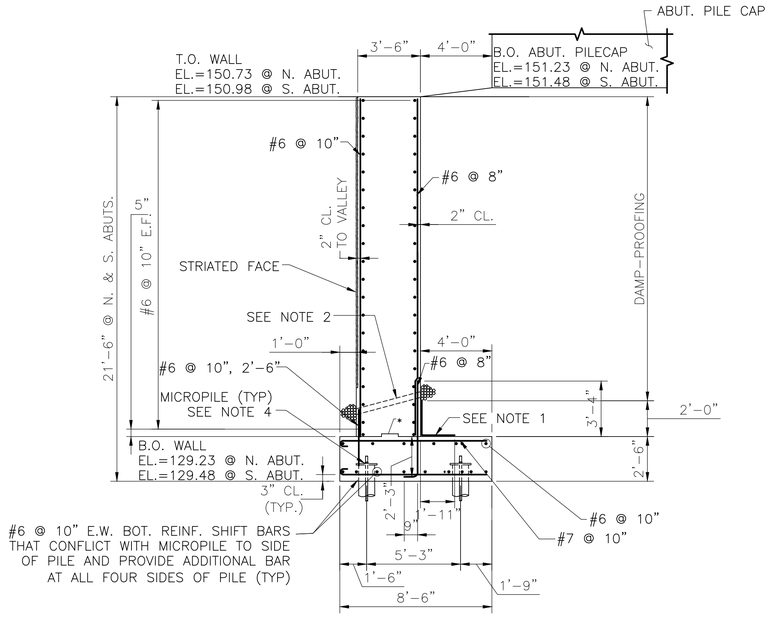
WALL NO. 5 ELEVATION (DEVELOPED LENGTH)
SCALE: 1/8" = 1'-0"

NOTES:
1. SEE SHEETS 27, 28 & 29 FOR WALL SECTIONS AND DETAILS.
2. SEE SHEETS 33 & 34 FOR SOLDIER PILE AND LAGGING WALL DETAILS AND ADDITIONAL INFORMATIONS.
3. SEE SHEETS 30 & 31 FOR MICROPILE DETAILS AND ADDITIONAL INFORMATION.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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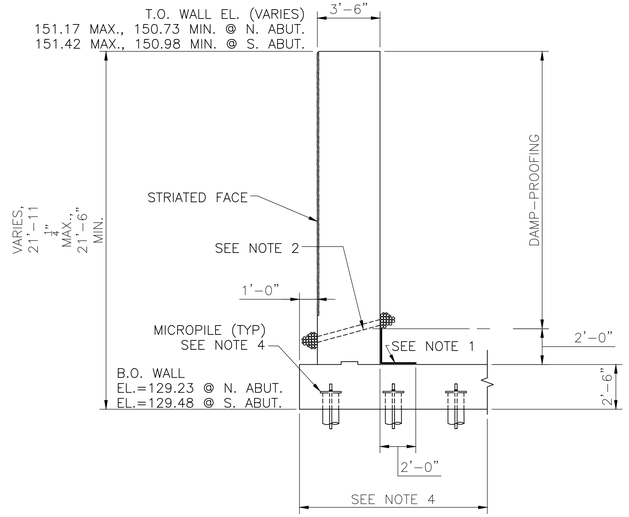
S-24-026 (PROPOSED RETAINING WALLS NO 4-7).DWG Plotted on 5-Feb-2026 9:33 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



* CONST. JT. WITH 12"x12"X2" SHEAR KEYS @ 3'-0" O.C.

NORTH OR SOUTH CRASH WALL SECTION 1

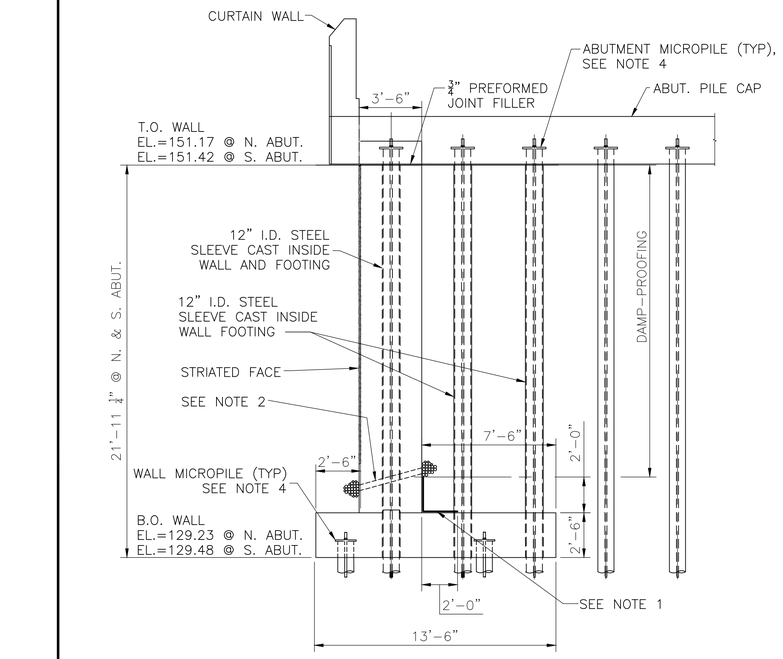
SCALE: $\frac{1}{4}$" = 1'-0"



NOTE: WALL AND FOOTING REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SECTION 1 ON THIS SHEET FOR WALL AND FOOTING REINFORCEMENT.

NORTH OR SOUTH CRASH WALL SECTION 2

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

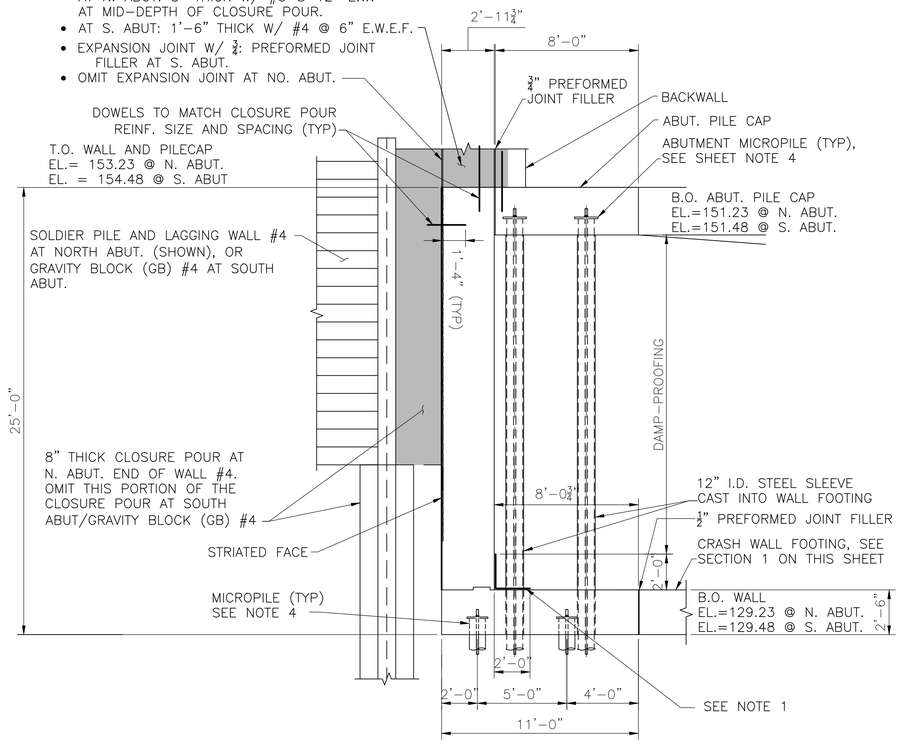


NOTE: WALL AND FOOTING REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SECTION 1 ON THIS SHEET FOR WALL AND FOOTING REINFORCEMENT.

RETURN WALL #3 (N) OR #4 (S) SECTION 3

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

CLOSURE POUR:
- AT N. ABUT: 8" THICK W/ #5 @ 12" E.W. AT MID-DEPTH OF CLOSURE POUR.
- AT S. ABUT: 1'-6" THICK W/ #4 @ 6" E.W.E.F.
- EXPANSION JOINT W/ $\frac{3}{4}$": PREFORMED JOINT FILLER AT S. ABUT.
- OMIT EXPANSION JOINT AT NO. ABUT.



NOTE: SECTION SHOWN AT NORTH ABUTMENT. WALL AND FOOTING REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SECTION 1 ON THIS SHEET FOR WALL AND FOOTING REINFORCEMENT.

SECTION 4

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

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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PROJECT FILE NO. 609409			

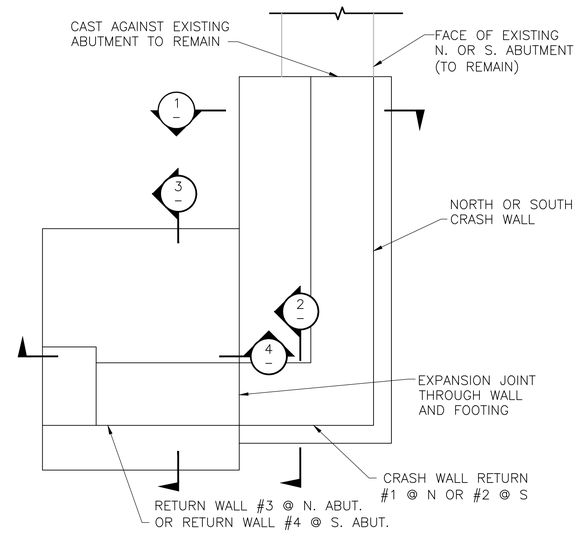
PROPOSED CRASH & RETURN WALL PLAN & ELEVATION

NOTES:

1. MEMBRANE WATERPROOFING AND 8"x16"x2", 4000 PSI, 3/4 IN, 610 CEMENT CONCRETE BLOCKS LAID IN MORTAR OR OTHER WATERPROOFING PROTECTIVE COURSE, MIN. 2" THICK AS SPECIFIED IN MASSDOT'S STANDARD SPECIFICATIONS.
2. 4" DIAMETER WEEP HOLES SPACED 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
3. ALL CONCRETE SHALL BE 5000 PSI, 3/4 IN, 685 HP CEMENT CONCRETE.
4. SEE SHEETS 30 AND 31 FOR MICROPILE DETAILS, SHEET 32 FOR MICROPILE LAYOUT, AND SHEETS 22 AND 23 FOR WALL AND FOOTING LAYOUTS.
5. THE WALLS NOTED AS "CRASH" WALLS ARE LOCATED OUTSIDE THE AREA OF INFLUENCE, AND AS SUCH, THE AREMA DESIGN STANDARDS FOR CRASH WALLS WERE NOT APPLICABLE. CONSEQUENTLY, THE CRASH WALL DESIGN DID NOT INCORPORATE AREMA STANDARDS.

PILES:

1. FOR MICROPILE INFORMATION REFER TO SHEETS 30 AND 31.



CRASH WALL AND RETURN WALLS NORTH & SOUTH ABUT. (WEST) – KEY PLAN

N.T.S.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

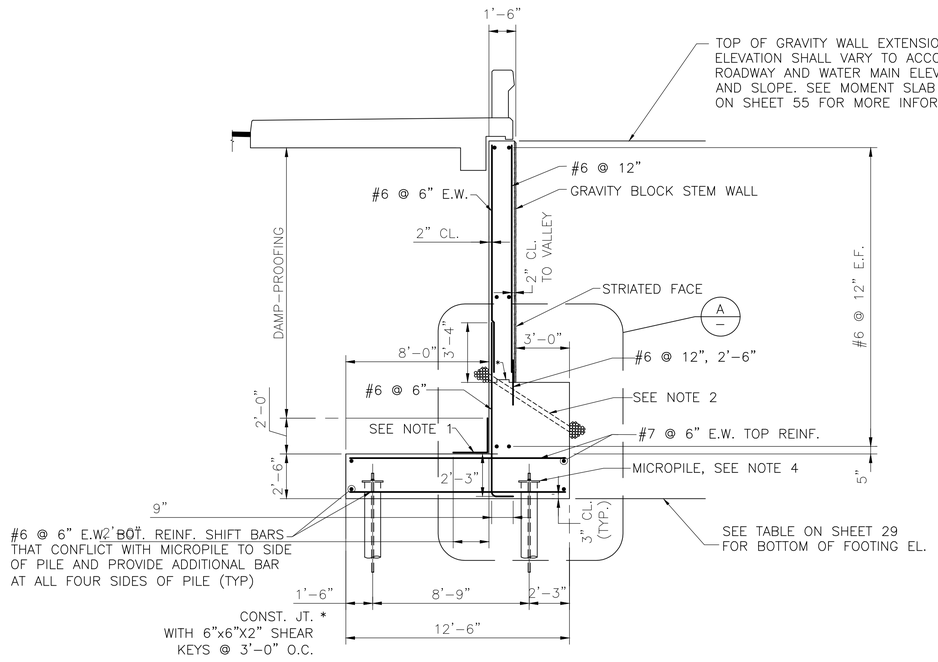
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Proposed Crash-Return Walls).dwg
S-24-026 (PROPOSED CRASH-RETURN WALLS).DWG Plotted on 5-Feb-2026 9:34 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

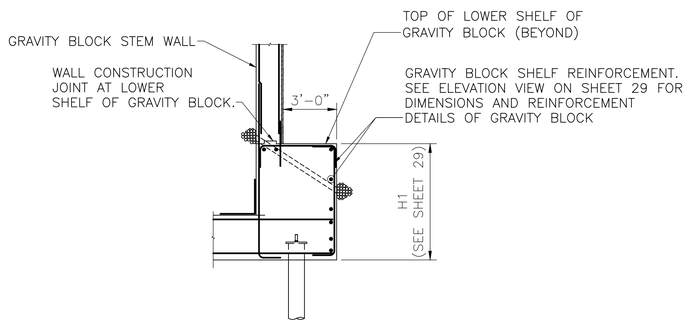
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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PROJECT FILE NO. 609409			

PROPOSED CRASH & RETURN WALL
PLAN & ELEVATION

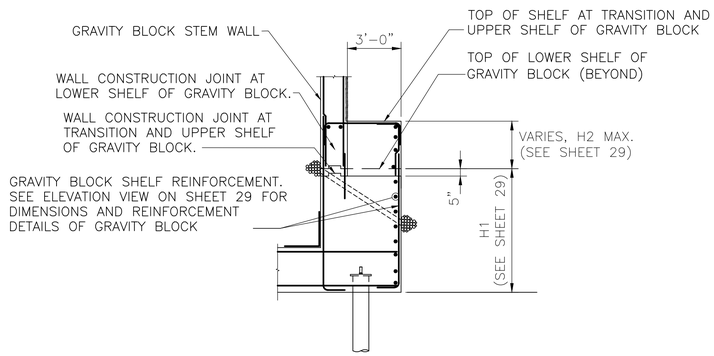


GRAVITY BLOCK (GB) #3 AND (GB) #4
WALL SECTION
SCALE: ¼" = 1'-0"



NOTE: THIS DETAIL IS TO BE WORKED WITH GRAVITY BLOCK SHELF REINFORCEMENT DETAIL ON SHEET 29.

REINFORCEMENT AT LOWER SHELF OF GRAVITY BLOCK
SCALE: ¼" = 1'-0"



NOTE: THIS DETAIL IS TO BE WORKED WITH GRAVITY BLOCK SHELF REINFORCEMENT DETAIL ON SHEET 29.

REINFORCEMENT AT TRANSITION AND UPPER SHELF OF GRAVITY BLOCK
SCALE: ¼" = 1'-0"

REINFORCEMENT DETAIL AT GRAVITY BLOCK SHELF – DETAIL A

NOTES:
1. MEMBRANE WATERPROOFING AND 8"x16"x2", 4000 PSI, 3/4 IN, 610 CEMENT CONCRETE BLOCKS LAID IN MORTAR OR OTHER WATERPROOFING PROTECTIVE COURSE, MIN. 2" THICK AS SPECIFIED IN MASSDOT'S STANDARD SPECIFICATIONS.
2. 4" DIAMETER WEEP HOLES SPACED 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
3. ALL CONCRETE SHALL BE 5000 PSI, 3/4 IN, 685 HP CEMENT CONCRETE.
4. SEE SHEETS 30 AND 31 FOR MICROPILE DETAILS, SEE SHEET 32 FOR MICROPILE LAYOUT, AND SEE SHEETS 22 AND 23 FOR WALL AND FOOTING LAYOUTS.

PILES:
1. FOR MICROPILE INFORMATION REFER TO SHEET 30 AND 31.

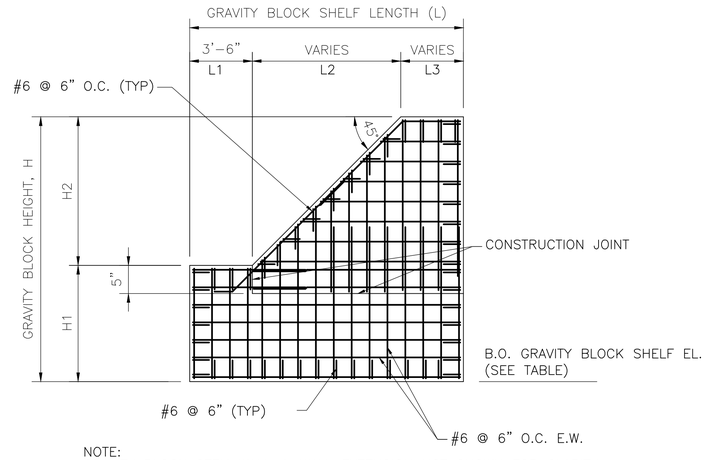
DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
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S-24-026 (PROPOSED CRASH-RETURN WALLS).DWG Plotted on 5-Feb-2026 9:34 PM
S-24-026 (Proposed Crash-Return Walls).dwg
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	159	204
PROJECT FILE NO. 609409			

WALL SECTION



NOTE:
GRAVITY BLOCK STEM WALL & WALL EXTENSION NOT SHOWN FOR CLARITY, FOR GRAVITY BLOCK STEM WALL REINFORCEMENT SEE SHEET 28.

GRAVITY BLOCK SHELF – REINFORCEMENT

N.T.S.

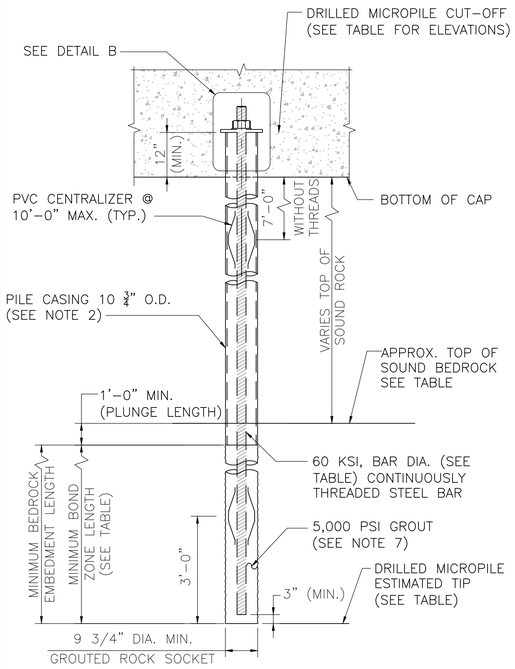
GRAVITY SHELF BLOCK (GB)	#3	#4
B.O. GB EL.	140.17	145.04
GB SHELF WIDTH W (FT)	3.00	3.00
*HEIGHT,H (FT)	13.82	13.30
*APPROX. H1 (FT)	4.00	4.00
*APPROX. H2 (FT)	9.82	9.30
LENGTH, L (FT)	16.82	16.73
L1 (FT)	3.50	3.50
L2 (FT)	9.82	9.30
L3 (FT)	3.50	3.93

* TOP OF THE GRAVITY BLOCK SHALL BE SO CONSTRUCTED TO ACCOMMODATE THE ROADWAY AND WATER MAIN ELEVATION AND SLOPE. SEE MOMENT SLAB DETAILS ON SHEET 55 FOR MORE INFORMATION ON THE TOP OF THE GRAVITY BLOCK AND ITS STEM WALL.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

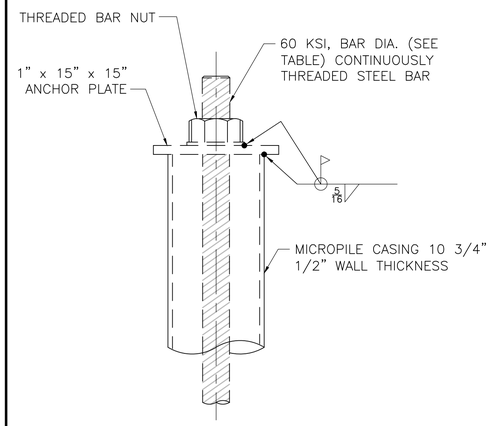
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
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S-24-026 (WALL SECTIONS).DWG Plotted on 5-Feb-2026 9:35 PM
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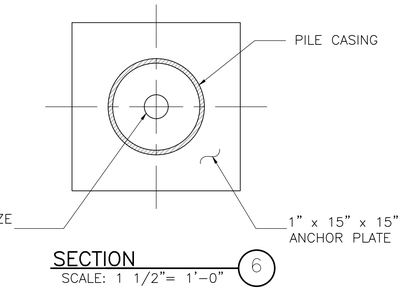
VERTICAL SECTION THROUGH TYPICAL MICROPILE

SCALE: 1/2" = 1'–0"



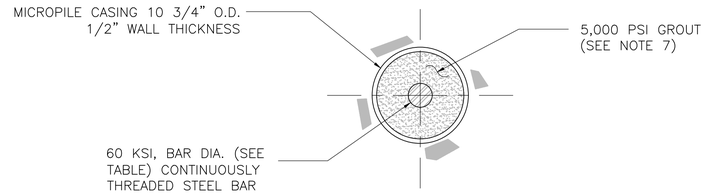
DETAIL B

SCALE: 1 1/2"= 1'–0"



SECTION 6

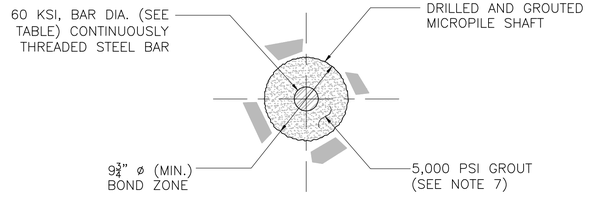
SCALE: 1 1/2"= 1'–0"



(CASED ZONE)

SECTION 7

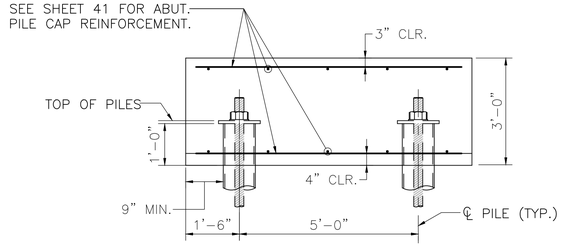
SCALE: 1 1/2"= 1'–0"



(BONDED ZONE)

SECTION 8

SCALE: 1 1/2"= 1'–0"



TYPICAL SECTION THROUGH NORTH AND SOUTH PILE CAP

SCALE: 1/2" = 1'–0"

TABLE 1: PROPOSED MICROPILES

		N. ABUT. PILE CAP	S. ABUT. PILE CAP	N. CRASH WALL	S. CRASH WALL	N. RETURN WALL #3	S. RETURN WALL #4	GRAVITY BLOCK (GB) #3	GRAVITY BLOCK (GB) #4
MICROPILE CUT–OFF ELEVATION	FT	152.23	152.48	130.23	130.48	130.23	130.48	141.17	146.04
APPROX. TOP OF SOUND BEDROCK	FT	71	71	71	71	71	71	70.5	71.0
APPROX. TIP ELEVATION	FT	62.0	62.0	62.0	62.0	60.0	60.0	59.5	63.0
CENTER BAR		#8	#8	#8	#8	#8	#8	#8	#8
TOTAL LENGTH	FT	90.2	90.5	68.2	68.5	70.2	70.5	82.7	84.0
CASED LENGTH	FT	82.2	82.5	60.2	60.5	60.2	60.5	71.7	76.0
MIN. BOND ZONE LENGTH	FT	8	8	8	8	10	10	10	7
GOVERNING AXIAL LOAD COMBINATION		STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)	STRENGTH I (MAX.)
FACTORED AXIAL DESIGN LOAD PER MICROPILE	KIPS	105.00	105.00	110.00	110.00	140.00	140.00	135.00	100.00
FACTORED GEOTECHNICAL RESISTANCE	KIPS	123.50	123.50	123.50	123.50	154.40	154.40	154.40	108.10
NOMINAL GEOTECHNICAL RESISTANCE	KIPS	224.60	224.60	224.60	224.60	280.80	280.80	280.80	196.50
GEOTECHNICAL RESISTANCE FACTOR		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
FACTORED STRUCTURAL RESISTANCE	KIPS	691.00	691.00	691.00	691.00	691.00	691.00	691.00	691.00
NOMINAL STRUCTURAL RESISTANCE	KIPS	921.00	921.00	921.00	921.00	921.00	921.00	921.00	921.00
STRUCTURAL RESISTANCE FACTOR		0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75

NOTES:

*1. N. RETURN WALL #1 & S. RETURN WALL #2 ARE SUPPORTED ON THE NORTH & SOUTH CRASH WALL PILE CAPS RESPECTIVELY.

*2. THE MICROPILES ALONG THE EAST MAY ENCOUNTER PORTIONS OF THE EXISTING GRANITE ABUT/ WALLS AND WILL NEED TO BE CORED THRU PRIOR TO INSTALLATION. PRIOR TO INSTALLING THE MICROPILES THROUGH THE EXISTING ABUTMENT, AN APPROXIMATELY 12–INCH DIAMETER HOLE NEEDS TO BE CORED THROUGH THE ENTIRE HEIGHT OF THE EXISTING ABUTMENT. AFTER THE MICROPILE INSTALLATION, THE ANNULUS OF THE MICROPILE CASING AND THE CORED HOLES IN THE EXISTING ABUTMENT OR PREVIOUSLY EMBEDDED OPENING THROUGH THE ABUTMENT EXTENSION WILL BE FILLED WITH SAND AFTER THE MICROPILES ARE INSTALLED.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	160	204
PROJECT FILE NO. 609409			

TYPICAL MICROPILE – SECTION AND DETAILS SHEET 1 OF 2

MICROPILE NOTES:

1. FACTORED AXIAL DESIGN LOAD PER MICROPILE PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. SEE TABLE BELOW FOR FACTORED AXIAL DESIGN LOAD PER MICROPILE.
2. STEEL CASING SHALL BE PRIME STEEL AND MEET THE REQUIREMENTS OF API 5L PSL1 GRADE 52 WITH SR 15 SUPPLEMENTAL REQUIREMENTS.
3. THREADED STEEL BAR SHALL BE CONTINUOUSLY THREADED FOR THE ENTIRE BAR LENGTH CONFORMING TO AASHTO M31 GRADE 60 HAVING A MINIMUM YIELD STRENGTH OF 60 KSI.
4. NUT AND BAR COUPLING SHALL BE PROVIDED FROM THE SAME MANUFACTURER AS THE THREADED STEEL BAR.
5. BAR COUPLING SHALL BE FULLY ENGAGED ON THE THREADED STEEL BAR AND SHALL NOT BE LOCATED IN THE TOP THIRD OF THE MICROPILE LENGTH.
6. ANCHOR PLATE SHALL MEET THE REQUIREMENTS OF AASHTO M270 GRADE 50.
7. GROUT SHALL HAVE A MINIMUM 28–DAY COMPRESSIVE STRENGTH OF 5 KSI AND CEMENT SHALL CONFORM TO AASHTO M85 TYPE I/II.
8. GROUT SHALL BE PLACED USING TREMIE METHODS.
9. THE CONTRACTOR SHALL SUBMIT A MICROPILE SCHEDULE, MICROPILE INSTALLATION, AND MICROPILE TESTING PLAN FOR REVIEW AND APPROVAL BY THE ENGINEER.
10. THE VERIFICATION TEST MICROPILE SHALL BE A SACRIFICIAL MICROPILE. THE VERIFICATION TEST SHALL BE PERFORMED PRIOR TO CONSTRUCTION OF PRODUCTION MICROPILES. THE VERIFICATION TEST LOCATION IS APPROXIMATE AS SHOWN. CONTRACTOR TO SELECT EXACT LOCATION OF THE MICROPILE WITH APPROVAL BY THE ENGINEER.

CONSTRUCTION TOLERANCES:

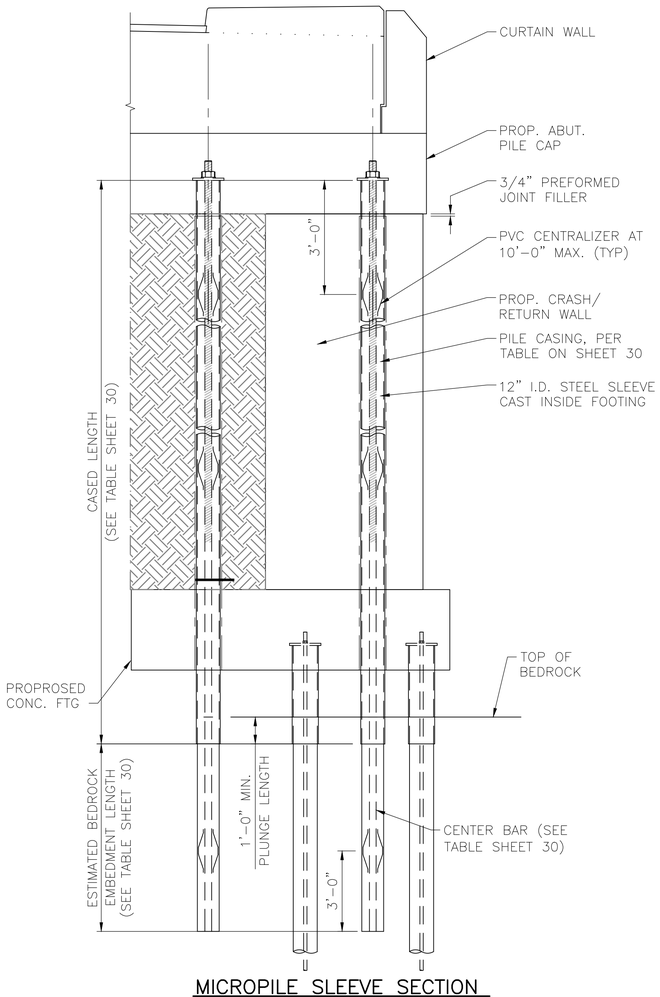
THE FOLLOWING ARE THE MAXIMUM TOLERANCES SPECIFIED FOR MICROPILE CONSTRUCTION BY THE MASSDOT MICROPILE SPECIAL PROVISIONS.

1. CENTERLINE OF PILING SHALL NOT BE MORE THAN 3 INCHES FROM INDICATED PLAN LOCATION.
2. PILE SHALL BE PLUMB WITHIN 2% OF TOTAL–LENGTH DESIGN PLAN ALIGNMENT.
3. TOP ELEVATION OF PILE SHALL BE +1 INCH OR –2 INCHES MAXIMUM FROM VERTICAL DESIGN ELEVATION INDICATED.
4. CENTERLINE OF REINFORCING STEEL SHALL NOT BE MORE THAN ¾ INCHES FROM THE CENTER OF THE PILE.
5. MINIMUM VOLUME OF GROUT PLACED SHALL BE 110% OF THE THEORETICAL VOLUME OF THE WHOLE MICROPILE LENGTH FROM BOTTOM TO TOP AT TIME OF GROUTING.

DATE	DESCRIPTION
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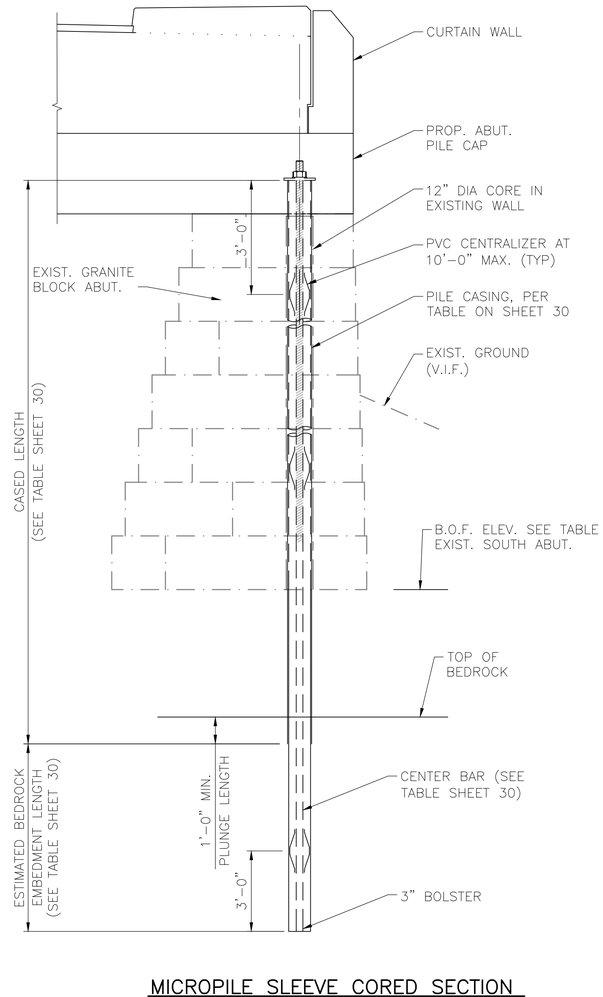
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Micropile Details).dwg
S-24-026 (MICROPILE DETAILS).DWG Plotted on 5-Feb-2026 9:37 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



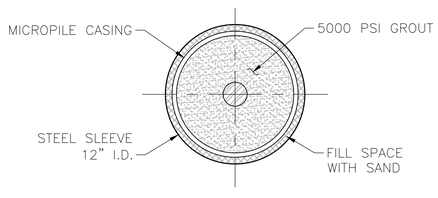
MICROPILE SLEEVE SECTION

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

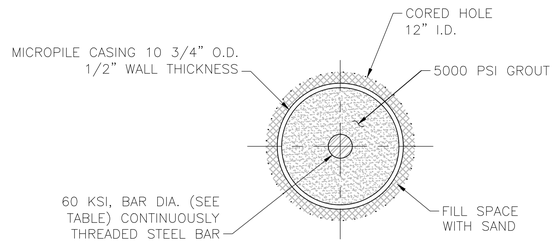


MICROPILE SLEEVE CORED SECTION

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



MICROPILE AT SLEEVE ZONE



MICROPILE AT CORED ZONE

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	161	204
PROJECT FILE NO. 609409			

TYPICAL MICROPILE – SECTIONS AND DETAILS SHEET 2 OF 2

NOTES:

1. SEE TABLE ON SHEET 30 FOR FACTORED AXIAL DESIGN LOAD PER MICROPILE.
2. STEEL SLEEVE SHALL BE PRIME STEEL AND MEET THE REQUIREMENTS OF API 5L PSL1 GRADE 52 WITH SR 15 SUPPLEMENTAL REQUIREMENTS. NO CASING JOINT SHALL BE IN THE TOP THREE FEET OF THE PILE BELOW THE PILE CAP AND PROPOSED CONCRETE FOOTING.

PRE-DRILLING NOTES:

1. PRIOR TO INSTALLING THE MICROPILES THROUGH THE EXISTING ABUTMENT, AN APPROXIMATELY 12-INCH DIAMETER HOLE NEEDS TO BE CORED THROUGH THE ENTIRE HEIGHT OF THE EXISTING ABUTMENT. AFTER THE MICROPILE INSTALLATION, THE ANNULUS OF THE MICROPILE CASING AND THE CORED HOLES IN THE EXISTING ABUTMENT OR PREVIOUSLY EMBEDDED OPENING THROUGH THE ABUTMENT EXTENSION SHALL BE FILLED WITH SAND AFTER THE MICROPILES ARE INSTALLED.

MICROPILE STEEL SLEEVE NOTES:

1. STEEL SLEEVES SHALL HAVE A INSIDE DIAMETER OF 12" MIN. AND EXTEND FROM THE BOTTOM OF THE BRIDGE PILE CAP TO THE BOTTOM OF FOOTING.
2. STEEL SLEEVES SHALL BE INSTALLED PRIOR TO THE CRASH & RETURN WALLS.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

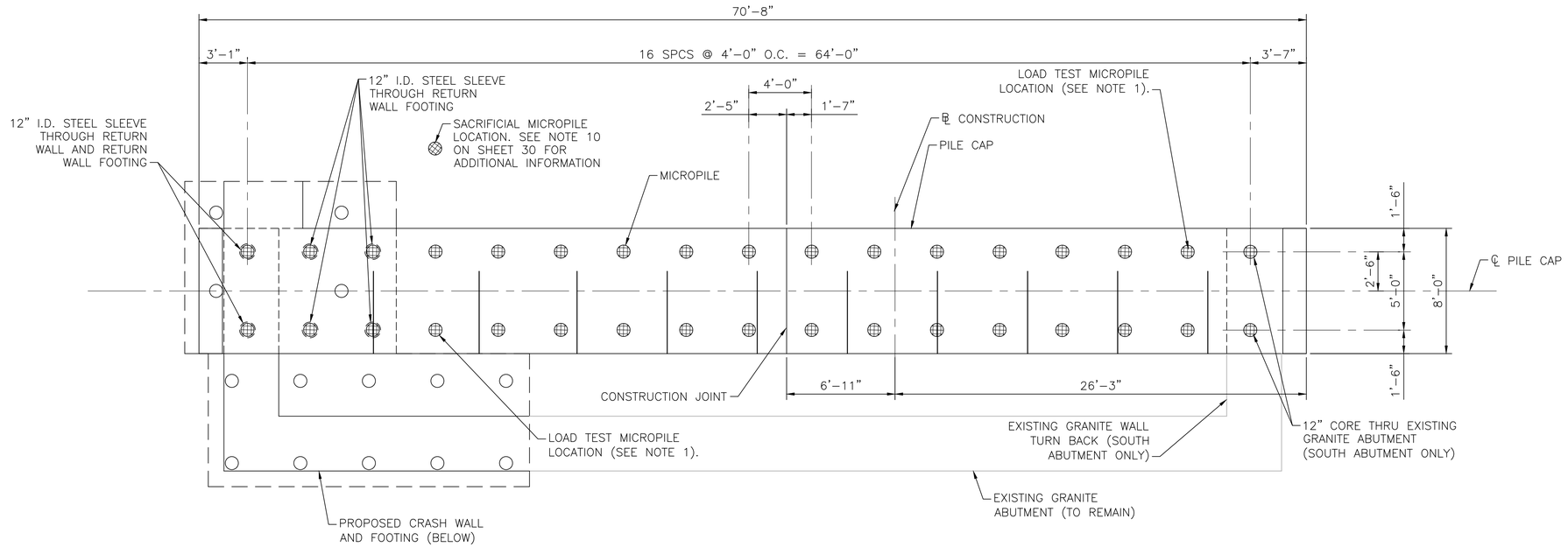
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Micropile Details).dwg
S-24-026 (MICROPILE DETAILS).DWG Plotted on 5-Feb-2026 9:37 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	162	204
PROJECT FILE NO. 609409			

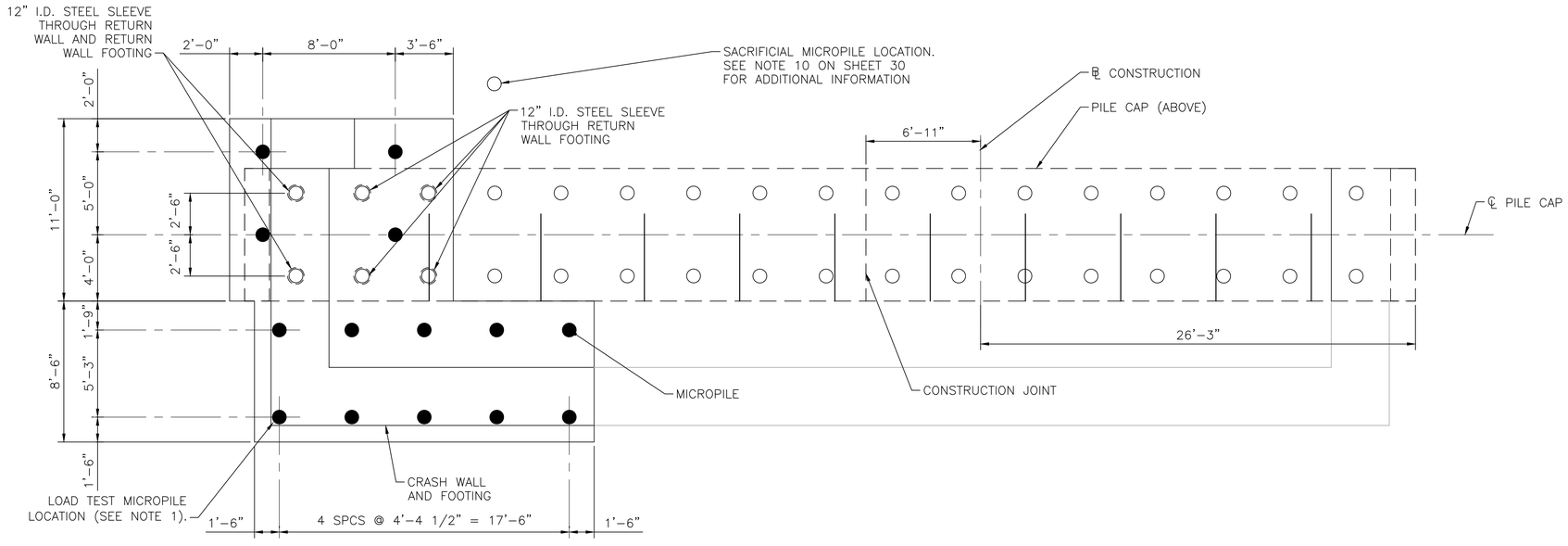
MICROPILE LAYOUT PLAN



MICROPILE LAYOUT AT THE NORTH ABUTMENT PILE CAP
SCALE: 1/4"= 1'-0"
SOUTH ABUTMENT (OPP HAND)

NOTES:

1. SUGGESTED LOCATION(S) OF PRODUCTION MICROPILE FOR PROOF LOAD TEST (ITEM 948.61). CONTRACTOR TO SELECT THE PROOF LOAD TEST LOCATION(S) WITH THE APPROVAL OF THE ENGINEER.



MICROPILE LAYOUT AT THE CRASH WALL FOOTING (PILE CAP)
SCALE: 1/4"= 1'-0"
SOUTH ABUTMENT (OPP HAND)

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

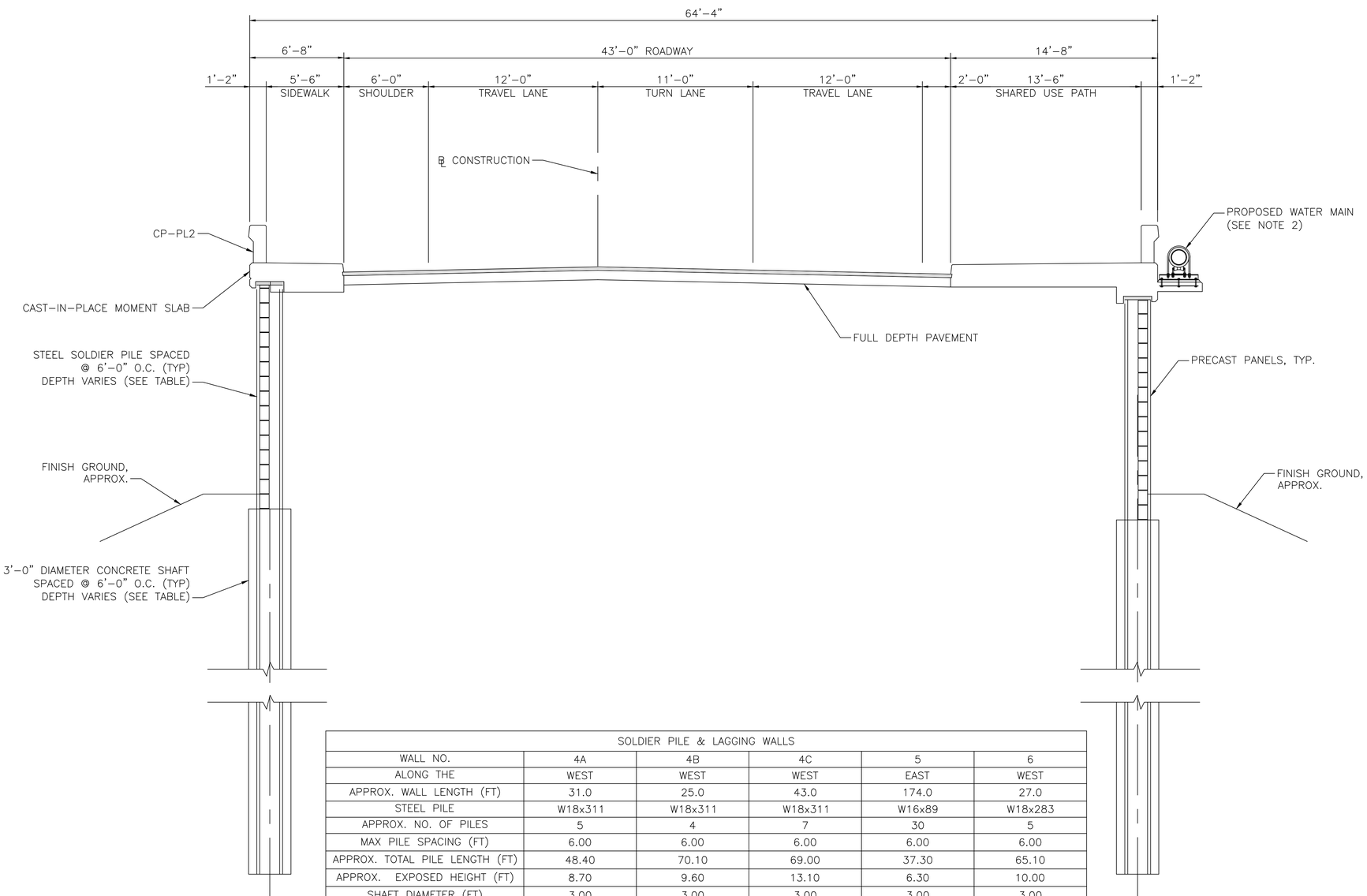
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (PROPOSED MICROPILE LAYOUT PLANS).DWG Plotted on 5-Feb-2026 9:38 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	163	204
PROJECT FILE NO. 609409			

LAGGING WALL AND SOLDIER PILES



SOLDIER PILE & LAGGING WALLS					
WALL NO.	4A	4B	4C	5	6
ALONG THE	WEST	WEST	WEST	EAST	WEST
APPROX. WALL LENGTH (FT)	31.0	25.0	43.0	174.0	27.0
STEEL PILE	W18x311	W18x311	W18x311	W16x89	W18x283
APPROX. NO. OF PILES	5	4	7	30	5
MAX PILE SPACING (FT)	6.00	6.00	6.00	6.00	6.00
APPROX. TOTAL PILE LENGTH (FT)	48.40	70.10	69.00	37.30	65.10
APPROX. EXPOSED HEIGHT (FT)	8.70	9.60	13.10	6.30	10.00
SHAFT DIAMETER (FT)	3.00	3.00	3.00	3.00	3.00
APPROX. MIN. EMBEDMENT (FT)	39.70	60.50	55.90	31.00	55.10
APPROX. BOTTOM OF SHAFT (FT)	106.30	84.50	88.10	120.23	89.94

NOTES:
1. FOR SOLDIER PILE AND LAGGING WALL DETAILS, SEE NEXT SHEET.
2. FOR WATER MAIN DETAILS, SEE SHEET 57.

* NOTE:
WALL 4 HAS 3 SEGMENTS (WALL 4A, WALL 4B, AND WALL 4C) DUE TO THE EMBEDMENT LENGTH & THE BACKFILL REQUIREMENTS. SEE SHEET 35 FOR ADDITIONAL INFORMATION.

ARMORY STREET – ROADWAY APPROACH (LOOKING SOUTH)
SCALE: 1/4" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

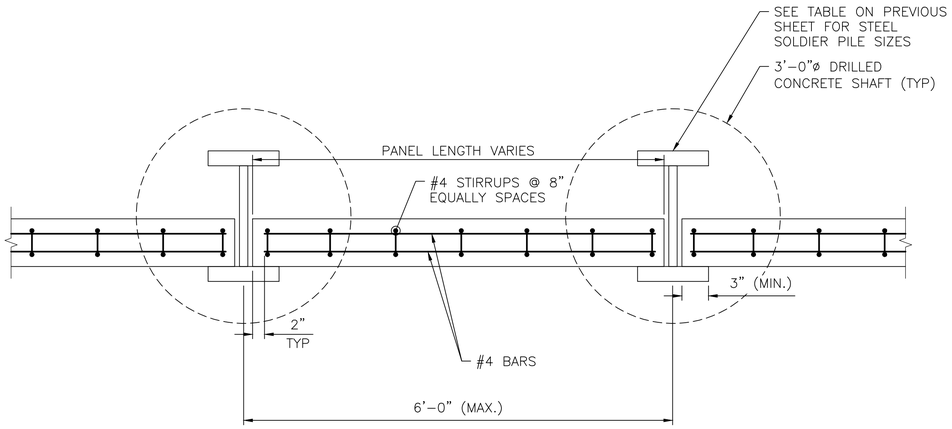
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

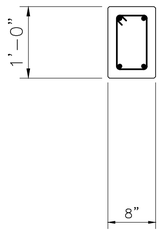
S-24-026 (LAGGING WALL AND SOLDIER PILES).DWG Plotted on 5-Feb-2026 9:40 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

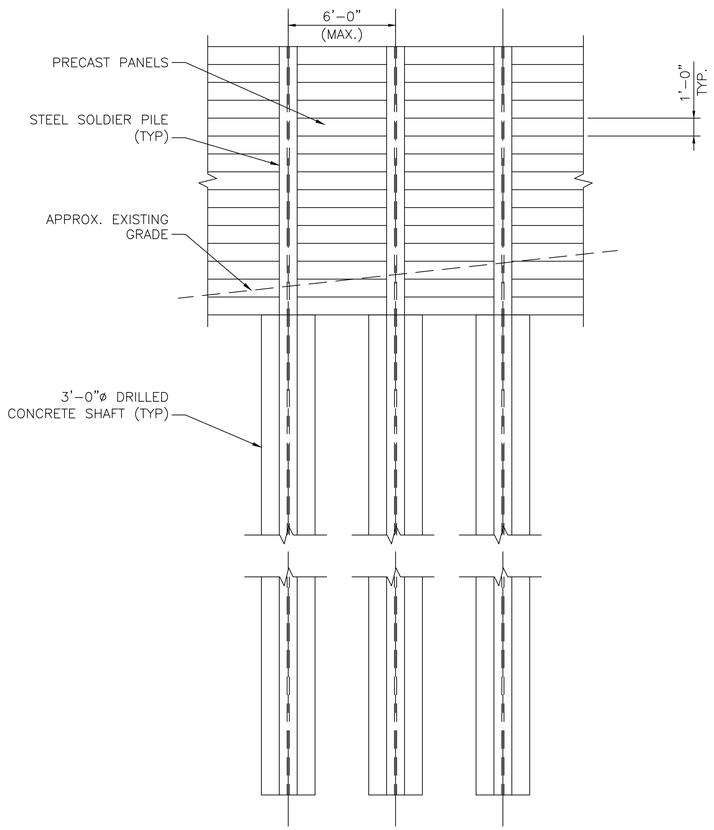
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	164	204
PROJECT FILE NO. 609409			

LAGGING WALL AND SOLDIER PILES





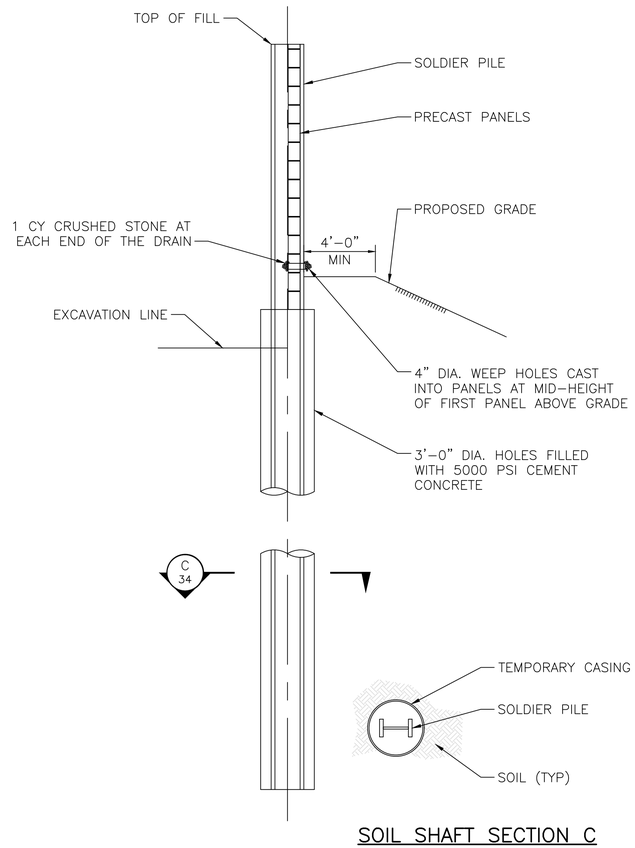
LAGGING PLAN
SCALE: 1" = 1'-0"



NOTE:
MOMENT SLAB AND RAILING NOT SHOWN FOR CLARITY

ELEVATION OF STEEL SOLDIER PILE WITH CONCRETE PRECAST PANELS
SCALE: 1/4" = 1'-0"

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



SOIL SHAFT SECTION C

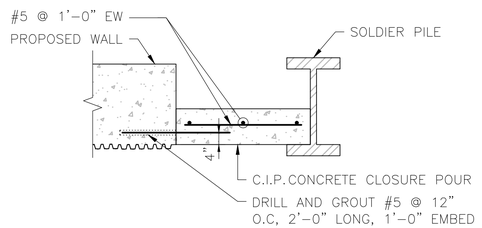
SECTION OF STEEL SOLDIER PILE WITH CONCRETE PRECAST PANELS
SCALE: 1/4" = 1'-0"

SHEET NOTES:
1. SEE KEY PLAN FOR LOCATIONS OF WALL 4, WALL 5, AND WALL 6.
2. MOMENT SLABS ARE REQUIRED ALONG THE SOLDIER PILE & LAGGING WALLS. SEE SHEETS 53 TO 55 FOR MOMENT SLAB DETAILS.
3. FOR MOMENT SLAB JOINTS SEE SHEET 53.
4. ANTICIPATED DEFLECTION AT THE TOP OF THE WALL:
   - WALL 4 = 0.7 IN (STA 15+19 TO 15+50 ONLY)
   - WALL 4 = 2.0 IN
   - WALL 5 = 0.9 IN
   - WALL 6 = 1.7 IN
5. FOR MORE INFORMATION ON THE SOLDIER PILE AND LAGGING SEE GEOTECHNICAL REPORT BY THE NOBIS GROUP DATED JANUARY 2026.

SOLDIER PILE NOTES:
1. FOR MINIMUM EMBEDMENT OF THE SOLDIER PILE SEE TABLE ON SHEET 33.
2. THE SOLDIER PILES ARE TO BE INSTALLED ABOVE BEDROCK. OBSTRUCTIONS MAY BE ENCOUNTERED IN THE URBAN FILL STRATUM DURING THE CONSTRUCTION OF THE DRILLED SOLDIER PILES. IF ENCOUNTERED, NOBIS ANTICIPATES THAT SHALLOW OBSTRUCTIONS CAN BE EXCAVATED AND REMOVED. FOLLOWING REMOVAL OF THE OBSTRUCTION, EXCAVATION SHOULD BE BACKFILLED WITH A GRANULAR FILL MATERIAL AND COMPACTED PRIOR TO ADVANCING THE SOLDIER PILE. CONTRACTOR ALSO NEEDS TO BE PREPARED TO REMOVE OBSTRUCTIONS AT GREATER DEPTH AND USE APPROPRIATE MEANS AND METHODS ACCORDING TO THE ENCOUNTERED OBSTRUCTION.
3. OBSERVATION OF SOLDIER PILE DRILLED SHAFT INSTALLATION SHOULD BE MADE BY A GEOTECHNICAL ENGINEER TO VERIFY SOIL LAYERING AND ENGINEERING PROPERTIES AND ASSUMPTIONS MADE IN THE DESIGN ANALYSES. THE DEPTH DRILLED, SHAFT DIAMETER, ALIGNMENT AND BOTTOM ELEVATION SHOULD BE VERIFIED AND DOCUMENTED FOR EACH SHAFT PRIOR TO PLACEMENT OF CONCRETE.
4. PILES SHALL CONFORM TO THE SIZES AND LENGTHS SHOWN ON THE PLANS. PILES SHALL BE GRADE 50. THE FULL EXPOSED HEIGHT AND THE UPPER 2 FEET OF THE CONCRETE CASING SHALL BE GALVANIZED.

PRECAST PANEL NOTES:
1. PRECAST PANELS PAID UNDER ITEM NO. 904.33.
2. ALL PRECAST PANELS SHALL BE INSTALLED LEVEL.
3. FOR BACKFILL AND LIMIT REQUIREMENTS SEE SHEETS 24-26 AND SHEET 35.
4. WEEP HOLES SHALL BE CAST INTO THE FIRST PRECAST PANELS ABOVE GRADE OF EACH BAY. IT IS RECOMMENDED THAT THE WEEP HOLE IS PLACED AT THE $\frac{1}{3}$ PTS. OF THE PANEL.

CONSTRUCTION SEQUENCE:
IT IS RECOMMENDED THAT FILL PLACEMENT AT THE SITE BE PREFORMED AS FAR IN ADVANCE AS POSSIBLE PRIOR TO THE FINAL GRADING AND PLACEMENT OF ASPHALT PAVEMENT TO THE LIMIT POST-CONSTRUCTION SETTLEMENTS. PAVING ACTIVITIES SHOULD TAKE PLACE AT LEAST 3 MONTHS AFTER THE CONSTRUCTION OF THE RETAINING WALL AND PLACEMENT OF THE BACKFILL MATERIAL.

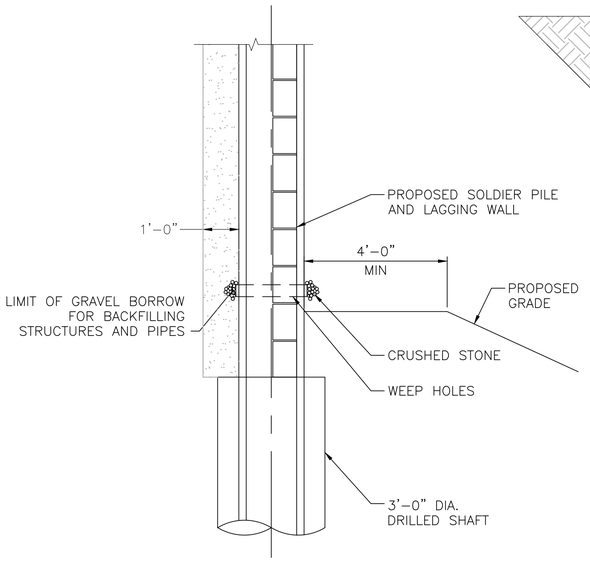


CAST-IN-PLACE CLOSURE POUR PLAN
SCALE: $\frac{3}{4}$" = 1'-0"

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

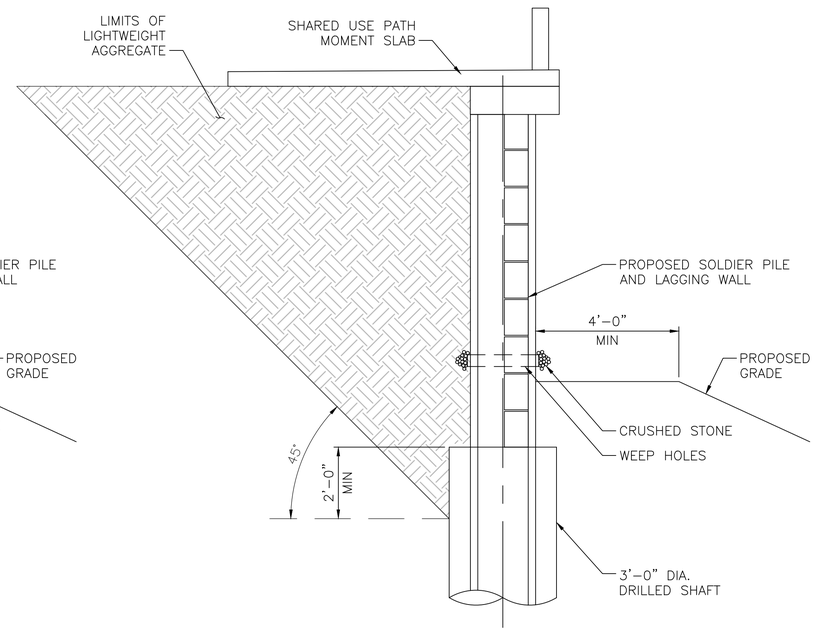
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (LAGGING WALL AND SOLDIER PILES).DWG Plotted on 5-Feb-2026 9:40 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



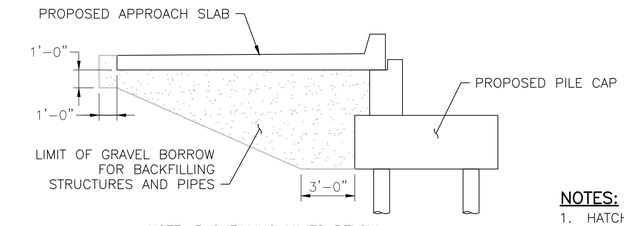
LIMITS OF GRAVEL BORROW FOR BACKFILLING SOLDIER PILE AND LAGGING WALLS

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



LIMITS OF LIGHTWEIGHT AGGREGATE FOR BACKFILLING SOLDIER PILE AND LAGGING WALL 4 FROM STA 15+75 TO STA 16+18

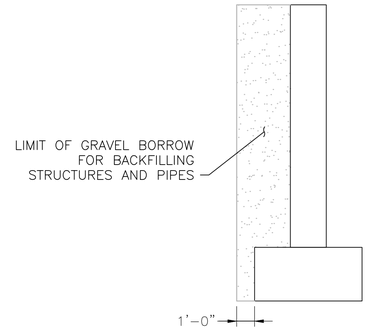
SCALE: 1/2" = 1'-0"



NOTE: BACKFILLING LIMITS BELOW PILE CAP NOT SHOWN FOR CLARITY.

NORTH AND SOUTH ABUTMENT PILE CAP

N.T.S.



TYPICAL RETAINING WALL

NOTE: INCLUDES CRASH WALLS, RETURN WALLS, GRAVITY BLOCK WALLS & GRAVITY BLOCK EXTENSION WALLS.

LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES

N.T.S.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	165	204
PROJECT FILE NO. 609409			

BACKFILL

NOTES:

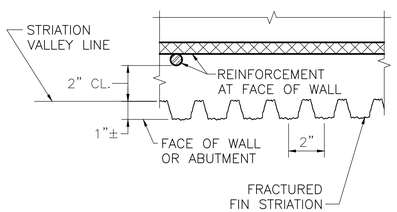
1. HATCHED AREA INDICATES LIMIT OF GRAVEL BORROW / LIGHTWEIGHT AGGREGATE FOR BACKFILLING STRUCTURES AND PIPES

LIGHTWEIGHT AGGREGATE NOTES:

1. LIGHTWEIGHT AGGREGATE SHALL BE PLACED AT 45° BETWEEN DEPTH OF EXPOSED HEIGHT OF THE WALL AND THE BOTTOM OF THE FOOTING.
2. LIGHTWEIGHT AGGREGATE SHALL SHALL ALSO BE USED AT A 45-DEGREE UPWARD ANGLE TO CREATE A TRANSITION ZONE BETWEEN REGULAR WEIGHT AND LIGHTWEIGHT AGGREGATE.
3. SEE WALL PLANS FOR LIMITS OF LIGHTWEIGHT AGGREGATE.

- SPL WALL 4C (STA. PT. 15+75 TO STA. PT. 16+16) – TRANSITION TO THE NORTH AND SOUTH OF THE LIMITS OF WALL 4C.

4. A GEOTEXTILE SHALL BE PLACED AS A SEPARATOR BETWEEN SUBGRADE AND THE INITIAL LIFTS OF LIGHTWEIGHT AGGREGATE, AS WELL AS ABOVE THE FINAL LIFT AND ON SIDE SLOPES TO PROVIDE SEPARATION BETWEEN THE LIGHTWEIGHT AGGREGATE MATERIAL AND ADJACENT SOIL AND CAPPING LAYER. CARE SHOULD BE TAKEN DURING PLACEMENT OF CAPPING LAYER TO PREVENT DAMAGE TO GEOTEXTILE. ADJACENT PANELS OF GEOTEXTILE SHALL BE SEWN TOGETHER OR OVERLAPPED A MINIMUM OF 12 INCHES. THE GEOTEXTILE SHALL NOT BE LEFT EXPOSED FOR LONGER THAN 14 DAYS, OR AS OTHERWISE RECOMMENDED BY THE GEOTEXTILE MANUFACTURER.

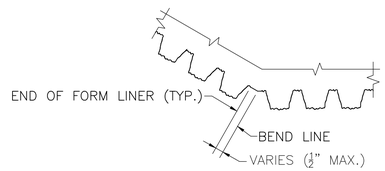


NOTES:

1. THE CONTRACTOR SHALL MAKE SURE THAT THE STRIATION FINS ARE PLUMB AND LINED UP VERTICALLY FROM PANEL TO PANEL FOR THE FULL HEIGHT OF THE WALL.
2. THE HORIZONTAL JOINT MAY BE OMITTED IF THE CONTRACTOR CAN DEMONSTRATE THAT THE FORM LINER PANELS CAN BE INSTALLED END TO END WITHOUT CREATING A VISIBLE SEAM IN THE FINAL CAST CONCRETE.

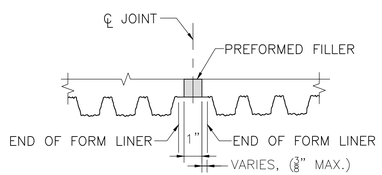
TYPICAL STRIATION DETAIL

SCALE: 3" = 1'-0"



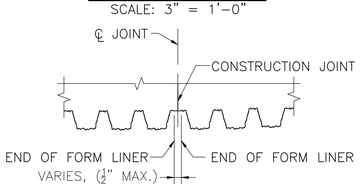
DETAIL AT WALL CORNER

SCALE: 3" = 1'-0"



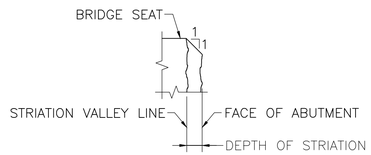
EXPANSION JOINT

SCALE: 3" = 1'-0"



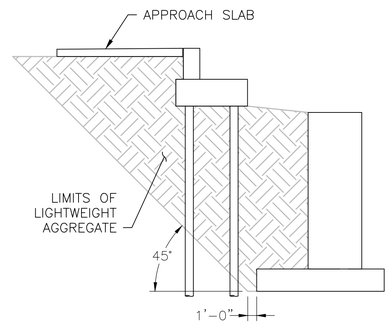
CONSTRUCTION JOINT

SCALE: 3" = 1'-0"

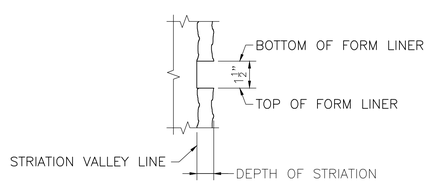


DETAIL AT BRIDGE SEAT

SCALE: 3" = 1'-0"



NORTH AND SOUTH ABUTMENT CRASH WALL



HORIZONTAL PANEL JOINT

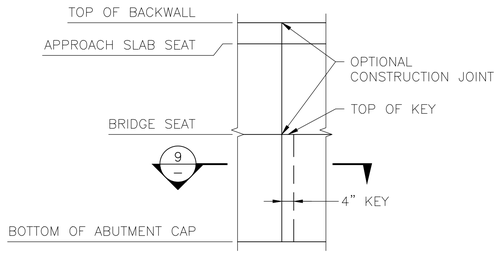
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DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

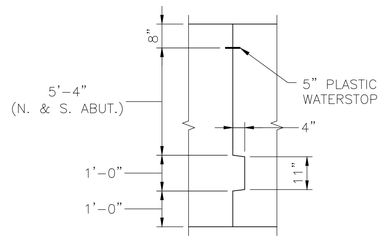
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S-24-026 (Bridge Joint_Backfill_Closure Pour).dwg
S-24-026 (BRIDGE JOINT_BACKFILL_CLOSURE POUR).DWG Plotted on 5-Feb-2026 9:42 PM
Xxxxx Structural Submittal (SH) DD-Month-YYYY



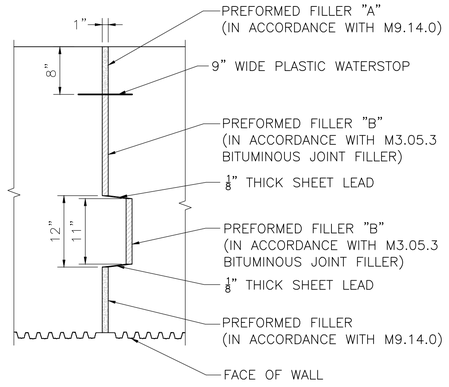
ELEVATION



SECTION 9

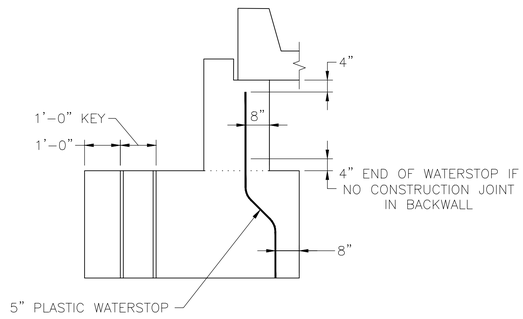
PILE CAP CONSTRUCTION JOINT DETAIL

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



LIMITS OF PREFORMED FILLER

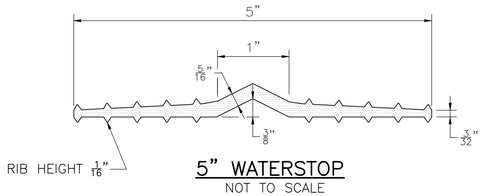
SCALE: 1" = 1'-0"



NOTE:
REINFORCEMENT SHALL BE CONTINUOUS THRU CONSTRUCTION JOINTS.

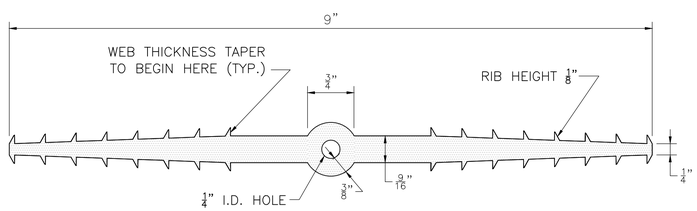
PILE CAP CONSTRUCTION JOINT DETAIL

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



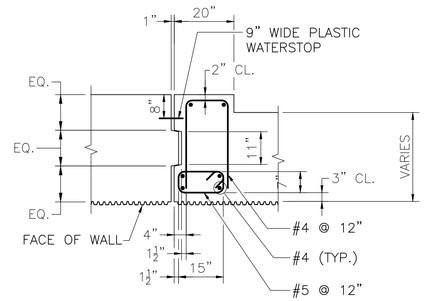
5" WATERSTOP

NOT TO SCALE



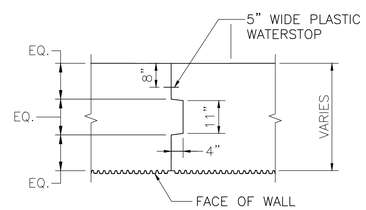
9" WATERSTOP

NOT TO SCALE



EXPANSION JOINT SECTION

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



CONSTRUCTION JOINT SECTION

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

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	166	204
PROJECT FILE NO. 609409			

BRIDGE & WALL JOINTS

CONSTRUCTION SEQUENCE NOTES:

1. CENTER 19" WIDE STRIP OF ROOFING FELT OVER THE JOINT LOCATION.
2. PLACE WATERPROOFING MEMBRANE AND HMA WEARING SURFACE UNIFORMLY ACROSS THE DECK AND JOINT LOCATIONS.
3. SAW CUT AND REMOVE THE HMA WEARING SURFACE AND MEMBRANE WATERPROOFING TO THE LIMITS REQUIRED.
4. PLACE BACKER ROD, POLYMER MODIFIED BINDER AND STEEL PLATE SECURED IN PLACE WITH GALVANIZED NAILS.
5. COAT THE SURFACES OF THE BLOCK-OUT WITH THE POLYMER MODIFIED ASPHALTIC BINDER.
6. PLACE COMPACTED AGGREGATE/BINDER TO FILL ALL VOIDS AND OBTAIN A FINAL AND EVEN SURFACE WITH THE ADJACENT WEARING SURFACE.
7. IT IS NOT NECESSARY TO CONSTRUCT THE JOINT AT MEAN TEMPERATURE, HOWEVER, THE MANUFACTURER SHOULD BE CONSULTED FOR INSTALLATION GUIDELINES FOR EXTREME CLIMATE CONDITIONS.

CONSTRUCTION JOINT NOTES:

1. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
2. CONSTRUCTION JOINTS SHALL BE LOCATED IN INTERVALS OF NOT MORE THAN 24'-0".

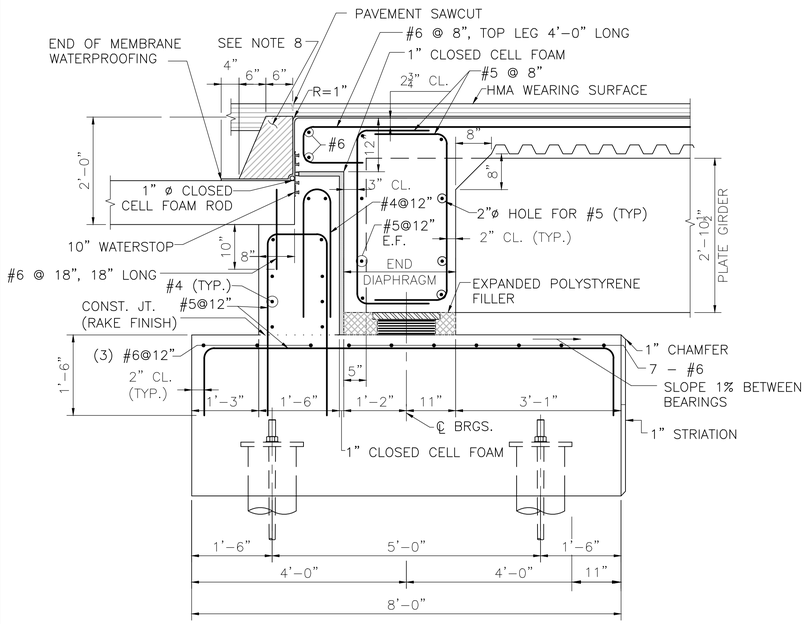
CONSTRUCTION JOINT (WALLS) NOTES:

1. LONGITUDINAL REINFORCEMENT SHALL END 2" CLEAR OF EXPANSION JOINTS.
2. EXPANSION JOINTS SHALL BE LOCATED IN INTERVALS OF NOT MORE THAN 72'-0".
3. "A" PREFORMED FILLER IN ACCORDANCE WITH M9.14.0.
4. "B" PREFORMED FILLER IN ACCORDANCE WITH M3.05.3 BITUMINOUS JOINT FILLER.
5. FILLER MATERIAL SHALL BE FASTENED SECURELY TO ONE SIDE OF THE JOINT.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

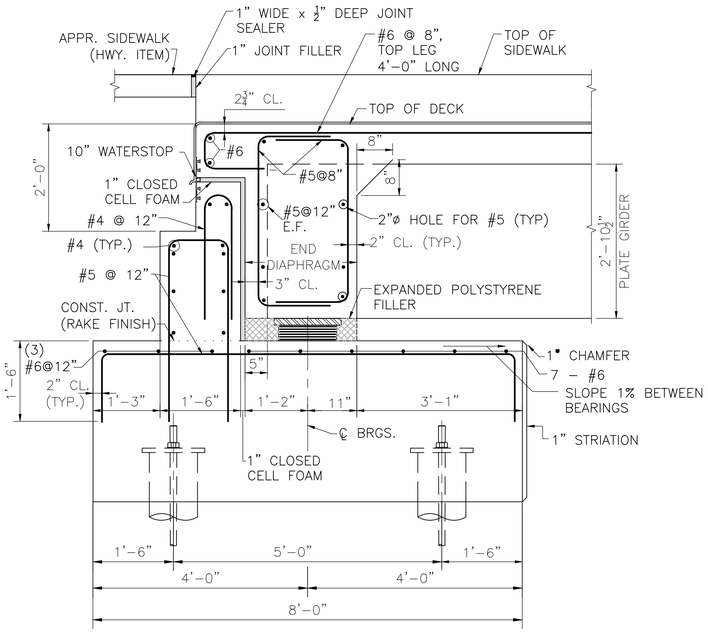
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Bridge Joint_Backfill_Closure Pour).dwg
S-24-026 (BRIDGE JOINT_BACKFILL_CLOSURE POUR).DWG Plotted on 5-Feb-2026 9:42 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



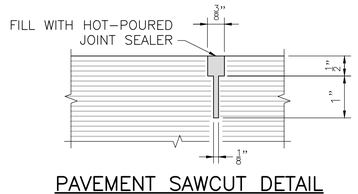
ABUTMENT – ROADWAY SECTION

SCALE: ¾"=1'-0"



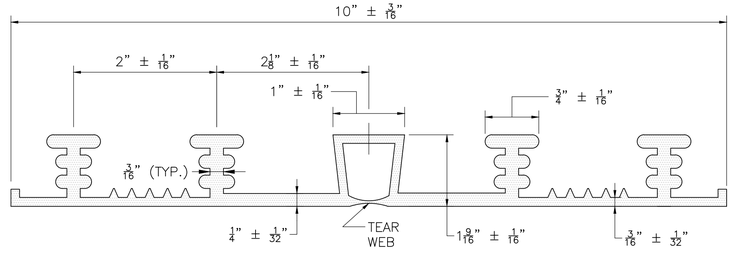
ABUTMENT – SIDEWALK SECTION

SCALE: ¾"=1'-0"



PAVEMENT SAWCUT DETAIL

NOT TO SCALE



10" WATERSTOP

NOT TO SCALE

SPRINGFIELD

ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	167	204
PROJECT FILE NO. 609409			

TYPICAL ABUTMENT SECTIONS AND DETAILS

ROADWAY/SIDEWALK SECTION NOTES:

1. ALL REINFORCEMENT SHOWN IN THIS DETAIL SHALL BE COATED EXCEPT FOR THE APPROACH SLAB REINFORCEMENT.
2. ALL BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT LOCATED AT THE BRIDGE SEAT SHALL BE 904.3 – 5000 PSI, ¾", 685 HP. THE CONSTRUCTION JOINT SHALL BE GIVEN A RAKE FINISH WITH A ¼" MINIMUM AMPLITUDE.
3. TOP OF BACKWALL SHALL BE TROWELED SMOOTH PARALLEL TO THE PROFILE GRADE.
4. THE BACKWALL, KEEPER BLOCK, AND CURTAIN WALL CONCRETE MUST BE PLACED AND SUFFICIENTLY CURED PRIOR TO PLACING THE END DIAPHRAGM CONCRETE.
5. THE END DIAPHRAGM CONCRETE SHALL BE 904.3 – 5000 PSI, ¾", 685 HP CEMENT CONCRETE AND SHALL BE PLACED MONOLITHICALLY WITH THE DECK.
6. 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 INSURE THAT ALL ABUTMENT CONCRETE IS PROPERLY LINED. END DIAPHRAGM CONCRETE MUST NOT COME IN DIRECT CONTACT WITH ABUTMENT CONCRETE.
7. DRAPE MEMBRANE WATERPROOFING OVER CLOSED CELL FOAM BACKER ROD.
8. PROTECTIVE COURSE TO BE SUPERPAVE BRIDGE PROTECTIVE COARSE –12.5 POLYMER (SSC–B–12.5–P), PLACED IN 2" LAYERS AND COMPACTED WITH A MECHANICAL HAND–GUIDED TAMPER WITHIN 12 HOURS AFTER PLACING MEMBRANE WATERPROOFING.
9. PILE CAP REINFORCEMENT NOT SHOWN FOR CLARITY. SEE SHEET 41 FOR PILE CAP REINFORCEMENT.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

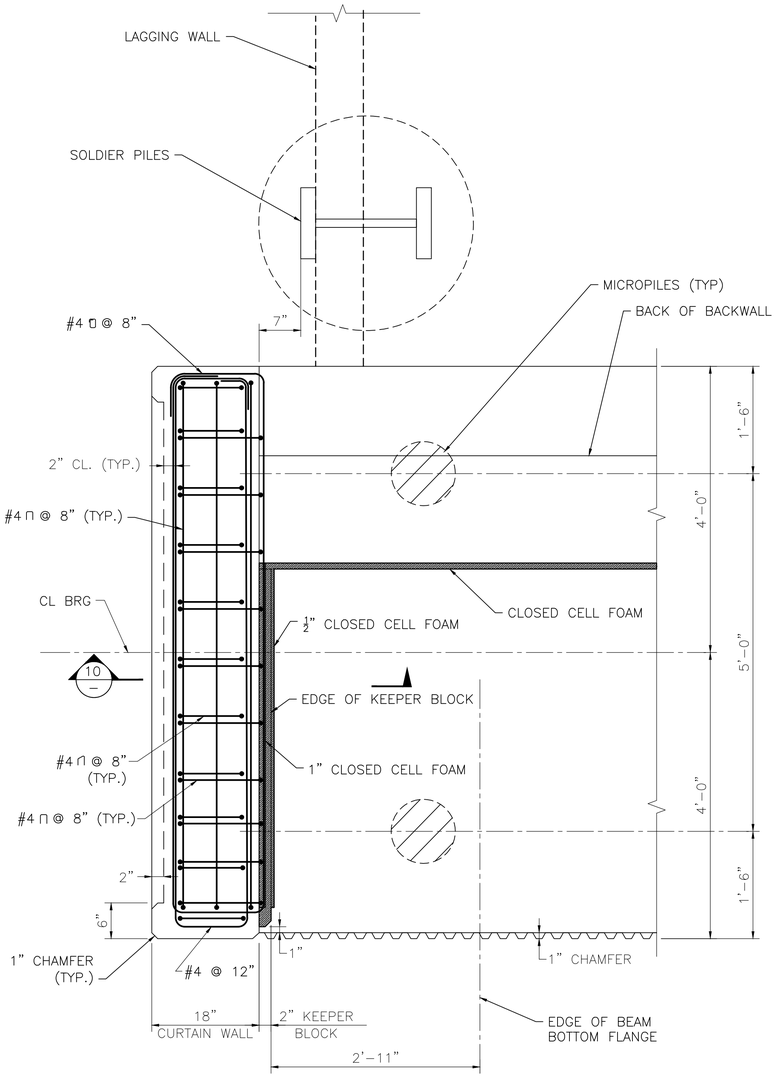
USE ONLY PRINTS OF LATEST DATE

S-24-026 (ABUTMENT DETAILS).DWG Plotted on 5-Feb-2026 9:44 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

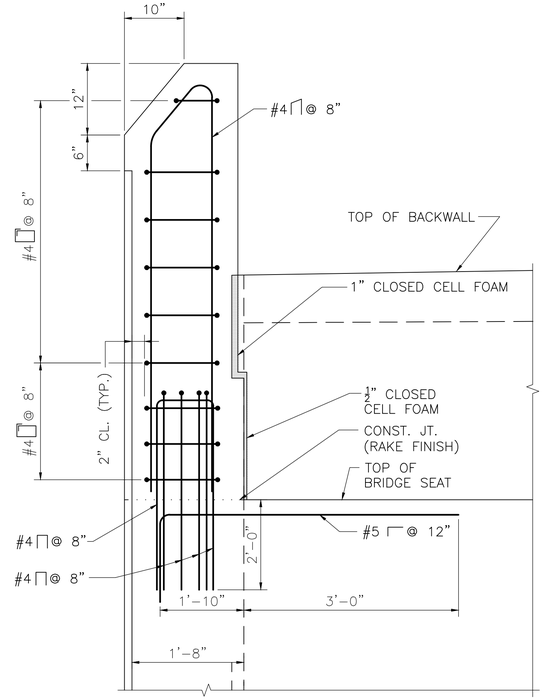
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	168	204
PROJECT FILE NO. 609409			

ABUTMENT CURTAIN WALL AND KEEPER BLOCK DETAILS



ENLARGED PLAN AT THE CURTAIN WALL AND KEEPER BLOCK
SCALE: 1" = 1'-0"



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 10
SCALE: 1" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

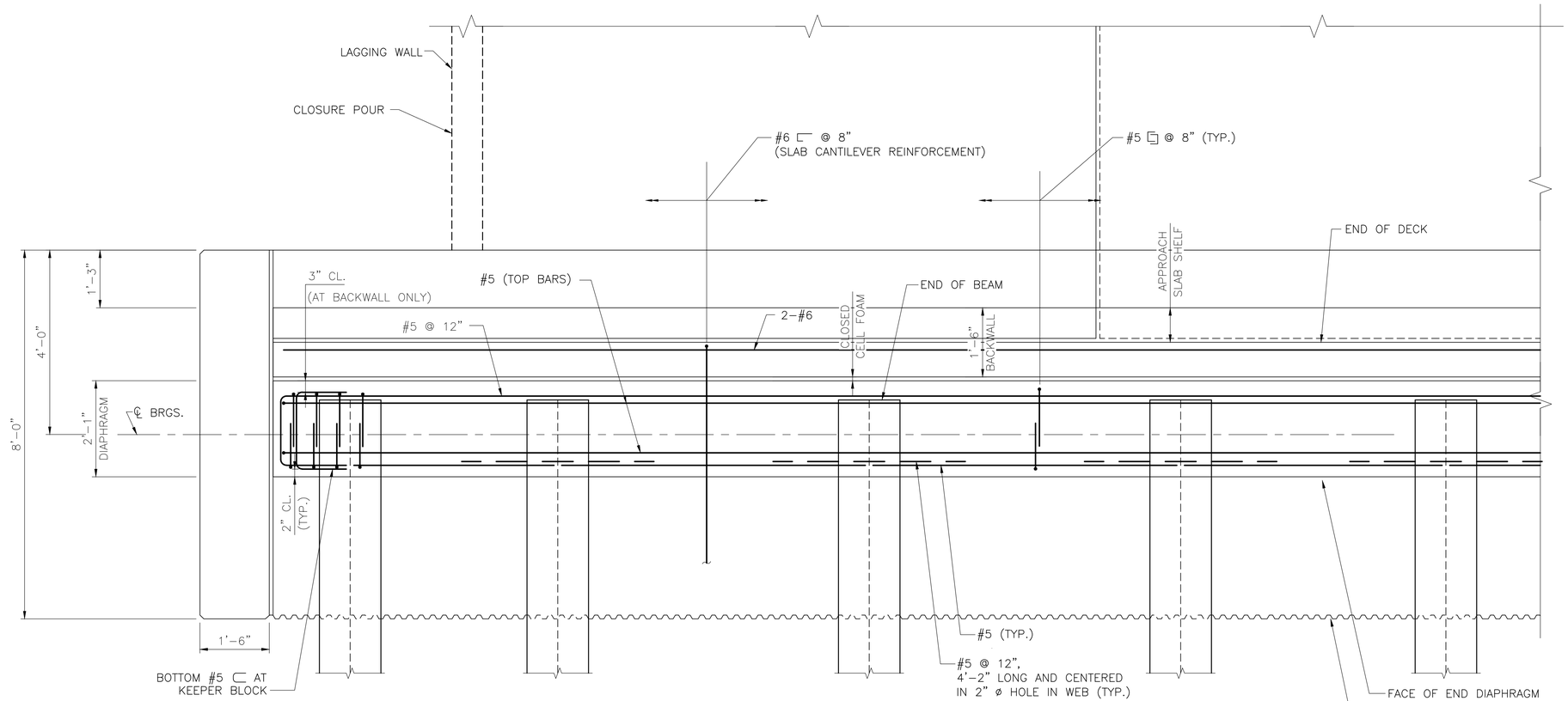
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Abut Curtain Wall & Keeper Block).dwg
S-24-026 (ABUT CURTAIN WALL & KEEPER BLOCK).DWG Plotted on 5-Feb-2026 9:46 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	169	204
PROJECT FILE NO. 609409			

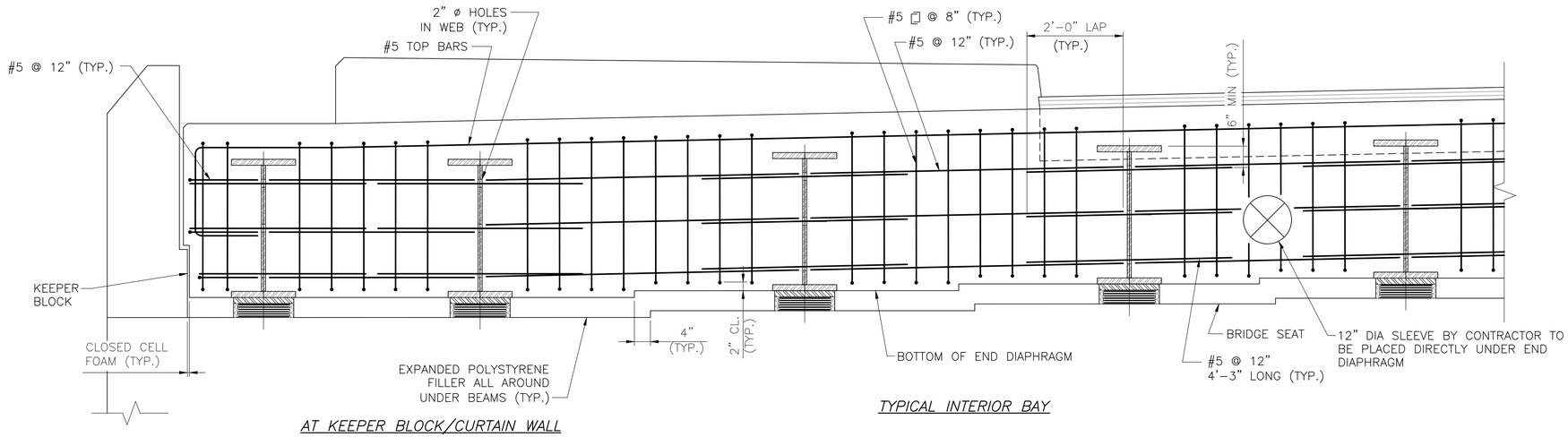
ABUTMENT END DIAPHRAGM DETAILS



AT KEEPER BLOCK/CURTAIN WALL *TYPICAL INTERIOR BAY*

END DIAPHRAGM PLAN

SCALE: ¾" = 1'-0"



AT KEEPER BLOCK/CURTAIN WALL *TYPICAL INTERIOR BAY*

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

END DIAPHRAGM ELEVATION

SCALE: ¾" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

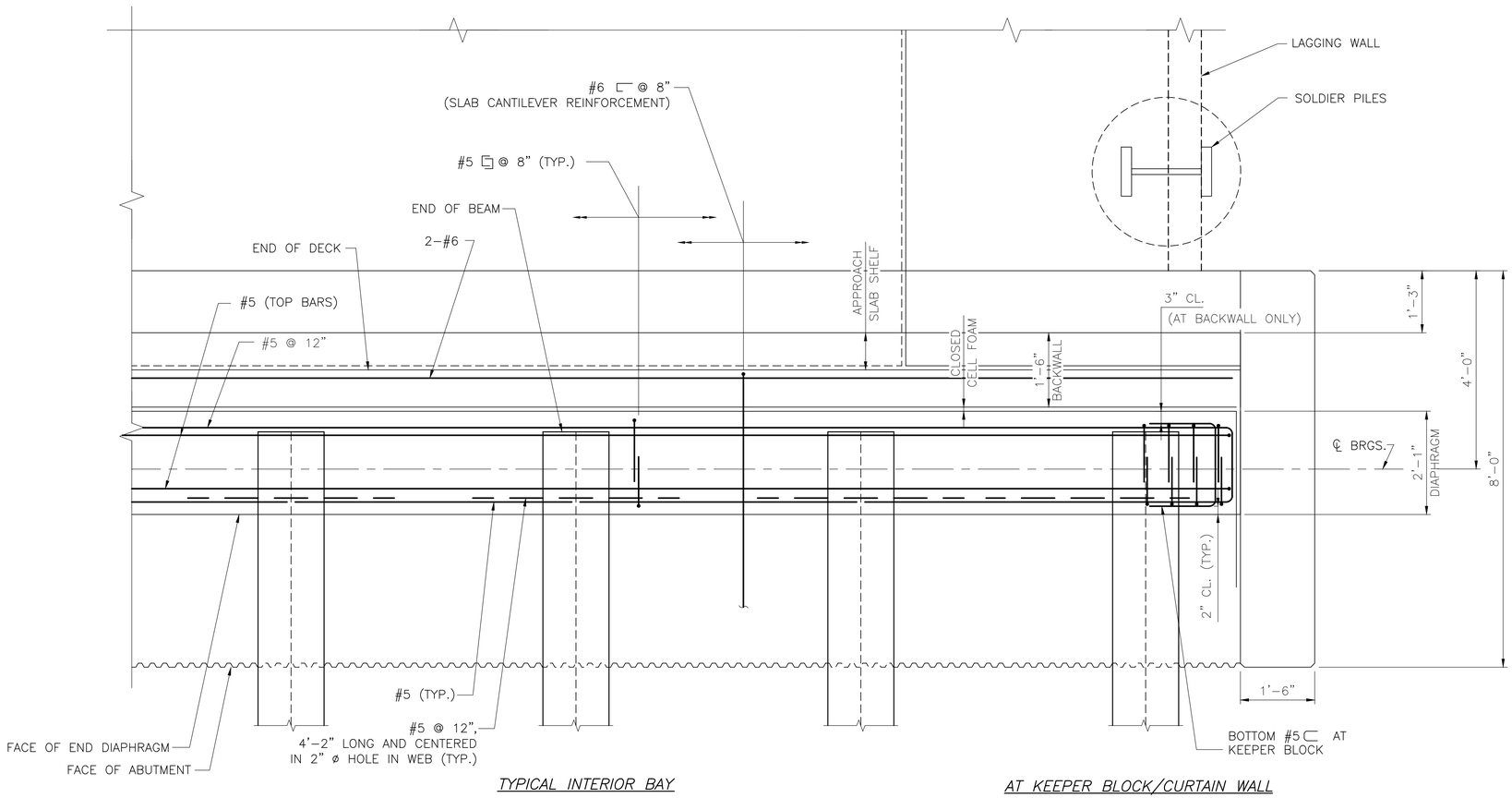
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Abut End Diaphragm Det).dwg
S-24-026 (ABUT END DIAPHRAGM DET).DWG Plotted on 5-Feb-2026 9:47 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	170	204
PROJECT FILE NO. 609409			

ABUTMENT END DIAPHRAGM DETAILS

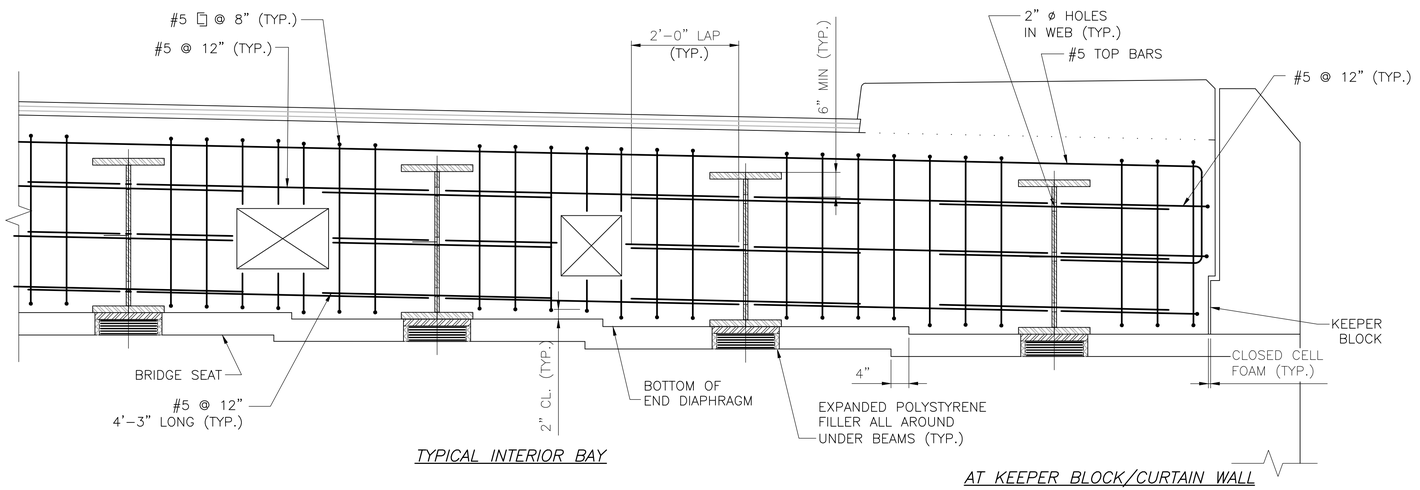


TYPICAL INTERIOR BAY

AT KEEPER BLOCK/CURTAIN WALL

END DIAPHRAGM PLAN

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



TYPICAL INTERIOR BAY

AT KEEPER BLOCK/CURTAIN WALL

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

END DIAPHRAGM ELEVATION

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

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

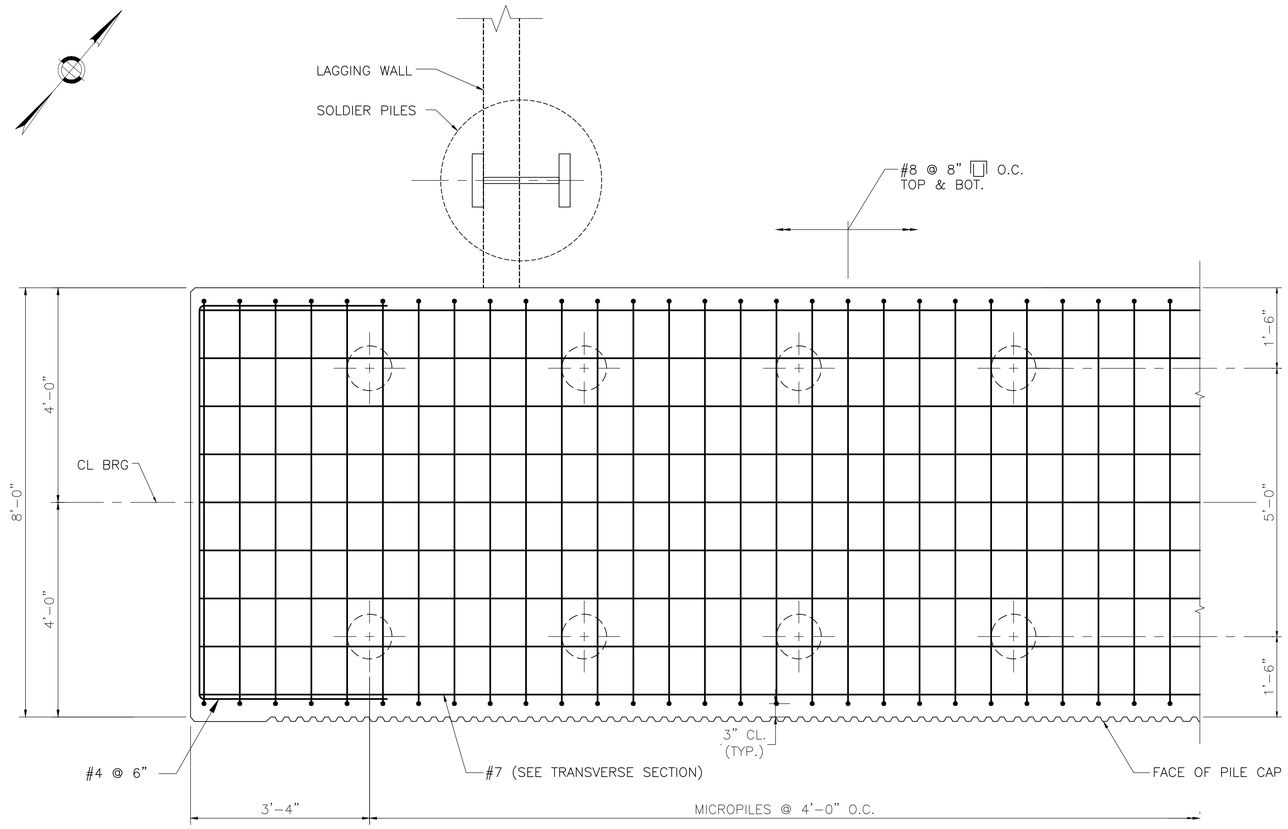
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Abut End Diaphragm Det).dwg
S-24-026 (ABUT END DIAPHRAGM DET).DWG Plotted on 5-Feb-2026 9:47 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

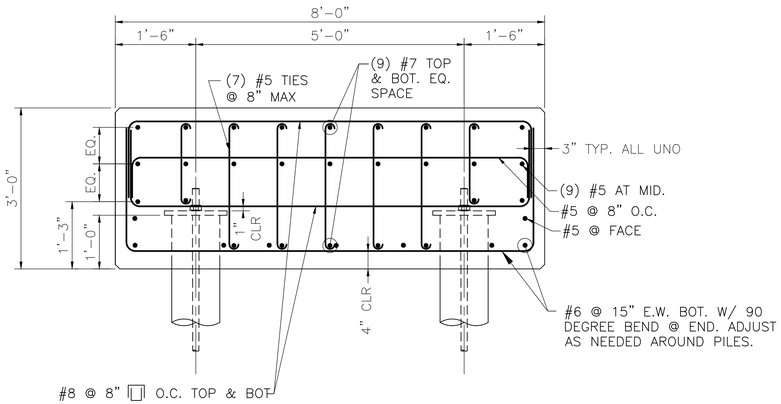
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	171	204
PROJECT FILE NO. 609409			

PILE CAP DETAILS

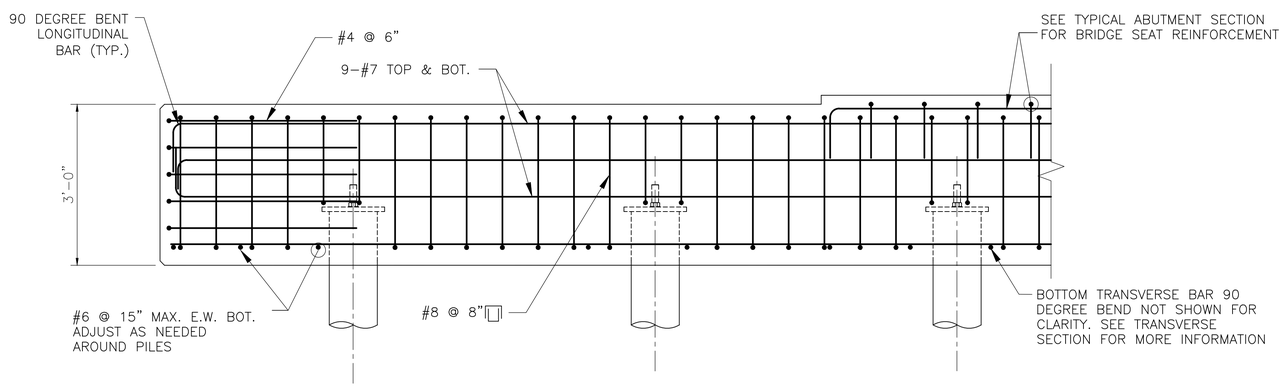


NORTH PILE CAP PLAN
(SOUTH ABUT – OPP HAND)



NOTE: ADJUST REBAR SPACING AROUND THE MICROPILES AS NEEDED TO CLEAR MICROPILES.

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

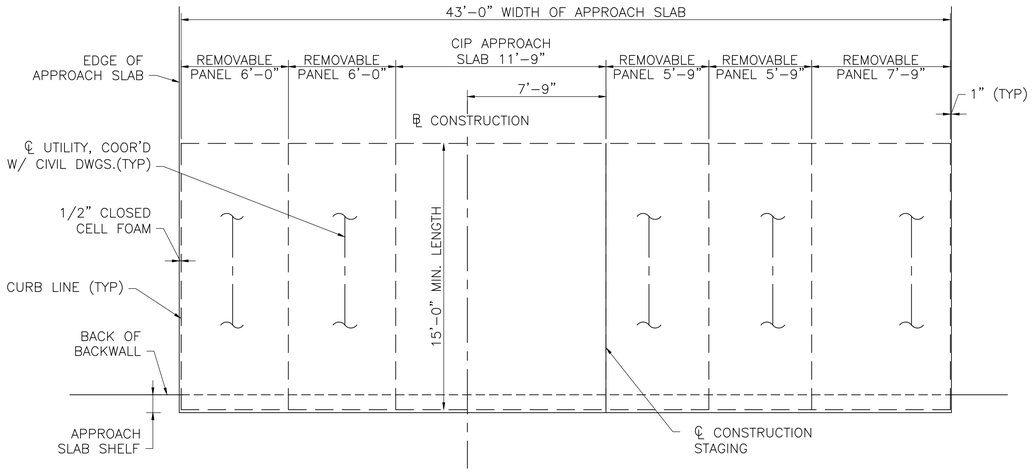


PILE CAP SECTION
SCALE: $\frac{3}{4}$" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

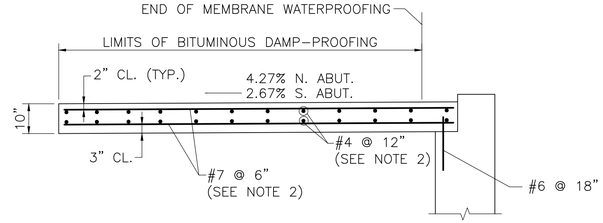
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Prop. Pile Cap Det).dwg
S-24-026 (PROP PILE CAP DET).DWG Plotted on 5-Feb-2026 9:48 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



SOUTH APPROACH SLAB–PLAN (NORTH OPP HAND)

NOT TO SCALE



APPROACH SLAB DETAILS (TYPE 1)

SCALE: $\frac{1}{2}$" = 1'–0"

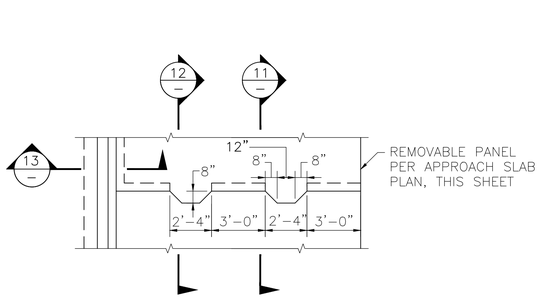
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	172	204
PROJECT FILE NO. 609409			

APPROACH SLAB

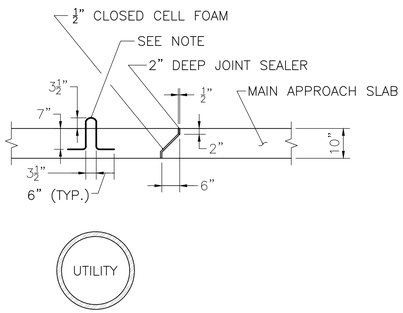
NOTES:

1. APPROACH SLAB TO BE 5000 PSI, $\frac{3}{4}$ IN, 685 HP CEMENT CONCRETE.
2. PLACE LONGITUDINAL REINFORCEMENT PARALLEL TO CENTERLINE OF CONSTRUCTION. PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT.
3. APPROACH SLAB REINFORCEMENT SHALL BE UNCOATED UNO.
4. APPROACH SLAB SHALL BE LIFTED AT QUARTER POINTS. USE #5 COATED BARS. TWO (2) LIFT HOOKS REQUIRED.
5. THE FABRICATOR IS FULLY RESPONSIBLE FOR THE DESIGN OF THE LIFTING DEVICES WHICH SHALL BE ADEQUATE FOR THE SAFETY FACTORS REQUIRED BY ERECTION PROCEDURE.



PLAN OF REMOVABLE PANEL

SCALE: $\frac{1}{4}$" = 1'–0"

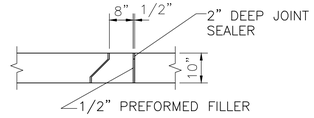


NOTE:

2 LIFT HOOKS REQUIRED. USE #5 COATED REBAR AT QUARTER POINTS.

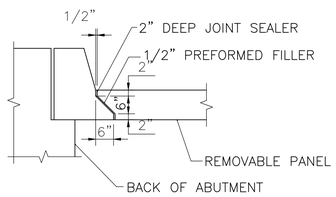
SECTION 11

SCALE: $\frac{1}{2}$" = 1'–0"



SECTION 12

SCALE: $\frac{1}{2}$" = 1'–0"



SECTION 13

SCALE: $\frac{1}{2}$" = 1'–0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

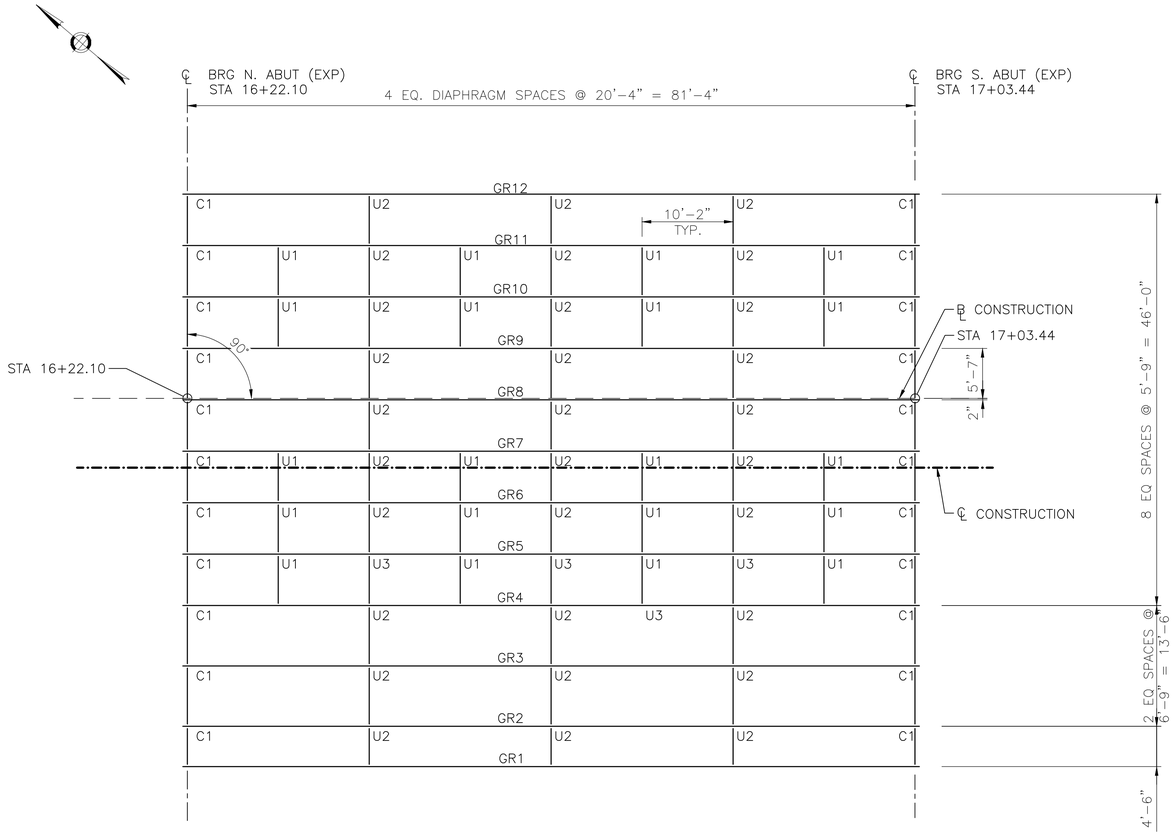
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (ABUTMENT DETAILS).DWG Plotted on 5-Feb-2026 9:50 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

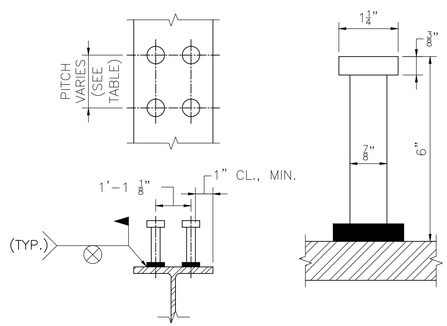
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	173	204
PROJECT FILE NO. 609409			

FRAMING PLAN



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



STUD SHEAR CONNECTORS
NOT TO SCALE

GIRDER	STUDS/ROW	PITCH (IN)	TOTAL SHEAR STUDS
1	2	12.5	158
2	2	6.0	326
3	2	6.0	326
4	2	6.0	326
5	2	6.0	326
6	2	6.0	326
7	2	6.0	326
8	2	6.0	326
9	2	6.0	326
10	2	6.0	326
11	2	6.0	326
12	2	12.5	158

NOTES:

1. C1 = END DIAPHRAGM (TYP.)
   U1 = UTILITY SUPPORT BETWEEN DIAPHRAGMS (TYP. UNO)
   U2 = INTERMEDIATE DIAPHRAGMS & UTILITY SUPPORTS (TYP.)
   U3 = UTILITY SUPPORT BETWEEN DIAPHRAGMS (GAS ONLY)
2. SEE SHEETS 46 TO 47 FOR DIAPHRAGM AND UTILITY SUPPORT DETAILS.
3. THE MAIN LOAD CARRYING MEMBERS ARE GIRDERS 1 THROUGH 12.
4. ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO AASHTO M270 GRADE 50W UNLESS NOTED OTHERWISE.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

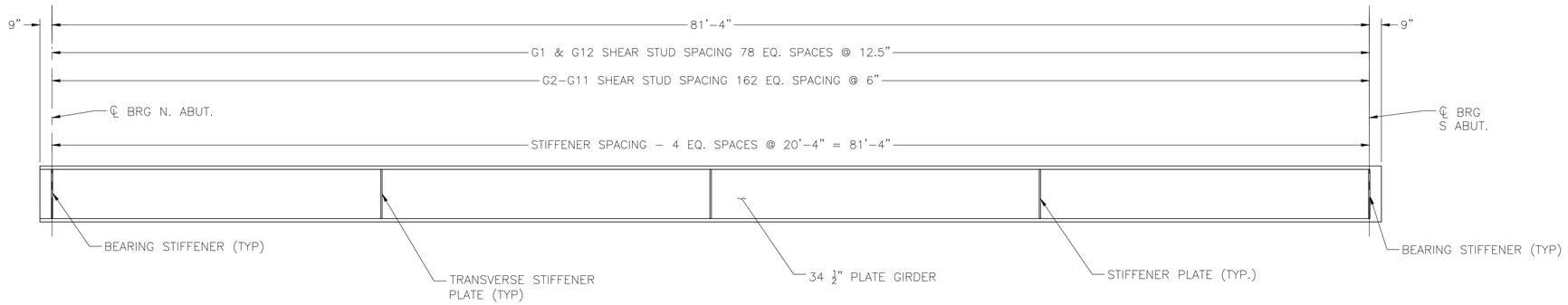
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Framing Plan).dwg
S-24-026 (FRAMING PLAN).DWG Plotted on 5-Feb-2026 9:51 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

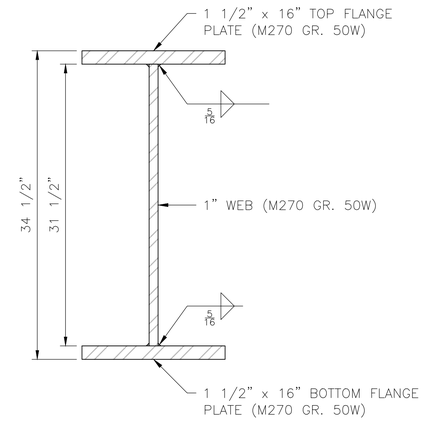
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	174	204
PROJECT FILE NO. 609409			

PLATE GIRDER DETAILS

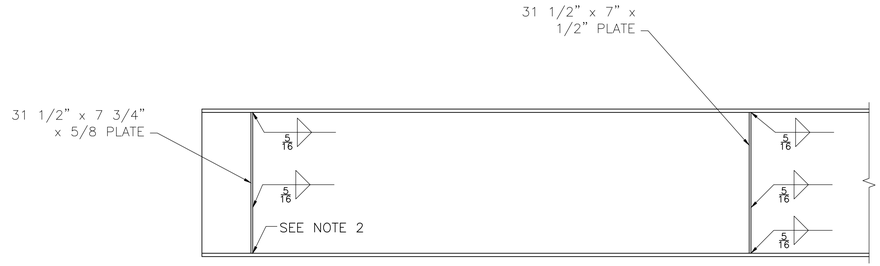


NOTES:
1. ALL INTERMEDIATE STIFFENERS SHALL BE PERPENDICULAR TO THE AND TO THE GIRDER FLANGES.
2. ALL BEARING STIFFENERS SHALL BE PLUMB.
3. ENDS OF BEAMS SHALL BE FABRICATED SO THAT UNDER FULL DEAD LOAD THE ENDS WILL BE PLUMB.
4. SEE PLATE GIRDER SECTION THIS SHEET.

PLATE GIRDER ELEVATION
SCALE: 1/4"= 1'-0"



TYPICAL PLATE GIRDER SECTION
SCALE: 1½" = 1'-0"

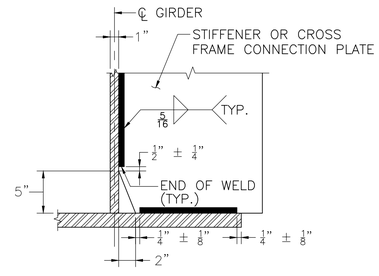


END BEARING AT C1

STIFFENERS/CONNECTION PLATE AT U2

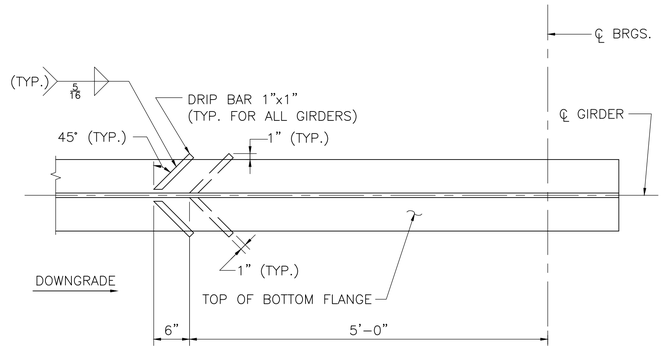
NOTES:
1. SEE CLIP DETAIL ON THIS SHEET.
2. BEARING STIFFENER PLATE AT BOTTOM FLANGE SHALL BE MILLED FOR TIGHT FIT AND WELDED WITH 5/16" FILLET WELDS BOTH SIDES OF PLATE.

STIFFENER ATTACHMENT DETAILS
SCALE: 3/4" = 1'-0"



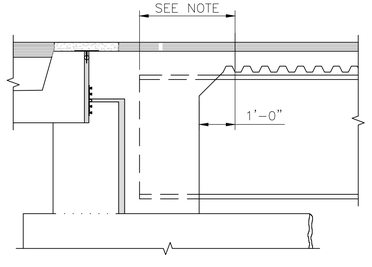
NOTE:
AT STIFFENER LOCATIONS, MODIFY THE PLATE ATTACHMENT TO THE FLANGES AS SHOWN IN THE TYPICAL STIFFENER ATTACHMENTS ON THIS SHEET.

CLIP DETAIL
NOT TO SCALE



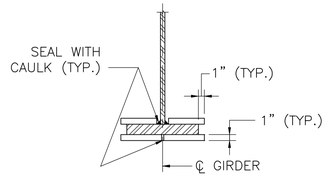
NOTE:
DRIP BARS SHALL BE LOCATED ON THE LOW END OF EACH SPAN FOR ALL GIRDERS

DRIP BAR DETAIL
SCALE: 1" = 1'-0"



NOTE:
PAINT ALL SUPERSTRUCTURE STEEL WITHIN A DISTANCE OF 1 1/2 TIMES THE DEPTH OF GIRDER FROM BRIDGE JOINTS. WHEN WEATHERING STEEL IS PAINTED, THE FINISH COAT COLOR SHALL CONFORM TO FEDERAL STANDARD 595B, "COLORS USED IN GOVERNMENT PROCUREMENT", COLOR CHIP NO. 30045

LIMITS OF PAINTED WEATHERING STEEL
SCALE: ½" = 1'-0"



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

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (GIRDER DETAILS).DWG Plotted on 5-Feb-2026 9:53 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

CAMBER TABLE

BM. NO.		SPAN NO. 1										
		CL BRG. N. ABT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	CL BRG. W. ABT.
1	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.355	0.671	0.918	1.075	1.129	1.075	0.918	0.671	0.355	0.000
	S.D.L. DEFLECTION	0.000	0.419	0.793	1.086	1.272	1.335	1.272	1.086	0.793	0.419	0.000
	VERT. CURVE CAMBER	0.000	2.886	5.130	6.733	7.695	8.016	7.695	6.733	5.130	2.886	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	4.045	7.302	9.688	11.144	11.633	11.144	9.688	7.302	4.045	0.000
2	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.478	0.905	1.239	1.451	1.524	1.451	1.240	0.906	0.479	0.000
	S.D.L. DEFLECTION	0.000	0.351	0.663	0.908	1.063	1.116	1.063	0.908	0.663	0.350	0.000
	VERT. CURVE CAMBER	0.000	2.886	5.130	6.733	7.695	8.016	7.695	6.733	5.130	2.886	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	4.100	7.406	9.831	11.311	11.809	11.312	9.832	7.407	4.100	0.000
3	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.516	0.976	1.337	1.566	1.644	1.566	1.338	0.977	0.517	0.000
	S.D.L. DEFLECTION	0.000	0.289	0.547	0.749	0.877	0.921	0.877	0.749	0.547	0.289	0.000
	VERT. CURVE CAMBER	0.000	2.000	3.556	4.667	5.334	5.556	5.334	4.667	3.556	2.000	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.191	5.787	7.704	8.878	9.274	8.879	7.705	5.788	3.191	0.000
4	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.477	0.903	1.236	1.448	1.521	1.448	1.237	0.904	0.478	0.000
	S.D.L. DEFLECTION	0.000	0.253	0.479	0.656	0.769	0.807	0.769	0.656	0.479	0.253	0.000
	VERT. CURVE CAMBER	0.000	2.851	5.069	6.653	7.603	7.920	7.603	6.653	5.069	2.851	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.967	7.159	9.496	10.921	11.400	10.922	9.497	7.160	3.968	0.000
5	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.466	0.881	1.206	1.413	1.484	1.413	1.207	0.882	0.466	0.000
	S.D.L. DEFLECTION	0.000	0.223	0.421	0.577	0.676	0.710	0.676	0.577	0.422	0.223	0.000
	VERT. CURVE CAMBER	0.000	2.858	5.080	6.668	7.620	7.938	7.620	6.668	5.080	2.858	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.931	7.091	9.402	10.811	11.284	10.811	9.403	7.092	3.932	0.000
6	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.484	0.916	1.254	1.469	1.542	1.469	1.255	0.917	0.485	0.000
	S.D.L. DEFLECTION	0.000	0.223	0.421	0.577	0.676	0.710	0.676	0.577	0.422	0.223	0.000
	VERT. CURVE CAMBER	0.000	2.868	5.100	6.693	7.649	7.968	7.649	6.693	5.100	2.868	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.960	7.145	9.475	10.895	11.373	10.896	9.476	7.146	3.961	0.000
7	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.483	0.913	1.250	1.464	1.538	1.465	1.251	0.914	0.483	0.000
	S.D.L. DEFLECTION	0.000	0.223	0.421	0.577	0.676	0.710	0.676	0.577	0.422	0.223	0.000
	VERT. CURVE CAMBER	0.000	2.881	5.123	6.723	7.684	8.004	7.684	6.723	5.123	2.881	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.972	7.165	9.501	10.926	11.404	10.926	9.503	7.166	3.973	0.000
8	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.464	0.877	1.201	1.407	1.477	1.407	1.202	0.878	0.464	0.000
	S.D.L. DEFLECTION	0.000	0.223	0.421	0.577	0.676	0.710	0.676	0.577	0.422	0.223	0.000
	VERT. CURVE CAMBER	0.000	2.892	5.142	6.749	7.713	8.034	7.713	6.749	5.142	2.892	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.964	7.148	9.477	10.897	11.374	10.897	9.479	7.150	3.965	0.000
9	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.486	0.920	1.259	1.475	1.549	1.475	1.260	0.921	0.487	0.000
	S.D.L. DEFLECTION	0.000	0.223	0.421	0.577	0.676	0.710	0.676	0.577	0.422	0.223	0.000
	VERT. CURVE CAMBER	0.000	2.881	5.123	6.723	7.684	8.004	7.684	6.723	5.123	2.881	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.975	7.171	9.510	10.936	11.415	10.937	9.512	7.173	3.976	0.000
10	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.497	0.940	1.287	1.508	1.583	1.508	1.288	0.941	0.498	0.000
	S.D.L. DEFLECTION	0.000	0.223	0.421	0.577	0.676	0.710	0.676	0.577	0.422	0.223	0.000
	VERT. CURVE CAMBER	0.000	2.868	5.100	6.693	7.649	7.968	7.649	6.693	5.100	2.868	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.973	7.169	9.508	10.935	11.414	10.935	9.510	7.170	3.974	0.000
11	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.452	0.855	1.171	1.371	1.440	1.372	1.172	0.856	0.453	0.000
	S.D.L. DEFLECTION	0.000	0.215	0.406	0.556	0.651	0.684	0.651	0.556	0.406	0.215	0.000
	VERT. CURVE CAMBER	0.000	2.858	5.080	6.668	7.620	7.938	7.620	6.668	5.080	2.858	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.909	7.049	9.346	10.745	11.215	10.745	9.347	7.051	3.910	0.000
12	STEEL DL DEFLECTION	0.000	0.202	0.383	0.524	0.614	0.644	0.614	0.524	0.383	0.202	0.000
	CONC. DL DEFLECTION	0.000	0.372	0.704	0.964	1.129	1.186	1.129	0.964	0.704	0.372	0.000
	S.D.L. DEFLECTION	0.000	0.250	0.473	0.648	0.759	0.797	0.759	0.648	0.473	0.250	0.000
	VERT. CURVE CAMBER	0.000	2.856	5.076	6.663	7.615	7.932	7.615	6.663	5.076	2.856	0.000
	ADDITIONAL CAMBER	0.000	0.183	0.325	0.427	0.488	0.508	0.488	0.427	0.325	0.183	0.000
	TOTAL CAMBER	0.000	3.863	6.962	9.226	10.604	11.067	10.604	9.226	6.962	3.863	0.000

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-003S(924)	175	204
PROJECT FILE NO. 609409			

CAMBER TABLE

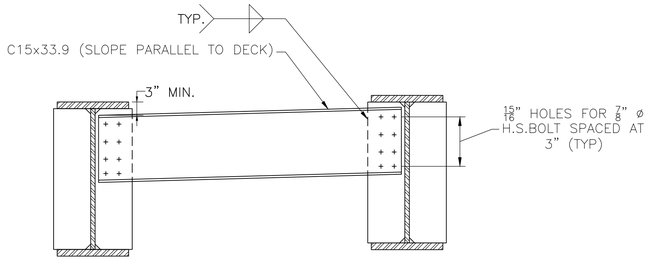
DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (CAMBER TABLE).DWG Plotted on 5-Feb-2026 9:54 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

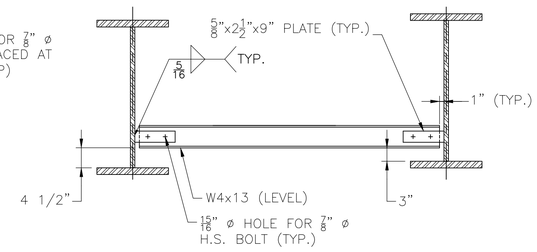
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	176	204
PROJECT FILE NO. 609409			

DIAPHRAGM AND
UTILITY SUPPORT DETAILS

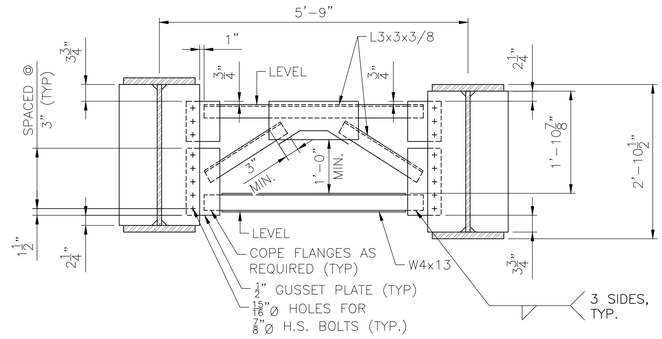


NOTES:
1. SEE CLIP DETAIL ON SHEET 44.
2. TERMINATE FILLET WELDS ½" SHORT OF ALL PLATE EDGES.

TYPICAL END DIAPHRAGM FRAME DETAIL (C1)
SCALE: ¾" = 1'-0"

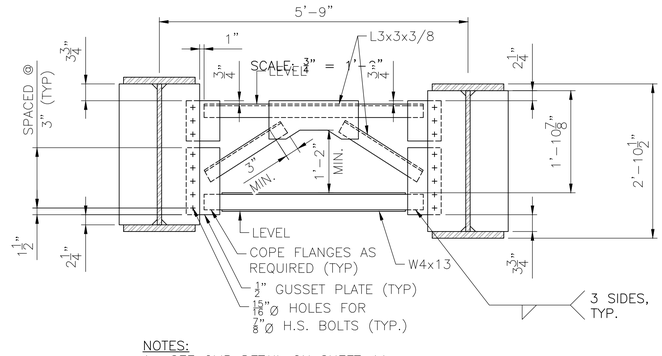


TYPICAL UTILITY SUPPORT FRAME BETWEEN DIAPHRAGMS DETAIL (U1)
SCALE: ¾" = 1'-0"



NOTES:
1. SEE CLIP DETAIL ON SHEET 44.
2. TERMINATE FILLET WELDS ½" SHORT OF ALL PLATE EDGES.

TYPICAL INTERMEDIATE DIAPHRAGM/UTILITY SUPPORT FRAME DETAIL (U2)



NOTES:
1. SEE CLIP DETAIL ON SHEET 44.
2. TERMINATE FILLET WELDS ½" SHORT OF ALL PLATE EDGES.
3. GUSSET PLATE TO BE CHAMFERED AT AN ANGLE FOLLOWING THE SLOPE OF THE L3 DIAGONALTO PROVIDE A MINIMUM EDGE DISTNACE OF 1".

TYPICAL INTERMEDIATE DIAPHRAGM/UTILITY SUPPORT FRAME DETAIL (U3)
SCALE: ¾" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

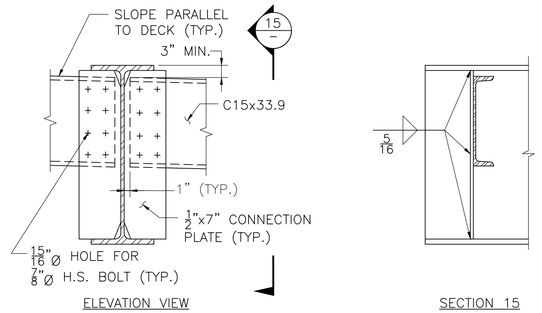
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (UTILITY SUPPORT DETAILS).DWG Plotted on 5-Feb-2026 9:55 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	177	204
PROJECT FILE NO. 609409			

DIAPHRAGM DETAILS



ELEVATION VIEW

SECTION 15

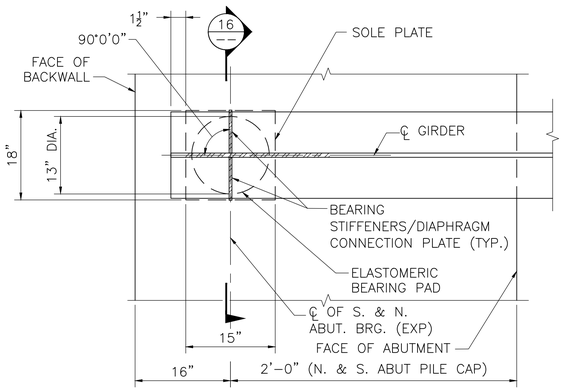
END DIAPHRAGM ELEVATION AND SECTION (TYPE C1)

SCALE: 1" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

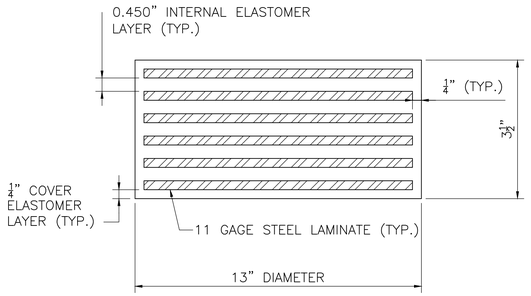
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S:24-026 (UTILITY SUPPORT DETAILS).DWG Plotted on 5-Feb-2026 9:55 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



PLAN – EXPANSION BEARING

SCALE: 1" = 1'–0"



NOTES:

1. ELASTOMER SHALL HAVE A SHEAR MODULUS OF 0.160 KSI.
2. STEEL LAMINATES SHALL CONFORM TO ASTM A 1011 GRADE 36.
3. THE COMPRESSIVE DESIGN LOAD ON THE BEARING PAD IS 161.0 KIPS. THE COMPRESSIVE DESIGN STRESS IS THE RESULT OF DIVIDING THE COMPRESSIVE DESIGN LOAD BY THE AREA OF THE PAD AND IS EQUAL TO 1.21 KSI.
4. ELASTOMERIC BEARING PAD SHALL NOT BE VULCANIZED TO THE SOLE PLATE.

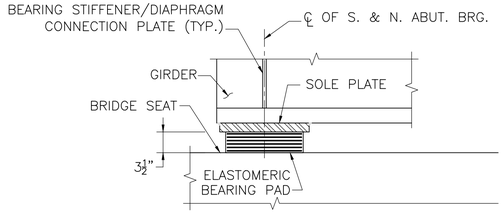
ELASTOMETRIC BEARING PAD – (TYPICAL)

NOT TO SCALE

(*) – WELDS SHALL TERMINATE ¼" FROM EDGE OF PLATE.

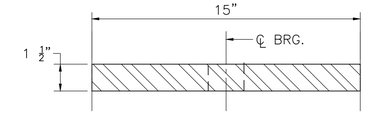
SECTION 16 – EXPANSION BEARING

SCALE: 1" = 1'–0"



ELEVATION – EXPANSION BEARING

SCALE: 1" = 1'–0"



SOLE PLATE DETAIL – EXPANSION BEARING

SCALE: 3" = 1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	178	204
PROJECT FILE NO. 609409			

BEARING DETAILS

BEARING NOTES (EXPANSION):

1. STEEL SOLE PLATE SHALL CONFORM TO AASHTO M 270 GRADE 36 AND SHALL BE HOT–DIP GALVANIZED.
2. CENTER THE ELASTOMERIC PAD UNDER THE SOLE PLATE DURING BEAM ERECTION.
3. 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.

DATE	DESCRIPTION
DEC 20, 2025	ISSUED FOR CONSTRUCTION

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AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

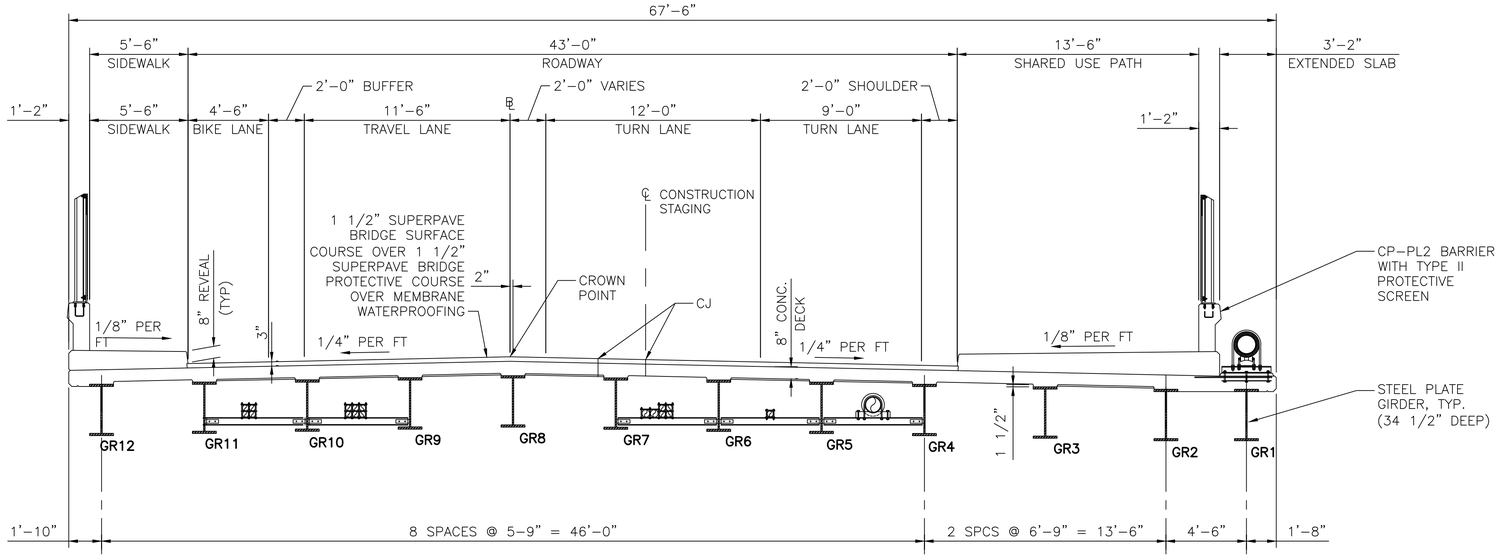
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Bearing Details).dwg
S-24-026 (BEARING DETAILS).DWG Plotted on 5-Feb-2026 9:57 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

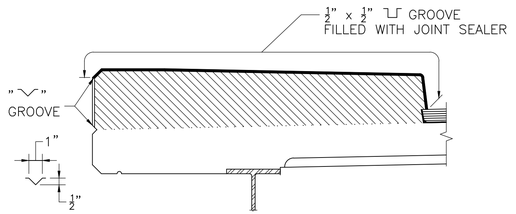
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	179	204
PROJECT FILE NO. 609409			

TYPICAL SUPERSTRUCTURE
CROSS-SECTION

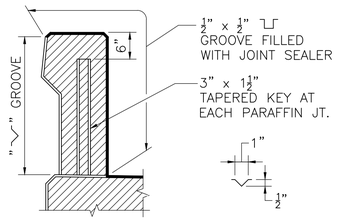


TRANSVERSE SECTION OF SUPERSTRUCTURE

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



SIDEWALK



SIDEWALK SIDE

CP-PL2 BARRIER

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

PARAFFIN JOINT DETAILS

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

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

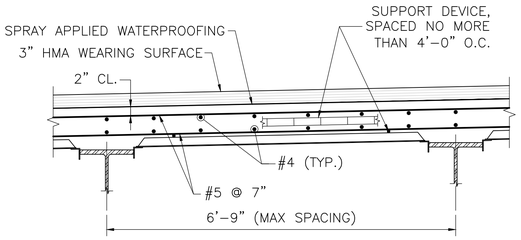
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Typ. Bridge Tron_SW_SUP Sect.).dwg
Plotted on 5-Feb-2026 9:58 PM
S-24-026 (TYP. BRIDGE TRAN._SW_SUP SECT.).DWG
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	180	204
PROJECT FILE NO. 609409			

DECK DETAILS 1 OF 3

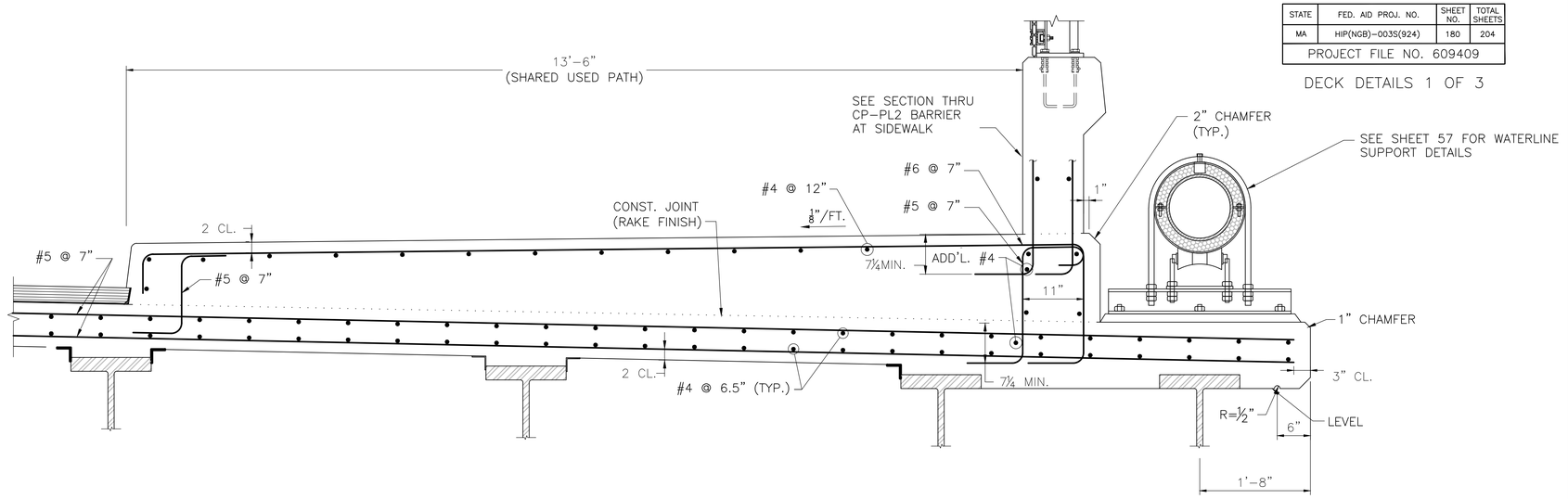


NOTES:

1. ROADWAY DECK SLAB SHALL BE 904.3 – 5000 PSI, ¾ IN, 685 HP CEMENT CONCRETE.
2. LONGITUDINAL REINFORCEMENT SHALL BE PLACED PARALLEL TO THE ℄ OF CONSTRUCTION. TRANSVERSE (PRIMARY) REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO THE ℄ OF CONSTRUCTION.
3. ALL REINFORCEMENT AND SUPPORT DEVICES SHALL BE COATED.
4. THE FINISHED SURFACE OF BRIDGE DECK SHALL BE SMOOTH AND WITHOUT ANY PROJECTIONS THAT COULD PUNCTURE THE WATERPROOFING OR DEPRESSIONS THAT COULD RETAIN WATER.
4. BRIDGE DECK SHALL BE GROOVED TRANSVERSELY USING MULTI-BLADED SELF-PROPELLED SAWCUTTING EQUIPMENT.

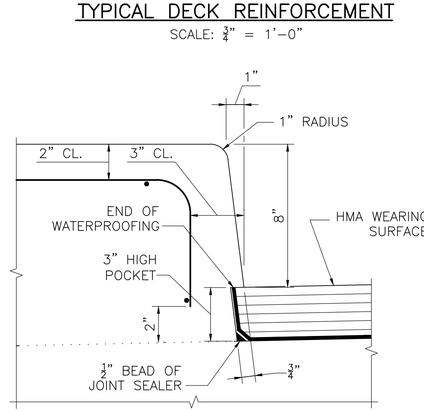
TYPICAL DECK REINFORCEMENT

SCALE: ¾" = 1'-0"



SECTION THRU SHARED USE PATH

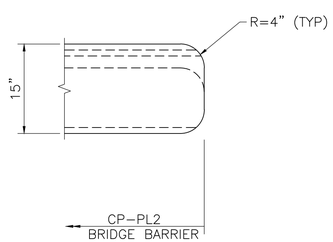
SCALE: 1" = 1'-0"



NOTE:
1. APPLY WATERPROOFING INTO 3" HIGH POCKET.

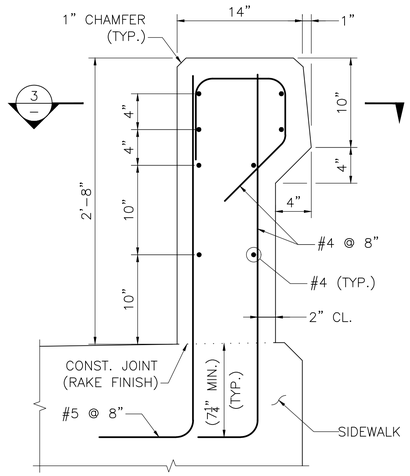
FACE OF SIDEWALK CURB DETAILS

SCALE: 3" = 1'-0"



SECTION 3: MODIFIED CP-PL2 END TREATMENT

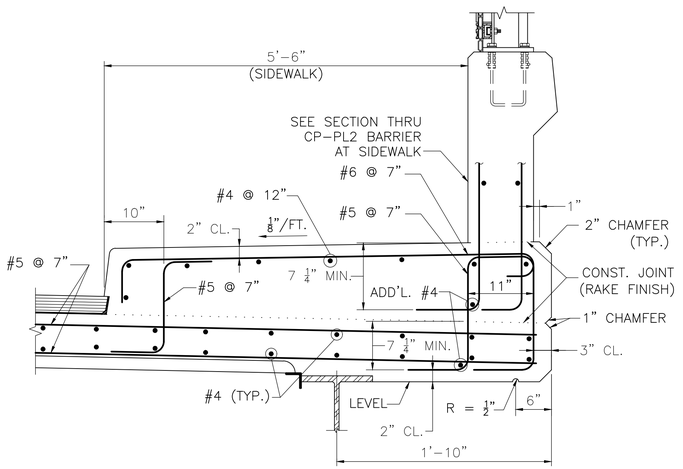
SCALE: 1" = 1'-0"



NOTE:
FOR SIDEWALK REINFORCEMENT SEE SECTION THRU SIDEWALK.

SECTION THRU BARRIER AT SIDEWALK

SCALE: 1½" = 1'-0"



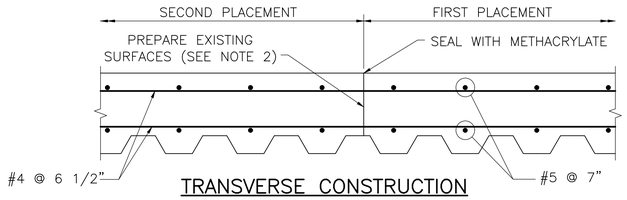
SECTION THRU SIDEWALK

SCALE: 1" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

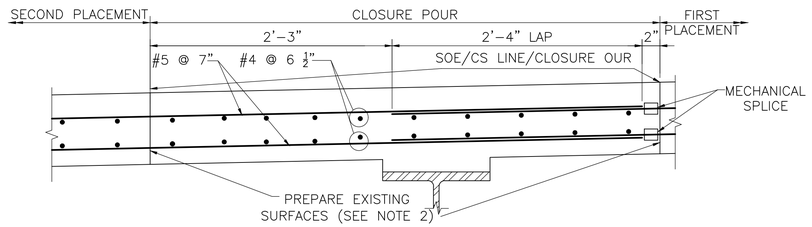
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USE ONLY PRINTS OF LATEST DATE

S-24-026 (Deck Details).dwg
S-24-026 (DECK DETAILS).DWG Plotted on 5-Feb-2026 10:00 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY



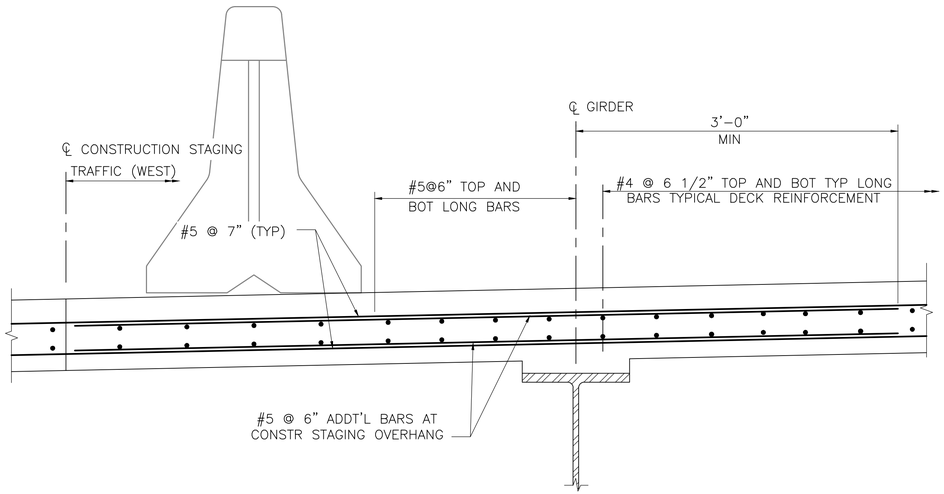
TRANSVERSE CONSTRUCTION JOINT DETAIL IN DECK SLAB

SCALE: 1½" = 1'–0"



LONGITUDINAL CONSTRUCTION JOINT DETAIL IN DECK SLAB

SCALE: 1½" = 1'–0"



NOTE:
ADDITIONAL REINFORCEMENT IS REQUIRED ON THE WESTERN SIDE OF THE CONSTRUCTION STAGING JOINT TO SUPPORT THE TRAFFIC ON THE WEST SIDE.

LONGITUDINAL CONSTRUCTION STAGING JOINT DETAIL IN DECK SLAB (WEST SIDE)

SCALE: 1½" = 1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	181	204
PROJECT FILE NO. 609409			

DECK DETAILS 2 OF 3

NOTES:

1. 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.
2. 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.
3. THE CONTRACTOR MAY SUBMIT A PROPOSAL DETAILING THE ELIMINATION OF THE CLOSURE POUR FOR THE APPROVAL OF THE ENGINEER. THE PROPOSAL SHALL DETAIL THE CONTRACTOR'S MEANS AND METHODS FOR ACCURATELY CONSTRUCTING THE DECK SLAB TO THE LINES, GRADES, AND THICKNESS SHOWN ON THE PLANS WITHOUT LEAKAGE OF CONCRETE.
4. DOWEL BAR SPLICERS SHALL BE USED WHERE USE OF LAP SPLICES IS NOT FEASIBLE.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

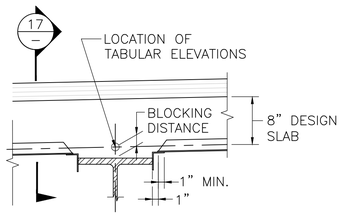
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

S-24-026 (Deck Details).dwg
S-24-026 (DECK DETAILS).DWG Plotted on 5-Feb-2026 10:01 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

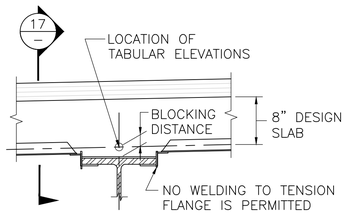
GIRDER NO.	TOP OF FORM ELEVATIONS FOR DECK SLAB PRIOR TO PLACEMENT OF CONCRETE										
	INCREASING STATIONS →										
	℄ BRG. N. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	℄ BRG. S. ABUT.
1	157.69	157.98	158.23	158.47	158.62	158.68	158.68	158.56	158.38	158.18	157.93
2	157.69	157.98	158.24	158.48	158.63	158.69	158.69	158.57	158.39	158.19	157.93
3	157.84	158.12	158.38	158.62	158.76	158.83	158.82	158.71	158.52	158.33	158.07
4	157.98	158.25	158.50	158.74	158.88	158.95	158.94	158.83	158.65	158.46	158.20
5	158.10	158.37	158.62	158.85	158.99	159.06	159.05	158.94	158.76	158.57	158.32
6	158.21	158.49	158.74	158.97	159.12	159.18	159.18	159.07	158.89	158.69	158.44
7	158.33	158.61	158.86	159.09	159.24	159.30	159.30	159.19	159.01	158.81	158.56
8	158.44	158.73	158.97	159.21	159.35	159.41	159.41	159.30	159.12	158.93	158.68
9	158.33	158.62	158.87	159.10	159.24	159.31	159.30	159.19	159.01	158.82	158.57
10	158.22	158.50	158.75	158.98	159.13	159.19	159.19	159.08	158.89	158.70	158.45
11	158.10	158.37	158.62	158.85	158.99	159.06	159.05	158.94	158.77	158.58	158.33
12	157.99	158.25	158.50	158.73	158.87	158.93	158.92	158.82	158.64	158.46	158.21

NOTE:
AFTER THE BEAMS ARE ERECTED BUT BEFORE THE FORMS ARE BUILT, ELEVATIONS ON TOP OF THE FLANGE OF THE BEAMS 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 BEAM TO THE BOTTOM OF THE SLAB AT CENTER LINE OF BEAM.



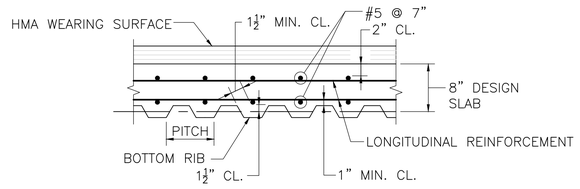
HAUNCH DETAIL AT NON–TENSION FLANGE AREA

SCALE: 1" = 1'–0"



HAUNCH DETAIL AT TENSION FLANGE AREA

SCALE: 1" = 1'–0"



SECTION 17

STAY–IN–PLACE FORM DETAILS

NOT TO SCALE

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	182	204
PROJECT FILE NO. 609409			

DECK DETAILS 3 OF 3

NOTES:

1. FOR 2" S.I.P. FORM, SET BOTTOM OF FORM 1" BELOW ELEVATION GIVEN IN TABLE. FOR 3" S.I.P. FORM, SET BOTTOM OF FORM 1½" BELOW TABLE ELEVATIONS.
2. FORM ENDS SHALL BE CRIMPED CLOSED IN A TAPERED MANNER. SEPARATE END CLOSURE PIECES WILL NOT BE ALLOWED.
3. SUPPORT ANGLES SHALL BE PLACED IN THE "LEG DOWN" POSITION WHERE POSSIBLE. WHERE "LEG UP" POSITION IS NECESSARY, THE UPPER MOST PORTION OF THE ANGLE SHALL NOT PROJECT MORE THAN 1" ABOVE THE TOP FLANGE OR COVER PLATE. THE CONTRACTOR SHALL HAVE AN ASSORTMENT OF ANGLES OF VARIOUS SIZES AVAILABLE ON THE SITE TO CONFORM TO THIS REQUIREMENT.
4. ALL MAIN STEEL REINFORCEMENT IN THE LOWER MAT SHALL BE CENTERED OVER THE VALLEY OF THE S.I.P. FORM.
5. CONTRACTOR SHALL DESIGN AND DETAIL ALL ELEMENTS OF THE FORMING SYSTEM AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL.
6. IN CASES WHERE STANDARD 2" OR 3" DEEP S.I.P. FORMS DO NOT SATISFY DESIGN REQUIREMENTS AN ALTERNATIVE FORMING SYSTEM CONSISTING OF DEEPER S.I.P. FORMS OR REMOVABLE FORMS SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL. THE DESIGN THICKNESS OF THE SLAB SHALL NOT BE REDUCED.

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S-24-026 (Deck Details).dwg
S-24-026 (DECK DETAILS).DWG Plotted on 5-Feb-2026 10:01 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

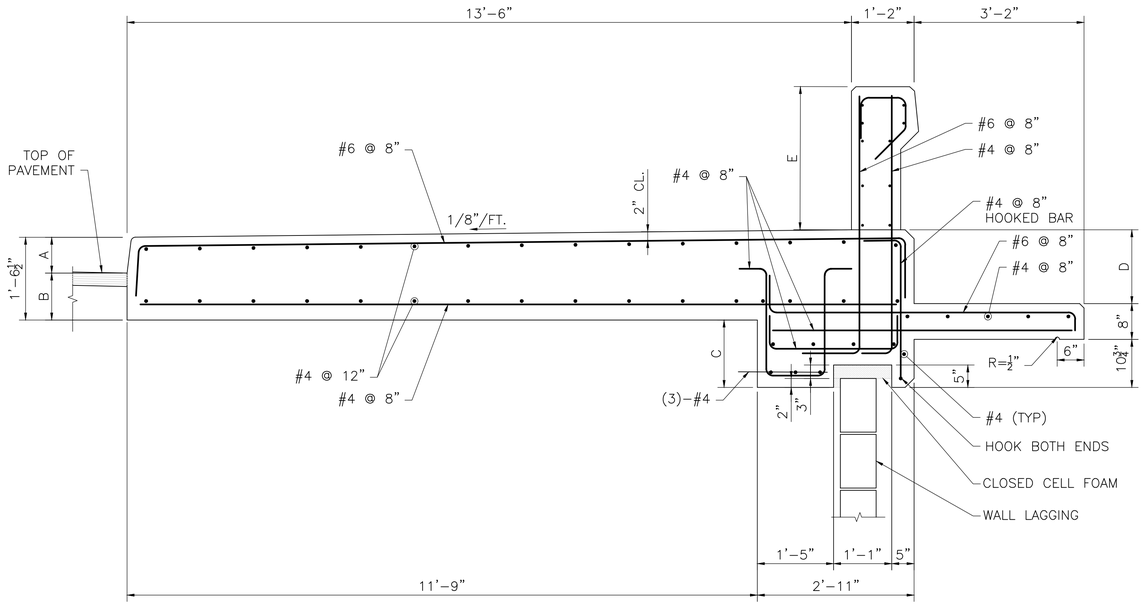
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	183	204
PROJECT FILE NO. 609409			

MOMENT SLAB DETAILS

NOTES:

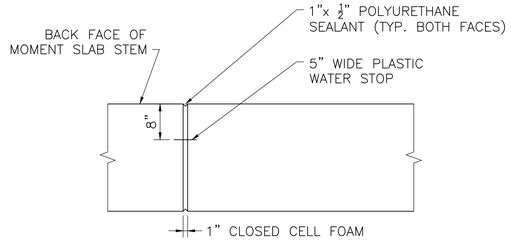
1. SEE SHEET 56 AND HIGHWAY SHEET 22 FOR DETAILS AND LOCATIONS FOR PROPOSED TRAFFIC EQUIPMENT.



NOTE:
DIMENSIONS A, B, C, D, AND E PER SHARED USED PATH W/ EXTENDED SLAB TABLE THIS SHEET.

SHARED USE PATH MOMENT SLAB W/ EXTENDED SLAB AT WALL LAGGING

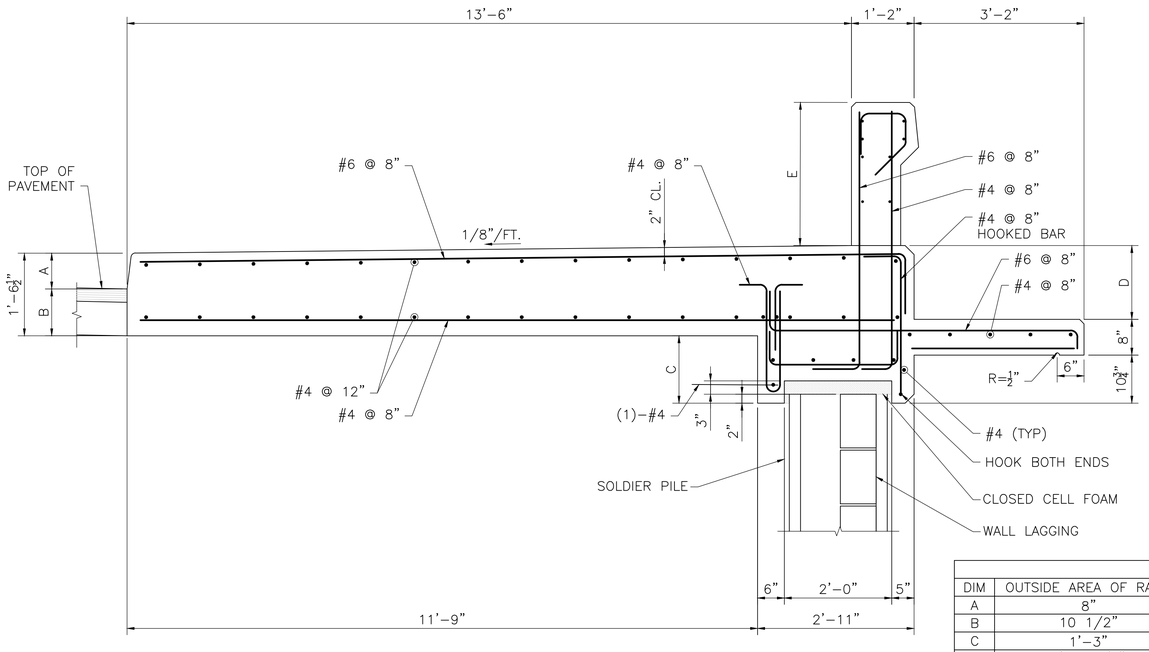
SCALE: 3/4"= 1'-0"



NOTES:
1. LONGITUDINAL REINFORCEMENT SHALL END 2" CLEAR OF EXPANSION JOINT.
2. SIDEWALK EXPANSION JOINT MUST BE SPACED AT A MINIMUM OF 32'-0".

MOMENT SLAB EXPANSION JOINT PLAN

NOT TO SCALE



NOTE:
DIMENSIONS A, B, C, D, AND E PER SHARED USED PATH W/ EXTENDED SLAB TABLE THIS SHEET.

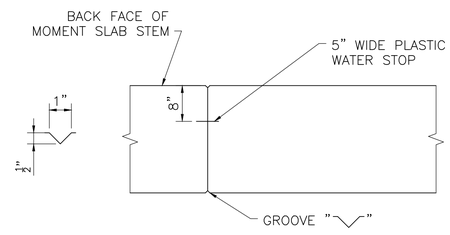
SHARED USE PATH MOMENT SLAB W/ EXTENDED SLAB AT SOLDIER PILES

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

SHARED USE PATH W/ EXTENDED SLAB				
DIM	OUTSIDE AREA OF RAMP	AT AREA OF RAMP		
A	8"	(VARIES)	8" MAX. AT HIGH POINT OF RAMP	0" MIN. AT HIGH POINT OF RAMP
B	10 1/2"	(VARIES)	1'-6 1/2" MAX. AT HIGH POINT OF RAMP	0'-10 1/2" MIN. AT HIGH POINT OF RAMP
C	1'-3"	(VARIES)	1'-3" MAX. AT HIGH POINT OF RAMP	0'-7" MIN. AT HIGH POINT OF RAMP
D	1'-4 1/4"	(VARIES)	1'-4 1/2" MAX. AT HIGH POINT OF RAMP	0'-8 1/2" MIN. AT HIGH POINT OF RAMP
E	2'-8"	(VARIES)	3'-4" MAX. AT HIGH POINT OF RAMP	2'-8" MIN. AT HIGH POINT OF RAMP

MOMENT SLAB CONSTRUCTION JOINT PLAN

NOT TO SCALE



NOTES:
1. REINFORCEMENT SHALL BE CONTINUOUS THRU THE CONSTRUCTION JOINT.
2. CONSTRUCTION JOINTS SHALL BE LOCATED IN INTERVALS OF NOT MORE THAN 24'-0".

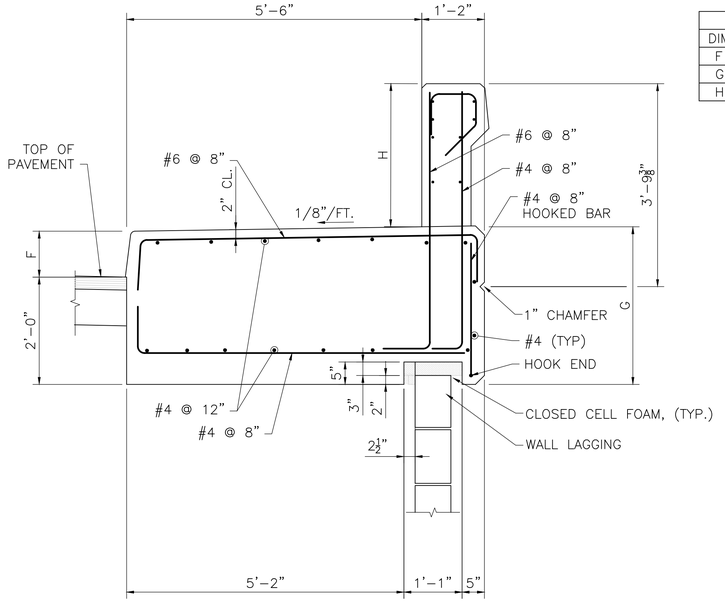
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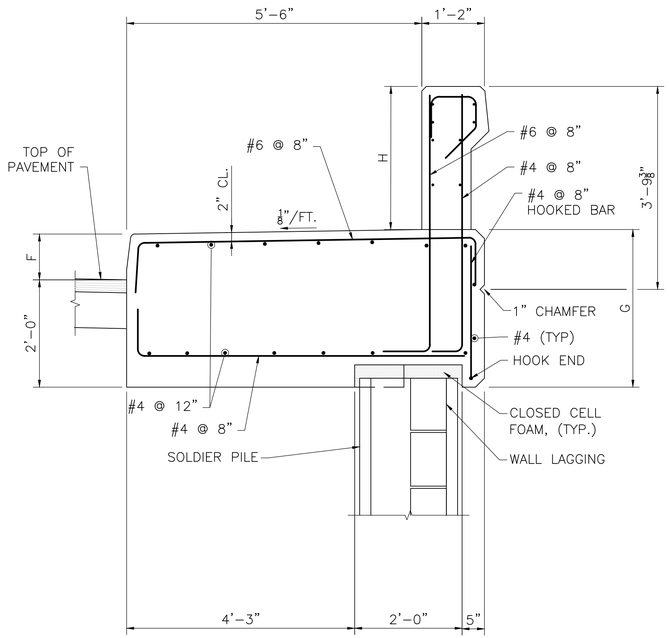
S-24-026 (Moment Slab_Corner Details).dwg
S-24-026 (MOMENT SLAB_CORNER DETAILS).DWG Plotted on 5-Feb-2026 10:02 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY

SIDEWALK				
DIM	OUTSIDE AREA OF RAMP	AT AREA OF RAMP		
F	8"	(VARIES)	8" MAX. AT HIGH POINT OF RAMP	0" MIN. AT HIGH POINT OF RAMP
G	2'-8 3/4"	(VARIES)	2'-8 3/4" MAX. AT HIGH POINT OF RAMP	2'-0 3/4" MIN. AT HIGH POINT OF RAMP
H	2'-8"	(VARIES)	3'-4" MAX. AT HIGH POINT OF RAMP	2'-8" MIN. AT HIGH POINT OF RAMP



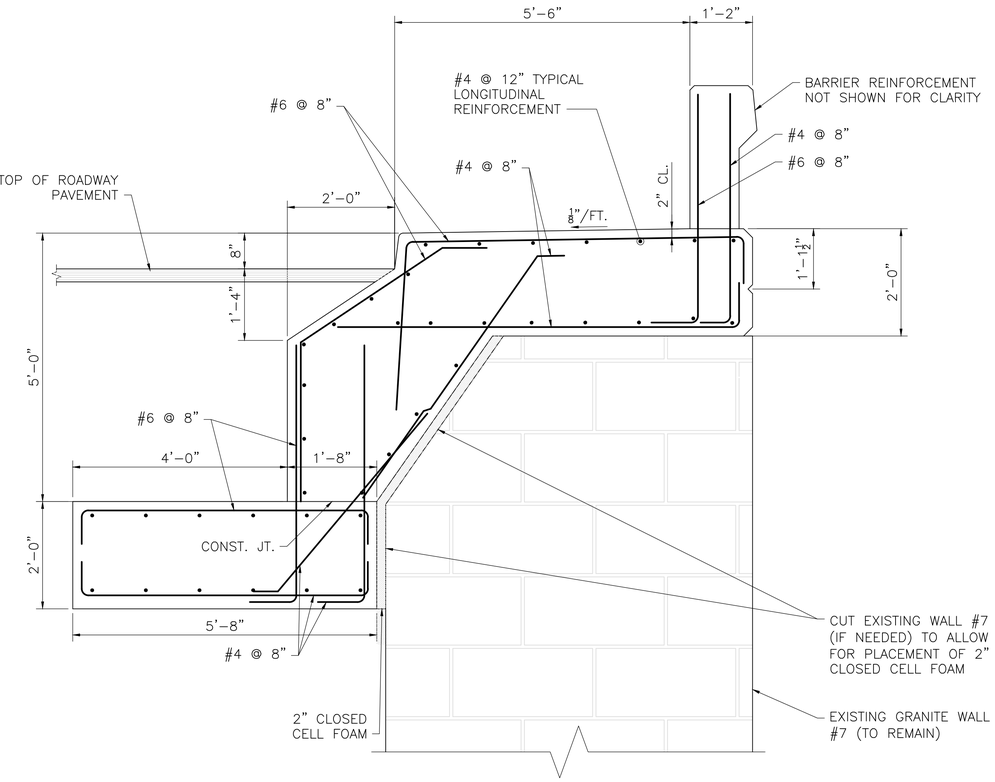
NOTE:
DIMENSIONS F, G, AND H PER SIDEWALK TABLE THIS SHEET.

SIDEWALK MOMENT SLAB AT WALL LAGGING
SCALE: 3/4"= 1'-0"



NOTE:
DIMENSIONS F, G, AND H PER SIDEWALK TABLE THIS SHEET.

SIDEWALK MOMENT SLAB AT SOLDIER PILES
SCALE: 3/4"= 1'-0"



SIDEWALK MOMENT SLAB AT WALL 7
SCALE: 3/4"= 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

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MOMENT SLAB DETAILS

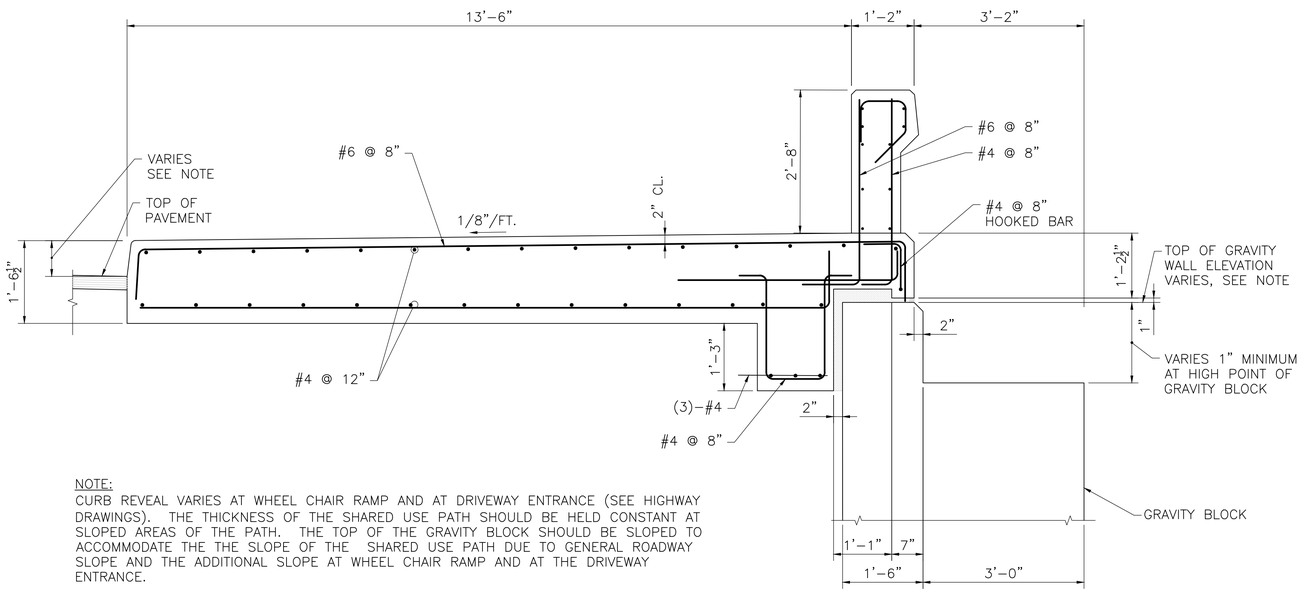
NOTES:

1. SEE SHEET 56 AND HIGHWAY SHEET 22 FOR DETAILS AND LOCATIONS FOR PROPOSED TRAFFIC EQUIPMENT.

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NOTE:
CURB REVEAL VARIES AT WHEEL CHAIR RAMP AND AT DRIVEWAY ENTRANCE (SEE HIGHWAY DRAWINGS). THE THICKNESS OF THE SHARED USE PATH SHOULD BE HELD CONSTANT AT SLOPED AREAS OF THE PATH. THE TOP OF THE GRAVITY BLOCK SHOULD BE SLOPED TO ACCOMMODATE THE THE SLOPE OF THE SHARED USE PATH DUE TO GENERAL ROADWAY SLOPE AND THE ADDITIONAL SLOPE AT WHEEL CHAIR RAMP AND AT THE DRIVEWAY ENTRANCE.

SHARED USE PATH MOMENT SLAB AT CONCRETE GRAVITY BLOCK

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

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

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MA	HIP(NGB)-003S(924)	185	204
PROJECT FILE NO. 609409			

MOMENT SLAB DETAILS

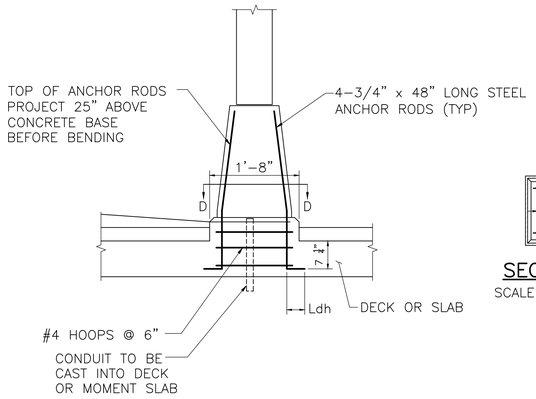
NOTES:

1. SEE SHEET 56 AND HIGHWAY SHEET 22 FOR DETAILS AND LOCATIONS FOR PROPOSED TRAFFIC EQUIPMENT.

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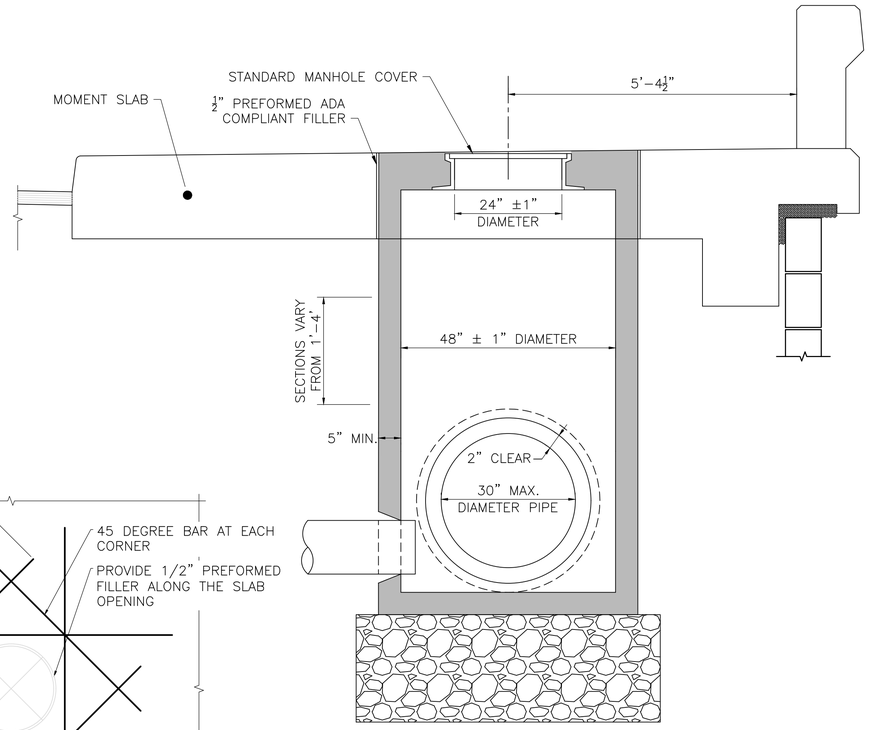
SIGNAL POST ANCHORS INSTALLED ON BRIDGE OR MOMENT SLAB

SCALE = 1"=1'–0"



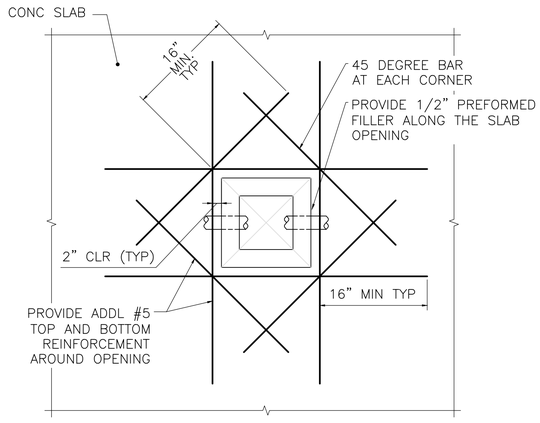
SECTION D

SCALE = 1"=1'–0"



MANHOLE INSTALLED IN MOMENT SLAB

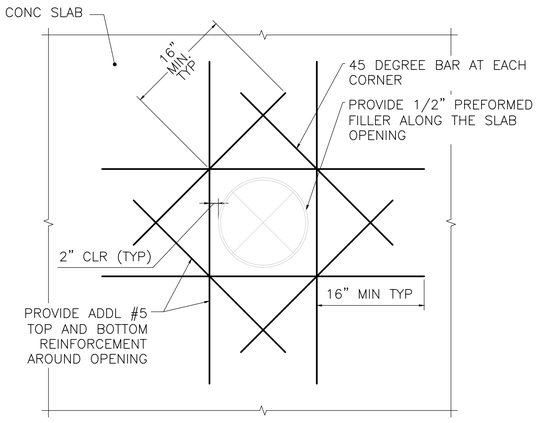
SCALE: 3/4"= 1'–0"



NOTE:
TYP. MOMENT SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.

TYPICAL RECTANGULAR MOMENT SLAB BLOCKOUT

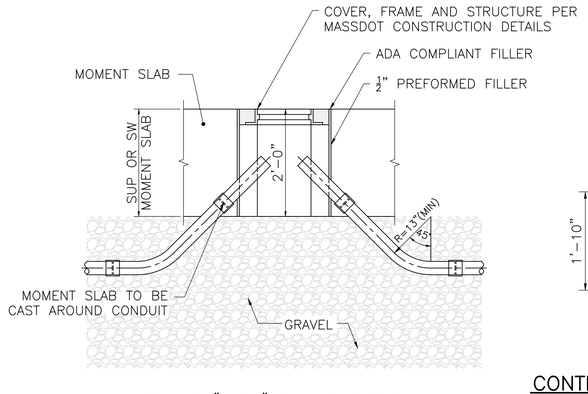
SCALE: 1" = 1'–0"



NOTE:
TYP MOMENT SLAB REINFORCEMENT NOT SHOWN FOR CLARITY.

TYPICAL CIRCULAR MOMENT SLAB BLOCKOUT

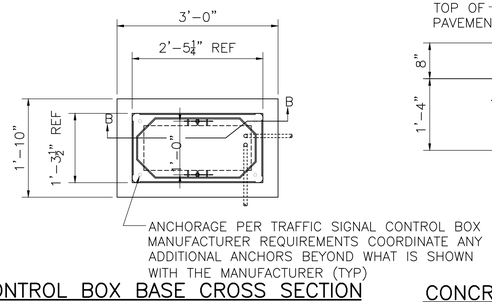
SCALE: 1" = 1'–0"



NOTE: 12" x 12" PULL BOX SHOWN. OPENINGS FOR OTHER TRAFFIC STRUCTRES SIMILAR.

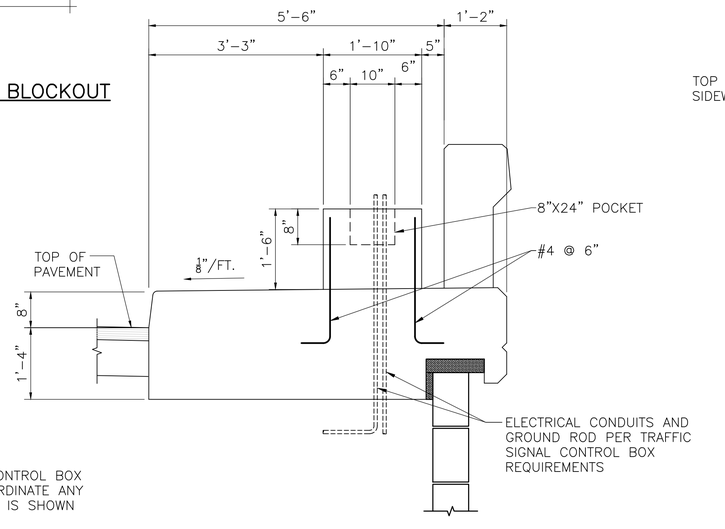
TYPICAL DETAIL FOR 12"x12" PULL BOX

SCALE: 1" = 1'–0"



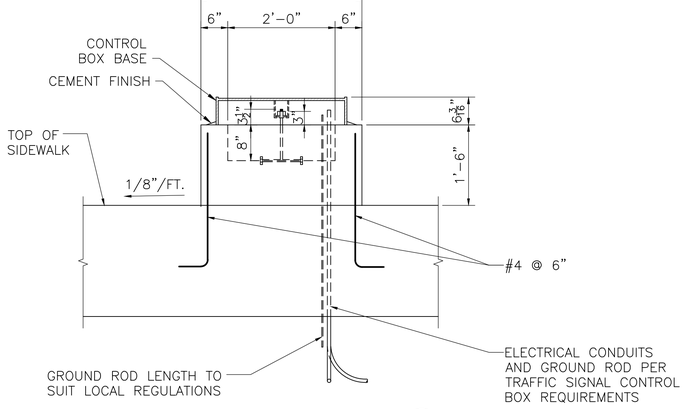
CONTROL BOX BASE CROSS SECTION

SCALE: 3/4"= 1'–0"



CONCRETE BASE FOR TRAFFIC SIGNAL CONTROL BOX AT THE SIDEWALK MOMENT SLAB (LAGGING WALLS ONLY)

SCALE: 3/4"= 1'–0"



SECTION B–B

SCALE: 3/4"= 1'–0"

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	186	204
PROJECT FILE NO. 609409			

MODIFIED HIGHWAY AND TRAFFIC DETAILS

NOTES:

1. SEE HIGHWAY SHEET 22 FOR LOCATIONS AND ADDITIONAL DETAILS.

CONCRETE BASE FOR CONTROL BOX NOTES:

22" W x 36" L CONCRETE BASE FOR CONTROL BOX PER MASSDOTS STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING (1968), PAGE 34, LOCATED PER TRAFFIC SIGNAL PLANS.

CONTRACTOR TO VERIFY THE FOLLOWING:

1. CLEAR DISTANCE BETWEEN THE CONCRETE CONTROL BOX AND THE FACE OF BARRIER IS A MIN OF 5" TO ACCOMMODATE THE MOMENT SLAB NOTCH FOR THE PROPOSED LAGGING WALL BELOW.
2. THE CONCRETE CONTROL BOX IS TO BE LOCATED WITHIN THE CLEAR DISTANCE BETWEEN THE CONCRETE SHAFTS WHICH SUPPORT THE LAGGING WALLS.
3. DIMENSIONS OF THE CONCRETE CONTROL BOX

TRAFFIC SIGNAL POST ANCHORS INSTALLED ON BRIDGE OR MOMENT SLAB NOTES:

1. CONCRETE BASE FOR A TRAFFIC SIGNAL POST PER MASSDOTS STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING (1968), PAGE 32, 38–40 & 42–43 LOCATED PER TRAFFIC SIGNAL PLANS.
2. MODIFICATIONS FOR CONCRETE BASES INSTALLED ON BRIDGES OR MOMENT SLABS.

12IN X 12IN PULL BOX NOTES:

1. 20"W X 20"L X 24"H PULL BOX PER STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING (1968), PAGE 23, LOCATED PER TRAFFIC SIGNAL PLANS.

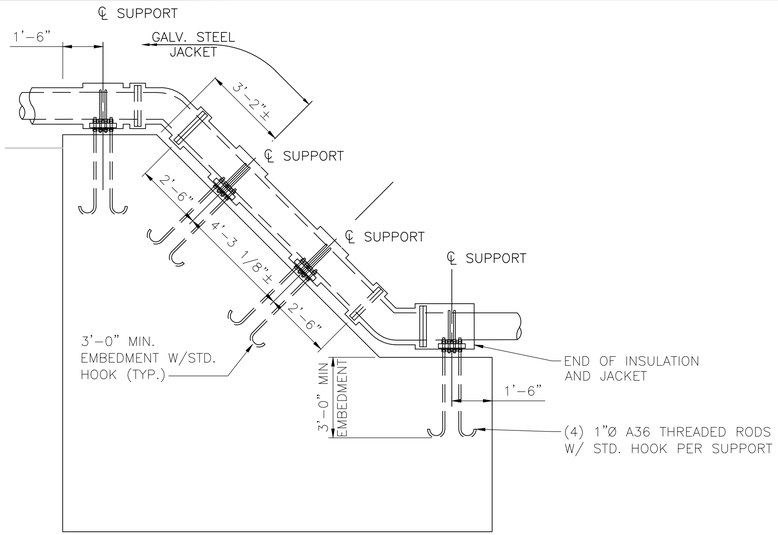
MANHOLE NOTES:

1. PRECAST CONCRETE MANHOLE PER MASSDOT CONSTRUCTION STANDARDS DETAILS (2017), DRAWING NUMBERS E202.4.0, E202.6.0, AND E202.8.0.
2. LOCATIONS PER HIGHWAY DRAINAGE AND UTILITY PLANS.
3. MODIFICATIONS FOR MANHOLES INSTALLED WITHIN A MOMENT SLAB.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

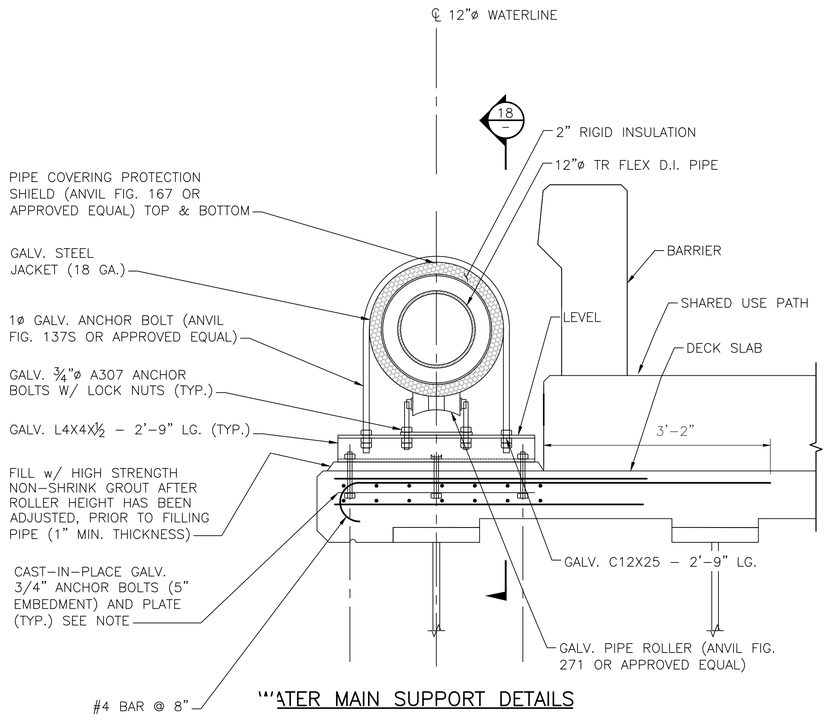
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (Modified Traffic And Hyw Details).dwg
S-24-026 (MODIFIED TRAFFIC AND HYW DETAILS).DWG Plotted on 5-Feb-2026 10:04 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

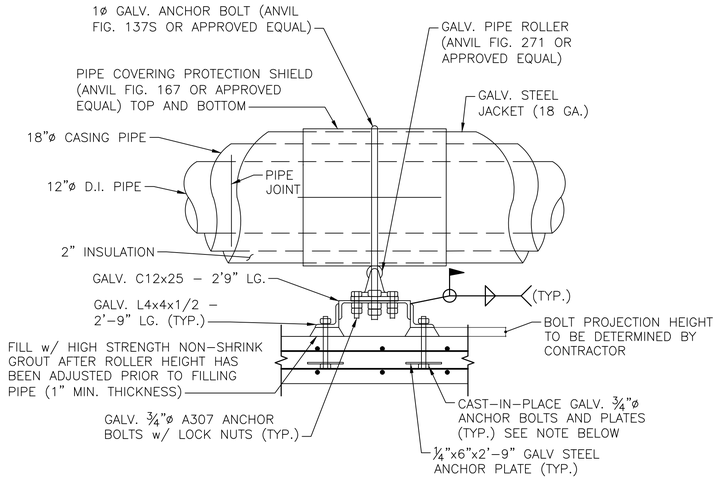


WATER MAIN ANCHORAGE AT GRAVITY BLOCK ELEVATION

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



WATER MAIN SUPPORT DETAILS



SECTION 18

WATER MAIN SUPPORT BRACKET DETAILS

SCALE: 1" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	187	204
PROJECT FILE NO. 609409			

WATER MAIN UTILITY DETAILS

NOTE:

THE PROPOSED SUPPORT BRACKET SHALL BE INSTALLED AT A MINIMUM OF TWO PER EACH PIPE LENGTH 2' FROM EACH JOINT. THE WATER PIPE SHALL BE SET TO CONFORM TO THE PROFILE OF THE BRIDGE DECK. ANY ADJUSTMENT TO THE PIPE ELEVATION SHOULD BE MADE BY THE PIPE DEFLECTIONS ON THE SETTING HEIGHT OF THE SUPPORT BRACKET. THE ANCHOR BOLT PROJECTION LENGTHS MAY NEED TO BE INCREASED TO ACCOMMODATE THE VERTICAL ALIGNMENT OF THE WATER PIPE. ONCE THE WATER PIPE HAS BEEN SET, THE ANCHOR BOLT PROJECTIONS MAY NEED TO BE CUT OFF (AND THE ENDS TOUCHED UP) TO AVOID INTERFERENCE WITH THE PIPING.

WATER MAIN SUPPORT NOTES

1. ALL WORK ASSOCIATED WITH FURNISHING AND INSTALLING THE WATER MAIN, INSULATION, CASING PIPE, PIPE SUPPORTS, AND OTHER APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIAL PROVISIONS, STANDARD SPECIFICATIONS, AND THE SPRINGFIELD WATER AND SEWER COMMISSION SPECIFICATIONS.
2. GALVANIZED PIPE ROLLER STAND AND GALVANIZED U-BOLT ASSEMBLY SHALL BE PROVIDED AS SHOWN. THE CONTRACTOR MAY SUBMIT ALTERNATE SUPPORT DETAILS FOR APPROVAL BY THE ENGINEER AND UTILITY OWNER.
3. GALVANIZED U-BOLT ASSEMBLY SHALL ONLY BE TIGHTENED AS REQUIRED TO SECURE THE PIPE ASSEMBLY IN PLACE. THEN FULLY SECURED TO THE C12X25 SUPPORT WITH DOUBLE NUTS ON TOP AND BOTTOM. CONTRACTOR SHALL ENSURE THAT THERE IS NO DISTORTION OF GALVANIZED STEEL JACKET AFTER INSTALLATION OF THE U-BOLT ASSEMBLY, AS APPROVED BY THE SPRINGFIELD WATER AND SEWER COMMISSION.
4. ALL STRUCTURAL STEEL PLATES AND SHAPES DETAILED ON THIS SHEET SHALL BE ASTM A36 UNLESS NOTED OTHERWISE.
5. ALL BOLTS AND HARDWARE EMBEDDED INTO THE CONCRETE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CONCRETE AND INCLUDED FOR PAYMENT WITHIN THE LUMP SUM PAYMENT FOR ITEM 995.02. ALL COSTS ASSOCIATED WITH THE FURNISHING AND INSTALLING ALL OTHER MATERIALS, COMPONENTS, AND HARDWARE DETAILED SHALL BE INCLUDED FOR PAYMENT WITHIN THE CONTRACT UNIT PRICE FOR THE RESPECTIVE PIPE ITEM BEING INSTALLED.

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

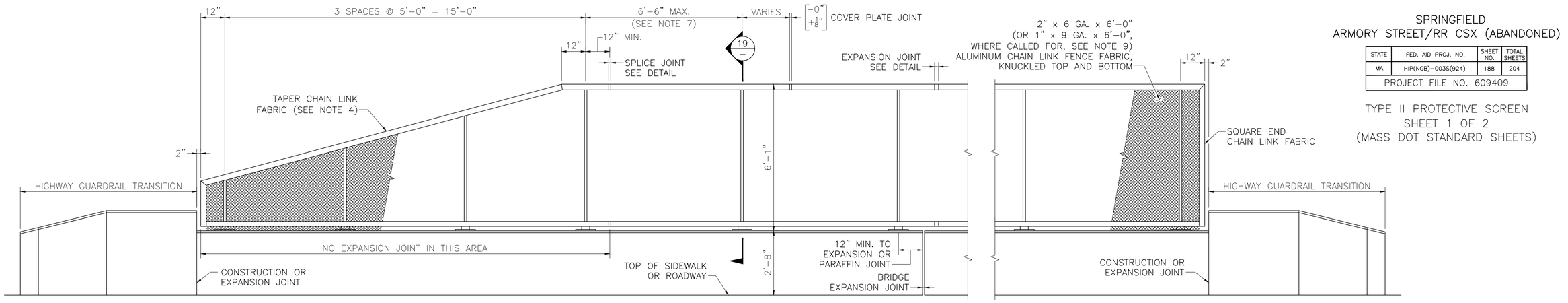
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (WATER & UTILITY SPECIFC DETAILS).DWG Plotted on 5-Feb-2026 10:05 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

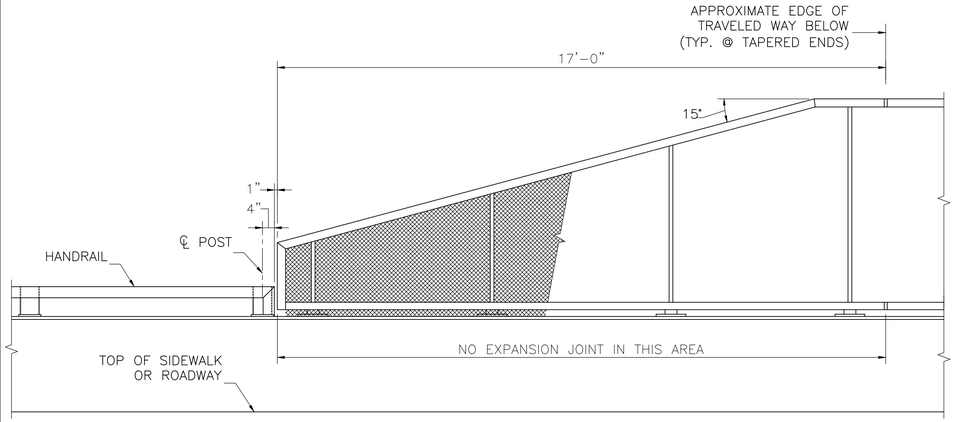
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	188	204
PROJECT FILE NO. 609409			

TYPE II PROTECTIVE SCREEN
SHEET 1 OF 2
(MASS DOT STANDARD SHEETS)



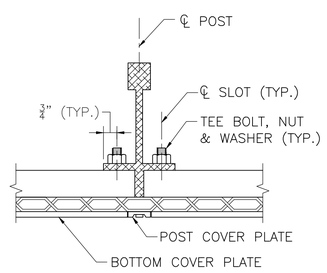
PROTECTIVE SCREEN ELEVATION

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



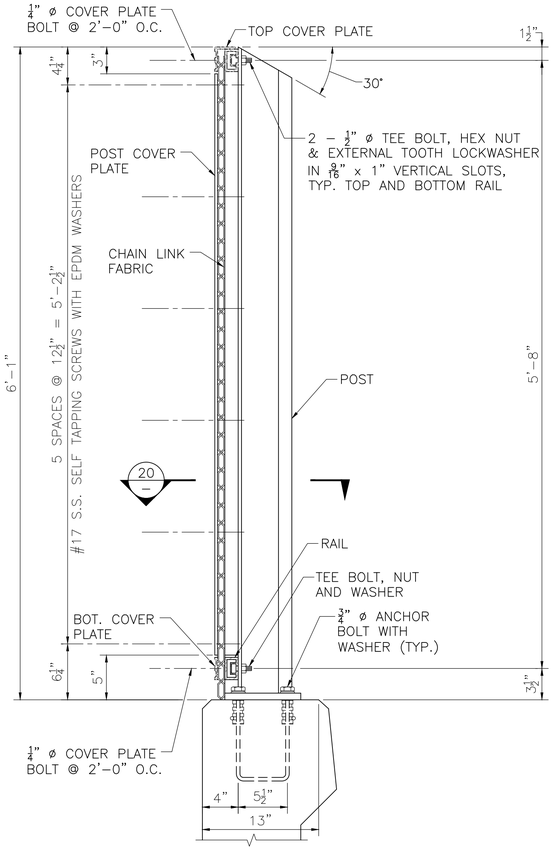
DETAIL AT HANDRAIL

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



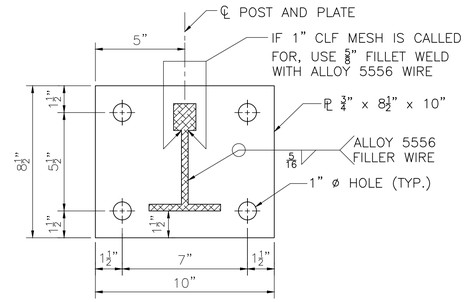
SECTION 20

SCALE: 3" = 1'-0"



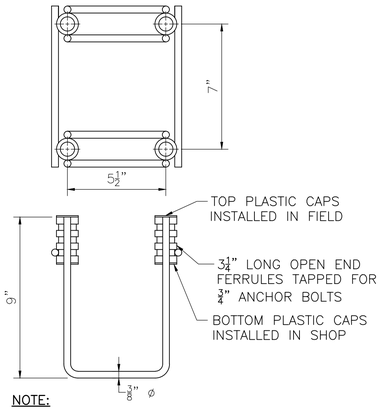
SECTION 19

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



BASE PLATE DETAIL

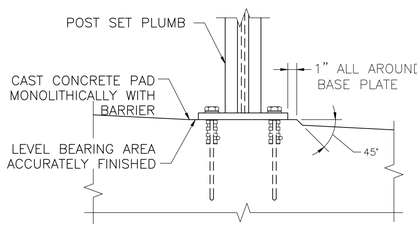
SCALE: 3" = 1'-0"



NOTE:
GALVANIZED OR ELECTROPLATE FINISH.

ANCHOR CAGE

SCALE: 3" = 1'-0"



SETTING OF POSTS (PROFILE GRADE OVER 3%)

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

GENERAL NOTES:

1. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR POSTS, IF POSSIBLE.
2. RAILS SHALL HAVE AN EXPANSION JOINT IN THE PANEL OVER A BRIDGE EXPANSION JOINT AND AT 30 FOOT MAXIMUM SPACING ELSEWHERE.
3. BOTTOM OF POST BASE PLATE TO BE SET ON A 1/8" MOLDED FABRIC BEARING PAD (M9.16.2). THE THICKNESS OF THE PAD SHALL BE IGNORED BY THE DETAILER.
4. 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.
5. WHERE THE R.O.W. FENCE MUST MEET THE SCREEN, USE THE SQUARE END TO HIGHWAY GUARDRAIL TRANSITION DETAIL.
6. THE SCREEN END TREATMENT TO BE USED (SQUARE OR TAPERED) IS SPECIFIED ELSEWHERE ON THE CONSTRUCTION DRAWINGS.
7. POST SPACING SHALL BE UNIFORM BETWEEN TAPERED ENDS.
8. SET POSTS PERPENDICULAR TO GRADE FOR GRADES UP TO 3%. SET POSTS PLUMB FOR GRADES GREATER THEN 3%.
9. USE 2" x 6 GA. FABRIC EXCEPT OVER MBTA RAPID TRANSIT LINES WHERE 1" x 9 GA. FABRIC SHALL BE USED.

FINISHES:

1. POSTS, RAILS, COVER PLATES AND SPLICE PLATES SHALL RECEIVE A DARK BRONZE ANODIZED FINISH.
2. CHAIN LINK FABRIC SHALL RECEIVE A 4±1 MIL POLYESTER POWDER COAT FINISH. THE COLOR SHALL BE DARK BRONZE TO MATCH COLOR OF ANODIZED ALUMINUM FRAMEWORK.
3. #17 SELF TAPPING SCREWS AND 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 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

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

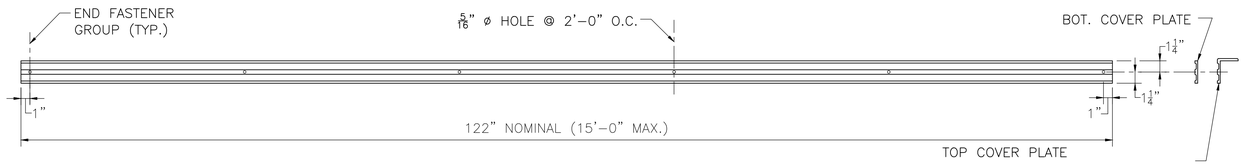
USE ONLY PRINTS OF LATEST DATE

S-24-026 (MASSDOT STANDARD SHEETS).DWG Plotted on 5-Feb-2026 10:07 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

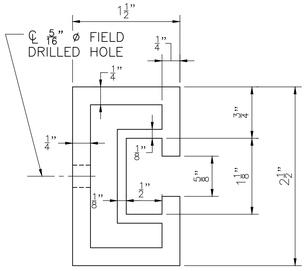
SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	189	204
PROJECT FILE NO. 609409			

TYPE II PROTECTIVE SCREEN
SHEET 2 OF 2
(MASS DOT STANDARD SHEETS)

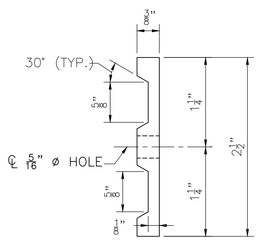


TOP AND BOTTOM COVER PLATE
SCALE: 1½" = 1'-0"

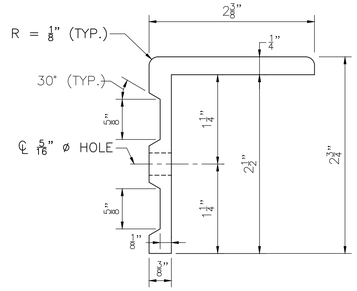


NOTE:
OTHER CONFIGURATIONS OF THE INTERNAL WALLS OF THE RAIL EXTRUSION MAY BE SUBMITTED FOR APPROVAL.

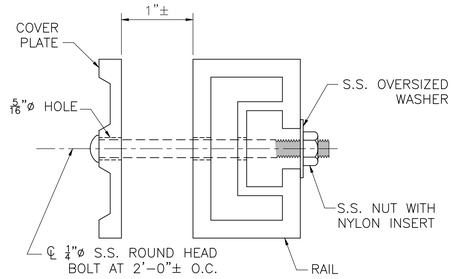
RAIL EXTRUSION
FULL SCALE



BOTTOM COVER PLATE EXTRUSION
FULL SCALE



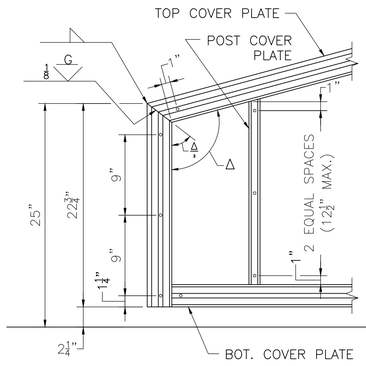
TOP COVER PLATE EXTRUSION
FULL SCALE



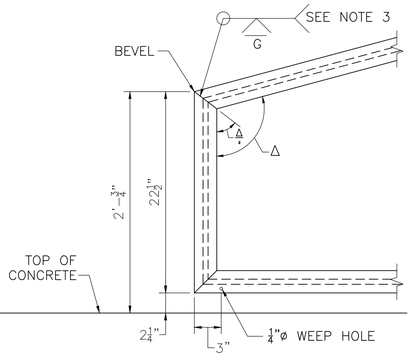
NOTES:
BOLTS SHALL BE TYPE 304 WITH A DRIVE HEAD TO BE COLORED TO MATCH ANODIZING.

RAIL AND COVER PLATE DETAIL
FULL SCALE

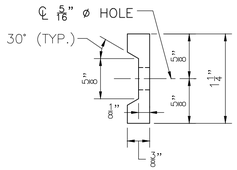
COVER PLATE NOTES:
1. COVER PLATES MAY BE CONTINUOUS OVER A RAIL SPLICE. COVER PLATES SHALL BE FIELD CUT AS REQUIRED TO CLEAR THE EXPANSION JOINT. SEE DETAIL AT EXPANSION JOINT.
2. FIELD DRILL 5/16" ø HOLE 1" FROM THE FIELD CUT END OF A COVER PLATE, UNLESS THERE IS AN EXISTING HOLE WITHIN 6" FROM THE COVER PLATE END.
3. FIELD PAINT THE FIELD CUT ENDS OF THE COVER PLATES TO MATCH THE ANODIZED COLOR.



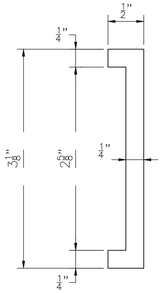
COVER PLATE DETAILS



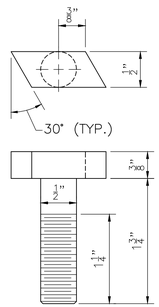
RAIL DETAILS



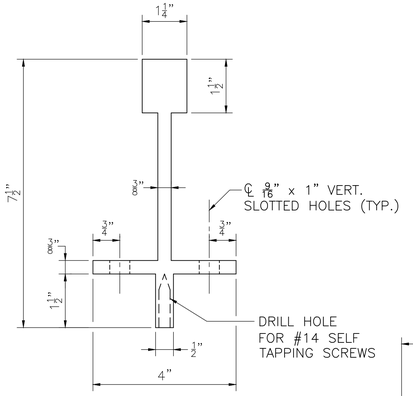
POST COVER PLATE EXTRUSION
FULL SCALE



SPLICE PLATE EXTRUSION
FULL SCALE



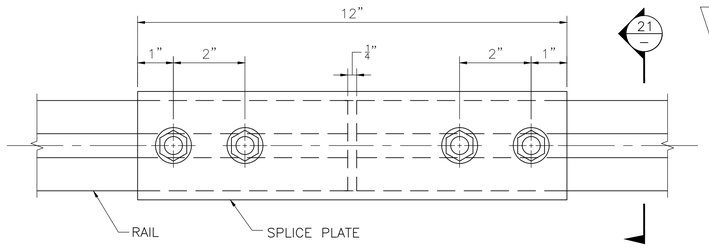
TEE BOLT
FULL SCALE



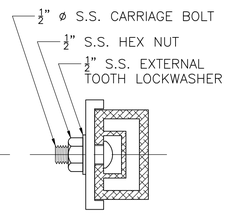
POST EXTRUSION
SCALE: 6" = 1'-0"

TAPERED END 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.

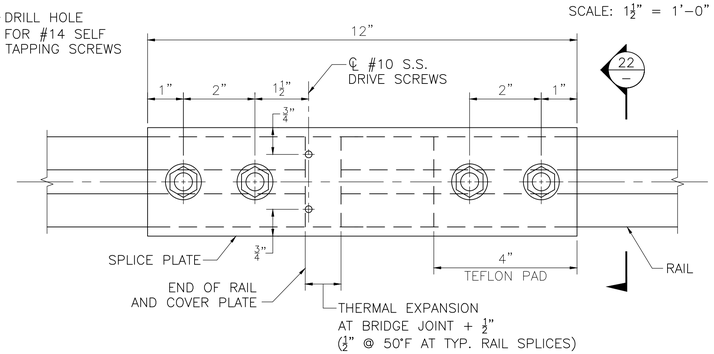
TAPERED END DETAILS
SCALE: 1½" = 1'-0"



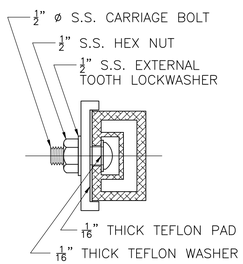
DETAIL AT SPLICE JOINT
SCALE: 6" = 1'-0"



SECTION 21
SCALE: 6" = 1'-0"



DETAIL AT EXPANSION JOINT
SCALE: 6" = 1'-0"

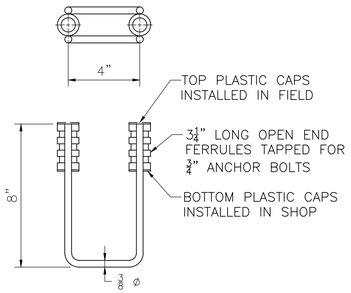


SECTION 22
SCALE: 6" = 1'-0"

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

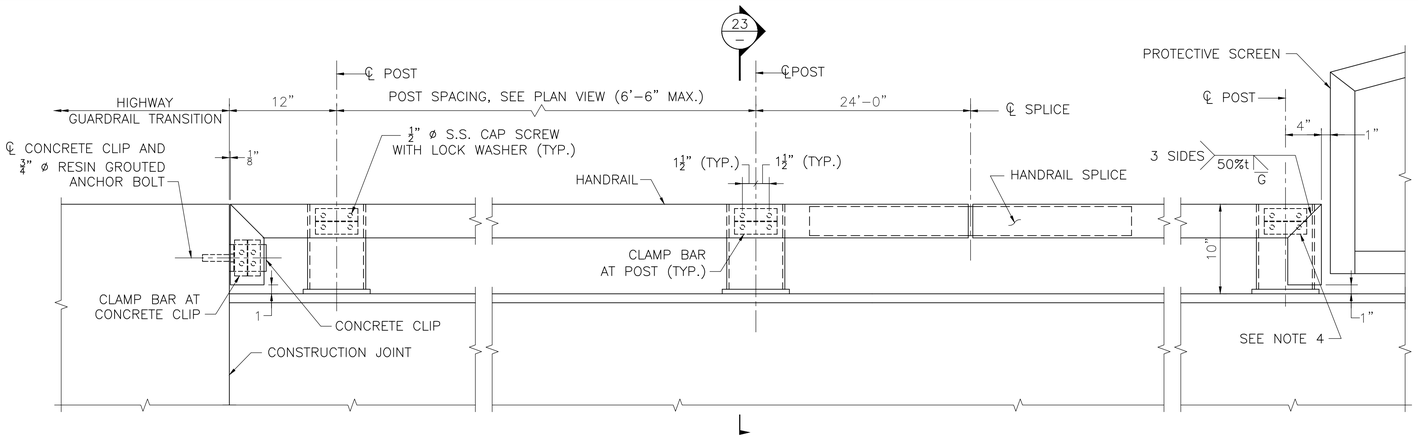
THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT
AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER
USE ONLY PRINTS OF LATEST DATE

S-24-026 (MassDot Standard Sheets).dwg
S-24-026 (MASSDOT STANDARD SHEETS).DWG Plotted on 5-Feb-2026 10:07 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

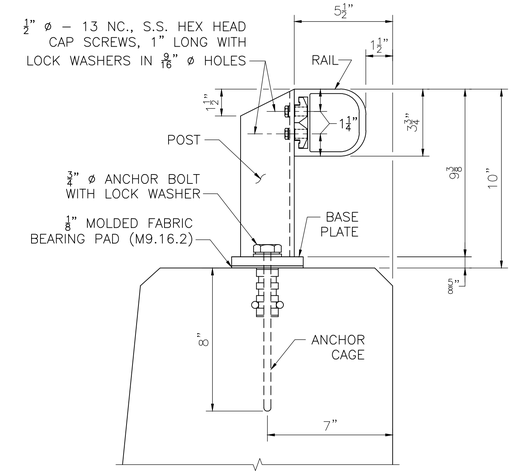


NOTE:
GALVANIZED OR ELECTROPLATE FINISH.

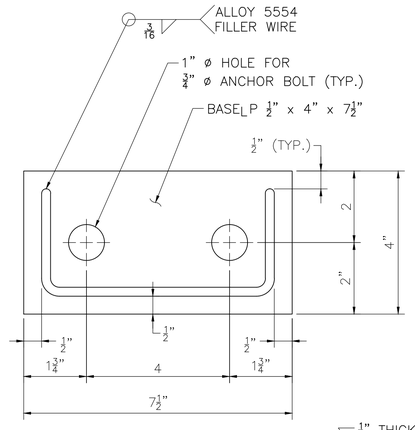
ANCHOR CAGE
SCALE: 3" = 1'–0"



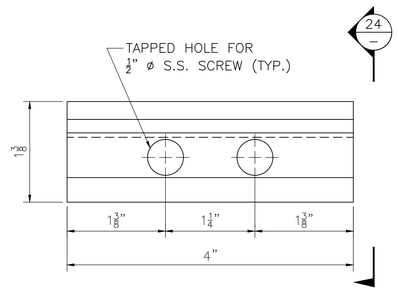
HANDRAIL ELEVATION
SCALE: 1½" = 1'–0"



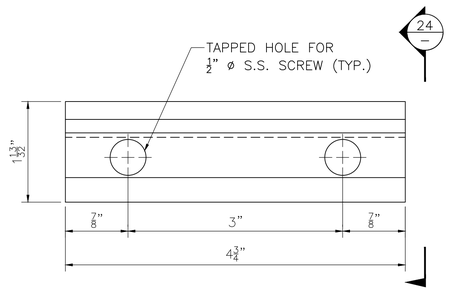
SECTION 23
SCALE: 3" = 1'–0"



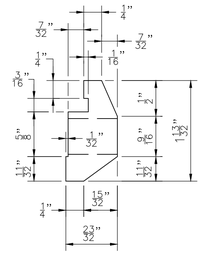
BASE PLATE DETAIL
SCALE: 6" = 1'–0"



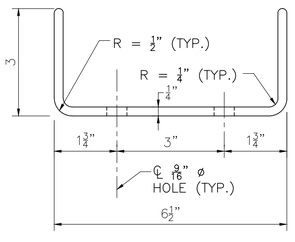
CLAMP BAR AT CONCRETE CLIP
FULL SIZE



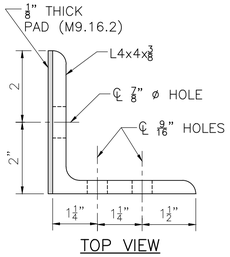
CLAMP BAR AT POST
FULL SIZE



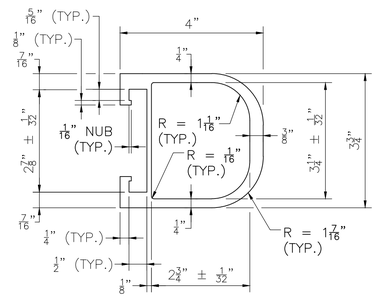
SECTION 24
FULL SIZE



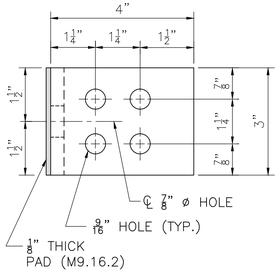
POST DETAIL
SCALE: 6" = 1'–0"



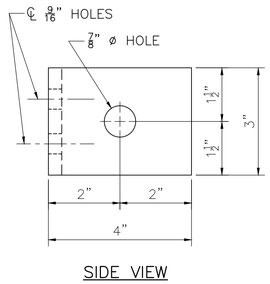
TOP VIEW



RAIL DETAIL
SCALE: 6" = 1'–0"

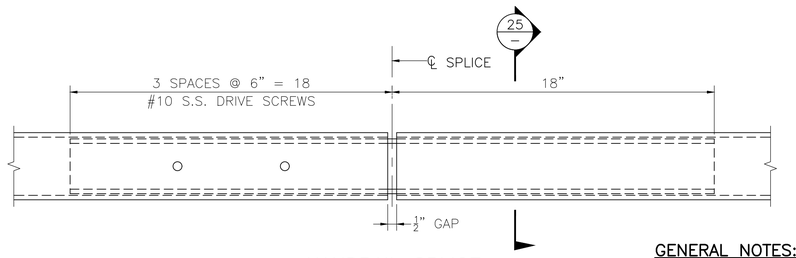


ELEVATION

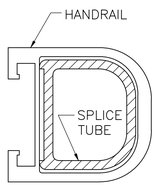


SIDE VIEW

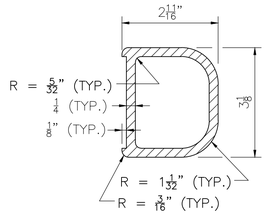
CONCRETE CLIP
SCALE: 6" = 1'–0"



HANDRAIL SPLICE
SCALE: 3" = 1'–0"



SECTION 25
SCALE: 6" = 1'–0"



SPLICE TUBE
SCALE: 6" = 1'–0"

FINISH:
POSTS, RAILS, BASE PLATES, CONCRETE CLIP AND SPLICE TUBE SHALL RECEIVE A DARK BRONZE ANODIZED FINISH.

MATERIALS:
RAIL, POST AND BASE PLATE	ASTM B 221, ALLOY 6061–T6
CLAMP BAR, RAIL SPLICE AND CONC. CLIP	ASTM B 221, ALLOY 6061–T6
S.S. FASTENERS	ASTM A 193 GRADE B8 (TYPE 403)
ANCHOR BOLTS	AASHTO M 164 GALVANIZED (ROTATION CAPACITY TEST NOT REQUIRED)
ALUMINUM WASHERS	ASTM B 209 ALLOY ALCLAD 2024–T4

GENERAL NOTES:
1. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF FOUR POST, IF POSSIBLE.
2. RAILS SHALL HAVE A HANDRAIL SPLICE IN THE PANEL OVER A BRIDGE EXPANSION JOINT. ½" GAP SHALL BE INCREASE AS REQUIRED.
3. OTHER CONFIGURATIONS OF THE INTERNAL WALLS OF THE RAIL EXTRUSION MAY BE SUBMITTED FOR APPROVAL.
4. AT 45° MITRES, TRIM OFF 1/16" NUB ON VERTICAL RAIL SECTION AS NEEDED TO ALLOW BOTTOM HORIZONTAL CLAMP BAR TO PROPERLY ENGAGE THE HORIZONTAL RAIL.

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

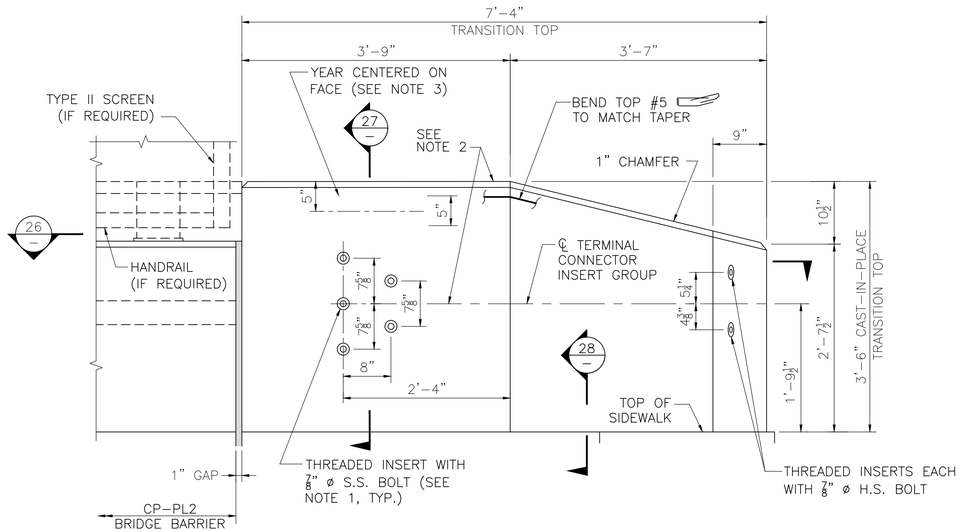
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)–0035(924)	190	204
PROJECT FILE NO. 609409			

HANDRAIL
(MASS DOT STANDARD SHEETS)

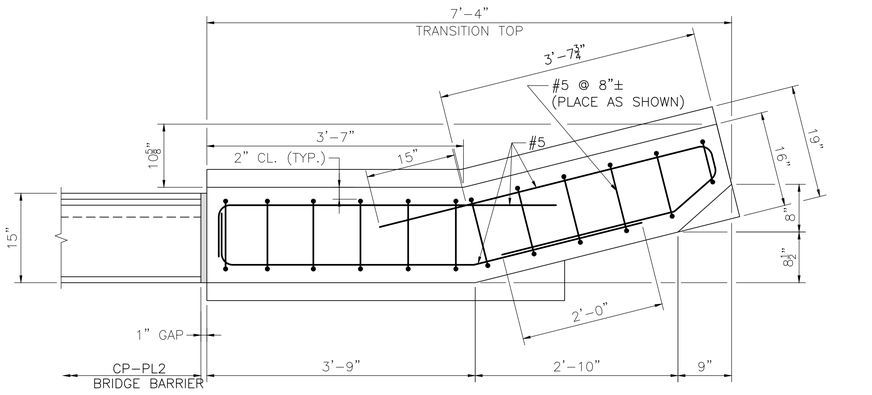
DEC 20, 2025	ISSUED FOR CONSTRUCTION
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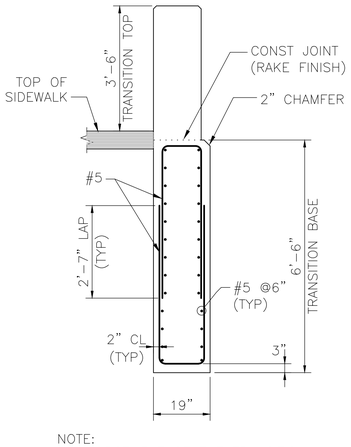
S-24-026 (MassDot Standard Sheets).dwg
S-24-026 (MASSDOT STANDARD SHEETS).DWG Plotted on 5-Feb-2026 10:08 PM
Xxxxx Structural Submittal (S#) DD-Month-YYYY



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

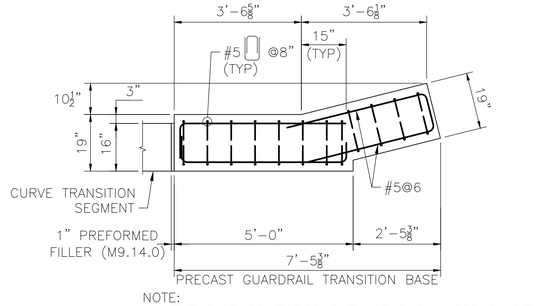


SECTION 26
SCALE: 1" = 1'-0"



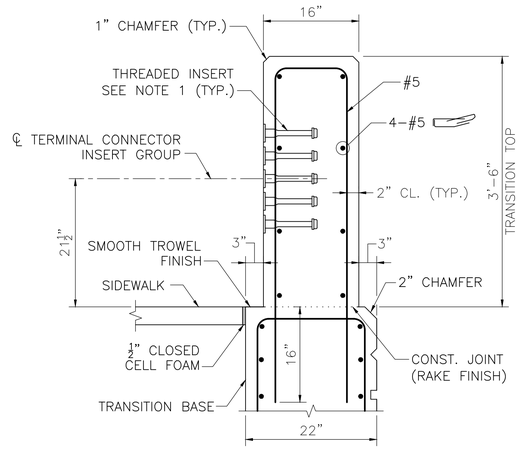
NOTE:
REINFORCEMENT OF THE TRANSITION TOP NOT SHOWN FOR CLARITY

SECTION 29
SCALE: 1/2" = 1'-0"

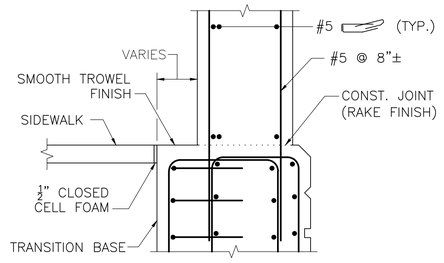


NOTE:
MOMENT SLAB REINFORCEMENT NOT SHOWN FOR CLARITY

SECTION 30
SCALE: 1/2" = 1'-0"



SECTION 27 AT SIDEWALK
SCALE: 1" = 1'-0"

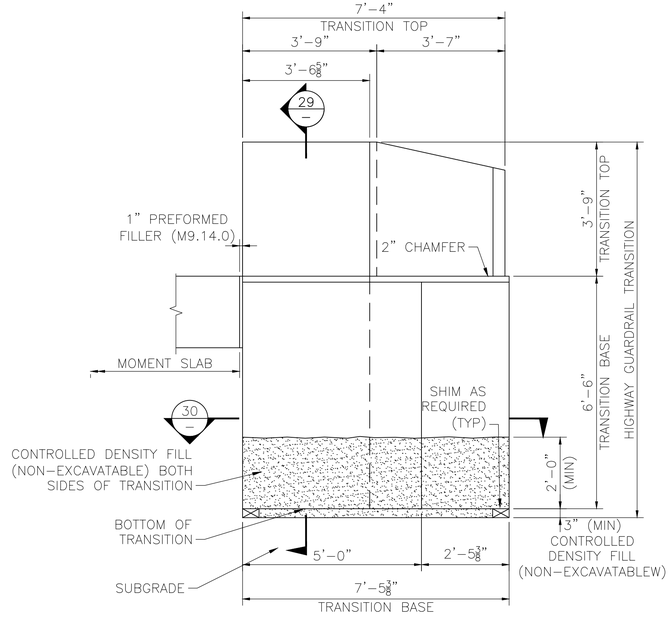


SECTION 28 AT SIDEWALK
SCALE: 1" = 1'-0"

NOTES:

1. THREADED INSERTS SHALL BE PREQUALIFIED BY THE MANUFACTURER AS BEING CAPABLE OF DEVELOPING A NOMINAL SHEAR RESISTANCE OF 20 KIPS PER ⅞" ø S.S. BOLT. S.S. BOLTS SHALL BE ⅞" ø x 1½" LONG FULLY THREADED AISI TYPE 304N STAINLESS STEEL. INSERTS FOR ⅞" 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, ¾", 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 1½" 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.



CIP GUARDRAIL TRANSITION ELEVATION
SCALE: 1/2" = 1'-0"

SPRINGFIELD
ARMORY STREET/RR CSX (ABANDONED)

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	HIP(NGB)-0035(924)	191	204
PROJECT FILE NO. 609409			

HIGHWAY GUARDRAIL TRANSITION
(MASS DOT STANDARD SHEETS)

DEC 20, 2025	ISSUED FOR CONSTRUCTION
DATE	DESCRIPTION

THIS SHEET IS APPROVED FOR CONSTRUCTION BY MASSDOT AUTHORIZED SIGNATORY: STATE BRIDGE ENGINEER

USE ONLY PRINTS OF LATEST DATE

S-24-026 (MassDot Standard Sheets).dwg
S-24-026 (MASSDOT STANDARD SHEETS).DWG Plotted on 5-Feb-2026 10:08 PM
Xxxxxx Structural Submittal (S#) DD-Month-YYYY

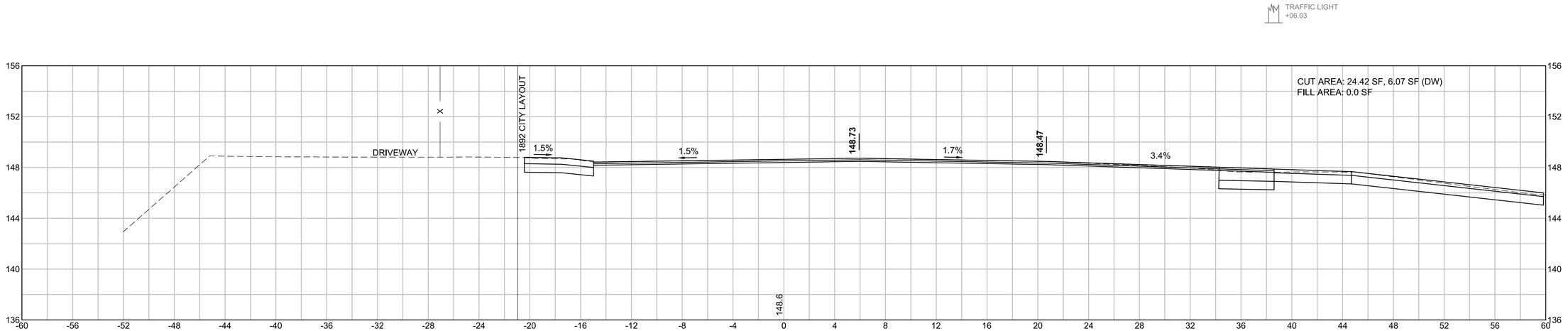
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	192	204
	PROJECT FILE NO. 609409		

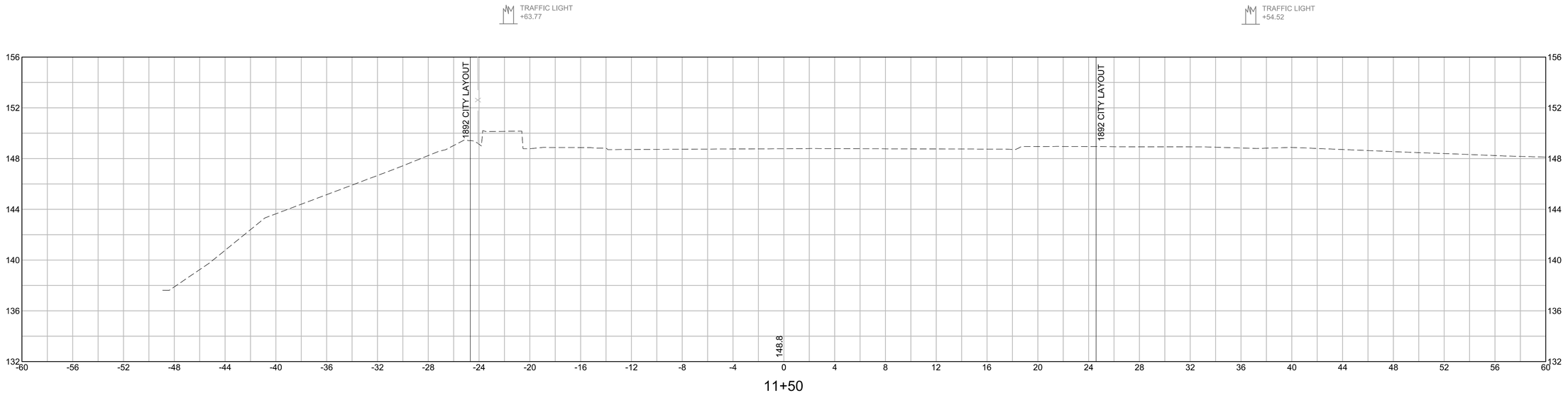
CROSS SECTIONS

ARMORY STREET - STA 11+50 TO 12+00

609409_HD (TXS01).DWG Plotted on 19-Nov-2025 9:52 AM



12+00



11+50

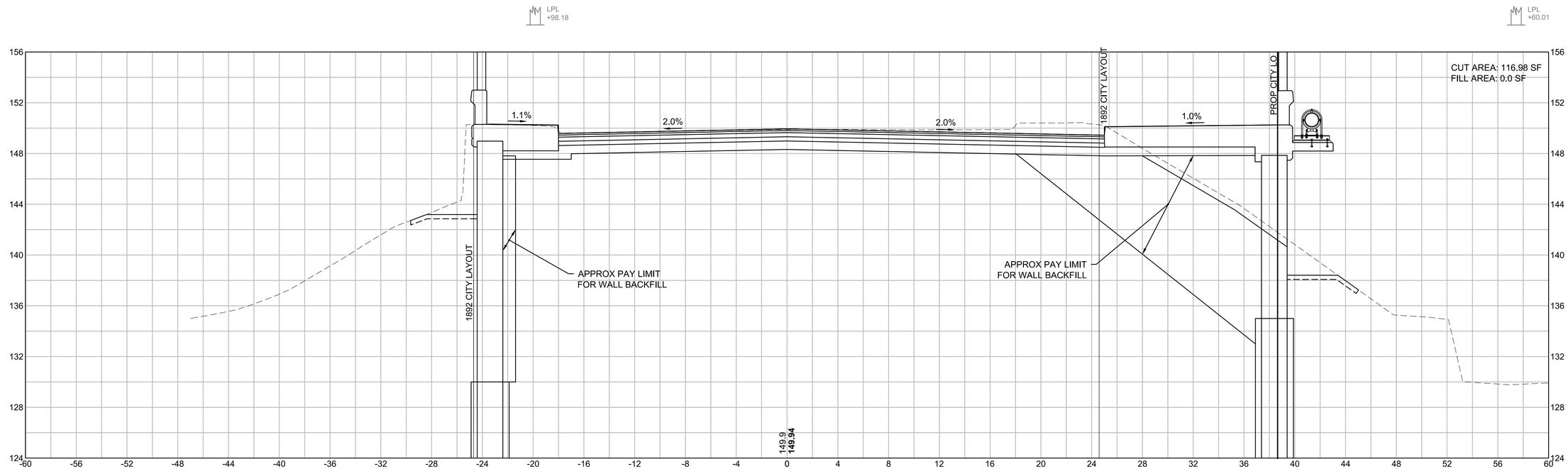
HOR. SCALE IN FEET
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VER. SCALE IN FEET

SPRINGFIELD
ARMORY STREET

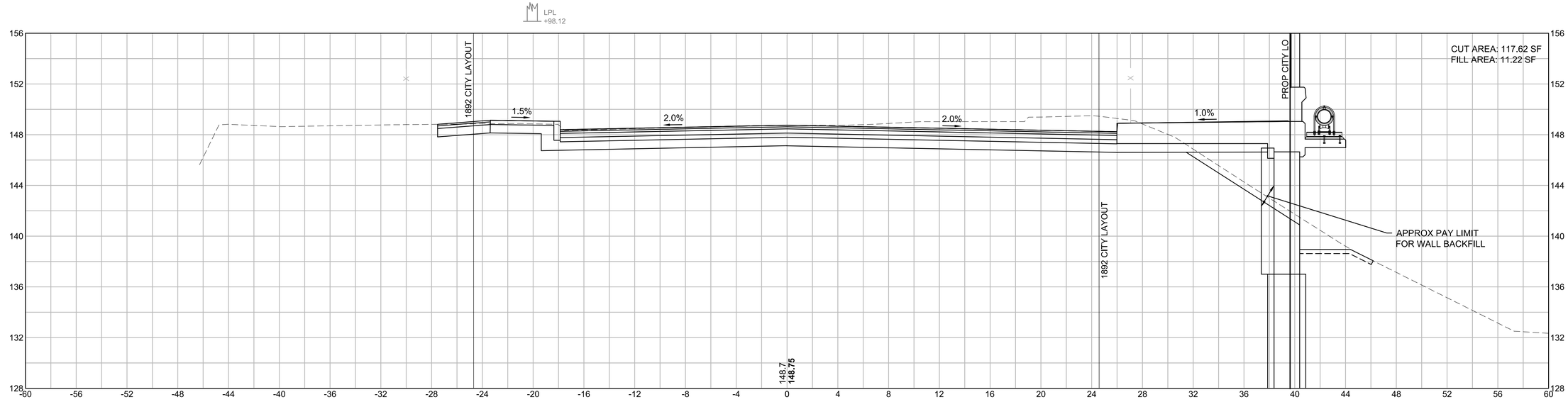
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	193	204
	PROJECT FILE NO. 609409		

CROSS SECTIONS

ARMORY STREET - STA 12+50 TO 13+00



13+00



12+50

HOR. SCALE IN FEET
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VER. SCALE IN FEET

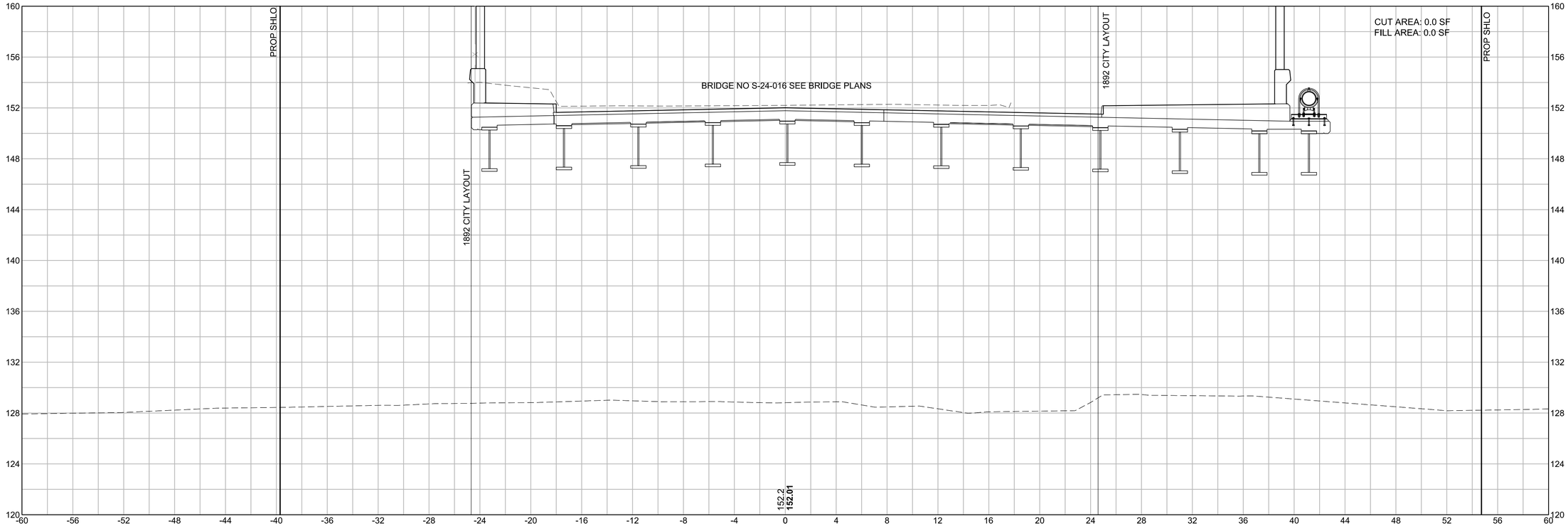
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	194	204
	PROJECT FILE NO.	609409	

CROSS SECTIONS

ARMORY STREET - STA 13+50



13+50

HOR. SCALE IN FEET
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4 0 4 8
VER. SCALE IN FEET

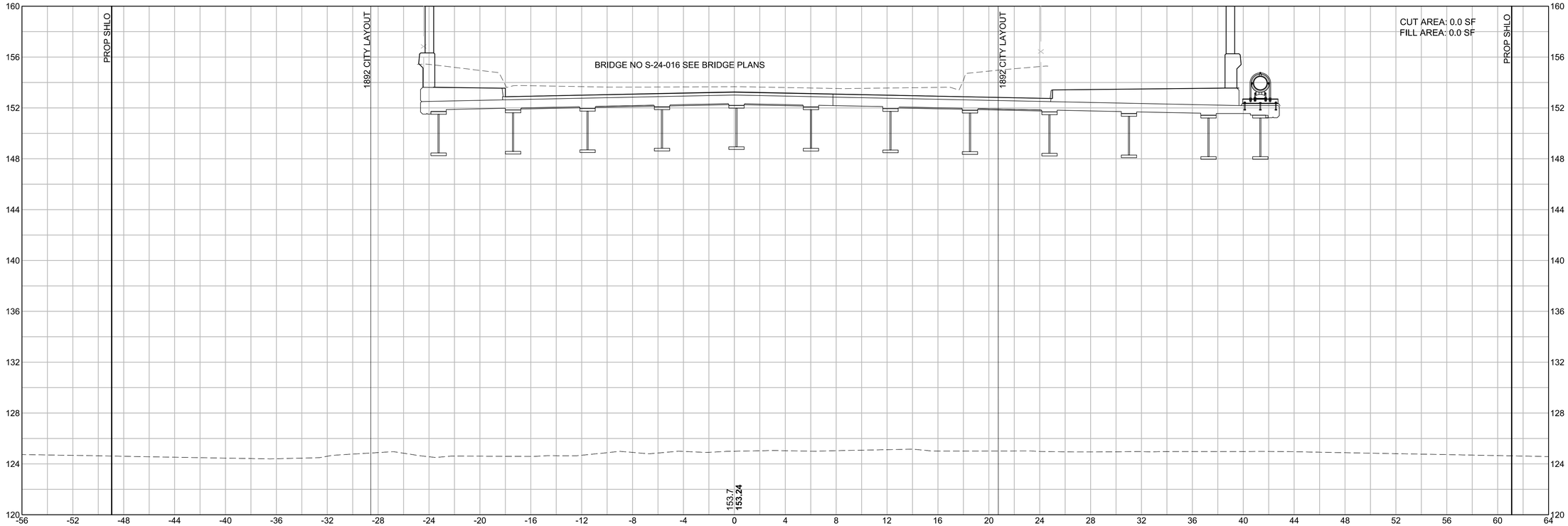
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	195	204
	PROJECT FILE NO.	609409	

CROSS SECTIONS

ARMORY STREET - STA 14+00



14+00

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VER. SCALE IN FEET

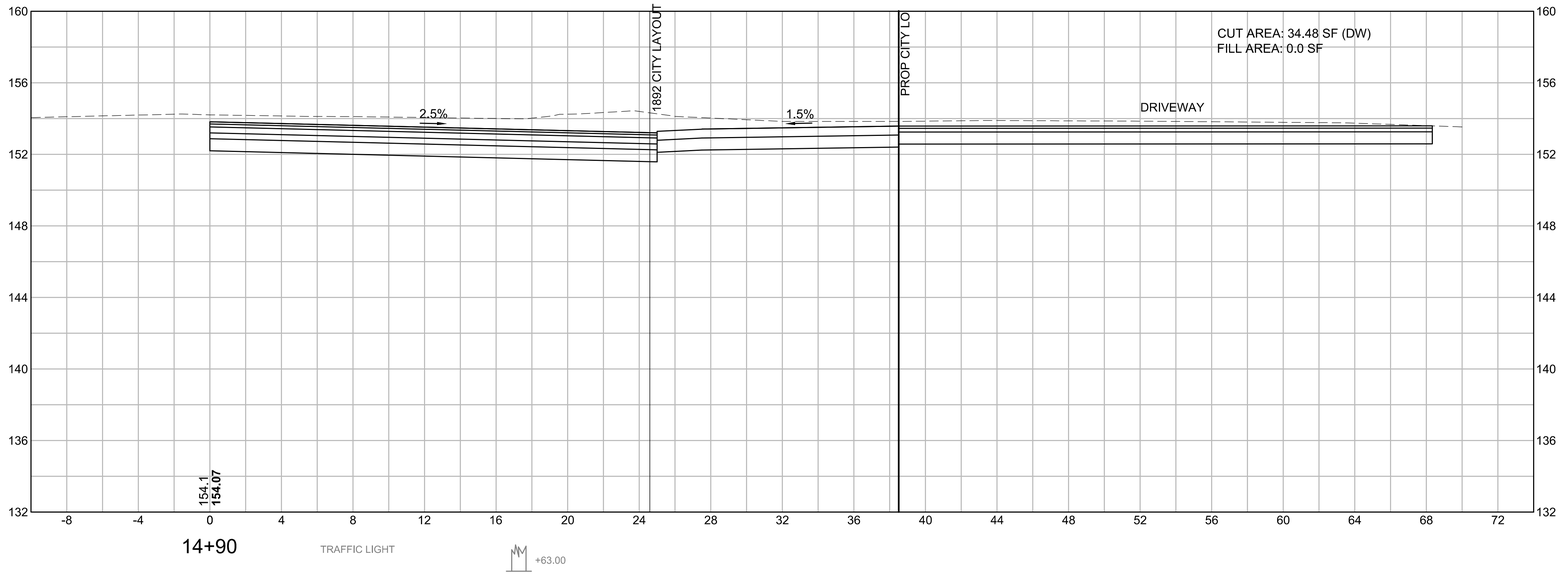
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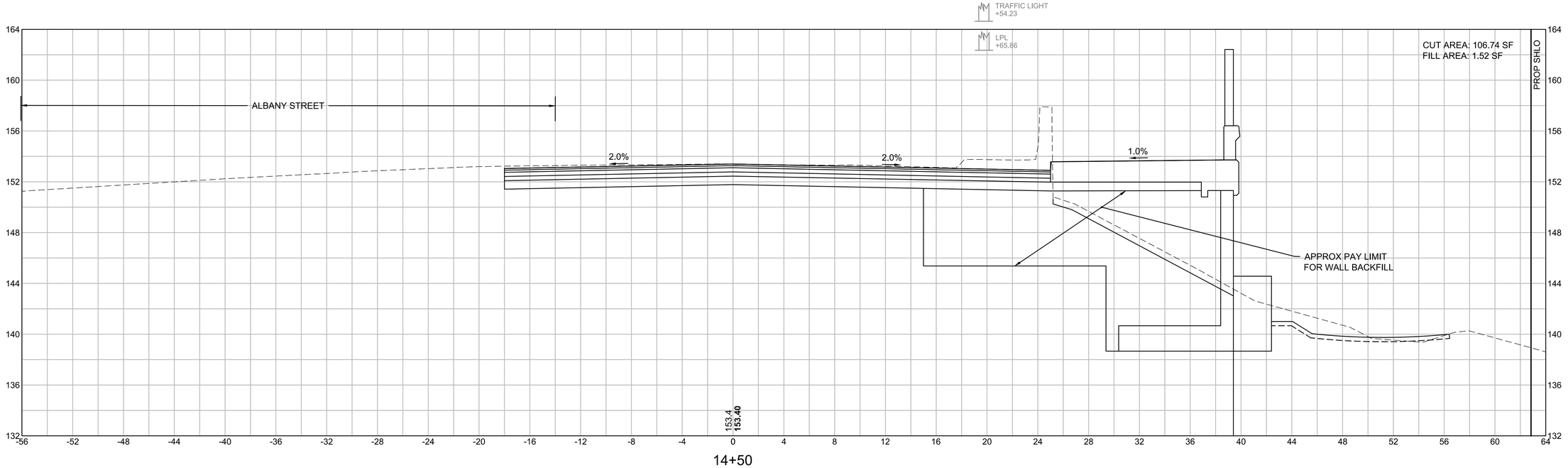
SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	196	204
	PROJECT FILE NO. 609409		

CROSS SECTIONS

ARMORY STREET - STA 14+50 TO 14+90





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VER. SCALE IN FEET

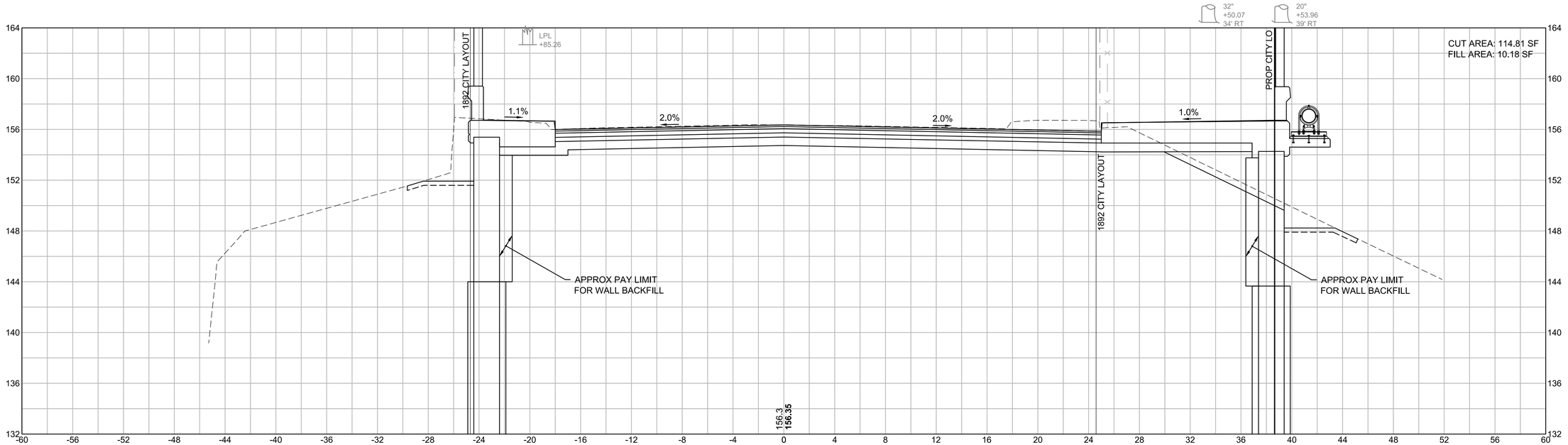
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	197	204
	PROJECT FILE NO. 609409		

CROSS SECTIONS

ARMORY STREET - STA 15+00 TO 15+50



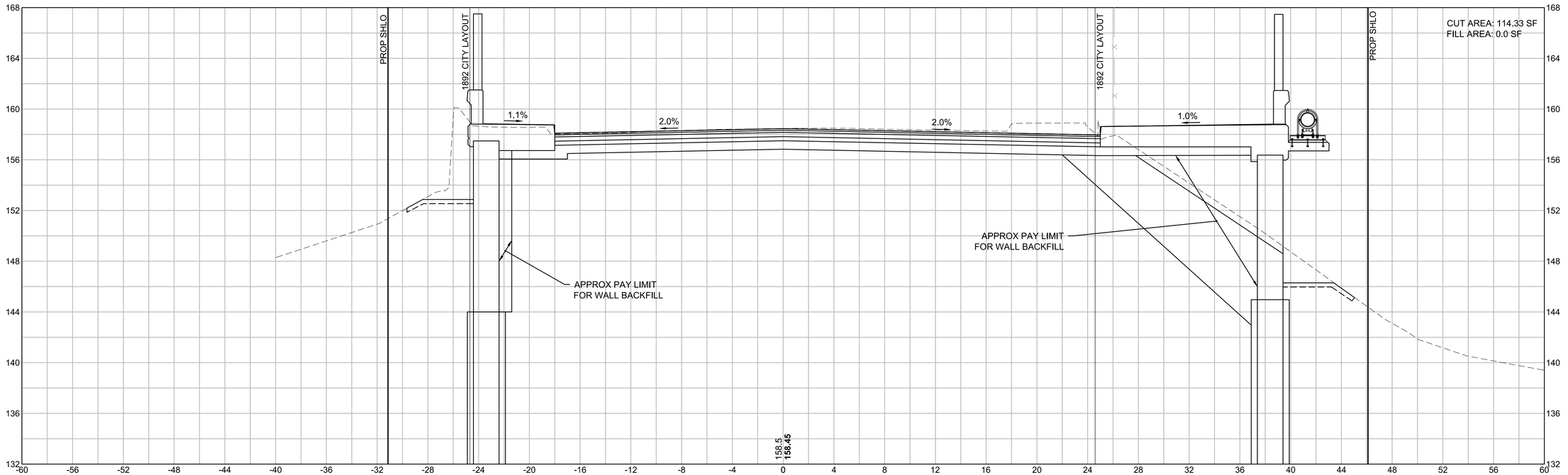
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	198	204
	PROJECT FILE NO. 609409		

CROSS SECTIONS

ARMORY STREET - STA 16+00



16+00

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VER. SCALE IN FEET

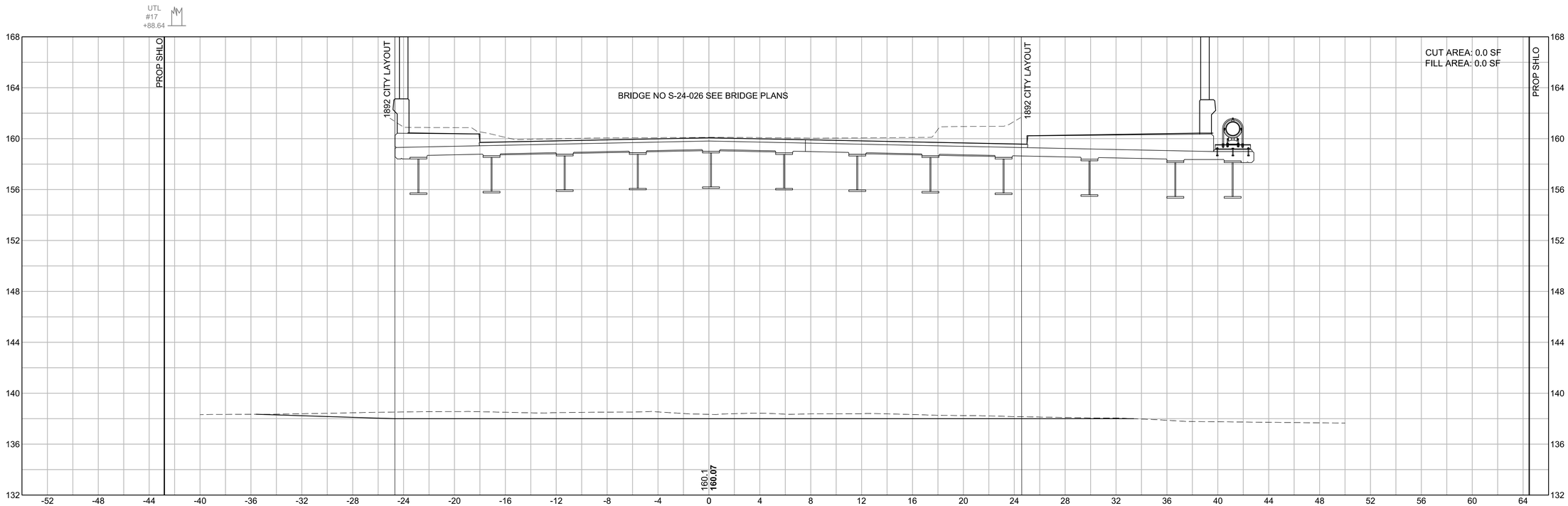
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	199	204
	PROJECT FILE NO. 609409		

CROSS SECTIONS

ARMORY STREET - STA 16+50



16+50

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4 0 4 8
VER. SCALE IN FEET

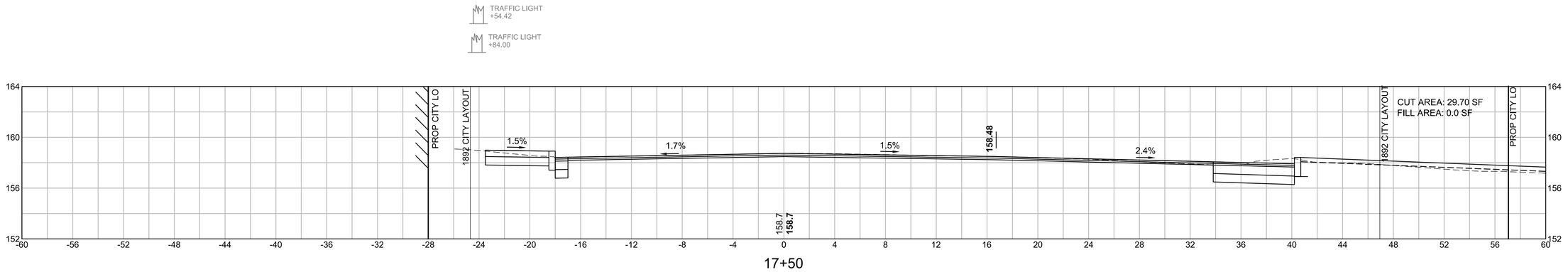
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SPRINGFIELD
ARMORY STREET

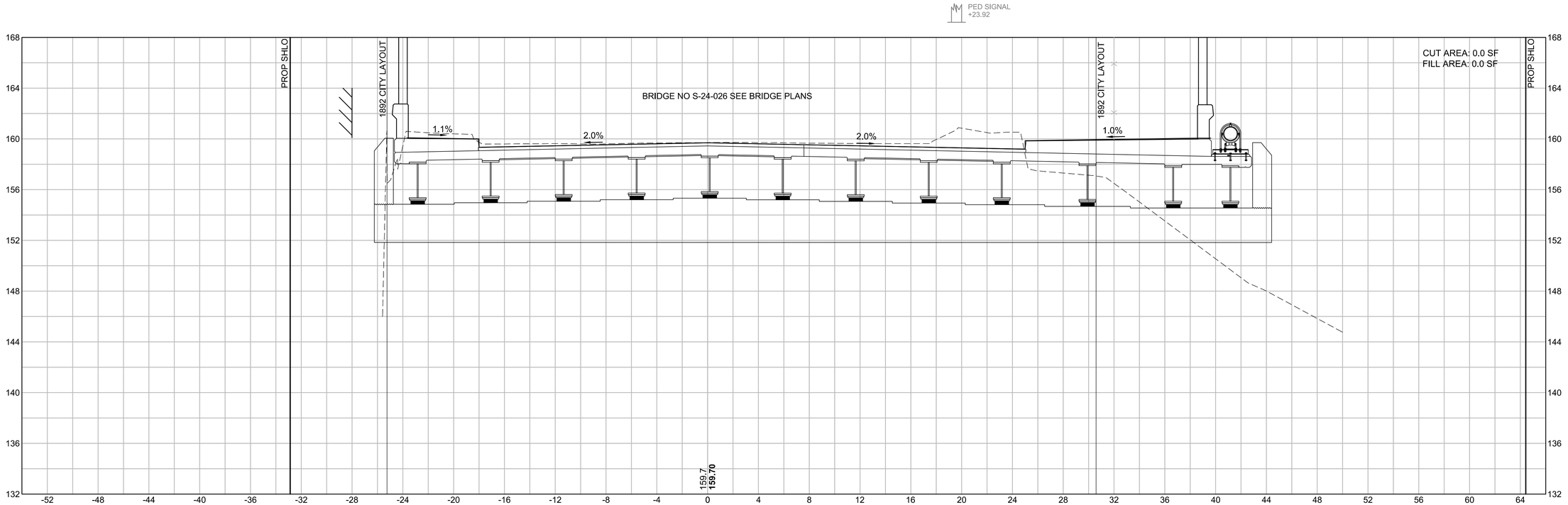
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	200	204
	PROJECT FILE NO. 609409		

CROSS SECTIONS

ARMORY STREET - STA 17+00 TO 17+50



17+50



17+00

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VER. SCALE IN FEET

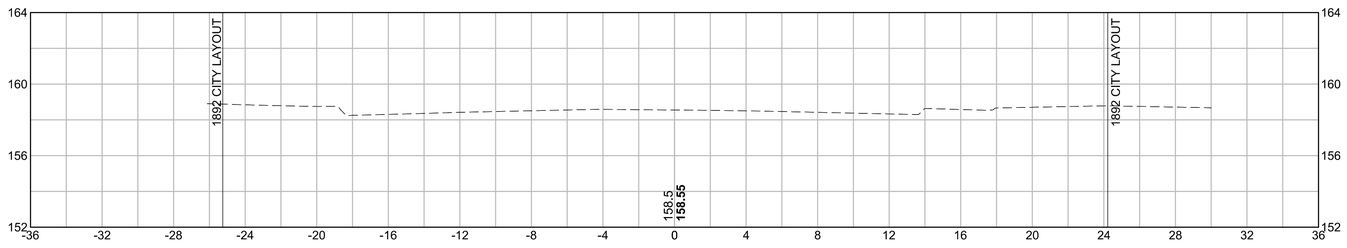
609409_HD (TXS01).DWG Plotted on 19-Nov-2025 9:53 AM

SPRINGFIELD
ARMORY STREET

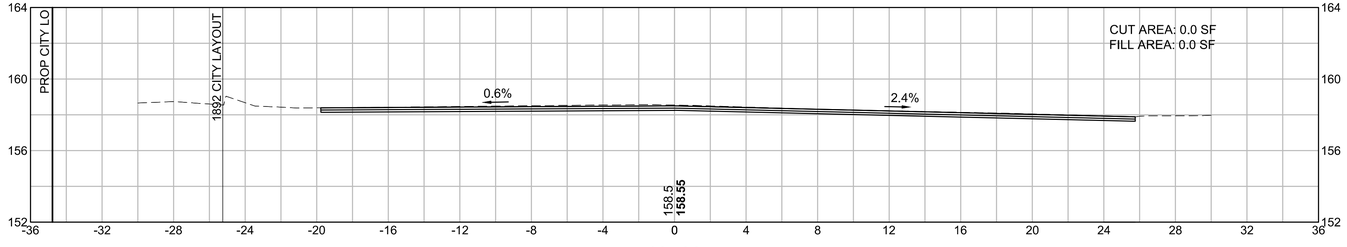
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	201	204
	PROJECT FILE NO. 609409		

CROSS SECTIONS

ARMORY STREET - STA 18+00 TO 18+50



18+50



18+00

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

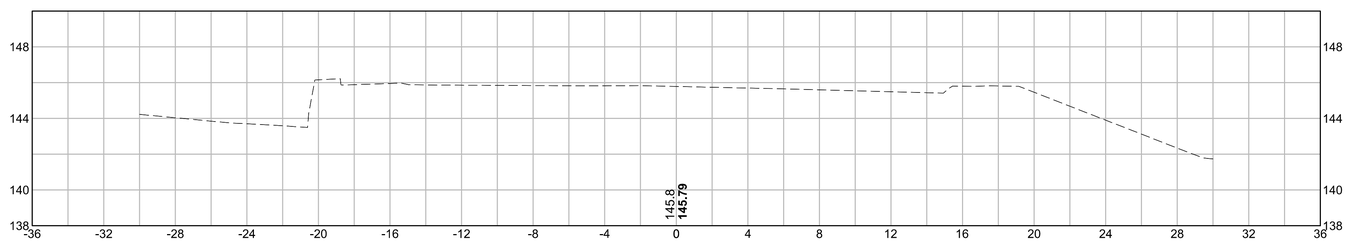
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	202	204
PROJECT FILE NO.	609409		

CROSS SECTIONS

ALBANY STREET - STA 40+00 TO 41+00



41+00

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

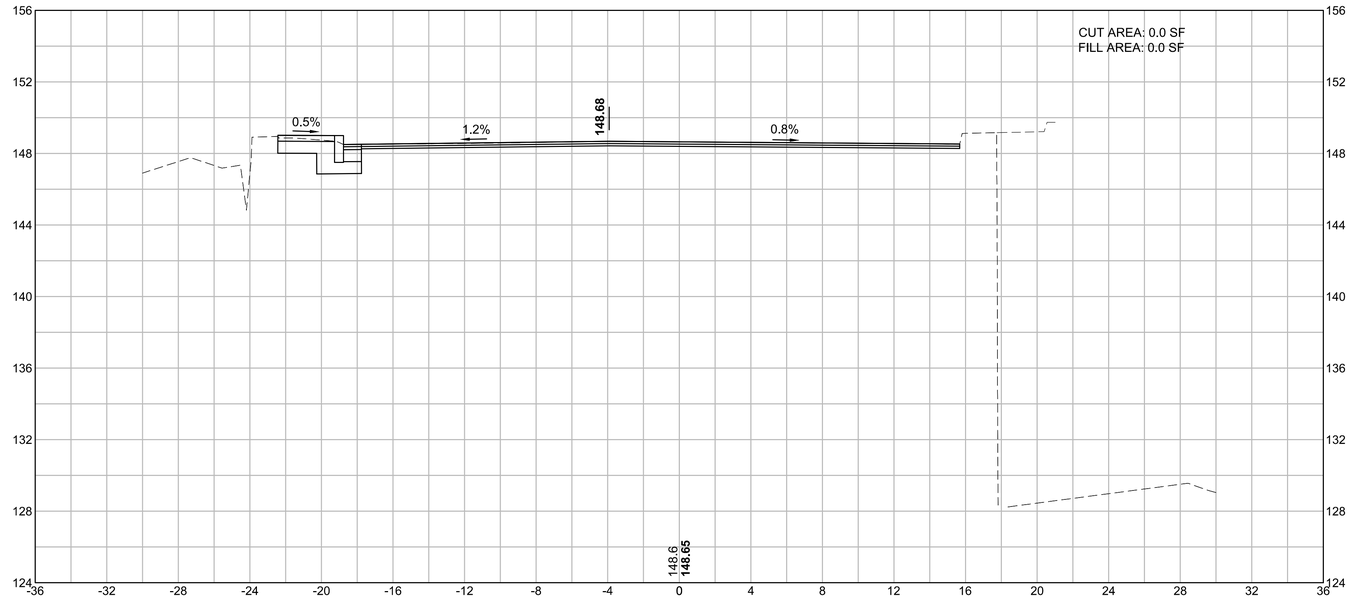
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	203	204
	PROJECT FILE NO.	609409	

CROSS SECTIONS

ALBANY STREET - STA 41+50



41+50

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET

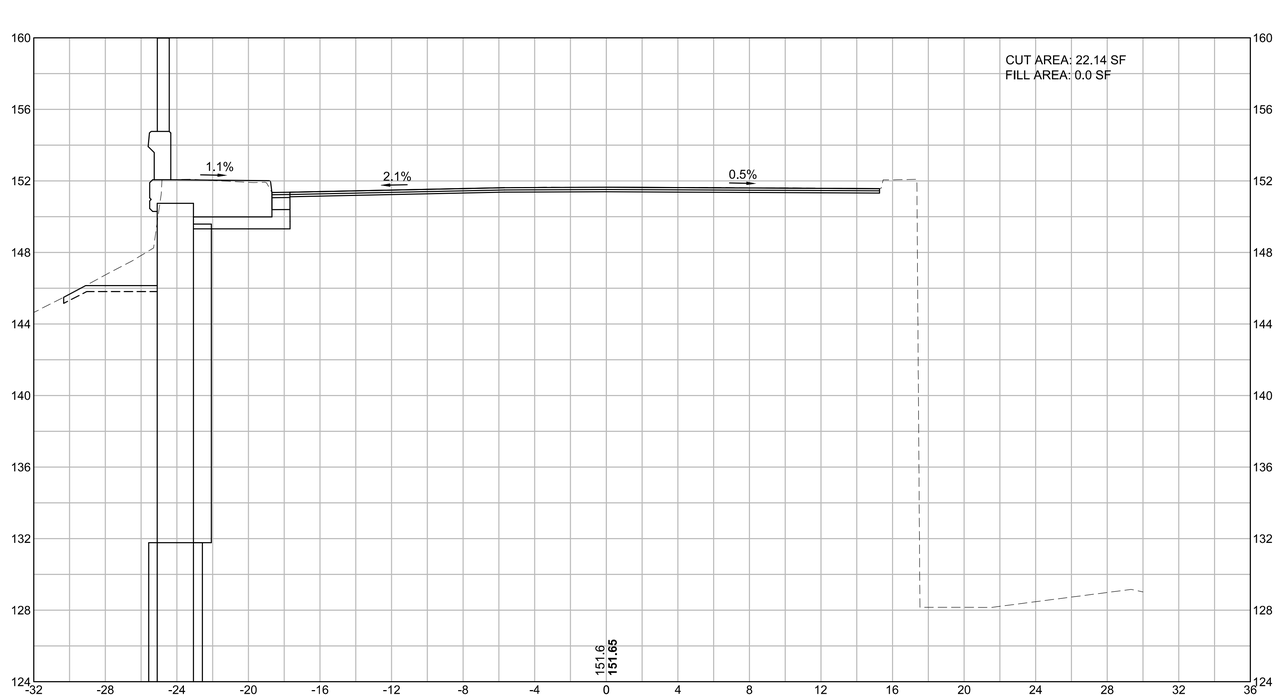
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SPRINGFIELD
ARMORY STREET

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	HIP(NGB)-003S(924)	204	204
	PROJECT FILE NO.	609409	

CROSS SECTIONS
ALBANY STREET - STA 42+00

609409_HD (TXS01).DWG Plotted on 19-Nov-2025 9:53 AM



42+00

HOR. SCALE IN FEET
4 0 4 8
4 0 4 8
VER. SCALE IN FEET