

DEPARTMENT OF PUBLIC WORKS
TOWN OF AYER, MASSACHUSETTS
BRIDGE REHABILITATION
BARNUM ROAD OVER BOWERS BROOK
BRIDGE NO. A-19-011 (25M)

BID NO. XXX-XXX
JUNE 2026

THE 2026 MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, THE 2026 CONSTRUCTION STANDARD DETAILS, THE 2023 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

WHERE CONFLICTS BETWEEN TOWN STANDARD DETAILS SPECIFICATIONS AND MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD DETAILS AND SPECIFICATIONS EXIST, THE TOWN SPECIFICATIONS SHALL GOVERN.

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OWNER:
TOWN OF AYER
DEPARTMENT OF PUBLIC WORKS
1 MAIN STREET
AYER, MA 01432

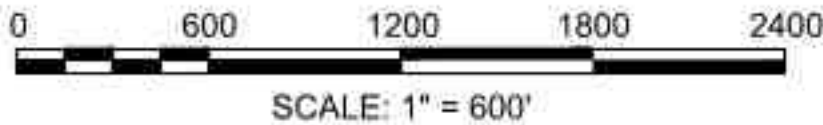
TOWN MANAGER
ROBERT PONTBRIAND

DPW DIRECTOR
DAN VAN SCHALKWYK, P.E.

TOWN ENGINEER
MATT HERNON, P.E.

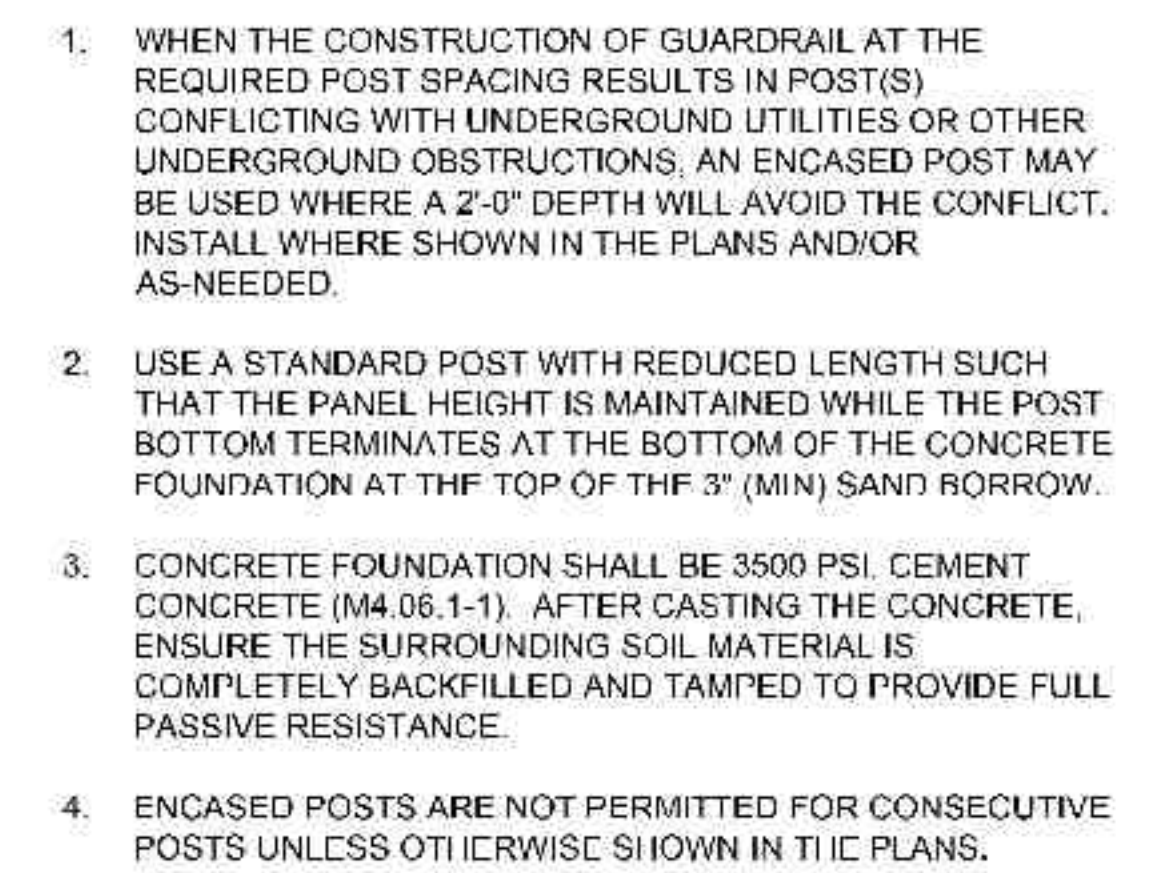
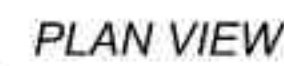


LOCUS MAP



NO.	DATE	REVISIONS

PROJECT: BRIDGE A-19-011 (25M) REHABILITATION, BARNUM ROAD		
DESIGN SUBMISSION: 100% SUBMISSION		
DRAWING TITLE: TITLE SHEET		
PREPARED FOR:  TOWN OF AYER DEPARTMENT OF PUBLIC WORKS 25 BROOK STREET AYER, MA 01432		
PREPARED BY:  Green International Associates, Inc. A Lochner Company 100 Ames Pond Drive, Suite 200, Tewksbury, MA 01876		
SCALE: AS NOTED	DESIGNED BY: NS/HD	SHEET NO. 1 OF 12
DATE: 3/22/2024	DRAWN BY: NS/HD	
PROJECT NO. 23053	CHECKED BY: RMS	



- PROJECT: BRIDGE A-19-011 (25M)
REHABILITATION, BARNUM ROAD

DRAWING TITLE: **DETAIL SHEET**

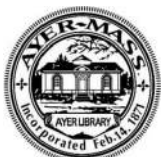
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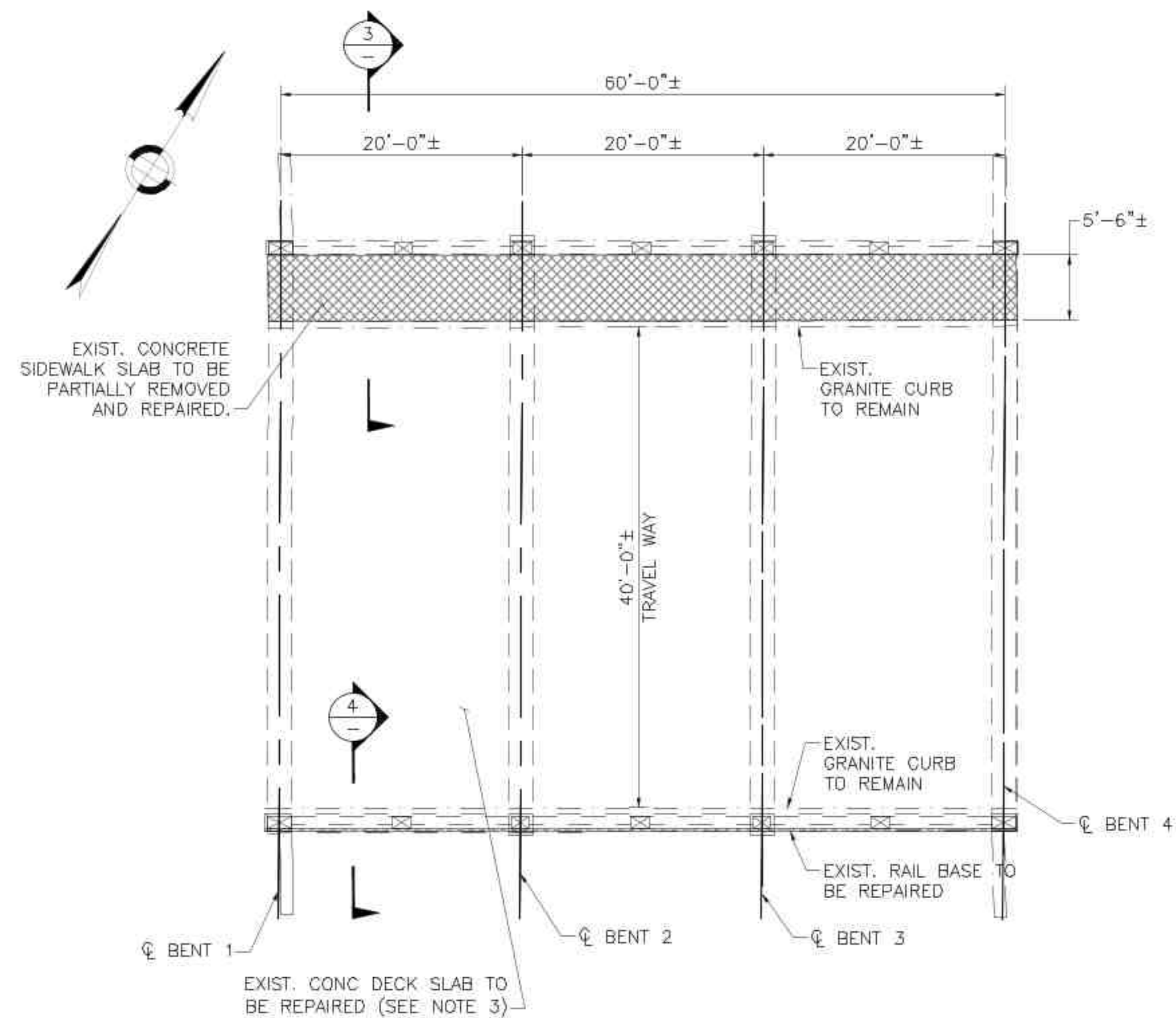
 **Green International Affiliates, Inc.**
A Lochner Company
100 Ames Pond Drive, Suite 200, Tewksbury, MA 01876

SHEET NO. 3 OF 12



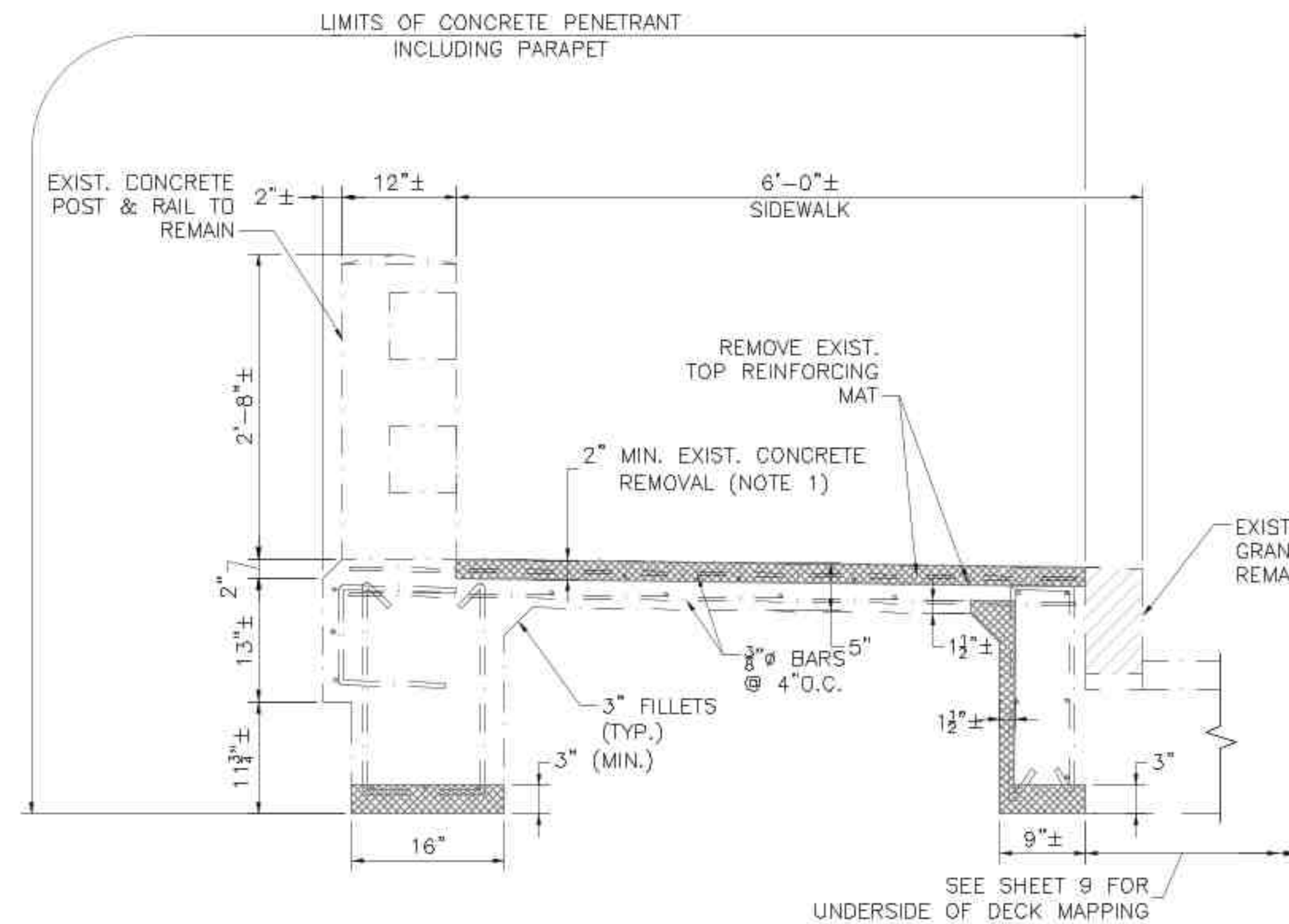
PROP GUARDRAIL TRAILING ANCHORAGE, TL-2 - STA 0+90 LT - 0+99 LT	PROP GUARDRAIL, TL-2 (SINGLE FACED) - STA 5+64 LT - STA 6+14 LT
PROP GUARDRAIL, TL-2 (SINGLE FACED) - STA 0+99 LT - STA 4+36 LT	PROP GUARDRAIL TANGENT END TREATMENT, TL-2 - STA 6+14 LT - STA 6+39 LT
PROP TRANSITION TO BRIDGE RAIL - STA 4+36 LT - STA 4+69 LT	PROP TRANSITION TO BRIDGE RAIL - STA 5+31 RT - STA 5+64 RT
PROP GUARDRAIL TANGENT END TREATMENT, TL-2 - STA 2+11 RT - STA 2+36 RT	PROP GUARDRAIL, TL-2 (SINGLE FACED) - STA 5+64 RT - STA 7+51 RT
PROP GUARDRAIL, TL-2 (SINGLE FACED) - STA 2+36 RT - STA 4+36 RT	PROP GUARDRAIL TRAILING ANCHORAGE, TL-2 - STA 7+51 RT - 7+60 RT
PROP TRANSITION TO BRIDGE RAIL - STA 4+36 RT - STA 4+69 RT	
PROP TRANSITION TO BRIDGE RAIL - STA 5+31 LT - STA 5+64 LT	

PROJECT: BRIDGE A-19-011 (25M) REHABILITATION, BARNUM ROAD		
DESIGN SUBMISSION: 100% SUBMISSION		
DRAWING TITLE: CONSTRUCTION PLAN		
PREPARED FOR:  TOWN OF AYER PLANNING DEPARTMENT 1 MAIN STREET AYER, MA, 01432		
PREPARED BY:  Green International Affiliates, Inc. A Lochner Company 100 Ames Pond Drive, Suite 200, Tewksbury, MA 01876		
SCALE: AS NOTED	DESIGNED BY: SS	SHEET NO. 4 OF 12
DATE: 3/22/2024	DRAWN BY: AH	
PROJECT NO. 23053	CHECKED BY: SS	



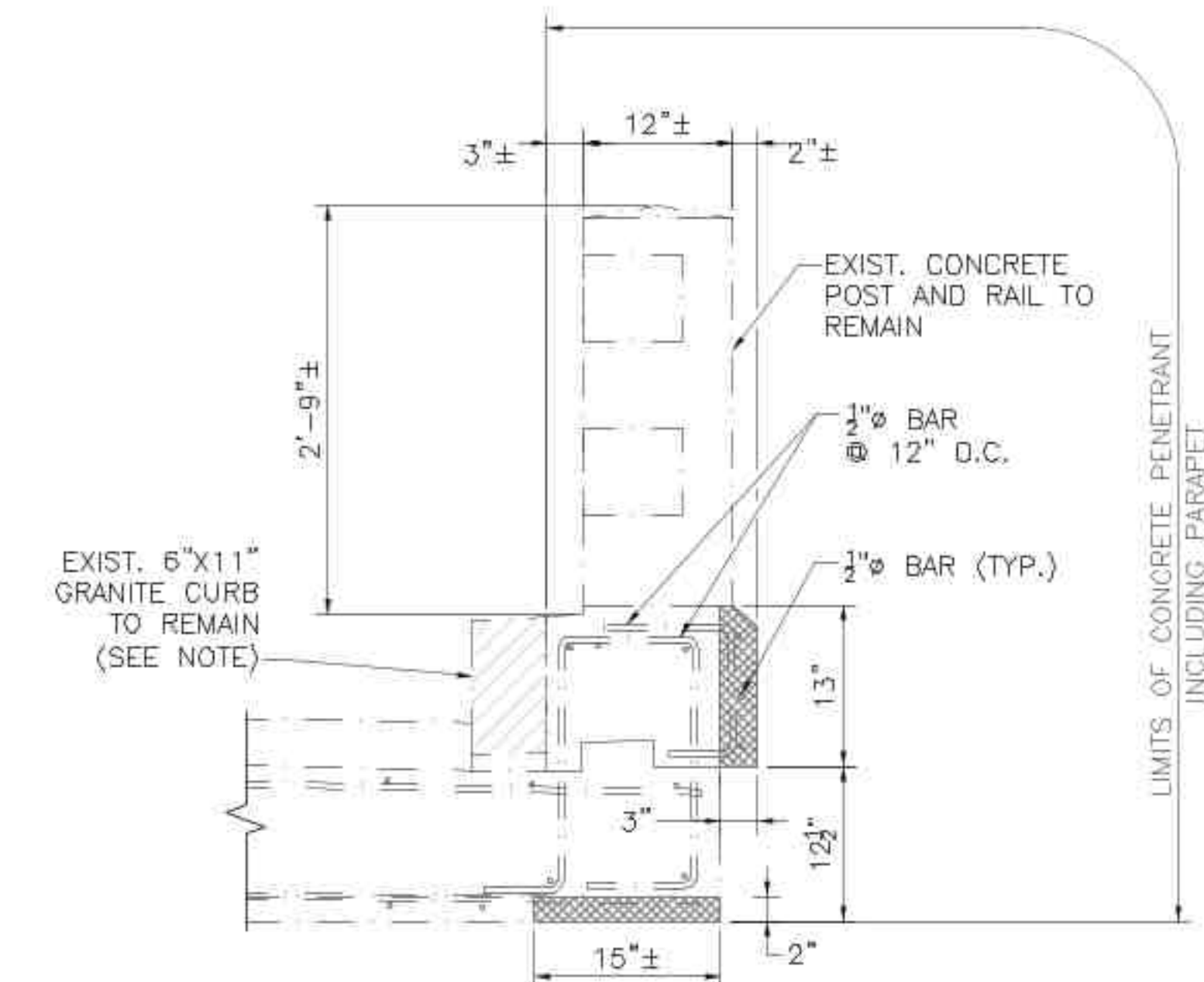
SIDEWALK AND PARAPET REPAIR PLAN

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



SECTION 3

SCALE: 1" = 1'-0"



SECTION 4

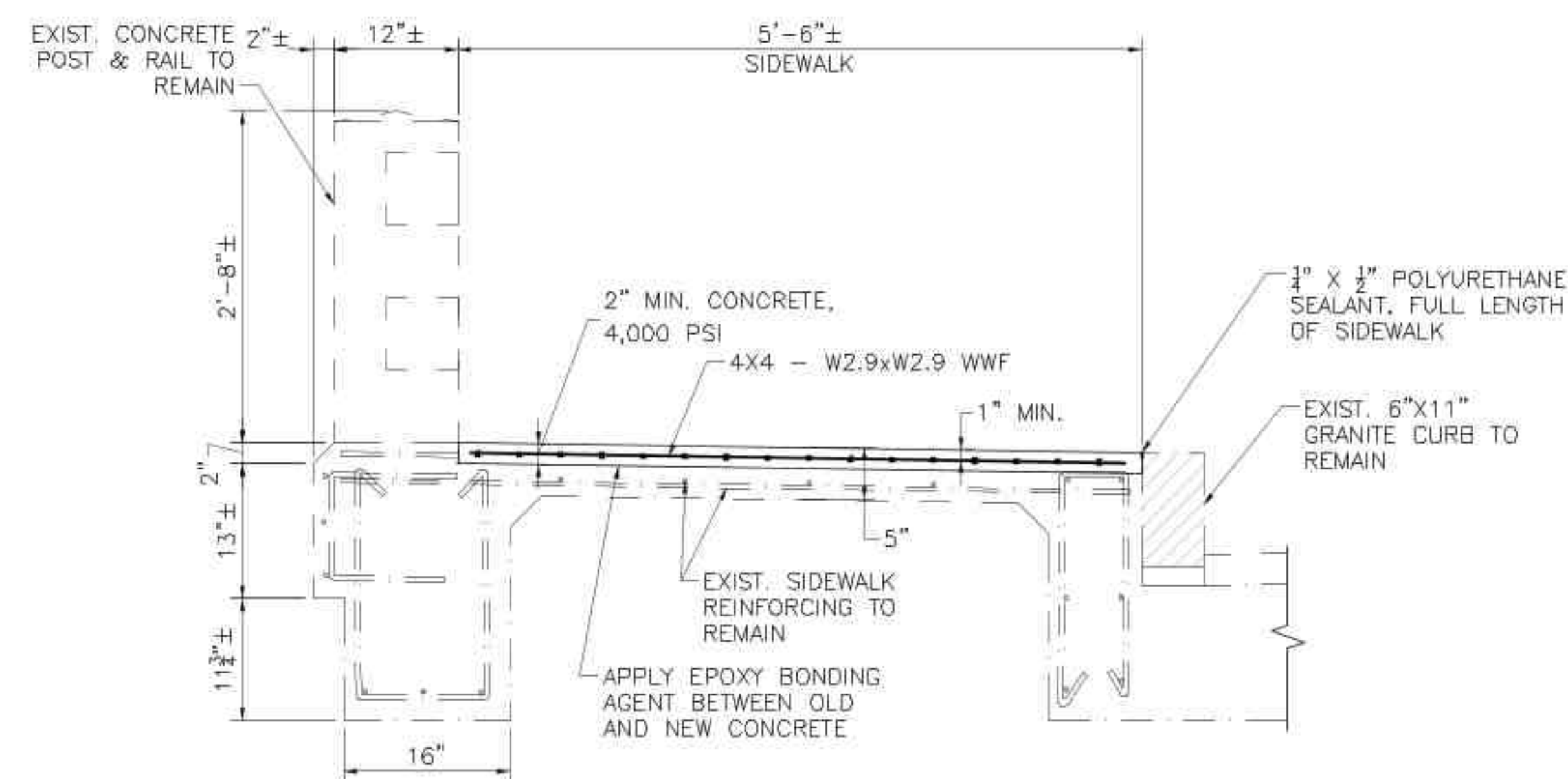
SCALE: 1" = 1'-0"



AREA OF CONCRETE REMOVAL

NOTES:

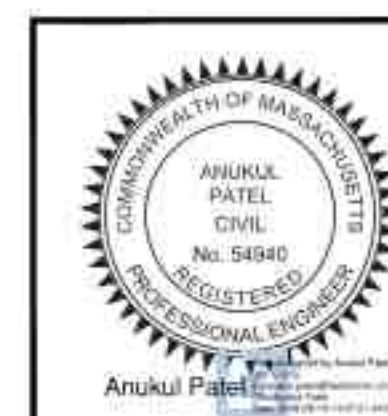
1. REMOVE DETERIORATED CONCRETE TO THE SOUND CONCRETE AND LIMITS SHOWN. THE CONTRACTOR SHALL REPORT TO THE ENGINEER ANY DETERIORATION THAT EXCEEDS THE LIMITS SHOWN ON THE PLANS AND SHALL NOT CONTINUE WORK WITHOUT FURTHER DIRECTION FROM THE ENGINEER.
2. REFER TO TYPE "A" REPAIR FOR CONCRETE REPAIR OF DETERIORATED CONCRETE SHOWN.
3. FOR UNDERSIDE OF DECK SLAB REPAIR, REFER TO SHEET 9 FOR DETERIORATION MAPPING AND SHEET 10 FOR CORRESPONDING REPAIR PROCEDURES.



SIDEWALK REPAIR SECTION

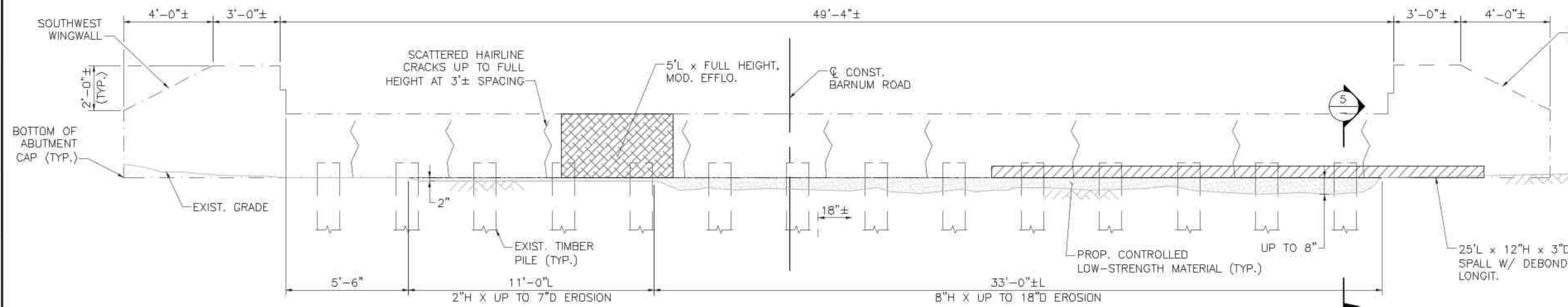
SCALE: 1" = 1'-0"

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35
[Signature] 6/30/2026
STATE BRIDGE ENGINEER DATE



NO.	DATE	REVISIONS

PROJECT:	BRIDGE A-19-011 (25M) REHABILITATION, BARNUM ROAD		
DESIGN SUBMISSION:	100% SUBMISSION		
DRAWING TITLE:	SIDEWALK AND PARAPET REPAIR PLAN AND SECTIONS		
PREPARED FOR:	 TOWN OF AYER DEPARTMENT OF PUBLIC WORKS 25 BROOK STREET AYER, MA 01432		
PREPARED BY:	 Green International Associates, Inc. A Lochner Company 100 Ames Pond Drive, Suite 200, Tewksbury, MA 01876		
SCALE: AS NOTED	DESIGNED BY: NS/HD	SHEET NO. 6 OF 12	
DATE: 3/22/2024	DRAWN BY: NS/HD		
PROJECT NO. 23053	CHECKED BY: RMS		



EXISTING BENT #1 PILE CAP AND WINGWALLS

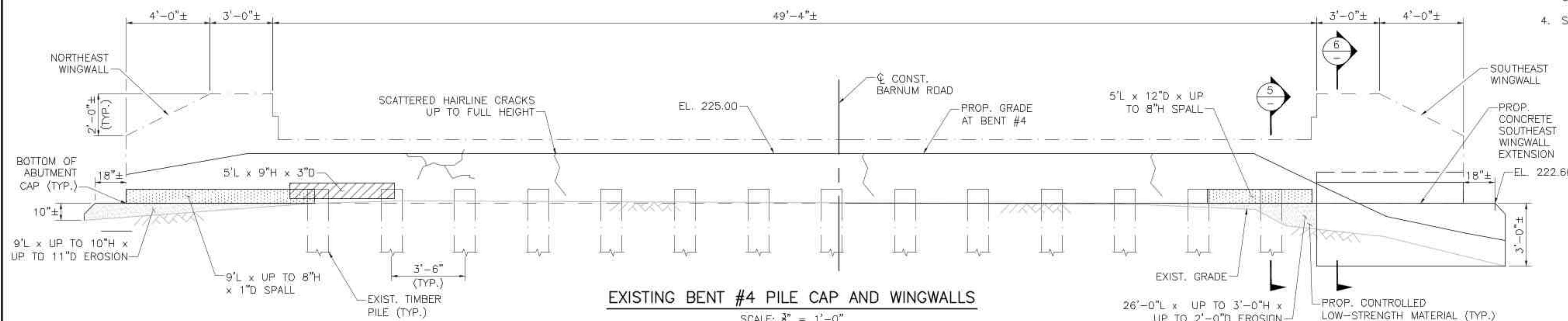
SCALE: $\frac{3}{8}$ " = 1'-0"

LEGEND:

- SPALLED AREA - SEE CONCRETE REPAIR DETAIL AND TYPE "A" REPAIR DETAIL OR TYPE "B" REPAIR DETAIL ON SHEET 10.
- DELAMINATED/HOLLOW AREA - SEE CONCRETE REPAIR DETAIL AND TYPE "A" REPAIR DETAIL OR TYPE "B" REPAIR DETAIL ON SHEET 10.
- SPALL WITH EXPOSED REBAR - SEE CONCRETE REPAIR DETAIL AND TYPE "A" REPAIR DETAIL ON SHEET 10.
- CRACKS - SEE CONCRETE REPAIR DETAIL AND TYPE "C" REPAIR DETAIL ON SHEET 10.
- EFFLORESCE

NOTES:

1. NO WORK SHALL BE DONE BELOW OBSERVED WATER LEVEL.
2. OBSERVED WATER LEVEL ON SEPTEMBER 14, 2023 WAS EL. 218.5.
3. CRACKS REPAIR LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR TO LOCATE REPAIR AREA BY FIELD SURVEY AND SHALL BE APPROVED BY THE ENGINEER DURING CONSTRUCTION.
4. SEE SHEET 2 FOR GENERAL NOTES AND ABBREVIATIONS.



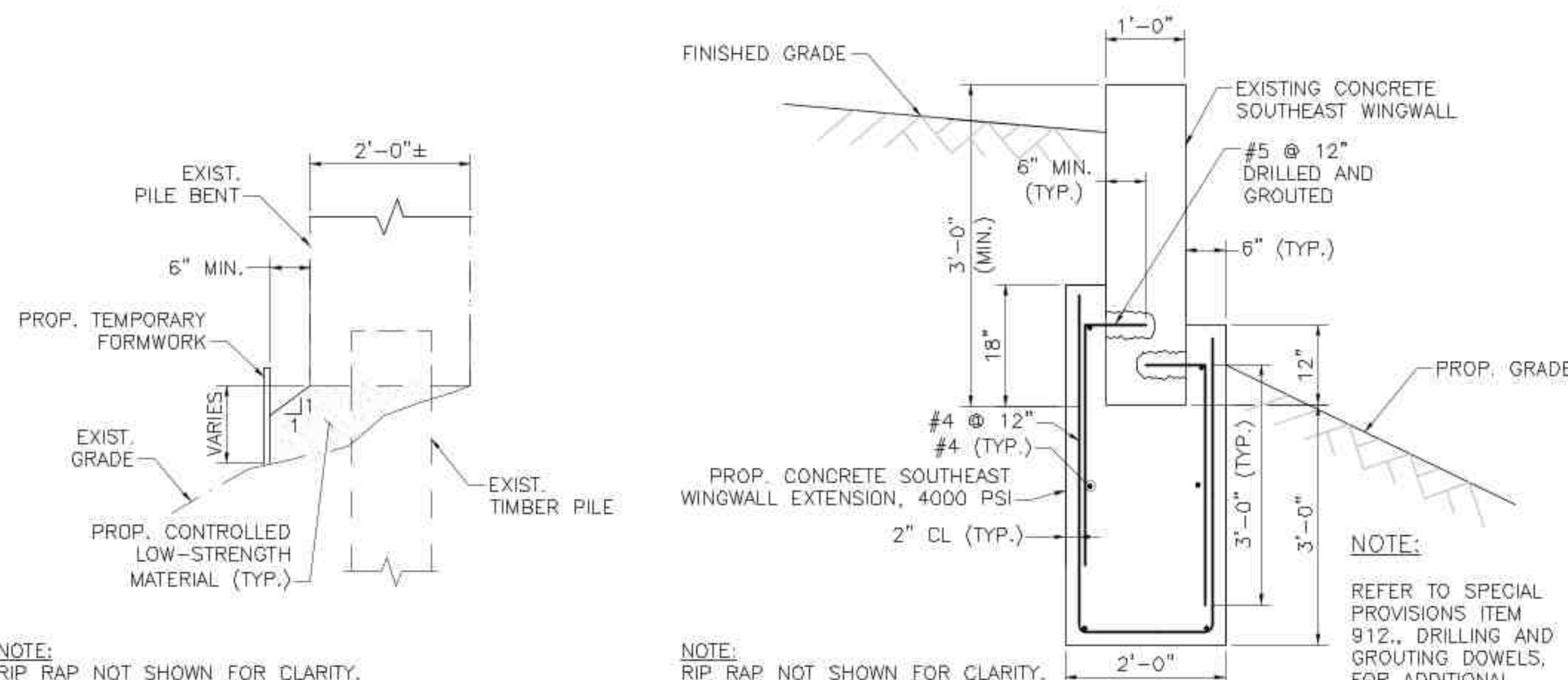
EXISTING BENT #4 PILE CAP AND WINGWALLS

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

APPROXIMATE CONCRETE REPAIR TYPE A QUANTITY	
BENT #1 AND WINGWALLS	0.75 CY±
BENT #4 AND WINGWALLS	0.75 CY±

APPROXIMATE CONCRETE CRACK REPAIR	
BENT #1 AND WINGWALLS	30 LF±

APPROXIMATE CONTROLLED LOW-STRENGTH MATERIAL	
BENT #1	3 CY±
BENT #4	2 CY±



SECTION 5

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

SECTION 6

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

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35
STATE BRIDGE ENGINEER
DATE: 6/30/2026



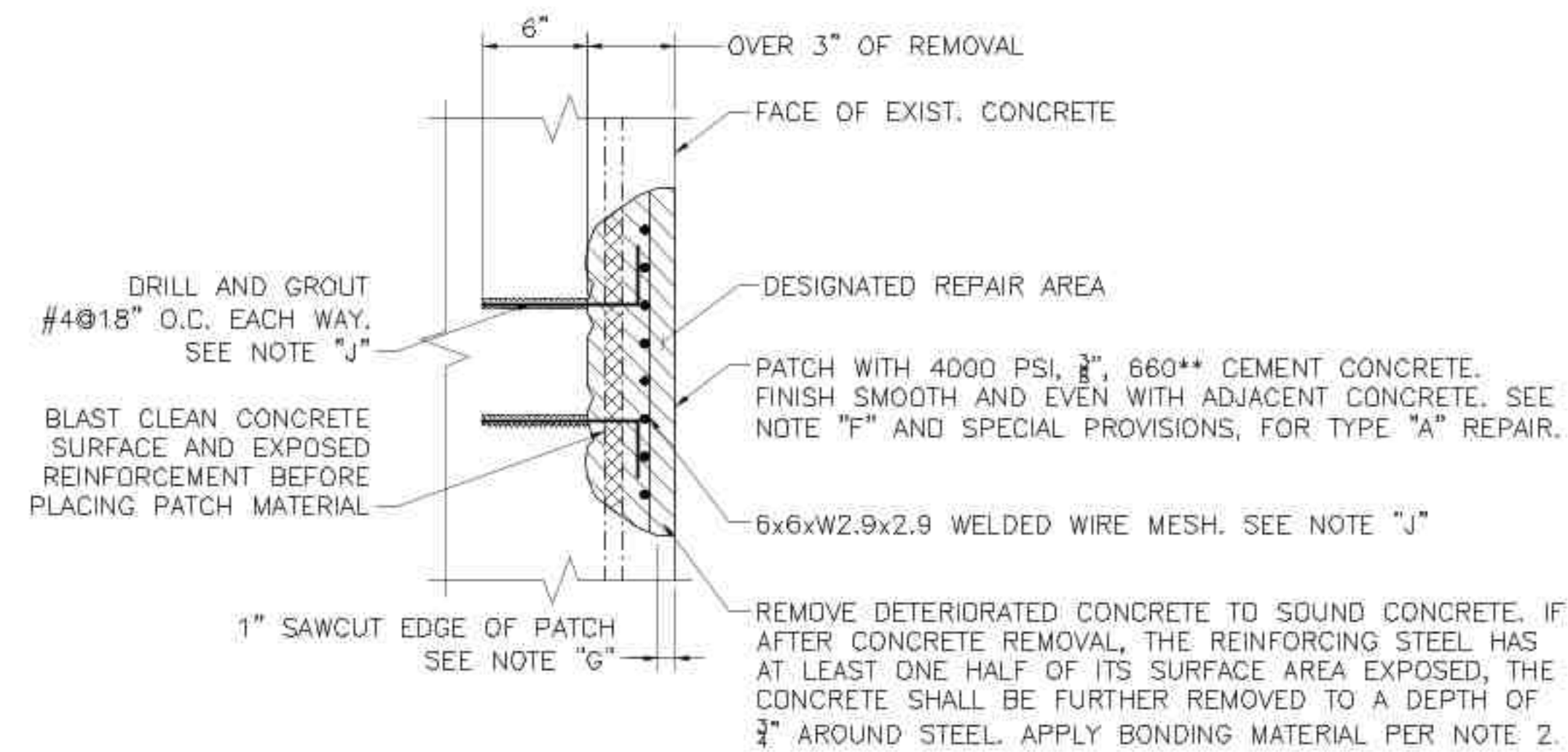
PROJECT: BRIDGE A-19-011 (25M) REHABILITATION, BARNUM ROAD	
DESIGN SUBMISSION: 100% SUBMISSION	
DRAWING TITLE: ABUTMENTS AND WINGWALLS REPAIR PLAN (ELEVATIONS)	
PREPARED FOR: TOWN OF AYER DEPARTMENT OF PUBLIC WORKS 25 BROOK STREET AYER, MA 01432	
PREPARED BY: Green International Associates, Inc. A Lochner Company 100 Ames Pond Drive, Suite 200, Tewksbury, MA 01876	
SCALE: AS NOTED	DESIGNED BY: NS/HD
DATE: 3/22/2024	DRAWN BY: NS/HD
PROJECT NO. 23053	CHECKED BY: RMS
SHEET NO. 8 OF 12	

NOT TO SCALE

NOT TO SCALE

NOT TO SCALE

1. REINFORCING STEEL THAT HAS LOST MORE THAN 15% OF ITS SECTION SHALL BE REPLACED.
2. SEE SHEET 2 FOR LAP SPLICE LENGTH. LOCATION OF MECHANICAL SPLICERS SHALL BE DETERMINED BY THE ENGINEER.



(DEPTH > 3" OR AREA > 4 SQ FEET)
NOT TO SCALE

Diagram illustrating the procedure for concrete repair on a vertical surface:

- 3" MAX DEPTH, REMOVAL**: Indicated by a dimension line at the top of the repair area.
- FACE OF EXIST. CONCRETE**: Points to the existing concrete surface.
- PATCH WITH MATERIAL PER SPECIAL PROVISIONS. FINISH SMOOTH AND EVEN WITH ADJACENT CONCRETE.**: Points to the hatched repair area.
- REMOVE DETERIORATED CONCRETE TO SOUND CONCRETE. APPLY BONDING MATERIAL PER CONCRETE CONSTRUCTION NOTE 2. SEE SPECIAL PROVISIONS FOR TYPE "B" REPAIR.**: Points to the bottom of the repair area.
- ****: A small double asterisk symbol.
- BLAST CLEAN CONCRETE SURFACE BEFORE PLACING PATCH MATERIAL. SEE NOTE "H"**: Points to the surface of the repair area.
- 2" MIN. DEPTH REMOVAL SEE NOTE "G"**: Indicated by a dimension line at the bottom of the repair area.

*** OR FULL EXPOSURE OF REBAR**

**** OR POLYMER LATEX CONCRETE PATCH AS DIRECTED BY ENGINEER**

(DEPTH $\leq$ 3" AND AREA $\leq$ 4 SQ. FEET)
NOT TO SCALE

CLEAN CRACK, INSTALL INJECTION PORTS, SEAL SURFACE OF CRACK BETWEEN PORTS BEFORE INJECTION OF EPOXY

INJECTION PORT (TYP.)
INJECT EPOXY THROUGH PORTS
AT LOW PRESSURE AND
PROPER TEMPERATURE.
SEE SPECIAL PROVISIONS

CRACK GREATER
THAN 5 MILS

NOT TO SCALE

SURVEY NOTES:

THE ACTUAL LOCATIONS AND EXTENT OF VARIOUS TYPES OF CONCRETE REPAIR WILL BE DETERMINED BY FIELD CHECKING. THE CONTRACTOR SHALL REPAIR ALL AREAS DETERMINED NECESSARY BY THE SURVEY AS DIRECTED BY THE ENGINEER, AND AS SHOWN IN PERTINENT DETAILS AND NOTES ON THESE DRAWINGS. REMOVAL OF LARGE AREAS OF DETERIORATED CONCRETE MAY REQUIRE ADDITIONAL TEMPORARY SUPPORT AND/OR MULTIPLE STAGES.

THE ENGINEER MAY REQUIRE THE CONTRACTOR TO PROVIDE TEMPORARY SHORING TO THE STRUCTURE IF IN THE ENGINEER'S JUDGEMENT THE DETEIORATED CONCRETE AND REINFORCEMENT IS EXCESSIVE AND MAY CAUSE FURTHER DETEIORATION TO THE STRUCTURE.

 DETERIORATED CONCRETE TO BE REMOVED
 EXPOSED REINFORCING STEEL

1. DRILLING AND GROUTING REINFORCING BARS SHALL BE DONE WITH SUCH CARE AS NOT TO DAMAGE OR LOOSEN THE EXISTING CONCRETE. DRILLING SHALL BE DONE ONLY AFTER ALL REPAIRS HAVE BEEN MADE TO THE CONCRETE.
2. IMMEDIATELY PRIOR TO PLACING NEW CONCRETE AGAINST EXISTING CONCRETE, CLEAN EXISTING SURFACES AND APPLY SPECIFIED BONDING COMPOUND AS DESCRIBED IN THE SPECIAL PROVISIONS.
3. REMOVAL OF EXISTING CONCRETE FOR REPAIRS SHALL BE INCLUDED IN THE ITEM NO. 127.1.
4. ALL EXISTING SURFACES THAT WILL HAVE NEW CONCRETE CAST AGAINST IT MUST BE ROUGHENED TO A MINIMUM AMPLITUDE OF $\frac{1}{4}$ "±.
5. PACHOMETER OR SIMILAR MUST BE USED TO LOCATE AND AVOID EXISTING REINFORCEMENT PRIOR TO DRILLING AND GROUTING DOWELS FOR REPAIRS.

NOTE "A"	CONCRETE REPAIR WORK INCLUDES REMOVING ALL DETERIORATED LOOSE, SPALLED, POPCORNEED AND MAP CRACKED CONCRETE. CONCRETE WHICH HAS SPALLED OR OTHERWISE DETERIORATED ADJACENT TO SURFACE CRACK SHALL BE REPAIRED BY THIS METHOD. REINFORCING STEEL REPAIR WORK INCLUDES REPLACEMENT OF DETERIORATED REINFORCING, AND CLEANING OF EXPOSED SURFACE AND REINFORCING BARS AS DIRECTED BY THE ENGINEER.
NOTE "B"	FINISHED SURFACE OF THE CONCRETE SHALL BE FLUSH AND EVEN WITH ADJACENT CONCRETE.
NOTE "C"	CRACKS THAT ARE 5 MILS OR GREATER IN WIDTH, SEE TYPE "C" REPAIR DETAIL.
NOTE "D"	IF AFTER CONCRETE REMOVAL, THE REINFORCING HAS AT LEAST ONE HALF ITS SURFACE AREA EXPOSED. THE CONCRETE SHALL BE FURTHER REMOVED TO A DEPTH OF $\frac{3}{4}$ " AROUND THE REINFORCING STEEL.
NOTE "E"	WHERE PATCHING AND EPOXY INJECTION WORK OVERLAP AS SHOWN, EPOXY INJECTION SHALL BE PERFORMED BEFORE PATCHING.
NOTE "F"	THE MAGNITUDE AND TYPE OF REPAIR SHALL BE AS DIRECTED BY THE ENGINEER IN THE FIELD. FOR AREAS TO BE REPAIRED. SEE SHEET 6 THROUGH 9.
NOTE "G"	PERIMETERS OF AREAS WHERE PARTIAL REMOVAL OF CONCRETE IS TO BE PERFORMED SHALL BE SAWCUT TO A DEPTH OF 1" TO ATTAIN A NEAT EDGE. CONCRETE AT EDGES OF ALL AREAS TO BE PATCHED SHALL BE REMOVED TO A MINIMUM DEPTH OF $\frac{1}{2}$ ".
NOTE "H"	ALL EXPOSED STEEL SHALL BE THOROUGHLY BLAST CLEANED AND COATED WITH SPECIFIED PRIMER.
NOTE "J"	ADD REINFORCEMENT AS SHOWN ONLY WHEN THE AREA BEING REPAIRED IS UNREINFORCED CONCRETE.

COMMONWEALTH OF MASSACHUSETTS
MassDOT, Highway Division
APPROVED UNDER PROVISIONS OF
MASS. GEN. LAWS CH 85 S 35

STATE BRIDGE ENGINEER 6/30/2026
DATE

PROJECT: BRIDGE A-19-011 (25M)
REHABILITATION, BARNUM ROAD

DESIGN SUBMISSION:	100% SUBMISSION
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DRAWING TITLE: **CONCRETE REPAIR DETAILS**

PREPARED FOR:

 TOWN OF AYER
DEPARTMENT OF PUBLIC WORKS
25 BROOK STREET
AYER, MA 01432

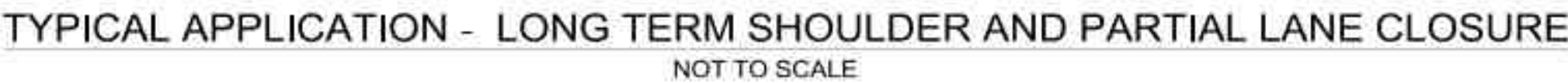
PREPARED BY:

 **Green International Affiliates, Inc.**
A Lochner Company
100 Ames Pond Drive, Suite 200, Tewksbury, MA 01876

SCALE: AS NOTED	DESIGNED BY: NS/HD	SHEET NO. 10 OF 12
DATE: 3/22/2024	DRAWN BY: NS/HD	
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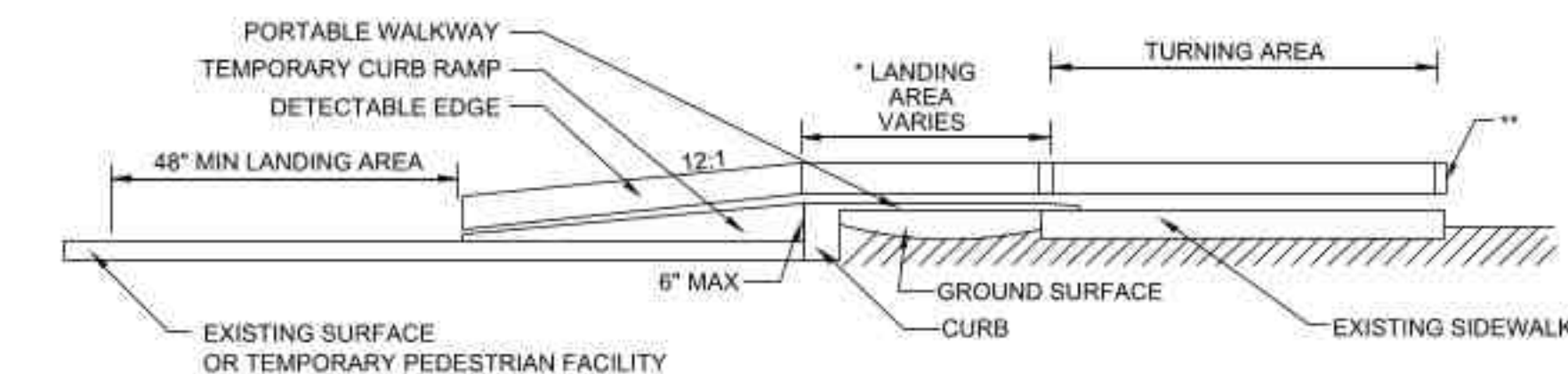
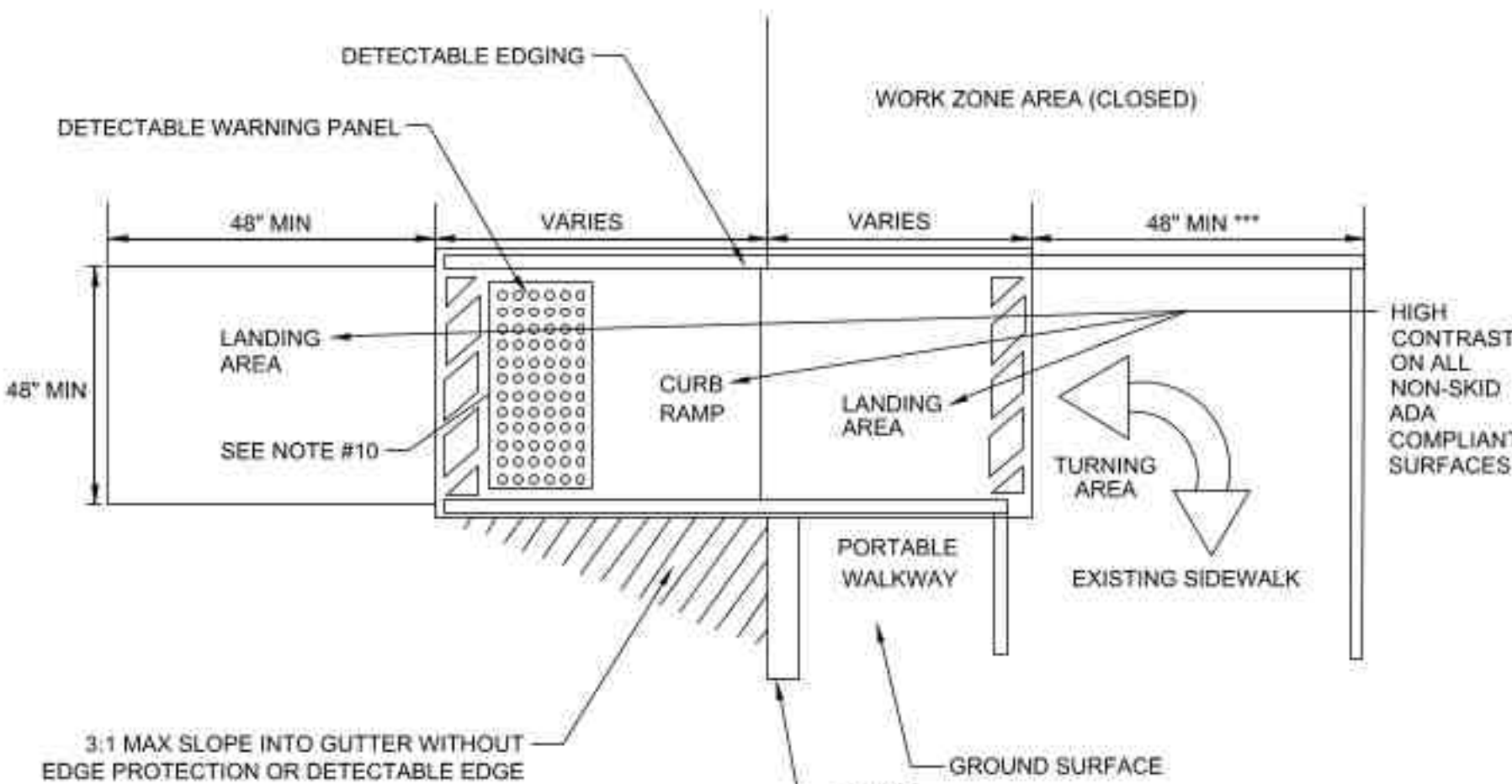
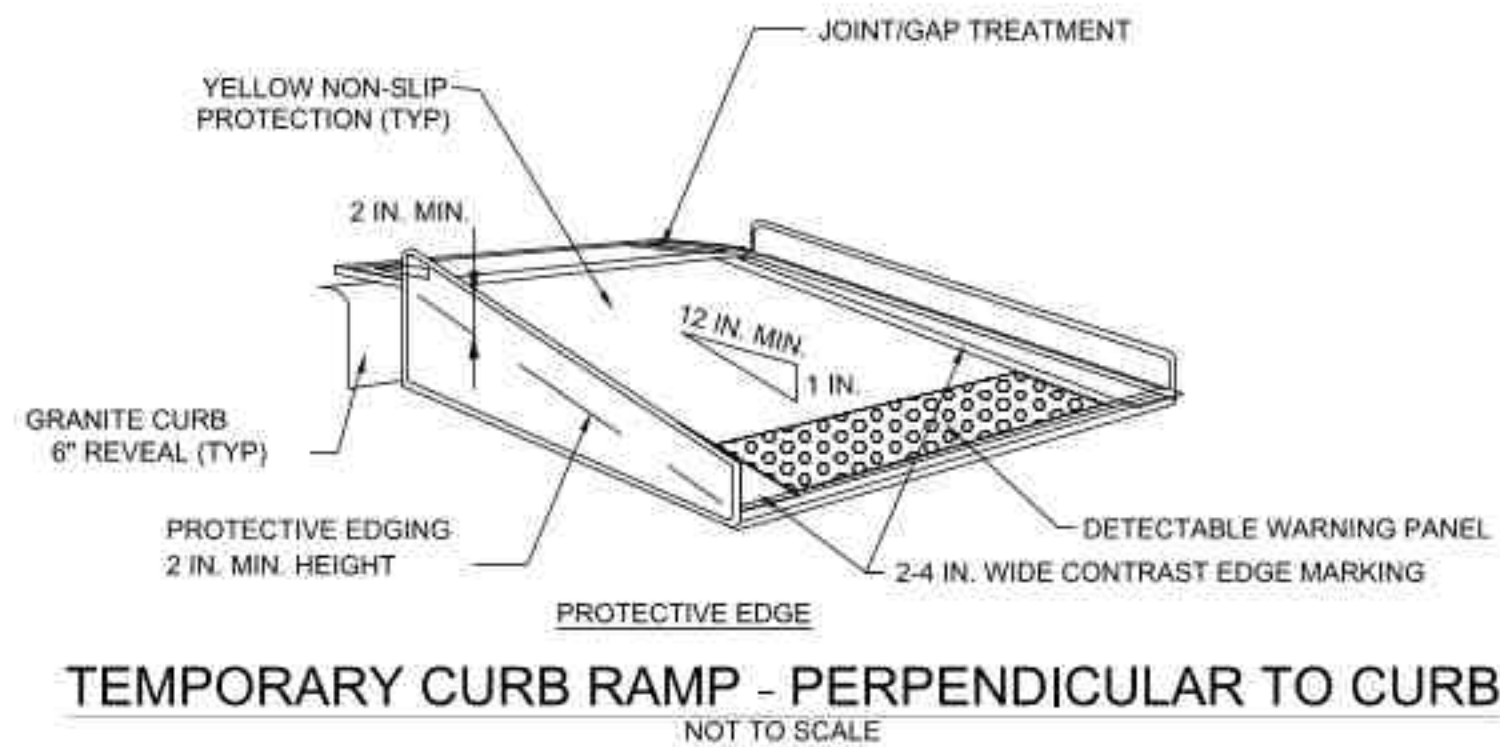
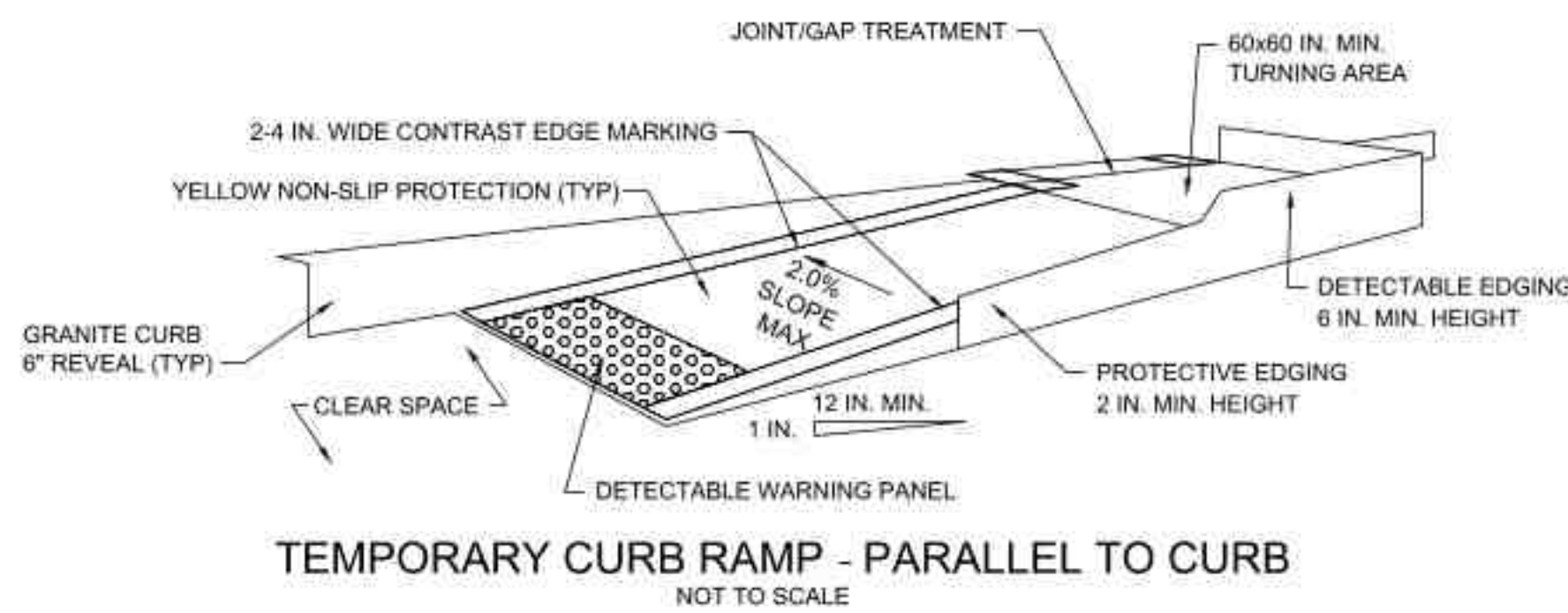
[illegible]

1. MINIMUM LANE WIDTH OF 11 FEET SHALL BE MAINTAINED UNLESS OTHERWISE NOTED, MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF THE DRUMS OR CONES (IF USED).
2. THE CONTRACTOR MAY ELECT TO PROVIDE ALTERNATE METHODS TO MAINTAIN TRAFFIC. ALTERNATE METHODS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED TO MASSDOT AND TOWN OF AYER FOR REVIEW AND APPROVAL.
3. THE CONTRACTOR SHALL COORDINATE APPROVAL OF ANY CHANGES TO THE TEMPORARY TRAFFIC CONTROL PLAN WITH THE TOWN OF AYER PRIOR TO CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL ALSO NOTIFY THE TOWN OF AYER TWO (2) WEEKS IN ADVANCE OF PLACING TEMPORARY TRAFFIC CONTROL SIGNS.
4. THESE PLANS ARE NOT INTENDED TO LIMIT THE CONTRACTOR'S APPROACH TO SCHEDULE THE WORK BUT TO OUTLINE ONE WAY OF PROGRESSING. THE CONTRACTOR IS EXPECTED TO USE KNOWLEDGE AND EXPERIENCE TO PERFORM THE WORK IN THE MOST EFFICIENT AND SAFE MANNER IN COMPLIANCE WITH THE DRAWINGS AND SPECIFICATIONS.
5. PLACE ALL SAFETY DEVICES AND CONSTRUCTION SIGNING BEFORE ACTUAL CONSTRUCTION WORK BEGINS.
6. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED BASED ON FIELD CONDITIONS WITH THE APPROVAL OF THE ENGINEER.
7. WHEN EXISTING SIGNS ARE NO LONGER APPLICABLE THEY SHALL BE TEMPORARILY COVERED DURING CONSTRUCTION OR REMOVED AND RESET UPON COMPLETION OF CONSTRUCTION. THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
8. ALL SIGNS SHALL BE REFLECTORIZED, WITH REFLECTIVE SHEETING CONFORMING TO M9.30.0, ALL SIGN COLORS SHALL BE PER THE CURRENT MUTCD.
9. 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, "MANUAL FOR ASSESSING SAFETY HARDWARE" (MASH) AND/OR "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES".
10. CONTRACTOR SHALL RECORD EXISTING PAVEMENT MARKINGS AND RESTORE ALL MARKINGS TO EXISTING CONDITIONS AT THE CONCLUSION OF CONSTRUCTION AT EACH LOCATION.
11. CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL DEVICES IMMEDIATELY WHEN NO LONGER NEEDED.
12. UNLESS OTHERWISE NOTED, ALL PAVEMENT MARKINGS, SIGNS AND OTHER TRAFFIC EQUIPMENT REMOVED OR DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AT THE EXPENSE OF THE CONTRACTOR.
13. CONTRACTOR SHALL INSTALL, RENEW, AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AS SHOWN ON THE DRAWINGS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
14. ACCESS/EGRESS TO ALL ABUTTERS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
15. CONTRACTOR SHALL MAINTAIN EMERGENCY PASSAGE AT ALL TIMES TO BUILDINGS WITHIN AND ADJACENT TO THE PROJECT LIMITS AS WELL AS A LARGER AREA IF AFFECTED BY CONSTRUCTION CONDITIONS. CONTRACTOR SHALL MAINTAIN 24 HOUR EMERGENCY VEHICLE ACCESS TO AND THROUGH THE CONSTRUCTION AREAS.
16. CONTRACTOR SHALL COORDINATE WITH ABUTTERS FOR THE PROPOSED WORK AND SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF THE WORK THAT WILL REQUIRE TEMPORARY CLOSURE OF ACCESS TO THEIR PROPERTY.
17. THE CONTRACTOR SHALL COORDINATE THE WORK WITH ALL ABUTTING PROJECTS.
18. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS, UNLESS SUPERSEDED BY THESE PLANS.
19. ALL LANE CLOSURES SHALL BE COORDINATED WITH THE TOWN OF AYER AT LEAST TWO WEEKS IN ADVANCE.
20. THE FIRST TEN (10) PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
21. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.



	WORK ZONE
	DIRECTION OF VEHICULAR TRAFFIC
	DIRECTION OF PROPOSED VEHICULAR TRAFFIC
	SIGN
	TYPE III BARRICADE
	REFLECTORIZED PLASTIC DRUM OR 36" CONE
	POLICE OFFICER

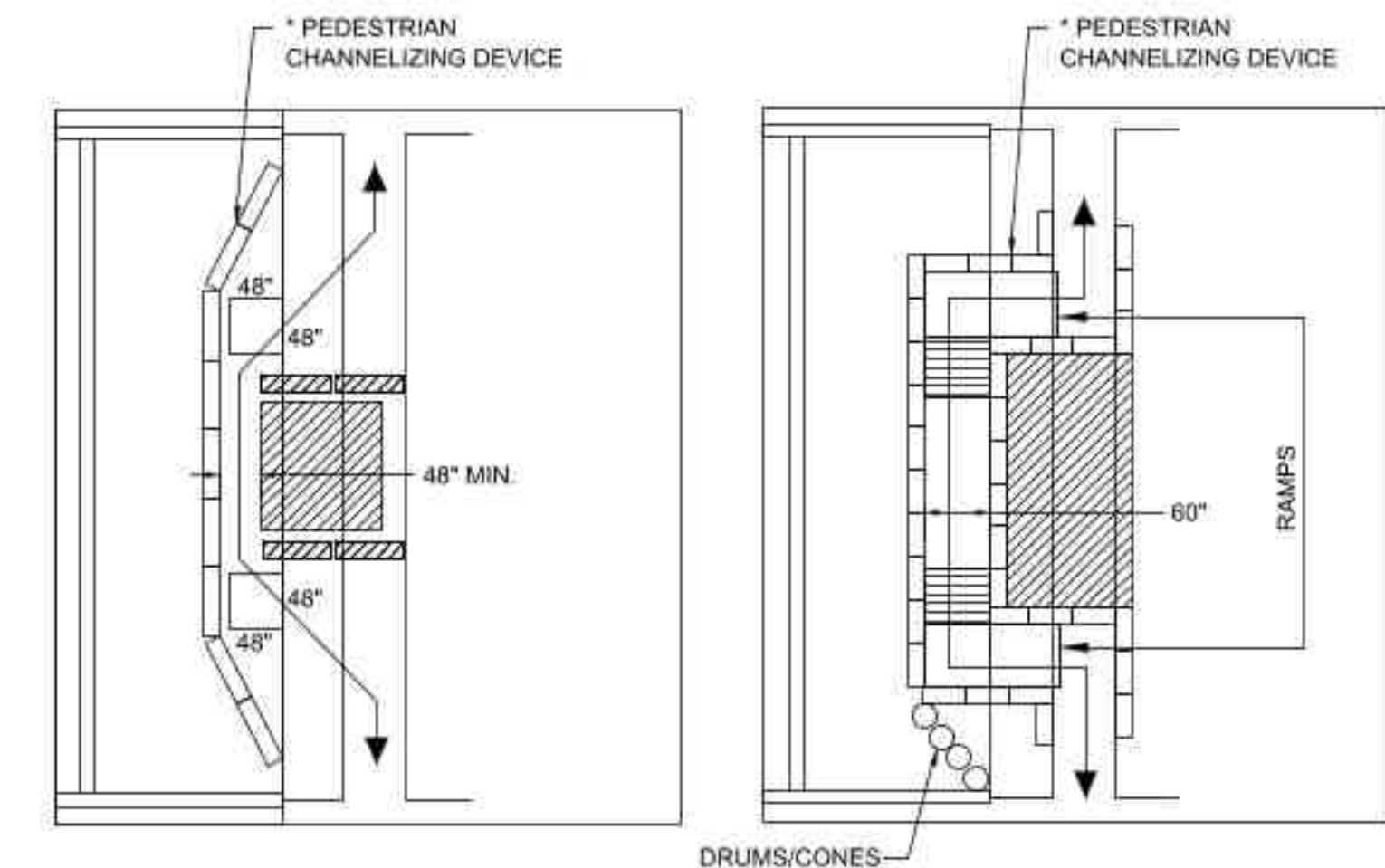
PROJECT: BRIDGE A-19-011 (25M) REHABILITATION, BARNUM ROAD		
DESIGN SUBMISSION: 100% SUBMISSION		
DRAWING TITLE: TRAFFIC MANAGEMENT PLAN 1		
PREPARED FOR: TOWN OF AYER DEPARTMENT OF PUBLIC WORKS 25 BROOK STREET AYER, MA 01432		
PREPARED BY: Green International Affiliates, Inc. A Lochner Company 100 Ames Pond Drive, Suite 200, Tewksbury, MA 01876		



- * - 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.

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 60x60 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.

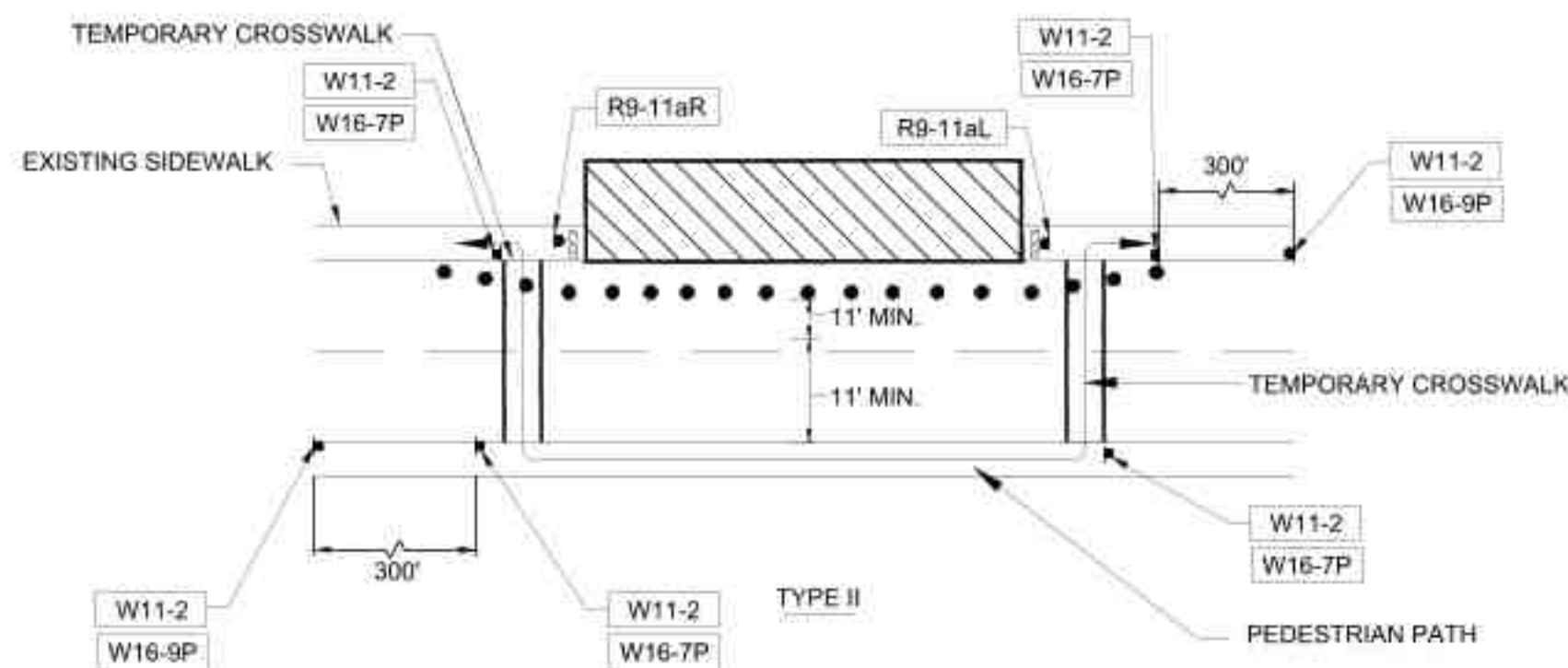


PEDESTRIAN DETAILS NOTES:

- 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.
- 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 PASSING ZONE SHALL BE PROVIDED.
- THE PROTECTIVE REQUIREMENTS OF A TTC WORK ZONE MAY HAVE AN IMPACT IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN PROVIDING PEDESTRIAN DELINEATION 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.



NOTE:

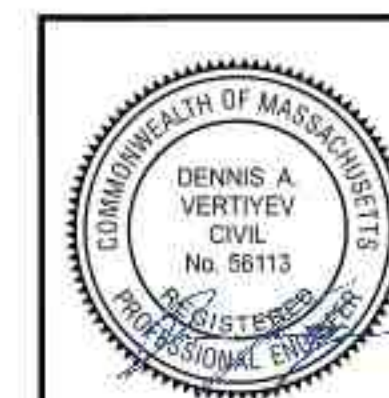
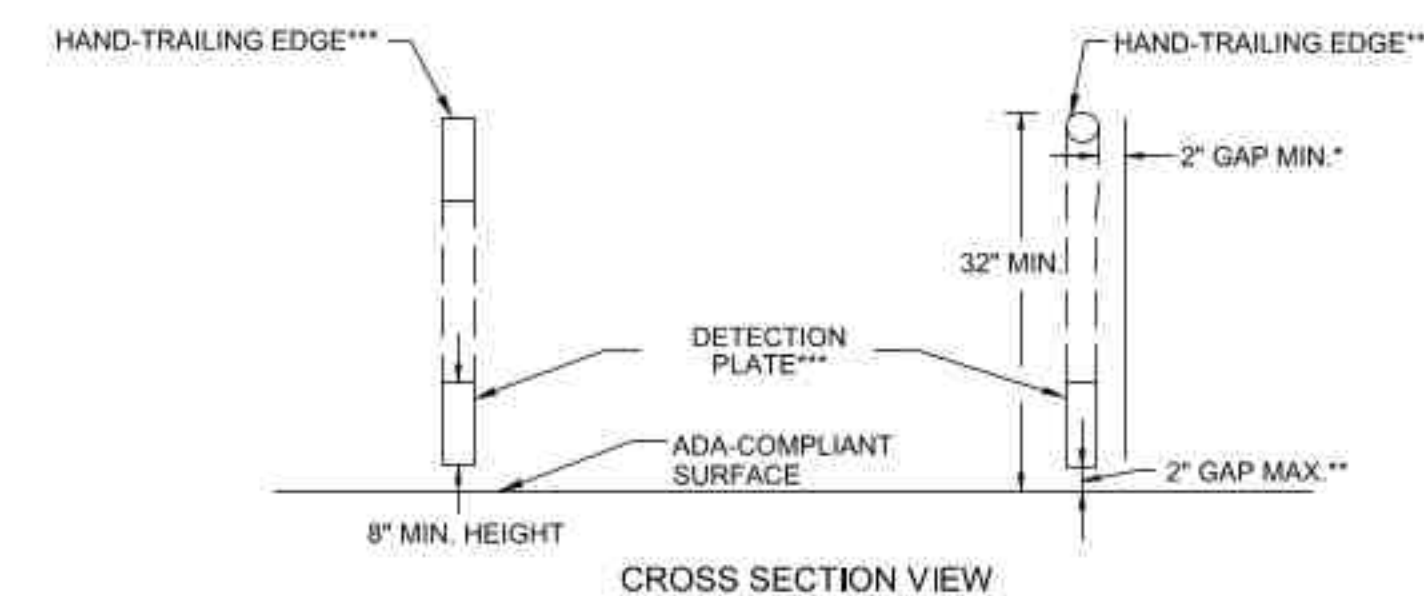
ADA COMPLIANT ACCESS TO BE MAINTAINED AT ALL TIMES, INCLUDING PEDESTRIAN GUIDANCE SYSTEMS AT WORK ZONES. ANY PEDESTRIAN DETOURS OR BYPASSES SHALL INCLUDE AN ADA COMPLIANT ROUTE WITH PROPER BARRICADES, RAILING, RAMPS, AND SIGNAGE, ETC.

TYPICAL APPLICATION - SIDEWALK WORK MIDBLOCK WITH TEMPORARY PEDESTRIAN PATH

NOT TO SCALE

NOTES:

- * THERE SHALL BE A 2 INCH GAP BETWEEN THE HAND-TRAILING EDGE AND ITS SUPPORT.
- ** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.
- *** THE HAND-TRAILING EDGE AND DETECTION PLATE SHALL BE CONTINUOUS THROUGHOUT THE LENGTH OF THE PATH SUCH THAT A PEDESTRIAN USER WITH A LONG CANE CAN FOLLOW IT.



NO.	DATE	REVISIONS

PROJECT: **BRIDGE A-19-011 (25M) REHABILITATION, BARNUM ROAD**

DESIGN SUBMISSION: **100% SUBMISSION**

DRAWING TITLE: **TRAFFIC MANAGEMENT PLAN 2**

PREPARED FOR: **TOWN OF AYER DEPARTMENT OF PUBLIC WORKS 25 BROOK STREET AYER, MA 01432**

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SCALE: AS NOTED

DATE: 3/22/2024

PROJECT NO. 23053

DESIGNED BY: HG

DRAWN BY: HG

CHECKED BY: AA

SHEET NO.

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