

SHELBURNE FALLS FIRE DISTRICT

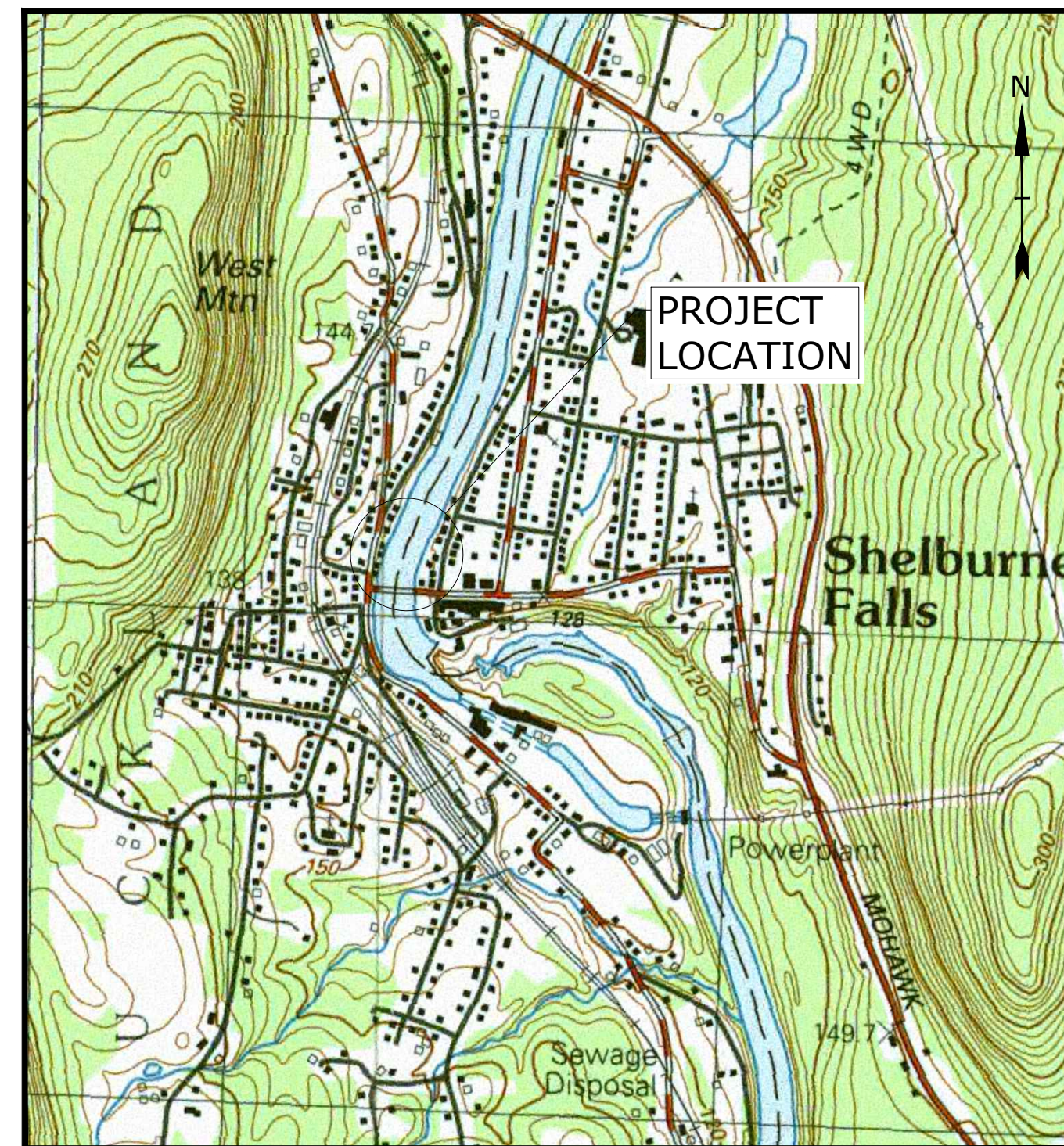
BRIDGE OF FLOWERS REHABILITATION

VILLAGE OF SHELBURNE FALLS, MASSACHUSETTS

PROJECT NO: S-2161-003

FEBRUARY, 2024

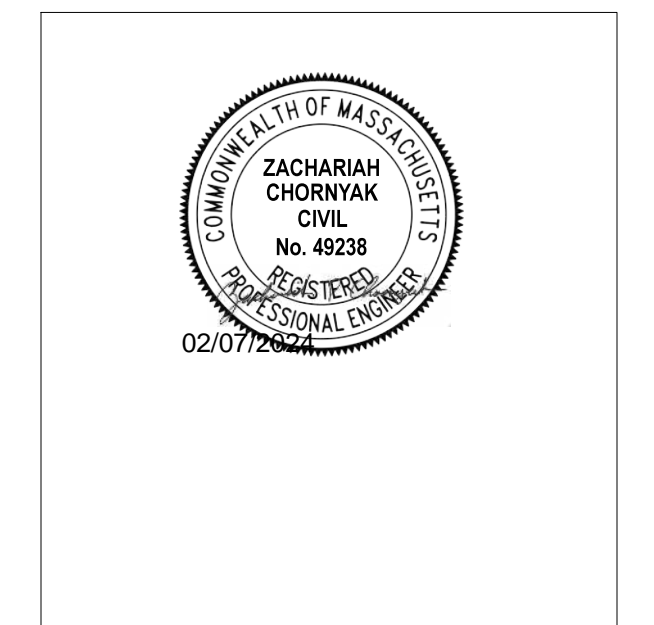
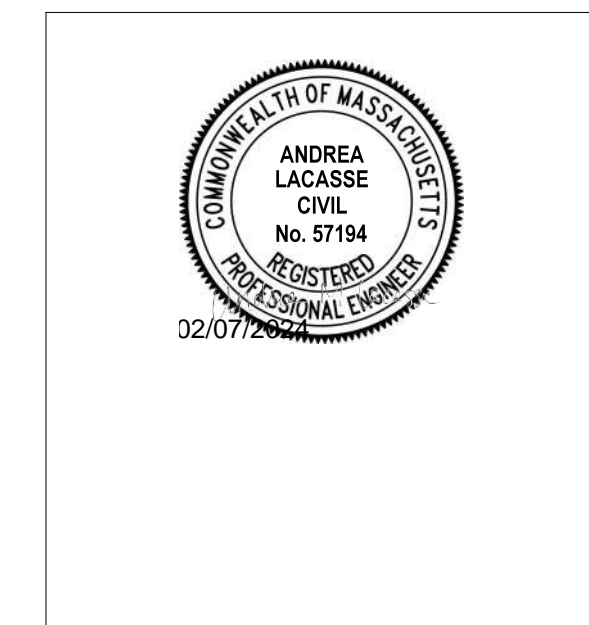
LIST OF DRAWINGS	
SHEET NO.	SHEET TITLE
1	COVER
2	NOTES, ABBREVIATIONS, AND LEGEND (1 OF 2)
3	NOTES, ABBREVIATIONS, AND LEGEND (2 OF 2)
4	EXISTING SITE AND DEMOLITION PLAN
5	SELECTIVE DEMOLITION DETAILS
6	CONSTRUCTION PLAN AND STAGING
7	ELECTRICAL PLAN AND DETAILS
8	WATER MAIN AND IRRIGATION PLAN
9	WATER MAIN DETAILS
10	IRRIGATION DETAILS
11	SITE RESTORATION PLAN AND DETAILS
12	SITE PROTECTION AND RESTORATION DETAILS
13	PLANTING DETAILS
14	STRUCTURAL NOTES
15	BRIDGE PROPOSED PLANS
16	BRIDGE ELEVATIONS
17	TYPICAL BRIDGE SECTIONS
18	STRUCTURAL DETAILS
19	BRIDGE RAIL DETAILS



LOCATION MAP
SCALE: 1" = 1000'

PREPARED BY:

Tighe&Bond



PREPARED FOR:

SHELBURNE FALLS FIRE DISTRICT

COMPLETE SET 19 SHEETS

BASE PLAN NOTES

1. THE EXISTING CONDITIONS INFORMATION SHOWN ON THE DRAWINGS IS BASED ON THE FOLLOWING:
 - 3D SCAN CONDUCTED BY TIGHE & BOND ON APRIL 13, 2023, SUPPORTED BY SURVEY DATA COLLECTED BY NORTHEAST SURVEY CONSULTANTS ON APRIL 10, 2023
 - EXISTING BRIDGE RECORD DRAWINGS FROM 1983 PROVIDED BY SHELBURNE FALLS FIRE DISTRICT
 - FIELD INVESTIGATIONS PERFORMED BY TIGHE & BOND ON 09/09/2019
 - FEMA FLOOD INSURANCE RATE MAP, EFFECTIVE JULY 2, 1980, BASE FLOOD ELEVATION CONVERTED TO NAVD 88: 414.8'
2. UTILITY LOCATIONS SHOWN WERE PLOTTED FROM INFORMATION SUPPLIED BY DATA OBTAINED FROM 3D SCANS AND RECORD DRAWINGS. THE ACCURACY AND COMPLETENESS OF SUBSURFACE INFORMATION SHOWN ON THESE DRAWINGS IS NOT GUARANTEED. DETERMINE THE LOCATIONS AND ELEVATIONS OF ALL UTILITIES WHICH MAY AFFECT CONSTRUCTION OPERATIONS.
3. THE DRAWINGS ARE BASED ON THE FOLLOWING DATUMS: HORIZONTAL NAD83; VERTICAL NAVD88. THE EXISTING CONDITIONS SHOWN ARE APPROXIMATE. FIELD VERIFY EXISTING CONDITIONS.
4. THE PROPERTY LINES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND ARE NOT BASED ON DEED OR PLAN RESEARCH.

GENERAL NOTES

1. PER MASSACHUSETTS LAW, CONTRACTOR SHALL CALL 1-888-DIG-SAFE, (1-888-344-7233) AND THE SHELBURNE FALLS FIRE DISTRICT PRIOR TO ANY UNDERGROUND EXCAVATION ON SITE. THE DIG-SAFE SERVICE WILL FIELD LOCATE AND MARK UNDERGROUND UTILITIES IN THE FIELD. THE DIG-SAFE VERIFICATION NUMBER SHALL BE SUBMITTED TO THE SHELBURNE FALLS FIRE DISTRICT PRIOR TO ANY DEMOLITION AND REMOVAL OR CONSTRUCTION WORK. NOTIFY ANY OTHER UTILITY OWNERS IN THE AREA NOT ON THE (DIG-SAFE) LIST AT LEAST 72 HOURS PRIOR TO ANY DIGGING, TRENCHING, ROCK REMOVAL, DEMOLITION, BORING, BACKFILLING, GRADING, LANDSCAPING, OR ANY OTHER EARTH MOVING OPERATIONS.
2. THE OWNER AND THE ENGINEER ASSUME NO RESPONSIBILITY FOR THE LOCATION OF EXISTING UTILITIES. SOME UTILITIES MAY NOT BE SHOWN. DETERMINE THE EXACT LOCATION OF UTILITIES BY TEST PIT OR OTHER METHODS, AS NECESSARY TO PREVENT DAMAGE TO UTILITIES AND/OR INTERRUPTIONS IN UTILITY SERVICE. PERFORM TEST PIT EXCAVATIONS AND OTHER INVESTIGATIONS TO LOCATE UTILITIES, AND PROVIDE THIS INFORMATION TO THE ENGINEER, PRIOR TO CONSTRUCTING THE PROPOSED IMPROVEMENTS. LOCATE ALL EXISTING UTILITIES TO BE CROSSED BY HAND EXCAVATION.
3. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION. IF FIELD CONDITIONS ARE OBSERVED THAT VARY SIGNIFICANTLY FROM THOSE SHOWN ON THE DRAWINGS, IMMEDIATELY NOTIFY THE ENGINEER IN WRITING FOR RESOLUTION OF THE CONFLICTING INFORMATION. NOTIFY THE ENGINEER OF ANY UTILITIES IDENTIFIED DURING CONSTRUCTION THAT ARE NOT SHOWN ON THE DRAWINGS OR THAT DIFFER IN SIZE OR MATERIAL.
4. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORT OF EXISTING UTILITIES AND REPAIR OR REPLACEMENT COSTS OF UTILITIES DAMAGED DURING CONSTRUCTION, WHETHER ABOVE OR BELOW GRADE. REPLACE DAMAGED UTILITIES IMMEDIATELY AT NO ADDITIONAL COST TO THE OWNER AND AT NO COST TO THE PROPERTY OWNER.
5. PROTECT AND MAINTAIN ALL UTILITIES IN THE AREAS UNDER CONSTRUCTION DURING THE WORK. LEAVE ALL PIPES AND STRUCTURES WITHIN THE LIMITS OF THE CONTRACT IN A CLEAN AND OPERABLE CONDITION AT THE COMPLETION OF THE WORK. TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SAND AND SILT FROM DISTURBED AREAS FROM ENTERING THE DRAINAGE SYSTEM.
6. NOT ALL OF THE UTILITY SERVICES TO BUILDINGS ARE SHOWN. THE CONTRACTOR SHALL ANTICIPATE THAT EACH PROPERTY HAS SERVICE CONNECTIONS FOR THE VARIOUS UTILITIES.
7. TIGHE & BOND ASSUMES NO RESPONSIBILITY FOR ANY ISSUES, LEGAL OR OTHERWISE, RESULTING FROM CHANGES MADE TO THESE DRAWINGS WITHOUT WRITTEN AUTHORIZATION FROM TIGHE & BOND.
8. THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY; COORDINATION WITH THE OWNER, ALL SUBCONTRACTORS, AND WITH OTHER CONTRACTORS WORKING WITHIN THE LIMITS OF WORK, THE MEANS AND METHODS OF CONSTRUCTING THE PROPOSED WORK.
9. NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICT, ERROR, AMBIGUITY, OR DISCREPANCY WITH THE PLANS OR BETWEEN THE PLANS AND ANY APPLICABLE LAW, REGULATION, CODE, STANDARD SPECIFICATION, OR MANUFACTURER'S INSTRUCTIONS.
10. TAKE NECESSARY MEASURES AND PROVIDE CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE, AND STRENGTH TO PREVENT ACCESS TO ALL WORK AND STAGING AREAS AT THE COMPLETION OF EACH DAYS WORK.
11. OBTAIN, PAY FOR AND COMPLY WITH PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK. ARRANGE AND PAY FOR NECESSARY INSPECTIONS AND APPROVALS FROM THE JURISDICTIONAL AUTHORITIES.
12. SHORE UTILITY TRENCHES WHERE FIELD CONDITIONS DICTATE AND/OR WHERE REQUIRED BY LOCAL, STATE AND FEDERAL HEALTH AND SAFETY CODES.
13. NO OPEN TRENCHES WILL BE ALLOWED OVER NIGHT. THE USE OF ROAD PLATES TO PROTECT THE EXCAVATION WILL BE CONSIDERED UPON REQUEST, BUT BACKFILLING IS PREFERRED.

14. THE CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY TRAFFIC CONTROL/SAFETY DEVICES TO ENSURE SAFE VEHICULAR AND PEDESTRIAN ACCESS THROUGH THE WORK AREA, OR FOR SAFELY IMPLEMENTING DETOURS AROUND THE WORK AREA. PERFORM TRAFFIC CONTROL IN ACCORDANCE WITH THE CONTRACTOR'S APPROVED TRAFFIC CONTROL PLAN.
15. MAINTAIN EMERGENCY ACCESS TO ALL PROPERTIES WITHIN THE PROJECT AREA AT ALL TIMES DURING CONSTRUCTION.
16. WHEN WORKING IN THE ROAD, PROVIDE THE OWNER AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES A DETAILED PLAN OF APPROACH INDICATING METHODS OF PROPOSED TRAFFIC ROUTING ON A DAILY BASIS. PROVIDE COORDINATION TO ENSURE COMMUNICATION AND COORDINATION BETWEEN THE OWNER, CONTRACTOR AND LOCAL FIRE/POLICE/SCHOOL AUTHORITIES THROUGHOUT THE CONSTRUCTION PERIOD.
17. REMOVE AND DISPOSE OF ALL CONSTRUCTION-RELATED WASTE MATERIALS AND DEBRIS IN STRICT ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL LAWS.
18. BOLD TEXT AND LINES INDICATE PROPOSED WORK. LIGHT TEXT AND LINES INDICATE APPROXIMATE EXISTING CONDITIONS.
19. THE TERM "DEMOLISH" USED ON THE DRAWINGS MEANS TO REMOVE AND DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS. THE TERM "ABANDON" USED ON THE DRAWINGS MEANS TO LEAVE IN PLACE AND TAKE APPROPRIATE MEASURES TO DECOMMISSION AS SPECIFIED OR NOTED ON THE DRAWINGS.
20. ALL PROPOSED WORK MAY BE ADJUSTED IN THE FIELD BY THE OWNER'S PROJECT REPRESENTATIVE TO MEET EXISTING CONDITIONS.
21. TAKE ALL NECESSARY MEASURES AND PROVIDE ALL NECESSARY CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE AND STRENGTH TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH DAY'S WORK.
22. STORE FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS IN A SECONDARY CONTAINER AND REMOVE FROM THE SITE TO A LOCKED INDOOR AREA WITH AN IMPERVIOUS FLOOR DURING NON-WORK HOURS.
23. IMMEDIATELY REPORT SPILLS OF OIL AND/OR HAZARDOUS MATERIALS (OHM) TO THE MASSDEP.
24. PROVIDE A SUFFICIENT SUPPLY OF ABSORBENT SPILL RESPONSE MATERIALS, SUCH AS BOOMS OR BLANKETS, AT THE CONSTRUCTION SITES AT ALL TIMES TO CLEAN UP POTENTIAL SPILLS OF HAZARDOUS MATERIALS.

SURFACE RESTORATION NOTES

1. ALL PAVEMENT DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. PROVIDE SITE GRADING AT HANDICAPPED RAMPS, SIDEWALKS, AND BUILDING ENTRANCES THAT IS CONSISTENT WITH THE RELEVANT ACCESS REQUIREMENTS OF THE ARCHITECTURAL BARRIERS ACT (ABA), THE AMERICANS WITH DISABILITIES ACT (ADA), AND MA ARCHITECTURAL ACCESS BOARD REQUIREMENTS (AAB). SMALL CHANGES IN GRADE OVER RELATIVELY SHORT DISTANCES (E.G. AT PARKING SPACES, ACCESSIBLE ROUTES, AND RAMPS) MIGHT NOT BE CLEARLY DEPICTED WITHIN THE CONTOUR INTERVAL SHOWN. COMPLY WITH THE CRITERIA IN THESE STANDARDS. SELECT MAXIMUM SLOPE CRITERIA ARE REPRODUCED BELOW:
 - ACCESSIBLE PARKING STALL AND PASSENGER LOADING ZONE (ANY DIRECTION) SLOPE < 2.0%
 - LONGITUDINAL SLOPE ALONG ACCESSIBLE ROUTES < 5.0%
 - CROSS SLOPE ALONG ACCESSIBLE ROUTES < 2.0%
3. PROTECT PROJECT FEATURES (WALLS, FENCES, MAIL BOXES, SIGNS, SIDEWALKS, BENCHES, SHRUBS, FLAGPOLE, CURBING, STAIRS, WALKWAYS, TREES, ETC.) FROM DAMAGE DURING CONSTRUCTION, INCLUDING PROVIDING TEMPORARY SUPPORTS/PROTECTION, WHEN APPROPRIATE.
4. IF REMOVAL OF PROJECT FEATURES IS REQUIRED IN ORDER TO PERFORM THE PROPOSED WORK, REMOVE THOSE SITE FEATURES ONLY UPON APPROVAL OF ENGINEER. REPLACE ALL REMOVED PROJECT FEATURES; NEW ITEMS SHALL BE EQUAL OR BETTER IN QUALITY AND CONDITION TO THE ITEMS REMOVED.
5. EXISTING SURVEY MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE REPLACED BY A LAND SURVEYOR LICENSED IN THE STATE IN WHICH THE WORK IS PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
6. COORDINATE THE ADJUSTMENT OF EXISTING UTILITY STRUCTURES WITH EACH RESPONSIBLE UTILITY OWNER PRIOR TO RECONSTRUCTION AND/OR PAVING OPERATIONS. RAISE ALL STRUCTURES TO FINISHED GRADES PRIOR TO THE END OF THE CONSTRUCTION SEASON AND PRIOR TO FINISHED PAVING.
7. REPAIR DISTURBED PAVED SURFACES AT THE END OF EACH WORK WEEK, UNLESS OTHERWISE APPROVED/REQUIRED BY THE OWNER.
8. PLACE TEMPORARY BITUMINOUS CONCRETE PAVEMENT AT DISTURBED PORTLAND CEMENT CONCRETE SIDEWALKS AND DRIVEWAYS AT THE END OF EACH WORK WEEK, UNLESS OTHERWISE APPROVED/REQUIRED BY THE OWNER.
9. TRANSFER ALL TEMPORARY BENCHMARKS, AS NECESSARY.
10. ACCOMMODATE PEDESTRIAN TRAFFIC WHERE A SIDEWALK IS TO BE CLOSED FOR SAFETY. "SIDEWALK CLOSED HERE" SIGNS SHALL BE USED AT THE NEAREST SAFE INTERSECTION. MAINTAIN PEDESTRIAN ACCESS TO ADJACENT BUSINESSES AND RESIDENCES. SEE TRAFFIC CONTROL DETAILS FOR SIGN INFORMATION.

11. RESTORE ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE PAYLINE LIMITS TO ORIGINAL CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
12. REGRADE ALL UNPAVED AREAS DISTURBED BY THE WORK AS REQUIRED. REPAIR/REPLACE PAVED SURFACES DISTURBED BY THE WORK IN-KIND, UNLESS OTHERWISE NOTED. RESTORE SURFACES TO EXISTING OR PROPOSED CONDITIONS AS INDICATED ON THE DRAWINGS.
13. PROVIDE A SMOOTH, FLUSH TRANSITION BETWEEN ALL NEW AND EXISTING PAVEMENTS AND WALKING SURFACES.

EROSION CONTROL AND RESOURCE AREA PROTECTION NOTES

1. PROVIDE ALL EROSION CONTROL MEASURES SHOWN, SPECIFIED, REQUIRED BY PERMIT, AND/OR REQUIRED BY THE ENGINEER PRIOR TO ANY CONSTRUCTION OR IMMEDIATELY UPON REQUEST. MAINTAIN SUCH CONTROL MEASURES UNTIL FINAL SURFACE TREATMENTS ARE IN PLACE AND/OR UNTIL PERMANENT VEGETATION IS ESTABLISHED. INSPECT AFTER EACH RAINSTORM AND DURING MAJOR STORM EVENTS TO CONFIRM THAT ALL SEDIMENTATION AND EROSION CONTROL MEASURES REQUIRED ARE IN PLACE AND EFFECTIVE.
2. PRIOR TO STARTING WORK, CLEARLY STAKE WORK LIMITS. DO NOT DISTURB VEGETATION AND TOPSOIL BEYOND THE PROPOSED LIMITS. COORDINATE WITH THE ENGINEER FOR LOCATIONS OF TEMPORARY STOCKPILING OF TOPSOIL DURING CONSTRUCTION.
3. INSTALL SILT SACKS OR OTHER APPROVED SEDIMENTATION BARRIERS IN/AT ALL CATCH BASINS IN THE PROJECT AREA.
4. REMOVE AND PROPERLY DISPOSE OF SILT TRAPPED AT BARRIERS IN UPLAND AREAS OUTSIDE RESOURCE AREAS AND BUFFER ZONES. REMOVE MATERIALS DEPOSITED IN ANY TEMPORARY SETTLING BASINS AT THE COMPLETION OF THE PROJECT. RESTORE ALL DISTURBED AREAS TO THEIR PRECONSTRUCTION CONDITION.
5. SWEEP, COLLECT, REMOVE AND DISPOSE OF ANY SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS AT THE END OF EACH DAY.
6. LOAM AND SEED ALL DISTURBED VEGETATED AREAS TO ESTABLISH COVER AND STABILIZATION AS SOON AS POSSIBLE FOLLOWING DISTURBANCE.
7. MAINTAIN AN ADDITIONAL SUPPLY OF EROSION CONTROL MEASURES ON-SITE FOR EMERGENCY REPAIRS.



Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

**Shelburne, MA
Buckland, MA**

MARK	DATE	DESCRIPTION
PROJECT NO:	S2161-003	
DATE:	2/7/2024	
FILE:	S2161-003_GENERAL.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

NOTES, ABBREVIATIONS, AND LEGEND (1 OF 2)

SCALE: NO SCALE

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 Tighe & Bond 2/3/2024 10:45:06pm
 Bridge of Flowers Rehabilitation Drawings - Figures AutoCAD Sheet S2161-003 - GENERAL.dwg

WATER SYSTEM IMPROVEMENT NOTES

- PROPOSED WATER MAIN SHALL BE PROVIDED IN ACCORDANCE WITH THE OWNER'S STANDARDS, AS SPECIFIED, AND AS SHOWN ON THE DRAWINGS. WHERE THERE IS A CONFLICT BETWEEN THE OWNER'S STANDARDS AND THE DRAWINGS AND SPECIFICATIONS, THE OWNER'S STANDARDS SHALL GOVERN.
- HORIZONTAL AND VERTICAL LOCATION OF WATER MAINS MAY BE MODIFIED TO FIT EXISTING FIELD CONDITIONS, UPON APPROVAL OF THE ENGINEER.
- WORKING PRESSURE OF WATER MAIN IN PROJECT AREA RANGES FROM 125–130 PSI. TESTING PRESSURES SHALL BE AS SPECIFIED.
- ALL BELOW GRADE VALVES AND FITTINGS SHALL HAVE MECHANICAL JOINT (MJ) ENDS. RESTRAIN ALL VALVE AND FITTING JOINTS WITH RETAINER GLANDS.
- WHERE A COUPLING IS CALLED FOR ON THE DRAWINGS TO CONNECT A PROPOSED WATER MAIN TO AN EXISTING WATER MAIN PROVIDE A SOLID SLEEVE, IF POSSIBLE. RESTRAIN SOLID SLEEVE TO PIPES WITH RETAINER GLANDS. IF OUTSIDE DIAMETER OF EXISTING WATER MAIN DOES NOT ALLOW INSTALLATION OF SOLID SLEEVE, PROVIDE RESTRAINING TYPE TRANSITION COUPLING.
- SLEEVES, NIPPLES, AND ACCESSORIES NECESSARY FOR CONNECTION BETWEEN EXISTING AND PROPOSED PIPES MAY NOT BE SHOWN ON THE DRAWINGS. PROVIDE ITEMS NECESSARY FOR CONNECTING TO EXISTING MAINS AND MAKE CONNECTIONS AS INDICATED IN THE CONTRACT DOCUMENTS.
- ALL PIPE JOINTS TO BE RESTRAINED.
- OPERATION OF EXISTING VALVES SHALL BE BY THE WATER DISTRIBUTION SYSTEM OWNER, UNLESS OTHERWISE AUTHORIZED. COORDINATE OPERATION OF VALVES WITH THE WATER DISTRIBUTION SYSTEM OWNER.
- THE SHELburne FALLS FIRE DISTRICT DOES NOT GUARANTEE A TIGHT SHUTDOWN OF ITS EXISTING VALVES. THE CONTRACTOR IS RESPONSIBLE FOR CONTROL OF LEAKAGE AND DISPOSAL OF WATER UP TO 100 GALLONS PER MINUTE.
- COORDINATE THE ACTIVATION AND DEACTIVATION OF WATER MAINS WITH THE SHELburne FALLS FIRE DISTRICT.
- WHERE WATER MAINS ARE BEING REPLACED, RECONNECT ALL EXISTING WATER SERVICES TO THE PROPOSED WATER MAINS, UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING UNINTERRUPTED WATER SERVICE TO ALL CUSTOMERS IN THE PROJECT AREA DURING CONSTRUCTION, UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNER.
- REMOVE AND DISPOSE OF VALVE BOXES ON WATER MAIN TO BE ABANDONED, UNLESS DIRECTED OTHERWISE.
- COVER EACH FIRE HYDRANT TAKEN OUT OF SERVICE WITH A NON-DEGRADABLE BAG SECURELY TIED. IMMEDIATELY NOTIFY FIRE DEPARTMENT WHEN HYDRANTS ARE TAKEN OUT OF SERVICE.

DEMOLITION NOTES

- EXISTING DIMENSIONS SHOWN WERE TAKEN FROM RESTORATION DRAWINGS DATED 1983. VERIFY DIMENSIONS IN FIELD.
- EXISTING ELEVATIONS SHOWN WERE TAKEN FROM A 3D SCAN CONDUCTED BY TIGHE & BOND IN APRIL, 2023 AND ARE REFERENCED TO NAVD 88.
- PERFORM SELECTIVE DEMOLITION AS INDICATED AND TO LIMITS SHOWN WITHIN THESE DRAWINGS FOR CONSTRUCTION.
- PROTECT FEATURES TO REMAIN.
- REFER TO SPECIFICATION SECTION 02225 FOR BRIDGE DEMOLITION SUBMITTAL REQUIREMENTS.
- CONTRACTOR TO COMPLY WITH ENVIRONMENTAL PERMITS AND REQUIREMENTS LAID OUT WITHIN THE CONTRACT DOCUMENTS. PROTECT THE WATERWAY DURING CONSTRUCTION AND MAKE PROVISIONS TO INSTALL A SHIELD UNDER THE EXISTING BRIDGE. CONTRACTOR SHALL PREVENT DEMOLISHED MATERIAL FROM FALLING INTO THE WATER.
- AVOID DAMAGE TO EXISTING STRUCTURE THAT IS TO REMAIN. ANY DAMAGE CAUSED BY DEMOLITION ACTIVITY SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER.
- TREAT CUT REINFORCING STEEL AND ANCHORS WITH A BONDING PRIMER AND REINFORCEMENT CORROSION PROTECTION.

CONSTRUCTION NOTES

- CONTRACTOR TO PROVIDE TEMPORARY CONSTRUCTION ACCESS AS NEEDED TO SUPPORT THEIR MEANS AND METHODS. CONTRACTOR TO SUBMIT A COMPLETE PACKAGE INCLUDING SHOP DRAWINGS, DETAILS, AND CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS FOR REVIEW BY ENGINEER. CONTRACTOR TO SUBMIT A CONTINGENCY PLAN TO SECURE STAGING AND MATERIALS IN THE EVENT OF A RAIN EVENT FOR REVIEW. STAGING MAY BE SUPPORTED BY OR BRACED OFF OF THE BRIDGE. ANY ANCHORAGE MATERIALS EMBEDDED WITHIN EXISTING CONCRETE TO BE STAINLESS STEEL. CONTRACTOR TO PROVIDE DETAILS FOR CONNECTION AS WELL AS DETAILS FOR THE BRIDGE REPAIR PROCEDURE AT ANCHOR POINTS. FINAL CONDITION SHOULD CONCEAL ANCHOR POINTS. A MAXIMUM CONDITION FACTOR OF 0.85 SHALL BE APPLIED TO STRENGTH CALCULATIONS OF THE BRIDGE SUPPORTING ANY TEMPORARY CONSTRUCTION STAGING.
- CONTRACTOR TO PROVIDE MEANS OF PROTECTING THE WATERWAY DURING CONSTRUCTION ACTIVITIES SUCH AS POWER WASHING CONCRETE SURFACES, SELECTIVE DEMOLITION, AND CONCRETE REPAIRS. CONTRACTOR TO SUBMIT ON PROVISIONS TO PREVENT MATERIAL FROM FALLING INTO THE WATER, FOR REVIEW BY ENGINEER.
- THE ARCH STRUCTURE WAS EVALUATED TO RESIST 15 KIPS OF LIVE LOAD DISTRIBUTED OVER A DISTANCE OF APPROXIMATELY 7'-0" IN THE LONGITUDINAL DIRECTION AND 2'-0" IN THE TRANSVERSE DIRECTION ON A SINGLE ARCH SPAN. CONTRACTOR SHALL VERIFY THAT ANY CONSTRUCTION LIVE LOADS INCLUDING THE STOCKPILING OF CONSTRUCTION MATERIAL SHALL NOT AT ANY TIME EXCEED 15 KIPS TOTAL PER ARCH AND 1 KSF AT ANY LOCATION. SUBMIT CALCULATIONS, SCHEDULES OF MATERIALS, OR OTHER DOCUMENTS AS NEEDED TO VERIFY LOAD RESTRICTIONS ARE NOT EXCEEDED. CONTRACTOR MAY EXCEED LOAD RESTRICTIONS BY SUBMITTING CALCULATIONS SIGNED AND STAMPED BY A PROFESSIONALLY LICENSED ENGINEER IN THE COMMONWEALTH OF MASSACHUSETTS THAT SHOW THE ARCH HAS SUFFICIENT CAPACITY TO RESIST THE PROPOSED LOADS.

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		BENCHMARK
		SIGN AND POST
		LAMP POST
		GATE VALVE
		HYDRANT
		UTILITY POLE
		OVERHEAD UTILITY
		WATER MAIN
		ELECTRIC LINE
		IRRIGATION LINE
		STRUCTURE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EDGE OF PAVEMENT
		EDGE OF DIRT PATH
		CENTERLINE
		WOOD FENCE
		METAL BRIDGE RAIL
		LIMITS OF WORK
		EROSION CONTROL BARRIER
		MEAN ANNUAL HIGH WATER/BANK
		INLAND BANK
		100-FOOT BUFFER ZONE
		200-FOOT RIVERFRONT AREA
		EXISTING STRUCTURE

ABBREVIATIONS

ADJ	ADJUST	KSF	KIPS PER SQUARE FOOT
APPROX	APPROXIMATE	LT	LEFT
BIT	BITUMINOUS	MAX	MAXIMUM
BL	BASELINE	MIN	MINIMUM
BLSF	BORDERING LAND SUBJECT TO FLOODING	MJ	MECHANICAL JOINT
BO	BY OTHERS	NTS	NOT TO SCALE
BOT	BOTTOM	N/A	NOT APPLICABLE
BRG	BEARING	OC	ON CENTER
CL	CENTERLINE (OR CLEAR COVER)	OH	OVERHEAD
CMP	CORROGATED METAL PIPE	PC	POINT OF CURVATURE
CONC	CONCRETE	PCR	PEDESTRIAN CURB RAMP
CONST	CONSTRUCTION	PGL	PROPOSED GRADE LINE
CY	CUBIC YARD	PI	POINT OF INTERSECTION
DEG	DEGREE	PROP	PROPOSED
DI	DUCTILE IRON	PSF	POUNDS PER SQUARE FOOT
DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
EF	EACH FACE	PT	POINT OF TANGENCY
EL/ELEV	ELEVATION	RET UP	RETAIN UTILITY POLE
EMB	EMBEDMENT	ROW	RIGHT OF WAY
EOP	EDGE OF PAVEMENT	RT	RIGHT
EW	EACH WAY	R&D	REMOVE AND DISPOSE
EXIST	EXISTING	R&R	REMOVE AND RESET
HMA	HOT MIX ASPHALT	SF	SQUARE FOOT
HS	HIGH STRENGTH	SOE	SUPPORT OF EXCAVATION
HYD	HYDRANT	SP	SPACED
JT	JOINT	TYP	TYPICAL
		UP	UTILITY POLE
		WW	WATER GATE VALVE



Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

Shelburne, MA
Buckland, MA

MARK	DATE	DESCRIPTION

PROJECT NO:	S2161-003
DATE:	2/7/2024
FILE:	S2161-003_GENERAL.dwg
DRAWN BY:	AvC
DESIGNED/CHECKED BY:	AML
APPROVED BY:	ZPC

NOTES, ABBREVIATIONS, AND LEGEND (2 OF 2)

SCALE: NO SCALE

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 Plotted On: Feb 07, 2024 5:06am
 Title & Content: S2161-003 - Shelburne Falls Water Projects 3 - Bridge of Flowers Evaluation Drawings - Figures AutoCAD Sheet S2161-003_GENERAL.dwg

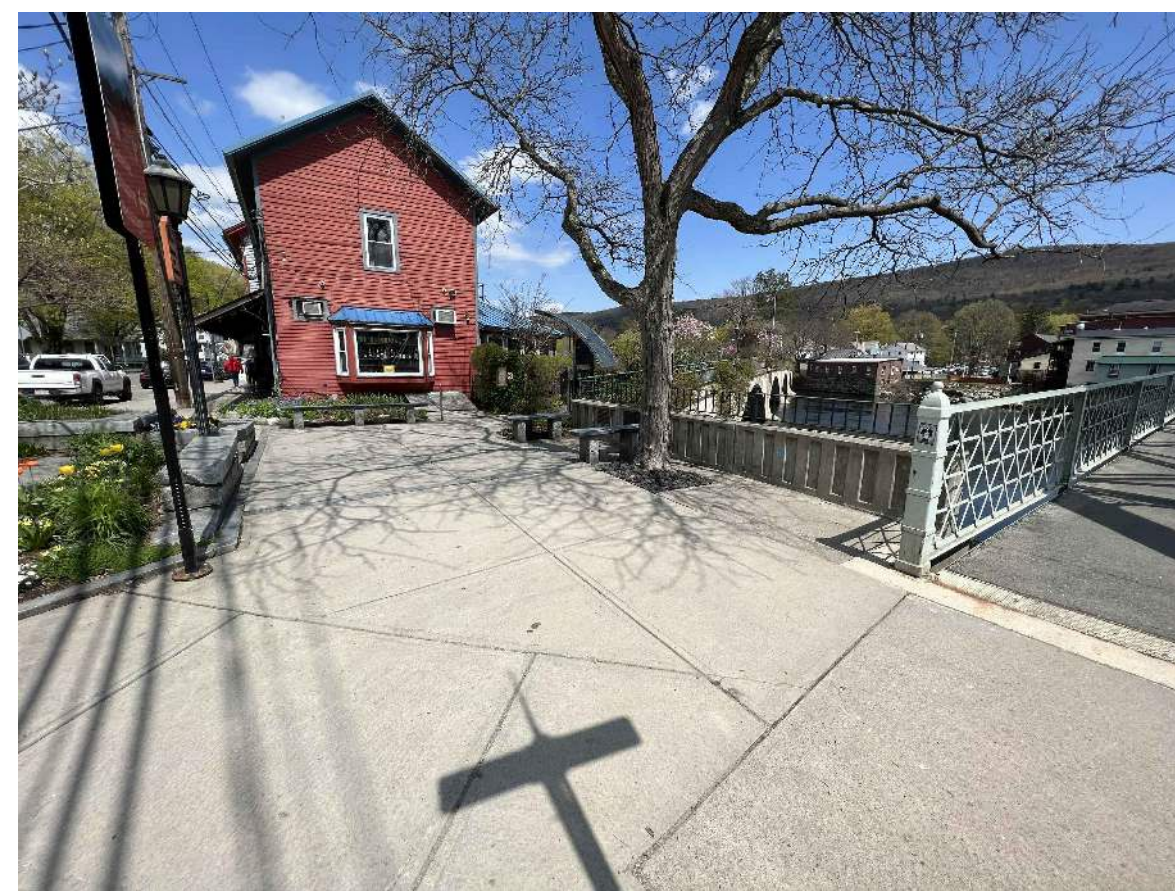
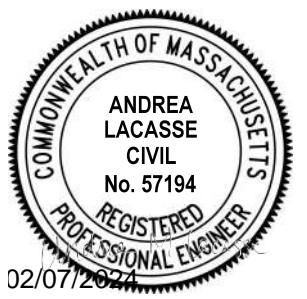


PHOTO 1: BUCKLAND APPROACH

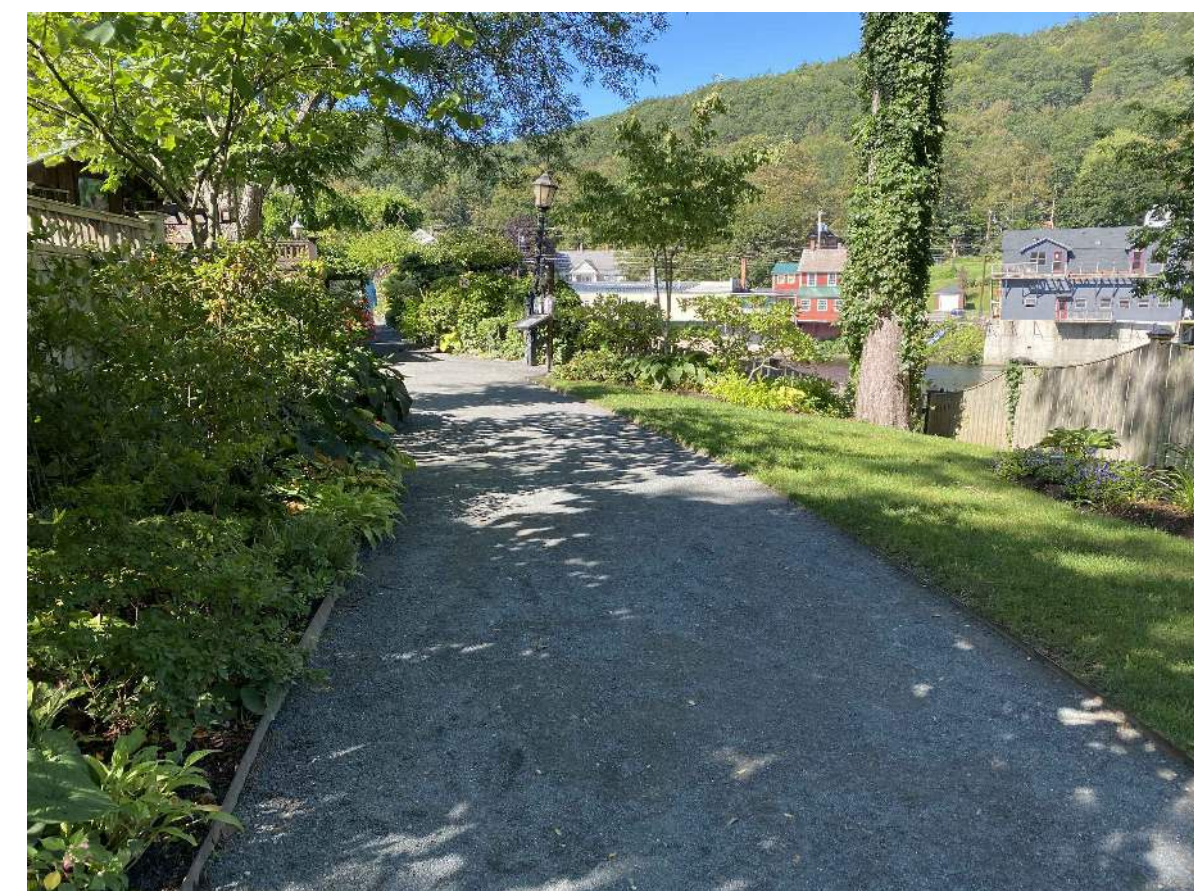
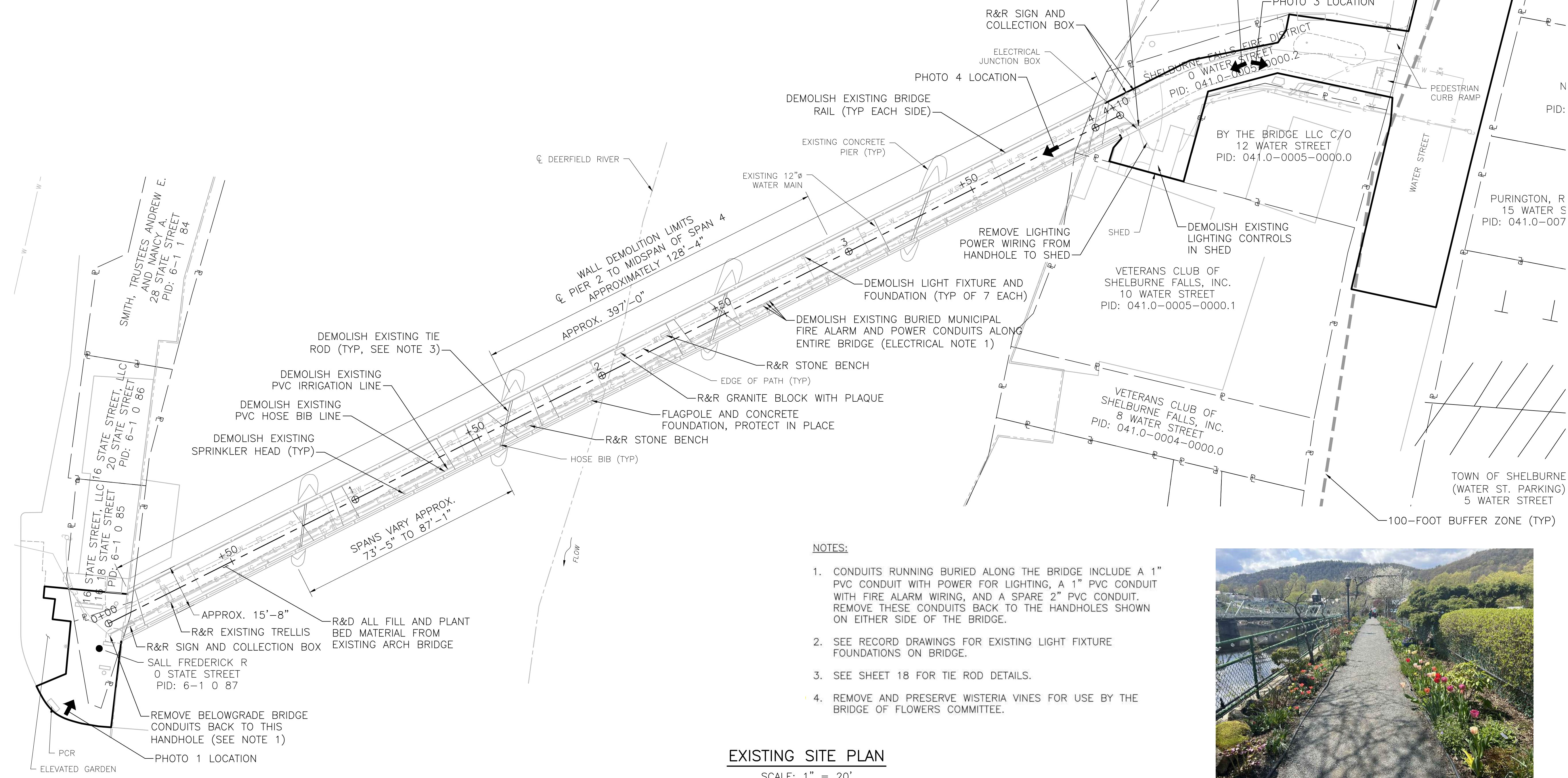


PHOTO 2: SHELBURNE APPROACH



PHOTO 3: SHELBURNE APPROACH



NOTES:

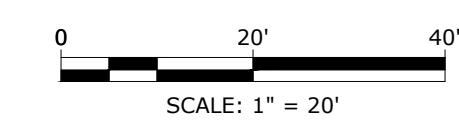
1. CONDUITS RUNNING BURIED ALONG THE BRIDGE INCLUDE A 1" PVC CONDUIT WITH POWER FOR LIGHTING, A 1" PVC CONDUIT WITH FIRE ALARM WIRING, AND A SPARE 2" PVC CONDUIT. REMOVE THESE CONDUITS BACK TO THE HANDHOLES SHOWN ON EITHER SIDE OF THE BRIDGE.
2. SEE RECORD DRAWINGS FOR EXISTING LIGHT FIXTURE FOUNDATIONS ON BRIDGE.
3. SEE SHEET 18 FOR TIE ROD DETAILS.
4. REMOVE AND PRESERVE WISTERIA VINES FOR USE BY THE BRIDGE OF FLOWERS COMMITTEE.

EXISTING SITE PLAN

SCALE: 1" = 20'



PHOTO 4: ON-BRIDGE



Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

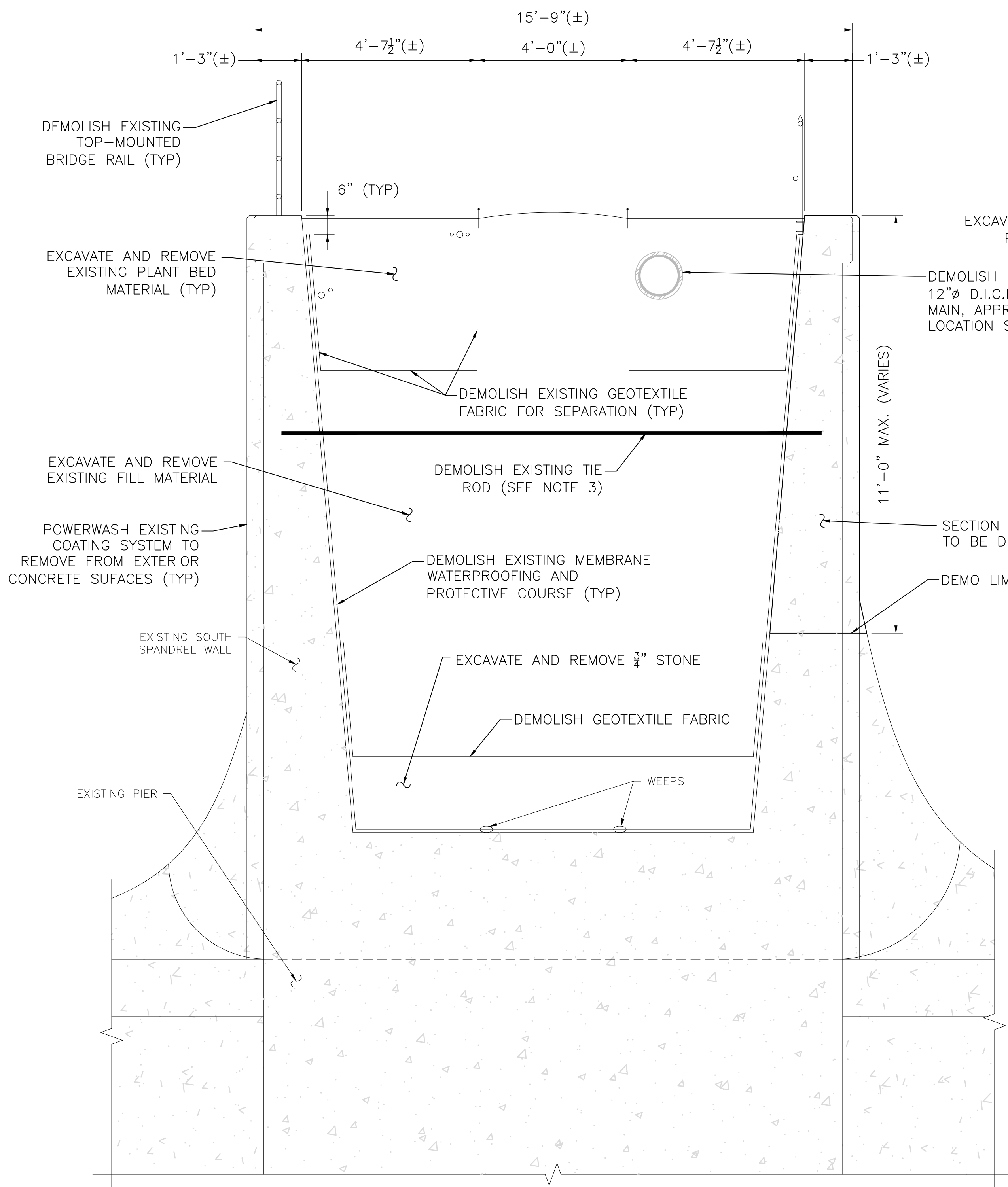
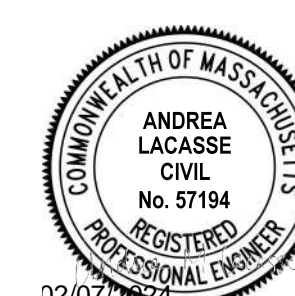
Shelburne, MA
Buckland, MA

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DATE:	2/7/2024	
FILE:	S2161-003_GENERAL.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

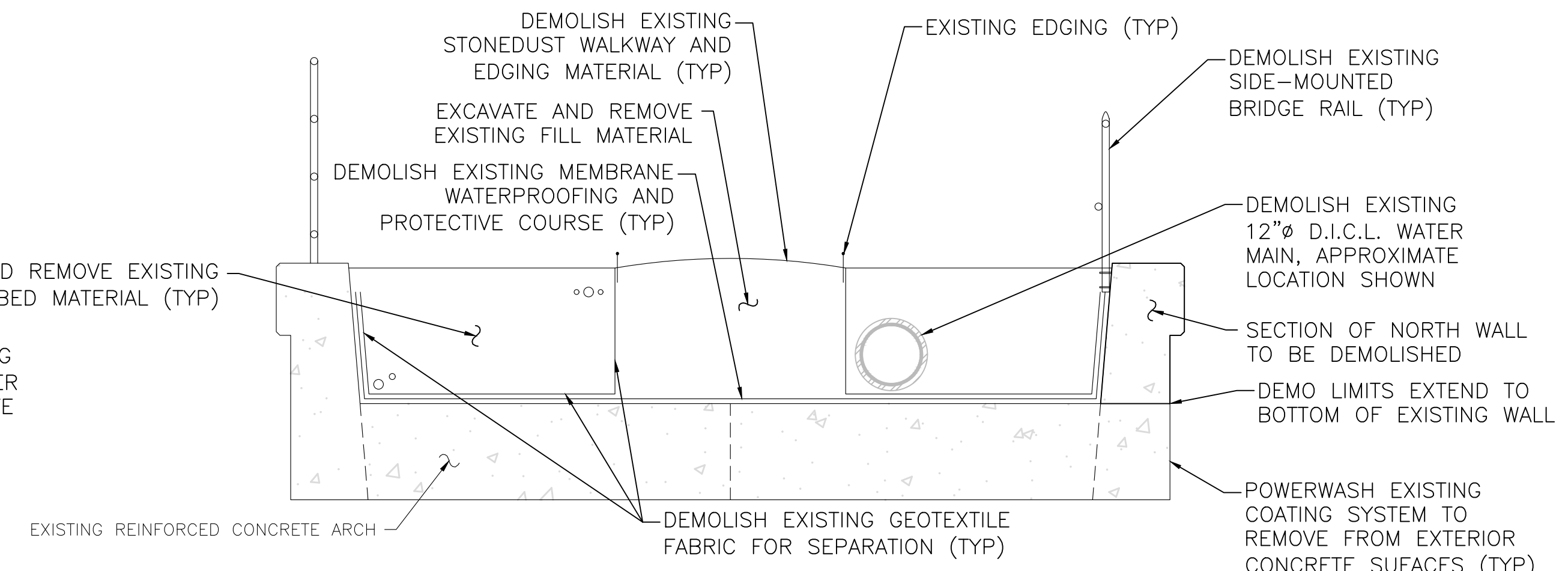
EXISTING SITE AND DEMOLITION PLAN

SCALE: 1" = 20'

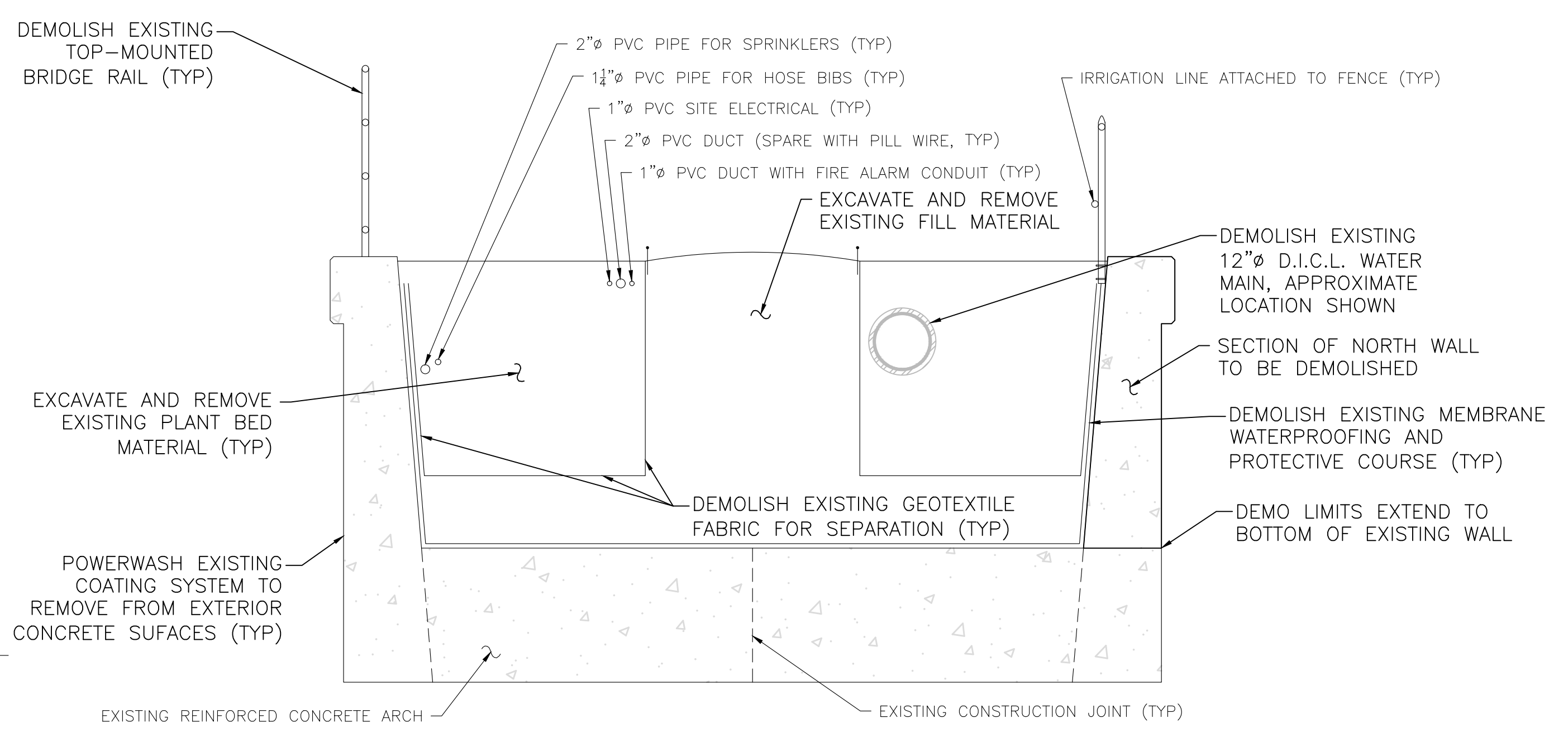
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SECTION AT PIER (LOOKING WEST)
SCALE: 1/2" = 1'-0"



SECTION AT MIDSPAN (LOOKING WEST)
SCALE: 1/2" = 1'-0"



SECTION NEAR QUARTER POINT (LOOKING WEST)
SCALE: 1/2" = 1'-0"

- NOTES:**
1. CONTRACTOR TO VERIFY EXISTING DIMENSIONS IN THE FIELD.
 2. REFER TO SHEET 4 OF 19 FOR LIMITS OF NORTH WALL DEMOLITION.
 3. REFER TO SHEET 18 OF 19 FOR TIE ROD DEMO DETAILS.
 4. EXISTING REINFORCING SIZE AND SPACING UNKNOWN, NOT SHOWN FOR CLARITY.

Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

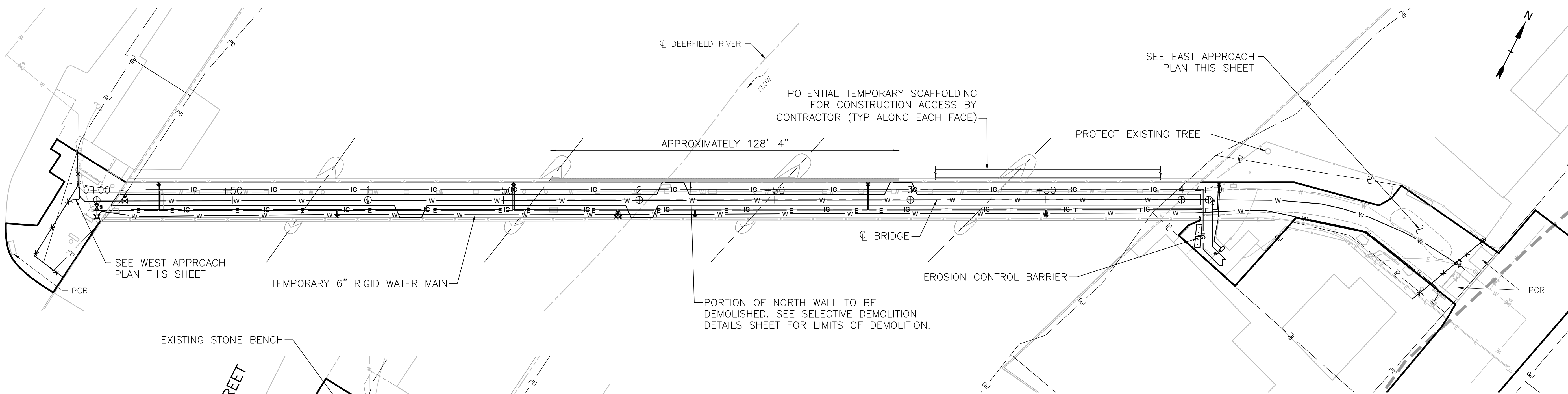
Shelburne, MA
Buckland, MA

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DATE:	2/7/2024	
FILE:	S2161-003_GENERAL.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

SELECTIVE DEMOLITION DETAILS

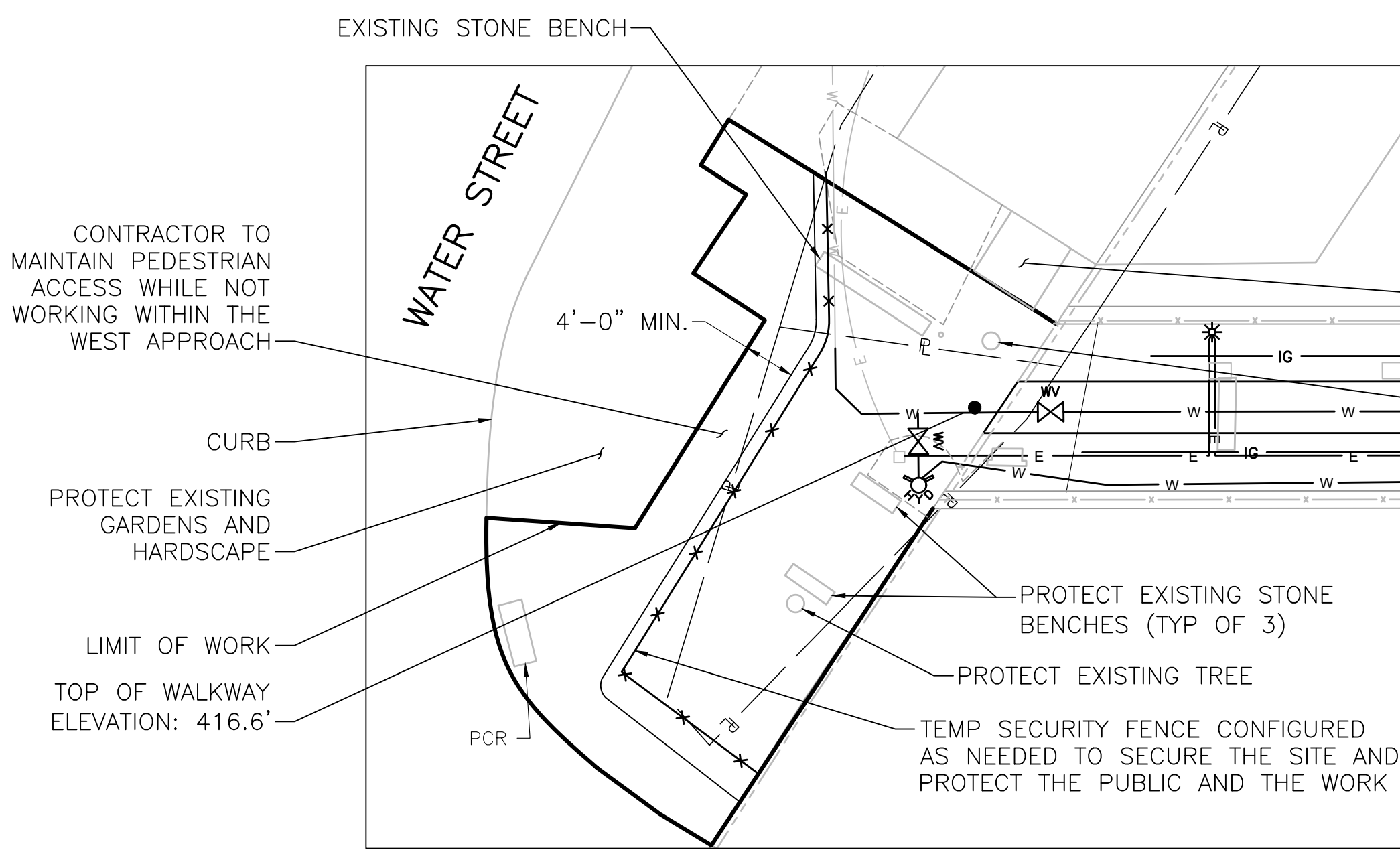
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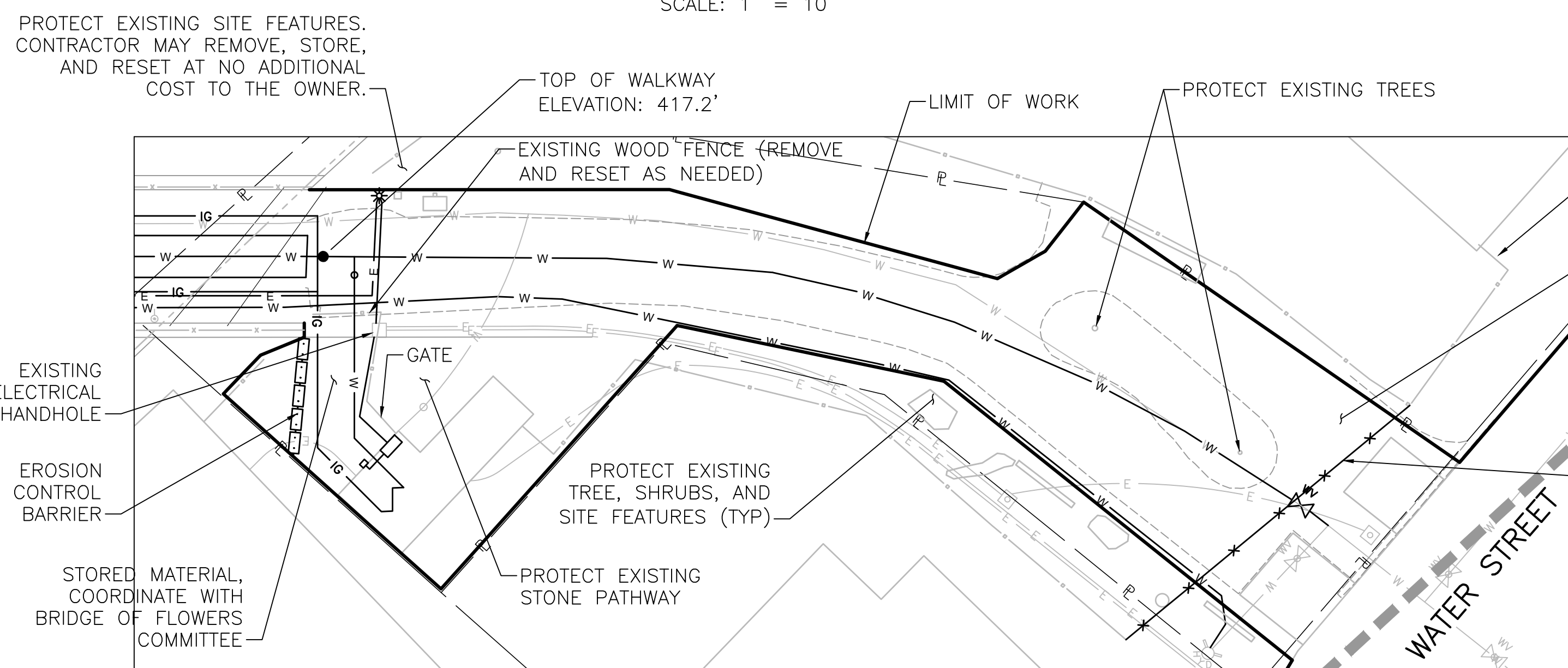
CONSTRUCTION PLAN

SCALE: 1" = 20'



WEST APPROACH PLAN

SCALE: 1" = 10'



EAST APPROACH PLAN

SCALE: 1" = 10'



CONSTRUCTION STAGING PLAN

SCALE: 1" = 20'

Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

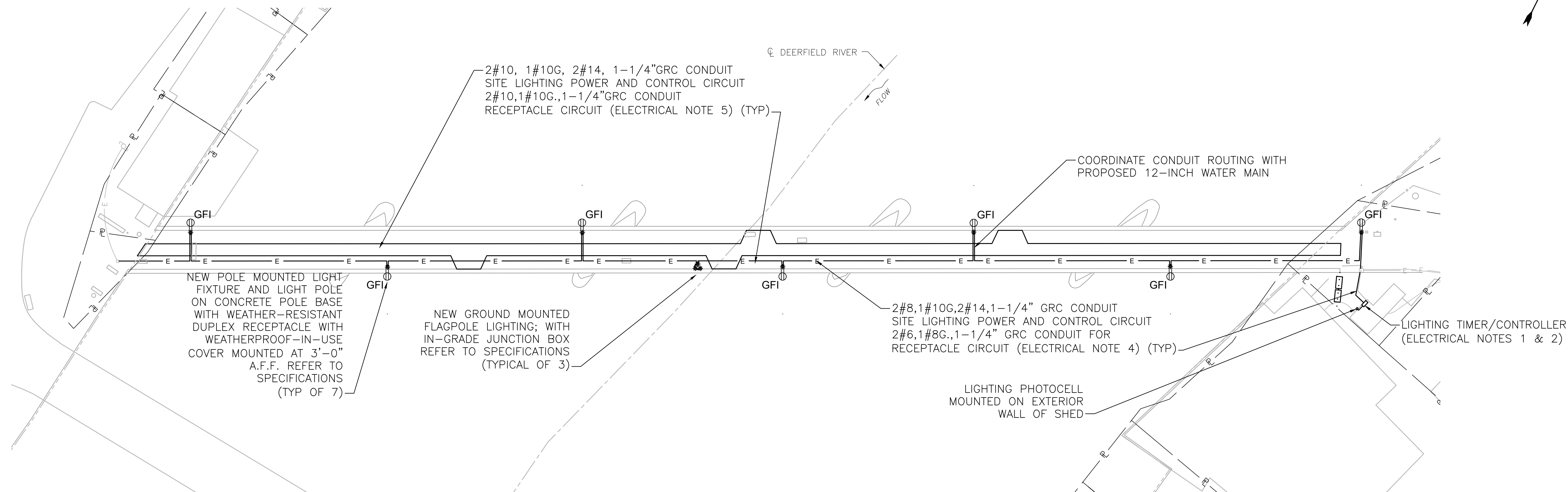
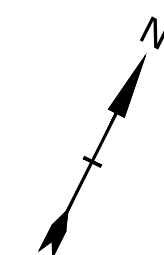
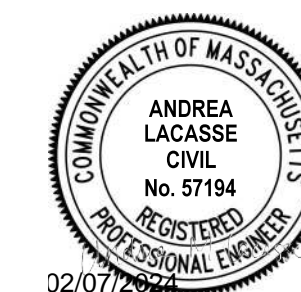
Shelburne, MA
Buckland, MA

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DESIGNED/CHECKED BY:	AML	
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CONSTRUCTION PLAN AND STAGING

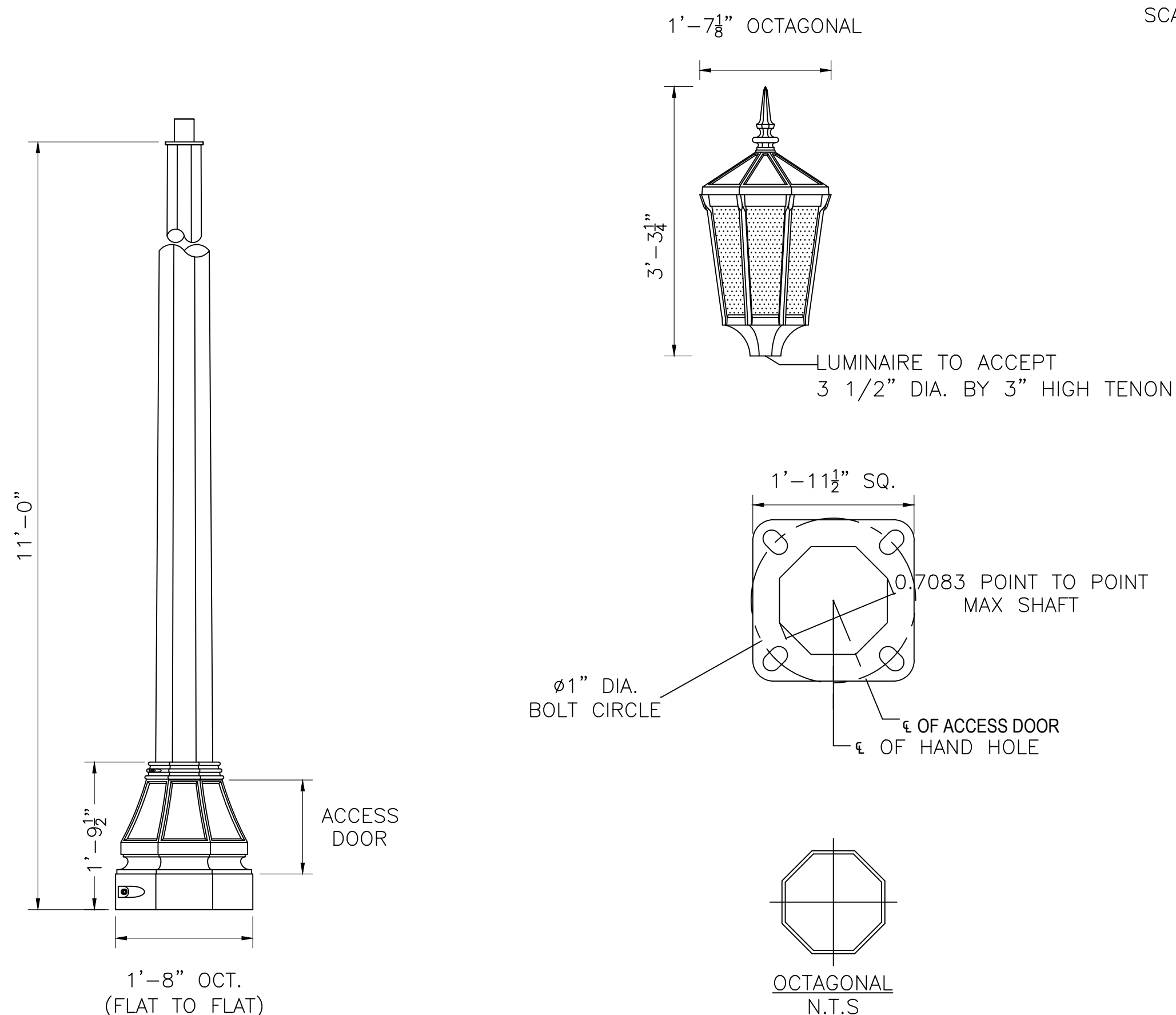
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 Tighe & Bond 2161-003 - Shelburne Falls Water Projects 3 - Bridge of Flowers Rehabilitation Drawings - Figures AutoCAD Sheet S2161-003_GENERAL.dwg



UTILITY PLAN

SCALE: 1" = 20'



TYPICAL LAMP POST DETAIL

NOT TO SCALE

ELECTRICAL NOTES:

1. WATER AND IRRIGATION UTILITIES NOT SHOWN FOR CLARITY.
2. PROVIDE A NEW LIGHTING TIMER/CONTROLLER WITH 0-10V CONTROL TO PERFORM THE FOLLOWING: TURN LIGHTS ON AT DUSK AND OFF AT DAWN (USING A REMOTE PHOTOCELL MOUNTED TO EXTERIOR OF SHED), DIM LIGHTING TO 25% (ADJUSTABLE) AT 10PM (ADJUSTABLE), INCREASE LIGHTING OUTPUT UP TO 100% AT 5AM (ADJUSTABLE). TIMER/CONTROLLER SHALL BE AN 4-CIRCUIT RELAY PANEL WITH 200W ENCLOSURE HEATER, 2-40A 1P RELAYS FOR RECEPTACLE CONTROL, 2-40A 2P RELAYS FOR LIGHTING CONTROL, PHOTOCELL CONTROLLER CARD AND EXTERIOR PHOTOCELL. LIGHTING CONTROLS SHALL BE ILC CATALOG NUMBER LL04 RELAY PANEL, (2)R40-1 AND (2)R40-2 RELAYS, LSDM-P PHOTOCELL CARD AND LSPSC-OUT-P PHOTOCELL OR EQUAL.
3. PROVIDE POWER AND DIMMING CONTROLS TO NEW LIGHTING VIA 20A 2P CIRCUIT BREAKER FROM NEW LIGHTING TIMER/CONTROLLER USING WIRING/CONDUIT SHOWN. PROVIDE POWER TO THE NEW TIMER/CONTROLLER FROM THE EXISTING PANELBOARD VIA EXISTING CIRCUIT BREAKERS IN THE SHED USING 2#10, #10G, 3/4"C. ROUTE RECEPTACLE CIRCUITS THROUGH THE NEW LIGHTING TIMER/CONTROLLER VIA NEW GROUND-FAULT CIRCUIT BREAKER FOR AUTOMATIC CONTROL.
4. BURIED CONDUIT ROUTED ALONG THE BRIDGE SHALL BE GALVANIZED RIGID STEEL, RUN AT LEAST 12" BELOW SURFACE. PROVIDE AT LEAST 3" OF SAND ON ALL SIDES OF CONDUITS. CONDUITS SHALL BE SPACED AT LEAST 3" APART.
5. PROVIDE 20A 2P CIRCUIT FOR LIGHTING AND 20A 1P CIRCUIT FOR RECEPTACLES VIA GROUND FAULT CIRCUIT BREAKER. SPLICE LIGHTING AND RECEPTACLE CIRCUITS IN LIGHT POLE WITH SUBMERSIBLE RATED CONNECTORS. PROVIDE XHHW-2 WIRING FROM POLE BASE TO POLE BASE. PROVIDE 12/2 UF CABLE FROM POLE BASE UP POLE TO LUMINAIRE AND RECEPTACLE TERMINATIONS.

Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

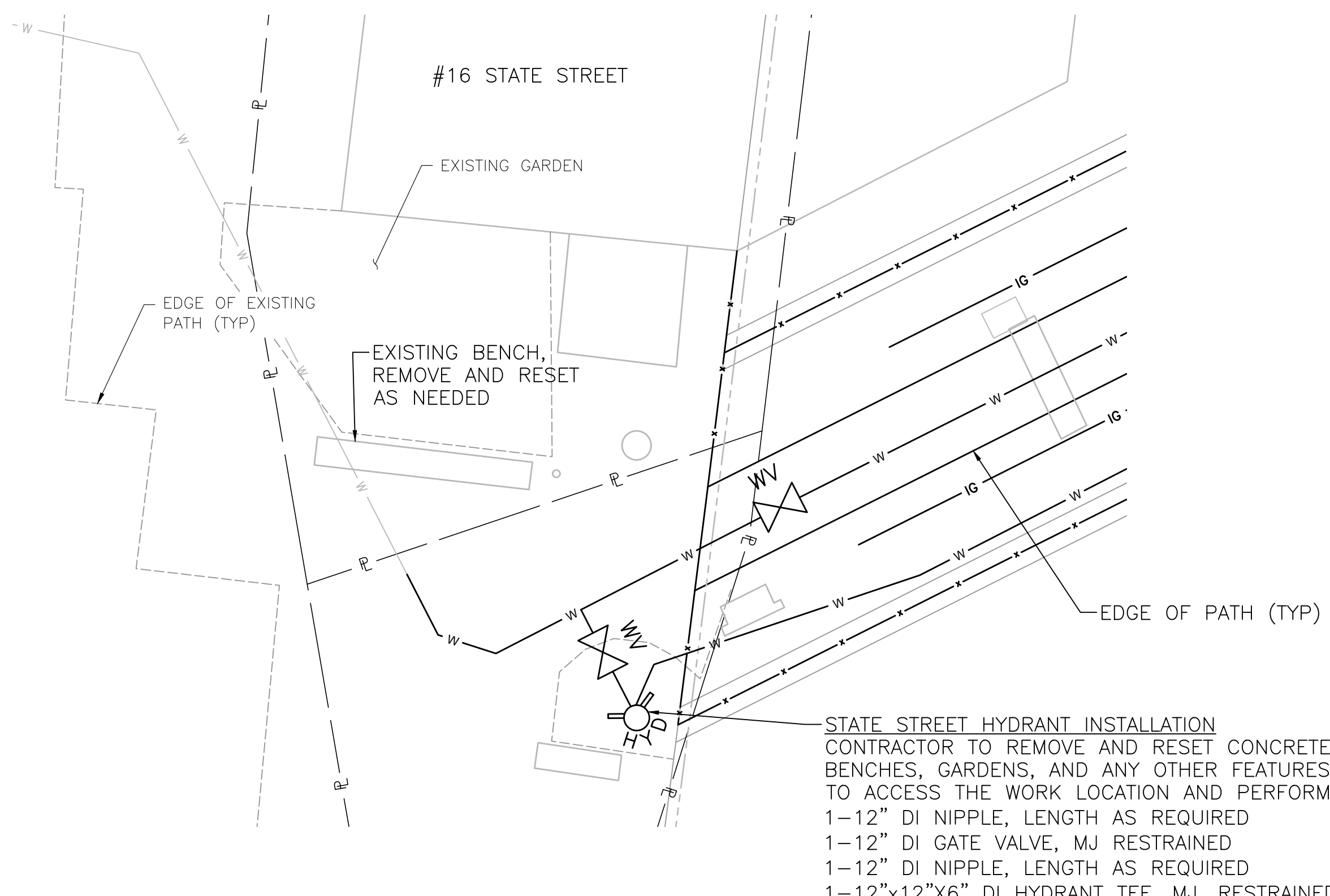
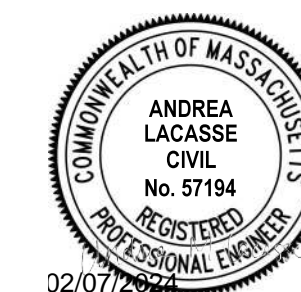
Shelburne, MA
Buckland, MA

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FILE:	S2161-003_UTILITIES.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

ELECTRICAL PLAN AND DETAILS

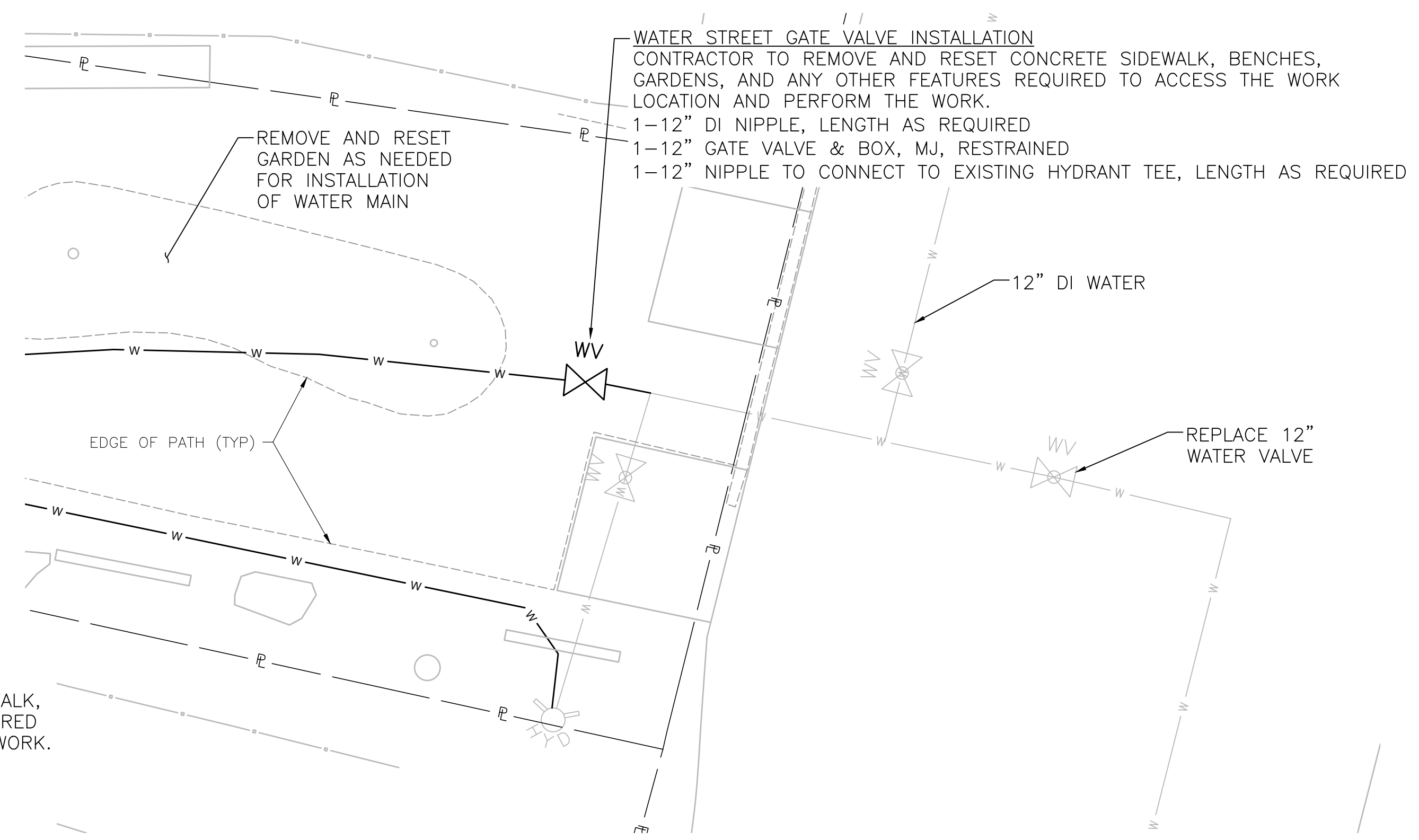
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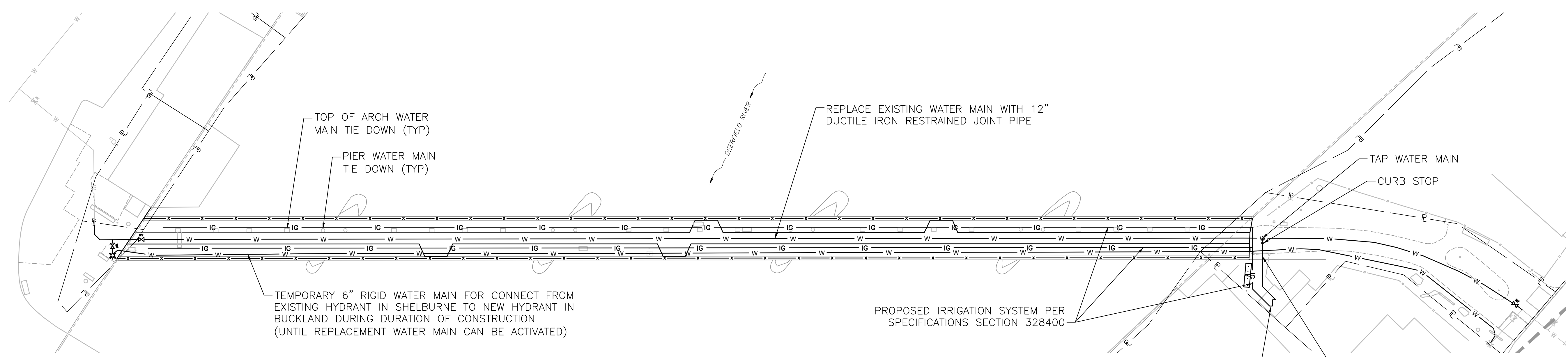
WATER PLAN (WEST END)
SCALE: 1" = 5'

STATE STREET HYDRANT INSTALLATION
CONTRACTOR TO REMOVE AND RESET CONCRETE SIDEWALK, BENCHES, GARDENS, AND ANY OTHER FEATURES REQUIRED TO ACCESS THE WORK LOCATION AND PERFORM THE WORK.
1-12" DI NIPPLE, LENGTH AS REQUIRED
1-12" DI GATE VALVE, MJ RESTRAINED
1-12" DI NIPPLE, LENGTH AS REQUIRED
1-12"x12"x6" DI HYDRANT TEE, MJ, RESTRAINED
1-12" NIPPLE, LENGTH AS REQUIRED
CONNECT TO EXISTING 45 DEG BEND MJ, RESTRAINED
6" DI, LENGTH AS REQUIRED, RESTRAINED
1-HYDRANT



WATER PLAN (EAST END)
SCALE: 1" = 5'

- NOTE:**
- ELECTRIC UTILITIES NOT SHOWN FOR CLARITY.
 - EXISTING PIPE CRADLE/CLAMP LOCATIONS SHOWN ARE APPROXIMATE. VERIFY EXACT LOCATIONS IN THE FIELD.



WATER AND IRRIGATION PLAN
SCALE: 1" = 20'

- ESTIMATED CONSTRUCTION SEQUENCE RELATED TO WATER MAIN**
- CLEAR AND GRUB
 - INSTALL HYDRANT ON BUCKLAND SIDE
 - INSTALL TEMPORARY WATER MAIN
 - REMOVE SOIL AND EXISTING WATER MAIN ON BRIDGE
 - PERFORM BRIDGE REHABILITATION WORK
 - BACKFILL SOIL ON BRIDGE, INSTALL REPLACEMENT WATER MAIN AND IRRIGATION
 - ACTIVATE NEW WATER MAIN AND REMOVE TEMPORARY WATER MAIN

Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

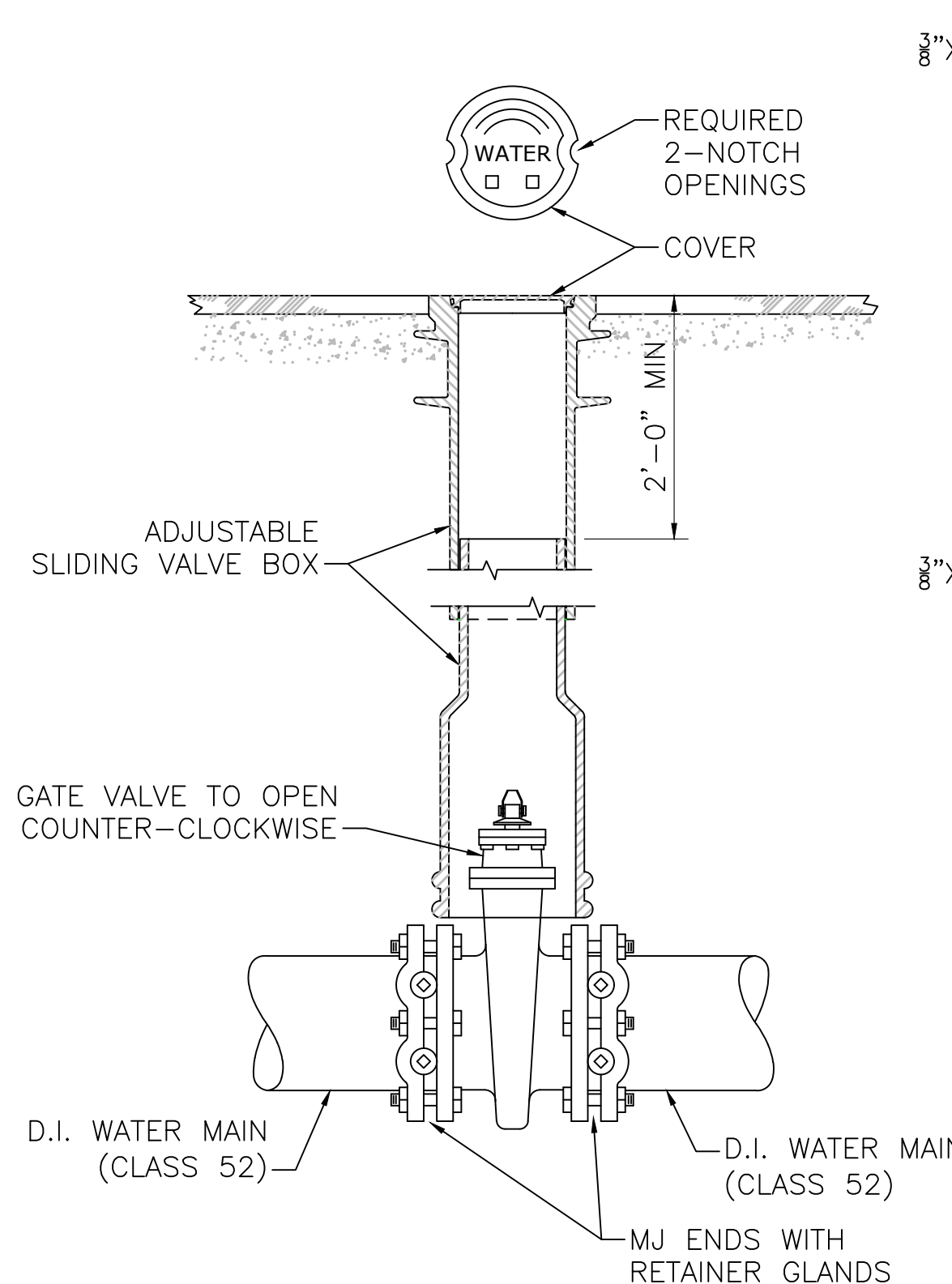
Shelburne, MA
Buckland, MA

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DATE:	2/7/2024	
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DRAWN BY:	AvC	
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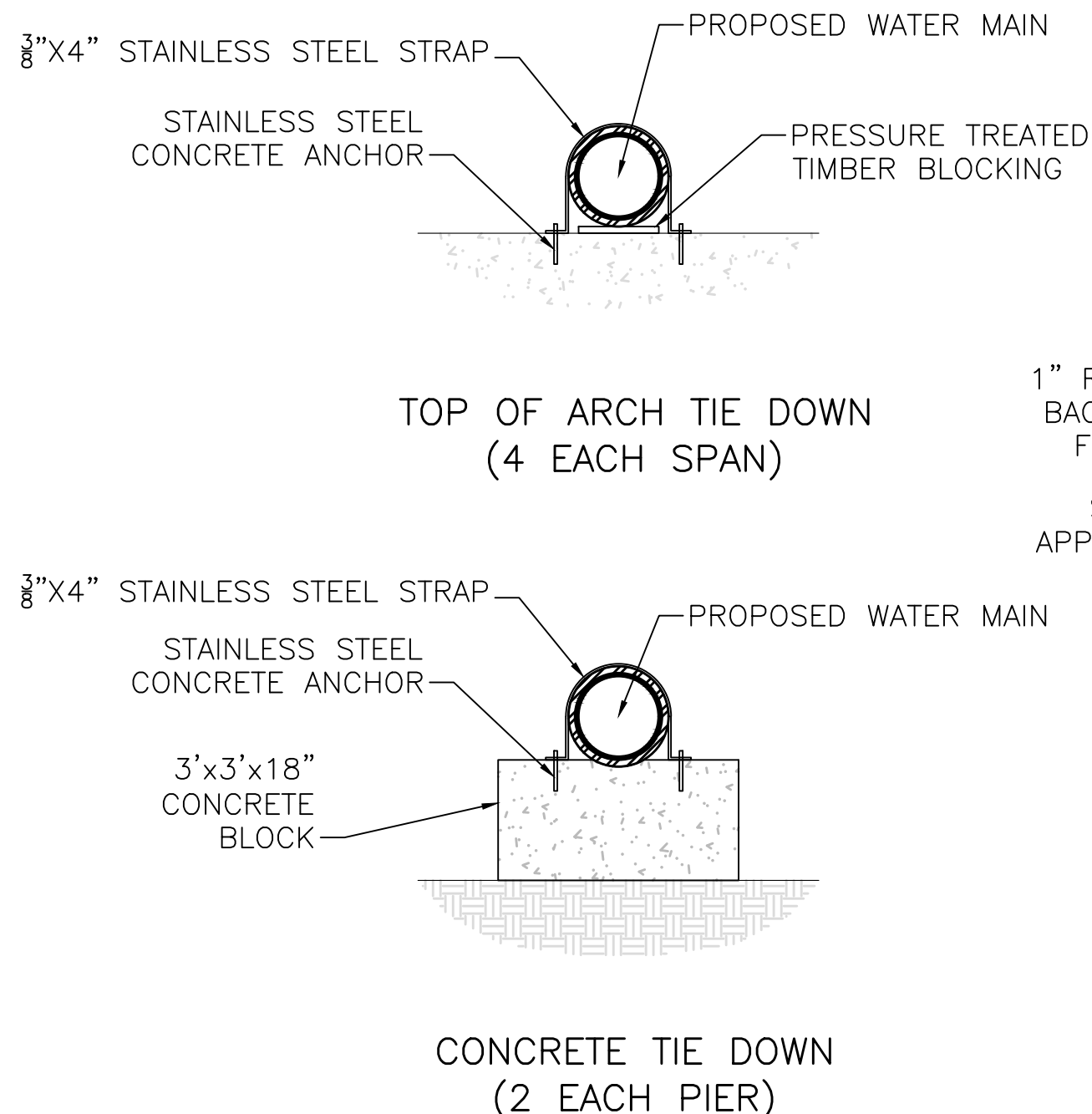
WATER MAIN AND IRRIGATION PLAN

SCALE: AS SHOWN

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 Project: 02/07/2024 12:15:56 PM
 Title: S2161-003 - Shelburne Falls Water Project3 - Bridge of Flowers Rehabilitation Drawings - Figures AutoCAD Sheet S2161-003 UTILITIES.dwg

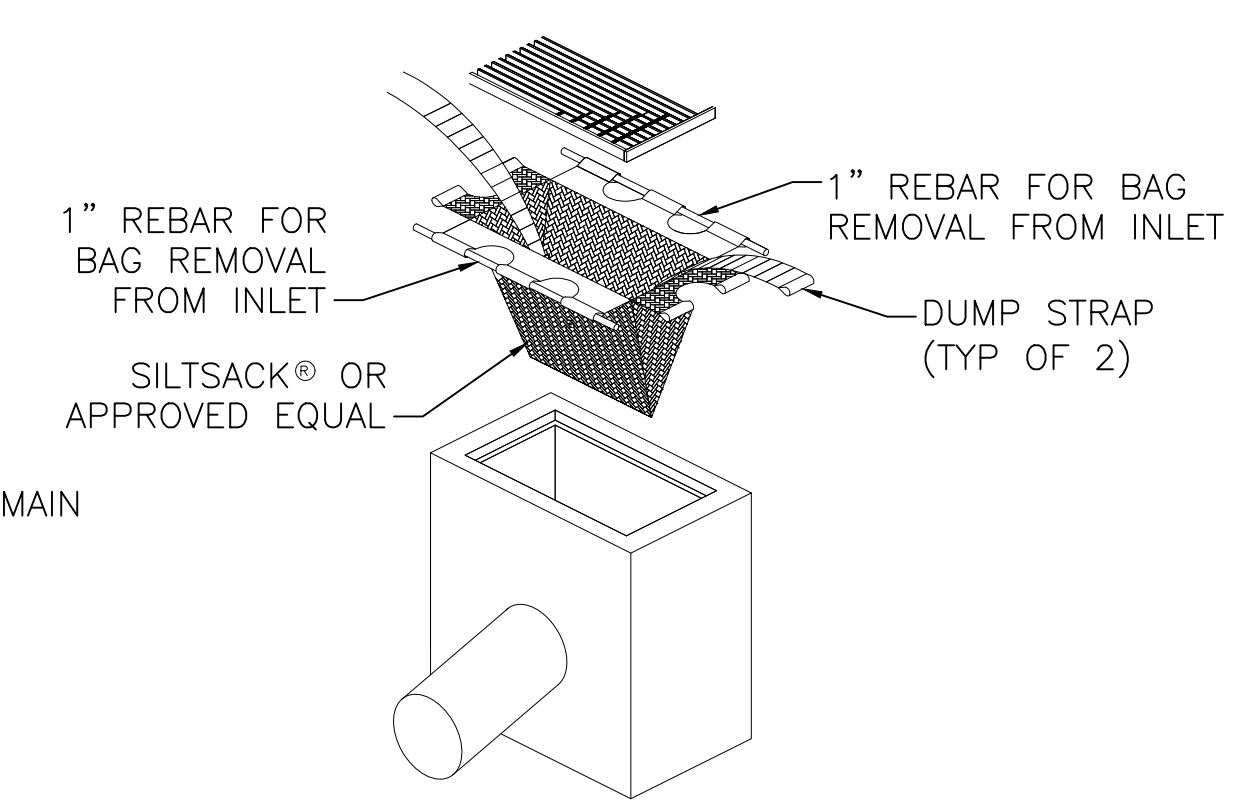


TYPICAL GATE VALVE INSTALLATION 12" & SMALLER
NOT TO SCALE



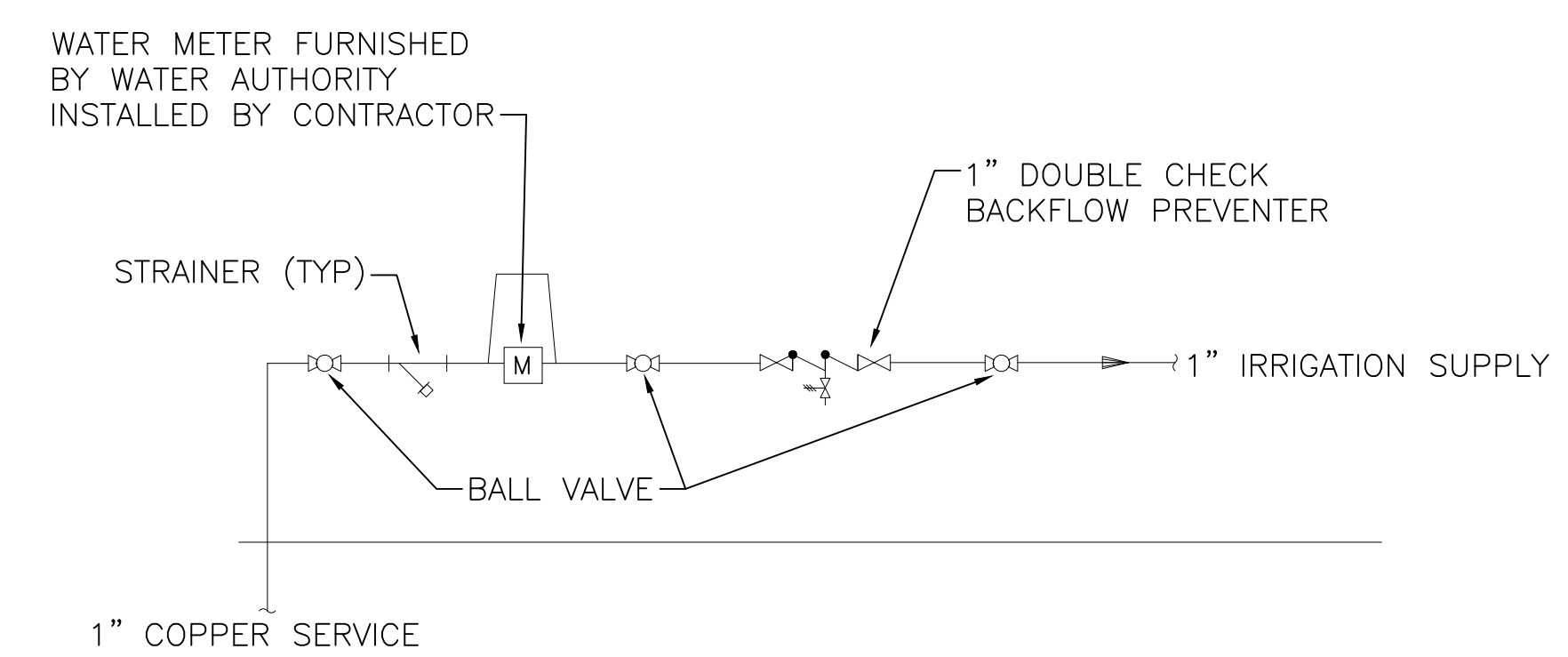
- NOTES**
1. PROPOSED TIE DOWNS FOR NEW WATER MAIN IN CENTER OF BRIDGE TO MATCH EXISTING TIE DOWN SPACING.
 2. CONCRETE BLOCK TO HAVE #5 BARS @ 12" ON CENTER EACH WAY, EACH FACE.

WATER MAIN TIE DOWNS
SCALE: 1/2" = 1'-0"



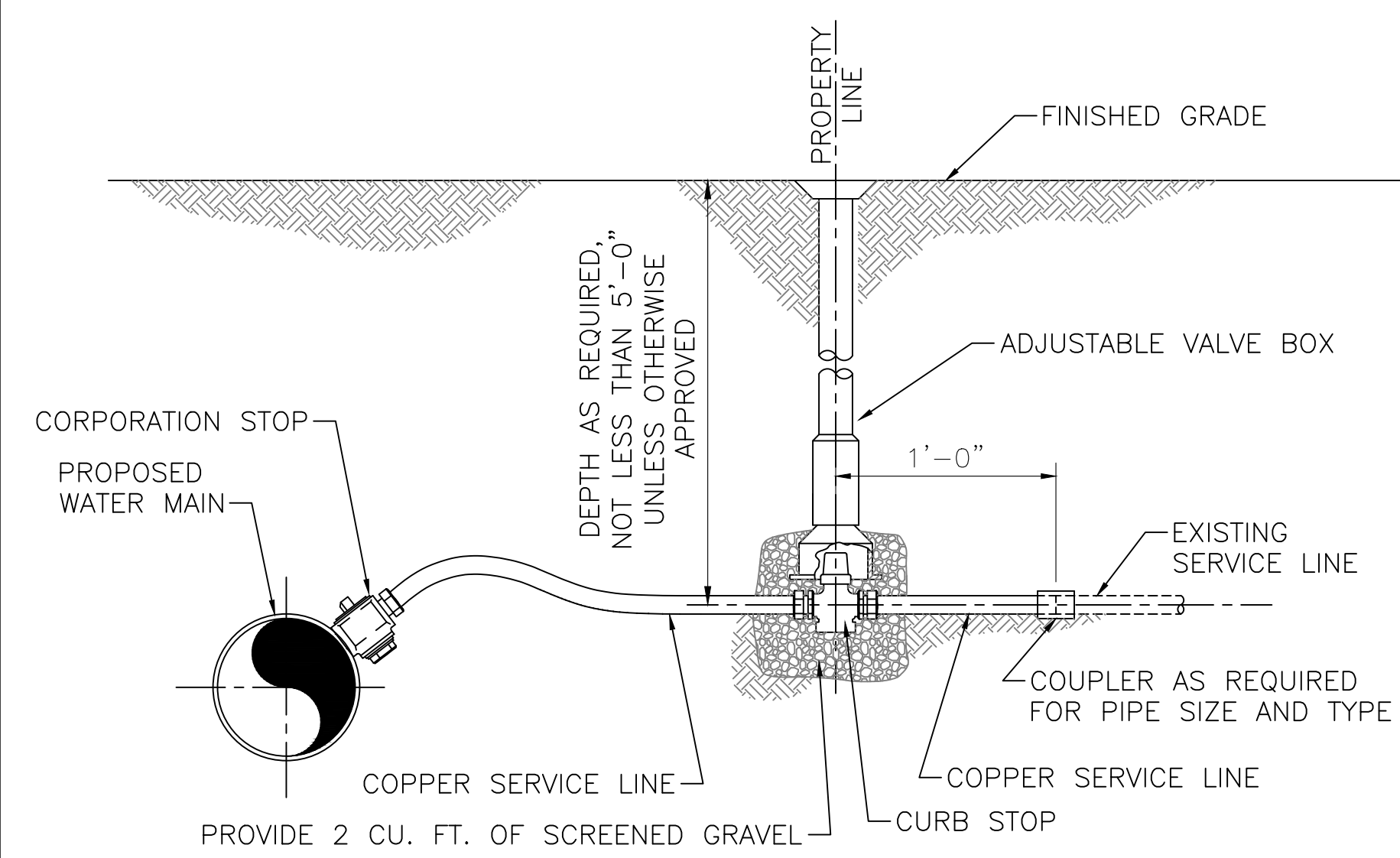
CATCH BASIN PROTECTION SILTSACK® EROSION CONTROL
NOT TO SCALE

SILTSACK MANUFACTURED BY:
ATLANTIC CONSTRUCTION FABRICS, INC.
1801-A WILLIS ROAD
RICHMOND, VIRGINIA 23237

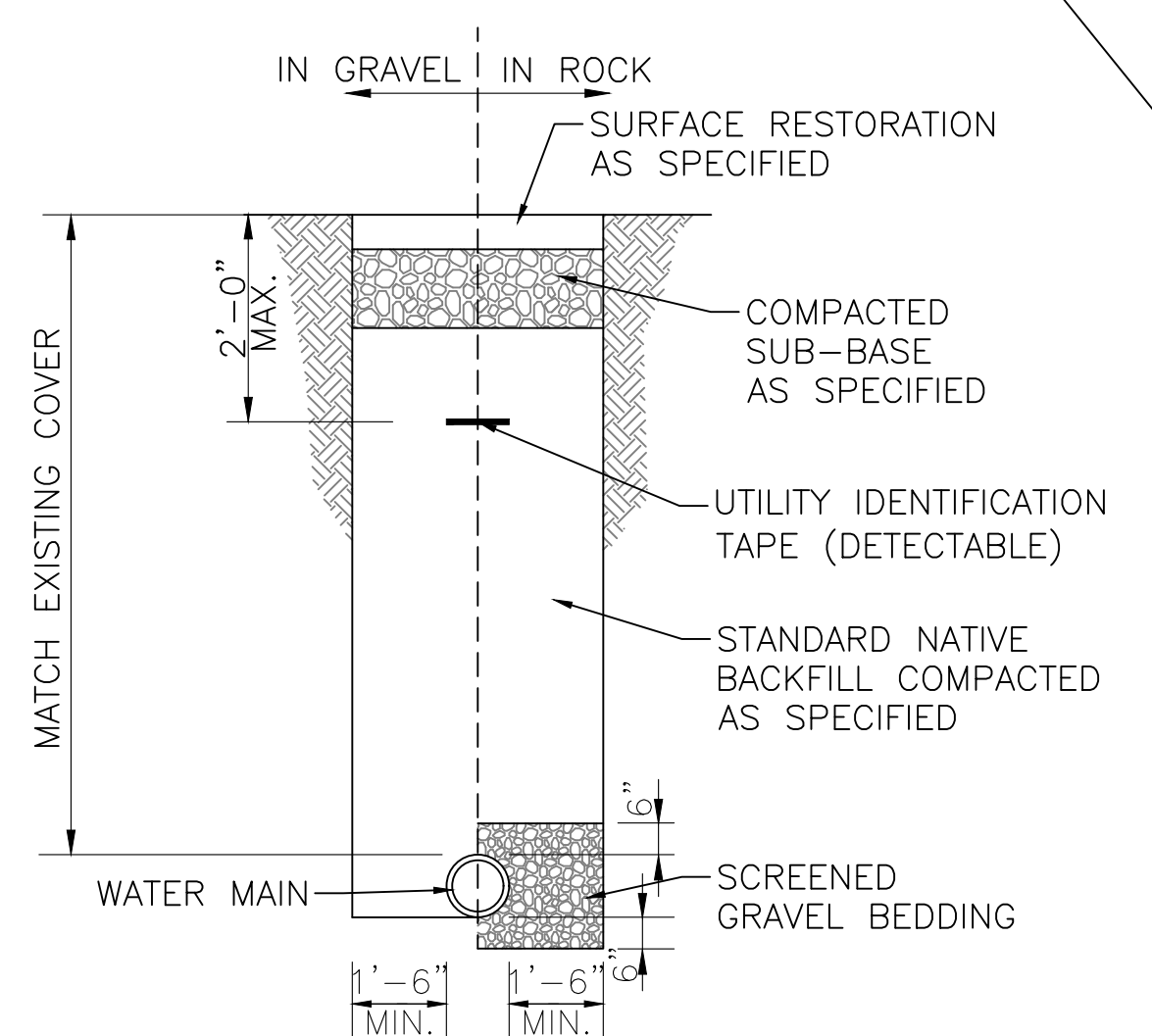


WATER SERVICE CONNECTION
NOT TO SCALE

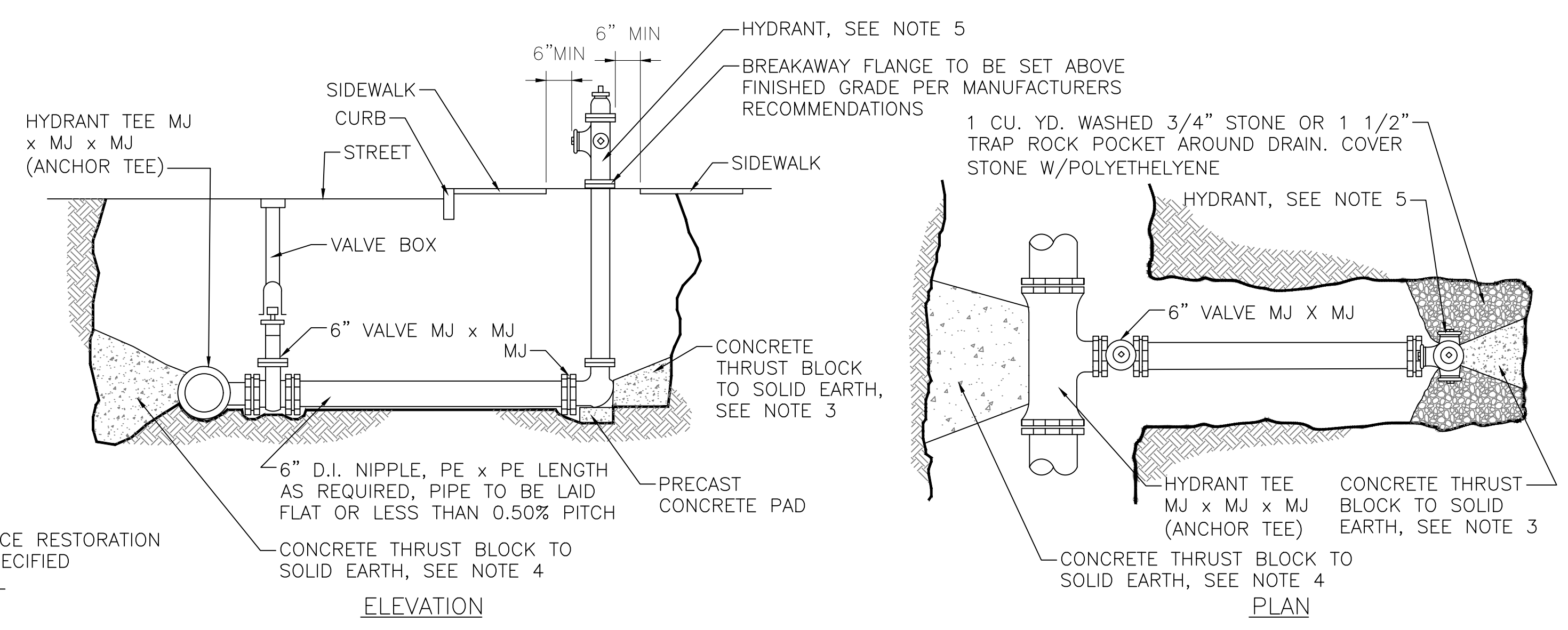
- NOTES**
1. VALVES, STRAINER, METER, AND BACKFLOW PREVENTER TO BE LOCATED WITHIN THE GARDENER'S BUILDING.



WATER SERVICE CONNECTION
NOT TO SCALE



TYPICAL WATER MAIN TRENCH
NOT TO SCALE



ELEVATION

- NOTES**
1. ALL CONCRETE TO BE CAST-IN-PLACE (3000 PSI)
 2. ALL MJ JOINTS SHALL HAVE RETAINER GLANDS
 3. CARE SHALL BE TAKEN TO SHIELD HYDRANT BASE DRAIN HOLES DURING PLACEMENT OF THE CONCRETE THRUST BLOCK. DRAIN HOLES SHALL BE VERIFIED AS OPEN AND FREE OF OBSTRUCTIONS PRIOR TO BACKFILLING.
 4. CARE SHALL BE TAKEN TO SHIELD ALL MECHANICAL JOINT GLANDS AND BOLTS DURING PLACEMENT OF CONCRETE THRUST BLOCK. ALL BOLTS AND GLANDS SHALL BE FREE AND UNOBSTRUCTED BEFORE BACKFILLING.
 5. HYDRANT SHALL BE SET PLUMB. VERTICAL HYDRANT EXTENSIONS SHALL BE USED AS NECESSARY TO PROPERLY LOCATE THE BREAKAWAY FLANGE PER MANUFACTURERS RECOMMENDATIONS.
 6. POLYETHYLENE SHEETING SHALL BE PLACED OVER THE FITTING AND/OR HYDRANT BASE TO PREVENT DIRECT CONTACT OF CONCRETE WITH THE FITTING.

HYDRANT INSTALLATION
NOT TO SCALE

Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

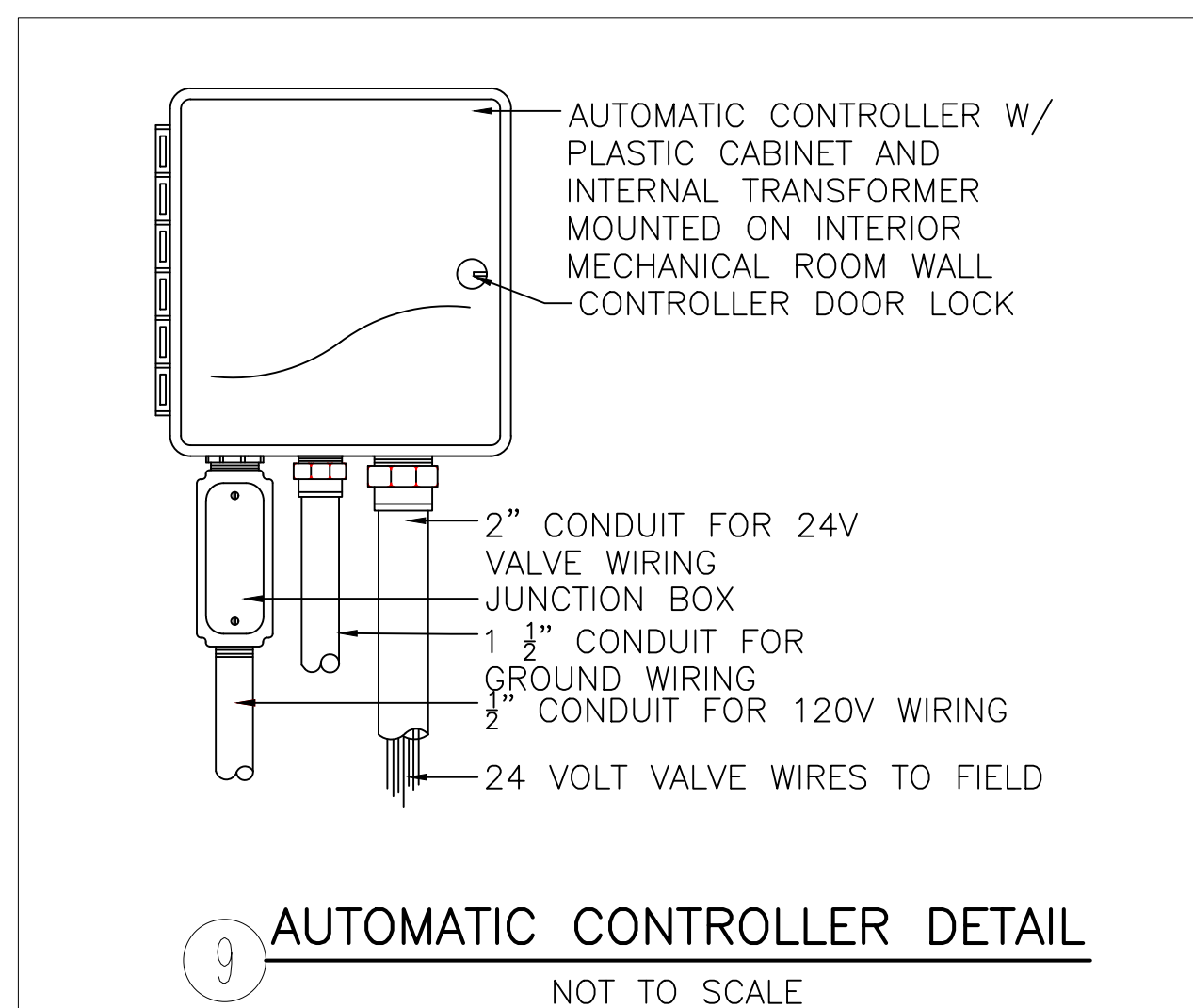
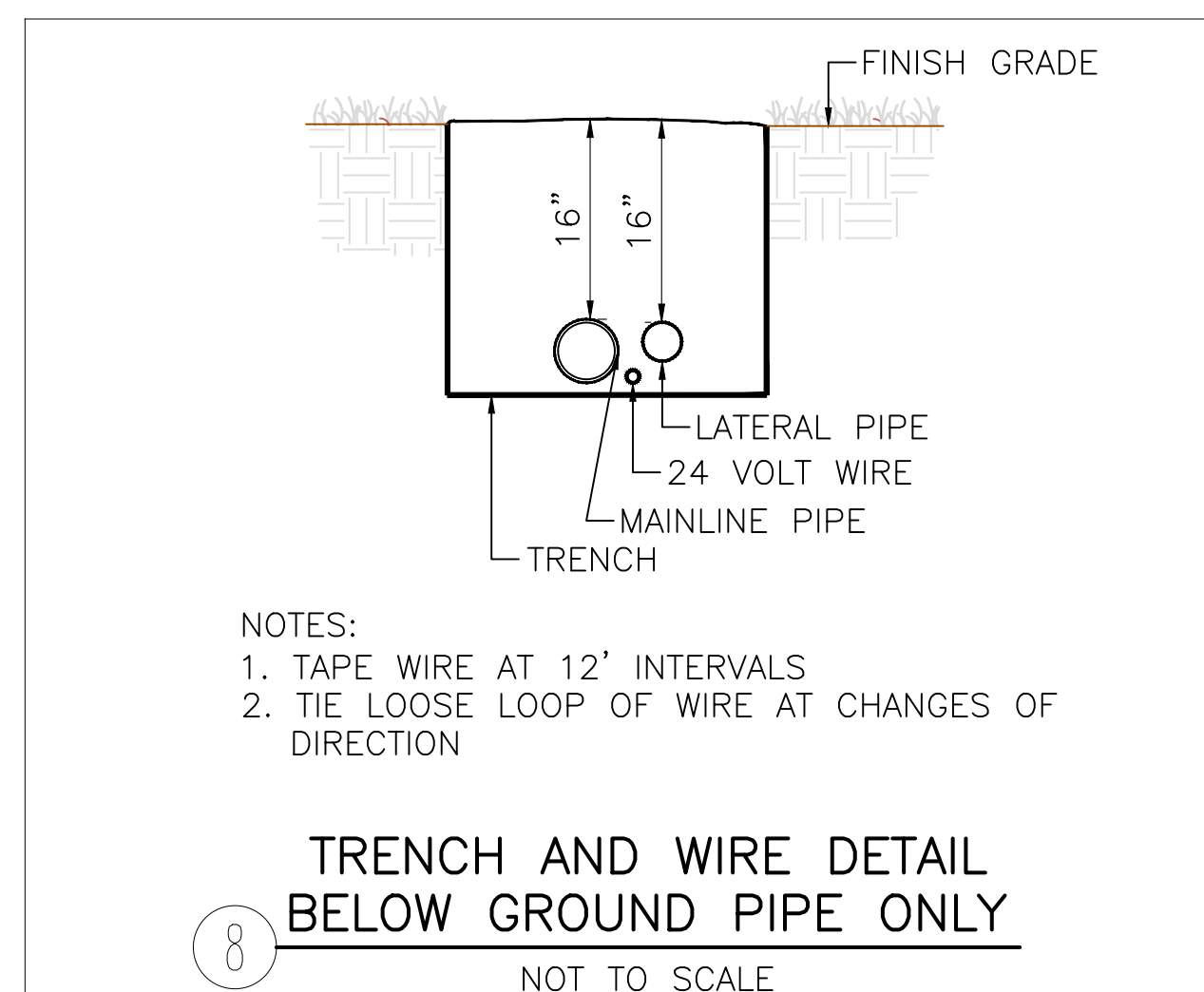
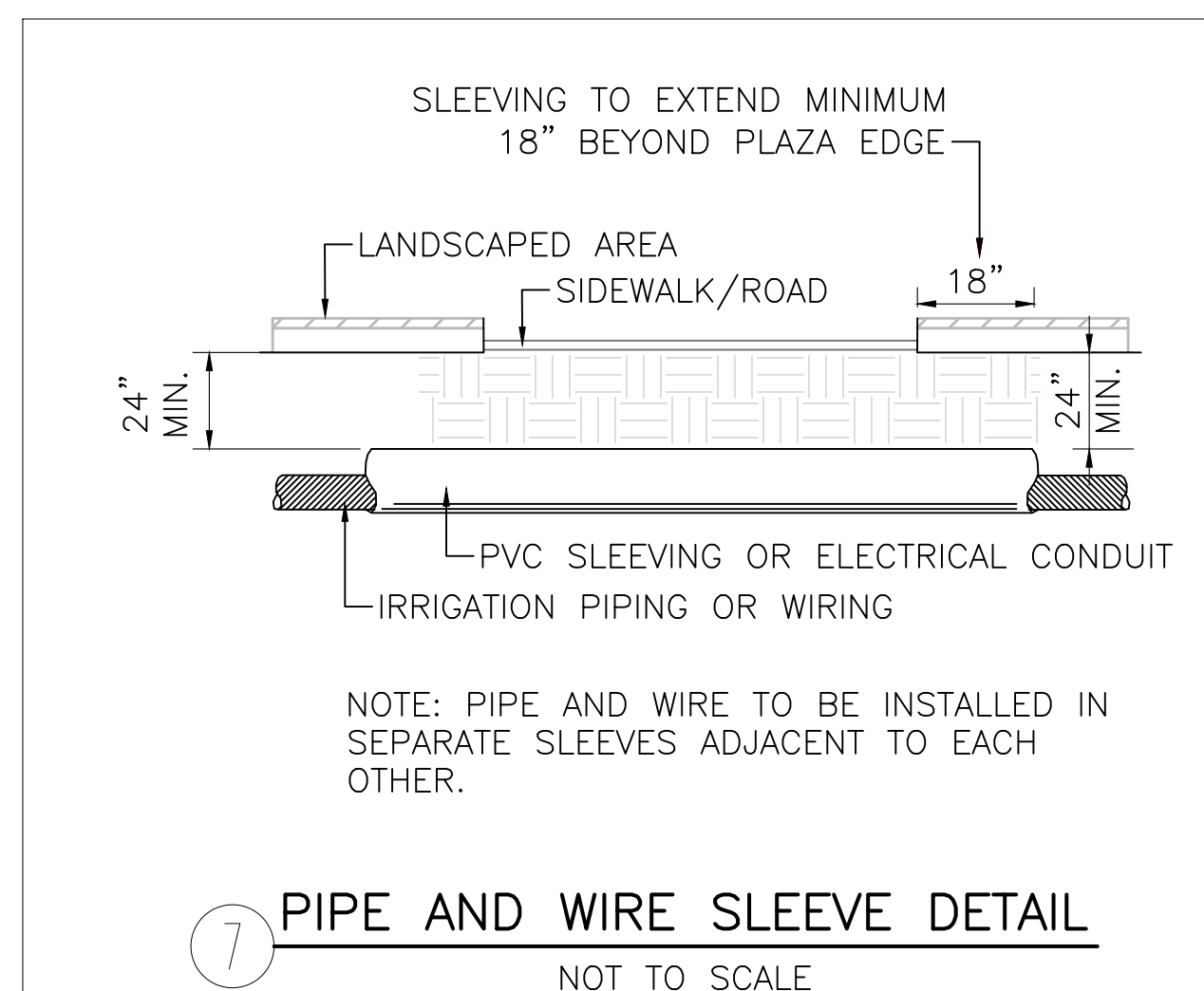
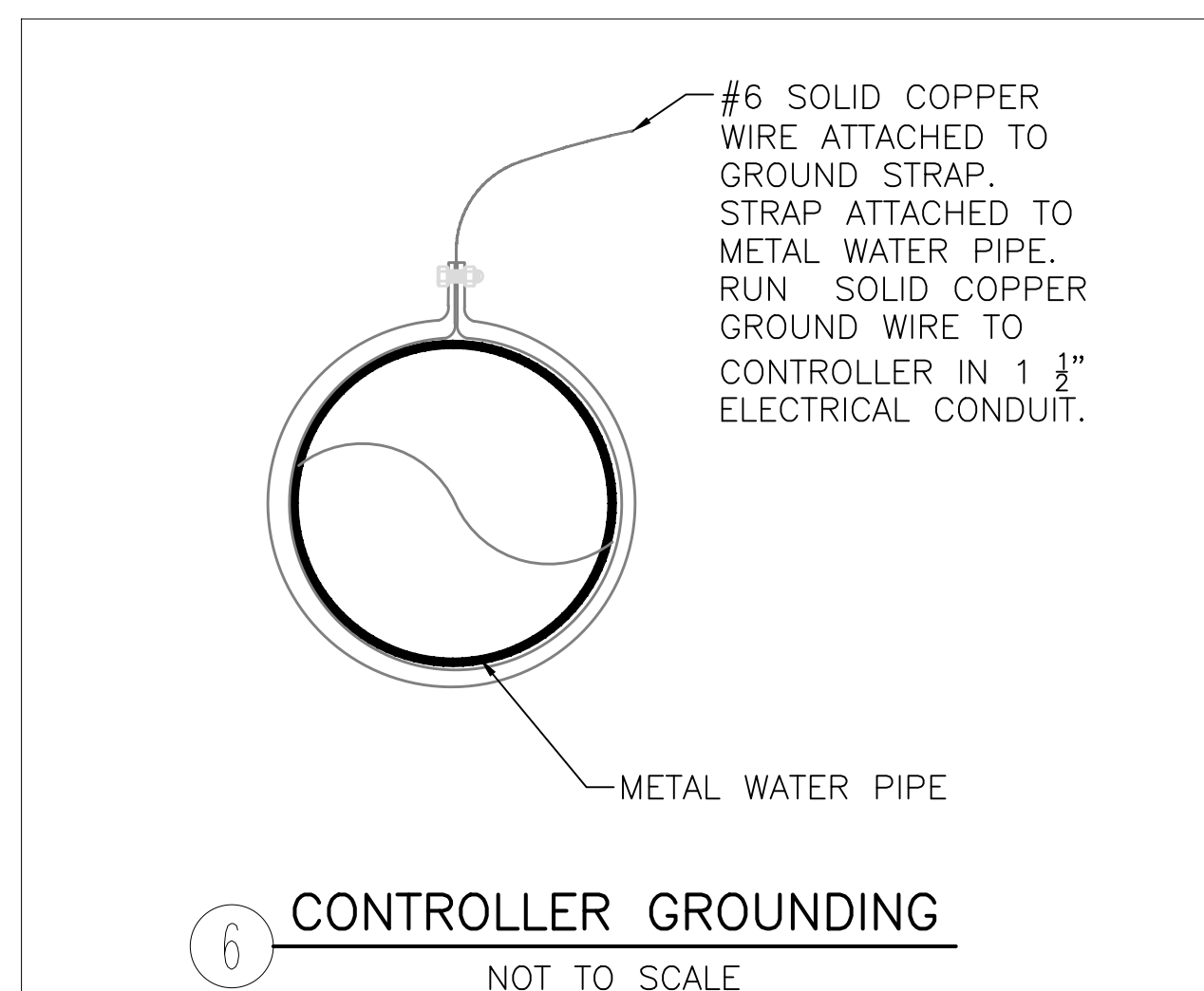
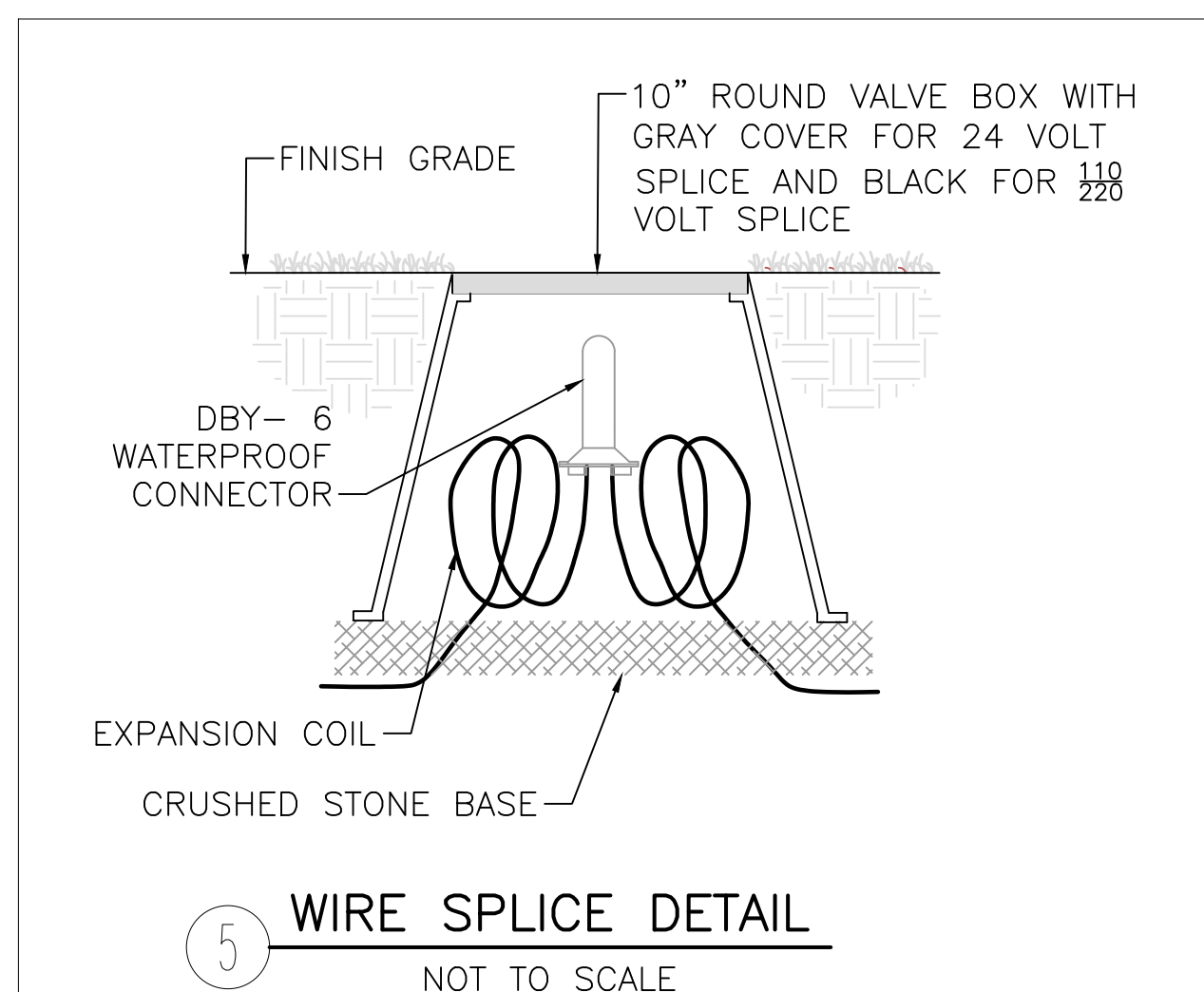
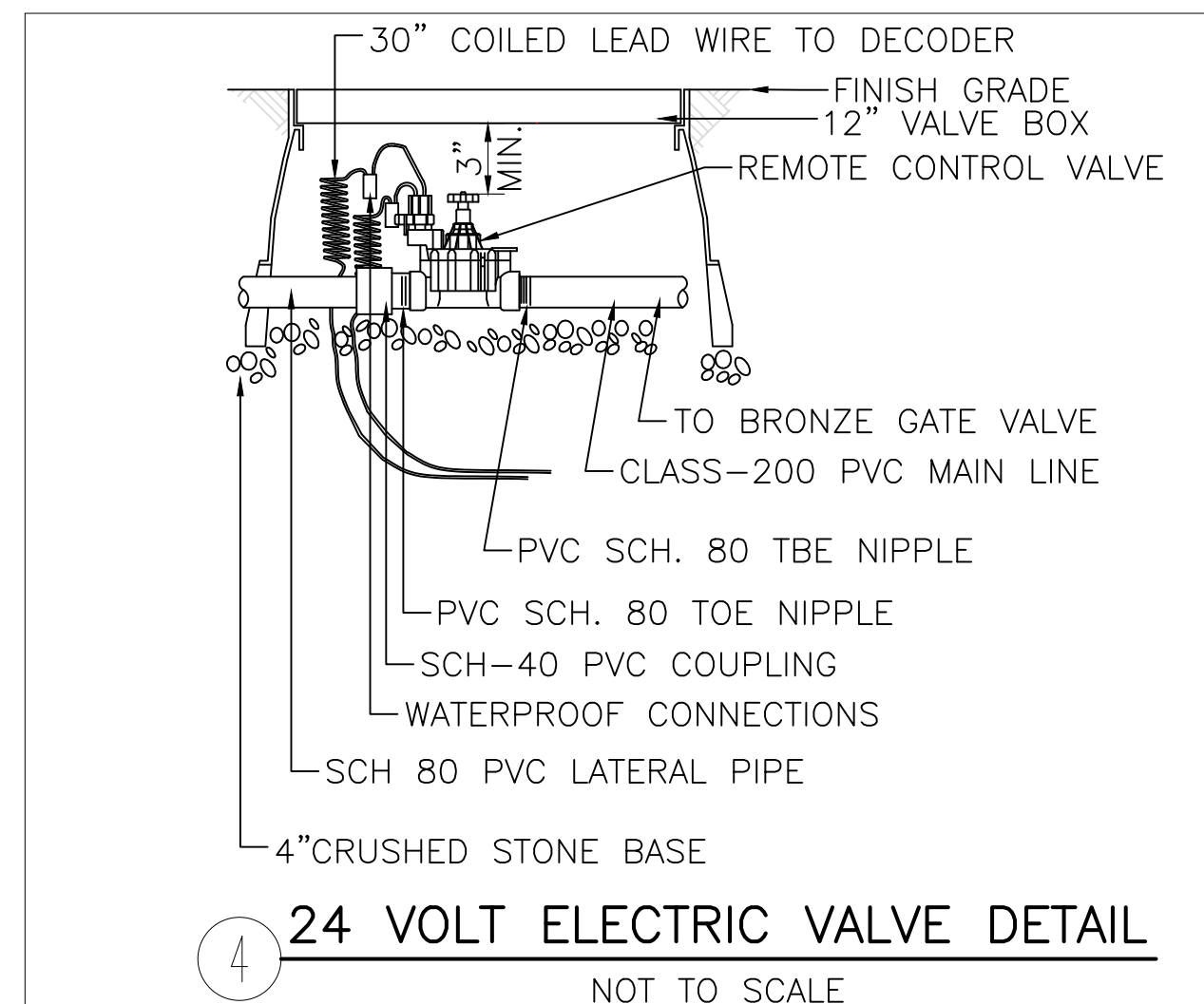
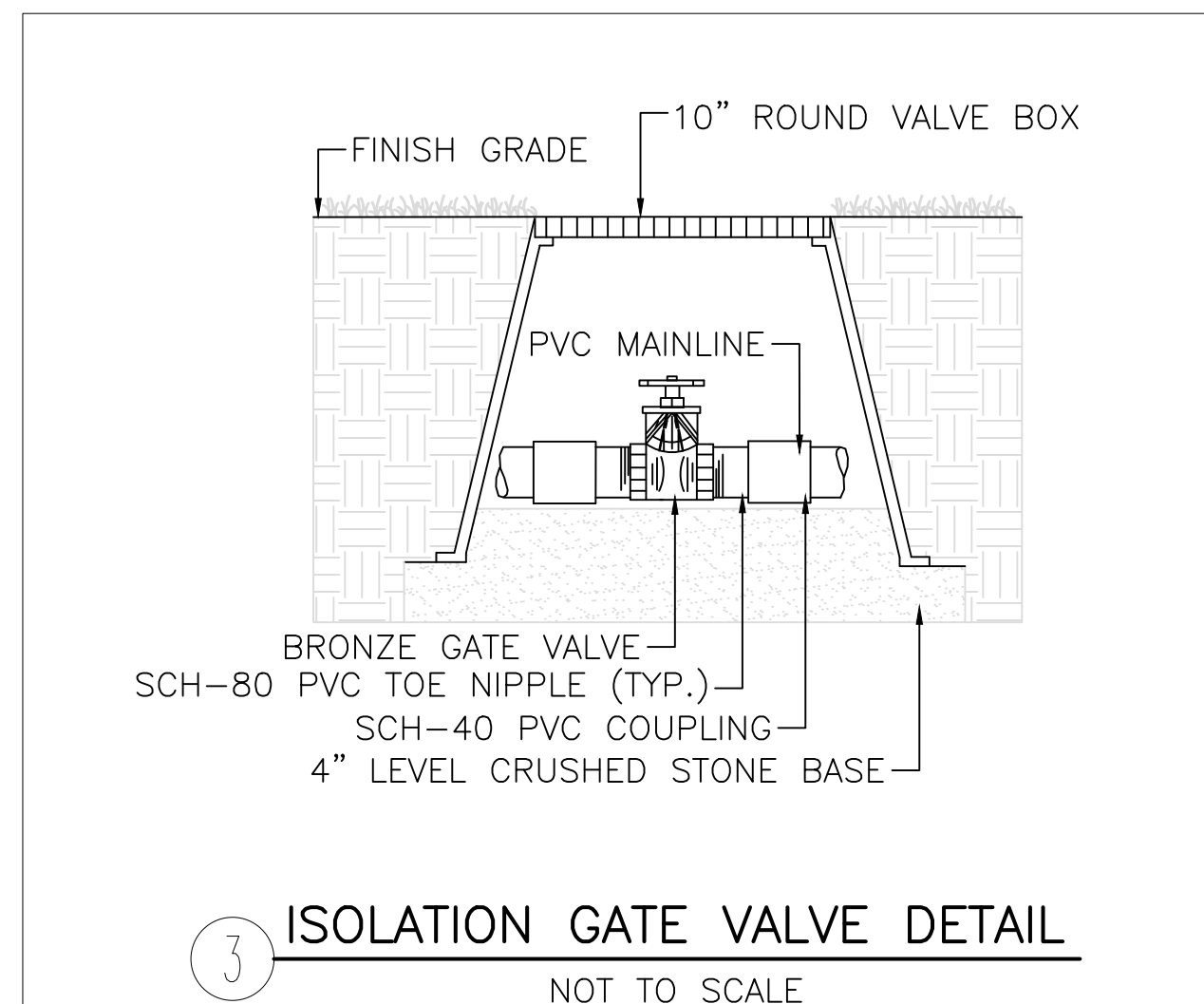
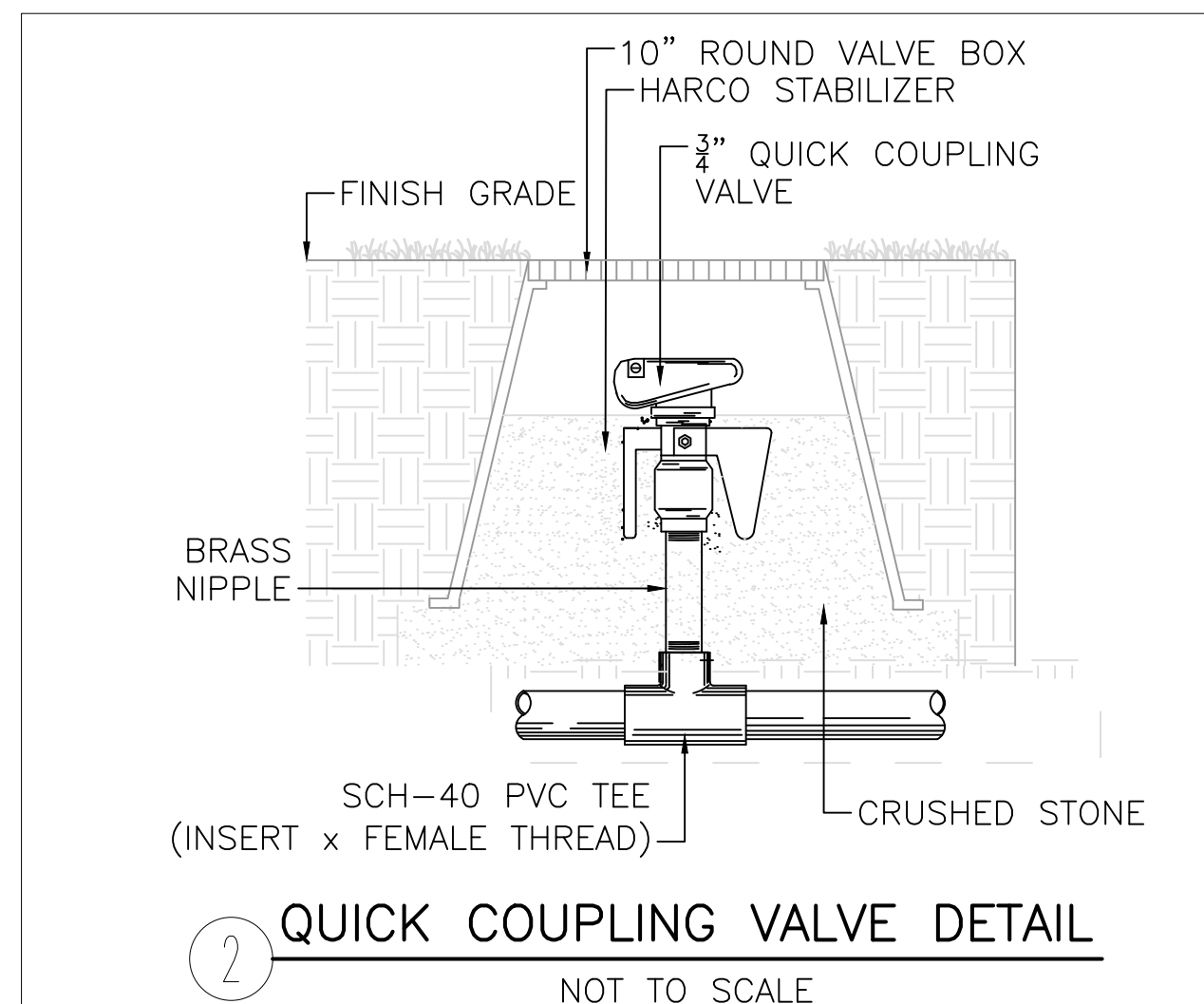
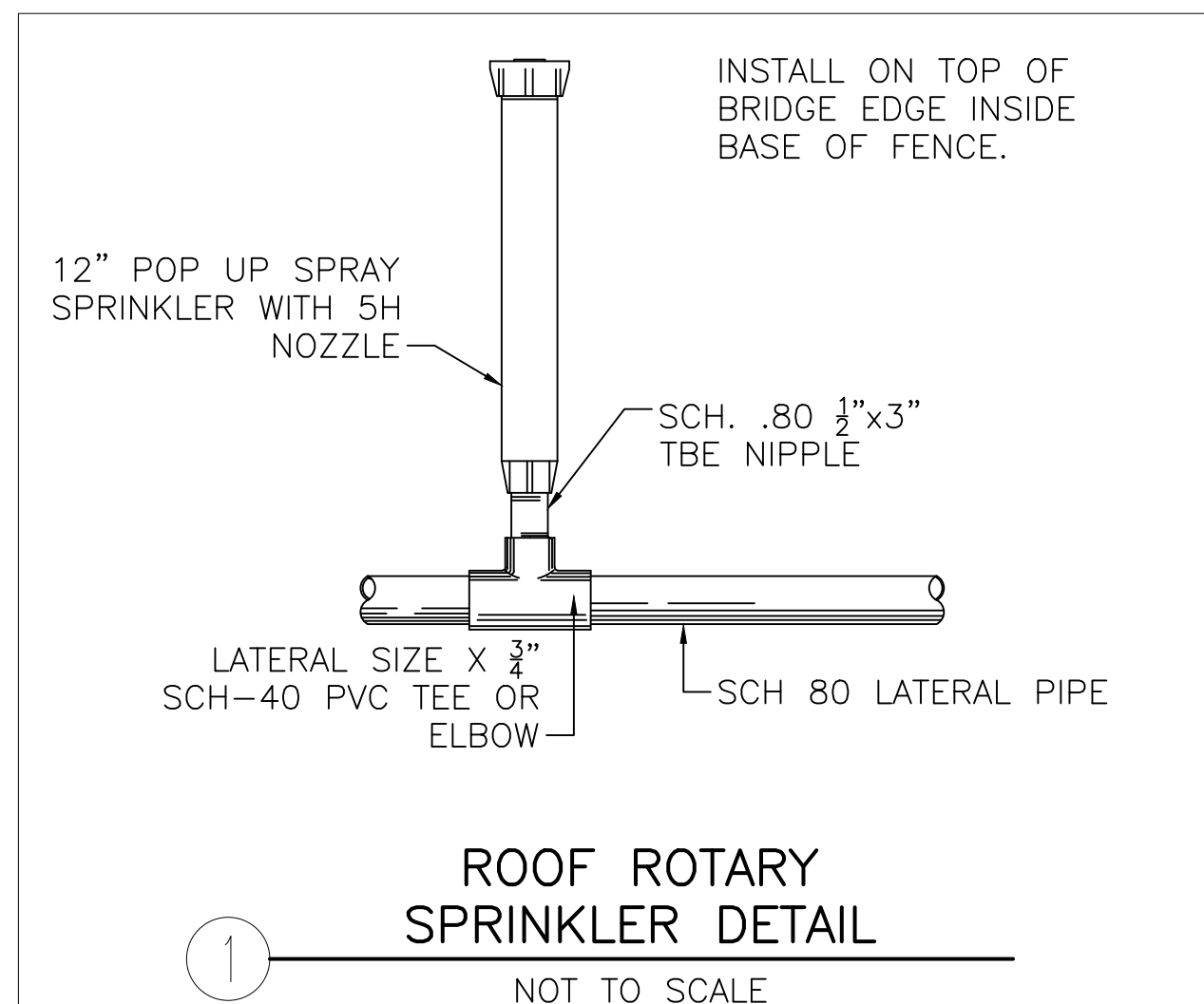
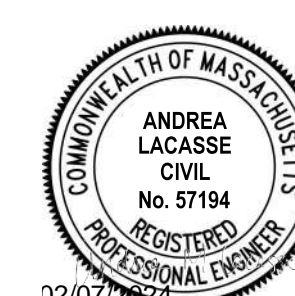
Shelburne, MA
Buckland, MA

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DATE:	2/7/2024	
FILE:	S2161-003 UTILITIES.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

WATER MAIN DETAILS

SCALE: NO SCALE

Last Saved: 1/26/2024 10:45:09am By: JHilpantrich
 Project: 02/07/2024 10:45:09am By: JHilpantrich
 Tighe & Bond 2161-003-003 - Shelburne Falls Water Projects 3 - Bridge of Flowers Rehabilitation Drawings - Figures AutoCAD Sheet S2161-003 UTILITIES.dwg



Bridge of Flowers Rehabilitation

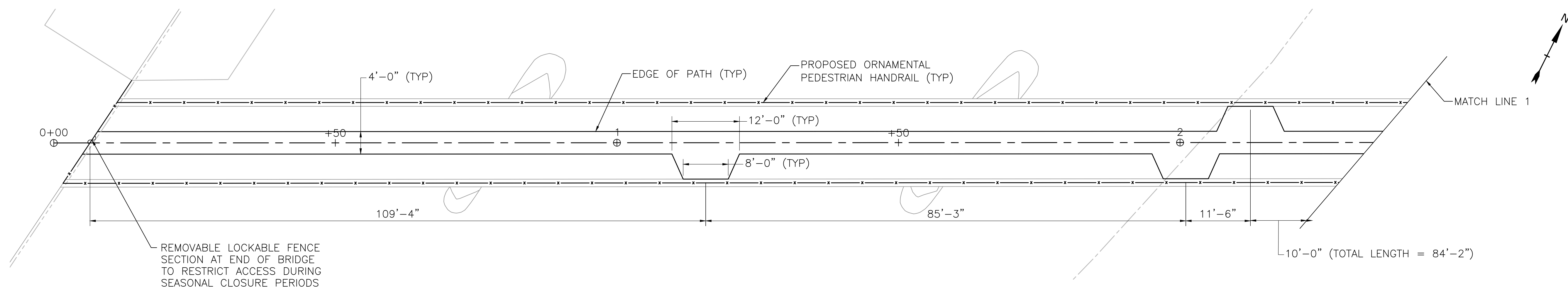
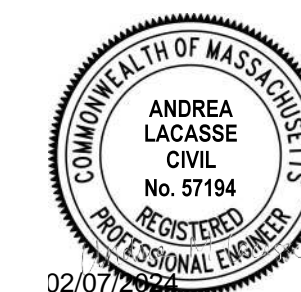
Shelburne Falls Fire District

Shelburne, MA
Buckland, MA

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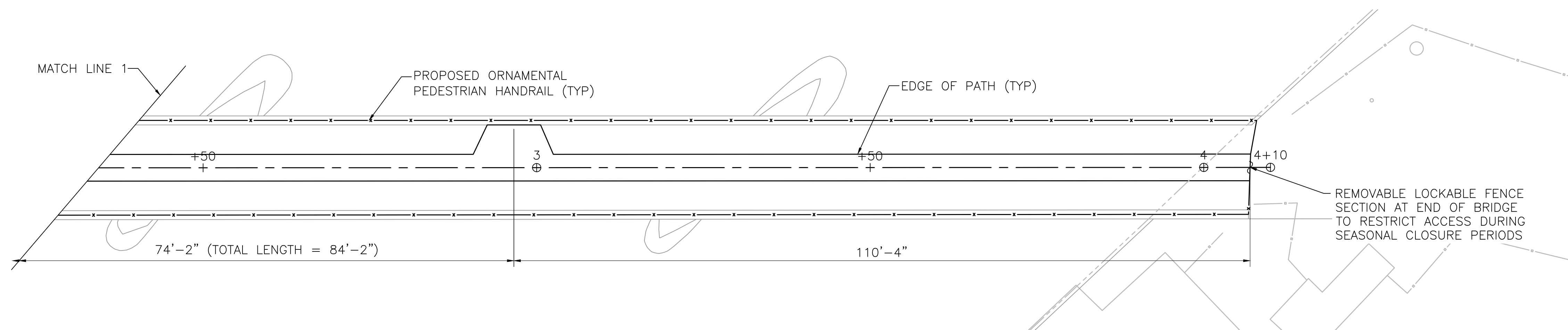
IRRIGATION DETAILS

SCALE: NO SCALE



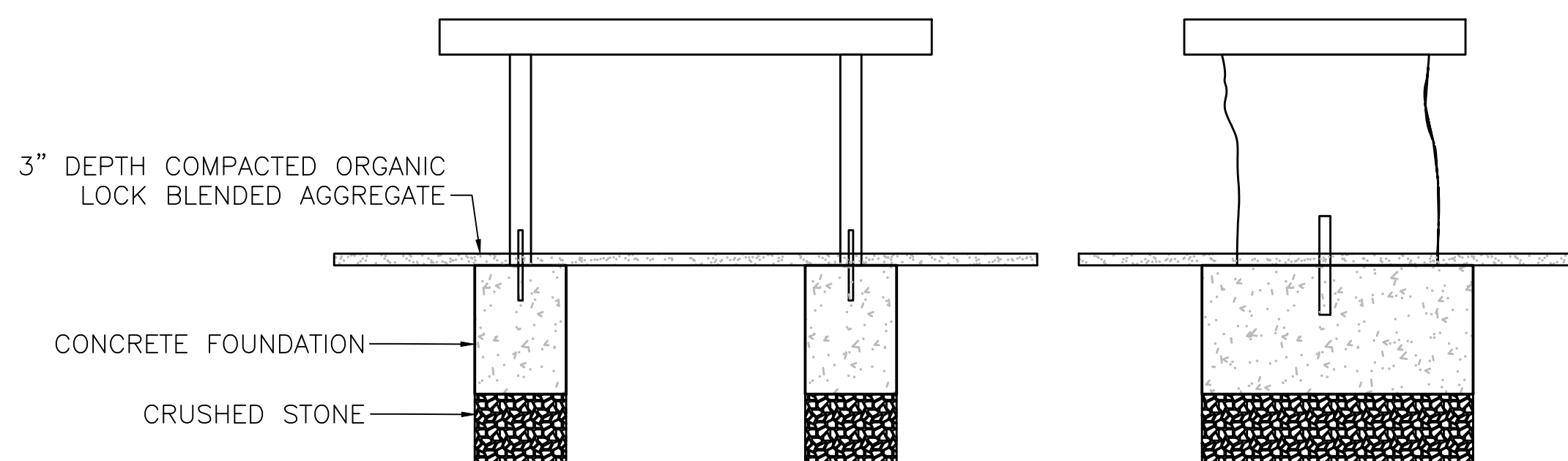
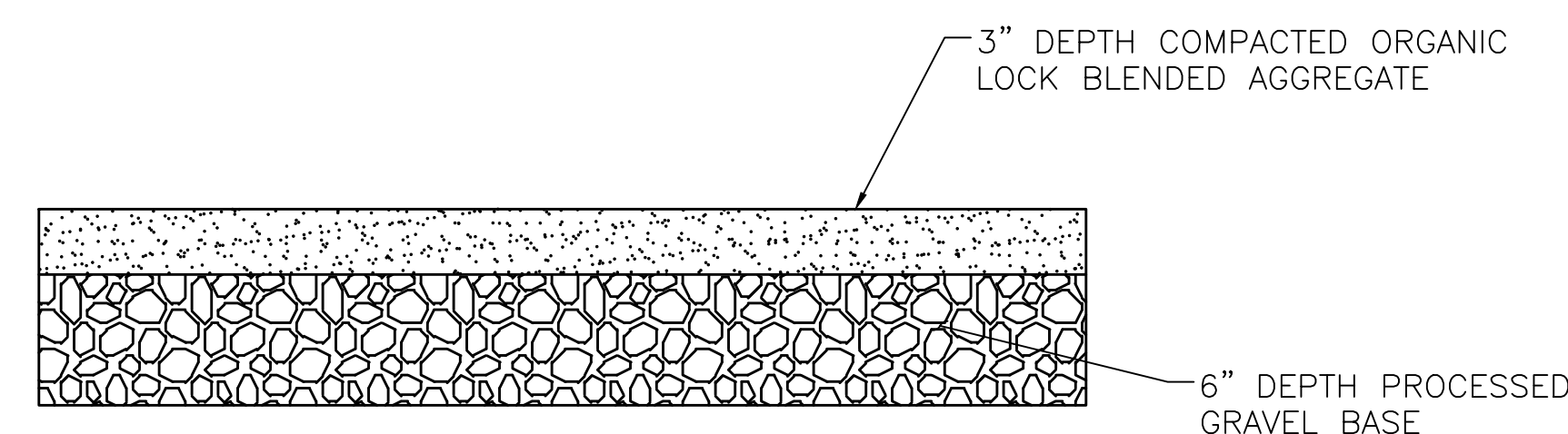
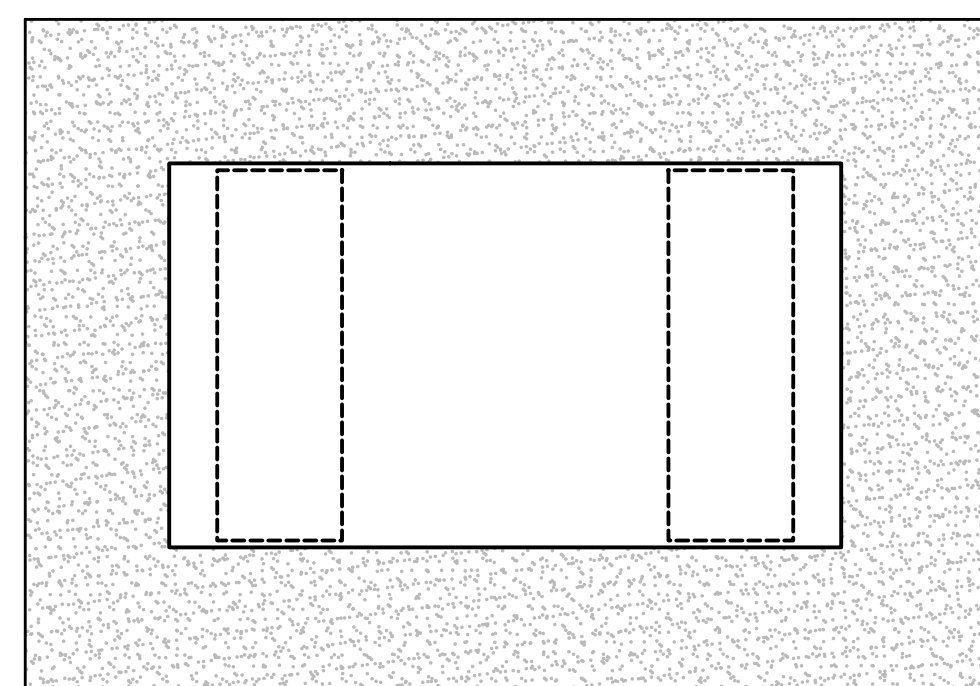
WALKWAY PLAN (SPANS 1-3)

SCALE: 1" = 10'



WALKWAY PLAN (SPANS 3-5)

SCALE: 1" = 10'



BENCH DETAIL

SCALE: 1" = 1'-0"

NOTES:

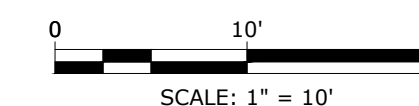
1. STABILIZED PATHWAY AGGREGATE BASED ON ORGANIC-LOCK BY ENVIRONBOND PRODUCTS CORPORATION (WWW.ORGANIC-LOCK.COM). INSTALL IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. ORGANIC-LOCK PATHWAY AGGREGATE MUST ALWAYS BE PRE-WET FOR INSTALLATION IN HIGH SLOPE AREAS.
3. ALL DIMENSIONS ARE CONSIDERED TRUE AND REFLECT MANUFACTURER'S SPECIFICATIONS.
4. THIS DETAIL IS FOR INFORMATION PURPOSES ONLY. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT, BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.
5. CONTRACTOR'S NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT: www.CADdetails.com/info REFERENCE NUMBER 2643-001A

CRUSHED AGGREGATE MATERIALS		
SIEVE	SIEVE SIZE (MM)	PERCENT PASSING
4	4.75	80%-100%
8	2.36	65%-90%
16	1.18	40%-65%
30	0.60	25%-55%
50	0.30	15%-35%
100	0.15	10%-20%
200	0.08	5%-15%

1. CRUSHED AGGREGATE MATERIAL SHALL CONSIST OF SOUND, ANGULAR, DURABLE PARTICLES
2. GRADATION TO BE IN ACCORDANCE WITH ASTM C136

TYPICAL WALKWAY SECTION

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



Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

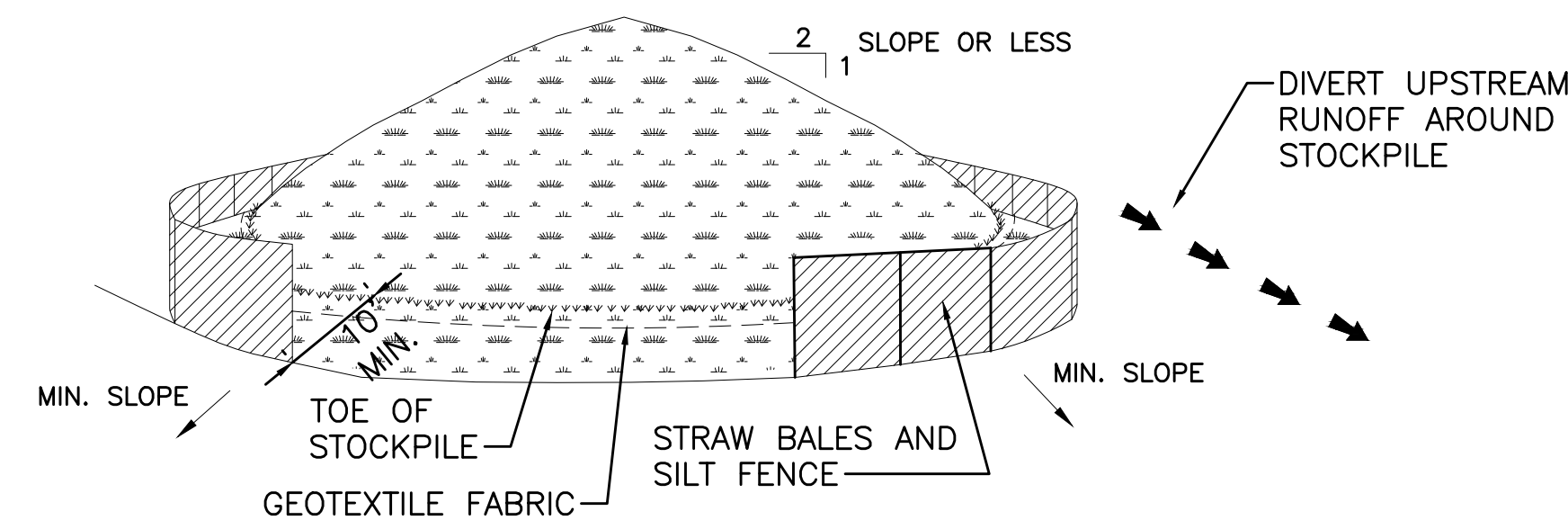
Shelburne, MA
Buckland, MA

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DATE:	2/7/2024	
FILE:	S2161-003_CIVIL.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

SITE RESTORATION PLAN AND DETAILS

SCALE: AS SHOWN

Last Saved: 2/3/2024 10:56:07 AM
 Project: Bridge of Flowers Rehabilitation Drawings - Figures AutoCAD Sheet S2161-003_CIVIL.dwg
 User: zpc@tigheandbond.com
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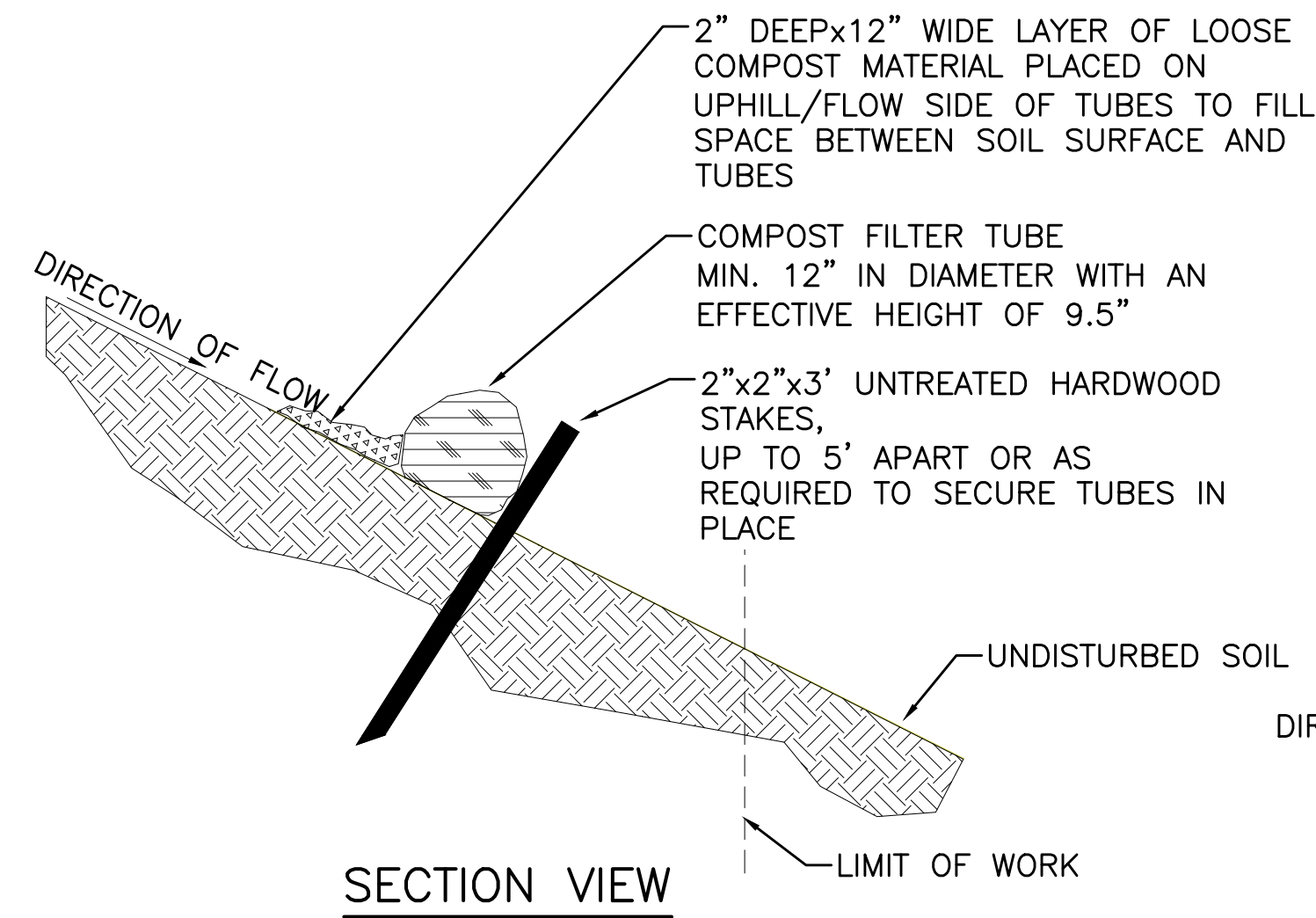


INSTALLATION NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2H:1V.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING AND STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.

SOIL STOCKPILING

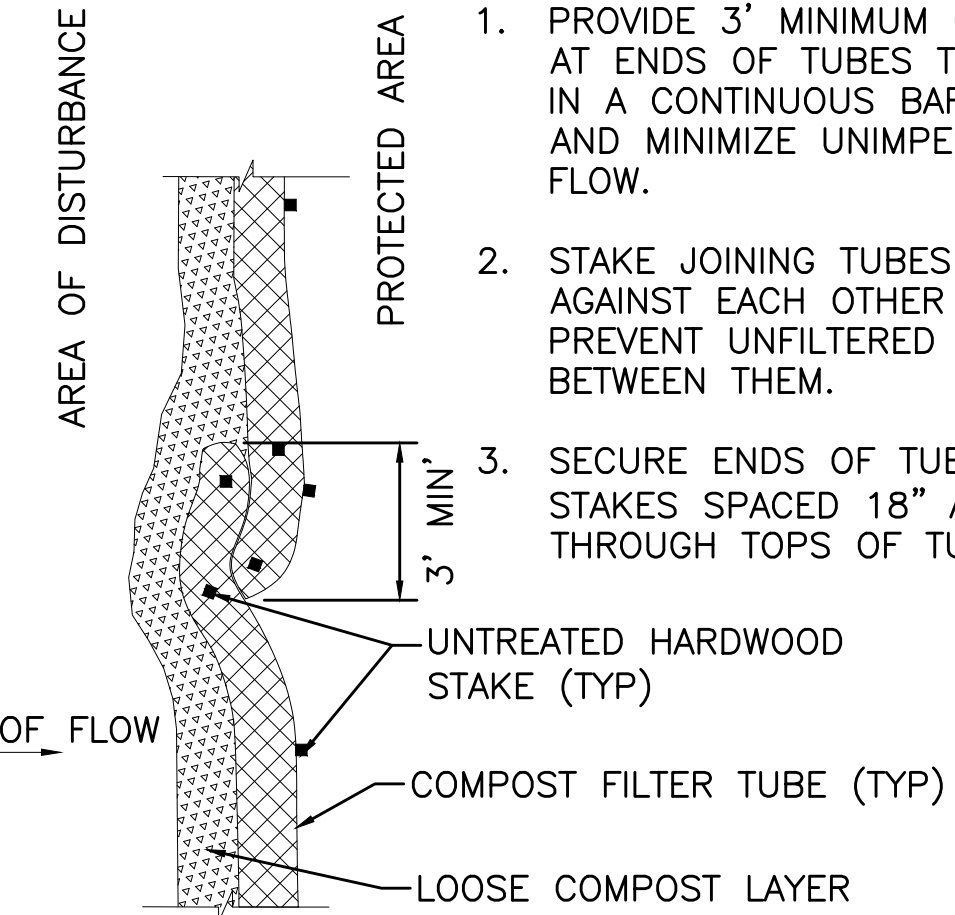
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SECTION VIEW

COMPOST FILTER TUBE NOTES:

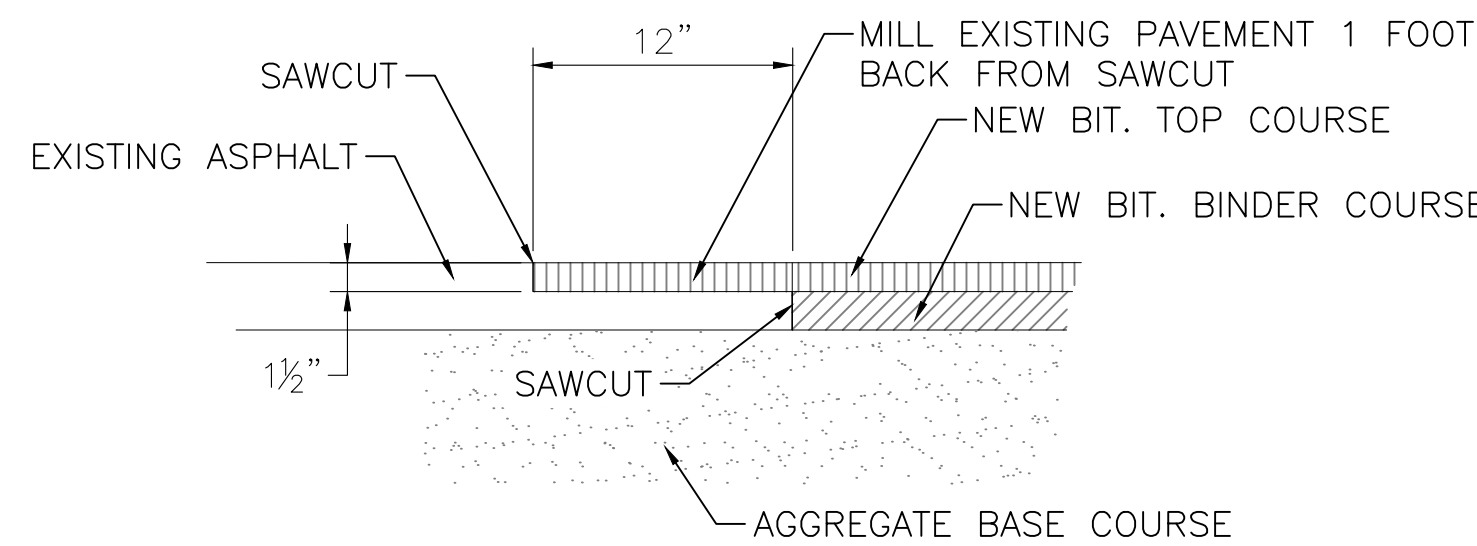
1. PROVIDE A MINIMUM TUBE DIAMETER OF 12" FOR SLOPES UP TO 50' IN LENGTH WITH A SLOPE RATIO OF 3H:1V OR STEEPER. LONGER SLOPES OF 3H:1V MAY REQUIRE LARGER TUBE DIAMETER OR ADDITIONAL COURSING OF FILTER TUBES TO CREATE A FILTER BERM. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SITUATION WITH LONGER SLOPES OR STEEPER SLOPES.
2. INSTALL TUBES ALONG CONTOURS AND PERPENDICULAR TO SHEET OR CONCENTRATED FLOW.
3. DO NOT INSTALL IN PERENNIAL, EPHEMERAL OR INTERMITTENT STREAMS.
4. CONFIGURE TUBES AROUND EXISTING SITE FEATURES TO MINIMIZE SITE DISTURBANCE AND MAXIMIZE CAPTURE AREA OF STORMWATER RUN-OFF.
5. TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER.
6. TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.
7. WHEN STAKING IS NOT POSSIBLE, SUCH AS WHEN TUBES MUST BE PLACED ON PAVEMENT, HEAVY CONCRETE OR CINDER BLOCKS CAN BE USED BEHIND TUBES UP TO 5' APART OR AS REQUIRED TO SECURE TUBES IN PLACE.
8. PROVIDE 3' MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW.
9. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
10. SECURE ENDS OF TUBES WITH STAKES SPACED 18" APART THROUGH TOPS OF TUBES.



PLAN VIEW - JOINT DETAIL

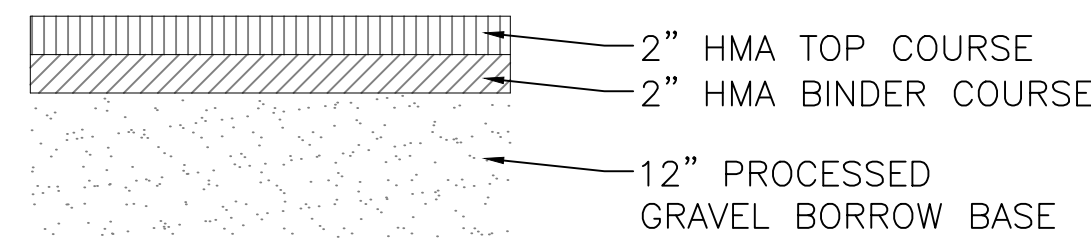
NOTES:

1. PROVIDE 3' MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW.
2. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.
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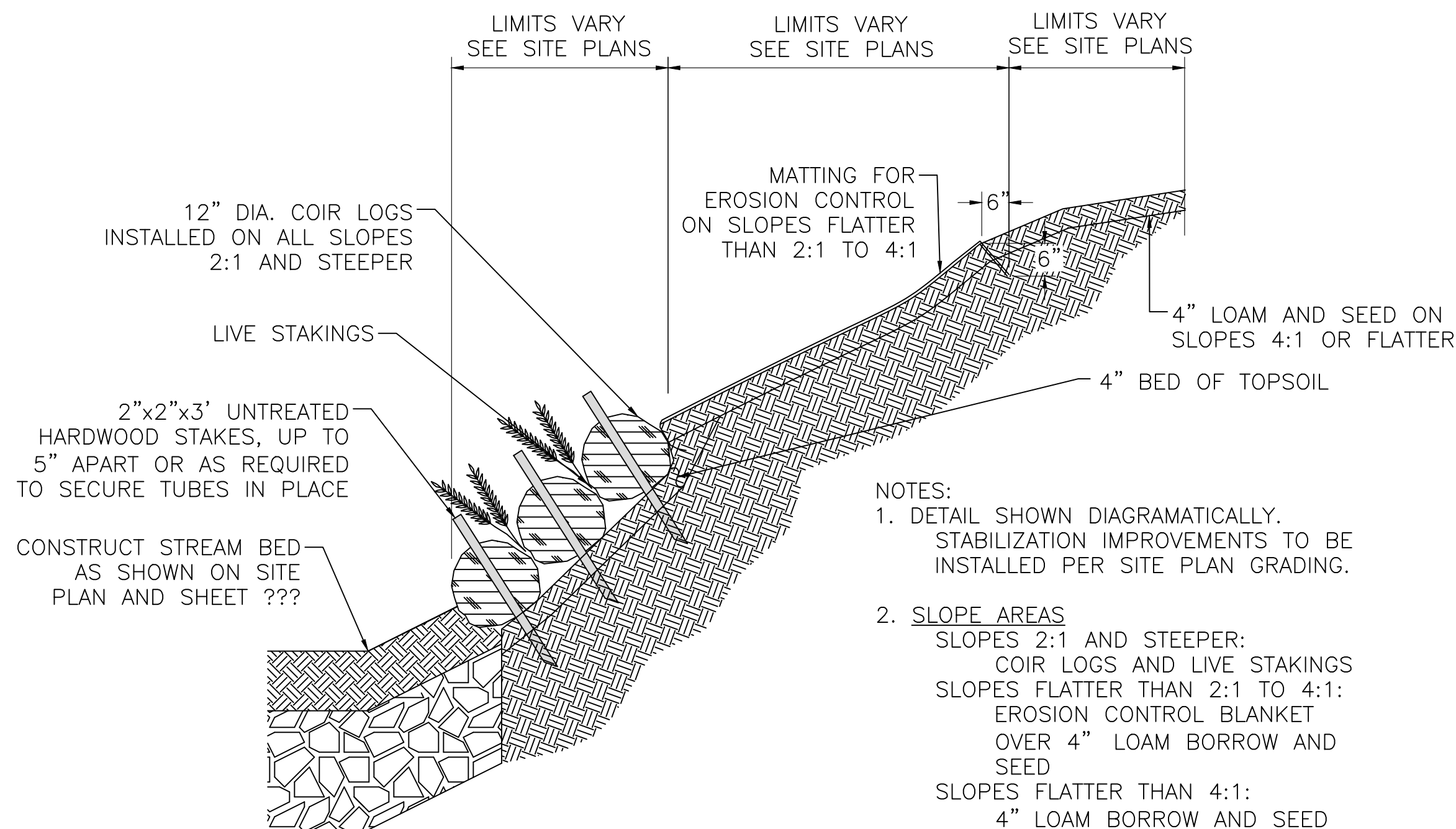
TYPICAL BUTT JOINT TO EXISTING PAVEMENT

NOT TO SCALE



PAVEMENT REPAIR SECTION

NOT TO SCALE

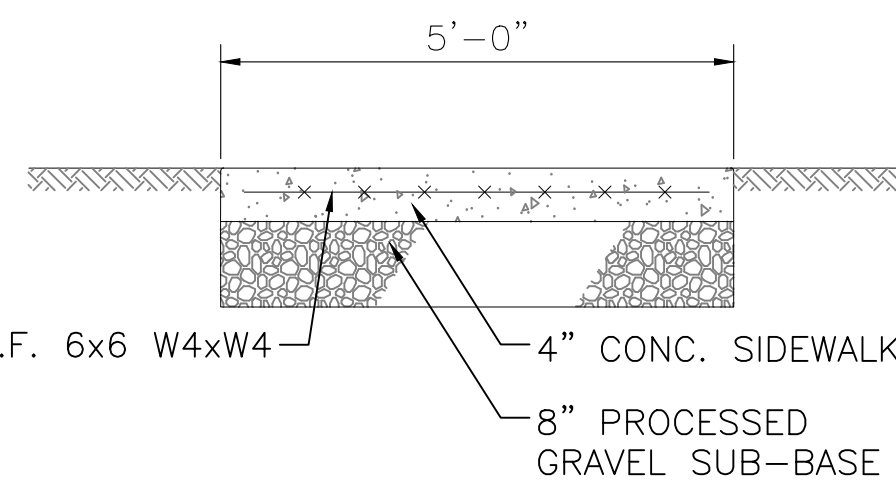


BANK RESTORATION AND STABILIZATION DETAIL

NOT TO SCALE

NOTES:

1. DETAIL SHOWN DIAGRAMATICALLY. STABILIZATION IMPROVEMENTS TO BE INSTALLED PER SITE PLAN GRADING.
2. **SLOPE AREAS**
SLOPES 2:1 AND STEEPER: COIR LOGS AND LIVE STAKINGS
SLOPES FLATTER THAN 2:1 TO 4:1: EROSION CONTROL BLANKET OVER 4" LOAM BORROW AND SEED
SLOPES FLATTER THAN 4:1: 4" LOAM BORROW AND SEED



CONCRETE SIDEWALK

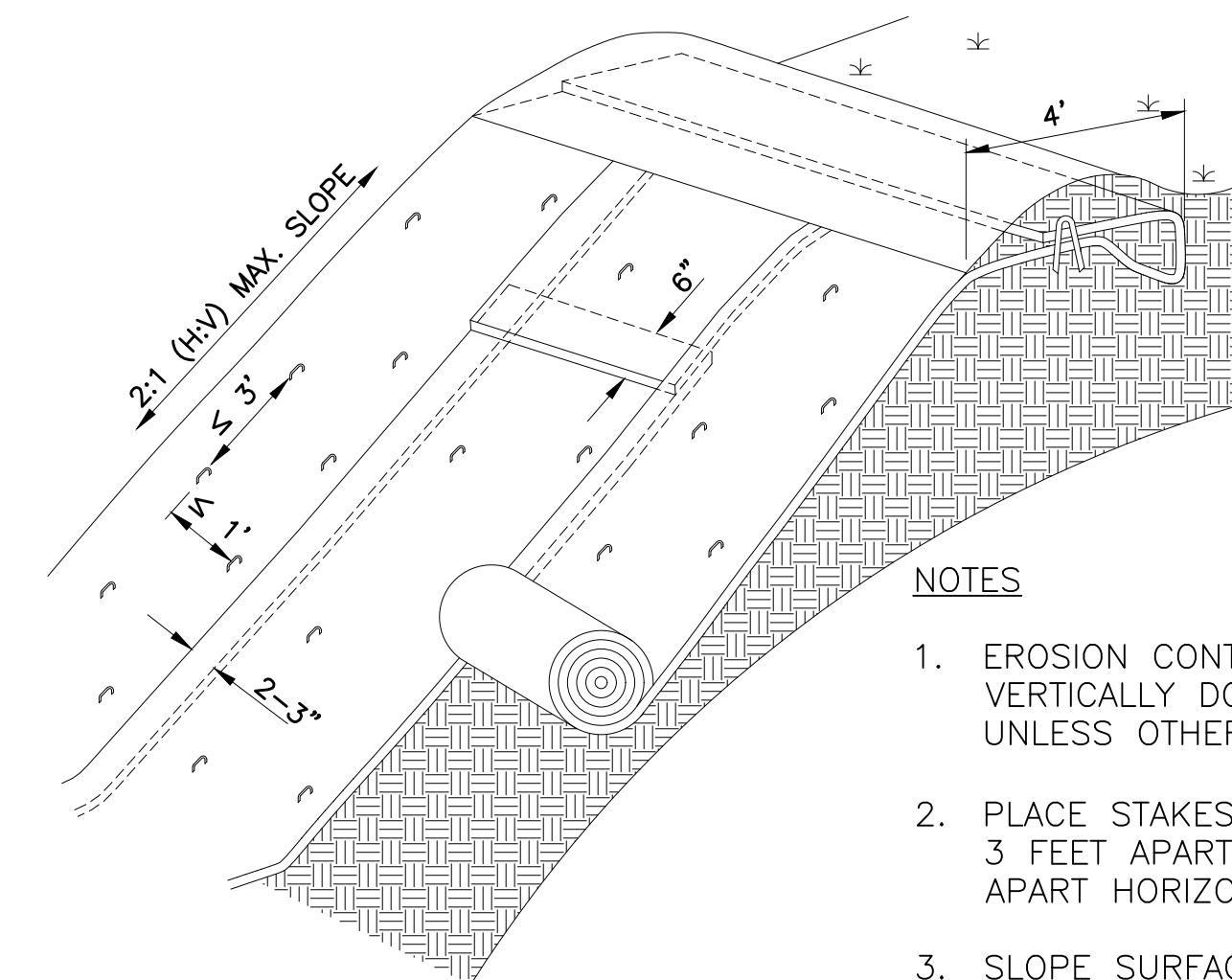
NOT TO SCALE

NOTES:

1. WALK TO HAVE 1/4" RADIUS TOOLED DUMMY JOINT 1/4 OF THE THICKNESS OF THE SIDEWALK IN DEPTH EVERY 5 L.F. OF WALK.
2. WALK TO HAVE 1/2" WIDE NON-EXTRUDING PREFORMED EXPANSION JOINT EVERY 20 L.F. OF WALK.

COMPOST FILTER TUBES

NOT TO SCALE



NOTES:

1. EROSION CONTROL BLANKET INSTALLED VERTICALLY DOWNSLOPE ON ALL SLOPES, UNLESS OTHERWISE SPECIFIED.
2. PLACE STAKES/STAPLES NO MORE THAN 3 FEET APART VERTICALLY, AND 1 FEET APART HORIZONTALLY.
3. SLOPE SURFACE TO BE FREE OF STICKS, ROCKS, AND OTHER OBSTRUCTIONS.
4. ROLL BLANKETS OUT LOOSELY AND STAKED/STAPLED TO MAINTAIN DIRECT SOIL CONTACT. DO NOT STRETCH BLANKETS.



Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

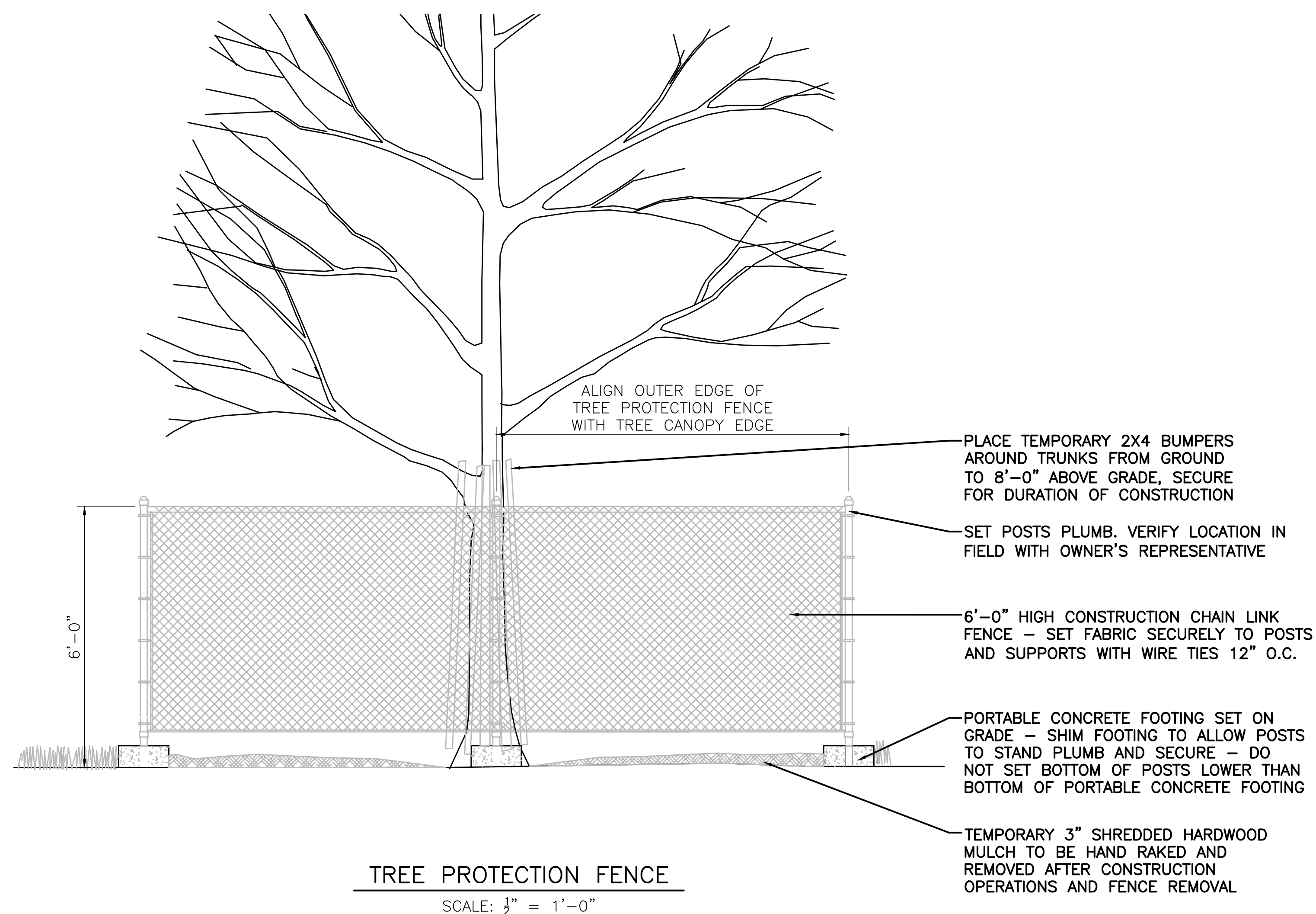
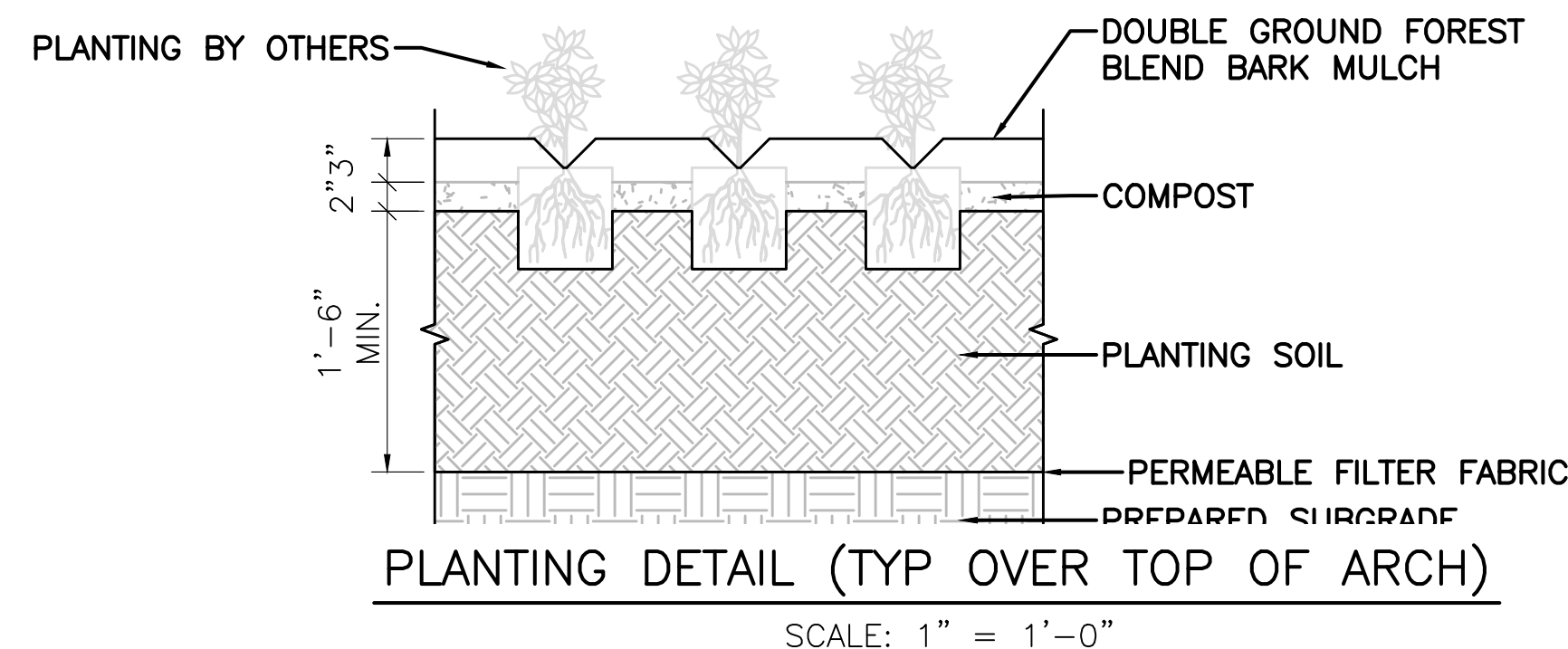
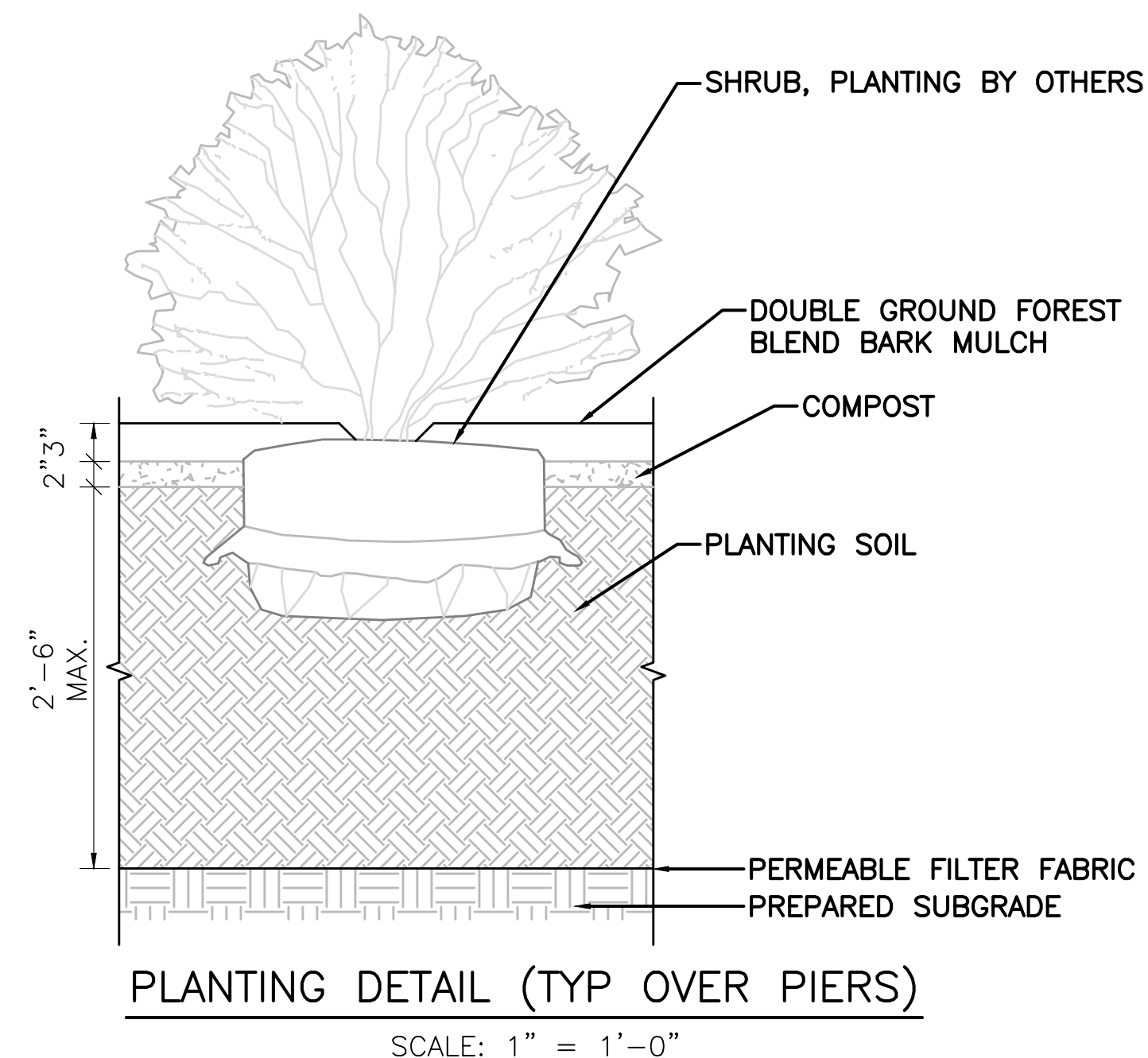
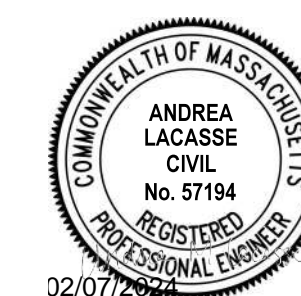
Shelburne, MA
Buckland, MA

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DATE:	2/7/2024	
FILE:	S2161-003_CIVIL.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

SITE PROTECTION AND RESTORATION DETAILS

SCALE: AS SHOWN

Last Saved: 2/3/2024 10:06:07 AM By: JH/PA/ML
 Project: Bridge of Flowers Rehabilitation - Shelburne Falls Fire District
 Drawing: S2161-003_CIVIL.dwg



Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

Shelburne, MA
Buckland, MA

MARK	DATE	DESCRIPTION
PROJECT NO:	S2161-003	
DATE:	2/7/2024	
FILE:	S2161-003_BRIDGE.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

PLANTING DETAILS

SCALE: AS SHOWN

DESIGN AND SPECIFICATIONS:

- 1. DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN (LRFD)
- 2. SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH ED., 2020
MASSDOT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 2023 AS AMENDED
- 3. REINFORCING STEEL: AASTHO M31 (ASTM A 615) GRADE 60
EPOXY COATED BARS: SPANDREL WALL
- 4. CONCRETE: SPANDREL WALL
3/4-INCH, 610 CEMENT CONCRETE,
4000 PSI (AT 28 DAYS)

REINFORCING LAP LENGTHS:

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

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

BRIDGE GENERAL NOTES:

- 1. EXISTING RECORD PLANS ARE AVAILABLE UPON REQUEST.
- 2. ALL EXISTING BRONZE DISCS REPRESENTING STATE BENCHMARKS OR SURVEY TRIANGULATION POINTS MUST NOT BE DISTURBED. WHEN THE WORK CALLED FOR INVOLVES DISTURBING A BRONZE DISC THE CONTRACTOR SHALL NOTIFY THE ENGINEER SUFFICIENTLY IN ADVANCE OF THE WORK TO PERMIT THE STATE TO TEMPORARILY RELOCATE THE AFFECTED MARKER.
- 3. ALL WORK SHALL COMPLY WITH OSHA'S LATEST STANDARDS. ALL REQUIREMENTS OF OSHA'S EXCAVATION STANDARDS SHALL BE PROVIDED BY THE CONTRACTOR INCLUDING, BUT NOT LIMITED TO, THE PROVISION FOR A COMPETENT PERSON ON SITE AND ANY REQUIRED DOCUMENTATION THAT MAY REQUIRE CERTIFICATION BY A PROFESSIONAL ENGINEER.
- 4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL UTILITIES FUNCTIONING PROPERLY IN THE AREAS UNDER CONSTRUCTION PRIOR TO COMPLETION OF THE PROJECT. ALL PIPES AND STRUCTURES WITHIN THE LIMITS OF THIS CONTRACT SHALL BE LEFT IN A CLEAN AND OPERABLE CONDITION AT THE COMPLETION OF THE WORK. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SAND AND SILT FROM DISTURBED AREAS FROM ENTERING THE SYSTEM. CONTRACTOR IS RESPONSIBLE FOR DAMAGE SUSTAINED TO ANY EXISTING UTILITIES AND IT IS HIS RESPONSIBILITY TO MAKE REPAIRS TO THE REQUIREMENTS OF THE TOWN OR RESPECTIVE UTILITY COMPANY.
- 5. ANY AND ALL DEMOLISHED BUILDING MATERIALS, STRUCTURES, PIPES, PAVEMENT, CURBING, SURPLUS MATERIAL, AND SITE RUBBLE SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE AT HIS EXPENSE AND IN ACCORDANCE WITH ALL APPLICABLE STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.
- 6. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO ENSURE THAT DEBRIS DOES NOT FALL INTO THE WATERWAY BELOW THE EXISTING STRUCTURE. ALL COSTS INCLUDING ERECTION, MAINTENANCE AND REMOVAL OF TEMPORARY STRUCTURES OR OTHER SUCH APPROVED METHODS, SHALL BE SUBSIDIARY TO THE APPROPRIATE ITEMS OF WORK BEING PERFORMED.
- 7. ALL DISTURBED AREAS SHALL BE LOAMED & SEEDDED UNLESS OTHERWISE SPECIFIED. OVER EXCAVATE LOAM & SEED AREAS AS REQUIRED TO MEET GRADE.
- 8. BASE PLAN AND EXISTING TOPOGRAPHY PREPARED FROM AN ACTUAL ON THE GROUND 3D SCAN CONDUCTED BY TIGHE & BOND ON APRIL 13, 2023.
- 9. EXISTING PROPERTY LINES ARE APPROXIMATE AND ARE BASED ON GIS DATA FROM THE TOWNS OF SHELburnE AND BUCKLAND.
- 10. IF THERE ARE REVISIONS TO APPROVED PLANS, THE CONTRACTOR SHALL SUBMIT THESE CHANGES TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. ONCE THESE REVISIONS ARE APPROVED BY THE ENGINEER, SHALL THEN BE SUBMITTED TO MASSDOT FOR FILING.
- 11. ALL DIMENSIONS ARE GIVEN AT 68 DEGREES FAHRENHEIT UNLESS SPECIFIED OTHERWISE.
- 12. ALL WORK PERFORMED BY THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS AND REQUIREMENTS.

- 13. THE CONTRACTOR SHALL REVIEW AND UNDERSTAND ALL APPLICABLE ENVIRONMENTAL PERMITS AND ENSURE THAT ALL CONSTRUCTION CONDITIONS ARE MET.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SAFETY, AND MEANS AND METHODS TO PERFORM AND COMPLETE THE WORK.
- 15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE TO PRIVATE OR PUBLIC PROPERTY OUTSIDE THE LIMITS OF CONSTRUCTION SHOWN ON THE PLANS CAUSED BY THE CONTRACTOR, AT THE SOLE COST TO THE CONTRACTOR.
- 16. THE CONTRACTOR MUST COORDINATE ALL WORK WITH THE TOWN OF SHELburnE, THE TOWN OF BUCKLAND, THE SHELburnE FALLS FIRE DISTRICT, ALL UTILITY COMPANIES, THE ENGINEER, AND ANY AFFECTED ADJUTERS. WORK SHALL NOT PROCEED WITHOUT WRITTEN APPROVAL FROM THE {TOWN/CITY} OF {FILL IN}.
- 17. THE CONTRACTOR SHALL SUBMIT LITERATURE (MANUFACTURER'S LITERATURE, CUT SHEETS, APPLICATION PROCEDURES, ETC.) FOR ALL PRODUCTS PROPOSED FOR USE ON THE PROJECT FOR APPROVAL BY THE ENGINEER.
- 18. DETAIL OR SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY ENGINEER.
- 19. TAKE ALL NECESSARY MEASURES AND PROVIDE ALL NECESSARY CONTINUOUS BARRIERS OF SUFFICIENT TYPE, SIZE, AND STRENGTH TO PREVENT ACCESS TO ALL OPEN EXCAVATIONS AT THE COMPLETION OF EACH DAY'S WORK.
- 20. STORE FUEL, OIL, PAINT, OR OTHER HAZARDOUS MATERIALS IN A SECONDARY CONTAINER AND REMOVE FROM THE SITE TO A LOCKED INDOOR AREA WITH AN IMPERVIOUS FLOOR DURING NON-WORK HOURS.
- 21. IMMEDIATELY REPORT SPILLS OF OIL AND/OR HAZARDOUS MATERIALS (OHM) TO THE MASSDEP.
- 22. PROVIDE A SUFFICIENT SUPPLY OF ABSORBENT SPILL RESPONSE MATERIALS, SUCH AS BOOMS OR BLANKETS, AT THE CONSTRUCTION SITES AT ALL TIMES TO CLEAN UP POTENTIAL SPILLS OF HAZARDOUS MATERIALS.
- 23. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4", UNLESS OTHERWISE NOTED.
- 24. FOR SURVEY LAYOUT SEE SHEET 4.

REINFORCEMENT NOTES:

- 1. ALL REINFORCING SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60.
- 2. ALL REINFORCING BARS, SUPPORT DEVICES, AND MECHANICAL REINFORCING BAR SPLICERS AND COUPLERS SHALL BE EPOXY COATED IN ACCORDANCE WITH AASHTO M284 UNLESS OTHERWISE NOTED.
- 3. BARS SHALL BE HANDLED AND REPAIRED WHERE NECESSARY IN ACCORDANCE WITH ASTM D3963.
- 4. THE CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT SHALL BE 2" OR AS SHOWN ON THE DRAWINGS.
- 5. WHERE REINFORCEMENT IS CALLED FOR IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
- 6. REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- 7. REINFORCEMENT COUPLER SPLICES SHALL BE MECHANICAL DEVICES CAPABLE OF TRANSMITTING THE ULTIMATE TENSILE AND COMPRESSIVE STRENGTH OF THE BAR. SELECT FROM MASSDOT LIST OF APPROVED PRODUCTS.
- 8. INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT. NOTIFY ENGINEER OF COMPLETION AT LEAST 24 HOURS PRIOR TO SCHEDULED COMPLETION OF PLACEMENT OR REINFORCEMENT.
- 9. REINFORCEMENT SHALL BE SET BEFORE PLACING CONCRETE. SETTING ANY REINFORCEMENT INTO WET CONCRETE IS PROHIBITED.

REBAR SPLICE LENGTH SCHEDULE

BAR SIZE DESIGNATION	ENGLISH	METRIC	DEVELOPMENT LENGTH (IN.) Ld	SPLICE LENGTH (IN.)	
				CLASS B TOP BARS	CLASS 'B' TOP BARS
#3	#10	15	19	25	
#4	#13	19	25	33	
#5	#16	24	31	40	
#6	#19	29	37	48	
#7	#22	42	54	70	
#8	#25	48	62	81	
#9	#29	54	70	91	
#10	#32	61	79	103	

REBAR SPLICE LENGTH SCHEDULE NOTES:

- 1. IF CLEAR SPACING BETWEEN THE REBARS IS LESS THAN SIX BAR DIAMETERS, OR IF COVER IS LESS THAN THREE BAR DIAMETERS, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 50%.
- 2. IF EPOXY COATED REBAR IS USED, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 20%.
- 3. IF LIGHTWEIGHT CONCRETE IS USED, INCREASE THE SPLICE LENGTH BY AN ADDITIONAL 30%.
- 4. THE MINIMUM REBAR SPLICE LENGTH SCHEDULE IS BASED ON F'c= 4,000 PSI AND Fy= 60,000 PSI. ADJUST FOR OTHER STRENGTHS USING AASHTO.
- 5. FOR HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW, INCREASE THE DEVELOPMENT LENGTH BY AN ADDITIONAL 50%.
- 6. WHEN BARS OF DIFFERENT SIZE ARE LAP SPLICED, THE SPLICE LENGTH SHALL BE THE LARGER OF EITHER THE DEVELOPMENT LENGTH OF THE LARGER BAR OR THE SPLICE LENGTH OF THE SMALLER BAR.

CONCRETE NOTES:

- 1. CONCRETE SHALL BE CONTROLLED CONCRETE, PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF AN APPROVED CONCRETE TESTING AGENCY OR THE ENGINEER.
- 2. UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, CONCRETE SHALL BE AS FOLLOWS (M4.02.00):

TYPE: 4000 PSI, 3/4", 610 (1) 4000 PSI (2) 3/4" (3) 610 LOCATION BRIDGE SEAT AND BACKWALL

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

CEMENT SHALL CONFORM TO AASHTO DESIGNATION M85.
- 3. UNLESS OTHERWISE NOTED, CONCRETE SHALL BE AIR ENTRAINED 6.0% ±1.5% (SEE SPECS).
- 4. CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED.
- 5. EXPOSED EDGES OF CONCRETE ELEMENTS SHALL HAVE 3/4" CHAMFERED CORNERS.
- 6. NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN GROUND.



Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

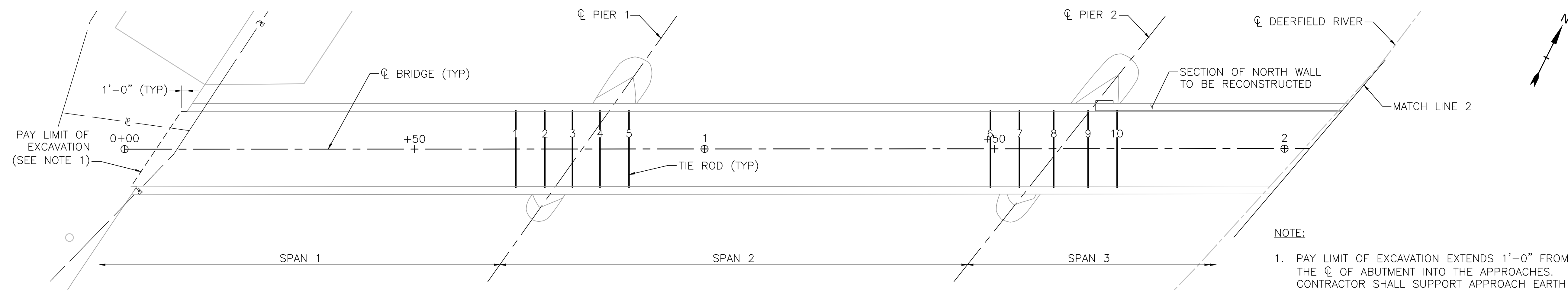
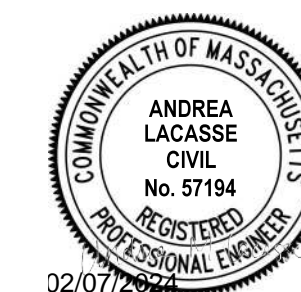
Shelburne, MA
Buckland, MA

MARK	DATE	DESCRIPTION

STRUCTURAL NOTES

SCALE: NO SCALE

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 Tighe & Bond 215 North Street Shelburne Falls, Vermont 05488
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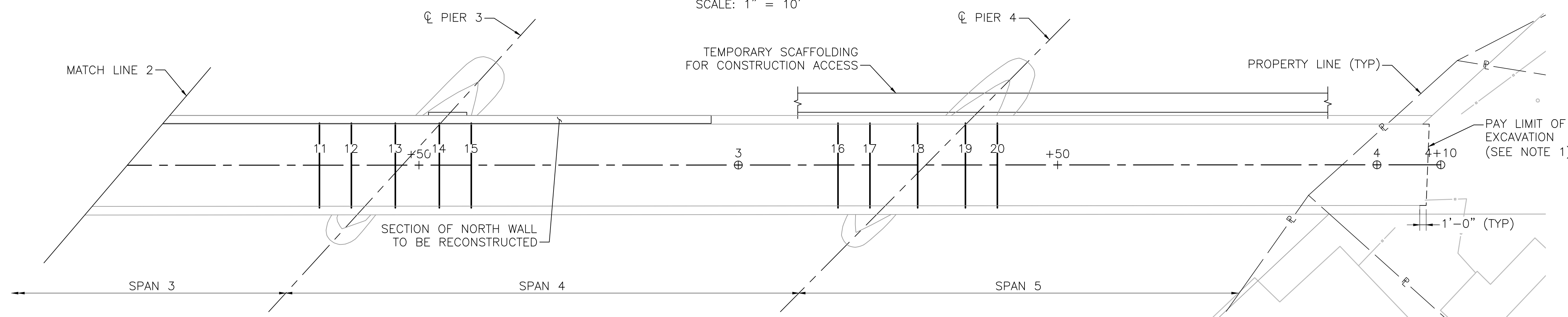


GENERAL PLAN (SPANS 1-3)

SCALE: 1" = 10'

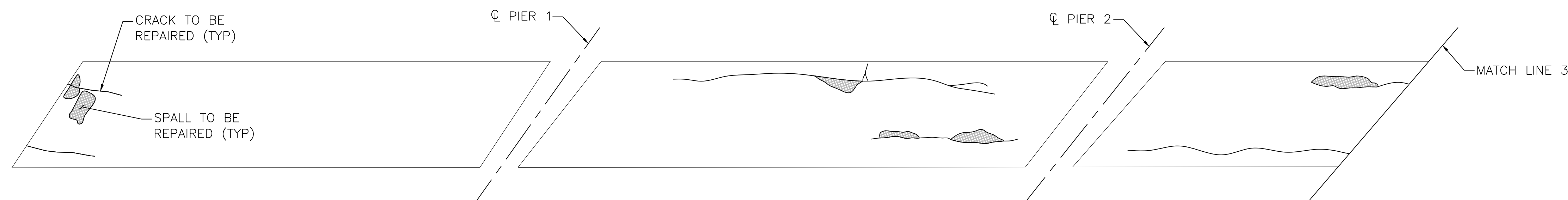
NOTE:

1. PAY LIMIT OF EXCAVATION EXTENDS 1'-0" FROM THE ϕ OF ABUTMENT INTO THE APPROACHES. CONTRACTOR SHALL SUPPORT APPROACH EARTH MATERIAL AS NEEDED TO MAINTAIN PEDESTRIAN ACCESS, PROTECT EXISTING SITE FEATURES, AND SUPPORT CONSTRUCTION OPERATIONS.



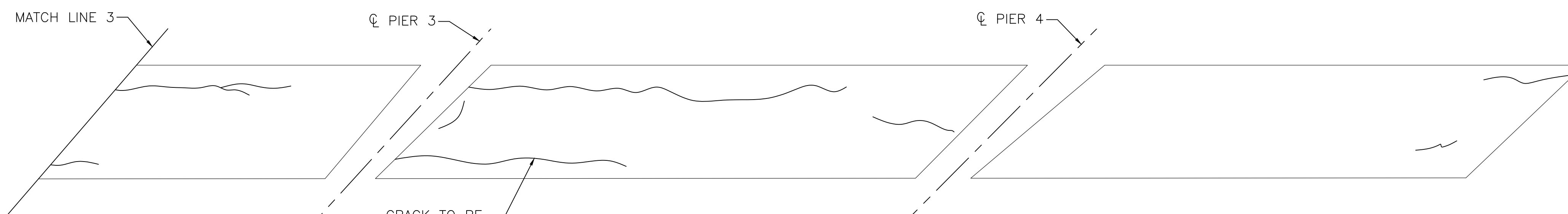
GENERAL PLAN (SPANS 3-5)

SCALE: 1" = 10'



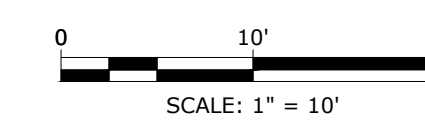
ARCH INTRADOS (SPANS 1-3)

SCALE: 1" = 10'



ARCH INTRADOS (SPANS 3-5)

SCALE: 1" = 10'



Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

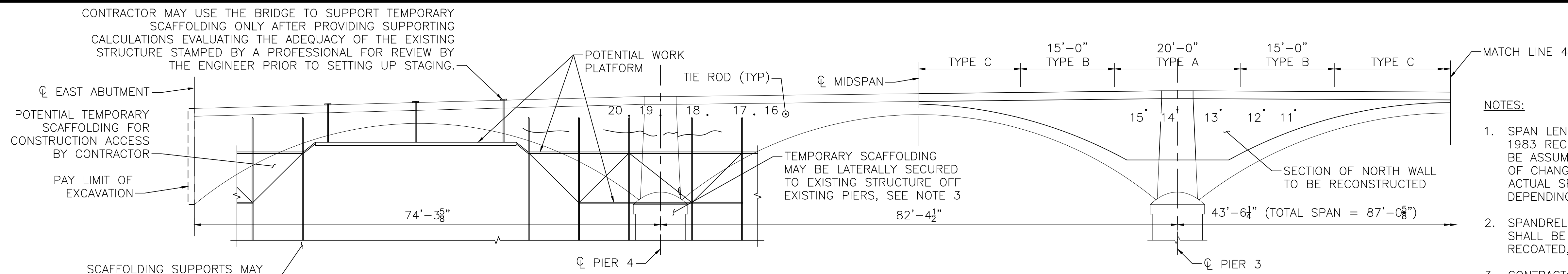
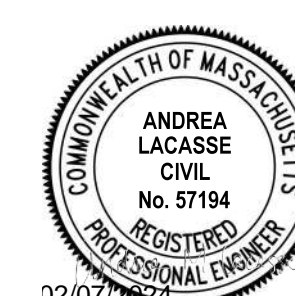
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DATE:	2/7/2024	
FILE:	S2161-003_BRIDGE.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

BRIDGE PROPOSED PLANS

SCALE: AS SHOWN

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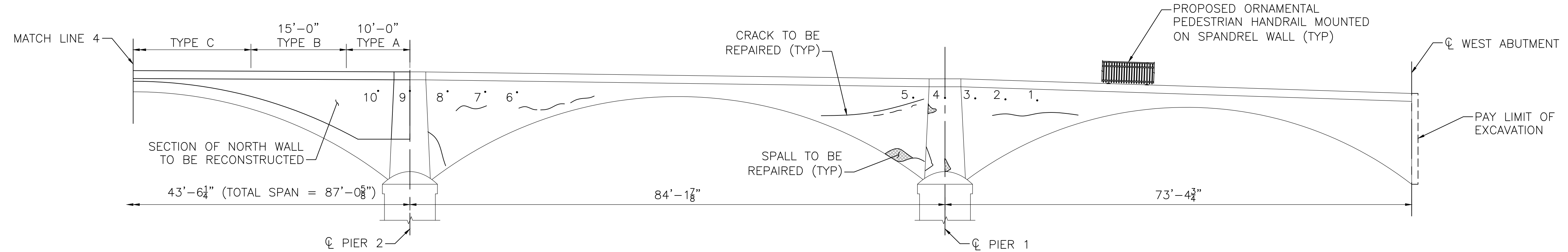


NORTH ELEVATION (SPANS 3-5)

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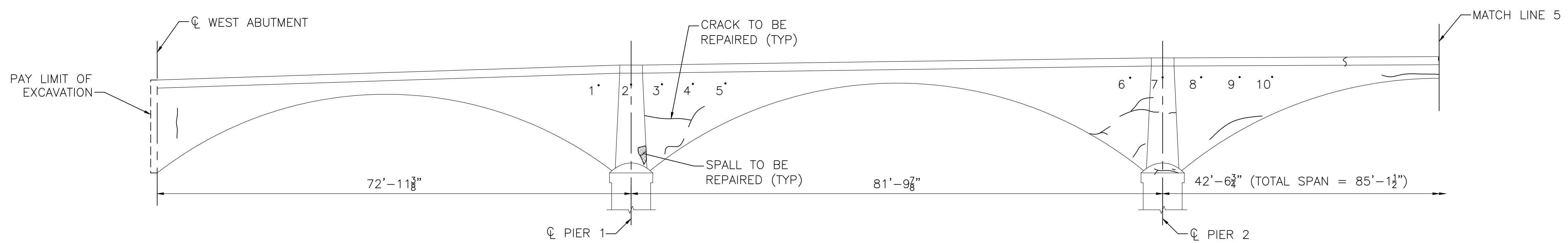
NOTES:

- SPAN LENGTHS SHOWN TAKEN FROM 1983 RECORD DRAWINGS AND SHOULD BE ASSUMED APPROXIMATE. BECAUSE OF CHANGES IN SKEW OF THE PIERS, ACTUAL SPAN LENGTH VARIES DEPENDING ON WHERE IT IS MEASURED.
- SPANDREL WALLS AND ARCH INTRADOS SHALL BE POWER WASHED AND RECOATED, PIER SURFACES EXCLUDED.
- CONTRACTOR TO PROPOSE PLAN TO ABANDON ANCHORS IN PLACE SUCH THAT THEY WILL BE CONCEALED FROM SIGHT AND WILL NOT CAUSE FUTURE DEGRADATION OF THE CONCRETE.



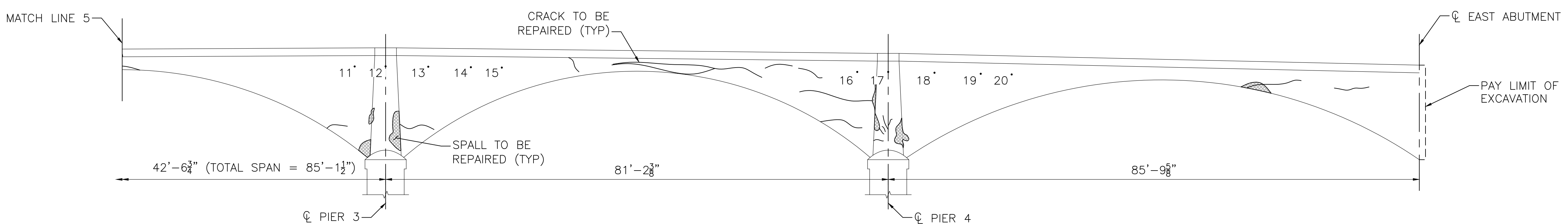
NORTH ELEVATION (SPANS 1-3)

SCALE: 1" = 10'



SOUTH ELEVATION (SPANS 1-3)

SCALE: 1" = 10'



SOUTH ELEVATION (SPANS 3-5)

SCALE: 1" = 10'

Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

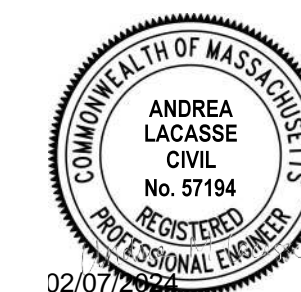
Shelburne, MA
Buckland, MA

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DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

BRIDGE ELEVATIONS

SCALE: AS SHOWN

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Bridge of Flowers Rehabilitation

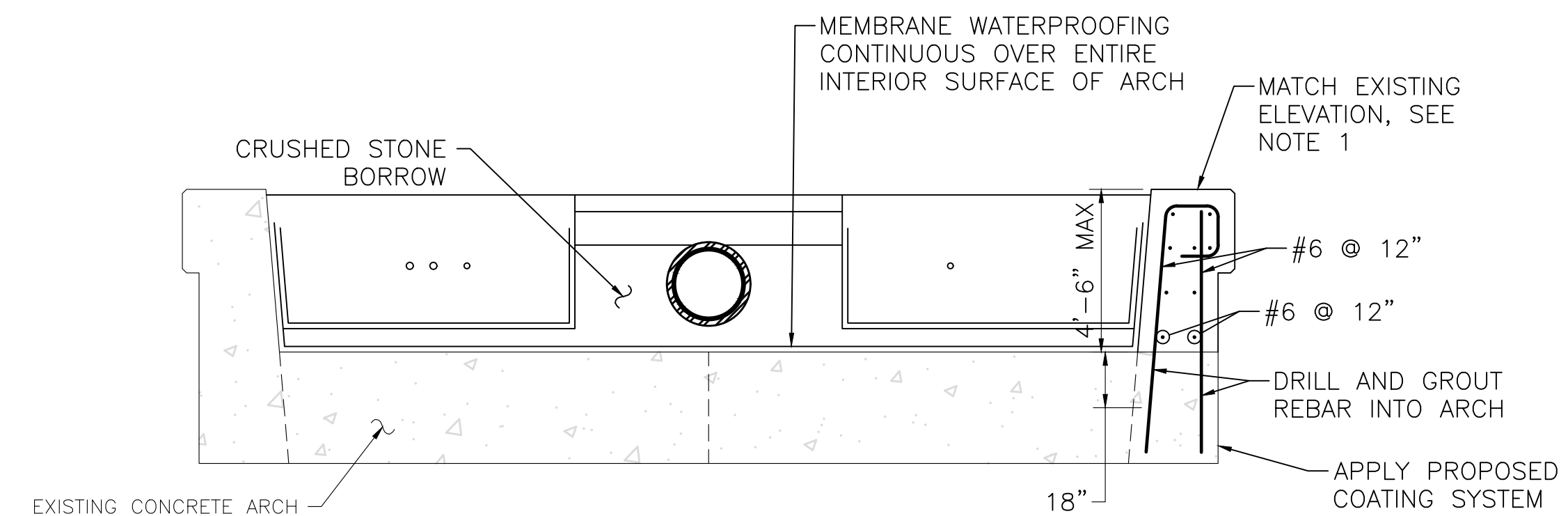
Shelburne Falls Fire District

Shelburne, MA
Buckland, MA

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FILE:	S2161-003_BRIDGE.dwg	
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TYPICAL BRIDGE SECTIONS

SCALE: AS SHOWN

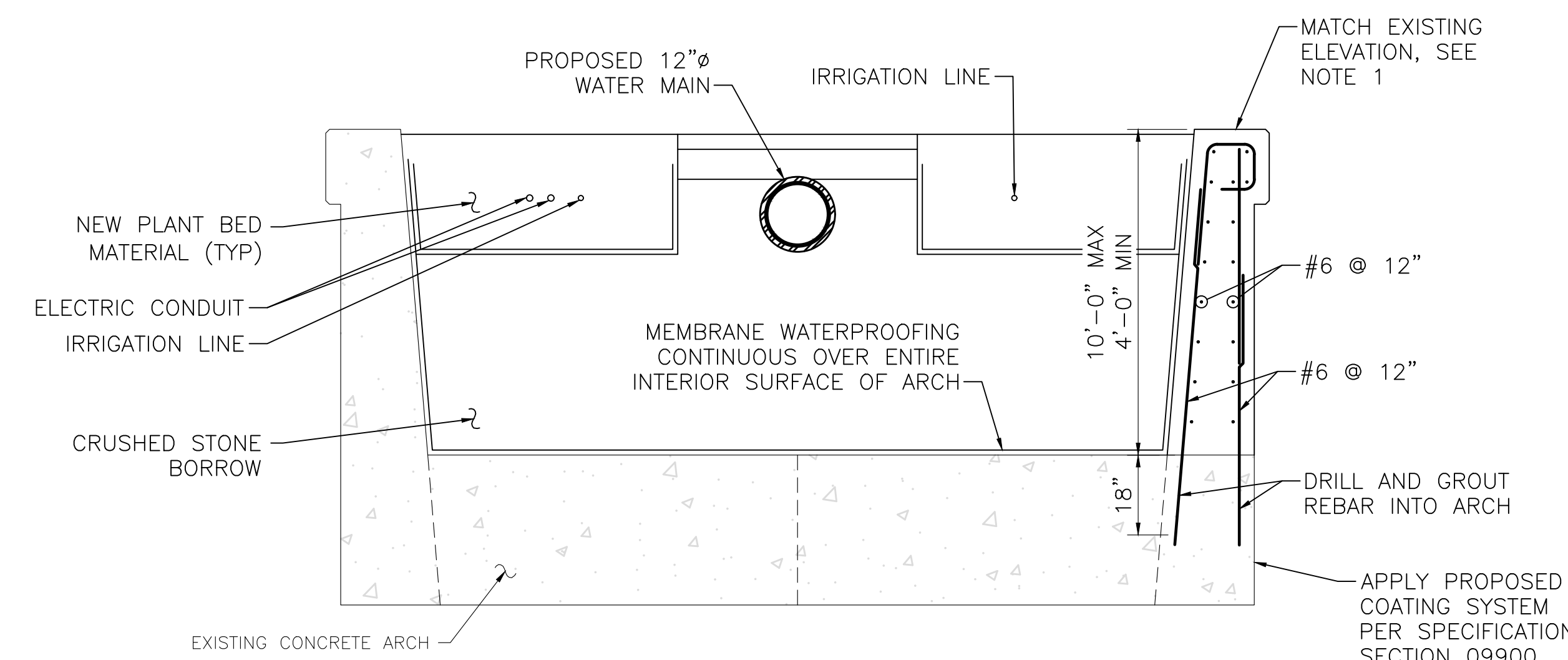


WALL TYPE C SECTION

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

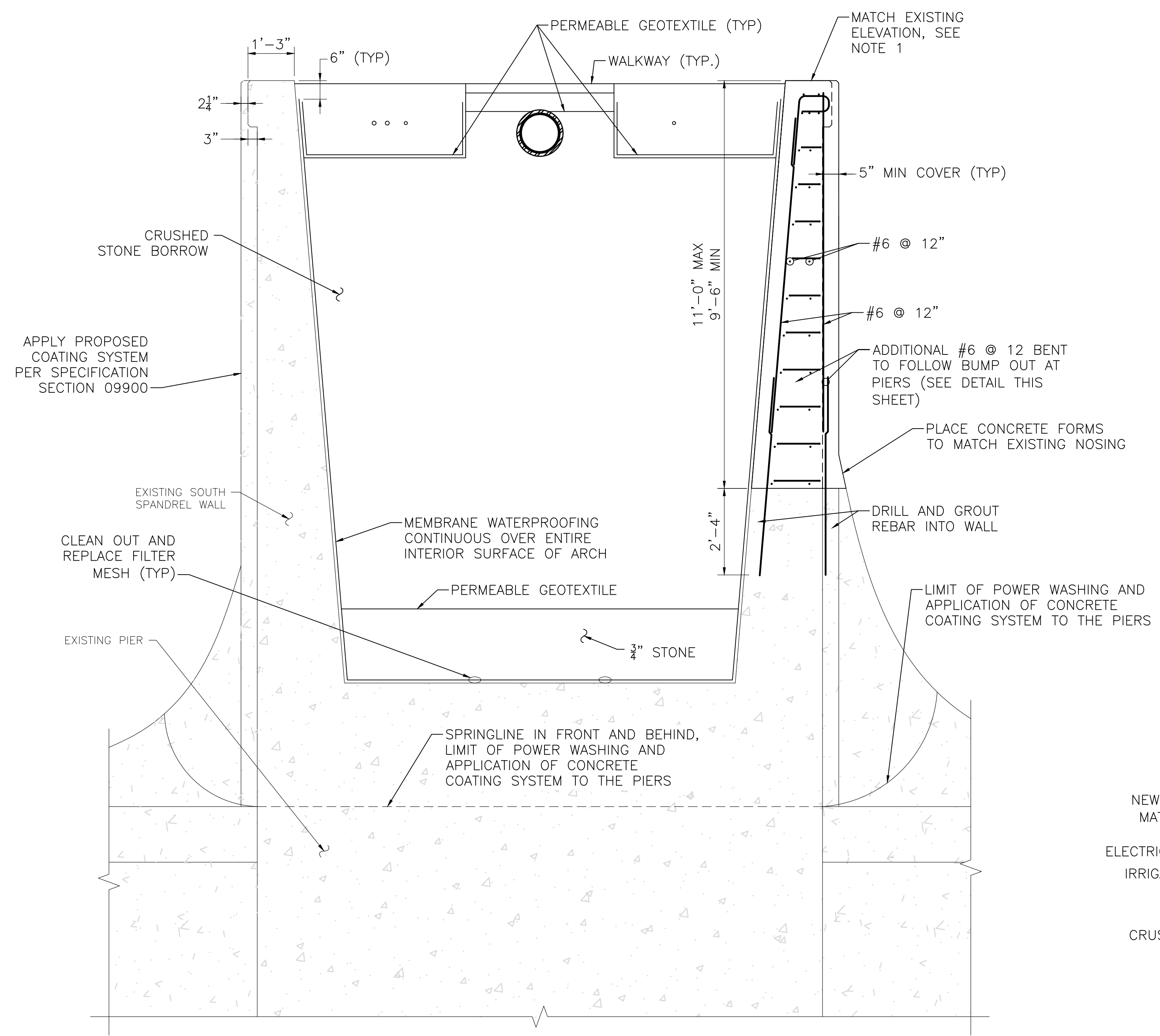
NOTES:

1. CONTRACTOR SHALL COLLECT SURVEY DATA AND VERIFY EXISTING WALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION. NEW TOP OF WALL ELEVATIONS AND WALL THICKNESS SHOULD MATCH EXISTING, IGNORING ANY DETERIORATION.
2. CONTRACTOR SHALL COLLECT SURVEY DATA AND MEASURE PROPOSED WALL CONDITIONS AFTER CONSTRUCTION FOR INCLUSION IN THE AS-BUILT PLANS.
3. PROPOSED ORNAMENTAL PEDESTRIAN HANDRAIL OMITTED FOR CLARITY. SEE RAIL DETAILS ON SHEET 19 OF 19.
4. CONTRACTOR TO LOCATE EXISTING REINFORCING STEEL IN WALL SECTION. CONTRACTOR TO TAKE CAUTION AND AVOID DOWELING INTO EXISTING REINFORCING STEEL. ADJUST COVER OF VERTICAL DOWELS AS NEEDED TO A MAX OF 6".
5. VERTICAL DOWELS TO BE PLACED WITHIN 4" OF EXISTING VERTICAL BARS TO CREATE A NON-CONTACT LAP SPLICE.
6. 2" MIN REBAR COVER UNLESS OTHERWISE NOTED.



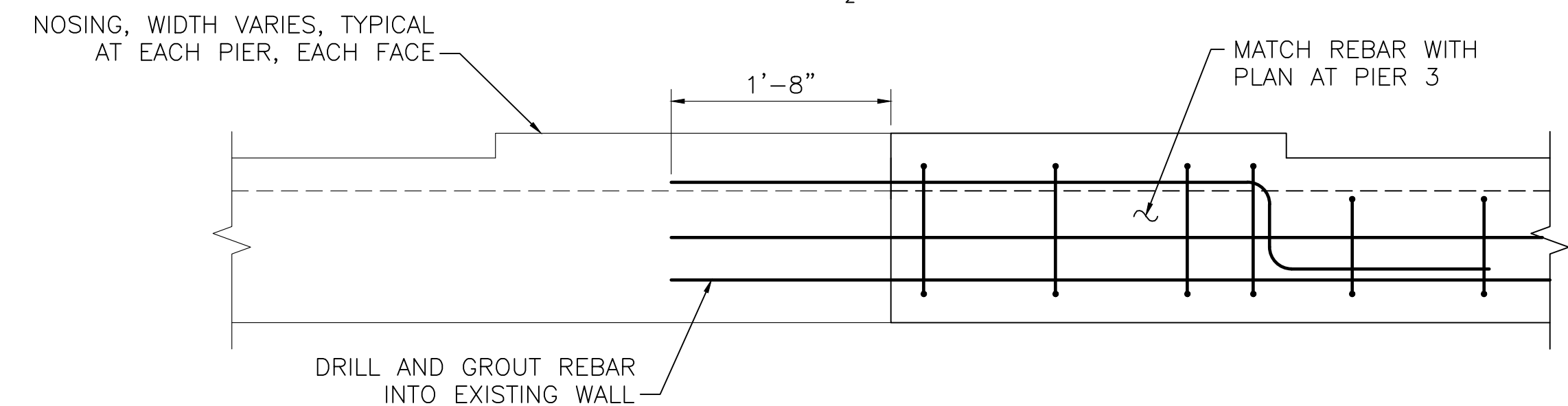
WALL TYPE B SECTION

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



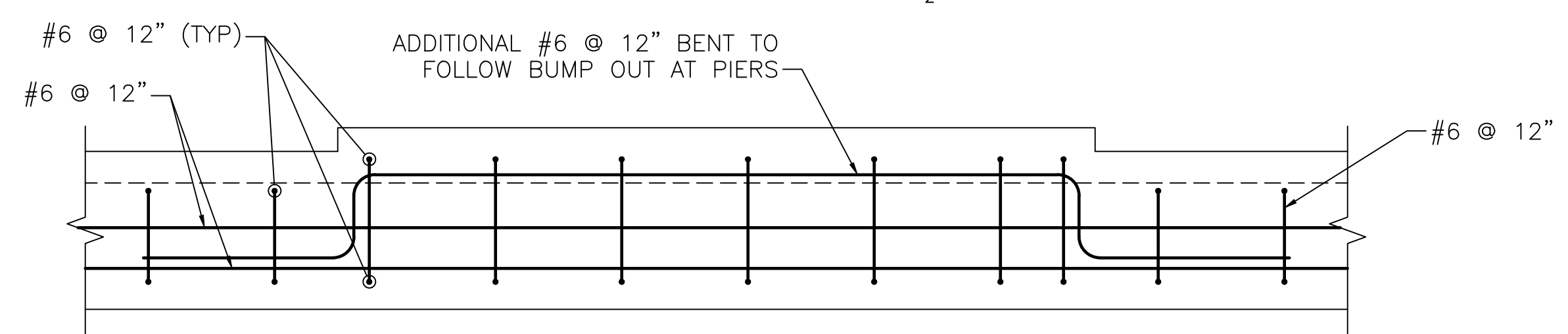
WALL TYPE A SECTION

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



REINFORCING PLAN AT PIER 2

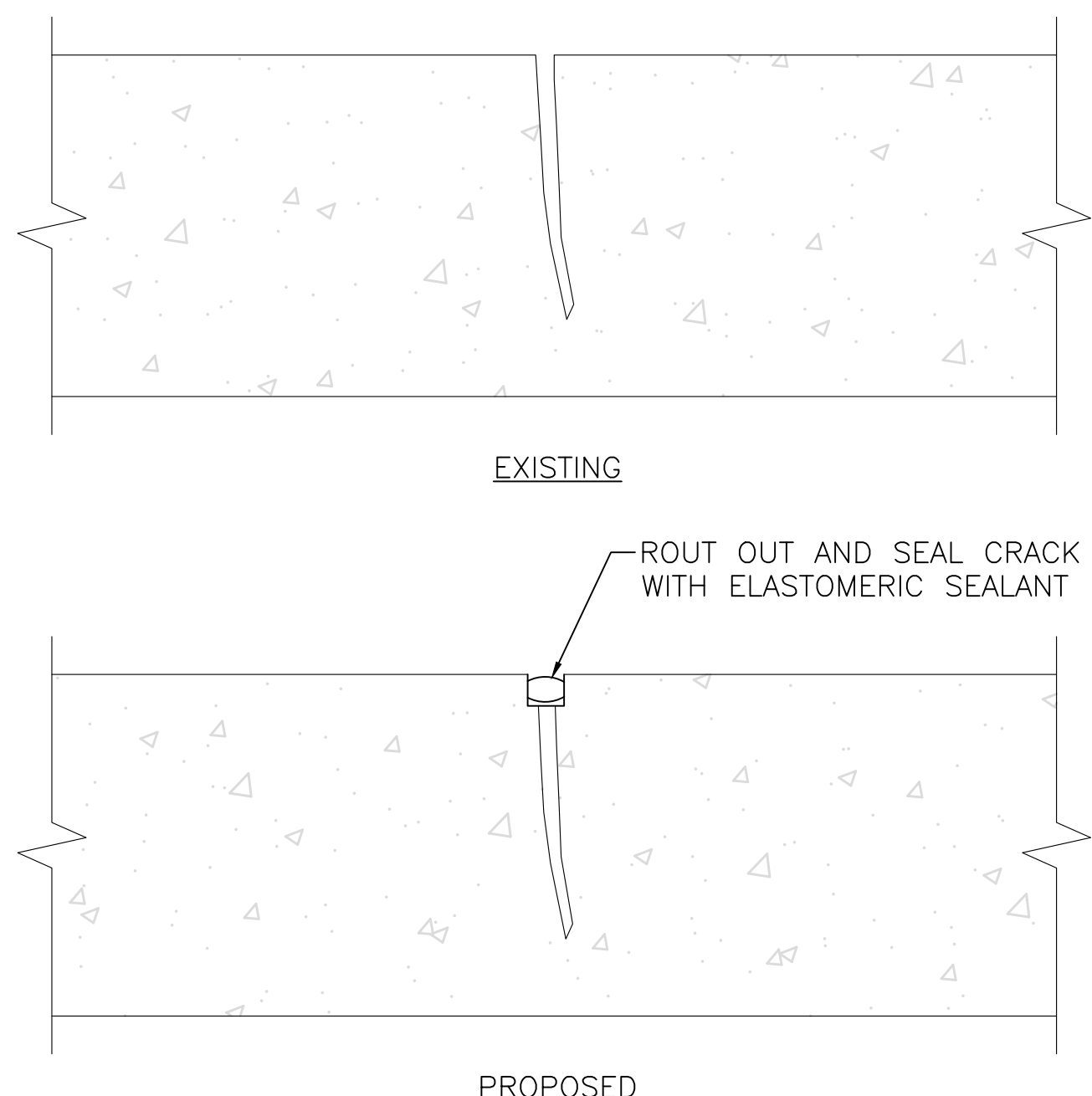
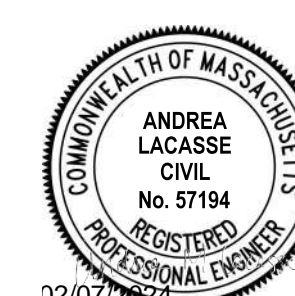
SCALE: 1" = 1'-0"



REINFORCING PLAN AT PIER 3

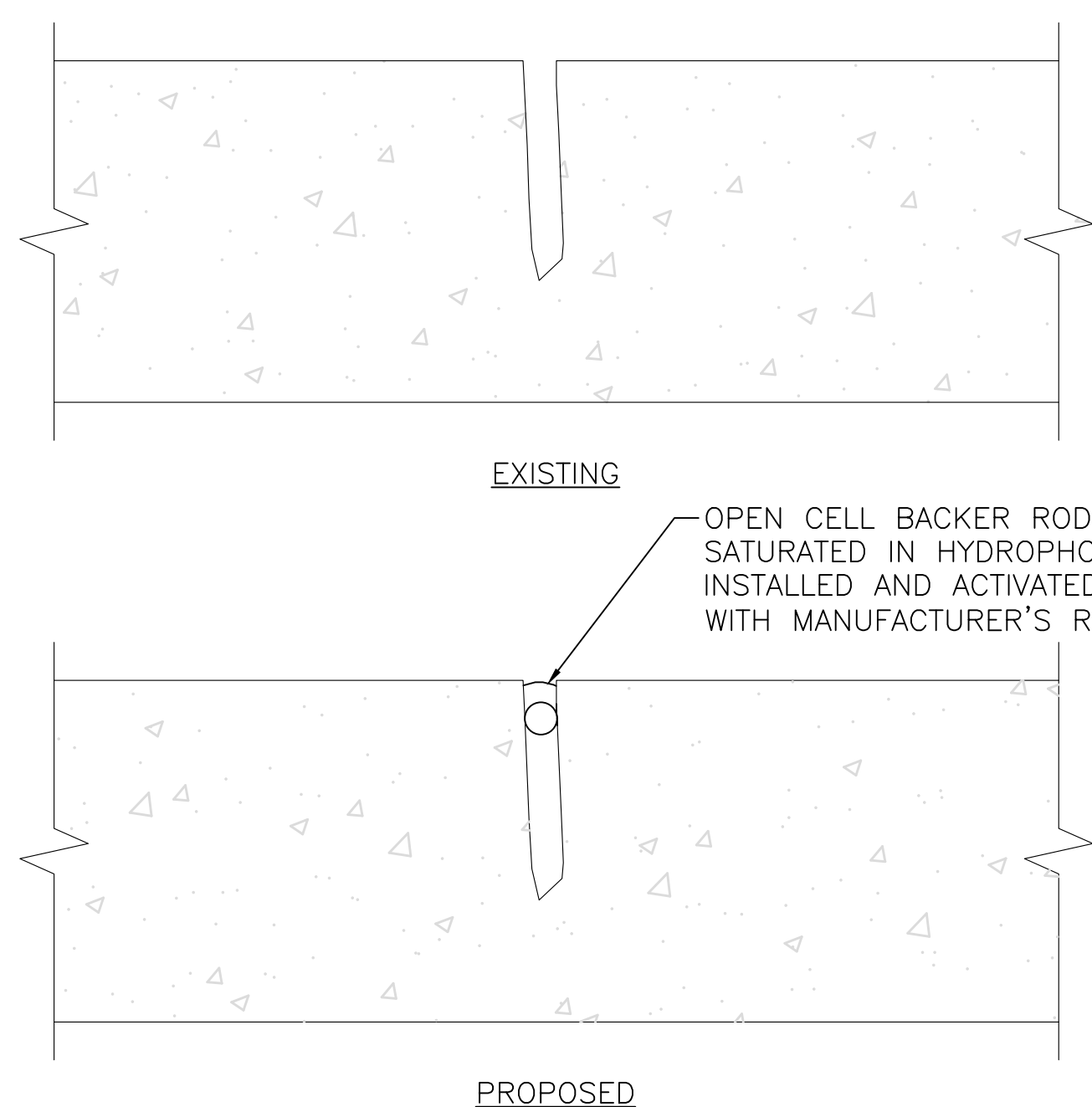
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CRACK REPAIR UP TO 1/8" ROUT AND SEAL DETAIL

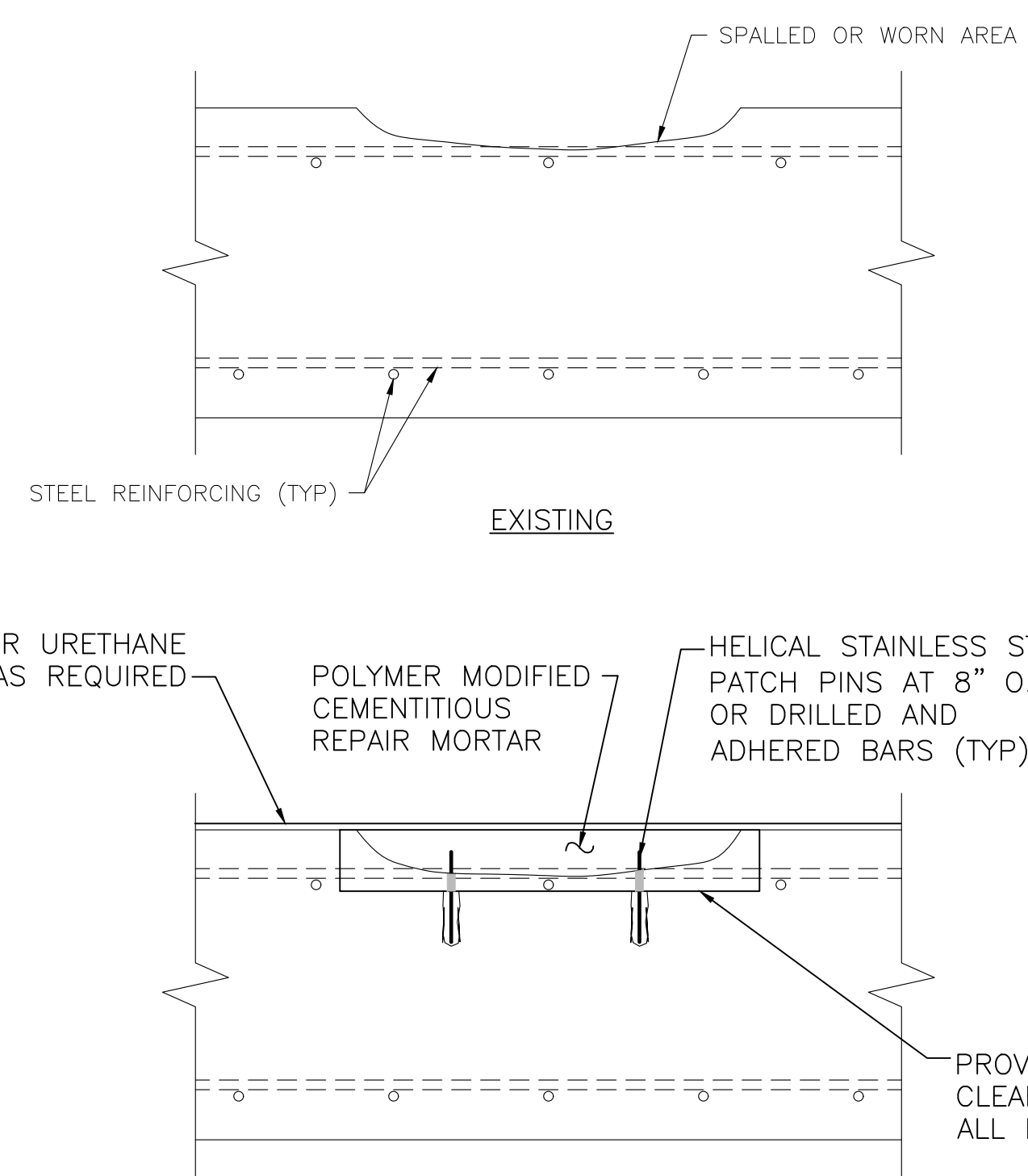
NOT TO SCALE



CRACK REPAIR OPENING GREATER THAN 1/8" DETAIL

NOT TO SCALE

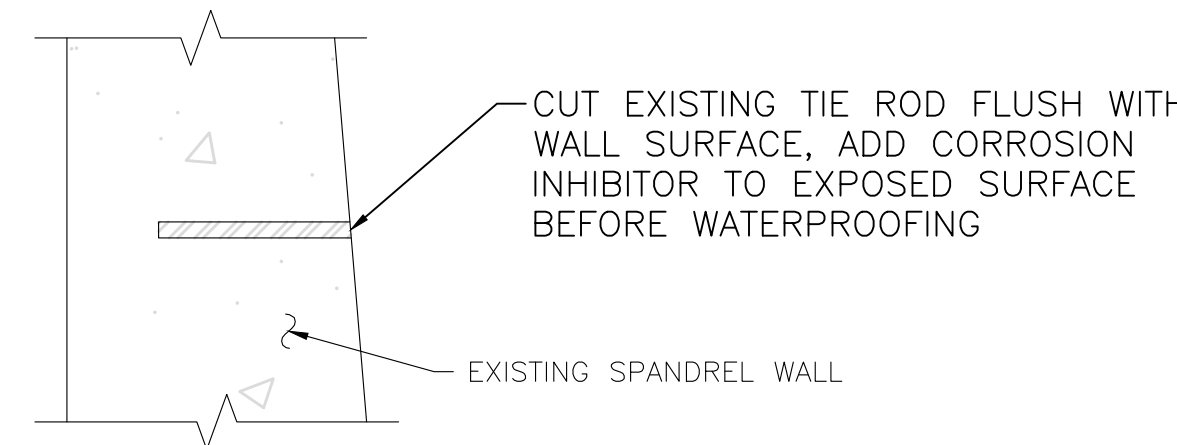
- NOTES:**
1. MASK/PROTECT ADJACENT CONCRETE SURFACES PRIOR TO REPAIR.
 2. TOP OF REPAIR TO BE FLUSH WITH ADJACENT CONCRETE SURFACES.



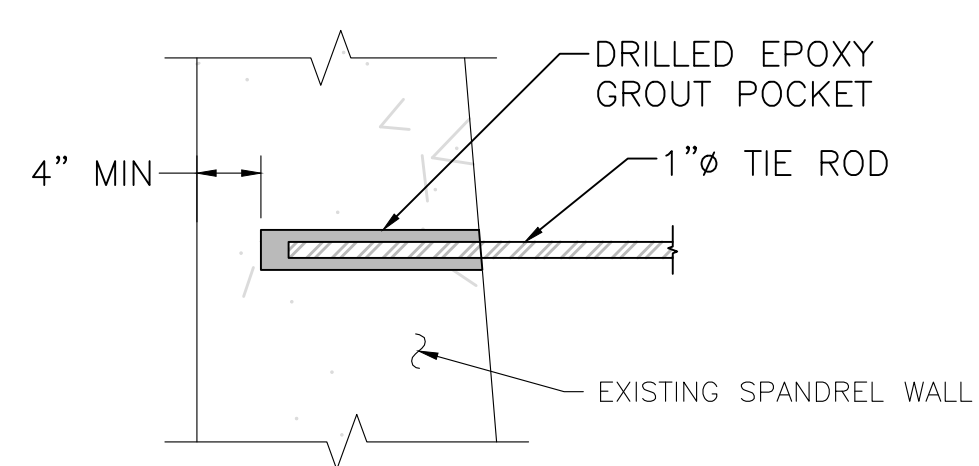
TYPICAL SPALL REPAIR DETAIL

NOT TO SCALE

- NOTES:**
1. REMOVE ALL LOOSE OR UNSOUND CONCRETE.
 2. PREPARE EDGES OF REPAIR TO VERTICAL PROFILE.
 3. PROVIDE MINIMUM OF 3/4" CLEARANCE AROUND ALL EXPOSED REBAR.
 4. CONSULT ENGINEER IF EXPOSED REBAR HAS SECTION LOSS.
 5. REPAIR AREA IN CONFORMANCE WITH SPECIFICATION SECTION 03930.

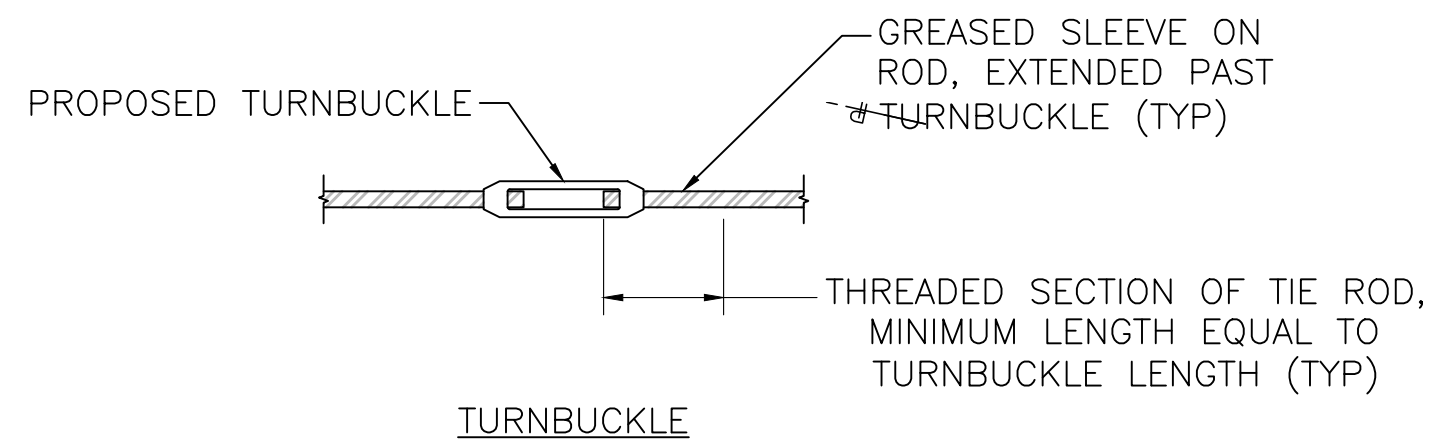


EXISTING



PROPOSED

- NOTES:**
1. DRILL HOLE DIAMETER AND EMBEDMENT DEPTH OF PROPOSED TIE ROD SHALL BE DESIGNED BY CONTRACTOR TO REACH THE DESIGN PULL-OUT CAPACITY IN CONFORMANCE WITH SPECIFICATION SECTION 05500.
 2. CONTRACTOR IS RESPONSIBLE FOR STABILITY OF WALL AFTER REMOVAL OF ANY EXISTING TIE RODS AND BEFORE ALL PROPOSED TIE RODS HAVE BEEN CONSTRUCTED AND ACHIEVED THEIR DESIGN STRENGTH.



TIE ROD DETAILS

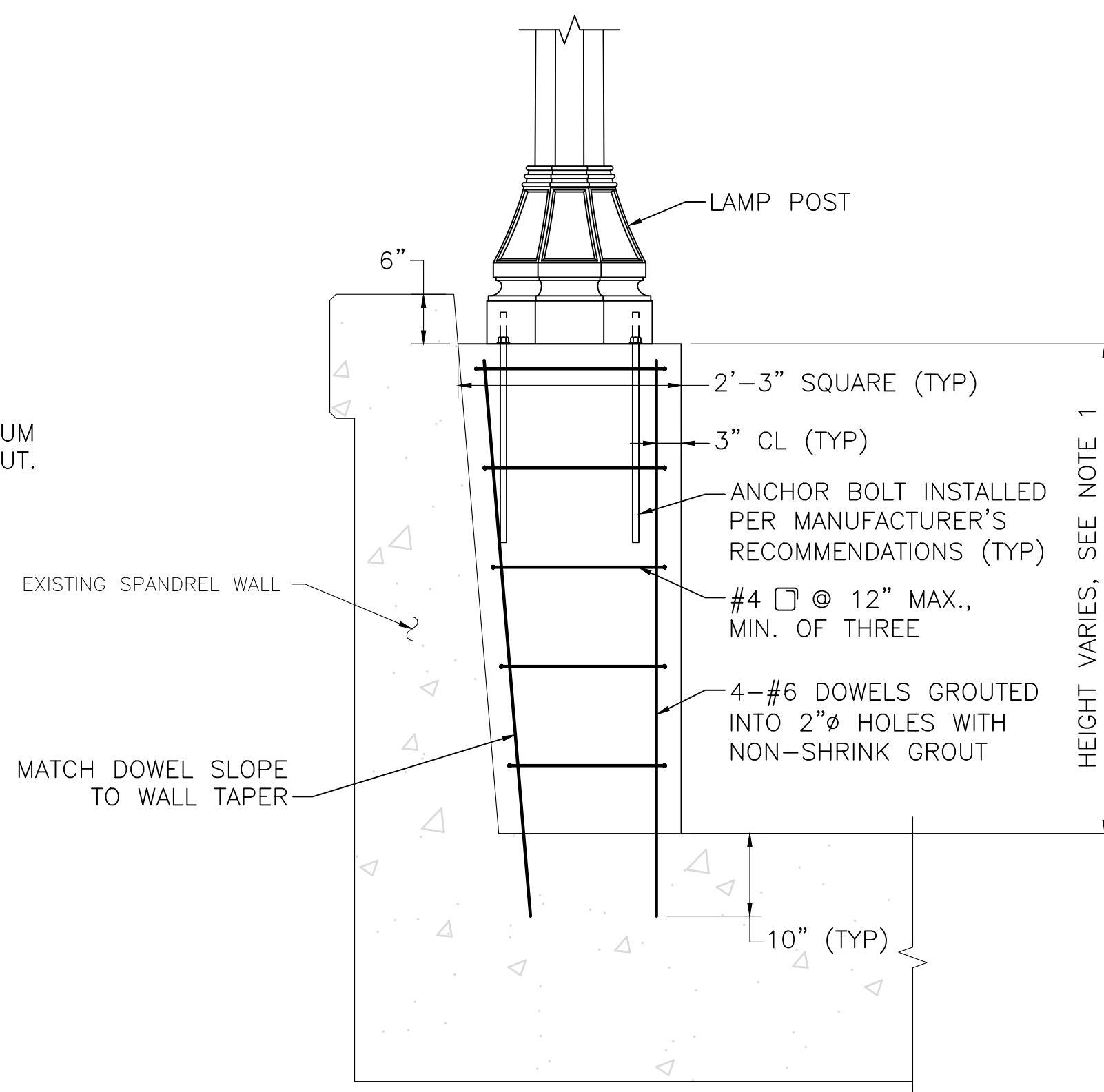
SCALE: 1" = 1'-0"

- NOTES:**
1. THE LAMP POST BASE SHALL EXTEND DOWN TO THE TOP OF EXISTING CONCRETE ARCH. DEPTH TO ARCH VARIES BASED ON LOCATION ALONG EACH SPAN. APPROXIMATE DEPTH RANGE FOR LAMP POST BASE IS 2'-0" TO 8'-0" BUT SHOULD BE VERIFIED IN FIELD AFTER TOP OF ARCH IS EXPOSED.
 2. WHERE NEW CONCRETE WILL BE PLACED AGAINST EXISTING CONCRETE, THE EXISTING SURFACE SHALL BE PREPARED AS FOLLOWS:

REMOVE LOOSE AND DETERIORATED CONCRETE, DIRT, OIL, GREASE, AND ALL BOND-INHIBITING MATERIALS FROM SURFACE, LEAVING NO OFFSET OR ABRUPT CHANGES IN CONTOUR. SURFACE PREPARATION SHALL BE DONE BY SCABBLER, CHISELING, WIRE BRUSHING, OR OTHER APPROPRIATE MECHANICAL MEANS AS APPROVED OF BY THE ENGINEER.

ROUGHEN CONTACT SURFACE WITH A MINIMUM PROFILE OF APPROXIMATELY 1/16" FOR BONDING WITH NEW CONCRETE.

SATURATE SURFACE WITH CLEAN WATER PRIOR TO POURING NEW CONCRETE. SUBSTRATE SHOULD BE SATURATED SURFACE DRY (SSD) WITH NO STANDING WATER DURING CONCRETE POURING.
 3. WHERE A LAMP POST BASE IS LOCATED ALONG THE RECONSTRUCTED SPANDREL WALL ON THE NORTH SIDE OF THE BRIDGE, THE SEQUENCE OF CONSTRUCTION SHALL BE SUCH THAT THE SPANDREL WALL IS SUFFICIENTLY HARDENED AND IS CAPABLE OF HAVING ITS SURFACE PREPPED BEFORE THE LAMP POST BASE IS POURED. PERFORM SURFACE PREPARATION IN THE SAME MANNER AS ABOVE.
 4. THE BOTTOM CONFINEMENT REINFORCING BAR MAY BE ANGLED TO BE APPROXIMATELY PARALLEL TO THE ARCH SURFACE IN ORDER TO MAINTAIN THE MAXIMUM SPACING.



TYPICAL LAMP POST BASE

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

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Bridge of Flowers Rehabilitation

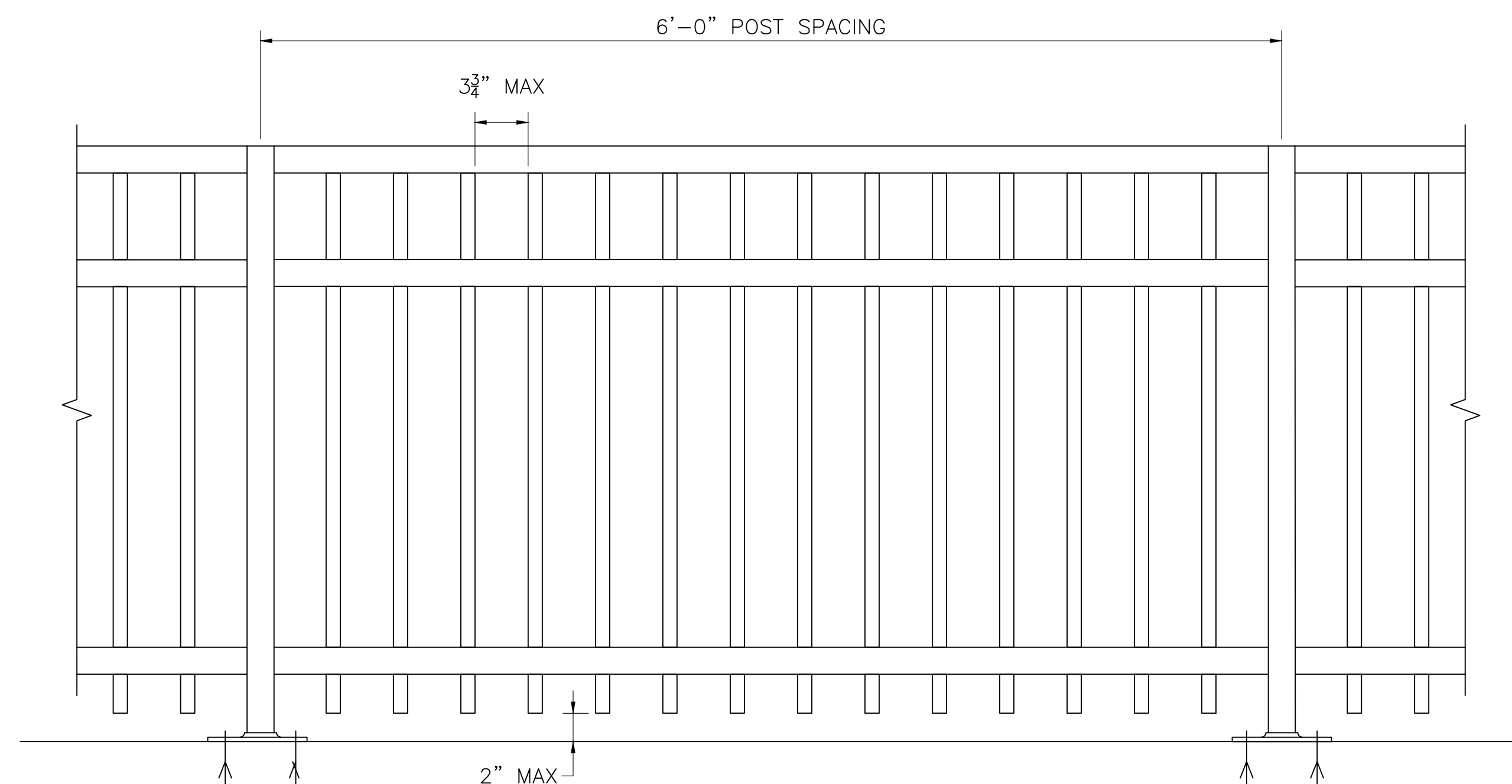
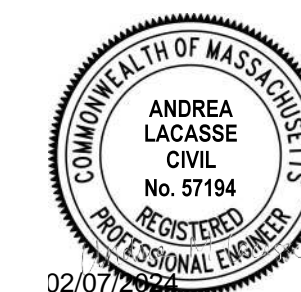
Shelburne Falls Fire District

Shelburne, MA
Buckland, MA

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DATE:	2/7/2024	
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DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

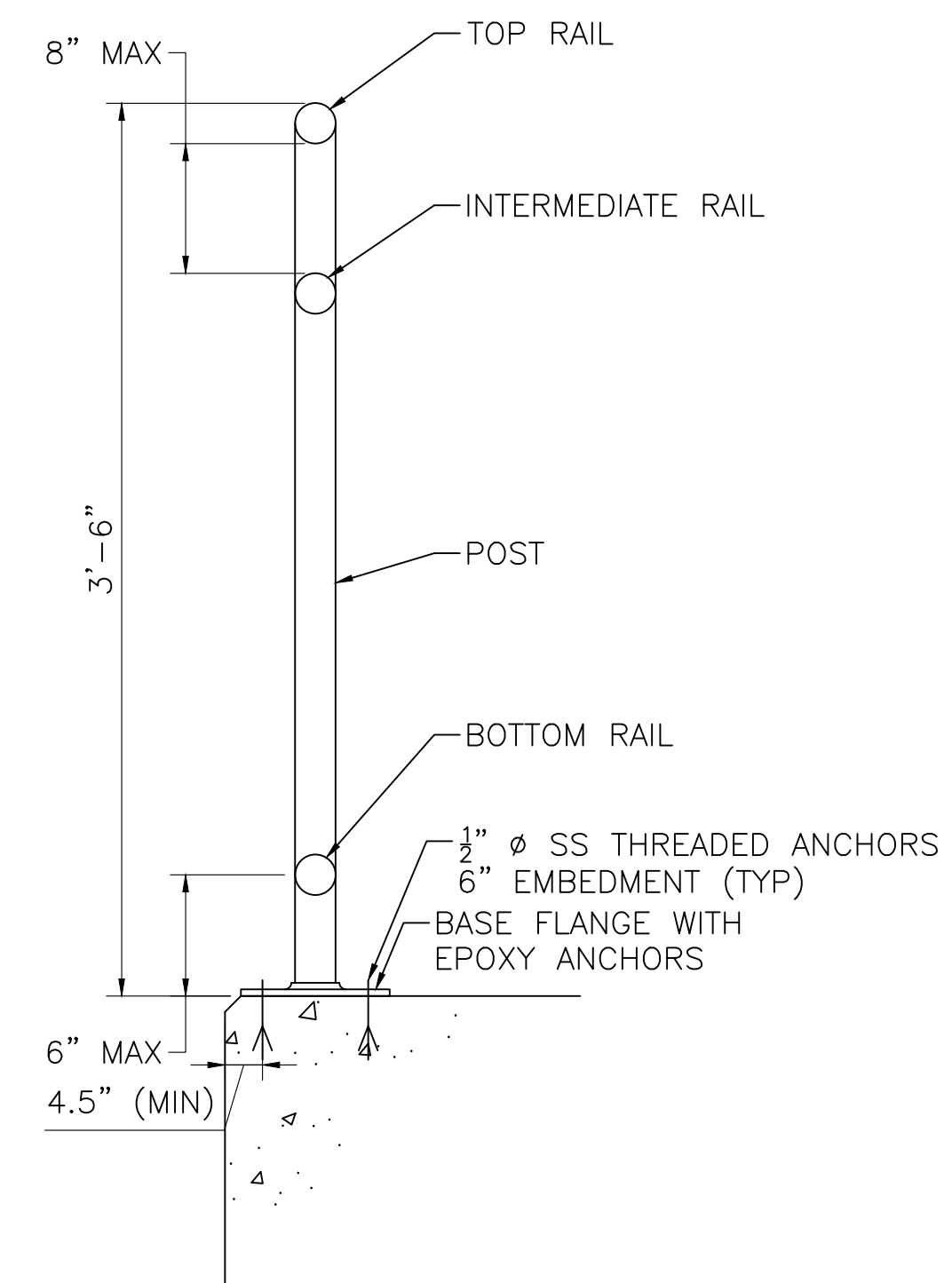
STRUCTURAL DETAILS

SCALE: AS SHOWN



ORNAMENTAL PEDESTRIAN HANDRAIL ELEVATION

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



ORNAMENTAL PEDESTRIAN HANDRAIL SECTION

NOT TO SCALE

Bridge of Flowers Rehabilitation

Shelburne Falls Fire District

Shelburne, MA
Buckland, MA

MARK	DATE	DESCRIPTION
PROJECT NO:	S2161-003	
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FILE:	S2161-003_BRIDGE.dwg	
DRAWN BY:	AvC	
DESIGNED/CHECKED BY:	AML	
APPROVED BY:	ZPC	

BRIDGE RAIL DETAILS

SCALE: AS SHOWN