

# BAY STATE ROAD WATER MAIN LOOP

## INDEX OF DRAWINGS

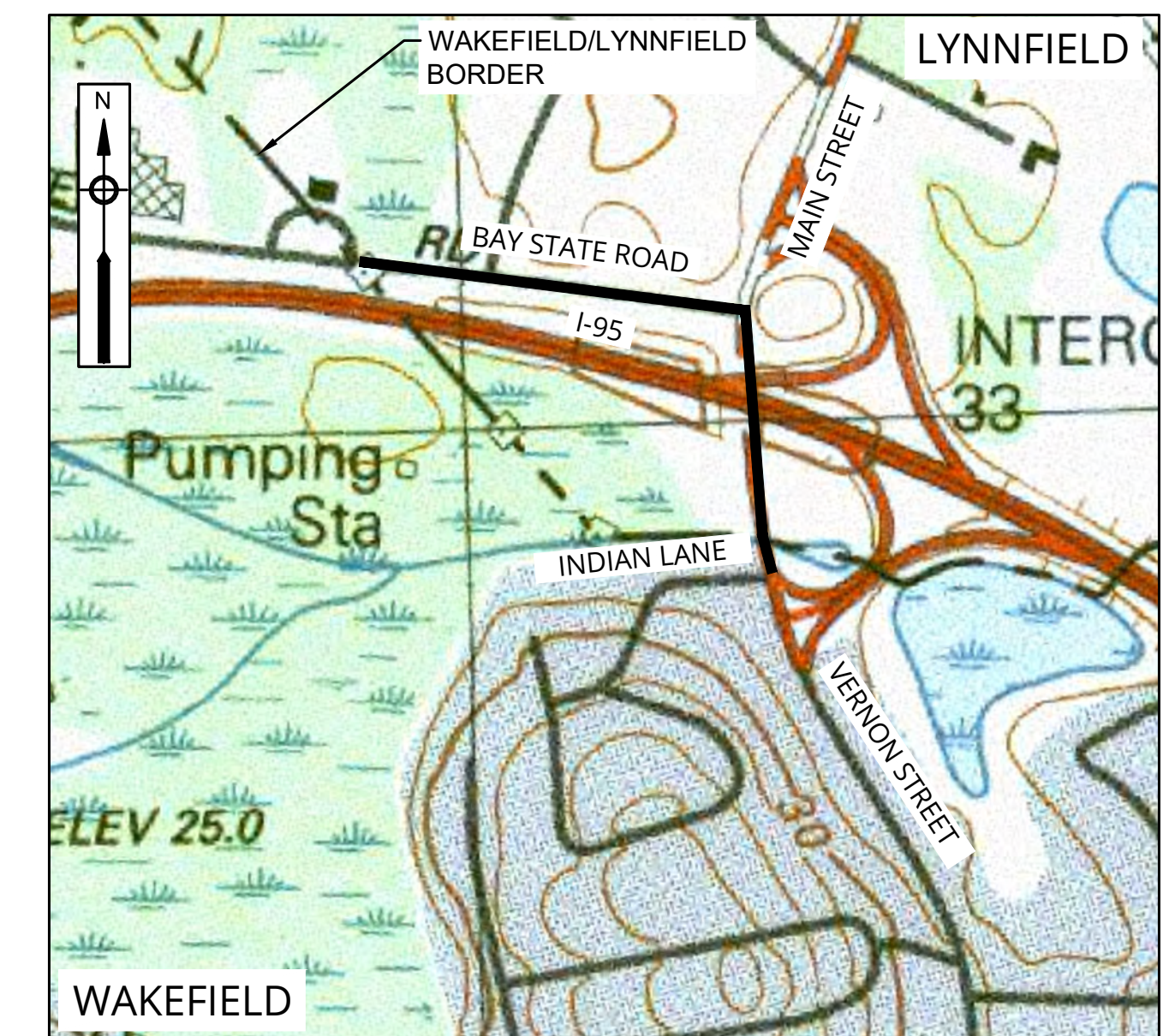
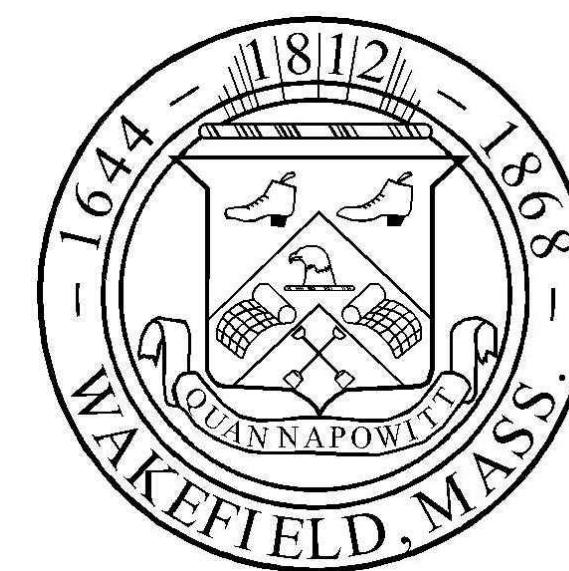
G-1	INDEX OF DRAWINGS AND GENERAL NOTES
C-1	BAY STATE ROAD
C-2	BAY STATE ROAD AND MAIN STREET
C-3	MAIN STREET
CD-1	WATER DETAILS
CD-2	WATER AND ENVIRONMENTAL CONTROL DETAILS
CD-3	PAVING AND RESTORATION DETAILS

## TOWN OF WAKEFIELD, MA

JUNE 2022  
FOR PERMITTING

DEPARTMENT OF PUBLIC WORKS

JOSEPH CONWAY, DIRECTOR OF PUBLIC WORKS  
WILLIAM RENAULT, TOWN ENGINEER



VICINITY MAP  
1" = 500'

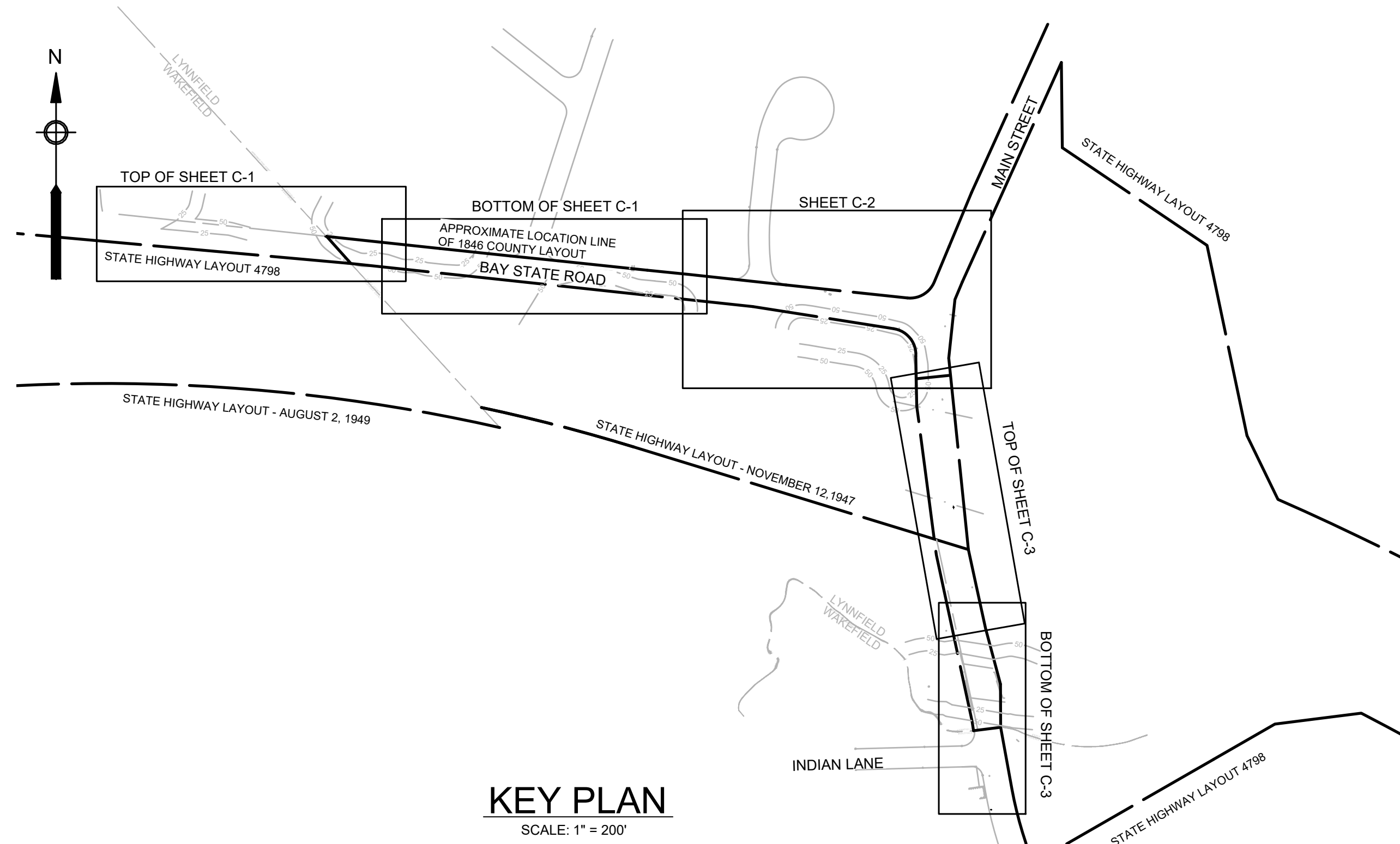


## GENERAL NOTES

- BASE MAP INFORMATION SHOWN ON DESIGN SHEETS IS TAKEN FROM A FIELD INSTRUMENT SURVEY PERFORMED BY MERRILL ENGINEERS AND LAND SURVEYORS.
- IN AREAS WHERE CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO OCCUR WITHIN PRIVATE PROPERTY, PROPERTY LINE LOCATIONS ARE TO BE REVIEWED WITH THE TOWN OF WAKEFIELD PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES, PRIVATE PROPERTY, OR WITHIN 100 FEET OF WETLANDS, UNLESS DIRECTED TO DO SO BY THE CONTRACT DOCUMENTS.
- NORTH DIRECTION SHOWN IS APPROXIMATE.
- ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY DIG SAFE AT LEAST 72 HOURS IN ADVANCE, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO ANY EXCAVATION.
- DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS AND STATIONING SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
- THE CONTRACTOR SHALL RESTORE ALL PUBLIC AND PRIVATE PROPERTY TO ITS PRE-CONSTRUCTION CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- ALL EXISTING STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. THE CONTRACTOR, AT NO ADDITIONAL COST TO THE OWNER, SHALL REPAIR ANY EXISTING STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION.
- IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO THE RESPECTIVE UTILITY COMPANY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.
- ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURE CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY AND THE OWNER.
- THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE ALL DAMAGED ITEMS AT NO COST TO OWNER.
- CONTRACTOR SHALL REMOVE AND REPLACE, OR REPAIR, ALL CURBS, SIDE WALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY THEIR CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE TOWN AND ENGINEER.
- ANY TRAFFIC SIGNAL EQUIPMENT (LIGHTS, CONDUITS, LOOP DETECTORS, ETC.) DISTURBED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AS DIRECTED BY THE OWNER AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES AS NECESSARY AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND MAINTAIN A TELEPHONE NUMBER WHERE THE CONTRACTOR CAN BE REACHED 24 HOURS A DAY, 7 DAYS A WEEK.
- THE LOCATION AND LIMITS OF ALL ON-SITE WORK AND STORAGE AREAS SHALL BE REVIEWED/COORDINATED WITH, AND ACCEPTABLE TO THE TOWN OF WAKEFIELD. THE CONTRACTOR SHALL LIMIT THEIR ACTIVITIES TO THESE AREAS.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR WORK IN ROADWAYS. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL PERMITS AS AN INTEGRAL PART OF THE WORK.
- THE CONTRACTOR SHALL HANDLE GROUNDWATER, WHERE ENCOUNTERED, IN AN APPROVED MANNER. DURING ANY DEWATERING, THE CONTRACTOR SHALL USE STONE AROUND THE SUCTION END TO MINIMIZE DISCHARGE OF TRENCH MATERIALS. THE DISCHARGED WATER SHALL PASS THROUGH FILTER FABRIC.
- THE CONTRACTOR SHALL PLACE TEMPORARY TRENCH PAVEMENT AS DESCRIBED IN DRAWINGS AND SPECIFICATIONS. PAVING OF ALL TRENCHES IS REQUIRED AT THE END OF EACH WORK WEEK.
- ALL TRAFFIC MANAGEMENT CONTROL DEVICES, INCLUDING VARIABLE MESSAGE BOARDS, BARRELS, CONES, AND SIGNAGE, SHALL BE FURNISHED AND DEPLOYED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- DURING CONSTRUCTION ON LOCAL ROADS, ONE LANE OF THE ROAD SHALL BE KEPT OPEN AT ALL TIMES.
- ALL WORK WITHIN THE STATE HIGHWAY LAYOUT (SHLO) SHALL BE IN ACCORDANCE WITH MASSDOT GUIDELINES AND REQUIREMENTS.
- IF ANY DRAIN LINES ARE DAMAGED DURING CONSTRUCTION, DRAIN PIPES MUST BE REPLACED FROM STRUCTURE TO STRUCTURE.
- ANY PAVEMENT MARKINGS WITHIN THE SHLO THAT ARE DAMAGED DURING WORK SHALL BE REPLACED IN-KIND PER MASS DOT STANDARDS.

## WATER MAIN NOTES

- ALL HYDRANT BRANCHES SHALL HAVE VALVES AS SHOWN ON THE HYDRANT DETAIL.
- LOCATION OF ALL HYDRANTS SHALL BE VERIFIED BY THE WELLFLEET FIRE DEPARTMENT, ENGINEER AND WATER DISTRICT PRIOR TO DIGGING FOR INSTALLATION.
- MINIMUM COVER OVER THE PROPOSED WATER MAIN, SERVICES, AND APPURTENANCES SHALL BE 5'-0" UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER. MINIMUM COVER OVER THE PROPOSED WATER MAIN, SERVICES, AND APPURTENANCES THAT CROSS OR ARE LONGITUDINAL TO ROUTE 6 SHALL BE 5'-6" UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER. WHERE NECESSARY, NEW WATER MAINS SHALL BE INSTALLED AT A GREATER DEPTH TO CLEAR OBSTACLES SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. MINIMUM CLEARANCES TO UTILITIES, AS SHOWN ON THE DRAWINGS SHALL BE MAINTAINED.
- TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER TO DETERMINE WHETHER TO RAISE OR LOWER THE PROPOSED WATER MAIN TO CLEAR EXISTING UTILITIES OR MEET EXISTING WATER MAINS.
- EXISTING SERVICES SHALL NOT BE CONNECTED TO THE PROPOSED WATER MAIN UNTIL SATISFACTORY PRESSURE TEST AND DISINFECTION RESULTS HAVE BEEN RECEIVED BY THE ENGINEER AND ACCEPTED BY THE ENGINEER.
- EXISTING WATER MAINS OR SERVICES SHALL NOT BE ABANDONED WITHOUT THE APPROVAL OF THE OWNER. WATER SERVICE SHALL NOT BE INTERRUPTED MORE THAN 4 HOURS WITHOUT PRIOR APPROVAL OF THE OWNER.
- ANY HYDRANT WHICH IS NOT IN SERVICE SHALL BE COVERED WITH A SECURELY FASTENED BURLAP BAG (OR EQUAL).
- THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES OR HYDRANTS WHICH HOLD WATER IN THE SYSTEM. THE OWNER WILL, ON 24 HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES OR HYDRANTS REQUIRED FOR DRAINING OR ADMITTING WATER TO THE VARIOUS SECTIONS OF THE WATER MAINS.
- OPEN TRENCHES MUST BE BACK FILLED AT THE END OF THE WORKDAY OR COVERED WITH STEEL PLATES AND RAMPED AS APPROVED BY THE ENGINEER AND TOWN. WORK ON STATE ROADS SHALL BE COMPLETED IN ACCORDANCE WITH MASSDOT ACCESS PERMIT.
- THE CONTRACTOR IS REQUIRED TO NOTIFY AND COORDINATE WITH THE RESIDENTS ALL WATER MAIN SHUT DOWNS 24 HOURS IN ADVANCE.
- ALL EXISTING WATER SERVICES SHALL BE CONNECTED TO PROPOSED WATER MAIN. NEW SERVICE TO RUN FROM MAIN TO LOCATION OF EXISTING CURB STOP (AT MINIMUM). REPLACE EXISTING CURB STOP AND BOX AND CONNECT TO EXISTING WATER SERVICE ON OWNER'S SIDE.
- CONCRETE THRUST BLOCKS AND MEGALUG (OR APPROVED EQUAL) MECHANICAL JOINT RESTRAINTS ARE REQUIRED AT ALL TEES, BENDS, PLUGS AND HYDRANTS.
- WATER SERVICES SHALL BE INSULATED IN AREAS WHERE CONNECTION TO EXISTING WATER SERVICE IS LESS THAN 5 FEET DEEP.
- VALVE DECOMMISSIONING - CLOSE VALVE, REMOVE AND LEGALLY DISPOSE OF GATE BOX, FILL HOLE, AND PAVE ACCORDING TO TYPICAL TRENCH DETAIL.
- SLEEVES, NIPPLES, AND ACCESSORIES NECESSARY FOR CONNECTIONS BETWEEN EXISTING AND NEW PIPES MAY NOT BE SHOWN IN DETAIL. FURNISH AND INSTALL ITEMS NECESSARY FOR CONNECTING TO EXISTING MAINS AND AS INDICATED ON THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF ALL MATERIAL REMOVED FROM THE TRENCH DURING CUTTING AND CAPPING OF EXISTING WATER MAINS.
- EXCEPT WHERE OTHERWISE DIRECTED, 18" MINIMUM CLEARANCE SHALL BE PROVIDED BETWEEN THE NEW MAINS AND OTHER UTILITIES WHERE THEY CROSS. WHERE NEW MAIN PASSES UNDER UTILITIES, IT SHALL CROSS WITHOUT THE USE OF BENDS, TO THE EXTENT PRACTICABLE.
- DUST CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE OVERNIGHT STORAGE OF MATERIALS, SUPPLIES AND EQUIPMENT MUST BE APPROVED BY THE OWNER AND ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A "STAGING AREA" FOR PIPES, SUPPLIES, MATERIALS, AND EQUIPMENT.
- CONTRACTOR SHALL COORDINATE FINAL LOCATIONS OF CURB STOPS WITH THE ENGINEER AND OWNER.



## LEGEND

EXISTING	
DESCRIPTION	LINETYPE
ACEC LINE	— ACEC —
BUILDINGS	— — —
CONTOURS - MAJOR	- 10 -
CONTOURS - MINOR	- 7 -
CURB	— — —
DRAINAGE UNDERGROUND	D
ELECTRIC OVERHEAD WIRES	— OHW —
ELECTRIC UNDERGROUND	E
EDGE OF PAVEMENT	— — —
FENCES	— — —
FLOOD ZONE	— FZ —
PROPERTY LINES	— — —
TOP OF STREAM BANK	— MHW —
STREAM BUFFER - 200'	— 200 —
VEGETATION	— — —
WATER SYSTEMS - UNDERGROUND	— W —
NO DISTURB ZONE - 25'	— 25 —
NO BUILD ZONE - 50'	— 50 —
WETLAND BUFFER - 100'	— 100 —
WETLAND LIMIT	— WL —

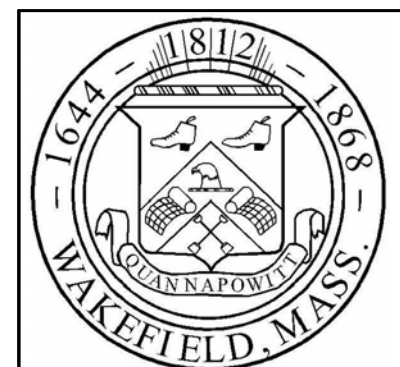
MARKER	
DESCRIPTION	MARKER
BORINGS	⊕
CATCH BASIN	⊕
DRAIN MANHOLE	⊕
GUY-WIRE UTILITY POLE	⊕
MAILBOX	⊕
UTILITY POLE	⊕
WETLAND FLAG	⊕

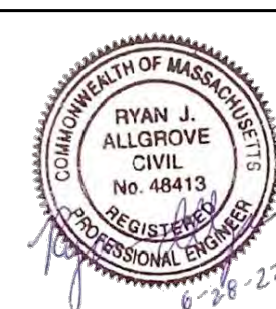
PROPOSED	
DESCRIPTION	LINETYPE
FILTER SOCK	— ● —
WATER SYSTEMS - SERVICES	— W —
WATER SYSTEMS - WATER MAIN	— W —

MARKER	
DESCRIPTION	MARKER
TEST PIT	□
HYDRANT	⊕
WATER GATE VALVE	⊕
WATER SHUTOFF	⊕
WATER LINE CAP	⊕
SOLID SLEEVE COUPLING	□
REDUCER	▶



**ENVIRONMENTAL PARTNERS**  
— An Apex Company —



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	JUNE 2022
Job No.	313-2101
Designed by	SLC
Drawn by	SLC
Checked by	
Approved by	RJA

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

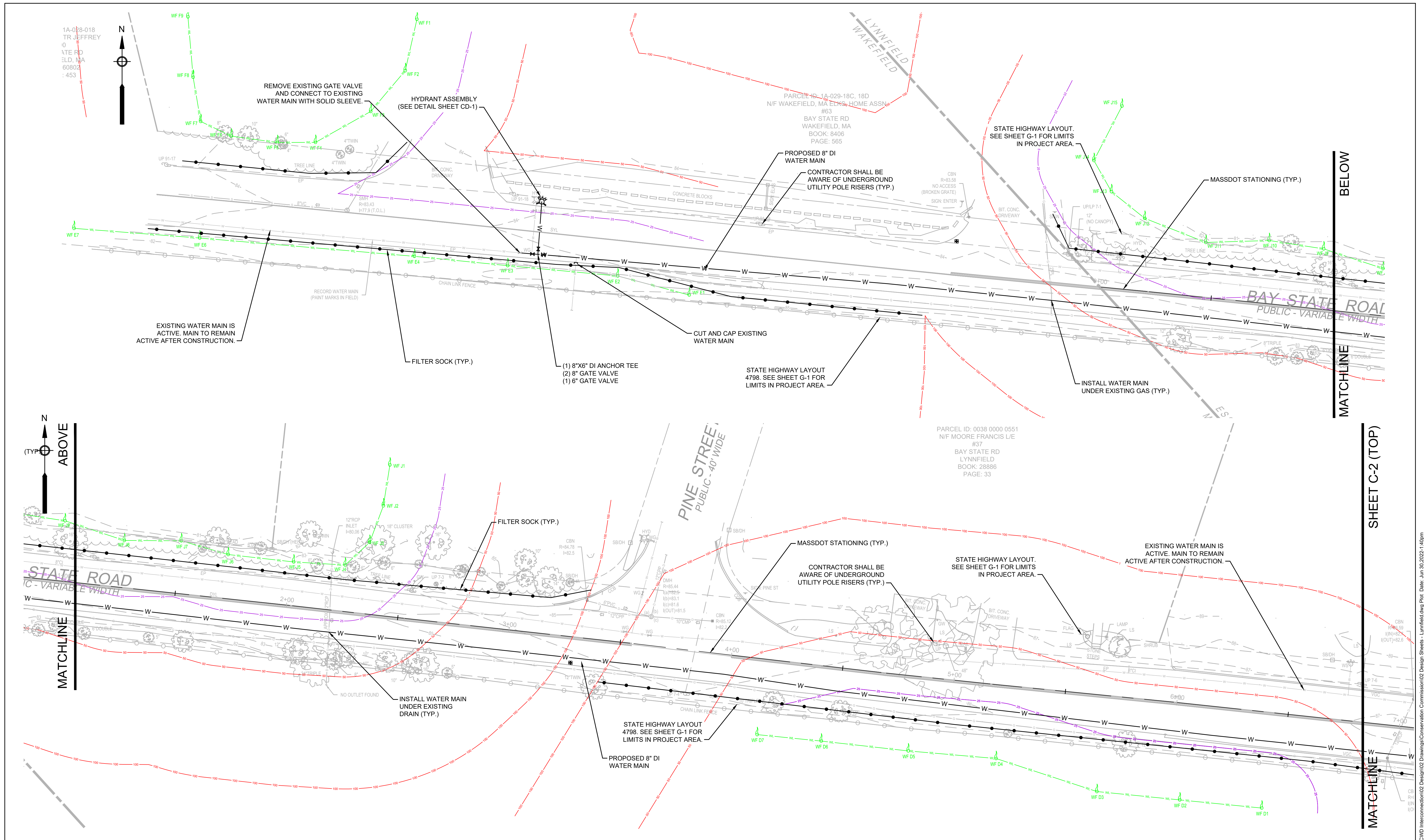
**BAY STATE ROAD WATER MAIN LOOP  
WAKEFIELD, MASSACHUSETTS**

GENERAL NOTES

FOR PERMITTING  
Sheet No.

**G-1**





**ENVIRONMENTAL PARTNERS**  
— An Apex Company —

COMMONWEALTH OF MASSACHUSETTS  
RYAN J. ALLGROVE  
CIVIL  
No. 48413  
REGISTERED PROFESSIONAL ENGINEER

MARK	DATE	DESCRIPTION

Scale	1" = 20'
Date	JUNE 2022
Job No.	313-2101
Designed by	SLC
Drawn by	SLC
Checked by	
Approved by	RJA

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

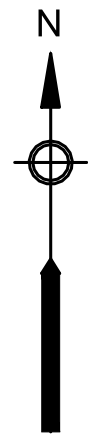
**BAY STATE ROAD WATER MAIN LOOP  
WAKEFIELD, MASSACHUSETTS**

**BAY STATE ROAD**

FOR PERMITTING  
Sheet No.  
**C-1**

Drawing file: I:\Wakefield\_31313-2101\_LCWD Interconnection02 Design02 Drawings\Conservation Commission02 Design02 Drawings\Wakefield.dwg Plot Date: Jun 30, 2022, 1:40pm





SHEET C-1 (BOTTOM)

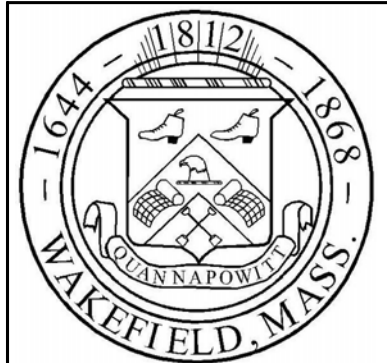
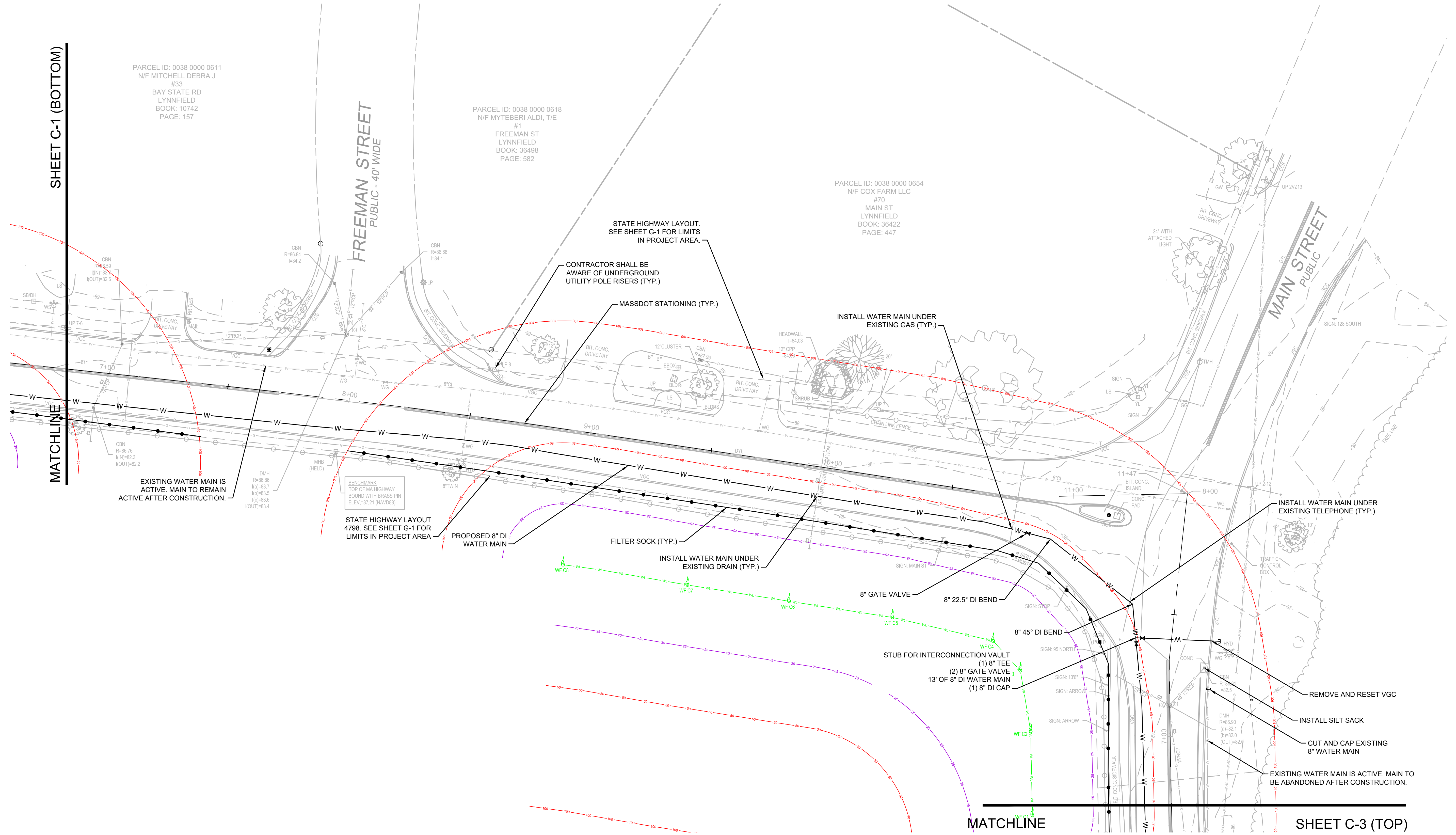
PARCEL ID: 0038 0000 0611  
N/F MITCHELL DEBRA J  
#33  
BAY STATE RD  
LYNNFIELD  
BOOK: 10742  
PAGE: 157

FREEMAN STREET  
PUBLIC - 40' WIDE

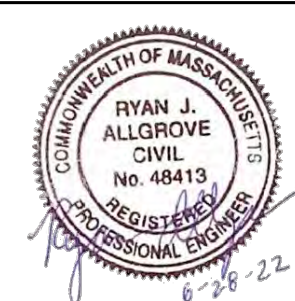
PARCEL ID: 0038 0000 0618  
N/F MYTEBERI ALDI, T/E  
#1  
FREEMAN ST  
LYNNFIELD  
BOOK: 36498  
PAGE: 582

PARCEL ID: 0038 0000 0654  
N/F COX FARM LLC  
#70  
MAIN ST  
LYNNFIELD  
BOOK: 36422  
PAGE: 447

MAIN STREET  
PUBLIC



**ENVIRONMENTAL PARTNERS**  
— An Apex Company —



MARK	DATE	DESCRIPTION

Scale	1" = 20'
Date	JUNE 2022
Job No.	313-2101
Designed by	SLC
Drawn by	SLC
Checked by	
Approved by	RJA

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

**BAY STATE ROAD WATER MAIN LOOP  
WAKEFIELD, MASSACHUSETTS**

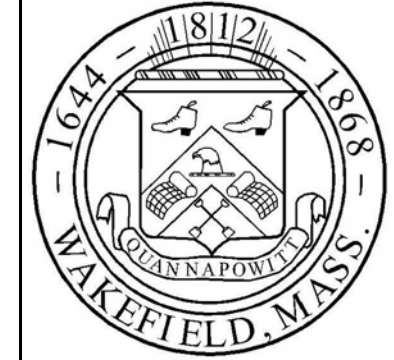
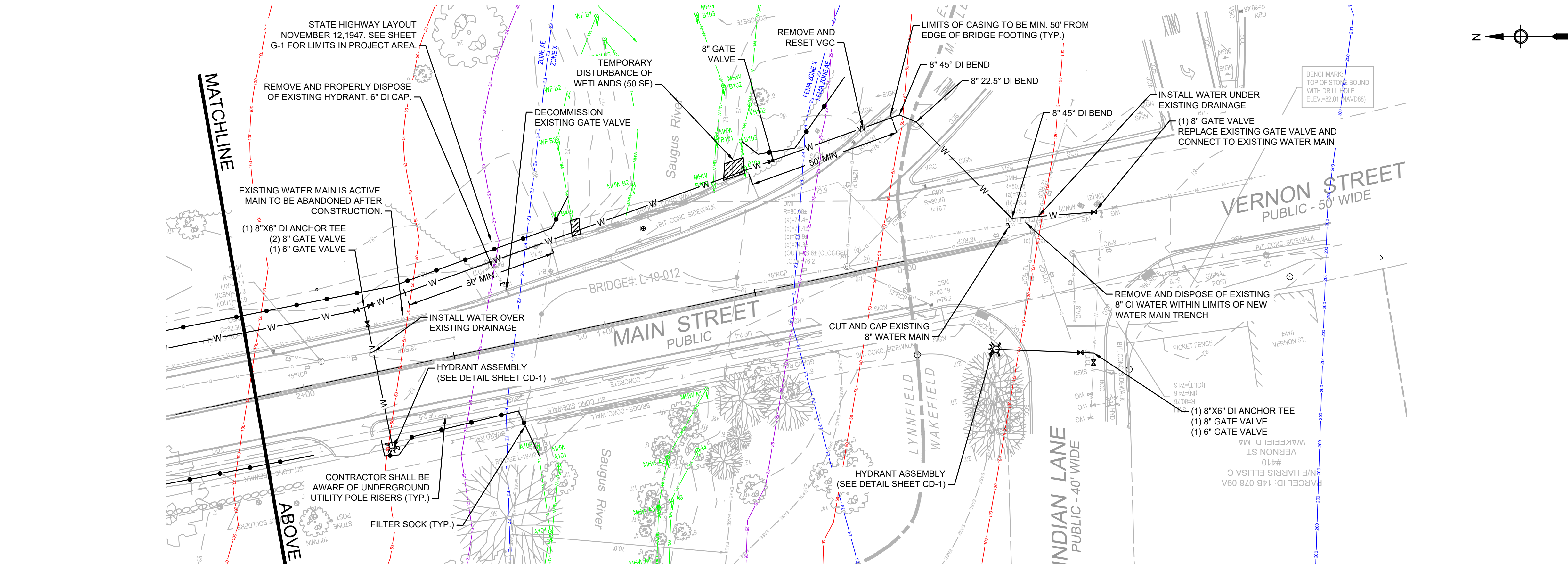
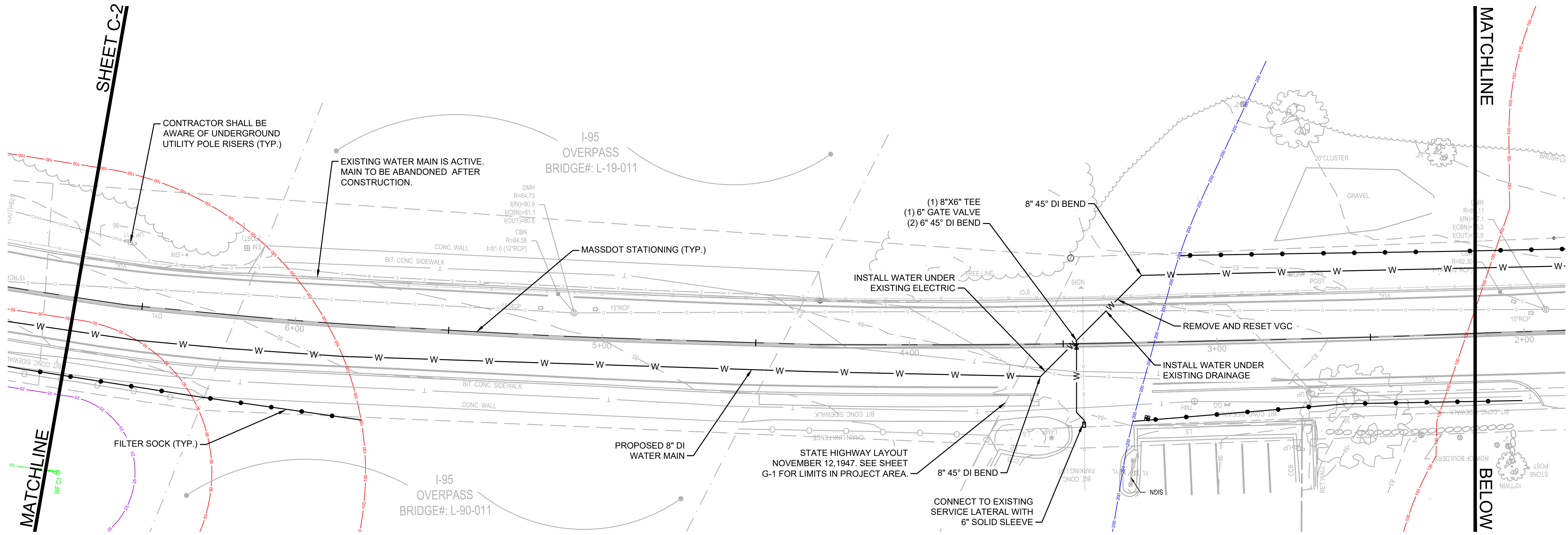
**BAY STATE ROAD AND MAIN STREET**

FOR PERMITTING  
Sheet No.

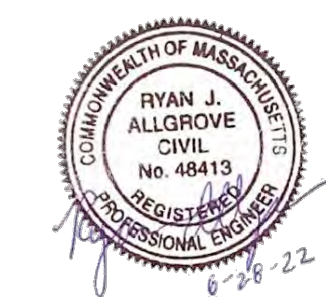
**C-2**

Drawing file: I:\Wakefield\_31\313-2101\_LCWD Interconnection\02\_Design\02 Drawings\Conservation Commission\02 Design Sheets - Lynnfield.dwg Plot Date: Jun 30, 2022, 1:40pm





**ENVIRONMENTAL PARTNERS**  
— An Apex Company —



MARK	DATE	DESCRIPTION

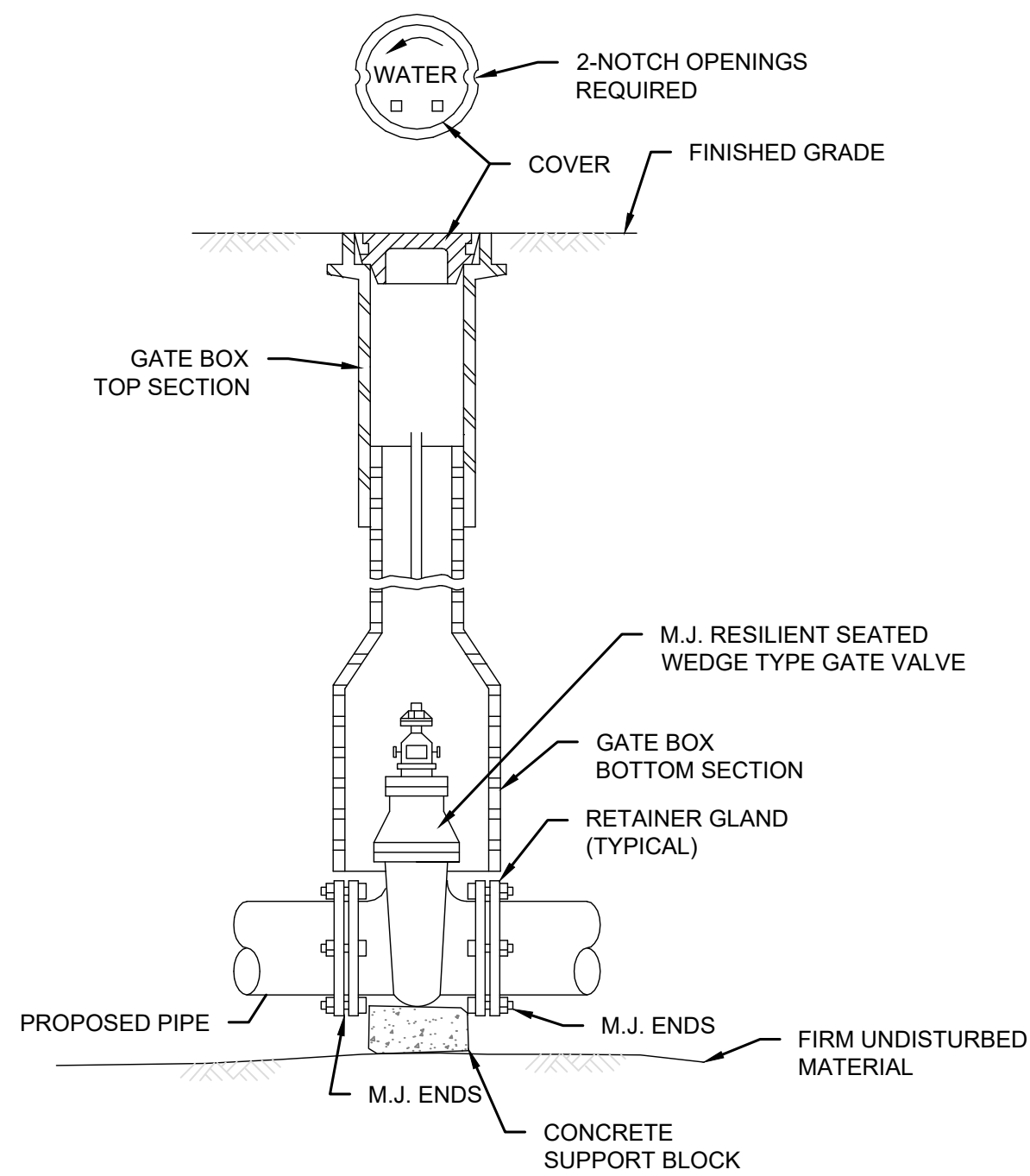
Scale	1" = 20'
Date	JUNE 2022
Job No.	313-2101
Designed by	SLC
Drawn by	SLC
Checked by	
Approved by	RJA

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

**BAY STATE ROAD WATER MAIN LOOP  
WAKEFIELD, MASSACHUSETTS**  
  
**MAIN STREET**

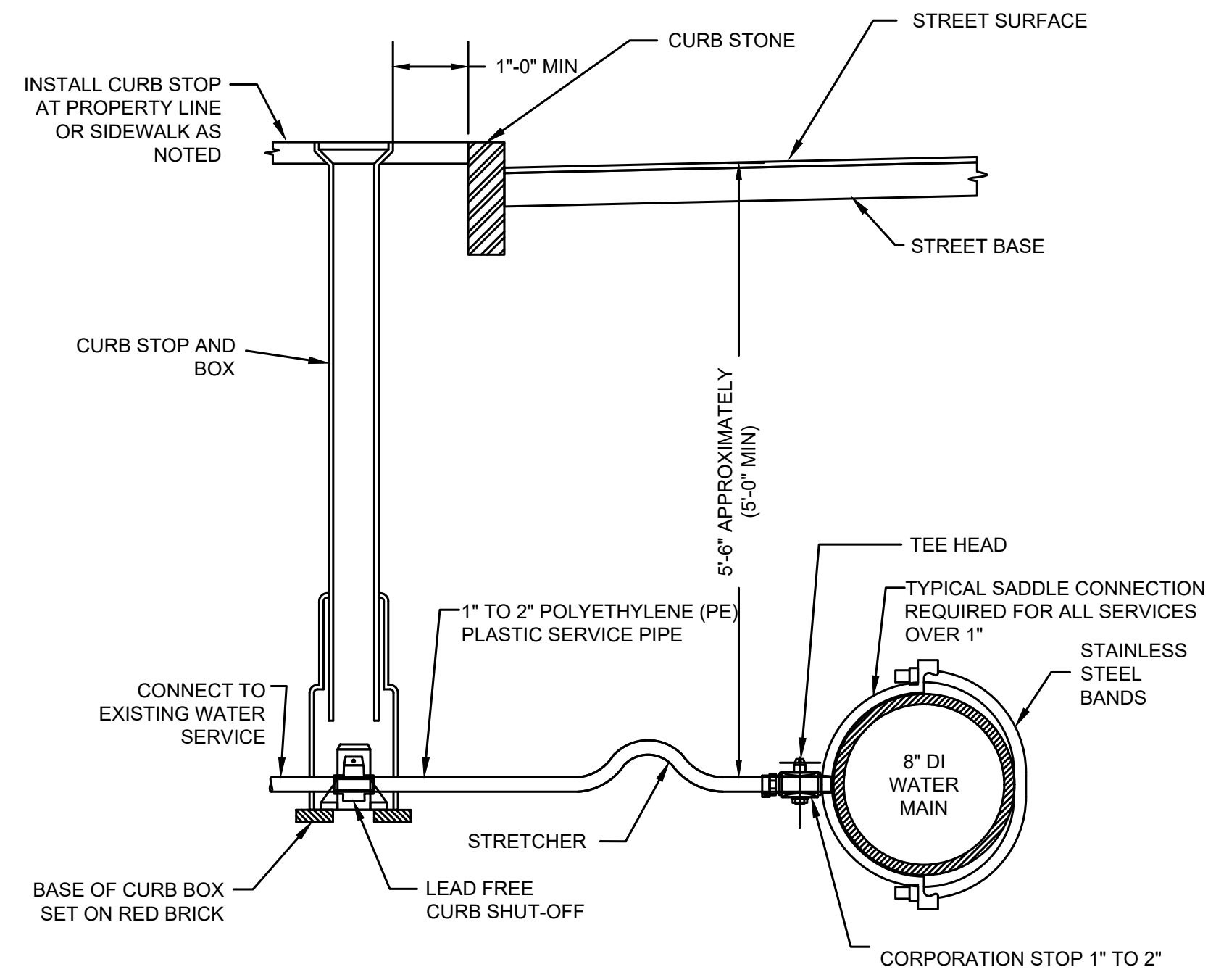
FOR PERMITTING  
Sheet No.  
**C-3**



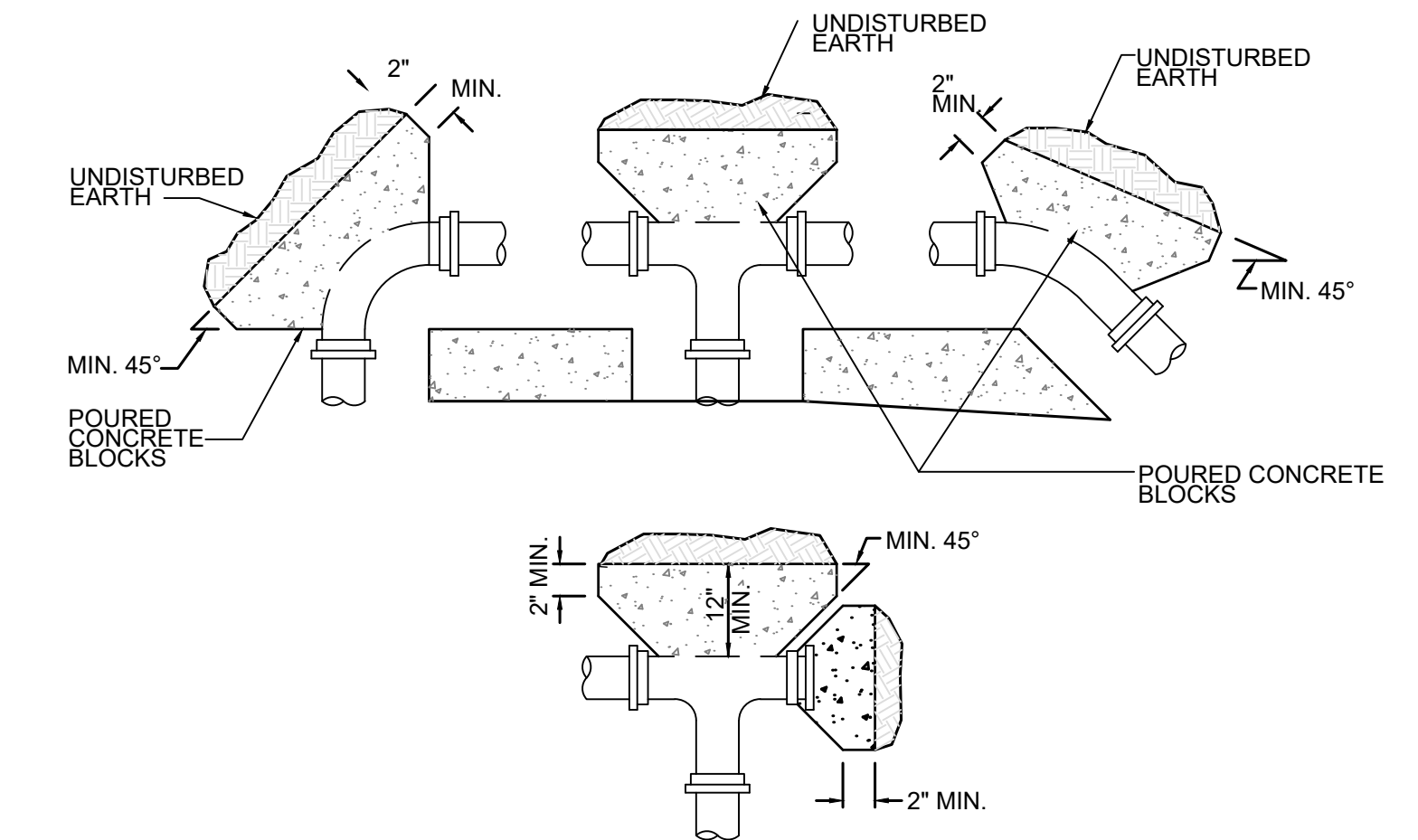


- NOTES:**
1. ALL EXCAVATION, BACKFILLING AND PAVING SHALL BE IN ACCORDANCE WITH THE TOWN OF WAKEFIELD REQUIREMENTS.
  2. WATER GATE COVER SHALL HAVE A MINIMUM HEIGHT OF 3.5 INCHES AND A MINIMUM WEIGHT OF 13 POUNDS, BRAND NAME BIBBY-STE-CROIX OR EQUAL.
  3. VALVES SHALL HAVE A 2-INCH SQUARE OPERATING NUT, AND BE OPEN LEFT (COUNTER-CLOCKWISE TO OPEN)

**GATE VALVE AND VALVE BOX DETAIL**  
SCALE: N.T.S.

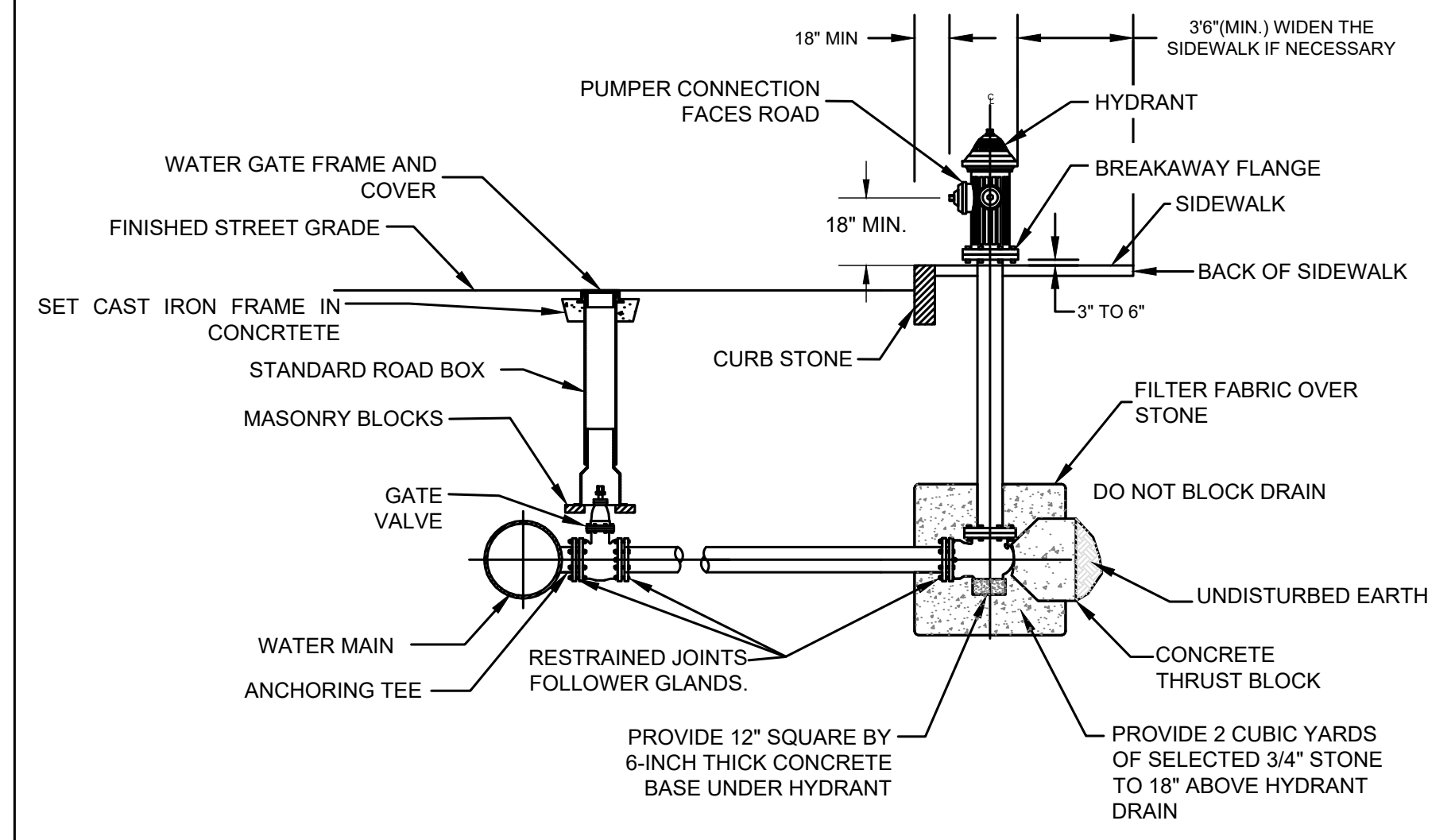


**TYPICAL 1" TO 2" WATER SERVICE CONNECTION**  
SCALE: N.T.S.

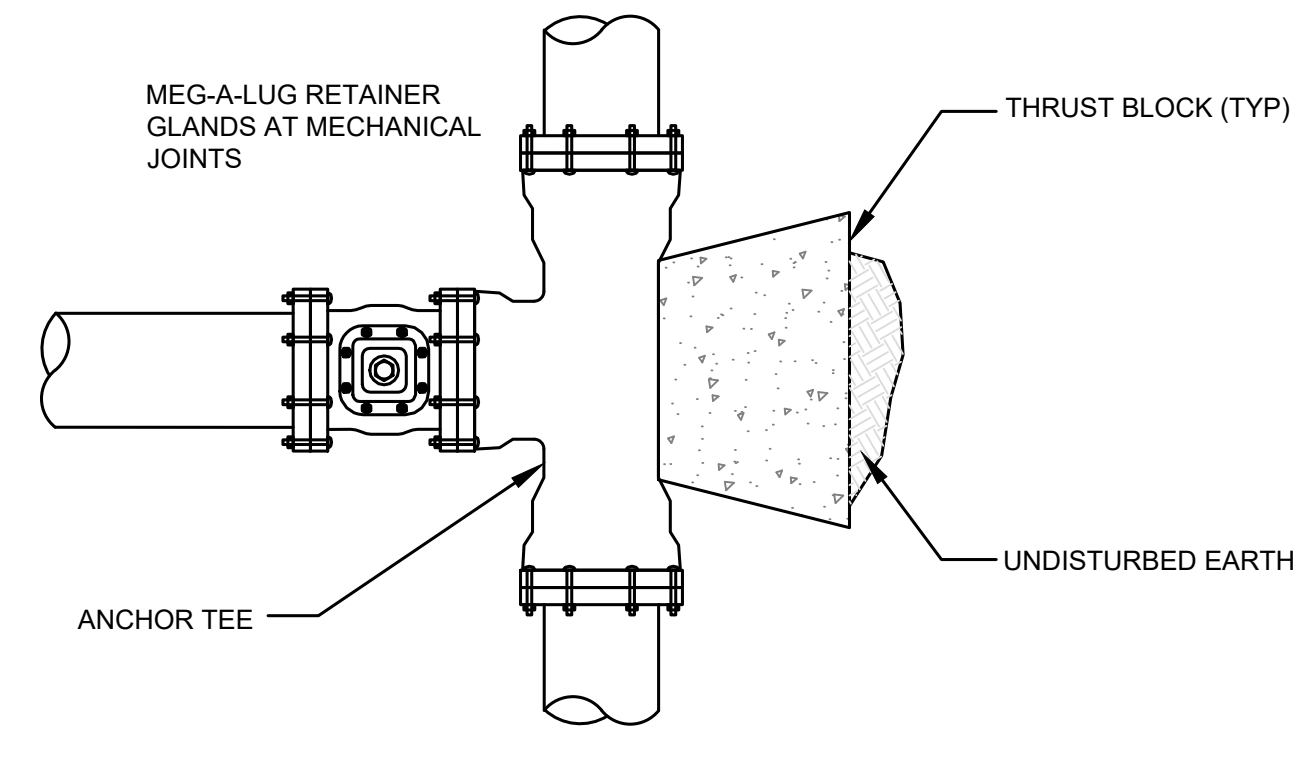


- NOTES:**
1. SPECIFIC THRUST BLOCK DESIGN SHALL CONFORM TO AWWA GUIDELINES.
  2. PLACE 4 mil. POLYETHYLENE BETWEEN CONCRETE AND FITTING (CONCRETE SHALL NOT INTERFERE WITH JOINT).
  3. MINIMUM CONCRETE THICKNESS SHALL BE 12 INCHES.
  4. THRUST BLOCK ORIENTATION SHALL BE SUCH THAT THE CENTER OF THE FITTING CORRESPONDS WITH THE CENTER OF THE THRUST BLOCK.
  5. THE MINIMUM ALLOWABLE ANGLE (EITHER VERTICAL OR HORIZONTAL) SHALL BE 45 DEGREES.

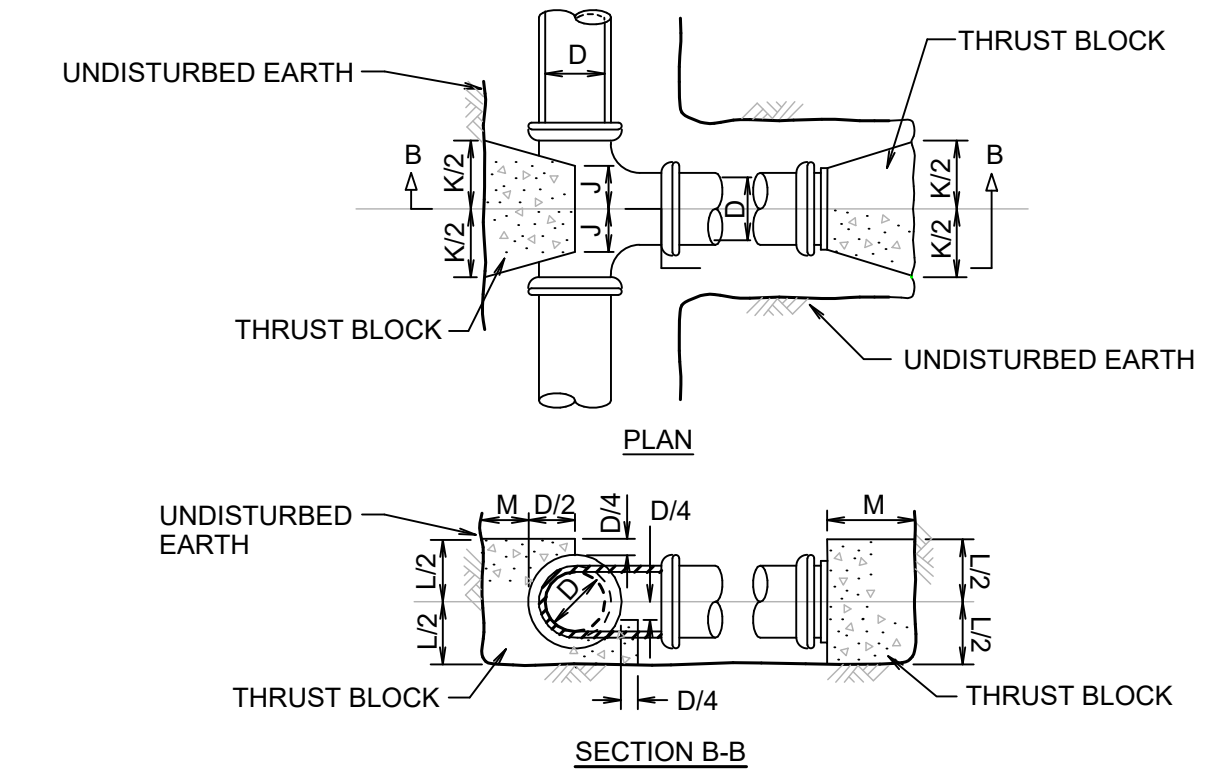
**CONCRETE THRUST BLOCK DETAIL AT BEND**  
SCALE: N.T.S.



**FIRE HYDRANT INSTALLATION**  
SCALE: N.T.S.



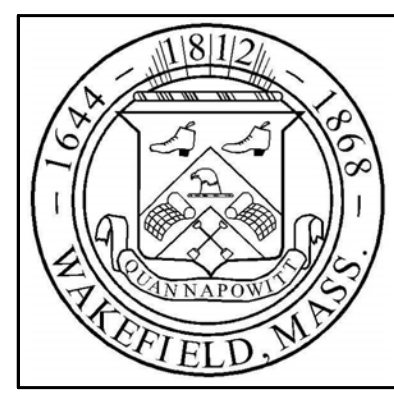
**TYPICAL ANCHOR TEE INSTALLATION**  
SCALE: N.T.S.



- NOTES:**
1. ALL CONCRETE SHALL BE 3000 PSI @ 28 DAYS (CLASS 'A' CONCRETE).
  2. DIMENSIONS SHOWN ARE MINIMUM AND ARE BASED UPON SOIL PRESSURE OF 1500 PSF AND TOTAL PRESSURE OF 250 PSI. TOTAL PRESSURE IS WORKING PRESSURE PLUS SURGE PRESSURE.
  3. THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.

TABLE OF DIMENSIONS									
D (in)	4	6	8	10	12	14	16		
J (in)	6	6	7	9	10	12	22		
K (in)	16	16	20	26	32	36	64		
L (in)	16	16	21	24	29	34	61		
M (in)	11	11	14	16	19	22	39		

**CONCRETE THRUST BLOCK DETAIL AT TEE/PLUG**  
SCALE: N.T.S.



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	JUNE 2022
Job No.	313-2101
Designed by	SLC
Drawn by	SLC
Checked by	
Approved by	RJA

THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

**BAY STATE ROAD WATER MAIN LOOP  
WAKEFIELD, MASSACHUSETTS**

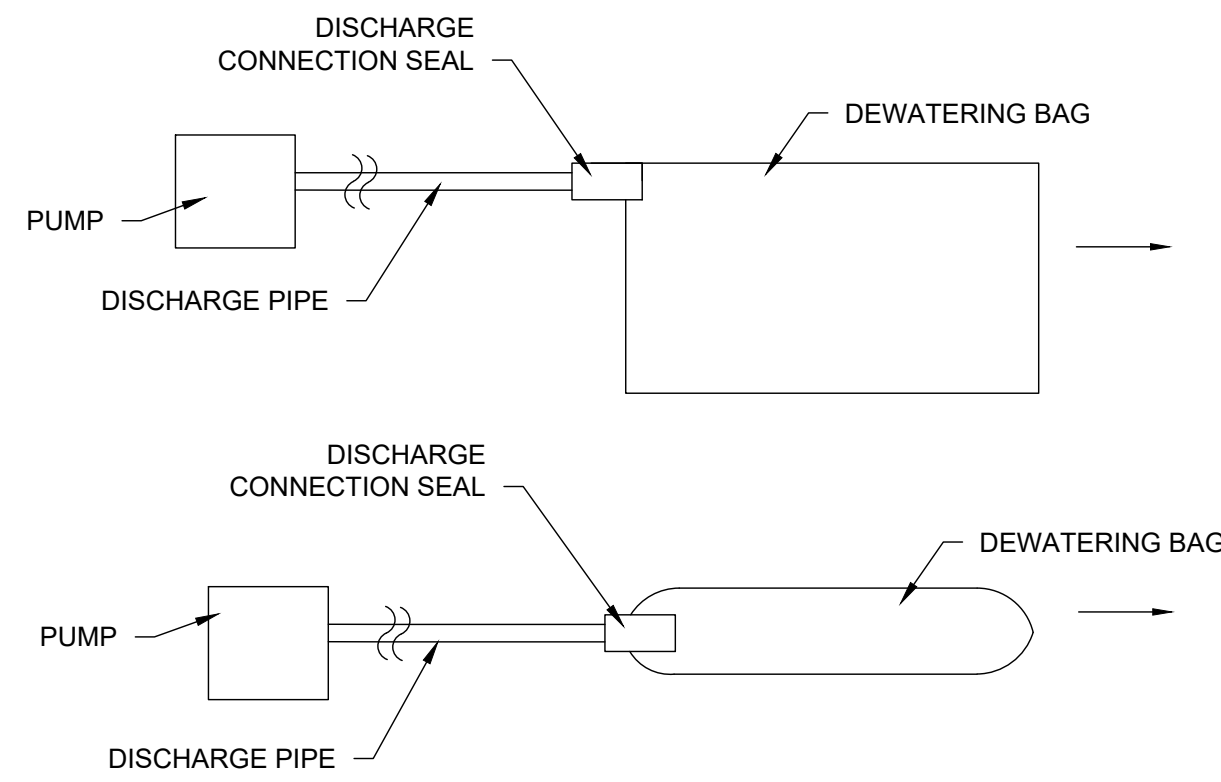
**WATER DETAILS**

FOR PERMITTING  
Sheet No.

**CD-1**

Drawing file: I:\Wakefield\_31313-2101\_CWID Interconnection\02\_Design\02\_Drawings\Conservation Commission\04\_Civil Details.dwg Plot Date: Jun 30, 2022 - 14:0pm



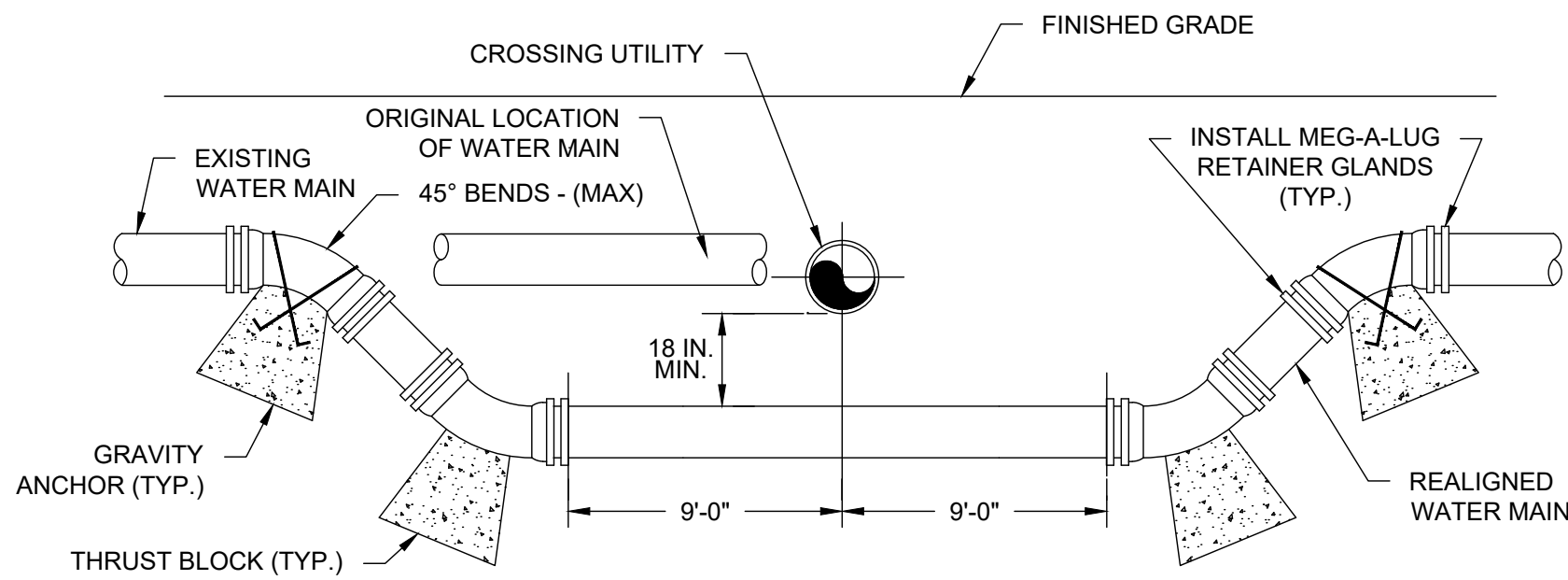


**NOTES:**

1. DEWATERING BAG SIZE AND QUANTITY SHALL BE AS NEEDED TO ADEQUATELY FILTER ALL PUMP EFFLUENT FROM DEWATERING ACTIVITIES. CONTRACTOR SHALL PROVIDE A REDUNDANT BAG ON SITE AT ALL TIMES.
2. EACH BAG SHALL HANDLE A 2", 3", OR 4" DISCHARGE HOSE.
3. DISCHARGE HOSES CAN BE PLACED ALONG ANY EDGE BY MAKING A SMALL INCISION INTO THE FABRIC, INSERTING THE HOSE, AND THEN CLAMPING THE FABRIC TO THE HOSE VIA WIRE, TIES, CLAMP, ROPE OR SIMILAR TO CREATE A GOOD SEAL.
4. CONTRACTOR SHALL AVOID DISCHARGING MULTIPLE PIPES INTO ONE BAG.

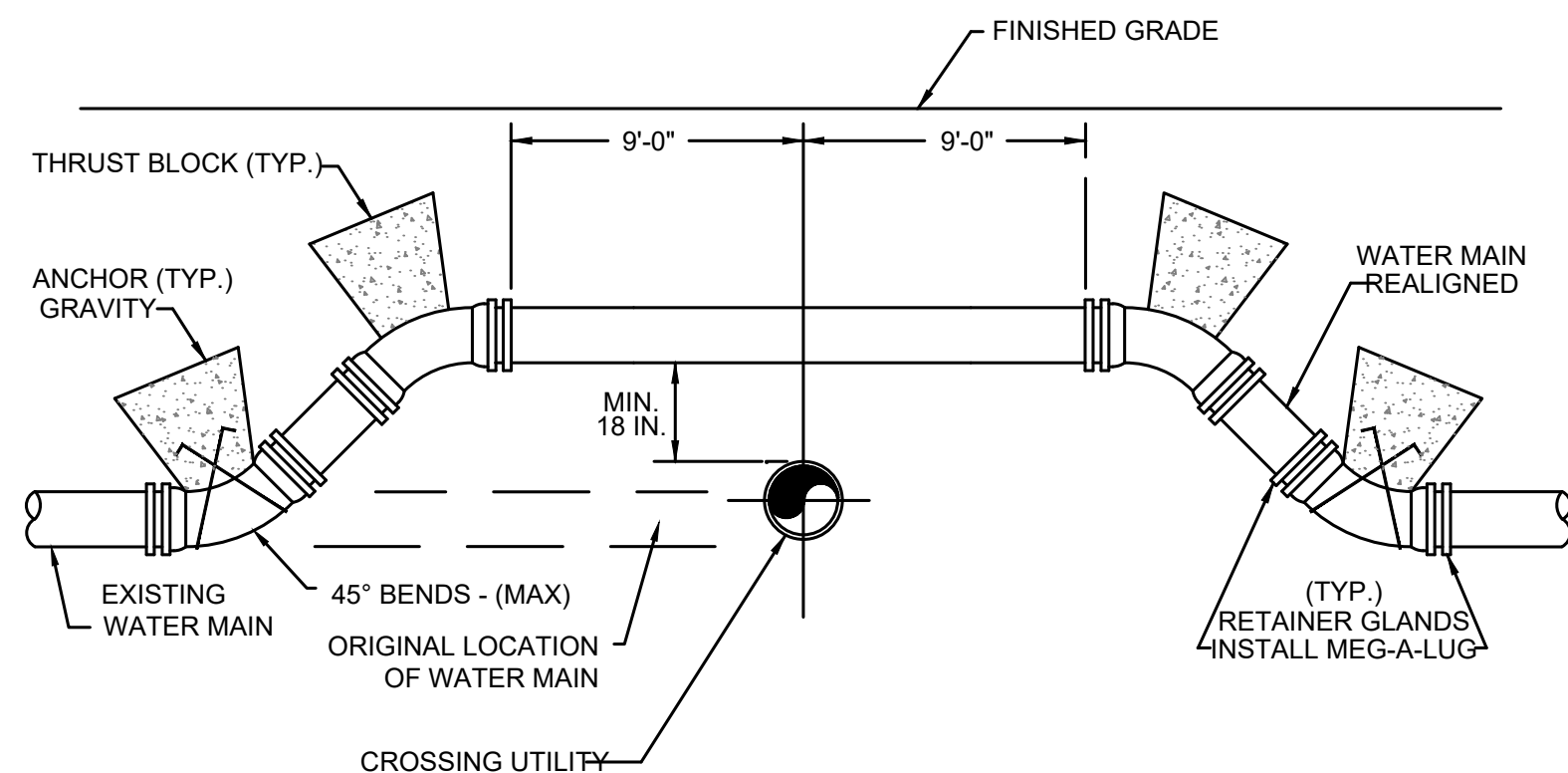
**DEWATERING BAGS**

SCALE: N.T.S.



**WATER MAIN LOWERING DETAIL**

SCALE: N.T.S.

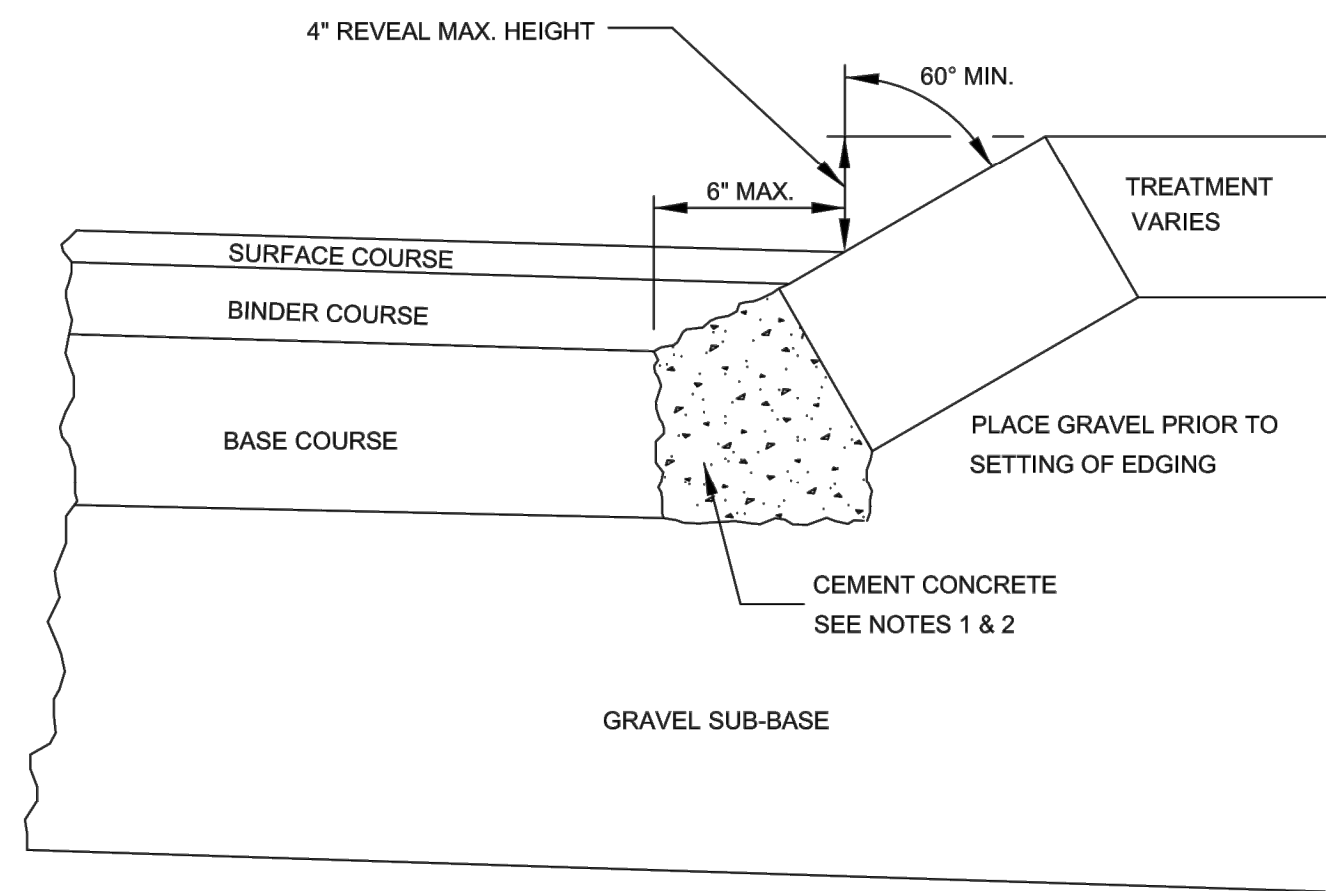


**NOTES:**

1. ALL FITTINGS AND JOINTS IN LOWERING AREA TO BE RESTRAINED.
2. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL OR VERTICAL SEPARATION AS INDICATED IN THE DETAIL ABOVE, BOTH THE WATER AND THE SEWER SHOULD BE ENCASED IN REINFORCED CONCRETE FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CROSSING.
3. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE ENCASEMENT WHEN CONTACTING CONTROL DENSITY FILL.

**WATER MAIN RAISING DETAIL**

SCALE: N.T.S.



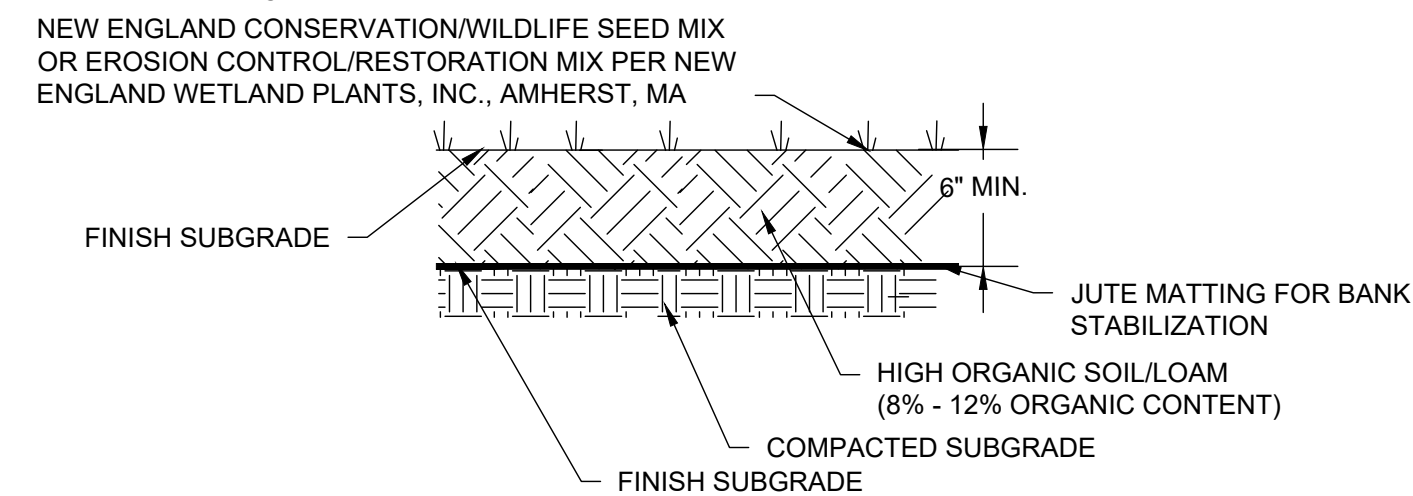
**SLOPED EDGING**

**NOTES:**

1. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE TO THE DEPARTMENT UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS; ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT TO BE USED AS A SUBSTITUTE.
2. THE REVEAL IS TO BE A MAXIMUM OF 4" UNDER ALL CONDITIONS. THE ANGLE IS TO BE A MINIMUM OF 60° FROM VERTICAL UNDER ALL CONDITIONS.

**METHODS OF SETTING SLOPED EDGING**

SCALE: N.T.S.

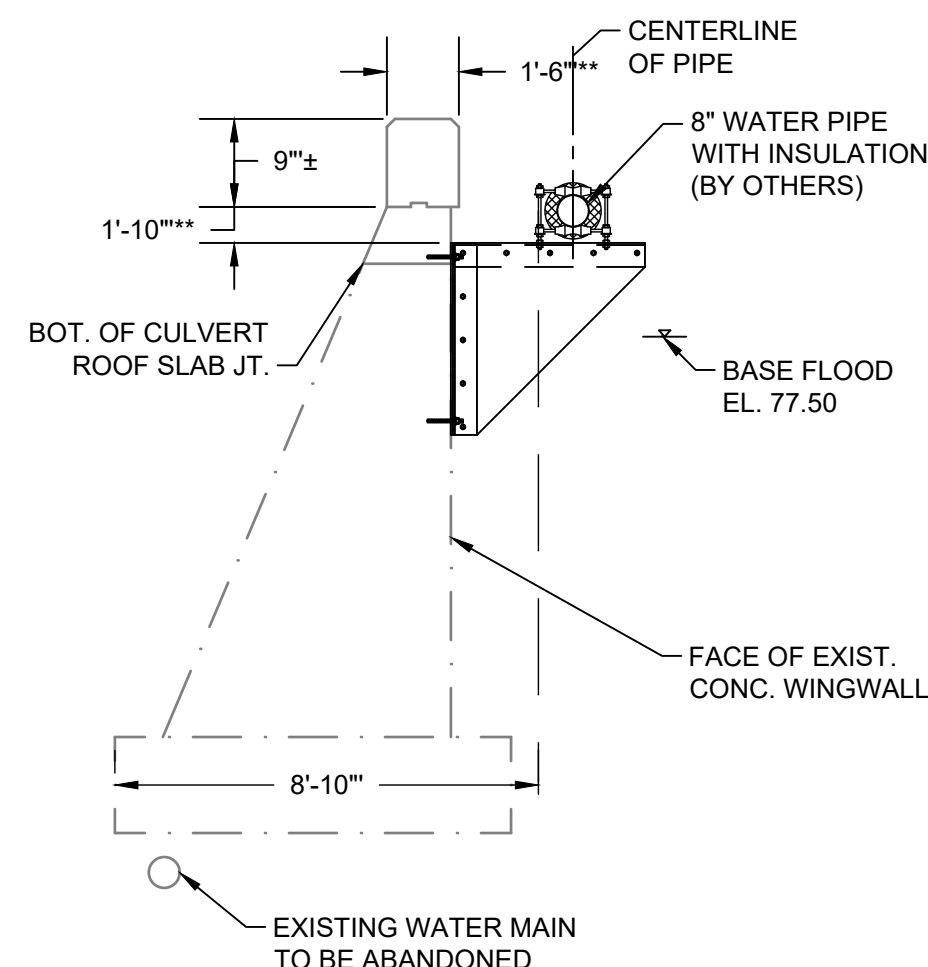


**NOTES:**

1. THE RESTORATION AREA SHALL BE EXCAVATED TO THE ELEVATION OF THE EXISTING WETLAND.
2. THE WETLAND RESTORATION AREA SHALL BE MONITORED FOR AT LEAST ONE GROWING SEASON TO EVALUATE GROWTH PROGRESS AND SUCCESS.

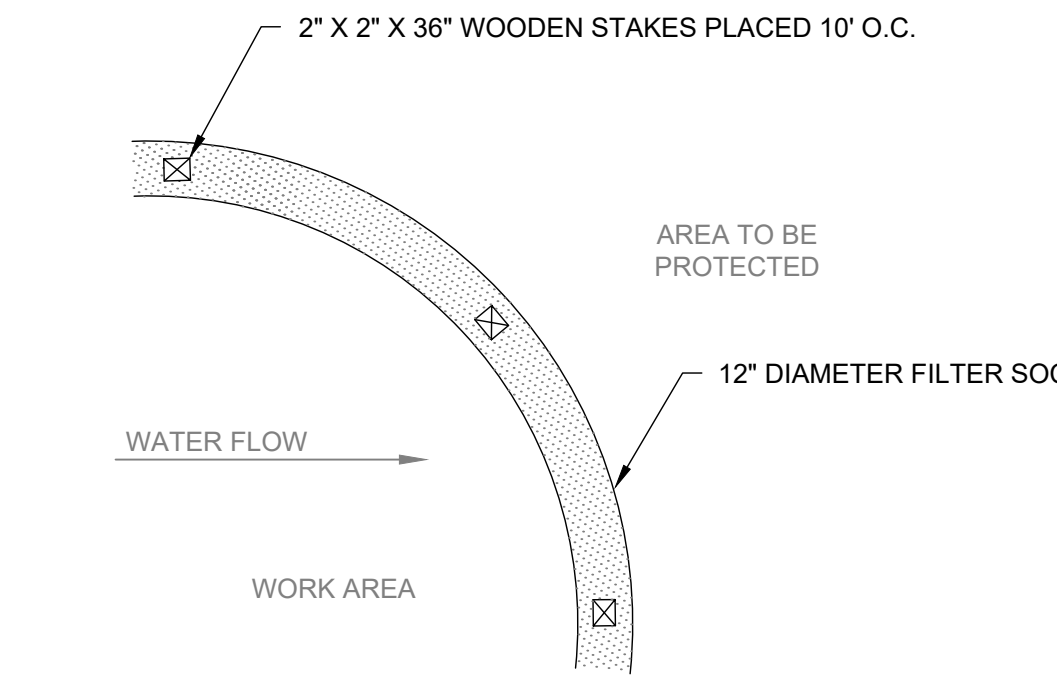
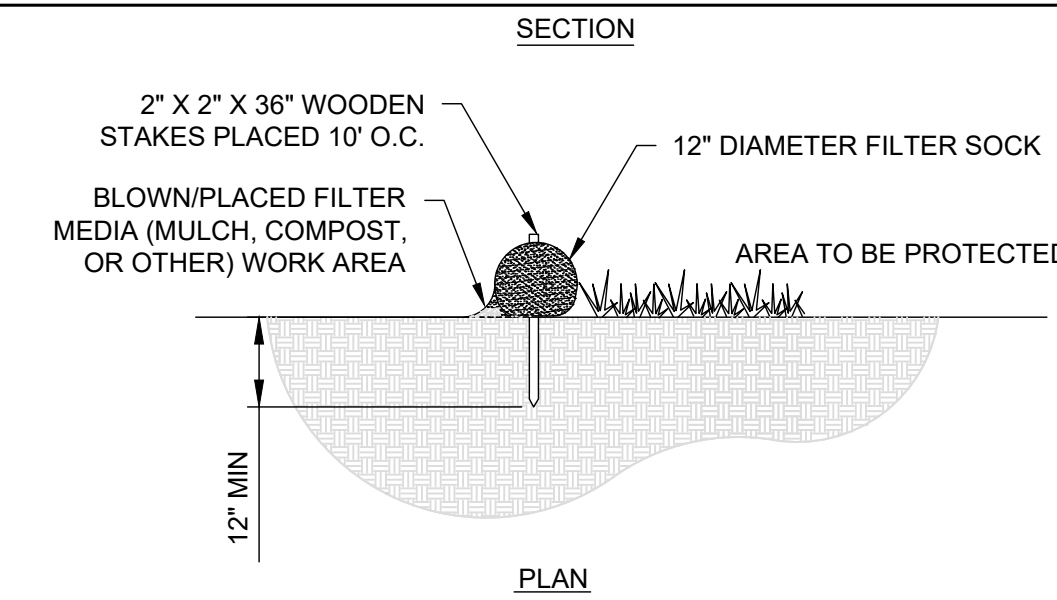
**WETLAND RESTORATION DETAIL**

SCALE: N.T.S.



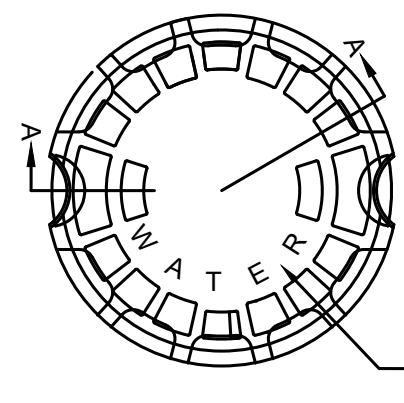
**SECTION A**

SCALE: 1/2"=1'



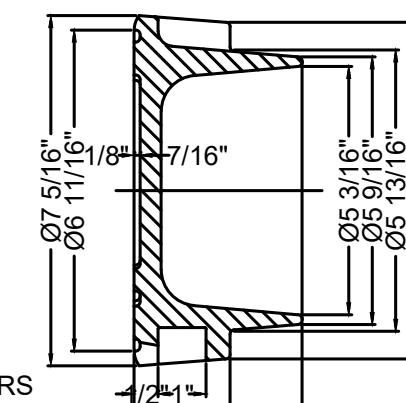
**12" DIAMETER FILTER SOCK (AS REQUIRED)**

SCALE: N.T.S.



**GATE COVER**

NOTE: COVER READS: "WATER" IN 1/4" LETTERS



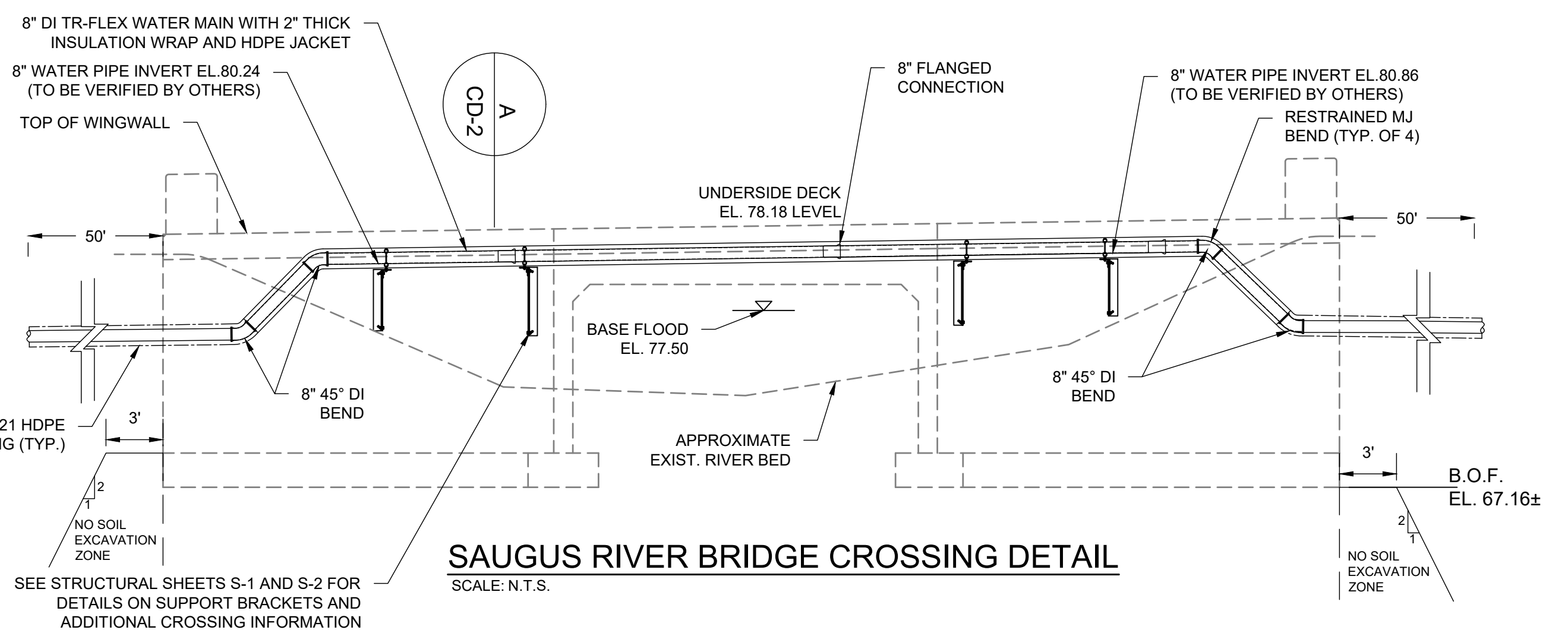
**SECTION A-A**

**NOTES:**

1. WATER GATE COVER SHALL HAVE A MINIMUM HEIGHT OF 3.5 INCHES AND MINIMUM WEIGHT OF 13 POUNDS, BRAND NAME BIBBY-STE-CROIX OR EQUAL.

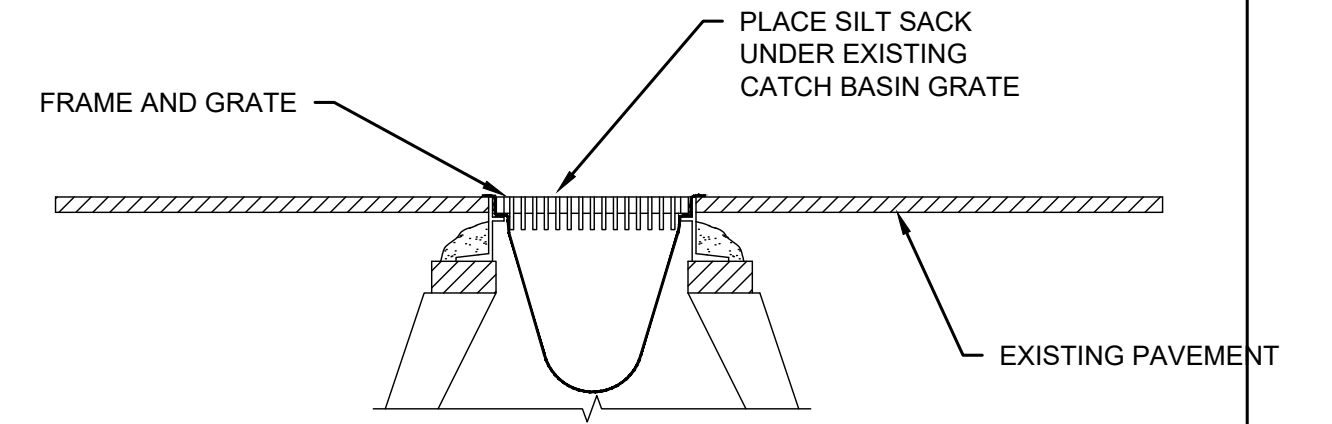
**WATER GATE COVER**

SCALE: N.T.S.



**SAUGUS RIVER BRIDGE CROSSING DETAIL**

SCALE: N.T.S.

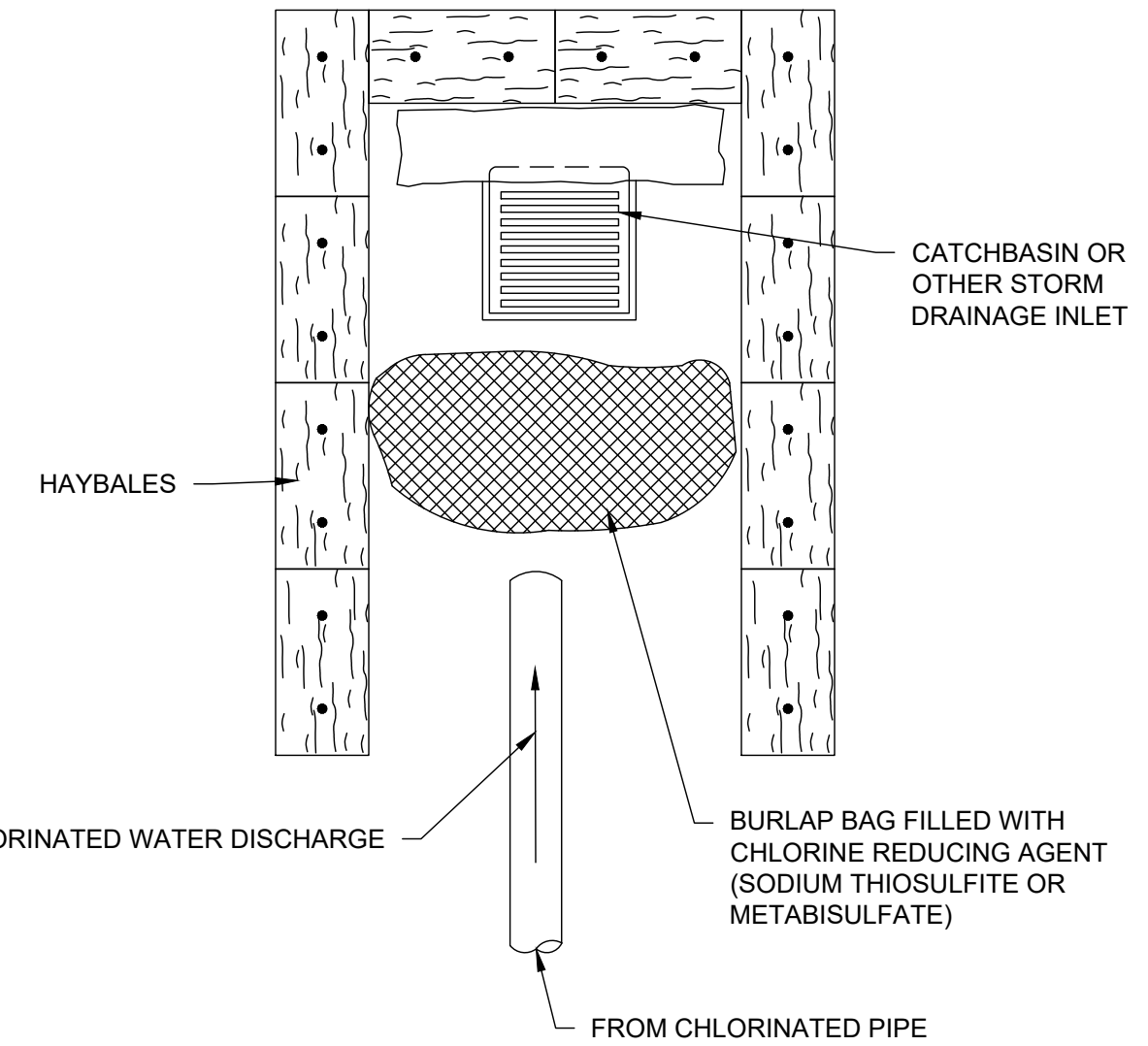


**NOTES:**

1. SILT SACKS SHALL BE INSPECTED WEEKLY AND ACCUMULATED SILT REMOVED TO ALLOW CATCH BASIN TO FUNCTION PROPERLY.
2. HIGH CAPACITY SILT SACK AS MANUFACTURED BY ACF ENVIRONMENTAL OR APPROVED EQUAL.

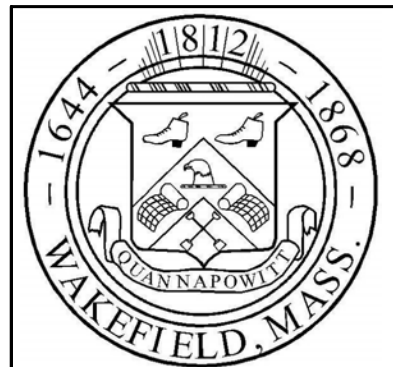
**SEDIMENTATION CONTROL AT CATCH BASINS SILT SACKS**

SCALE: N.T.S.

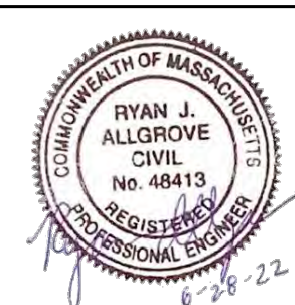


**DECHLORINATION DETAIL**

SCALE: N.T.S.



**ENVIRONMENTAL PARTNERS**  
— An Apex Company —



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	JUNE 2022
Job No.	313-2101
Designed by	SLC
Drawn by	SLC
Checked by	
Approved by	RJA

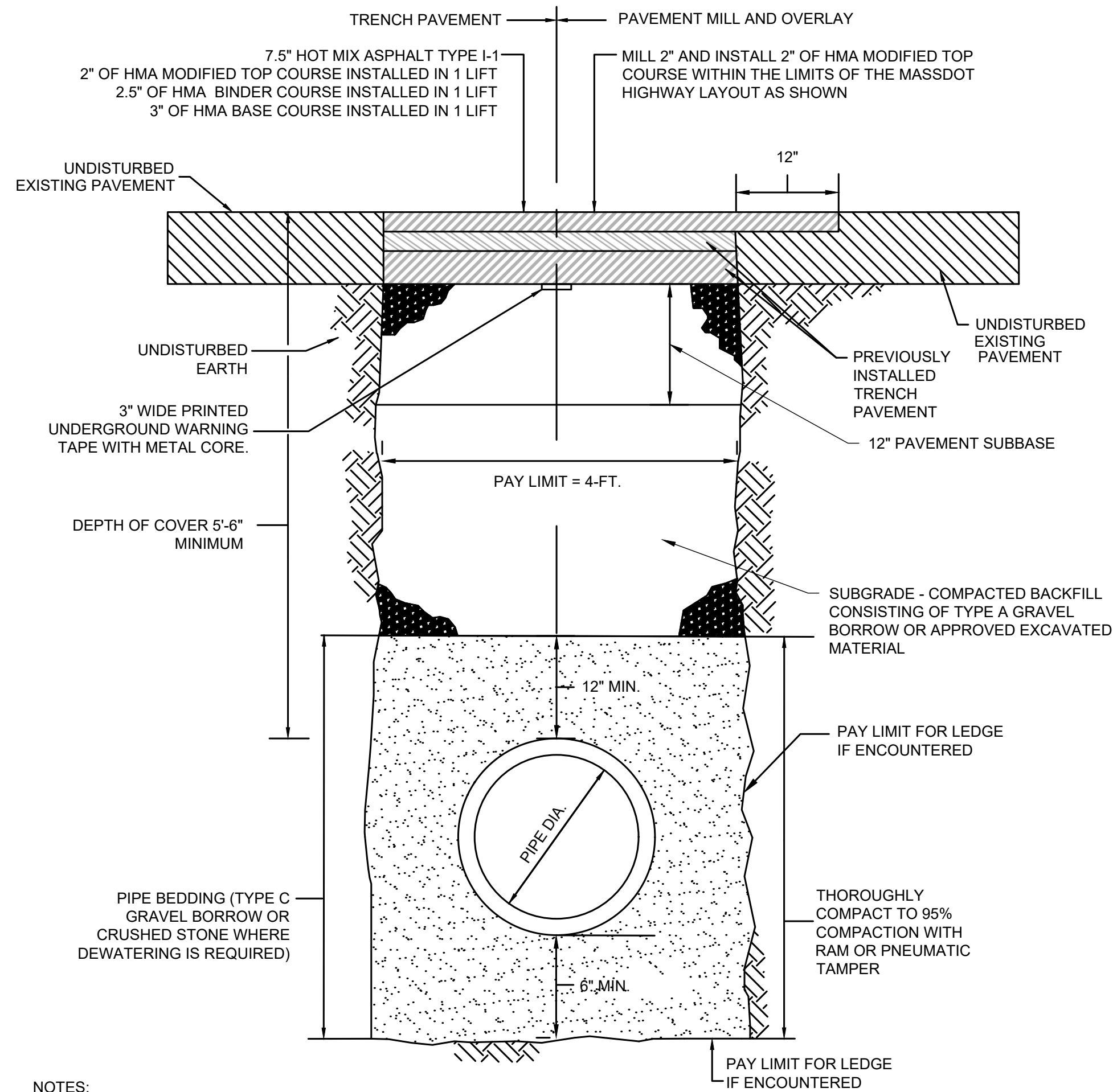
THIS LINE IS ONE INCH LONG WHEN PLOTTED AT FULL SCALE ON A 22" X 34" DRAWING

**BAY STATE ROAD WATER MAIN LOOP WAKEFIELD, MASSACHUSETTS**  
**WATER AND ENVIRONMENTAL CONTROL DETAILS**

FOR PERMITTING  
Sheet No.

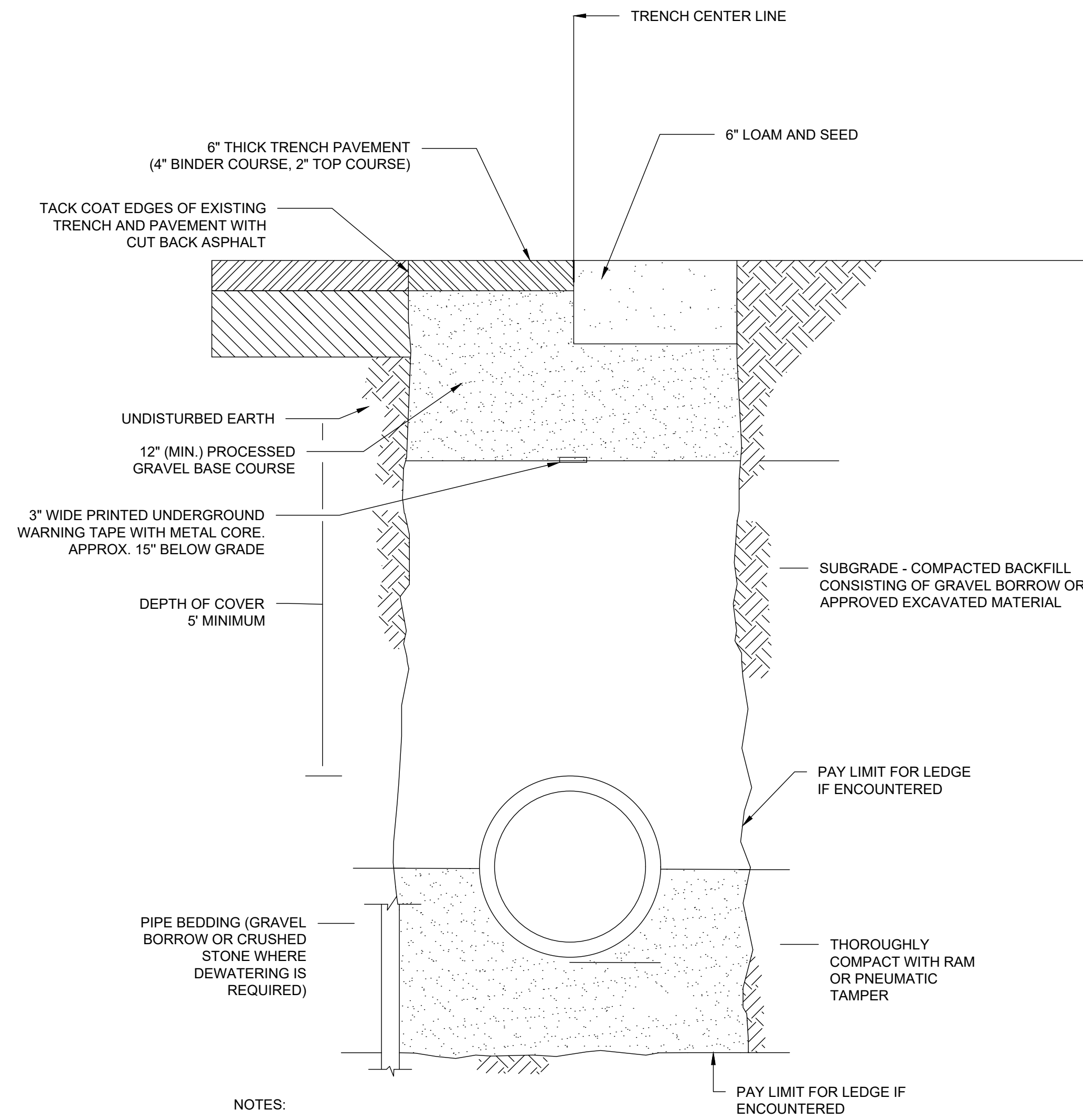
**CD-2**





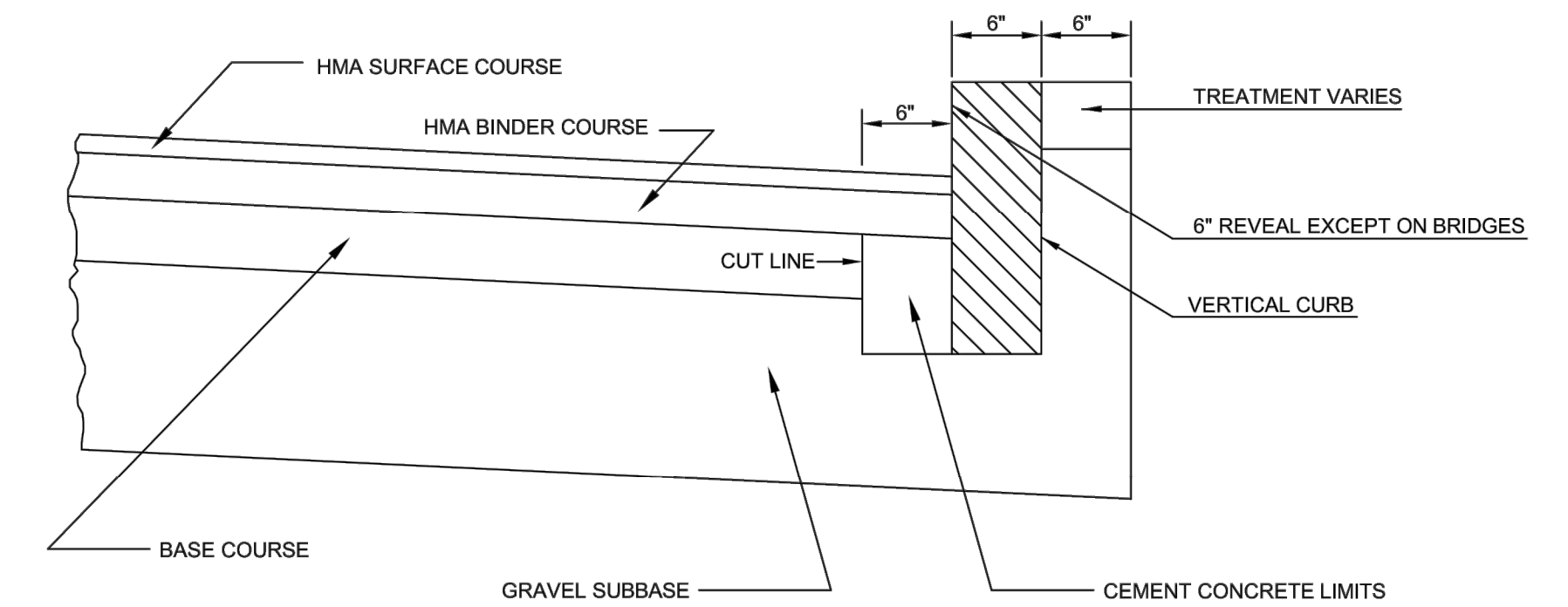
- NOTES:**
1. ALL WORK SHALL BE DONE IN STRICT CONFORMANCE WITH MASSDOT, HIGHWAY DIVISION PERMIT REQUIREMENTS. SEE PROJECT APPENDICES.
  2. EXISTING PAVEMENT SHALL BE SAW CUT TO 4-FT. TRENCH WIDTH AS SHOWN ABOVE.
  3. THE CONTRACTOR SHALL THEN EXCAVATE AND INSTALL THE WATER MAIN OR DRAIN.
  4. THE CONTRACTOR SHALL THEN BACK FILL THE TRENCH WITH A MINIMUM OF 19" OF DENSE GRADED CRUSHED STONE SUB-BASE AND COMPACT DAILY.
  5. THE CONTRACTOR SHALL INSTALL A MINIMUM 3" DEPTH HMA ASPHALT TEMPORARY PATCH DAILY.
  6. PERMANENT TRENCH PAVEMENT: THE TRENCH SHALL BE EXCAVATED TO A DEPTH OF 7.5". REMOVE AND LEGALLY DISPOSE OF MATERIAL. THE PAVEMENT SHALL BE MACHINE PLACED IN 3 COURSES CONSISTING OF 3" OF HMA BASE COURSE, 2.5" OF HMA BINDER COURSE INSTALLED, AND 2" OF HMA MODIFIED TOP COURSE AS SHOWN ABOVE.
  7. ALL VERTICAL EDGES OF EXISTING PAVEMENT SHALL BE PAINTED WITH A LIGHT COAT OF RS-1 ASPHALT EMULSION.
  8. PAVEMENT MILL AND OVERLAY: MILL TO A DEPTH OF 2" AND OVERLAY WITH 2" OF HMA MODIFIED TOP COURSE AS SHOWN ABOVE TO 1 FT BEYOND TRENCH LIMITS.

**TYPICAL TRENCH DETAIL  
WITHIN MASS HIGHWAY LAYOUT**  
SCALE: N.T.S.



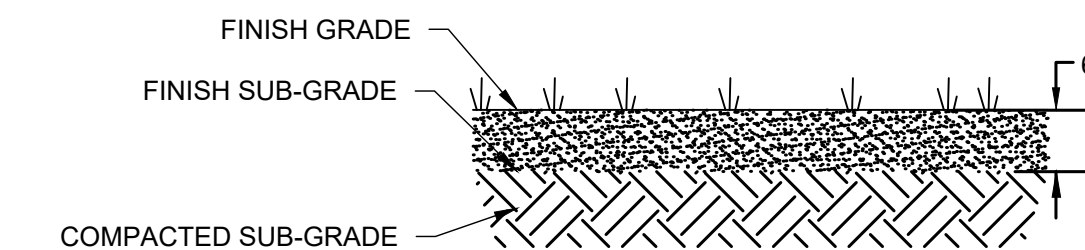
- NOTES:**
1. PAVEMENT INSTALLED BEYOND PAYMENT LINE MUST BE PRE-APPROVED BY THE ENGINEER.
  2. THE FINISHED SURFACE OF THE MIXTURE, AFTER COMPACTION, SHALL BE TRUE TO THE ESTABLISHED LINE AND GRADE OF THE EXISTING PAVEMENT.
  3. TRENCH PAVEMENT SHALL BE MACHINE LAID UTILIZING A SIDEWALK BOX SPREADER OR EQUAL; NO HAND WORK IS ALLOWED.

**TYPICAL TRENCH DETAIL**  
SCALE: N.T.S.



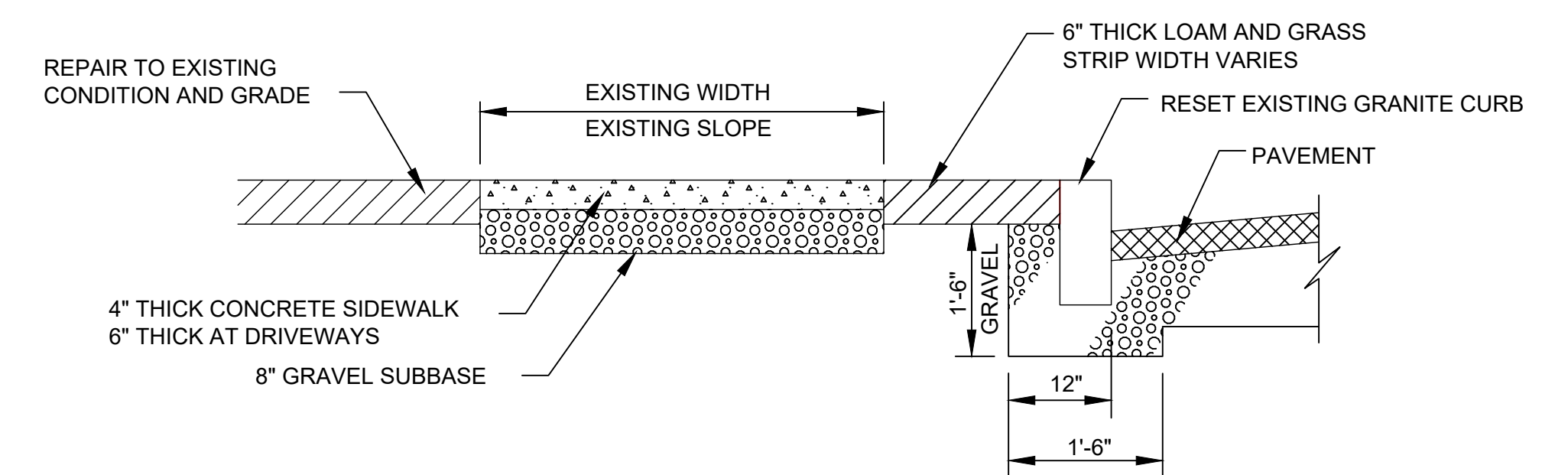
- NOTES:**
1. THIS PROCEDURE IS APPLICABLE ONLY IF CURB IS TO BE SET AFTER BASE COURSE IS IN PLACE PRIOR TO BINDER AND TOP PLACEMENT.
  2. CUT NEAT LINE 6" FROM CURB LINE AND REMOVE BASE AND GRAVEL. REPLACE WITH CEMENT CONCRETE.
  3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED; ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT TO BE USED AS A SUBSTITUTE.

**MASSDOT METHOD OF SETTING  
VERTICAL CURB**  
SCALE: N.T.S.

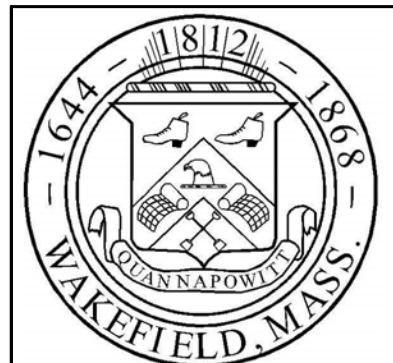


- NOTES:**
1. SEED MIX SHALL BE NEW ENGLAND CONSERVATION SEED MIX, FREE OF FERTILIZERS.

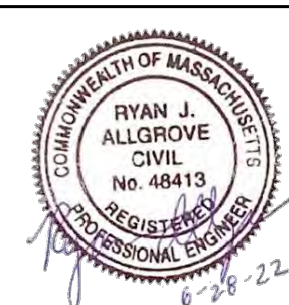
**RESTORATION OF GROWTH**  
SCALE: N.T.S.



**TYPICAL SECTION THROUGH  
CONCRETE SIDEWALK**  
N.T.S.



**ENVIRONMENTAL  
PARTNERS**  
— An Apex Company —



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	JUNE 2022
Job No.	313-2101
Designed by	SLC
Drawn by	SLC
Checked by	
Approved by	RJA

THIS LINE IS ONE INCH  
LONG WHEN PLOTTED AT  
FULL SCALE ON A 22" X  
34" DRAWING

**BAY STATE ROAD WATER MAIN LOOP  
WAKEFIELD, MASSACHUSETTS**

**PAVING AND RESTORATION DETAILS**

FOR PERMITTING  
Sheet No.

**CD-3**