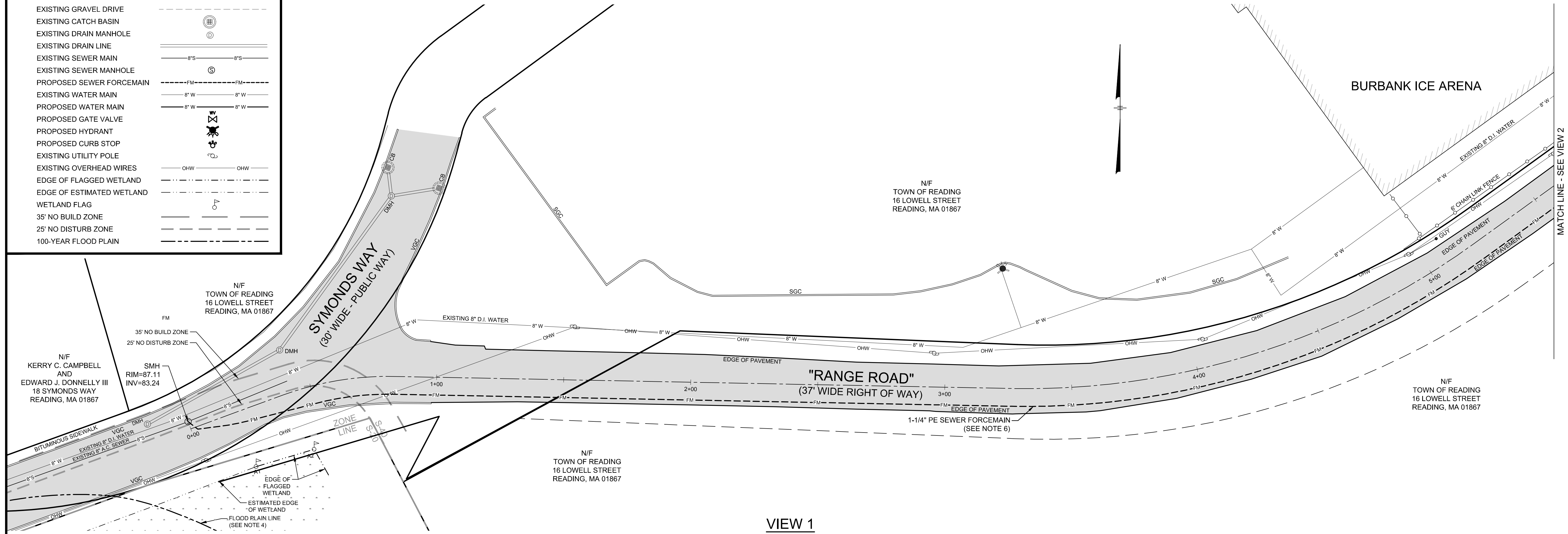
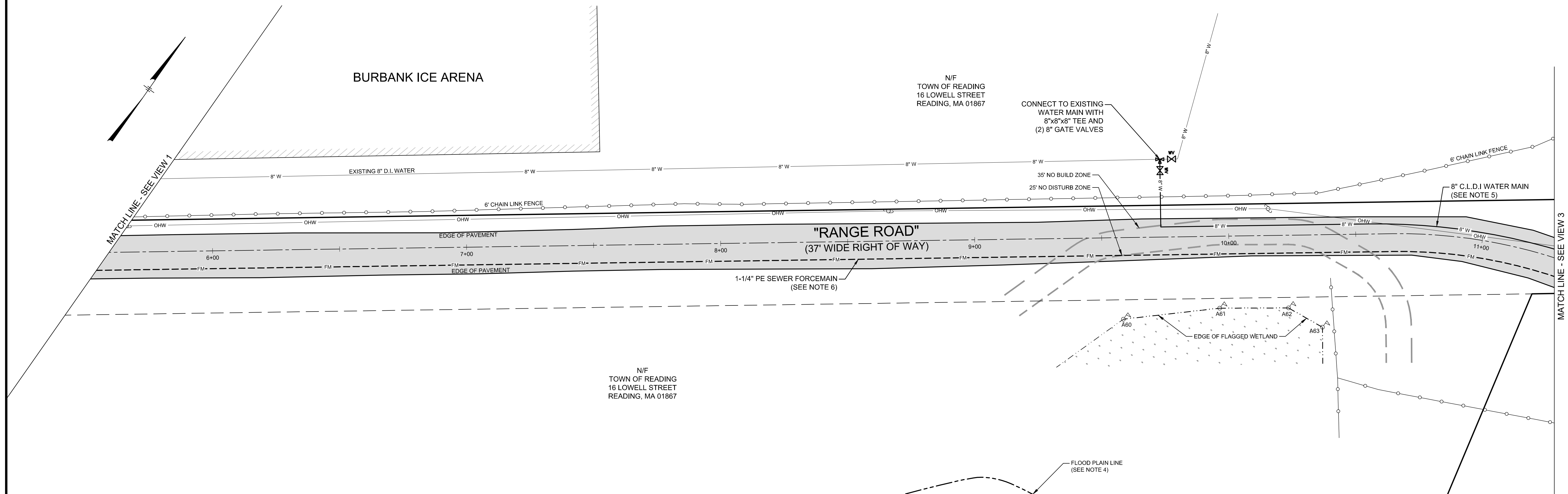


LEGEND

- EXISTING EDGE OF PAVEMENT
- EXISTING GRANITE CURB
- EXISTING GRAVEL DRIVE
- EXISTING CATCH BASIN
- EXISTING DRAIN MANHOLE
- EXISTING DRAIN LINE
- EXISTING SEWER MAIN
- EXISTING SEWER MANHOLE
- PROPOSED SEWER FORCEMAIN
- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- PROPOSED GATE VALVE
- PROPOSED HYDRANT
- PROPOSED CURB STOP
- EXISTING UTILITY POLE
- EXISTING OVERHEAD WIRES
- EDGE OF FLAGGED WETLAND
- EDGE OF ESTIMATED WETLAND
- WETLAND FLAG
- 35' NO BUILD ZONE
- 25' NO DISTURB ZONE
- 100-YEAR FLOOD PLAIN



VIEW 1



VIEW 2

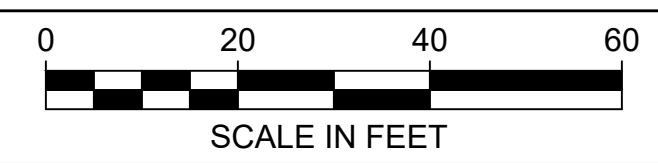
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RECORD OWNER:
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P.O. BOX 212
READING, MA 01867

ASSESSORS PARCEL IDS:
035.0-0000-0134.0
041.0-0000-0055.0
041.0-0000-0058.0
042.0-0000-0001.0
042.0-0000-0004.0



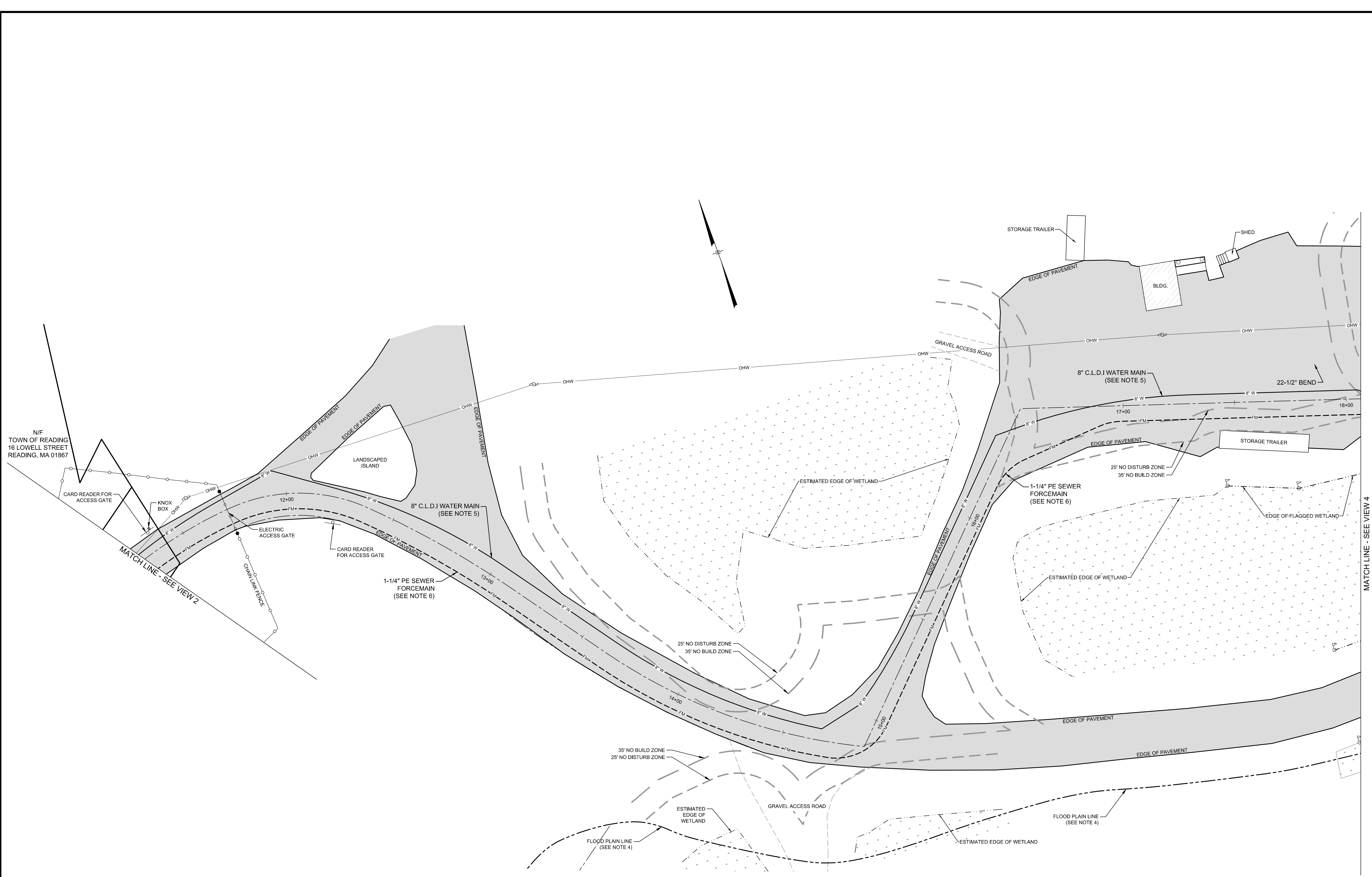
BY	REVISIONS	DATE

WATER AND SEWER CONNECTION PLAN
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READING, MA 01867

ALAN ENGINEERING, L.L.C.
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PREPARED FOR:
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JOB NO: 1104	DWG NO: 2115
JUNE 26, 2023	1 of 3
SCALE: 1" = 20'	



VIEW 3

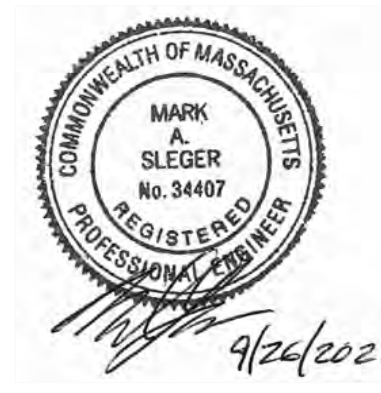
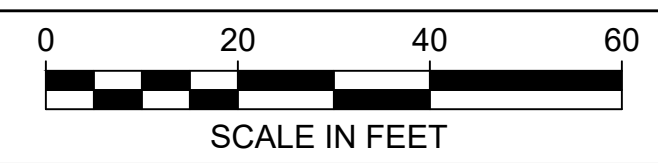
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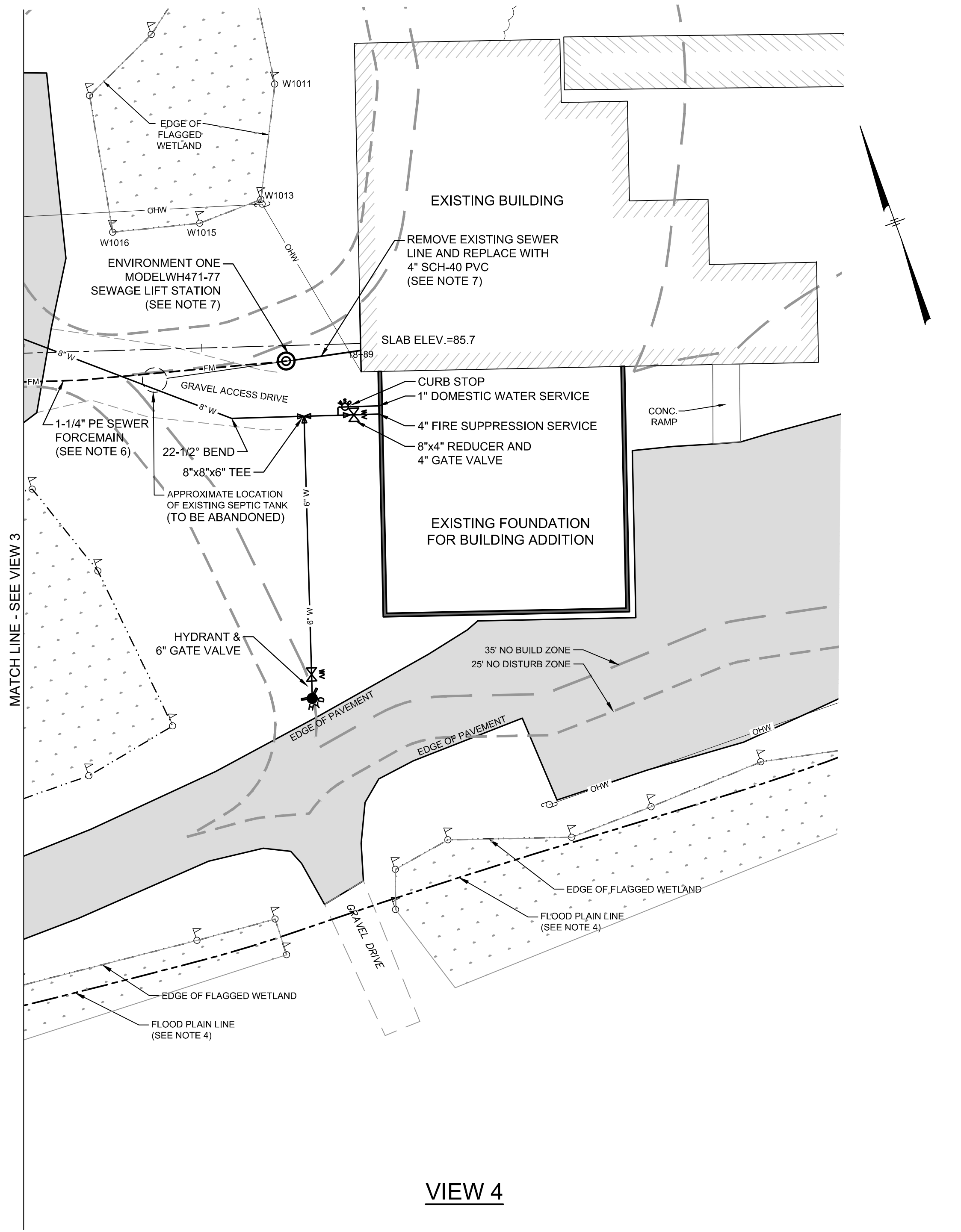
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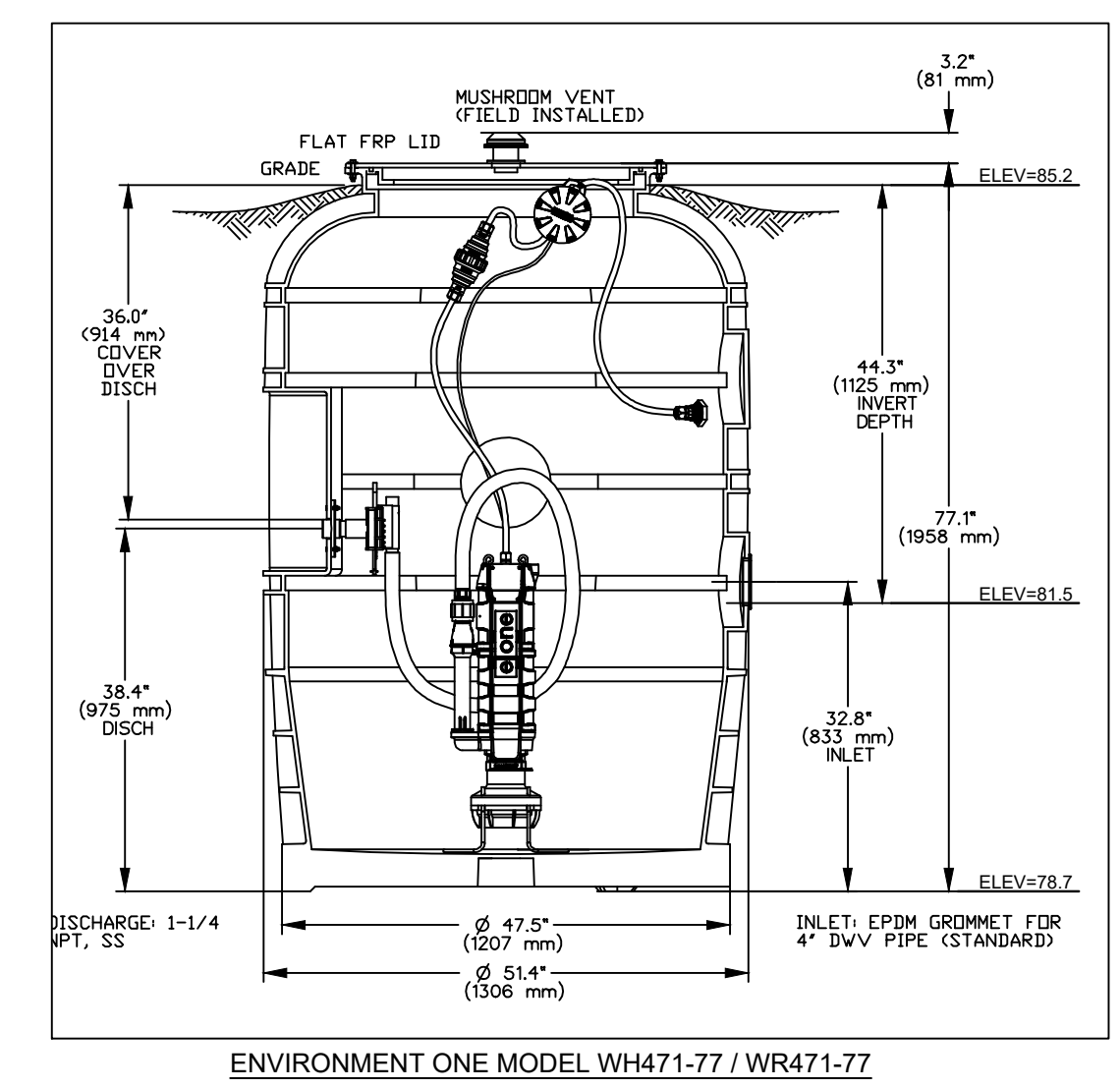


VIEW 4

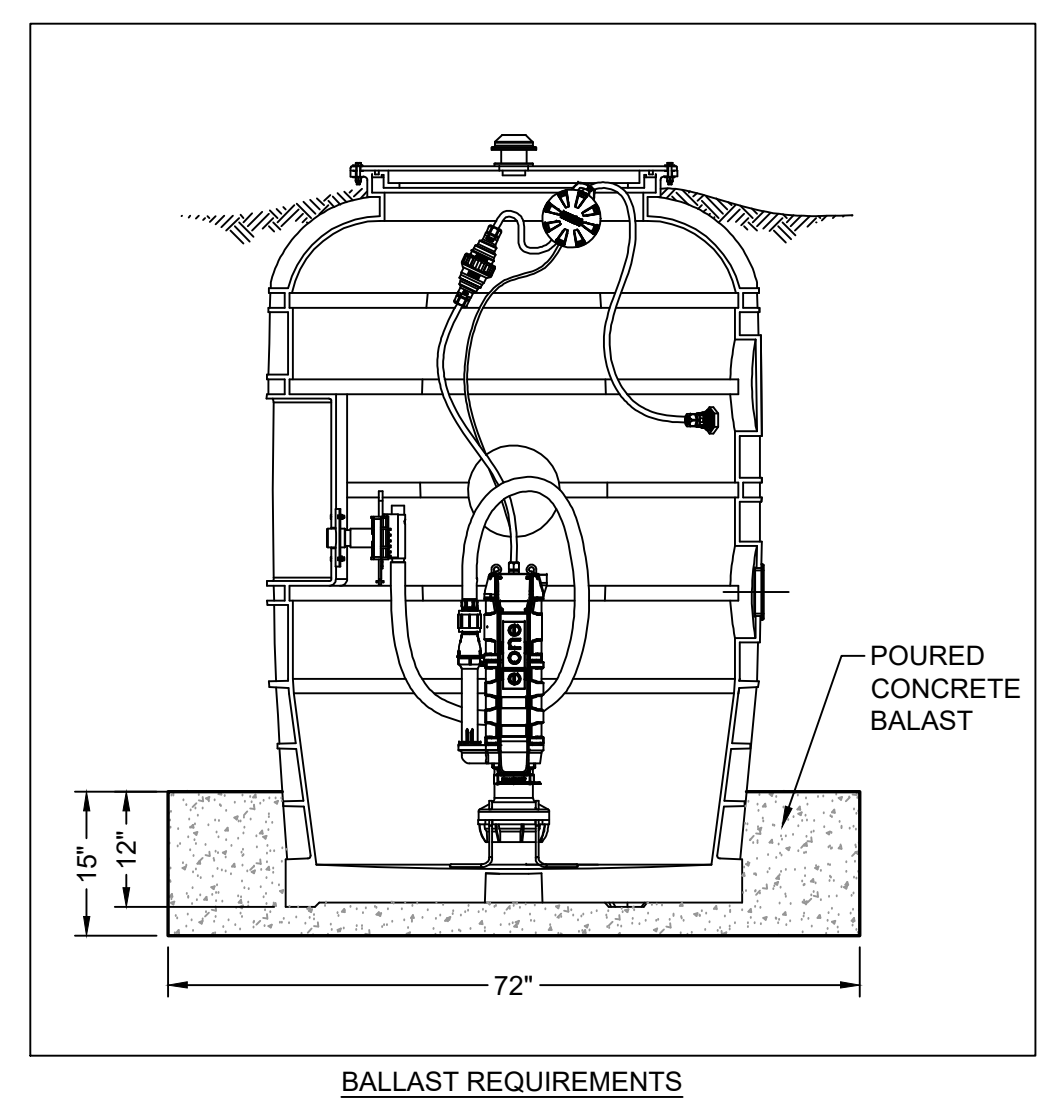
SEWER FLOW CALCULATIONS & PUMP STATION SELECTION
 SEWER FLOW CALCULATIONS ARE BASED ON 310 CMR 15.203 (TITLE 5)
CURRENT & PROPOSED USE: SHOOTING RANGE AND CLUB HOUSE WITH SNACK ROOM
 INDOOR SHOOTING STATIONS: 24
 OUTDOOR SHOOTING STATIONS: 30 (ADJACENT TO CLUB HOUSE)
 MEETING ROOM SEATING: 60
 TOTAL CAPACITY: 114
SIMILAR TITLE 5 USE: COUNTRY CLUB WITH SNACK BAR OR LUNCH ROOM
 DESIGN FLOW: 10 GPD PER PERSON
TOTAL DESIGN FLOW: 10 GPD / PERSON x 114 PERSONS = 1,140 GPD
USE: ENVIRONMENT ONE WH471-77
 DAILY FLOW CAPACITY: 2,000 GPD
 STORAGE CAPACITY: 476 GALLONS

PUMP STATION BUOYANCY CALCULATIONS
 ESTIMATED SEASONAL HIGH GROUNDWATER ELEVATION: 81.5
 BOTTOM OF LIFT STATION ELEVATION: 78.7
 VOLUME OF SUBMERGED LIFT STATION: 14.2 S.F. x (81.5-78.7) = 40 CU-FT
 UPLIFT FORCE: 40 CU-FT x 62.4 LBS/CU-FT = 2,496 LBS
 STATION WEIGHT (DRY): 340 LBS
 BALLAST REQUIRED: 2,496 LBS - 340 LBS = 2,156 LBS

USE POURED CONCRETE BALLAST: 150 LBS / CU-FT
 BALLAST REQUIRED: 2,156 LBS / (150 LBS / CU-FT) = 14.4 CU-FT
 BALLAST PROPOSED: 21.1 CU-FT x (150 LBS / CU-FT) = 3,165 LBS

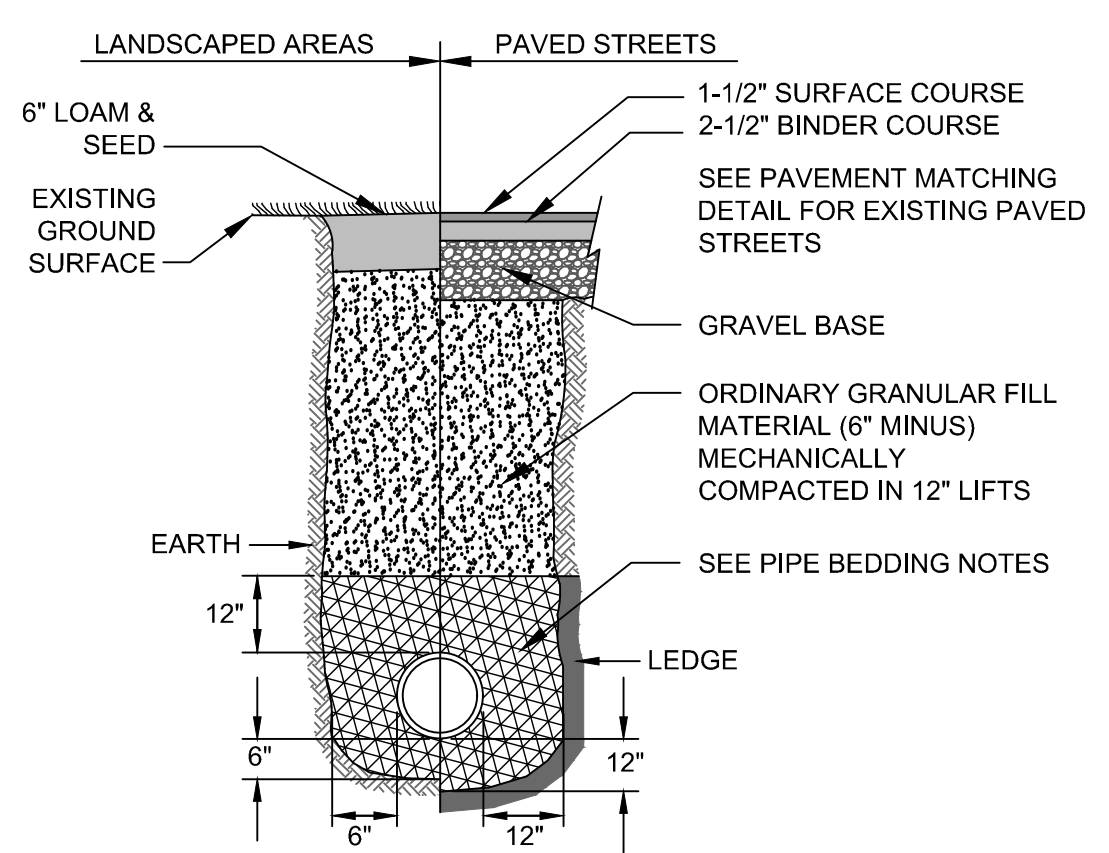


ENVIRONMENT ONE MODEL WH471-77 / WR471-77



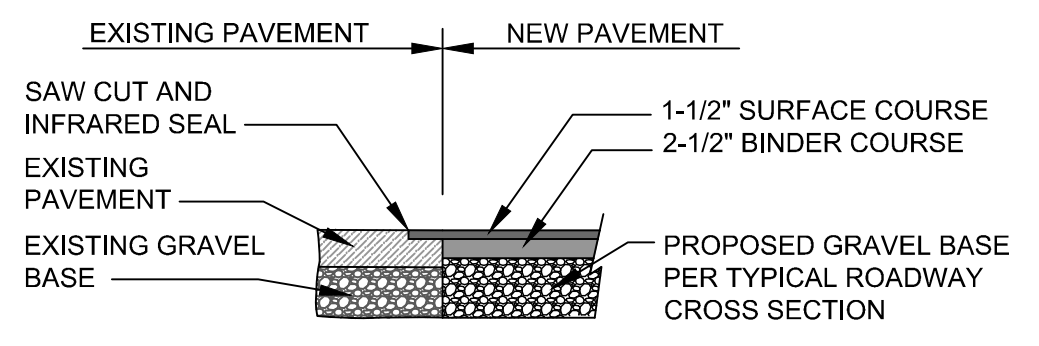
BALLAST REQUIREMENTS

ENVIRONMENT ONE LIFT STATION
NOT TO SCALE

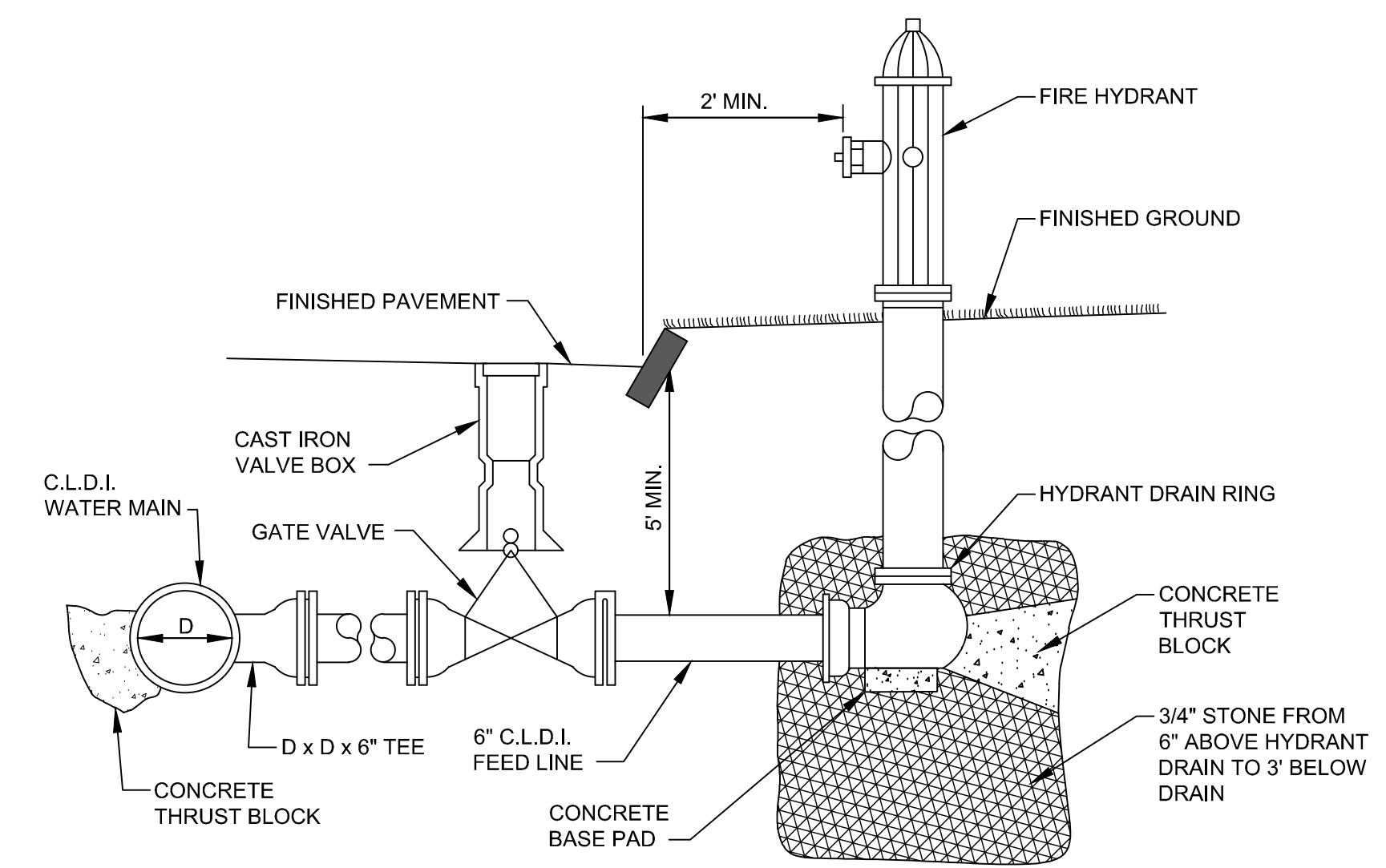


TYPICAL TRENCH SECTION
NOT TO SCALE

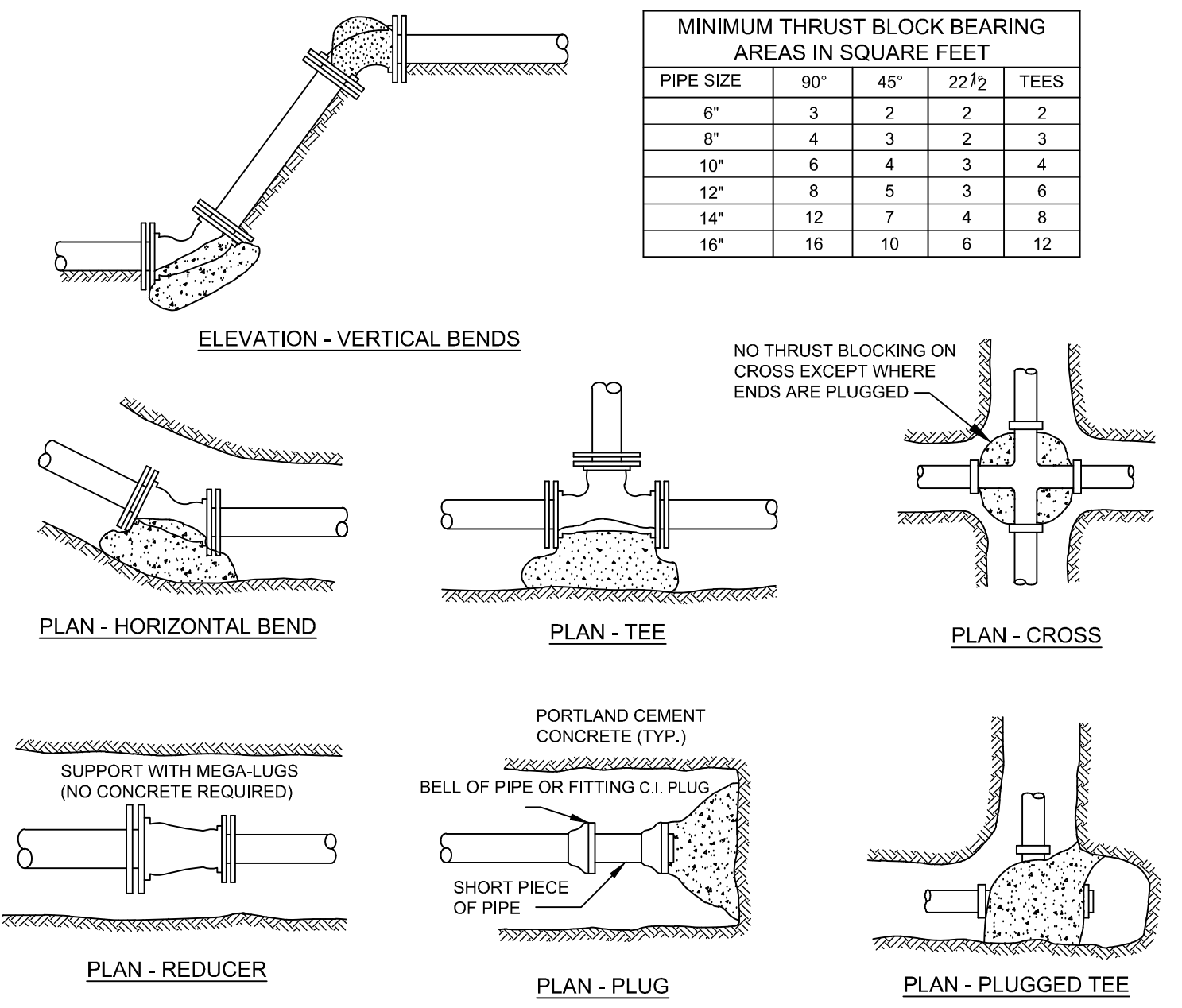
PIPE BEDDING NOTES:
 FOR CLDI WATER MAINS USE SAND
 FOR PVC, PE AND HDPE PIPING USE 3/4\"/>



PAVEMENT MATCHING DETAIL
NOT TO SCALE



HYDRANT CONNECTION DETAIL
NOT TO SCALE



WATER MAIN DETAILS
NOT TO SCALE

- NOTES:**
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO THE SPECIFICATIONS OF THE LOCAL WATER DEPARTMENT.
 - CONCRETE SHALL BE 3,000 PSI MINIMUM AT 28 DAYS.
 - THRUST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED EARTH.
 - ALL FITTINGS (EXCEPT AS INDICATED) SHALL BE SUPPORTED AND ANCHORED IN CONCRETE AND WITH "MEGALUG JOINT RESTRAINTS" OR APPROVED EQUAL.
 - FOR FIRE HYDRANT THRUSTING SEE HYDRANT CONNECTION DETAIL.
 - POURED CONCRETE SHALL BE KEPT 6" CLEAR OF MECHANICAL JOINTS TO ALLOW FOR FUTURE REPAIR OR REMOVAL.
 - RETAINER GLANDS REQUIRED ON ALL BENDS.
 - ALL MECHANICAL JOINT GLANDS SHALL BE WEDGE-ACTION LOCKING RESTRAINT TYPE.
 - BELL ENDS OF PUSH-ON PIPE WITHIN 30 FEET OF THE TERMINATION OF THE WATER MAIN OR EITHER SIDE OF A 90-DEGREE BEND SHALL BE MECHANICALLY RESTRAINED. (FIELD-LOC GASKETS, RODS AND RESTRAINT CLAMPS OF SET SCREW PLUG)
 - BRONZE CONDUCTIVITY WEDGES (2) SHALL BE INSTALLED AT EACH BELL JOINT.
 - THE TAPPING SLEEVE SHALL BE ALL STAINLESS STEEL WRAP-AROUND TYPE.

MINIMUM THRUST BLOCK BEARING AREAS IN SQUARE FEET				
PIPE SIZE	90°	45°	22 1/2°	TEES
6"	3	2	2	2
8"	4	3	2	3
10"	6	4	3	4
12"	8	5	3	6
14"	12	7	4	8
16"	16	10	6	12

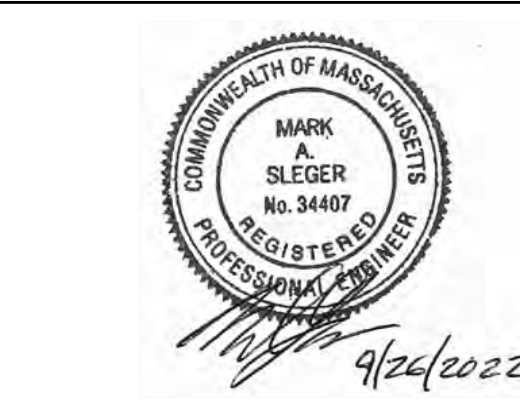
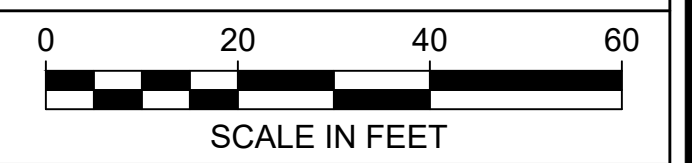
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