

FAR REACH ROAD PUMP STATION UPGRADES

TOWN OF WESTWOOD, MA
DPW-21-B-004

MAY 2020

FOR CONSTRUCTION

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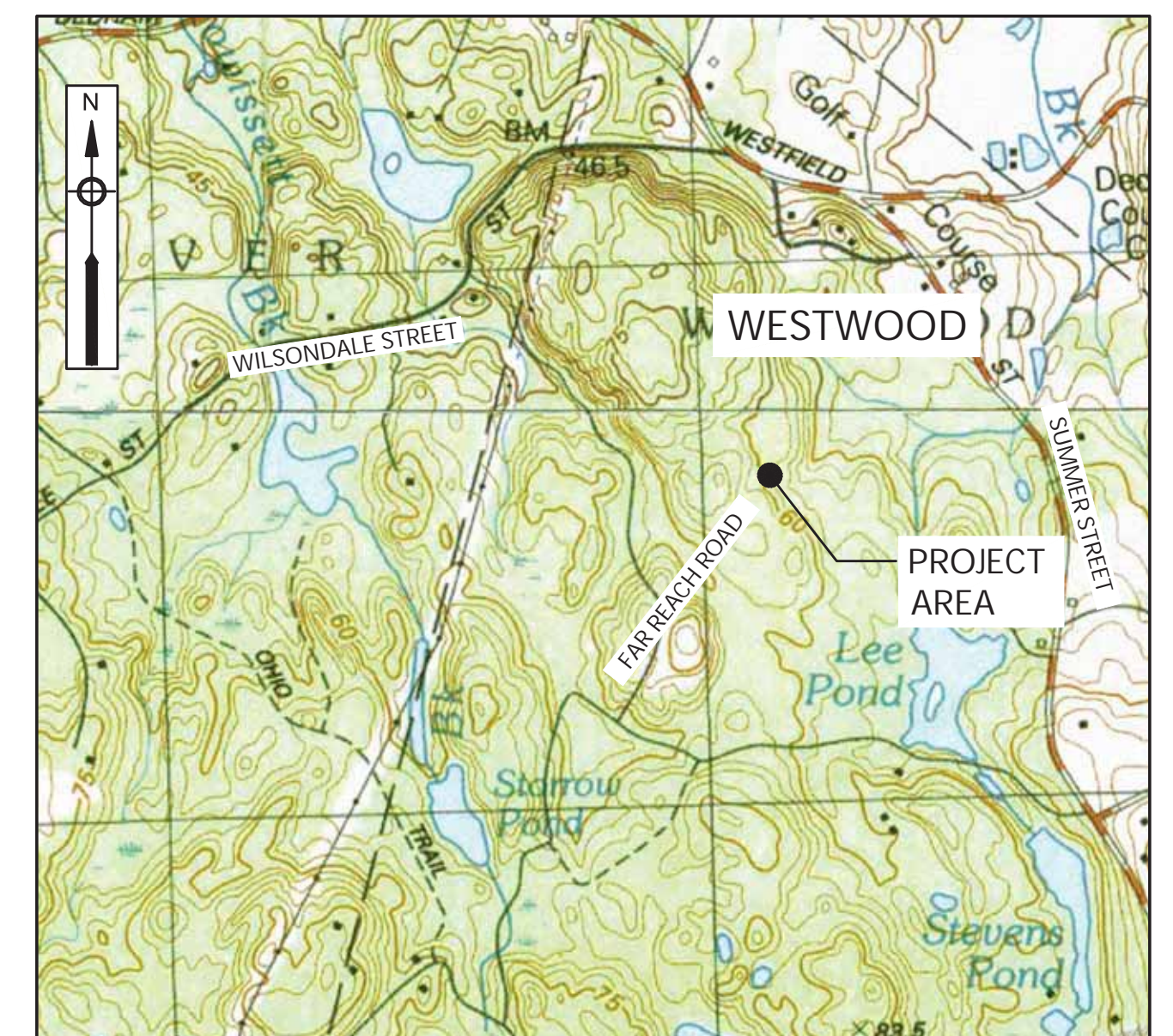
WESTWOOD, MASSACHUSETTS

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DIANE HAYES - CLERK
DAVID KRUMSIEK - THIRD MEMBER

DEPARTMENT OF PUBLIC WORKS

TODD KORCHIN - DIRECTOR
BRENDAN RYAN - ASSISTANT DIRECTOR



VICINITY MAP

1" = 1000'

GENERAL NOTES:

- PLANS PREPARED BASED ON: RECORD PLANS BY BEALS AND THOMAS, INC DATED NOVEMBER 25, 1986; AVAILABLE ORTHO PHOTOS FROM MASSGIS OLIVER; AND FIELD OBSERVATIONS.
- ELEVATION REFERENCES ARE NAVD88. HORIZONTAL COORDINATE SYSTEM DATUM UTILIZED IS MASSACHUSETTS STATE PLANE, NAD83, US SURVEY FEET.
- WETLANDS WERE FLAGGED BY PINEBROOKE CONSULTING IN FEBRUARY 2020.
- ALL EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY DIG SAFE AT LEAST 72 HOURS IN ADVANCE, EXCLUDING WEEKENDS AND HOLIDAYS, PRIOR TO ANY EXCAVATION.
- EXACT CONFIGURATION OF EXISTING FORCE MAIN, INCLUDING PIPE LOCATION AND QUANTITY AND TYPE OF FITTINGS, IS UNKNOWN. CONTRACTOR SHALL PROVIDE ALL MATERIAL FOR PROPER ASSEMBLY AND FIT.
- DO NOT SCALE DRAWINGS UNLESS OTHERWISE NOTED. WRITTEN DIMENSIONS AND STATIONING SHALL PREVAIL. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY.
- 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, SEWER, AND WATER MAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE UNLESS OTHERWISE NOTED. THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER SHALL REPAIR ANY EXISTING SEWERS, STORM DRAIN LINES, WATER LINES OR CULVERTS DAMAGED DURING CONSTRUCTION.
- IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE UTILITY COMPANY TO OBTAIN REQUIRED SERVICE. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES OR FOR ANY RELATED DELAYS.
- ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. DAMAGE TO ANY SUCH STRUCTURE CAUSED BY OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT NO ADDITIONAL COST TO THE OWNER. ALL UTILITIES REQUIRING REPAIR, RELOCATION, OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED BY THE CONTRACTOR, THROUGH THE RESPECTIVE UTILITY AND THE OWNER.
- THE CONTRACTOR SHALL TAKE SPECIAL CARE NOT TO DAMAGE TREES, BUSHES, PLANTS, PARKING METERS, FLOWERS, STONEWALLS, FENCES, ETC. WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED. CONTRACTOR SHALL REPLACE ALL DAMAGED ITEMS AT NO ADDITIONAL COST TO OWNER.
- THE CONTRACTOR SHALL REMOVE AND REPLACE NEW, OR REPAIR, ALL CURBS, SIDEWALKS, PAVEMENT AND OTHER ITEMS DAMAGED BY HIS CONSTRUCTION ACTIVITIES TO AT LEAST THEIR ORIGINAL CONDITION, AND TO THE SATISFACTION OF THE OWNER AND ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL DEVICES AS DESCRIBED IN THE CONTRACT DOCUMENTS 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 AND THE ENGINEER. THE CONTRACTOR SHALL LIMIT HIS ACTIVITIES TO THESE AREAS.
- THE CONTRACTOR SHALL IDENTIFY AND OBTAIN ALL NECESSARY PERMITS FOR WORK IN ROADWAYS. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO ALL PERMITS AS AN INTEGRAL PART OF HIS WORK.
- THE CONTRACTOR SHALL SAW CUT ALL PAVEMENT TO ITS TOTAL DEPTH IN THE PROCESS OF INSTALLING NEW UTILITIES IN ALL PAVED AREAS INCLUDING STREETS, DRIVEWAYS, AND SIDEWALKS.
- TEST PITS MAY BE ORDERED BY THE ENGINEER TO DETERMINE THE LOCATION OF EXISTING UTILITIES.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA).
- CONCRETE WASHOUT AREAS SHALL BE OUTSIDE THE BUFFER ZONES OF ALL WETLAND RESOURCE AREAS.

DEWATERING AND EROSION CONTROL NOTES:

- ALL FOUNDATIONS AND EXCAVATIONS SHALL OCCUR IN "THE DRY". GROUNDWATER SHALL BE LOWERED BY A MINIMUM OF 2' BELOW THE BASE OF THE EXCAVATION. THE CONTRACTOR SHALL HANDLE GROUNDWATER, WHERE ENCOUNTERED, AS DESCRIBED IN SECTION 02140. DURING ANY DEWATERING, THE CONTRACTOR SHALL USE TEMPORARY STONE AROUND THE SUCTION AND DISCHARGE ENDS TO MINIMIZE TRANSPORT OF TRENCH MATERIALS. THE DISCHARGED WATER SHALL PASS THROUGH FILTER FABRIC, SILT BAGS, FRAC TANKS OR A COMBINATION OF ALL.
- DEWATERING PUMPING SYSTEM DISCHARGE TO INCLUDE ENERGY DISSIPATION TO PREVENT SCOUR.
- TEMPORARY DEWATERING SEDIMENTATION BASINS, IF REQUIRED, WILL BE CHECKED AFTER EACH SIGNIFICANT RAINFALL AND CLEANED AS NEEDED TO RETAIN STORAGE CAPACITY.
- THE FILTER SOCK AND OTHER EROSION AND SEDIMENT CONTROL MEASURES/DEVICES SHALL BE INSPECTED, CLEANED, REPLACED AND/OR REPAIRED AS NECESSARY, WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL.
- INSTALL FILTER SOCK PRIOR TO COMMENCEMENT OF THE EARTHWORK OPERATIONS. INSPECT EROSION CONTROLS IMMEDIATELY AFTER EACH STORM AND REMOVE ACCUMULATED SEDIMENT AS REQUIRED. REPLACE DAMAGED EROSION CONTROLS AS REQUIRED.
- SPILL KITS SHALL BE MAINTAINED ON-SITE AT ALL TIMES.
- SECONDARY CONTAINMENT SHALL BE PROVIDED FOR ALL DIESEL OR GASOLINE POWERED GENERATORS AND PUMPS.

PROJECT SEQUENCING NOTES:

- INSTALL ALL EROSION CONTROLS AS SHOWN AND SPECIFIED IN THE CONTRACT DOCUMENTS. THE EROSION CONTROL SHALL BE APPROVED BY THE ENGINEER AND OWNER PRIOR TO ANY EXCAVATION.
- ISOLATE THE WET WELL FROM THE PUMP STATION AND PROVIDE SEPTAGE HAULER TRUCK FOR TEMPORARY BYPASSING OF THE PUMP STATION AND FORCE MAIN.
- INSTALL THE PERMANENT BYPASS ASSEMBLY AS SHOWN ON SHEET C-1.
- INSTALL TEMPORARY BYPASS PUMP SYSTEM UTILIZING THE NEW PERMANENT BYPASS ASSEMBLY AND EXISTING FORCE MAIN.
- COMPLETE ALL DEMOLITION AND NEW CONSTRUCTION WITHIN THE PUMP STATION AS SHOWN IN THE CONTRACT DOCUMENTS. ONCE THE PUMP START-UP TEST RESULTS ARE APPROVED BY THE OWNER/ENGINEER, THE CONTRACTOR SHALL PLACE THE PUMPS IN SERVICE. REHABILITATE THE EXISTING WET WELL INCLUDING INSTALLING THE NEW FALL PROTECTION GRATING AS SHOWN IN THE CONTRACT DOCUMENTS.
- REMOVE TEMPORARY BYPASS PUMP SYSTEM.
- PERFORM ALL SITE RESTORATION SPECIFIED IN THE CONTRACT DOCUMENTS. REMOVAL ALL EROSION CONTROL. DEMOBILIZE FROM THE SITE.

LEGEND

EXISTING	PROPOSED
EDGE OF PAVEMENT (EOP)	PROPERTY LINE
UTILITY POLE (UP)	FILTER SOCK
SEWER MANHOLE (SMH)	LIMIT OF WORK
SEWER LINE	FORCE MAIN PIPE
DRAIN MANHOLE (DMH)	VALVE
DRAIN LINE	
WATER SHUT OFF (WSO)	
WATER LINE	
TREELINE	
CONTOURS	
WETLAND LINE	
WETLAND FLAG AND NUMBER	
100' WETLAND BUFFER ZONE	
ELECTRICAL CONDUIT	
WOOD POST GUARDRAIL	
FORCE MAIN PIPE	
TREE	
VALVE	
CONTINUATION	

ABBREVIATIONS:

BIT	BITUMINOUS	MAX	MAXIMUM
CL	CAST IRON	MIN	MINIMUM
CLDI	CEMENT LINED DUCTILE IRON	MJ	MECHANICAL JOINT
CONC	CONCRETE	OC	ON CENTER
D	DRAIN	PROP	PROPOSED
DI	DUCTILE IRON	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER	S	SEWER
EX	EXISTING	TOC	TOP OF CONCRETE
FM	FORCE MAIN	TYP	TYPICAL
ID	INSIDE DIAMETER	VC	VITRIFIED CLAY
INV	INVERT	VGC	VERTICAL GRANITE CURBING
LF	LINEAR FEET		



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MAY 2020
Job No.	309-1902
Designed by	BJM/MEG
Drawn by	EHY
Checked by	RJR
Approved by	RJP

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

**FAR REACH ROAD PUMP STATION UPGRADES
WESTWOOD MA**

GENERAL NOTES AND LEGEND

FOR CONSTRUCTION
Sheet No.
G-1



P1: WET WELL TOP SLAB

SCALE: NOT TO SCALE

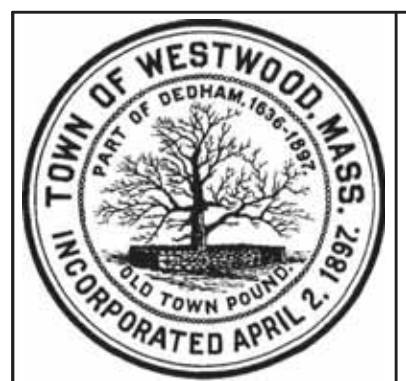
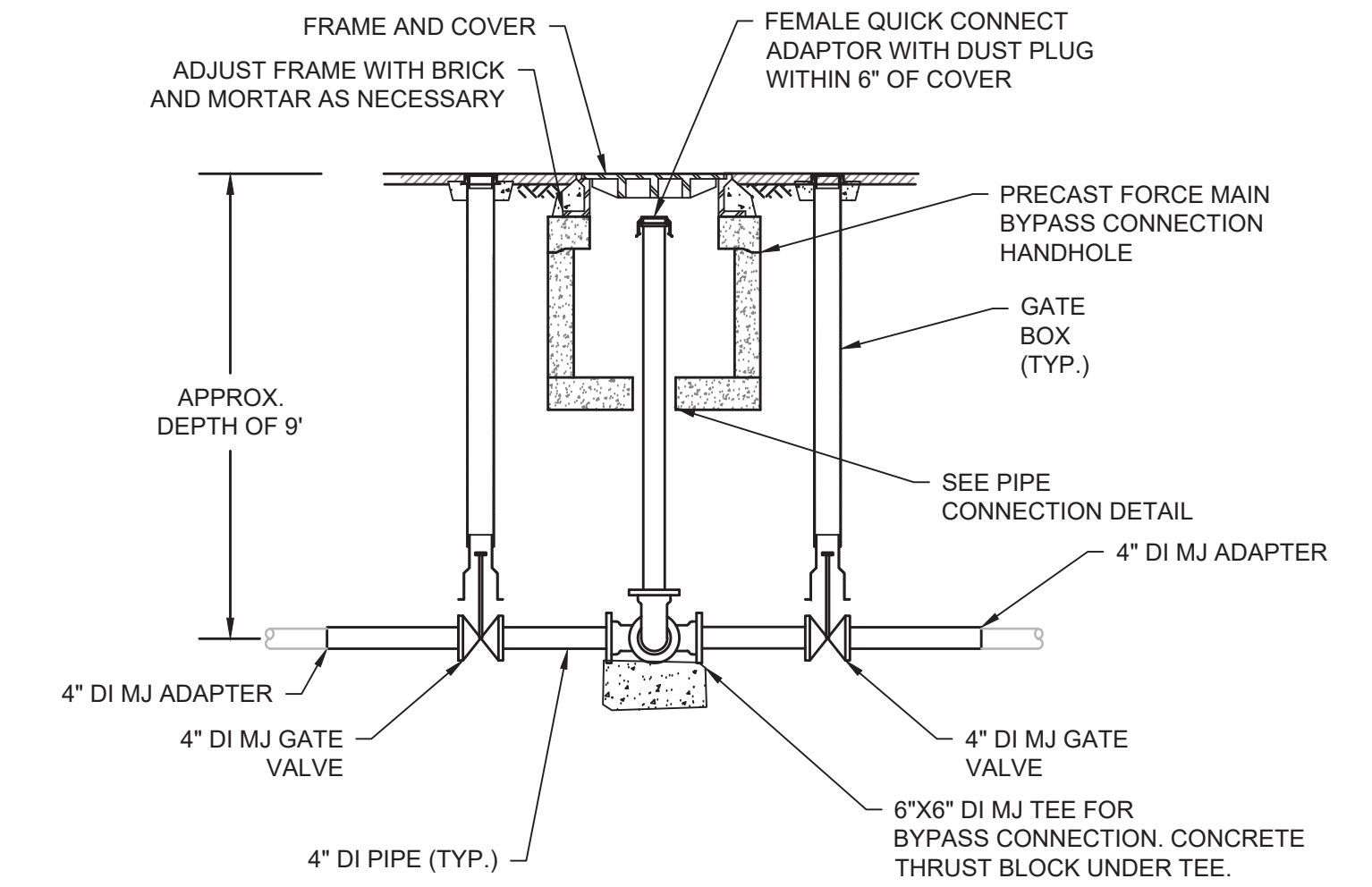
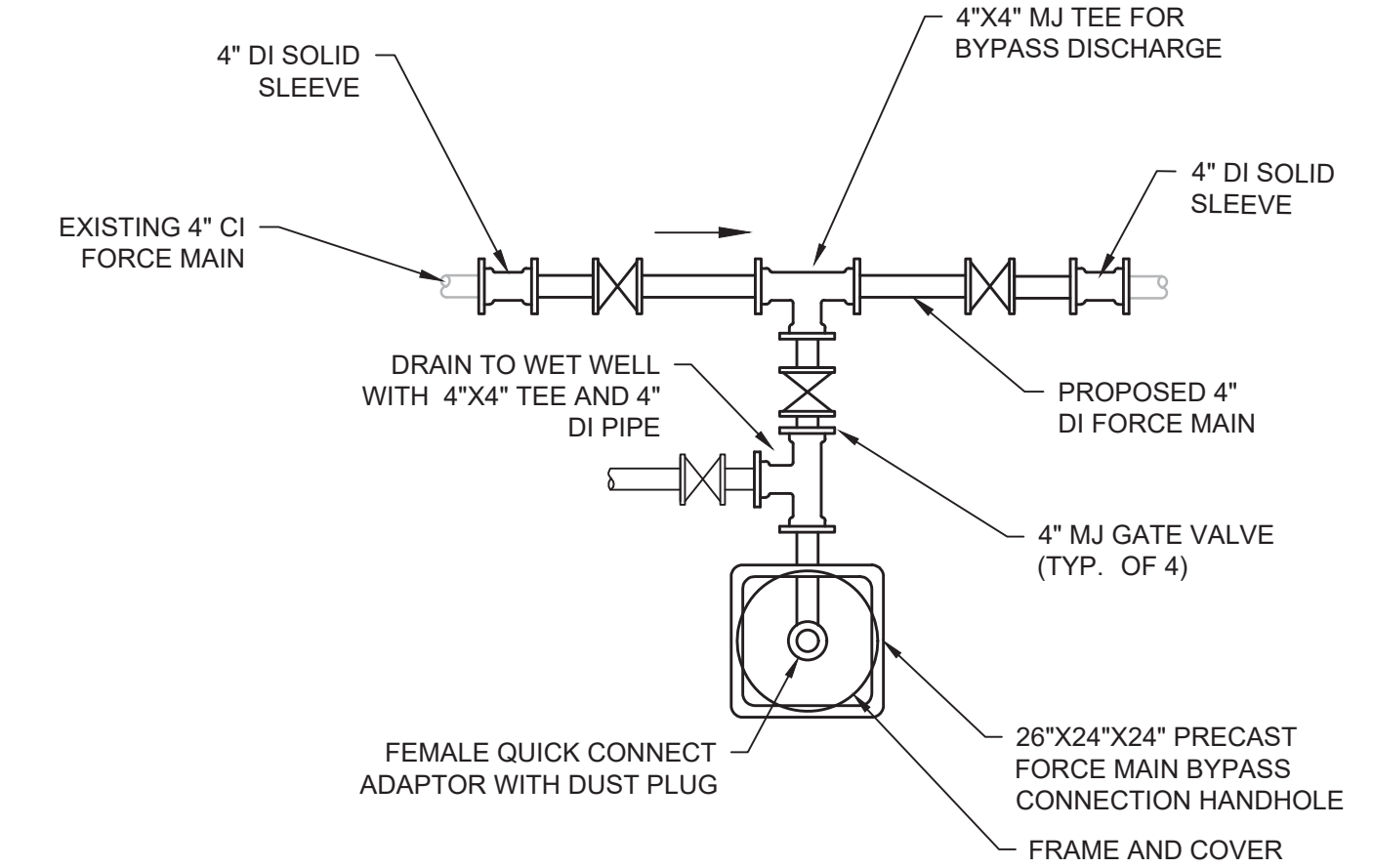
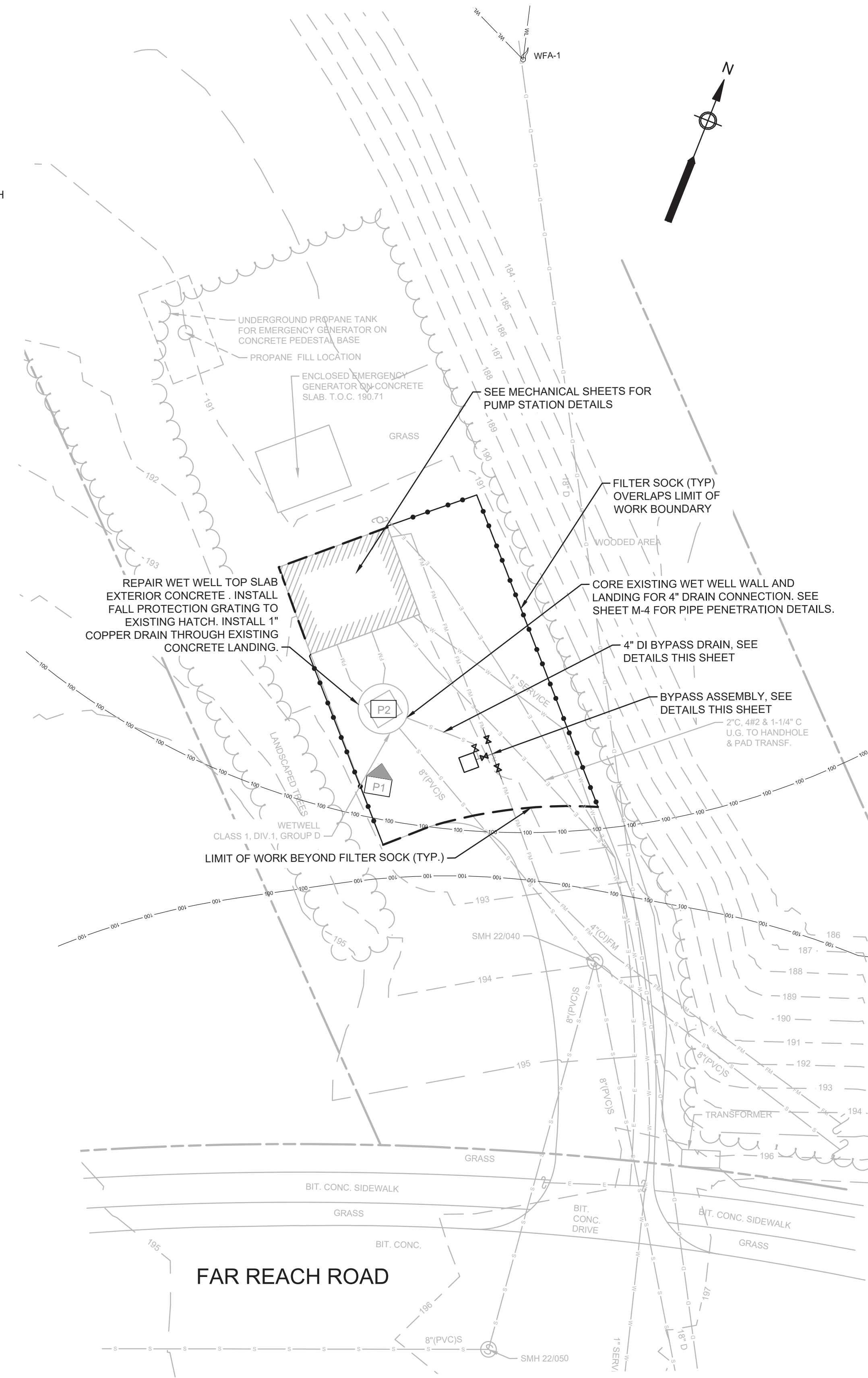
INSTALL FALL PROTECTION IN EXISTING WET WELL ACCESS HATCH



P2: WET WELL LANDING

SCALE: NOT TO SCALE

CORE THROUGH EXISTING WET WELL CONCRETE WALL AND LANDING AND INSTALL 4" DI DRAIN



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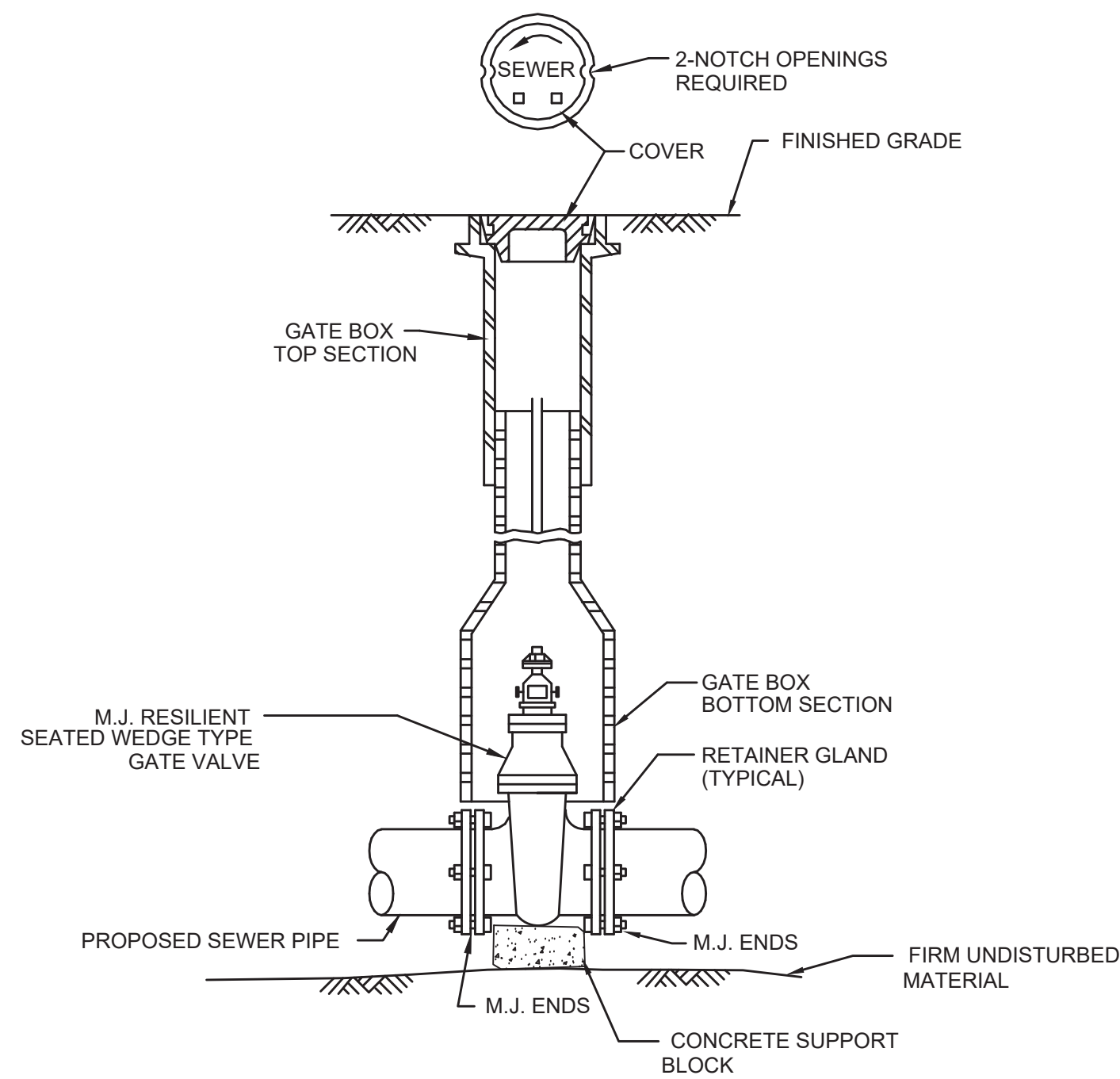
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**FAR REACH ROAD PUMP STATION UPGRADES
WESTWOOD MA**

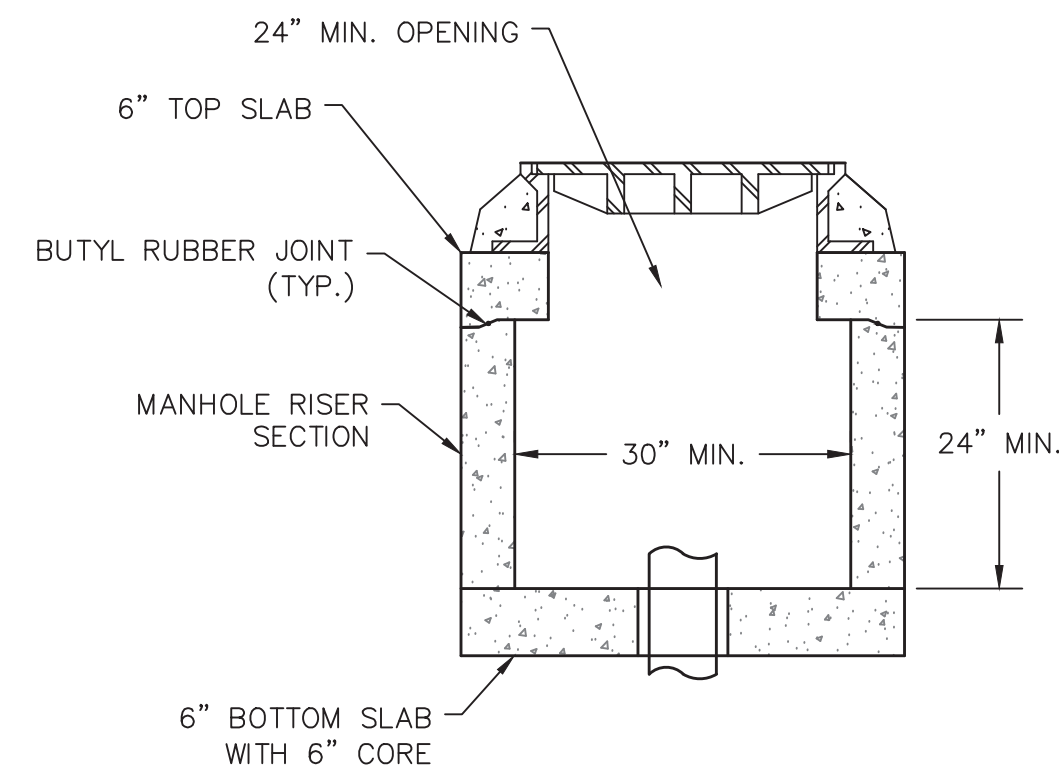
SITE PLAN AND CIVIL DETAILS

FOR CONSTRUCTION

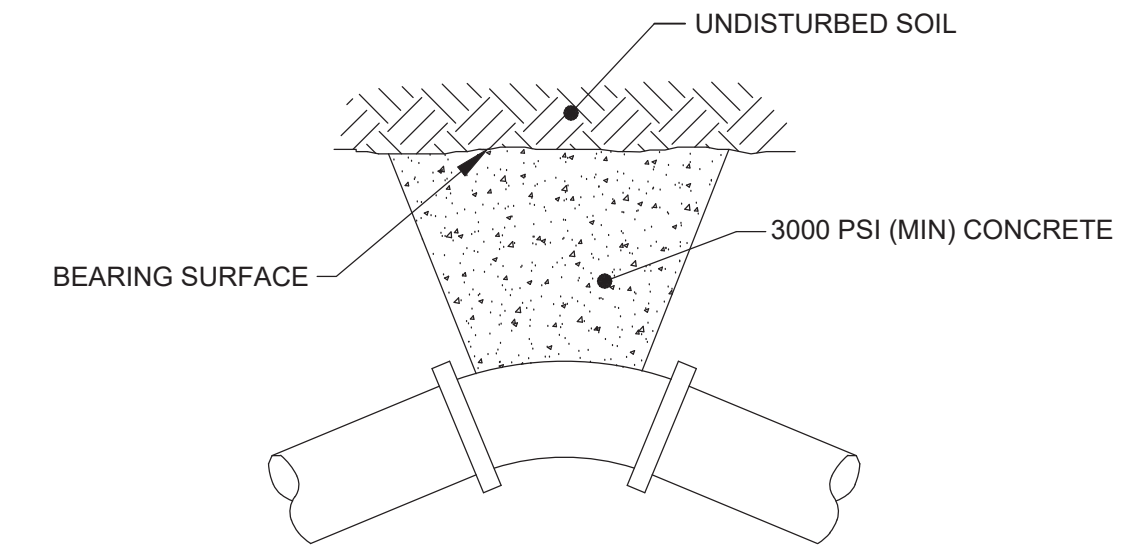
Sheet No.
C-1



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

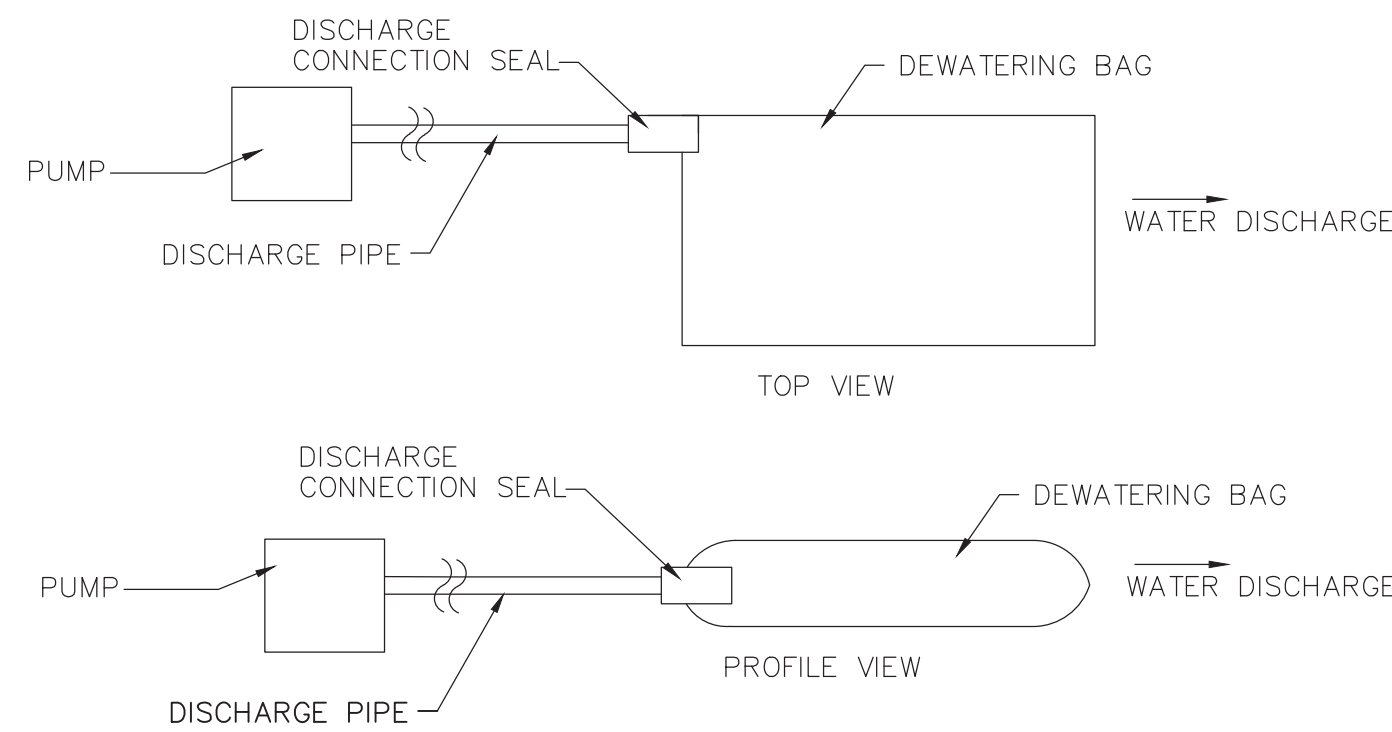


BYPASS CONNECTION HANDHOLE
SCALE: N.T.S.



DIAMETER, IN	BEARING SURFACE, FT ²			
	TEE, 90°	45°	22 1/2°	11 1/4°
2	1.2	1.0	1.0	1.0
3	1.2	1.0	1.0	1.0
6	2.2	1.2	1.0	1.0

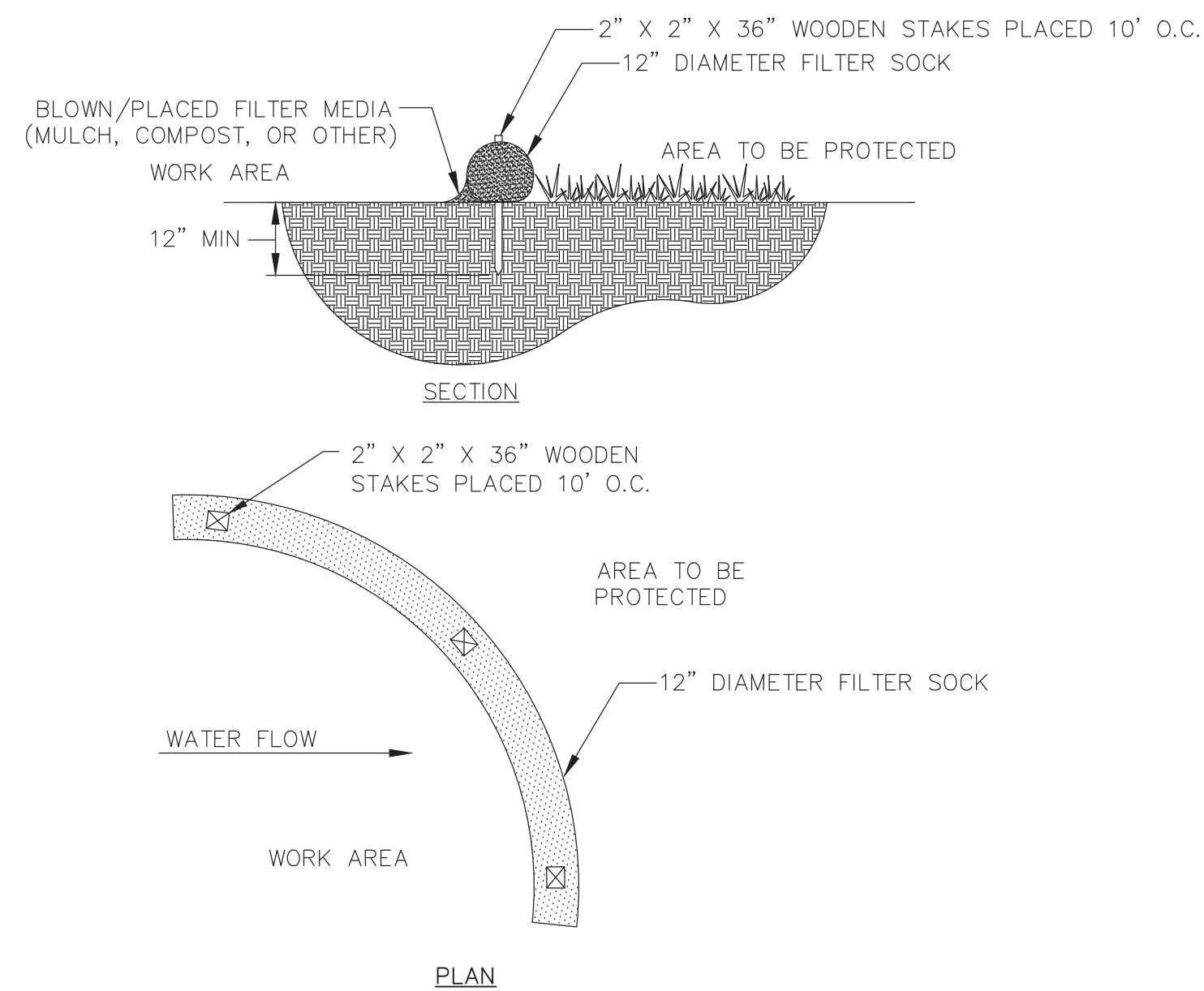
FORCE MAIN THRUST BLOCK
SCALE: N.T.S.



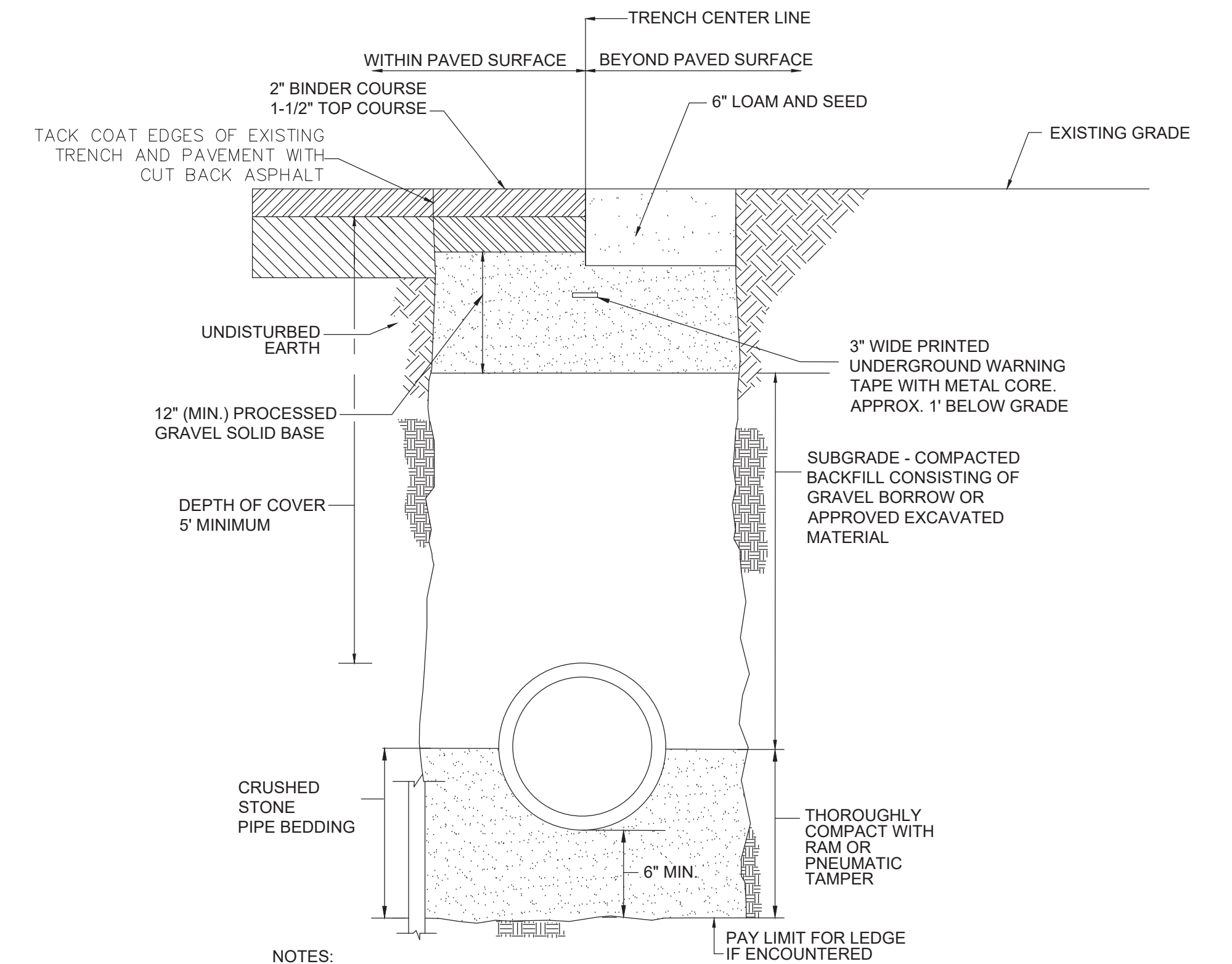
NOTES:

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.



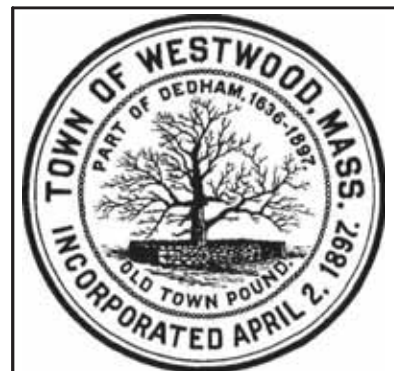
12" DIAMETER FILTER SOCK
SCALE: N.T.S.



NOTES:

1. EDGES OF TRENCH SHALL BE SAW CUT TO CREATE CLEAN STRAIGHT LINES, NO JAGGED EDGES, PRIOR TO PLACEMENT OF TEMPORARY PATCH.
2. PAVEMENT INSTALLED BEYOND PAYMENT LINE MUST BE PRE-APPROVED BY THE ENGINEER.
3. THE FINISHED SURFACE OF THE MIXTURE, AFTER COMPACTION, SHALL BE TRUE TO THE ESTABLISHED LINE AND GRADE OF THE EXISTING PAVEMENT.
4. ASPHALT SHALL BE MACHINE LAID UTILIZING A SIDEWALK BOX SPREADER OR EQUAL (NO HAND WORK ALLOWED).

TYPICAL FORCE MAIN TRENCH DETAIL
SCALE: N.T.S.



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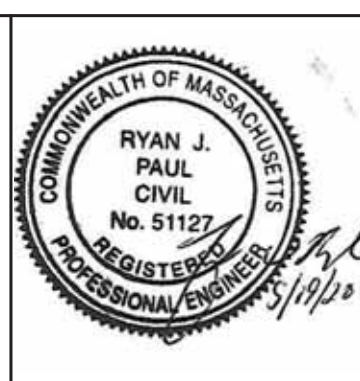
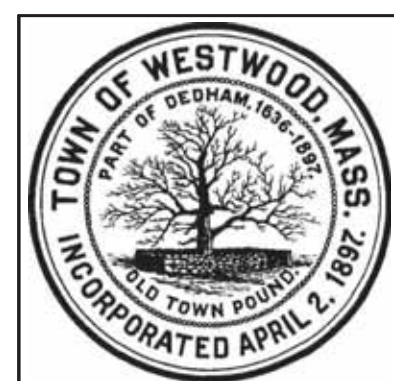
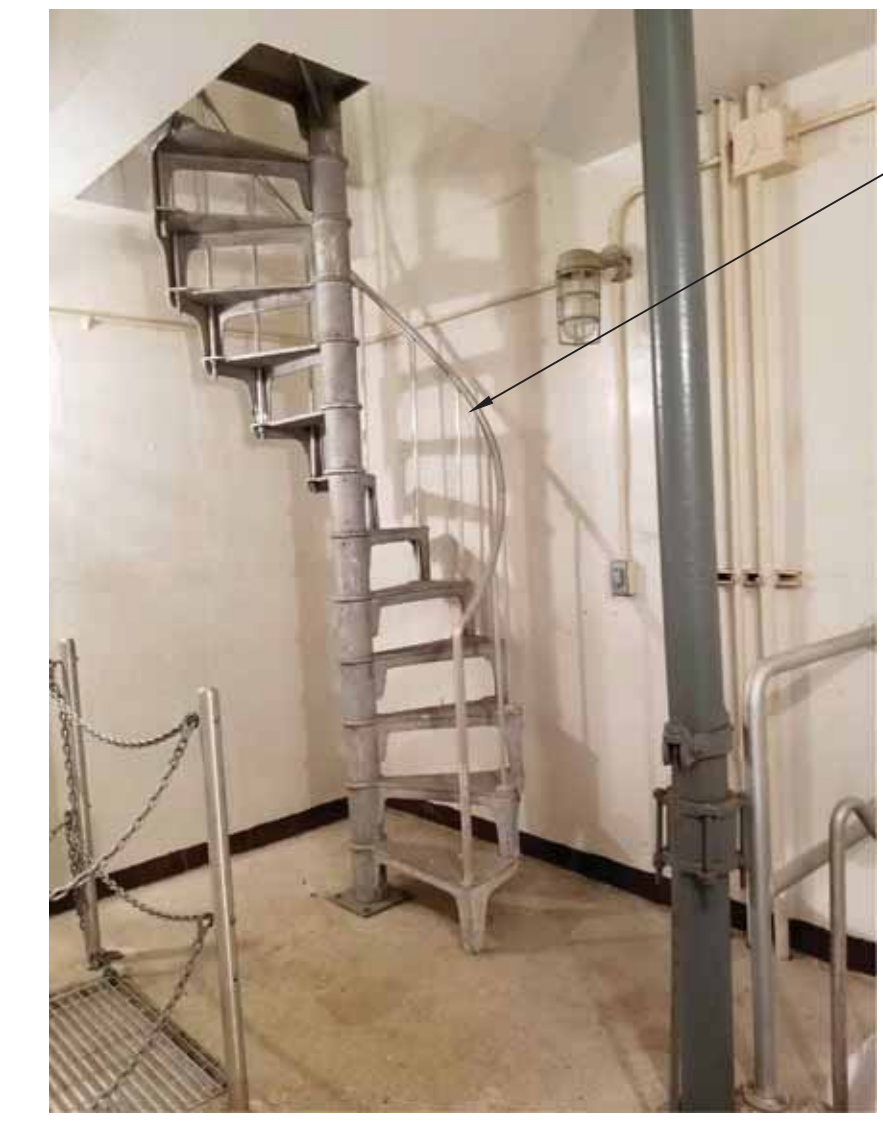
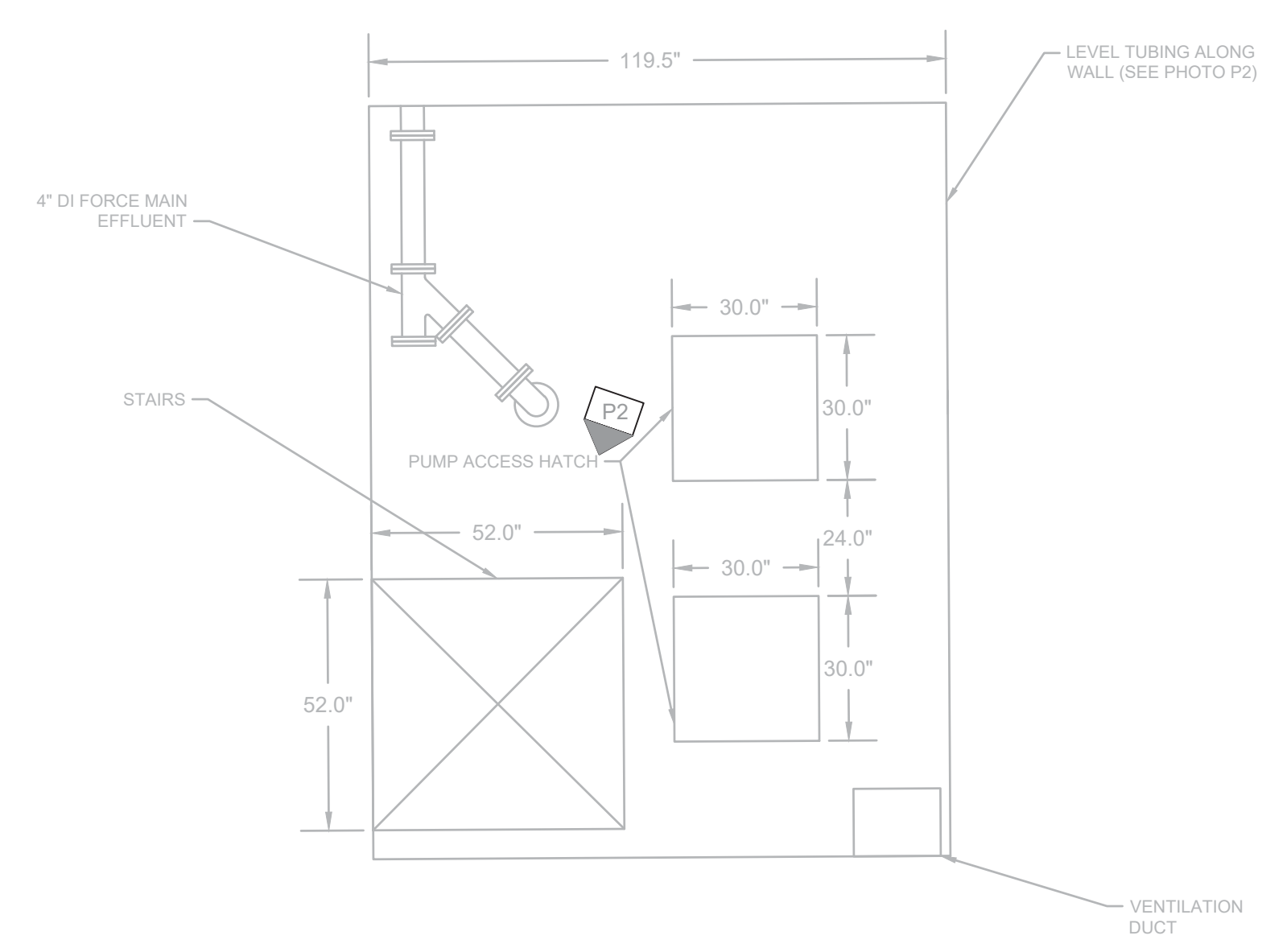
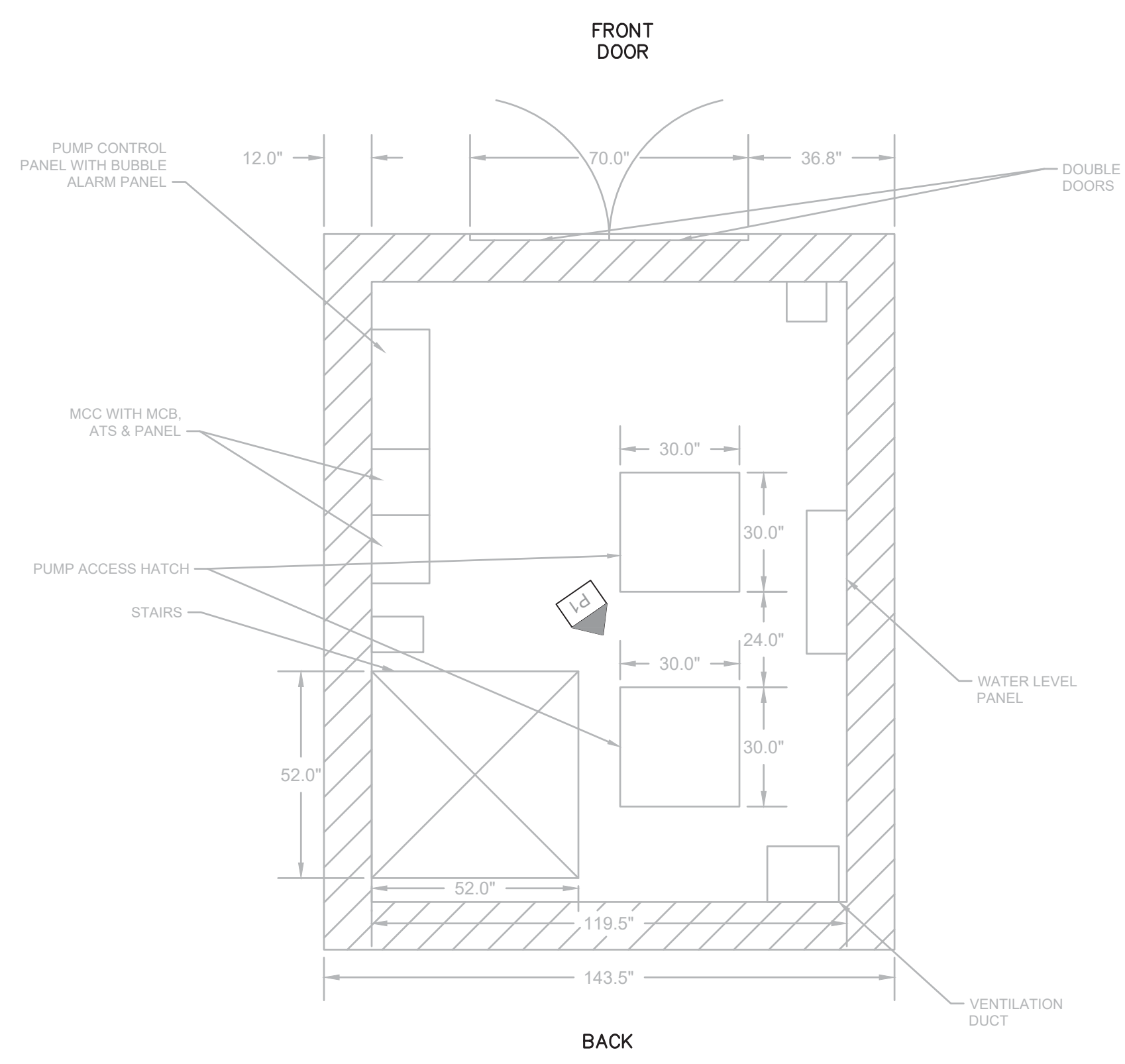
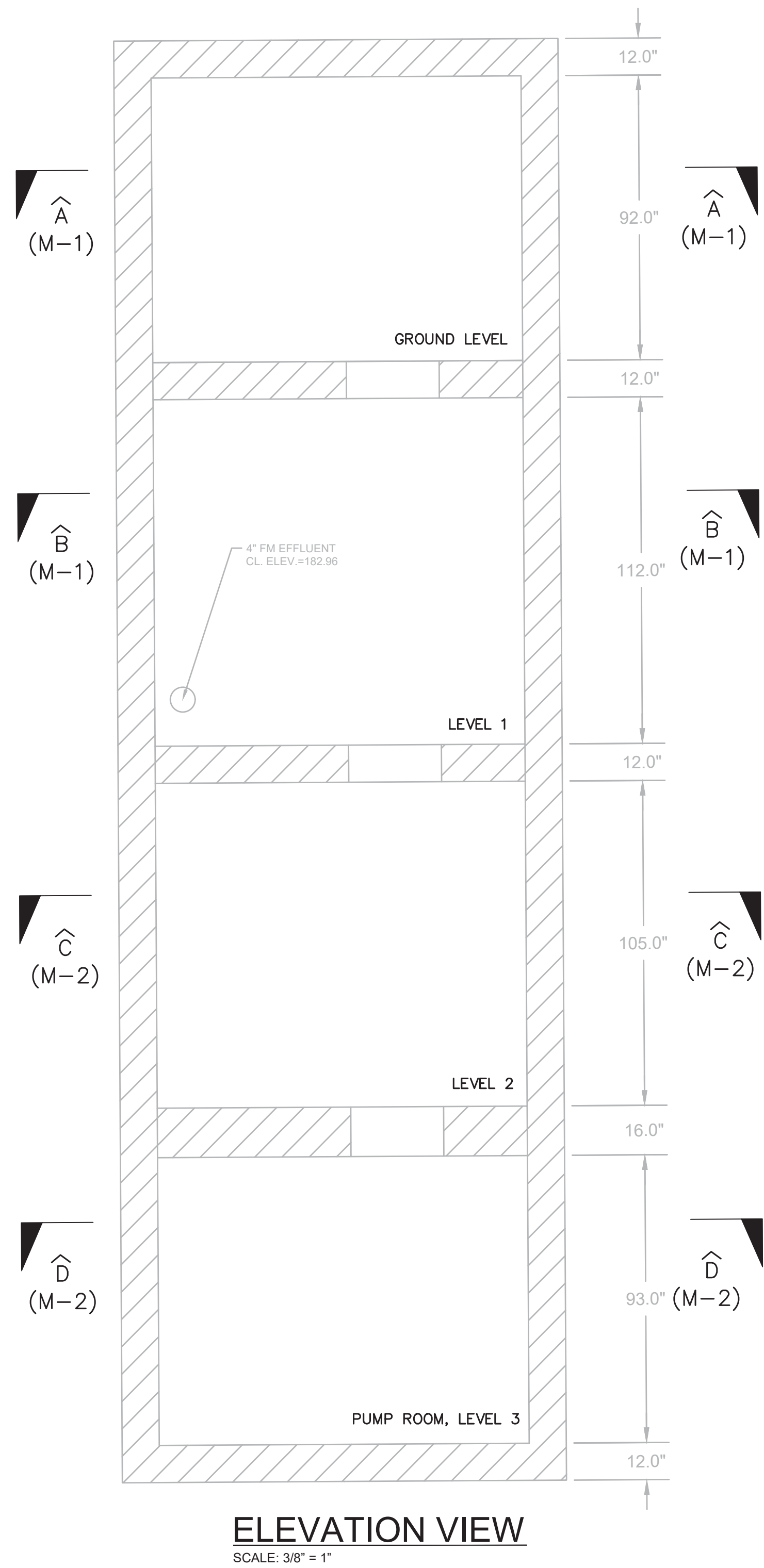
**FAR REACH ROAD PUMP STATION UPGRADES
WESTWOOD MA**

CIVIL DETAILS

FOR CONSTRUCTION

Sheet No.

C-2



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FAR REACH ROAD PUMP STATION UPGRADES
WESTWOOD MA

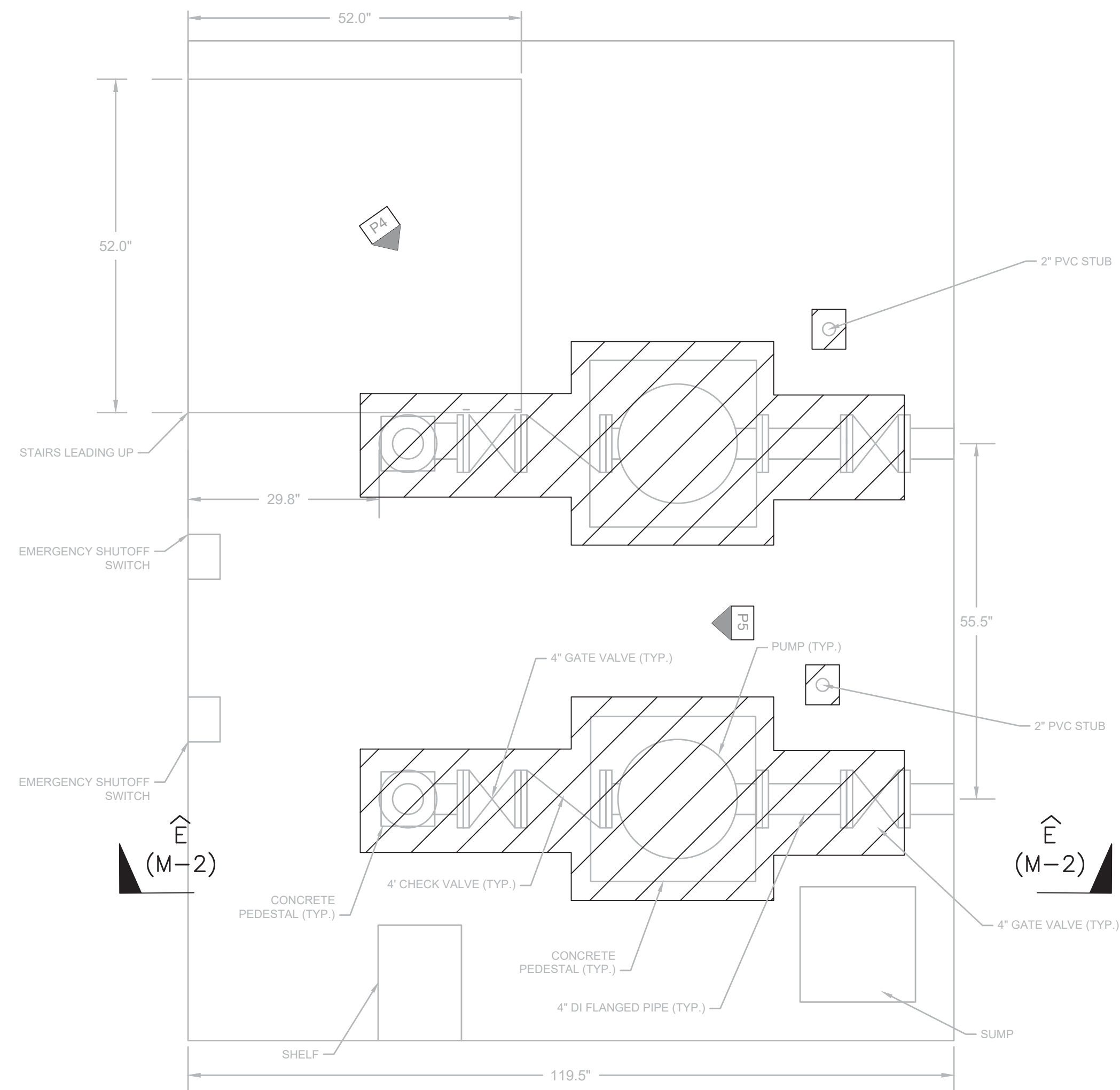
EXISTING PUMP STATION LAYOUT

FOR CONSTRUCTION

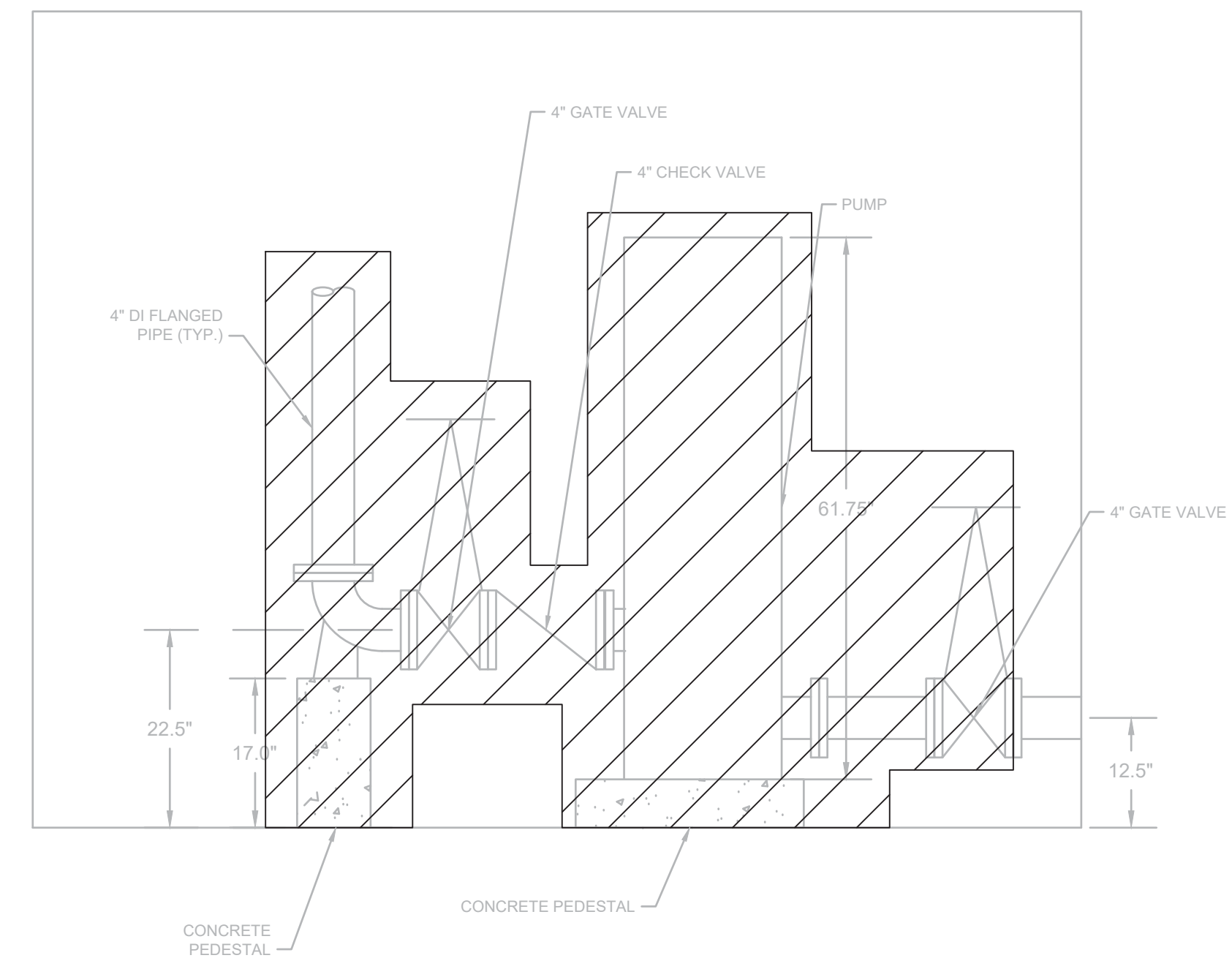
Sheet No.

M-1

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SECTION D
SCALE: 3/4" = 1"
M-1



SECTION E
SCALE: 3/4" = 1"
M-2



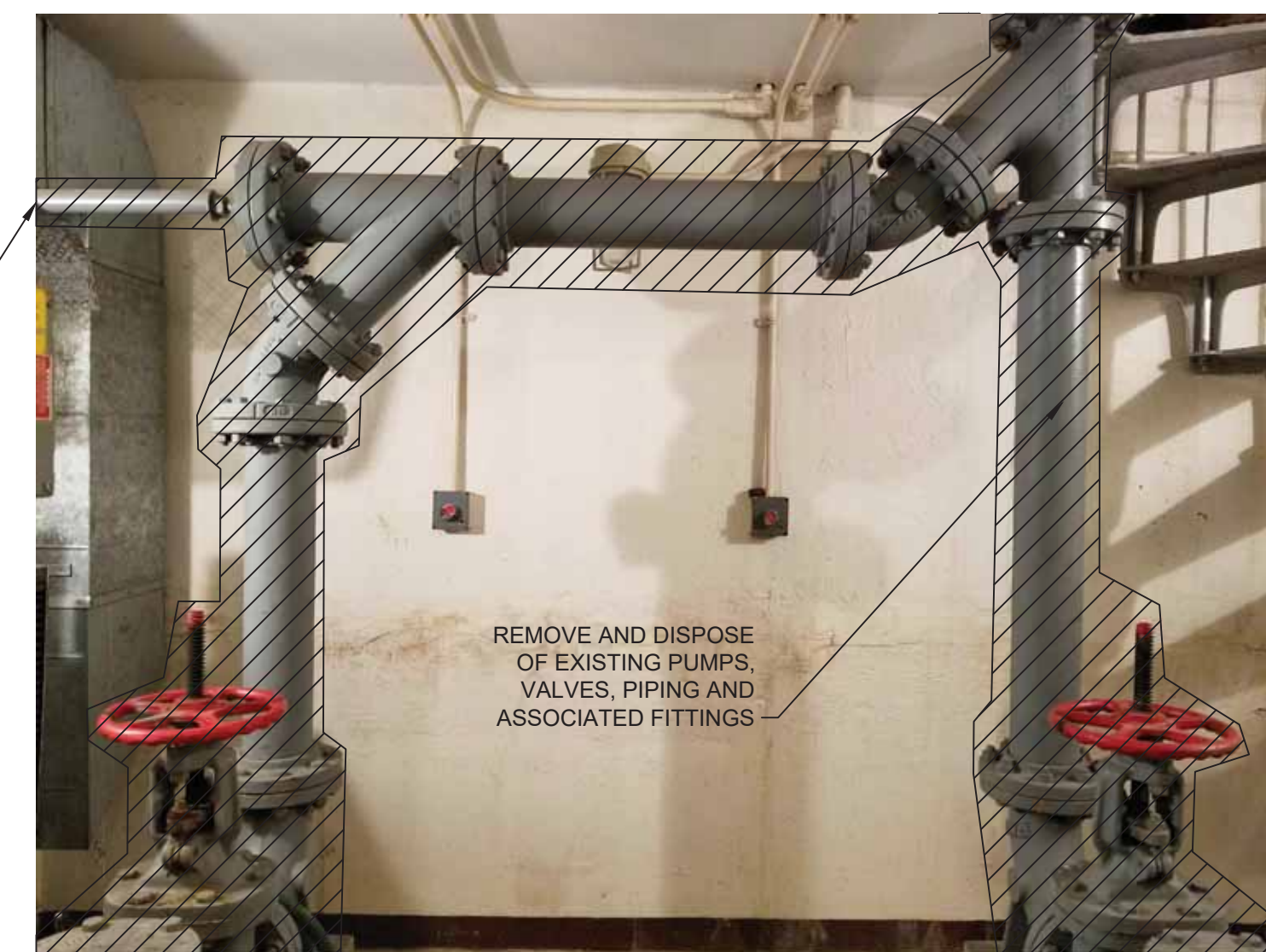
P4: PUMP ROOM

SCALE: NOT TO SCALE

REMOVE AND DISPOSE OF EXISTING PUMPS, VALVES, CONCRETE SUPPORTS, PIPING AND ASSOCIATED FITTINGS

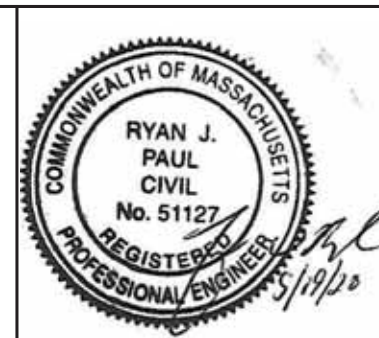
REMOVE AND DISPOSE OF HORIZONTAL PIPE SUPPORT. CUT ANCHORS FLUSH WITH WALL AND PATCH CONCRETE.

DEMO EXISTING PIPE SUPPORT PEDESTAL (TYP.)



P5: PUMP ROOM

SCALE: NOT TO SCALE



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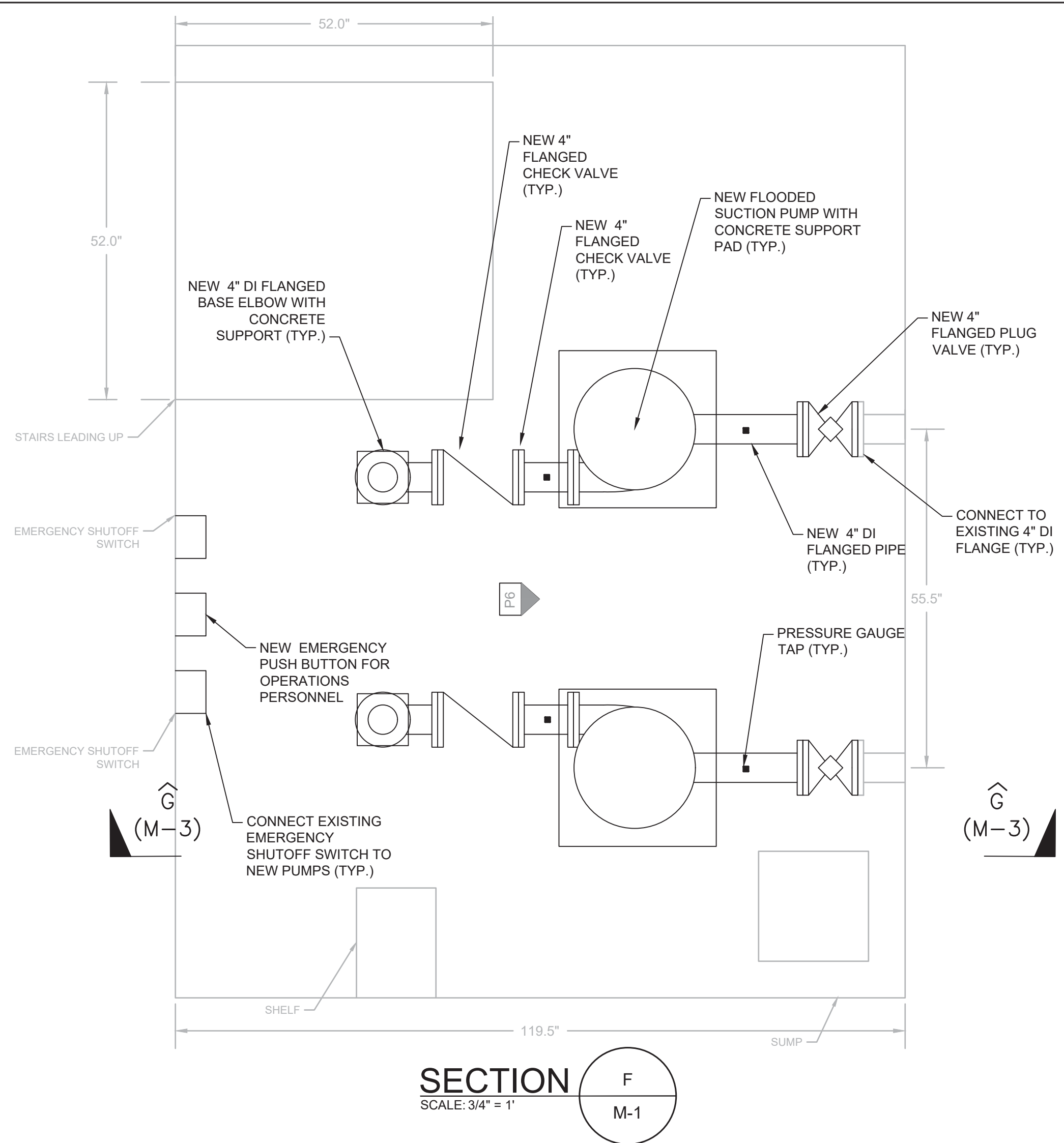
FAR REACH ROAD PUMP STATION UPGRADES
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EXISTING PUMP STATION LAYOUT
AND DEMOLITION

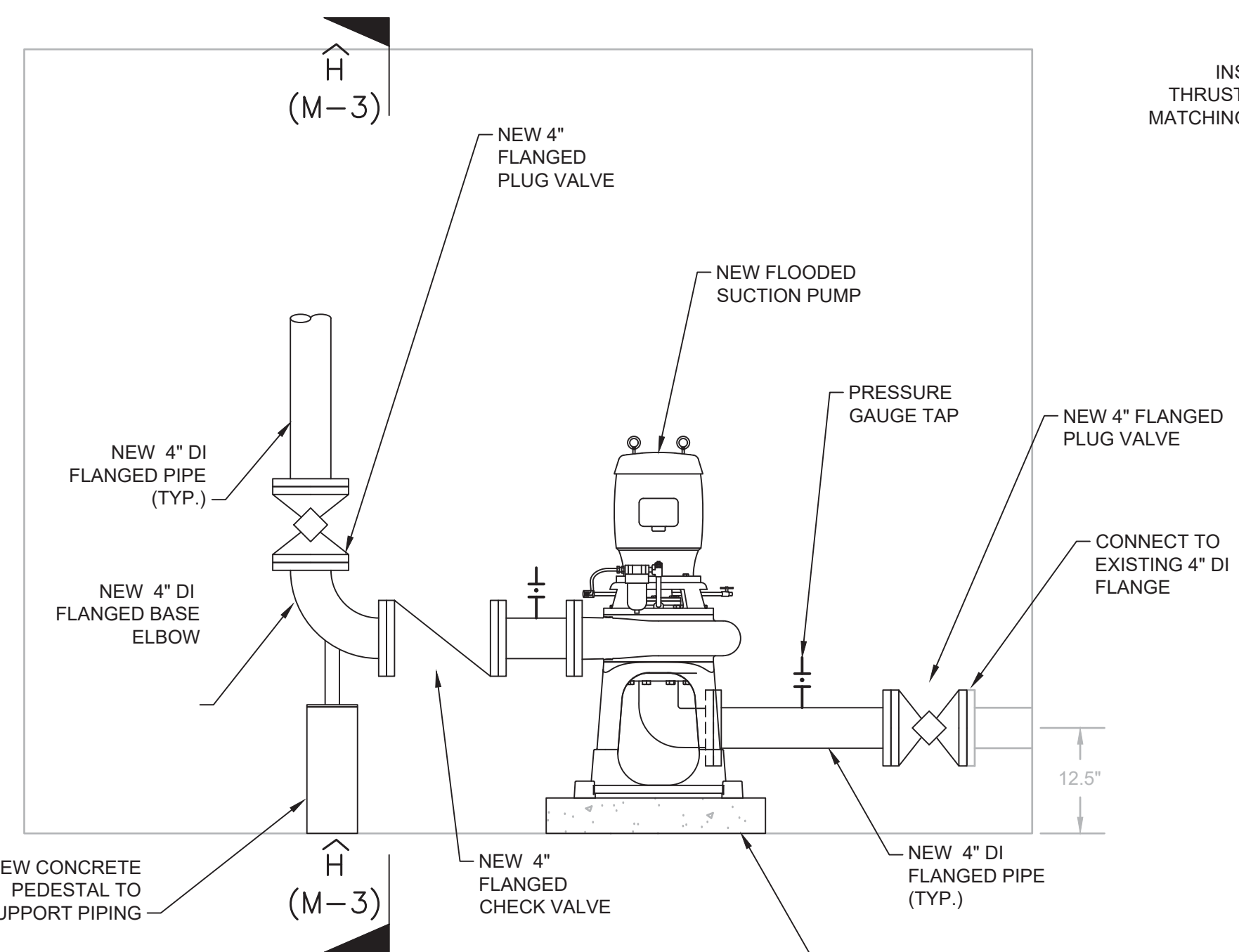
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Sheet No.

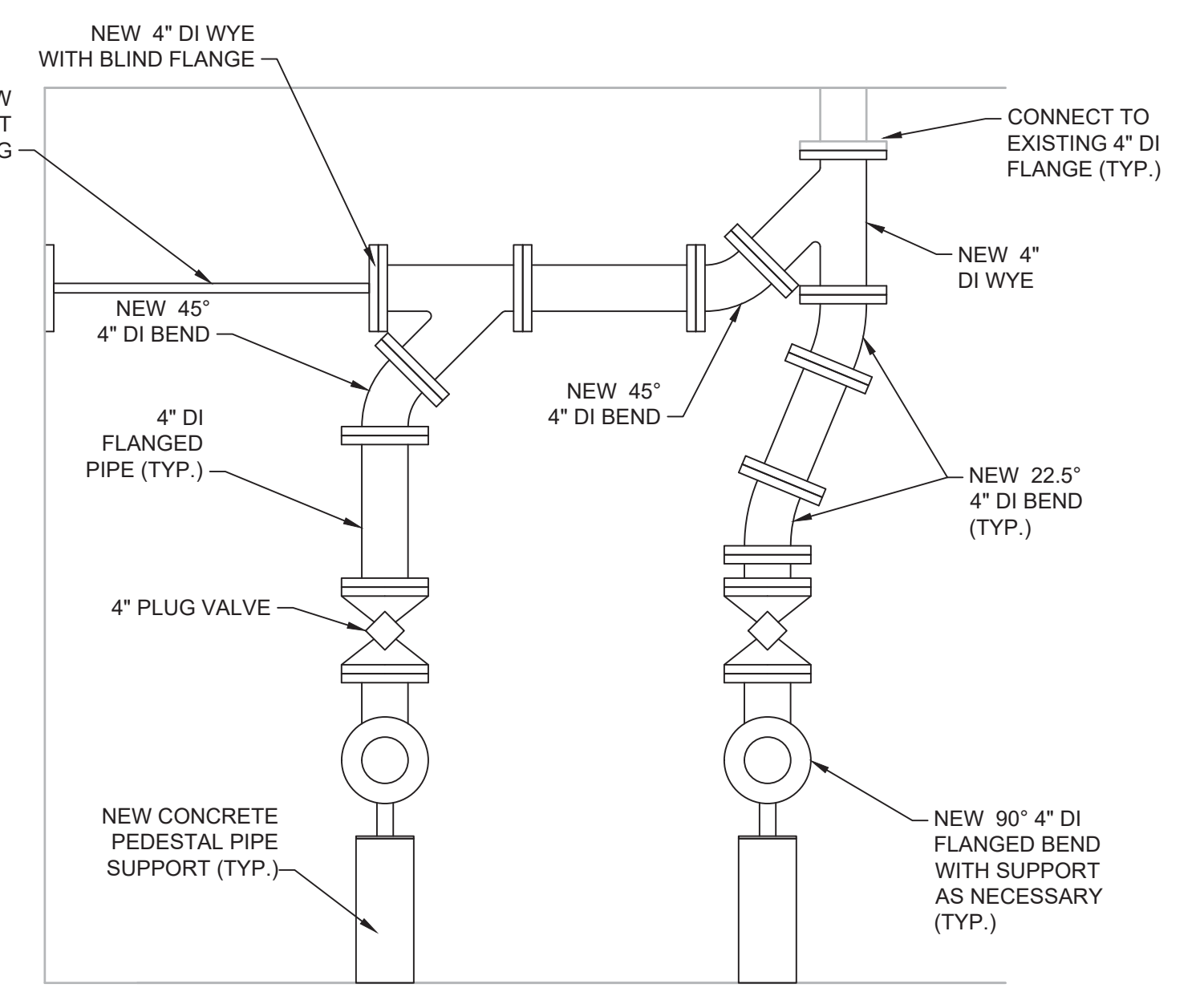
M-2



SECTION F
SCALE: 3/4" = 1'
M-1



SECTION G
SCALE: 3/4" = 1'
M-3



SECTION H
SCALE: 3/4" = 1'
M-3

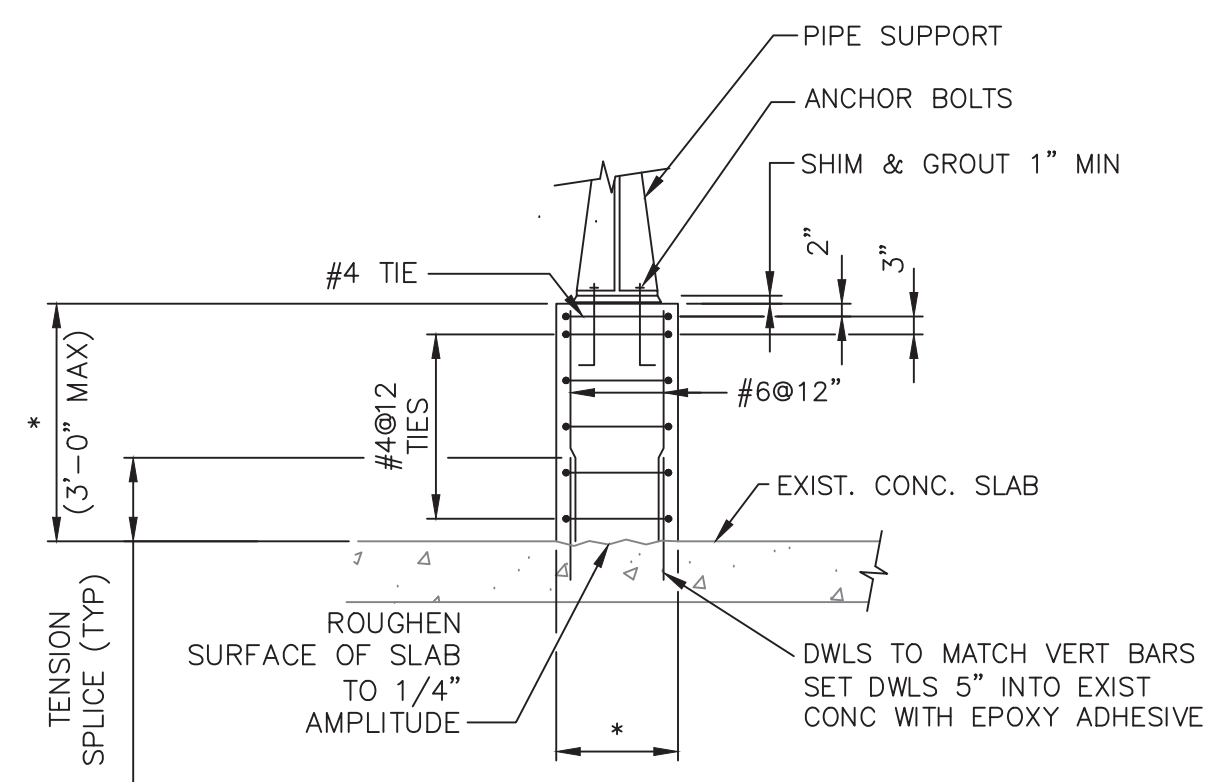


WATERPROOF EXTERIOR WALL WITH PRESSURE GROUT SYSTEM AND PAINT WALL INTERIOR

NOTES:

- CONTRACTOR SHALL WATERPROOF EXISTING WALL EXTERIOR BY DRILLING HOLES IN FOUNDATION WALL AND PRESSURE INJECTING GROUT PER MANUFACTURER RECOMMENDATION. CONTRACTOR SHALL REHABILITATE EXISTING INTERIOR WALL BY REMOVING LAYERS OF DAMAGED PAINT AND APPLYING NEW PAINT SYSTEM PER CONTRACT DOCUMENTS AND MANUFACTURERS RECOMMENDATIONS.

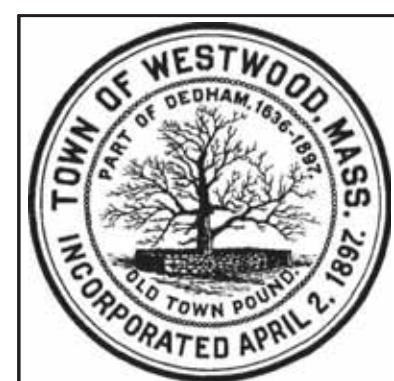
P6: PUMP ROOM
SCALE: NOT TO SCALE



NOTES:

- * INDICATES COORDINATE PEDESTAL SIZE TO SUIT EQUIPMENT.
- DESIGN, FABRICATION AND SUPPLY OF PIPE SUPPORT, INCLUDING ANCHOR BOLTS BY SUPPLIER.

PIPE PEDESTAL DETAIL
SCALE: N.T.S.



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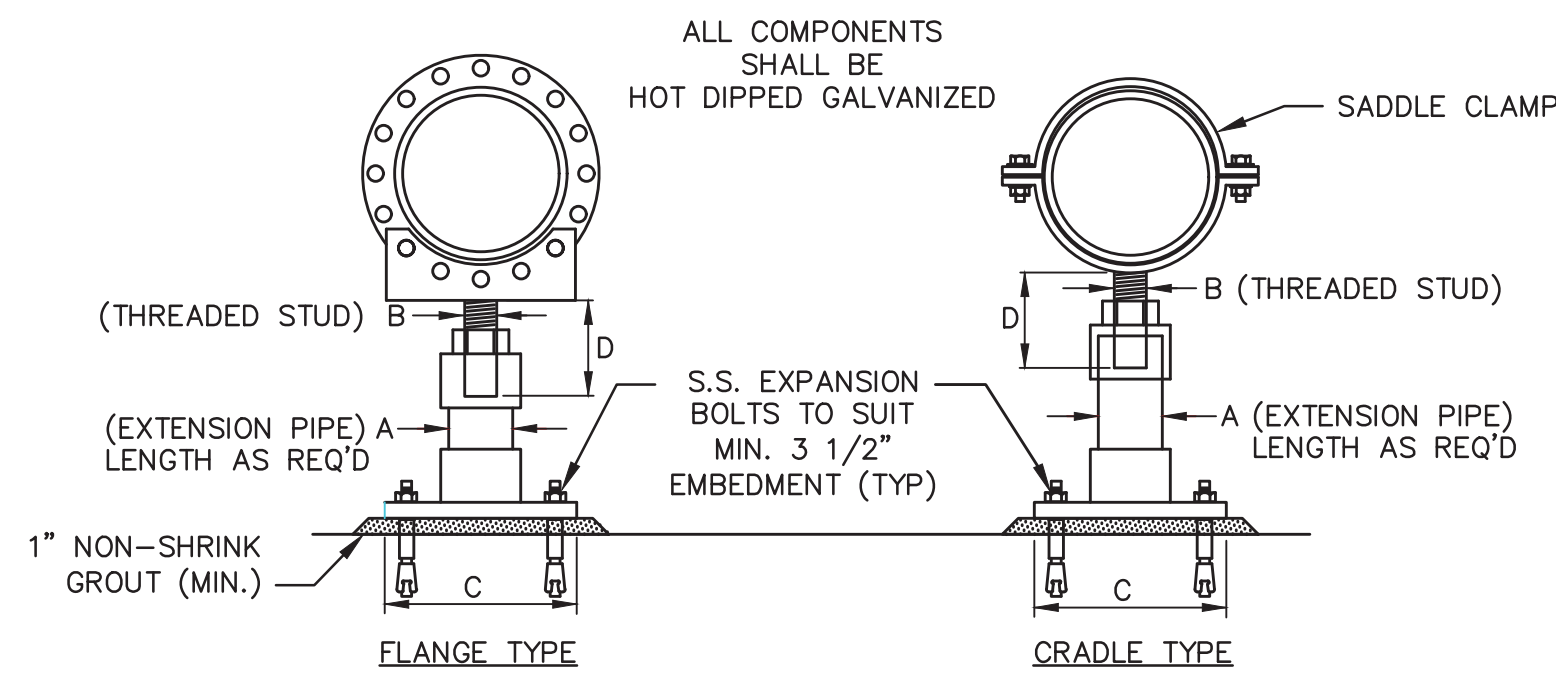
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**FAR REACH ROAD PUMP STATION UPGRADES
WESTWOOD MA**

**PUMP ROOM LAYOUT
PROPOSED WORK**

FOR CONSTRUCTION
Sheet No.
M-3

Drawing file: I:\Westwood\309\309-1902-Far Reach Road Pump Station\03 Design\Plans\Mechanical_2018.dwg Plot Date: May 19, 2020 5:55 pm

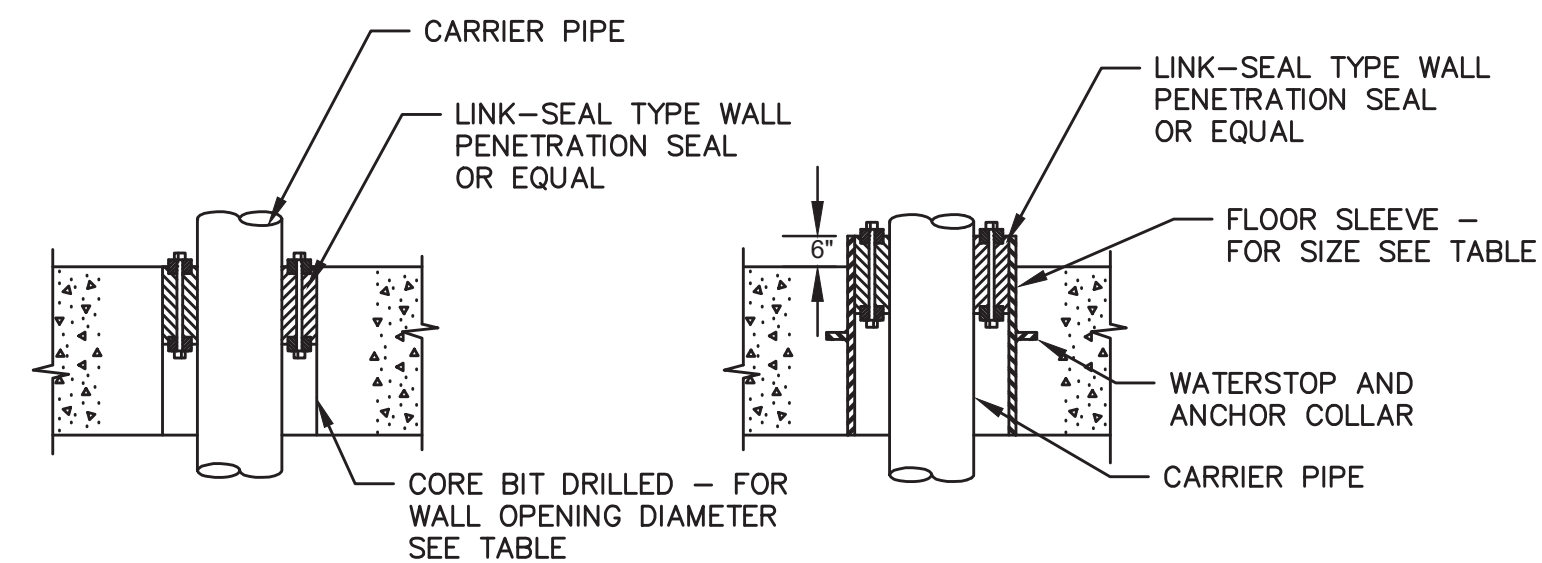


APPROXIMATE DIMENSIONS				
PIPE SIZE	A	B	C	D (MIN)
6"	2"	1"	4"x6"	6"
8"	2"	1"	4"x6"	6"
10"	2"	1"	4"x6"	6"
12"	2"	1"	4"x6"	6"
14"	3"	1 1/2"	8"x8"	6"
16"	3"	1 1/2"	8"x8"	6"
20"	4"	2"	12"x12"	6"
24"	4"	2"	12"x12"	6"

ADJUSTABLE PIPE SUPPORT DETAIL
SCALE: N.T.S.

NOTES:

- SIZES SHOWN ARE FOR DUCTILE IRON PIPE, FOR OTHER MATERIAL AND PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS. REFER TO SECTION 11200 FOR ADDITIONAL REQUIREMENTS.
- PIPE SUPPORT CALCULATIONS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 11200.
- ALL COMPONENTS OF PIPE SUPPORT SYSTEM (EXCEPT EXPANSION BOLTS) SHALL BE HOT-DIPPED GALVANIZED STEEL.



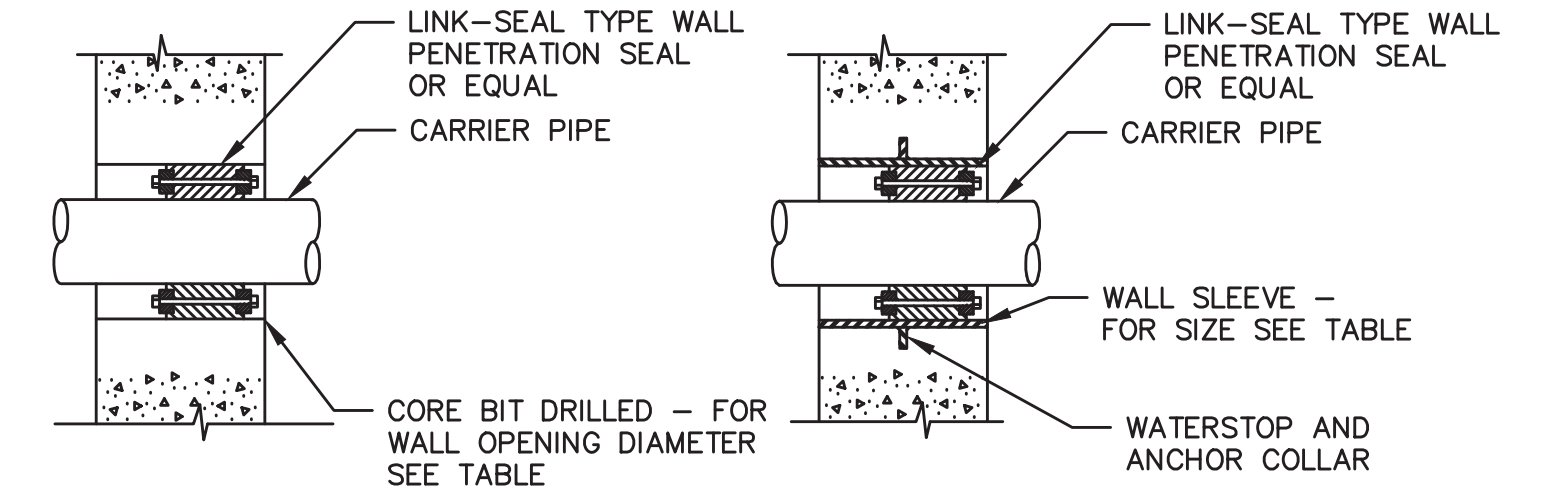
EXISTING CONCRETE FLOOR NEW CONCRETE FLOOR

CARRIER PIPE NOMINAL SIZE	CARRIER PIPE O.D.	FLOOR SLEEVE SIZE	CORE DRILLED I.D.
1 1/2"	1.625"	3"	3"
2"	2.50"	4"	4"
4"	4.80"	8"	8"
6"	6.90"	10"	10"
8"	9.05"	12"	12"
16"	17.40"	20"	20"
18"	19.50"	24"	24"
24"	25.80"	30"	29"

NOTES:

- SIZES SHOWN ARE FOR DUCTILE IRON PIPE, FOR OTHER MATERIALS AND PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS.
- FOR WATER-TIGHT AND GAS-TIGHT APPLICATIONS, PROVIDE NON-SHRINK GROUT ON BOTH SIDES.

TYPICAL PIPE SLAB PENETRATION DETAIL
SCALE: N.T.S.



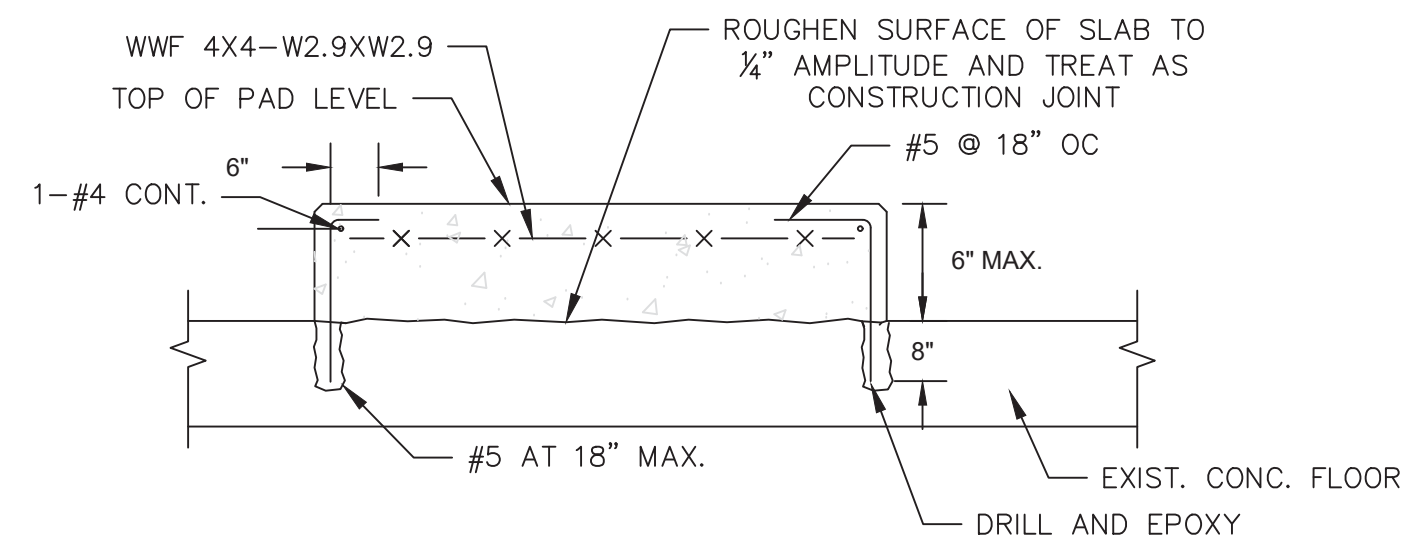
EXISTING CONCRETE WALL NEW CONCRETE WALL

CARRIER PIPE NOMINAL SIZE	CARRIER PIPE O.D.	WALL SLEEVE SIZE	CORE DRILLED I.D.
2"	2.50"	4"	4"
4"	4.80"	8"	8"
6"	6.90"	10"	10"
8"	9.05"	12"	12"
16"	17.40"	20"	20"
18"	19.50"	24"	24"
24"	25.80"	30"	29"

NOTES:

- SIZES SHOWN ARE FOR DUCTILE IRON PIPE, FOR OTHER MATERIALS AND PIPE SIZES CONSULT MANUFACTURER'S SPECIFICATIONS.
- SOME APPLICATIONS MAY REQUIRE STANDARD WALL CASTINGS.
- FOR WATER-TIGHT AND GAS-TIGHT APPLICATIONS, PROVIDE NON-SHRINK GROUT ON BOTH SIDES.

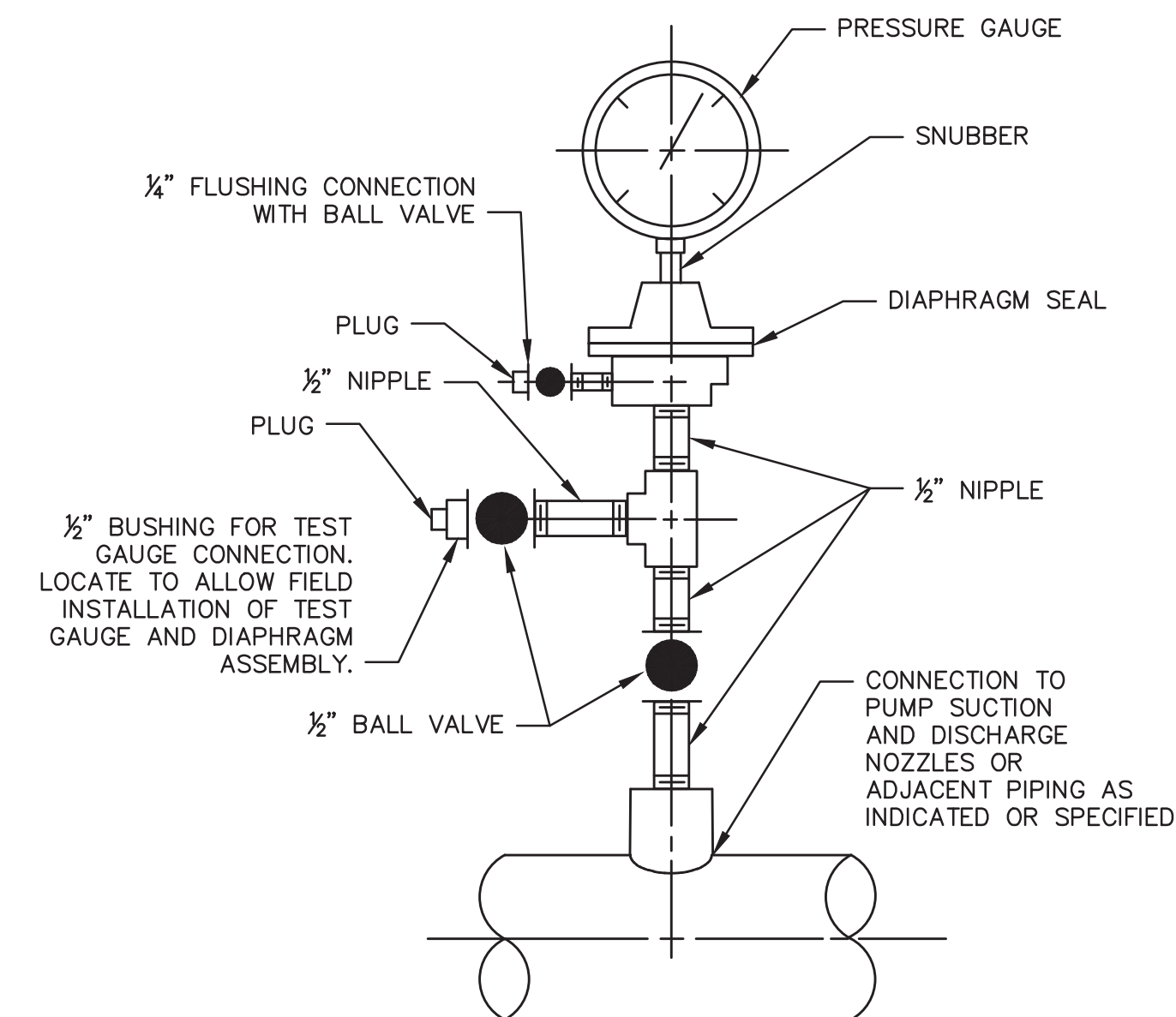
TYPICAL WALL PENETRATION DETAIL
SCALE: N.T.S.



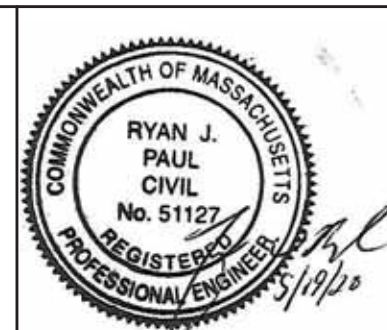
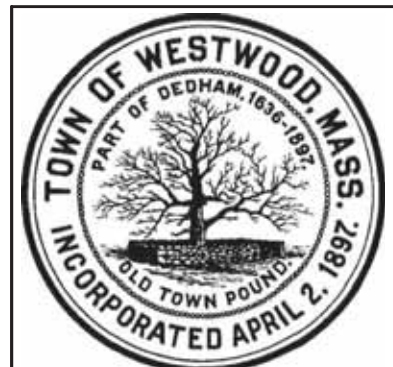
NOTES:

- THE EXACT SIZE, SHAPE AND LOCATION OF EQUIPMENT PADS SHALL BE DETERMINED BY THE CONTRACTOR AFTER APPROVAL OF SHOP DRAWINGS FOR THE EQUIPMENT. ANCHOR BOLTS WHERE REQUIRED SHALL BE SIZED AND LOCATED ACCORDING TO MANUFACTURER'S REQUIREMENTS. SEE DWGS FOR SIZE AND LOCATION.
- FOR HOUSEKEEPING PADS BETWEEN 2" AND 4" THICK, USE 1/2"Ø CONCRETE SCREW ANCHORS AT 12" OC EACH WAY. ENSURE THAT THE HEAD OF THE ANCHOR HAS A MINIMUM OF 1/2" CLEAR UNDER AND 3/4" CLEAR ON TOP.

INTERIOR CONCRETE EQUIPMENT PAD DETAIL
SCALE: N.T.S.



PRESSURE GAUGE MOUNTING DETAIL FOR LIQUID PIPING
SCALE: N.T.S.



MARK	DATE	DESCRIPTION

Scale	AS NOTED
Date	MAY 2020
Job No.	309-1902
Designed by	BJM/MEG
Drawn by	MEG
Checked by	RJR
Approved by	RJP

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

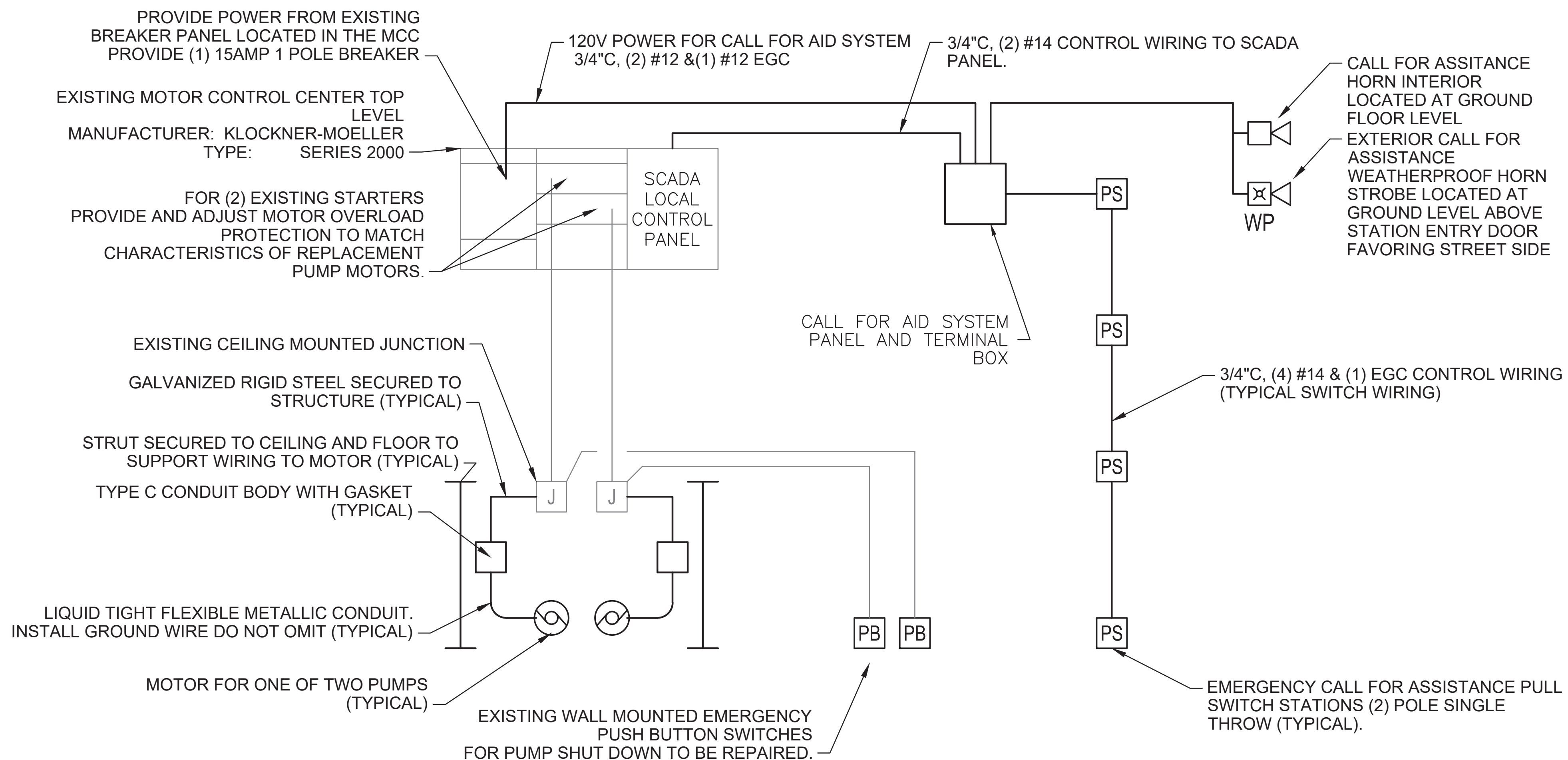
**FAR REACH ROAD PUMP STATION UPGRADES
WESTWOOD MA**

**PUMP ROOM LAYOUT
PROPOSED WORK**

FOR CONSTRUCTION

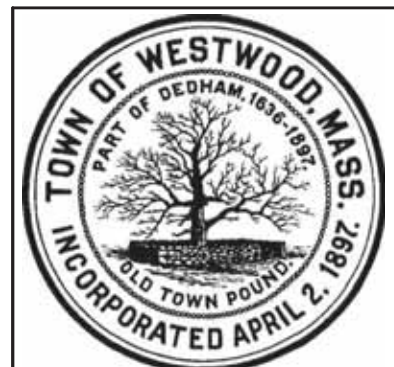
Sheet No.

M-4



ELECTRICAL WORK ITEMS

- 1) PUMP REPLACEMENTS: ELECTRIC CONTRACTOR SHALL SUPPORT THE REPLACEMENT OF (2) EXISTING PUMPS. PROVIDE DISCONNECTION OF OLD AND RECONNECTION OF REPLACEMENT PUMPS.
 - a) REPLACEMENT SHALL INCLUDE BUT NOT LIMITED TOO THE FOLLOWING:
 - i) DISCONNECT AND REMOVAL OF MOTOR CONNECTION BACK TO EXISTING CEILING MOUNTED JUNCTION BOX ABOVE THE MOTOR.
 - ii) RECONNECT REPLACEMENT PUMP FROM THE EXISTING JUNCTION BOX WITH COMBINATION OF RIGID CONDUIT AND FLEXIBLE METALLIC CONDUIT TO THE REPLACEMENT MOTOR IN ITS NEW LOCATION.
 - iii) FLEXIBLE METALLIC CONDUIT SHALL BE LESS THAT 5' IN LENGTH AND USED TO CONNECT TO THE MOTOR ELECTRIC CONNECTION BOX.
 - iv) THE FLEXIBLE AND RIGID PORTION OF THE CONDUIT SHALL BE SUPPORT IN THE VERTICAL PORTION (DROP TO MOTOR) FROM A VERTICALLY INSTALLED STAINLESS STEEL STRUT FROM CEILING TO FLOOR. STRUT LOCATION SHALL NOT INTERFERE WITH THE REPLACEMENT OF THE PUMPS OR PIPING OR CAUSE ISSUES WITH ACCESS ABOUT THE PUMP EQUIPMENT.
 - v) PROVIDE ADDITIONAL "C" TYPE CONDUIT BODY FITTING AT THE TRANSITION OF CONDUIT TYPES TO FACILITY PULLING WIRE.
 - vi) PROVIDE PLACARD AT PUMP TO INDICATE "PUMP MOTOR MAY START AT ANY TIME. THE DISCONNECT FOR THIS MOTOR IS LOCATED IN THE MOTOR CONTROL CENTER ON THE GROUND LEVEL ABOVE."
 - vii) FOR (2) EXISTING STARTERS LOCATED IN THE EXISTING MOTOR CONTROL CENTER, PROVIDE AND ADJUST MOTOR OVERLOAD PROTECTION TO MATCH CHARACTERISTICS OF REPLACEMENT PUMP MOTORS. CONTRACTOR TO COORDINATE AND VERIFY FINAL PUMP MOTORS THAT ARE TO BE INSTALLED AND PROVIDE UPDATED HEATERS, TRIP ELEMENTS AND OR ADJUSTMENT OF THE EXISTING STARTER TO PROVIDE PROTECTION TO THE REPLACEMENT MOTORS.
- 2) REPLACEMENT OF THE EXISTING EMERGENCY PUMP STOP BUTTONS
 - a) CONTRACTOR SHALL PROVIDE REPLACEMENT OF THE EXISTING EMERGENCY STOP BUTTONS DEVICE AND DEVICE COVER PLATE.
 - b) BUTTON SHALL BE PUSH TO ACTIVATE AND SHALL DISABLE THE PUMP. TO RESET PUSH BUTTON SHALL NEED TO BE MANUALLY RESET TO THE UNDEPRESSED CONDITION.
 - c) CONTRACTOR SHALL DETERMINE SPECIFIC SWITCH STYLE USED (CONTACT ARRANGEMENT) AND REPLACE WITH APPROPRIATE CONTACT OPERATION, TYPE, RATING AND STYLE.
 - d) REPLACEMENT SWITCHES AND COVER PLATES SHALL BE WATERPROOF AND GASKETED.
 - e) PROVIDE RED PLACARD LABELS TO INDICATE WHICH SWITCH OPERATES WHICH PUMP.
- 3) PROVIDE MANUAL EMERGENCY CALL FOR ASSISTANCE ALARM SYSTEM WITH PULL STRING SWITCH STATIONS. PROVIDE ALL WIRING AND DEVICES. SWITCH STATIONS SHALL BE MARKED IN BLUE "EMERGENCY" "PULL FOR HELP". ALL SWITCHES SHALL BE TWO POLE, WITH CONTACTS RATED AT 3AMPS AT 125VAC AND BE EDWARDS SIGNALING CFA SERIES 6537 OR EQUAL. ONE POLE SHALL ACTIVATE ALARM VISUAL AND AUDIBLE NOTIFICATION DEVICES INSIDE AND OUTSIDE THE PUMP STATION. SECOND SWITCH POLE SHALL SEND CLOSED CONTACT SIGNAL TO SCADA SYSTEM. ALL SWITCH STATION SHALL BE WIRED IN PARALLEL. FOR POWER PROVIDE 120V FROM PANEL INDICATED. PROVIDE A 1 POLE 15AMP BREAKER FOR PANEL INDICATED OR UTILIZE A SPARE BREAKER IF AVAILABLE. PRIMARY WIRING SHALL BE (2) #12 AND (1) #12 EGC. SECONDARY ALARM AND LOW VOLTAGE WIRING SHALL #14. EXTERIOR NOTIFICATION DEVICES SHALL BE WEATHERPROOF AND HAVE BOTH AUDIBLE AND VISUAL NOTIFICATION. EXTERIOR HORN STROBE SHALL BE EDWARDS SIGNALING 860 SERIES XENON CLEAR BEACON, 120VAC, 150CD LIGHT OUTPUT, SURFACE MOUNT MODEL 868STRC-N5 OR EQUAL. INTERIOR HORN SHALL BE EDWARDS SIGNAL MODEL 867-N5 SURFACE MOUNTED OPERATING AT 120V.



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FAR REACH ROAD PUMP STATION UPGRADES
WESTWOOD MA

ELECTRICAL ONE-LINE DIAGRAM

FOR CONSTRUCTION
Sheet No.
E-1