

TOWN OF WILMINGTON, MASSACHUSETTS

SALEM STREET WELLFIELD REPLACEMENT

JUNE 2021

LIST OF DRAWINGS

BOARD OF WATER & SEWER COMMISSIONERS

GEORGE ALLAN, CHAIRMAN

ROBERT LAVITA

MICHAEL CAMOSCIO

UTILITY AND BUSINESS MANAGER

JOSEPH LOBAO

DEPARTMENT OF PUBLIC WORKS DIRECTOR

MICHAEL WOODS

TOWN ENGINEER

PAUL ALUNNI, PE



LOCUS PLAN

1"=1000'

SHEET NUMBER	DRAWING TITLE
	COVER
G-1	GENERAL NOTES AND LEGEND
C-1	EXISTING CONDITIONS
C-2	PROPOSED SITE PLAN
C-3	CIVIL DETAILS
C-4	CIVIL DETAILS
M-1	PUMP STATION MODIFICATION PLAN
E-1	ELECTRICAL LEGEND AND GENERAL NOTES*
E-2	ELECTRICAL ONE LINE DIAGRAM*
E-3	ELECTRICAL SITE PLAN AND DETAILS*
E-4	ELECTRICAL WELL PUMP STATION DEMOLITION PLAN *
E-5	ELECTRICAL WELL PUMP STATION PLAN *
E-6	ELECTRICAL SCHEDULES AND WIRING DIAGRAMS*
H-1	HVAC LEGEND, GENERAL NOTES & SCHEDULE
H-2	HVAC WELL PUMP STATION PLAN

* FILED SUB-BID REQUIRED



EXISTING LEGEND

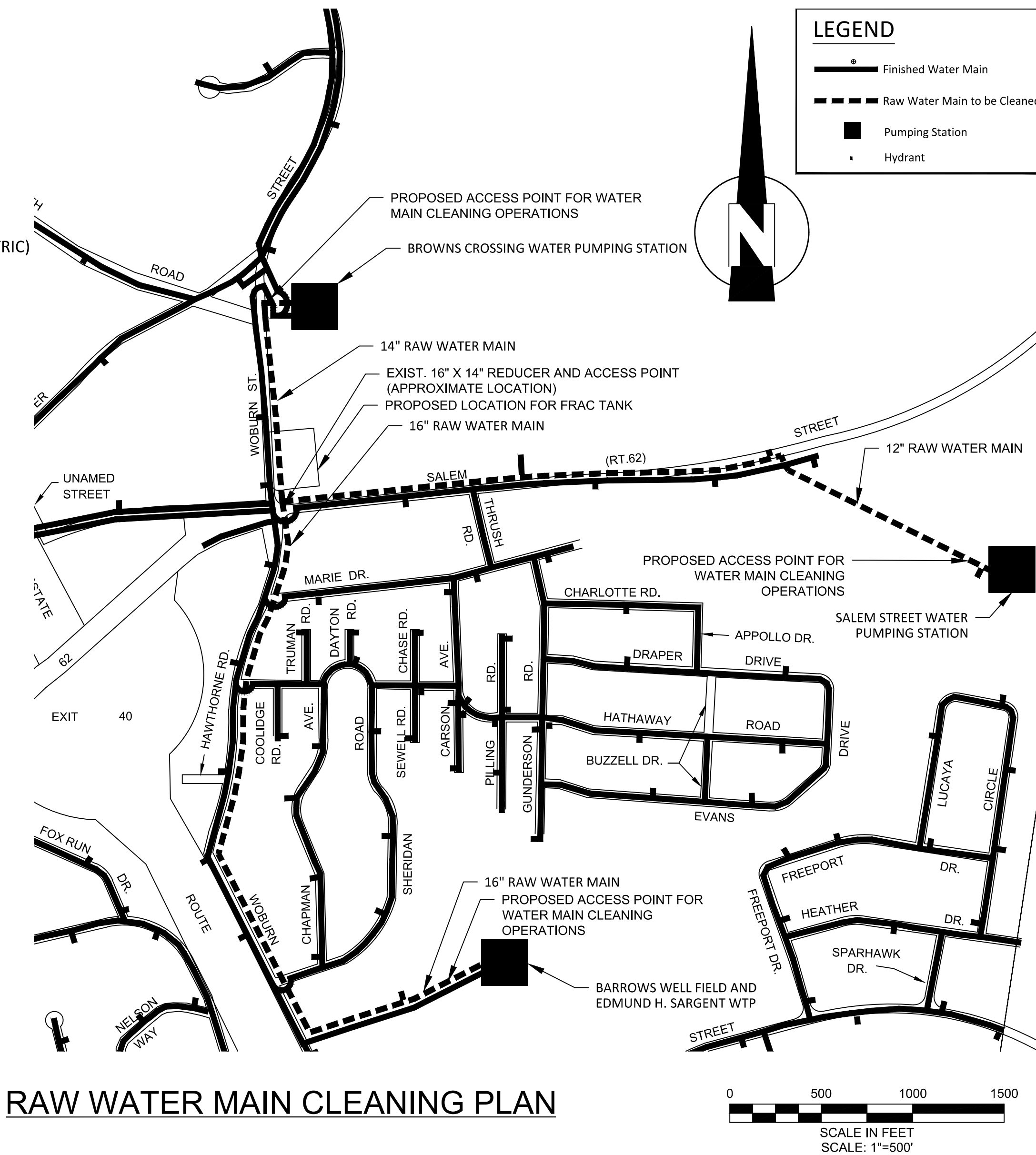
	FIRE HYDRANT
	WATER GATE VALVE/SHUTOFF
	UTILITY POLE
	SPOT GRADE
	WELL
	OBSERVATION WELL
	TEST WELL
	TREE
	CONTOUR
	DRAIN LINE
	UNDERGROUND UTILITY LINE (ELECTRIC)
	WATER MAIN
	LIMIT OF BORDERING VEGETATED WETLAND (B.V.W.) WITH FLAGGING
	LIMIT 100 FT BUFFER TO B.V.W.
	LIMIT OF BORDERING LAND SUBJECT TO FLOODING (B.L.S.F.)
	FENCE (CHAIN LINK)
	RIVER FRONT AREA (RFA)
	GRAVEL PATH
	OVERHEAD WIRE

PROPOSED LEGEND

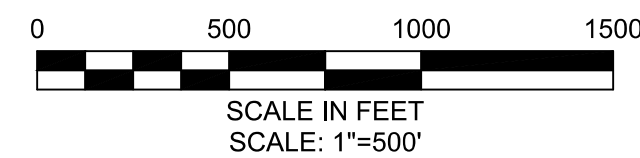
	WELL TO BE DECOMMISSIONED
	WELL
	CAP
	GATE VALVE WITH BOX
	BOLLARD
	WATER MAIN
	UNDERGROUND UTILITY LINE (ELECTRIC)
	EROSION CONTROL
	PROPOSED FENCE LINE

LEGEND

	Finished Water Main
	Raw Water Main to be Cleaned
	Pumping Station
	Hydrant



RAW WATER MAIN CLEANING PLAN



GENERAL NOTES

- CONTRACTOR SHALL NOTE PROPOSED AREAS OF CONSTRUCTION MAY HAVE HIGH GROUNDWATER AND VARIABLE SOIL CONDITIONS. CONTRACTOR SHALL PROVIDE DEWATERING WITH REQUIRED PUMPING EQUIPMENT TO CONTROL GROUNDWATER AND TRENCH BOXES TO MINIMIZE TRENCH EXCAVATION. REFER TO SPECIFICATION SECTION 02140 AND 02160.
- BASE MAP INFORMATION FOUND ON SHEETS C-1 AND C-2 WAS PREPARED BY THE TOWN OF WILMINGTON ENGINEERING DEPARTMENT. THE SURVEY PLAN IS DATED MAY 2020. THE COORDINATES OF THE SURVEY ARE IN FEET AND ARE BASED UPON THE NORTH AMERICAN DATUM OF 1983 (NAD '83). THE ELEVATIONS OF THE SURVEYS ARE IN FEET AND REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88).
- SUBSURFACE UTILITY LINES, AS SHOWN HEREON, WERE COMPILED ACCORDING TO AVAILABLE RECORD INFORMATION FROM THE APPLICABLE UTILITY COMPANIES AND PUBLIC AGENCIES, AND THEIR LOCATIONS ARE APPROXIMATE ONLY. KLEINFELDER INC. AND THE TOWN OF WILMINGTON ASSUME NO RESPONSIBILITY FOR LOCATION AND TYPE OF UNDERGROUND UTILITIES.
- THE LOCATION OF ALL SUBSURFACE STRUCTURES AND UTILITIES SHOULD BE VERIFIED THROUGH THE APPROPRIATE AGENCY, AND THE DIG-SAFE CALL CENTER (1-888-344-7233) SHOULD BE CONTACTED AT LEAST 72 HOURS BEFORE ANY EXCAVATION.
- ALL WORK AND MATERIALS SHALL CONFORM TO THE WILMINGTON WATER & SEWER DEPARTMENT RULES AND REGULATIONS, LATEST EDITION.
- CONTRACTOR SHALL INSTALL SEDIMENTATION BARRIERS AS SHOWN ON THE DRAWINGS AND AT ALL CATCH BASINS LOCATED IN CLOSE PROXIMITY TO EXCAVATION WORK. SEDIMENTATION BARRIERS SHALL REMAIN IN PLACE UNTIL TRENCHES HAVE BEEN STABILIZED AND SEED HAS GERMINATED. WORK SHALL BE IN CONFORMANCE WITH APPLICABLE CONDITIONS OF THE ORDER OF CONDITIONS FOR THE PROJECT AND ATTACHED AS APPENDIX B TO THE SPECIFICATIONS.
- CONTRACTOR SHALL NOT REMOVE ANY TREES OR VEGETATION OTHER THAN APPROVED IN THE ORDER OF CONDITIONS WITHOUT WRITTEN APPROVAL FROM THE WILMINGTON CONSERVATION COMMISSION.
- ALL TRUCKS AND EQUIPMENT MUST BE STORED OVERNIGHT OUTSIDE OF THE 100-FOOT WETLAND BUFFER ZONE. ALL TRUCKS AND EQUIPMENT MUST BE REFUELED OUTSIDE OF THE 100-FOOT WETLAND BUFFER ZONE.
- ALL PROPERTY LINES AND ROADWAY LAYOUT LINES ARE COMPILED FROM THE TOWN OF WILMINGTON ASSESSORS MAPS AND ARE APPROXIMATE.
- THIS PROJECT HAS A MILESTONE SCHEDULE THAT MUST BE ADHERED TO BY THE CONTRACTOR. REFER TO SECTION 01010 OF THE SPECIFICATIONS.
- ALL WATER MAIN JOINTS AND FITTINGS SHALL BE RESTRAINED. SEE SPECIFICATION SECTION 02615 FOR APPROVED PRODUCTS.
- THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DIMENSIONS, LAYOUT OR ELEVATION CHANGES REQUIRED TO SUIT THE SPECIFIC EQUIPMENT BEING PROVIDED UNDER THIS CONTRACT.
- AFTER INSTALLATION, ALL NEW PIPING SHALL BE PRESSURE TESTED AND DISINFECTED IN ACCORDANCE WITH SPECIFICATION SECTIONS 02675 AND 02704. ALL LEAKS SHALL BE CORRECTED AND RETESTED UNTIL PRESSURE TEST IS SATISFACTORILY COMPLETED.
- WHERE NEW PIPING IS CONNECTING TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ADAPTERS, COUPLERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO COMPLETE THE INSTALLATION. CONNECTIONS SHALL BE RESTRAINED.

WATER MAIN CLEANING NOTES

- CONTRACTOR SHALL CLEAN THE TOWN'S EXISTING RAW WATER MAIN FROM SALEM STREET WATER PUMPING STATION AND BROWNS CROSSING WATER PUMPING STATION TO THE SARGENT TREATMENT FACILITY, THROUGH THE USE OF POLY PIGS. TREATMENT SYSTEM WILL BE SHUT DOWN DURING WATER MAIN CLEANING. SHUT DOWN SHALL NOT EXCEED 3 DAYS.
- WORK SHALL BE COMPLETED BY A QUALIFIED CONTRACTOR WITH TEN YEARS EXPERIENCE WITH INTERNAL PIPELINE CLEANING PROJECTS OF SIMILAR SIZE. CONTRACTOR SHALL HAVE COMPLETED FIVE PROJECTS OF SIMILAR SIZE AND SCOPE WITHIN THE PAST FIVE YEARS. CONTRACTOR IS REQUIRED TO SUBMIT EVIDENCE OF QUALIFICATIONS, PROPOSED METHODS AND PROCEDURES FOR COMPLETING CLEANING OPERATIONS, AND PROPOSED SCHEDULE TO ENGINEER FOR REVIEW AND APPROVAL. THIS WORK SHALL BE PERFORMED PRIOR TO THE PLANNED SHUT-DOWN OF SALEM STREET PUMP STATION. SCHEDULE SHALL BE SUBMITTED TO OWNER TWO WEEKS IN ADVANCE OF CLEANING.
- OWNER WILL EXCAVATE WATER MAIN AT REQUIRED ACCESS POINTS, DISPOSE OF SEDIMENT AND MATERIALS FROM FRAC TANK, PROVIDE ACCESS TO WATER MAIN (CUTTING OF MAIN), REPAIR MAIN ONCE CLEANING OPERATIONS HAVE BEEN COMPLETED, BACKFILL TRENCHES, AND RESTORE SURFACE. CONTRACTOR IS RESPONSIBLE FOR DISPOSING OF WATER (SEDIMENTS AND MATERIALS DISPOSED OF BY TOWN), FURNISHING AND INSTALLING PIG LAUNCHERS, RECEIVERS, AND CLEANING PIGS, COORDINATION OF CLEANING OPERATIONS WITH THE TOWN, ELECTRONIC TRACKING EQUIPMENT (IF NEEDED), PUMPS, FRAC TANKS, HOSES, DEWATERING GENERAL PERMITS FOR DISCHARGE (IF NEEDED), ASSOCIATED PERMIT FEES AND ORDERING AND SCHEDULING POLICE DETAILS AS NEEDED. TOWN WILL BE RESPONSIBLE FOR PAYMENT OF POLICE DETAILS. THE TOWN WILL PROVIDE WATER.
- OPERATIONS OF VALVES AND CONNECTIONS TO HYDRANTS SHALL BE MADE BY TOWN PERSONNEL ONLY. CONTRACTOR IS RESPONSIBLE FOR COORDINATING THESE ACTIVITIES WITH THE TOWN AND PROVIDING A MINIMUM OF THREE DAYS NOTICE PRIOR TO STARTING WORK. BACKFLOW PREVENTERS SHALL BE FURNISHED BY THE CONTRACTOR AND APPROVED FOR USE BY THE TOWN.



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SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

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DRAWING NTS

ORIGINAL DRAWING SIZE IS 22 x 34

GENERAL NOTES AND LEGEND

TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD
REPLACEMENT



TOWN OF WILMINGTON
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION
121 GLEN ROAD WILMINGTON, MA 01887
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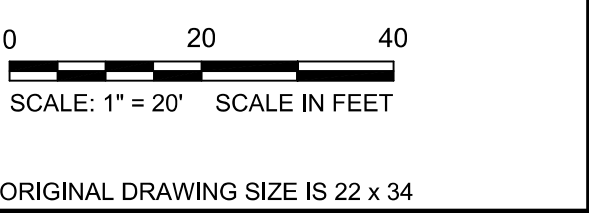
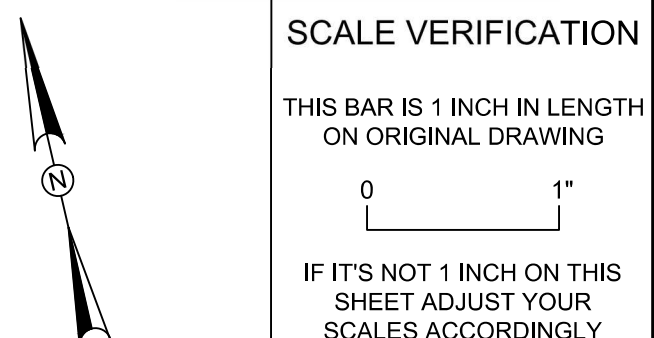
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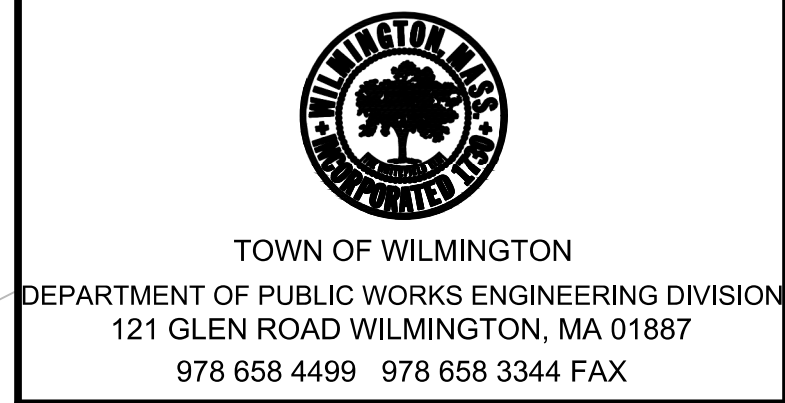
G-1

PLOTTED: 7/6/2021 11:40 AM BY: rnhshh/tyer
LAYOUT: Layout1
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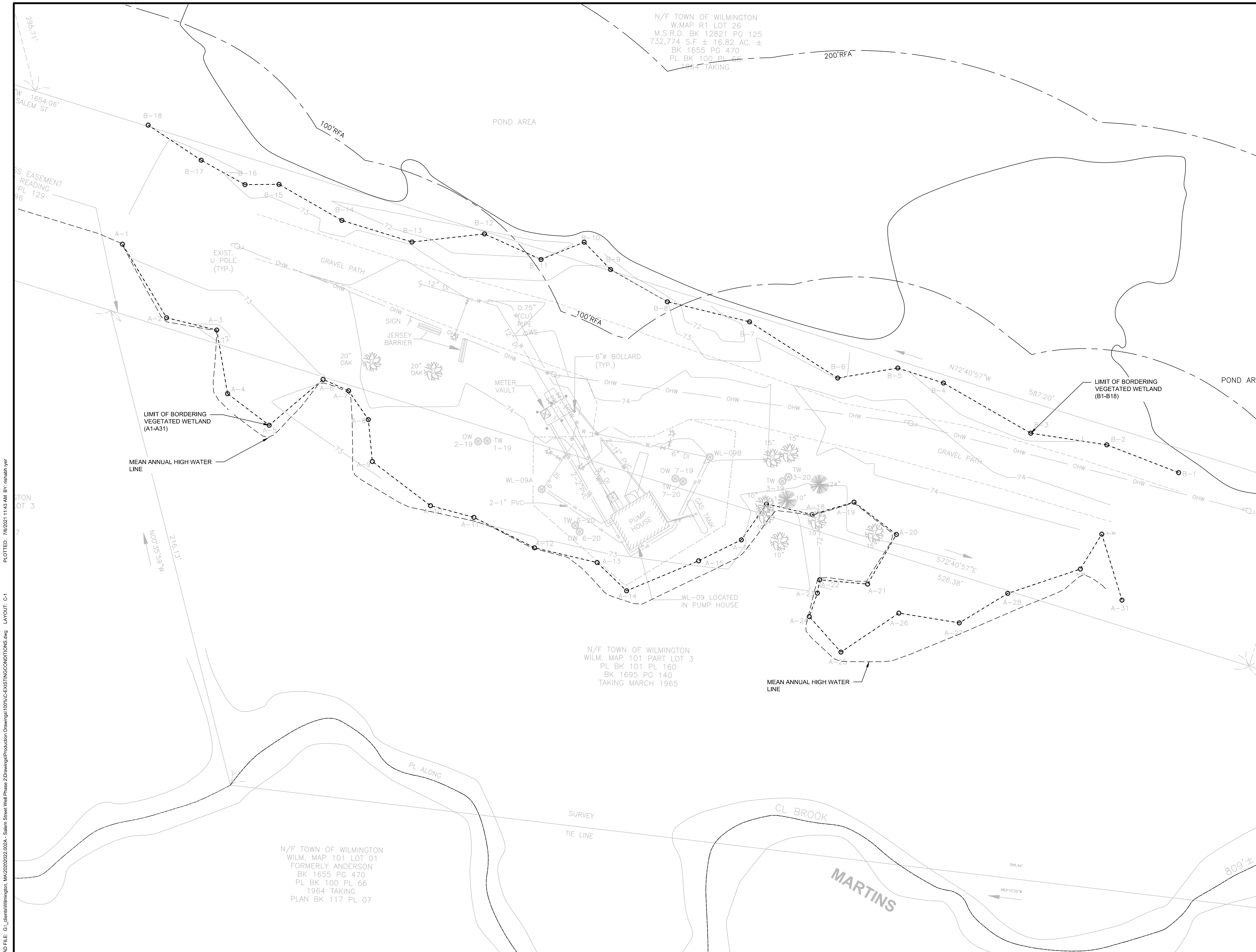
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REV	DESCRIPTION	DSN DWN	CHK APP	DATE



EXISTING CONDITIONS
TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD
REPLACEMENT



100% DESIGN		C-1
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APPROVED BY	FC	SHEET 3 of 15



N/F TOWN OF WILMINGTON
W.MAP R1 LOT 26
M.S.R.D. BK 12821 PG 125
732,774 S.F ± 16.82 AC. ±
BK 1655 PG 470
PL BK 100 PL 66
1964 TAKING

N/F TOWN OF WILMINGTON
WILM. MAP 101 PART LOT 3
PL BK 101 PL 160
BK 1695 PG 140
TAKING MARCH 1965

N/F TOWN OF WILMINGTON
WILM. MAP 101 LOT 01
FORMERLY ANDERSON
BK 1655 PG 470
PL BK 100 PL 66
1964 TAKING
PLAN BK 117 PL 07

CAD FILE: G:\delima\Wilmington, MA\20202022.002A - Salem Street Well Phase 2\Drawings\Production Drawings\100%EXISTINGCONDITIONS.dwg LAYOUT: C-1 PLOTTED: 7/6/2021 11:43 AM BY: rimahm.yer

PROPOSED WELL SCHEDULE

Well ID	Pipe Material	Pipe Size	Anticipated Well Depth (ft)	Screen Interval (ft bgs)
9A-R	Ductile Iron	6"	45	45-35
9B-R	Ductile Iron	6"	45	45-35
9C	Ductile Iron	6"	45	45-35

NOTES:

- CONTRACTOR SHALL DECOMMISSION (ABANDON IN PLACE) WL-09A AND WL-09B (8 INCH DIA) IN ACCORDANCE WITH MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (MASSDEP) GUIDELINES DATED MARCH 2009, SECTION 4, BY A MASSACHUSETTS REGISTERED WELL DRILLER.
- ANY WORK OCCURRING WITHIN RESOURCE AREAS OR ASSOCIATED BUFFER ZONES SHALL BE CONDUCTED IN ACCORDANCE WITH THE ORDER OF CONDITIONS AND REQUIREMENTS OF THE WILMINGTON CONSERVATION COMMISSION. SEE APPENDIX B OF THE SPECIFICATIONS.
- THE DRILLING CONTRACTOR SHALL CONFIRM THE WELL DEPTH AND DIAMETER TO DETERMINE THE AMOUNT OF MATERIALS NEEDED TO PROPERLY DECOMMISSION THE WELLS. CLEAN SAND SHALL BE USED TO FILL THE WELL CASING TO WITHIN 10-FOOT OF THE TOP OF WELL CASING. THE UPPER 10-FOOT SHALL BE FILLED WITH A MIXTURE OF NEAT CEMENT AND 6% BENTONITE BY WEIGHT. MATERIALS SHALL BE PLACED FROM BOTTOM TO TOP OF WELL. THE DRILLING CONTRACTOR SHALL ENSURE A PROPER SEAL HAS BEEN ESTABLISHED WITHOUT ALLOWING THE CEMENT/BENTONITE MIXTURE TO ENTER THE RESOURCE AREA. THE DRILLER SHALL CONTAIN ALL MATERIALS AND EQUIPMENT AND PREVENT THE RELEASE OF CONTAMINANTS INTO THE RESOURCE AREAS DURING DECOMMISSIONING OF THE WELLS. THE DRILLING CONTRACTOR SHALL SUBMIT COMPLETE RECORDS OF THE WELL DECOMMISSIONING TO DEP, WILMINGTON DEPARTMENT OF PUBLIC WORKS, AND WILMINGTON BOARD OF HEALTH. THE WELL CASING SHALL BE CUT OFF AT GRADE AFTER THE CASING IS FILLED. THIS WORK SHALL NOT COMMENCE UNTIL ALL OTHER WORK IS COMPLETE AND THE MASSDEP HAS BEEN NOTIFIED. NOTE THAT WL-09B WILL NEED TO BE CUT APPROX. 5' BELOW GRADE TO ALLOW FOR INSTALLATION OF WATER MAIN.
- ENTIRE PROJECT AREA IS WITHIN 100' BUFFER ZONE TO BORDERING VEGETATED WETLANDS AND BORDERING LAND SUBJECT TO FLOODING (EL. 77')
- CONTRACTOR TO PROTECT OBSERVATIONS WELLS ADJACENT PROPOSED PRODUCTION WELLS DURING CONSTRUCTION.
- CONTRACTOR TO REGRADE THE ENTRANCE TO SALEM STREET PUMP STATION TO DIRECT RUNOFF AWAY FROM ENTRANCE. CONTRACTOR TO GRADE AT A 2 PERCENT SLOPE AWAY FROM ENTRANCE.
- CONTRACTOR TO CLEAR ANY VEGETATION (BEYOND WHAT IS SHOWN IN THE PLAN BELOW) WITHIN THE PROPOSED FENCE AREA.
- FINAL LOCATION OF ALL PROPOSED TREES AND SHRUBS TO BE DETERMINED BY THE ENGINEER AND CONSERVATION AGENT.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF 4" OF EXISTING DENSE GRADE ROAD MATERIAL, REPLACE WITH 4" LOAM, SEED WITH APPROVED NATIVE WETLAND SEED MIX AND INSTALL PLANTINGS AS SHOWN. LIMITS OF RESTORATION AREA ARE APPROXIMATE AND WILL BE DETERMINED IN THE FIELD BY THE ENGINEER. TOTAL RESTORATION AREA WILL BE 950 SF.

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SCALE VERIFICATION

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SCALE: 1" = 10' SCALE IN FEET

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 22 x 34

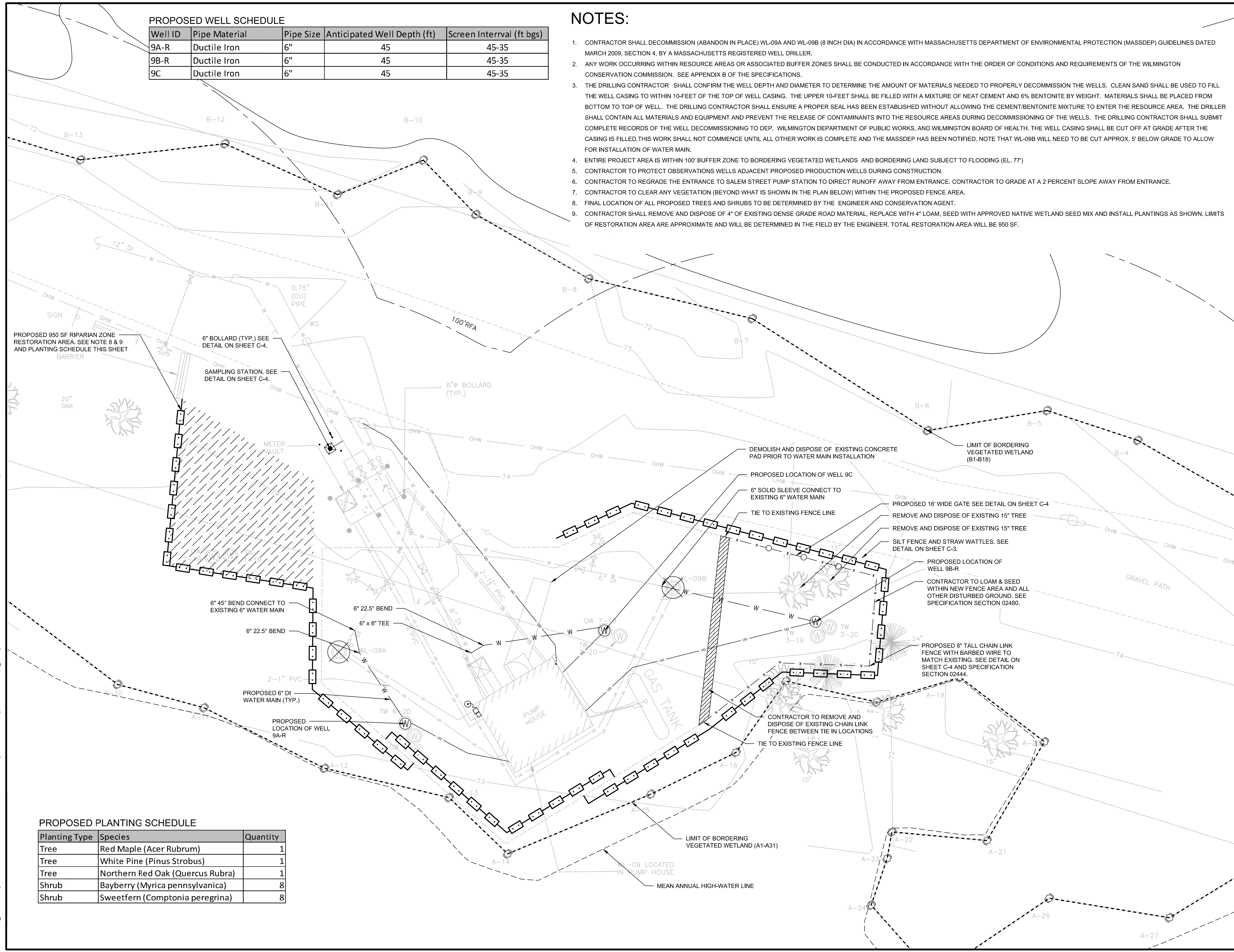
PROPOSED SITE PLAN

TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD
REPLACEMENT

TOWN OF WILMINGTON
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION
121 GLEN ROAD WILMINGTON, MA 01887
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PROPOSED PLANTING SCHEDULE

Planting Type	Species	Quantity
Tree	Red Maple (<i>Acer Rubrum</i>)	1
Tree	White Pine (<i>Pinus Strobus</i>)	1
Tree	Northern Red Oak (<i>Quercus Rubra</i>)	1
Shrub	Bayberry (<i>Myrica pennsylvanica</i>)	8
Shrub	Sweetfern (<i>Comptonia peregrina</i>)	8

PLOTTED: 7/6/2021 11:43 AM BY: rnahabh/yer

CAD FILE: G:\delima\Wilmington, MA\20202022.002A - Salem Street Well Phase 2\Drawings\Production Drawings\100% C-SITE\PLAN_R1.dwg LAYOUT: C-2

REVISIONS

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CIVIL DETAILS

TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD REPLACEMENT

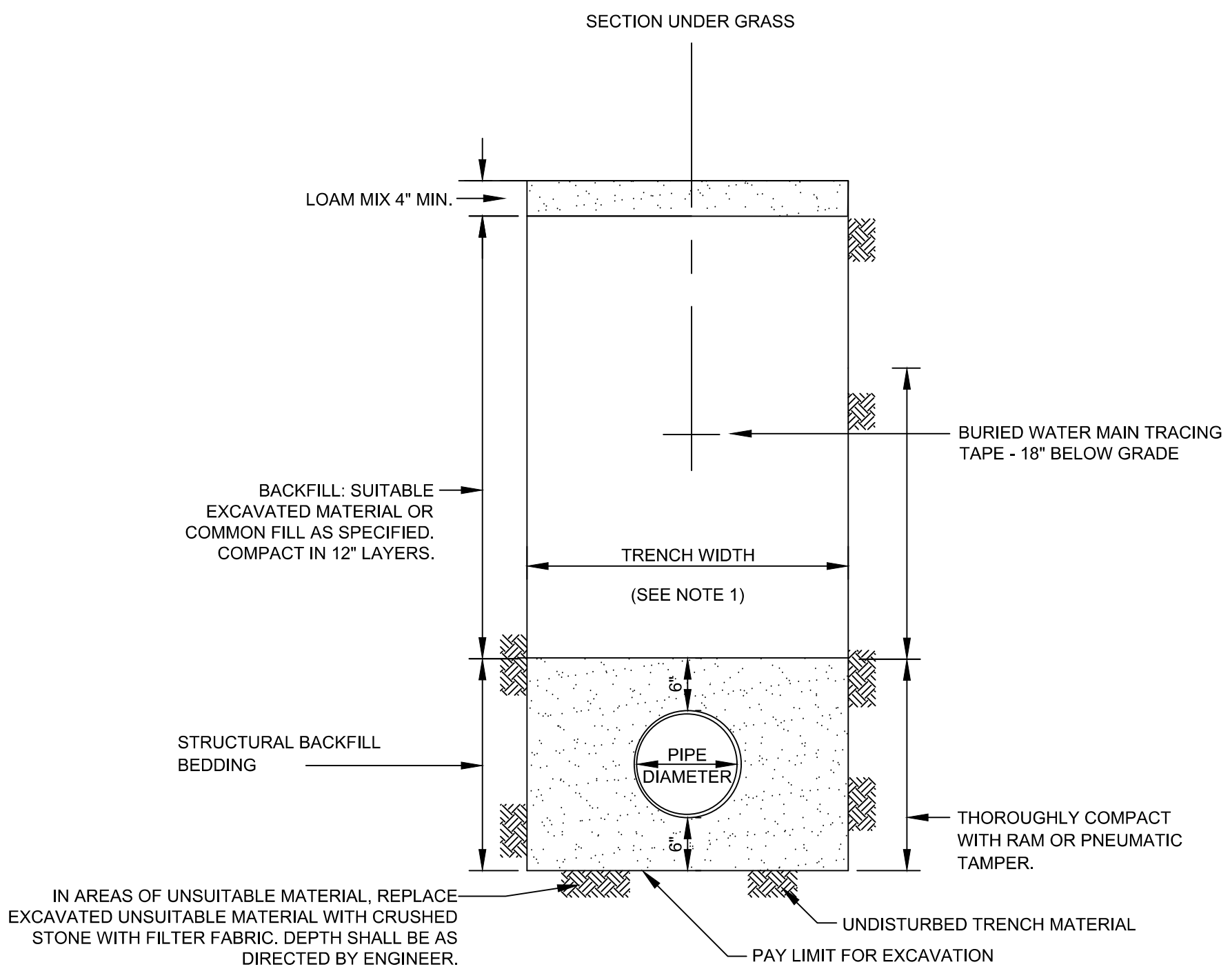


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C-3

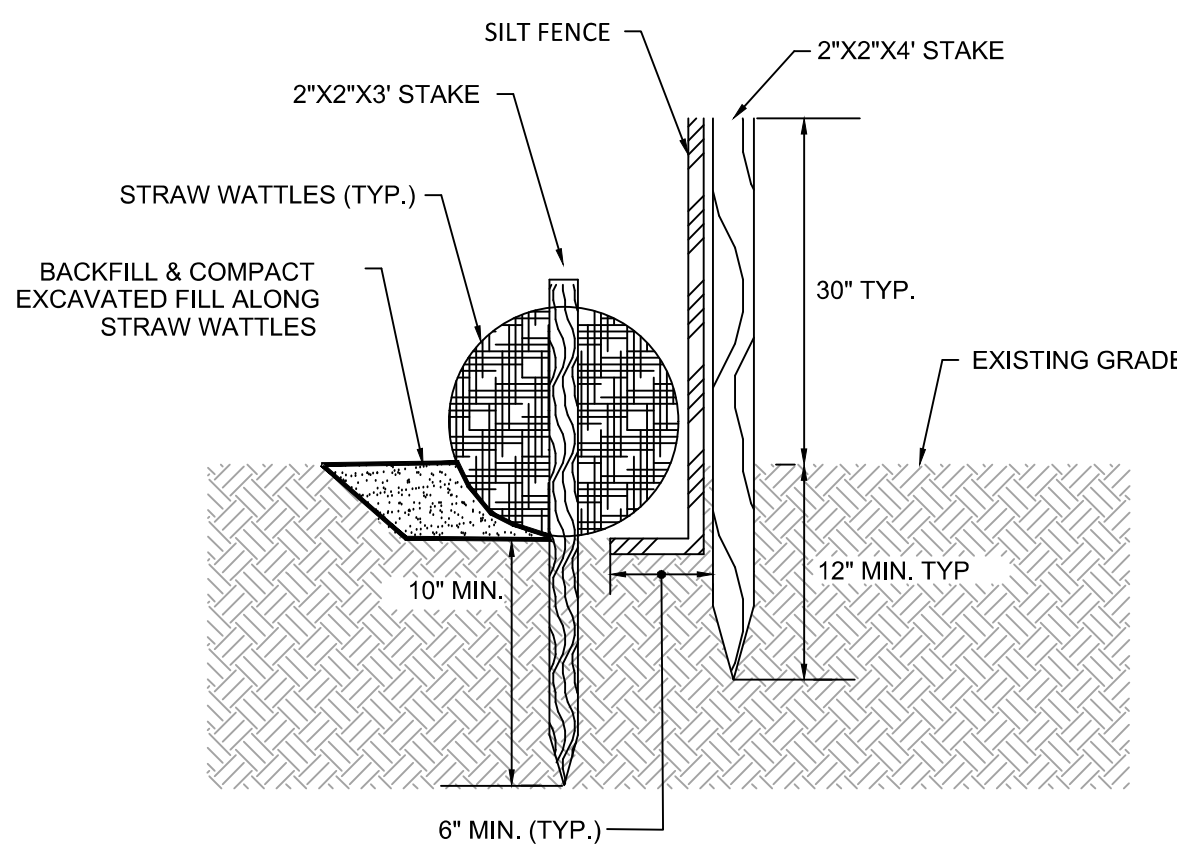
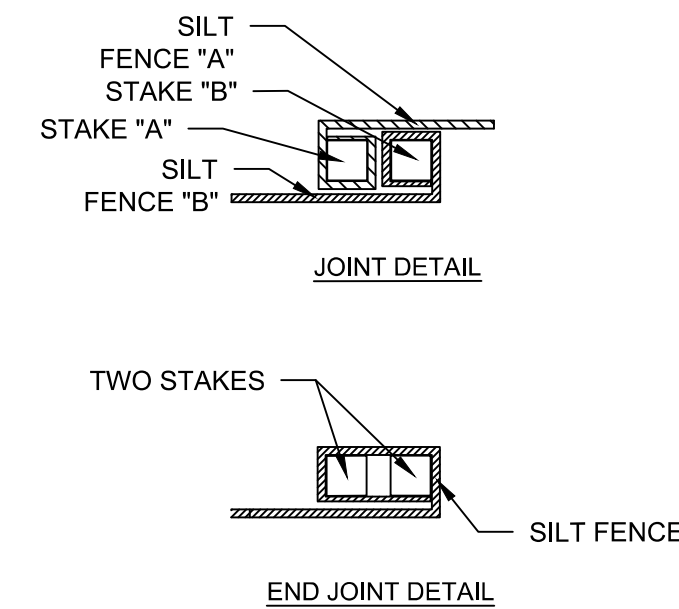
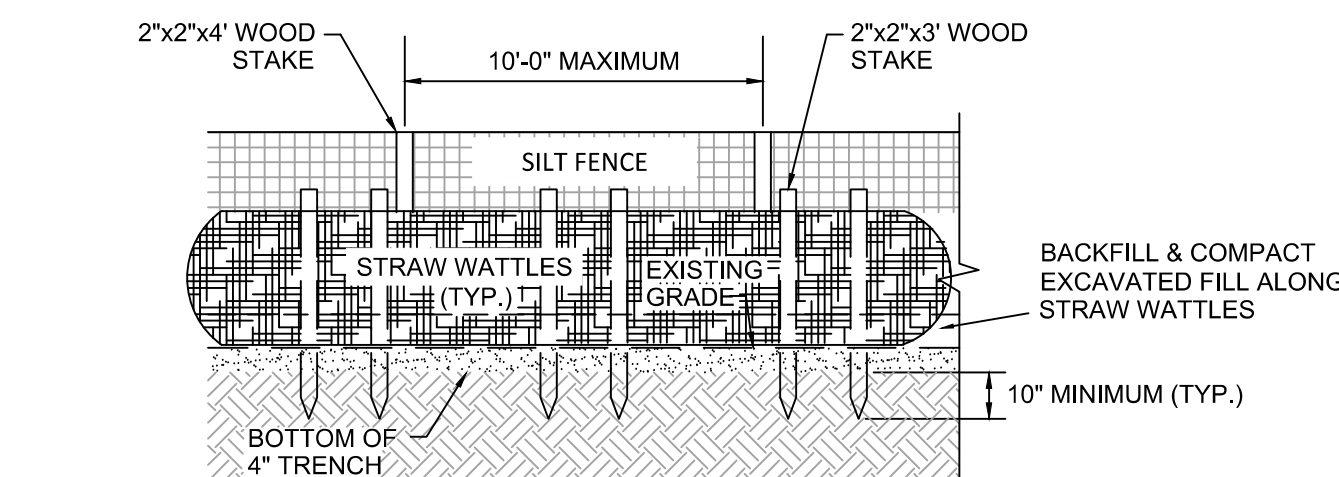


NOTES:

- 1. IN TRENCH DIMENSIONS SHALL BE AS FOLLOWS:
 - (a) ALLOWABLE TRENCH WIDTH AT PLANE 12 INCHES ABOVE PIPE SHALL BE NO MORE THAN 36 INCHES.

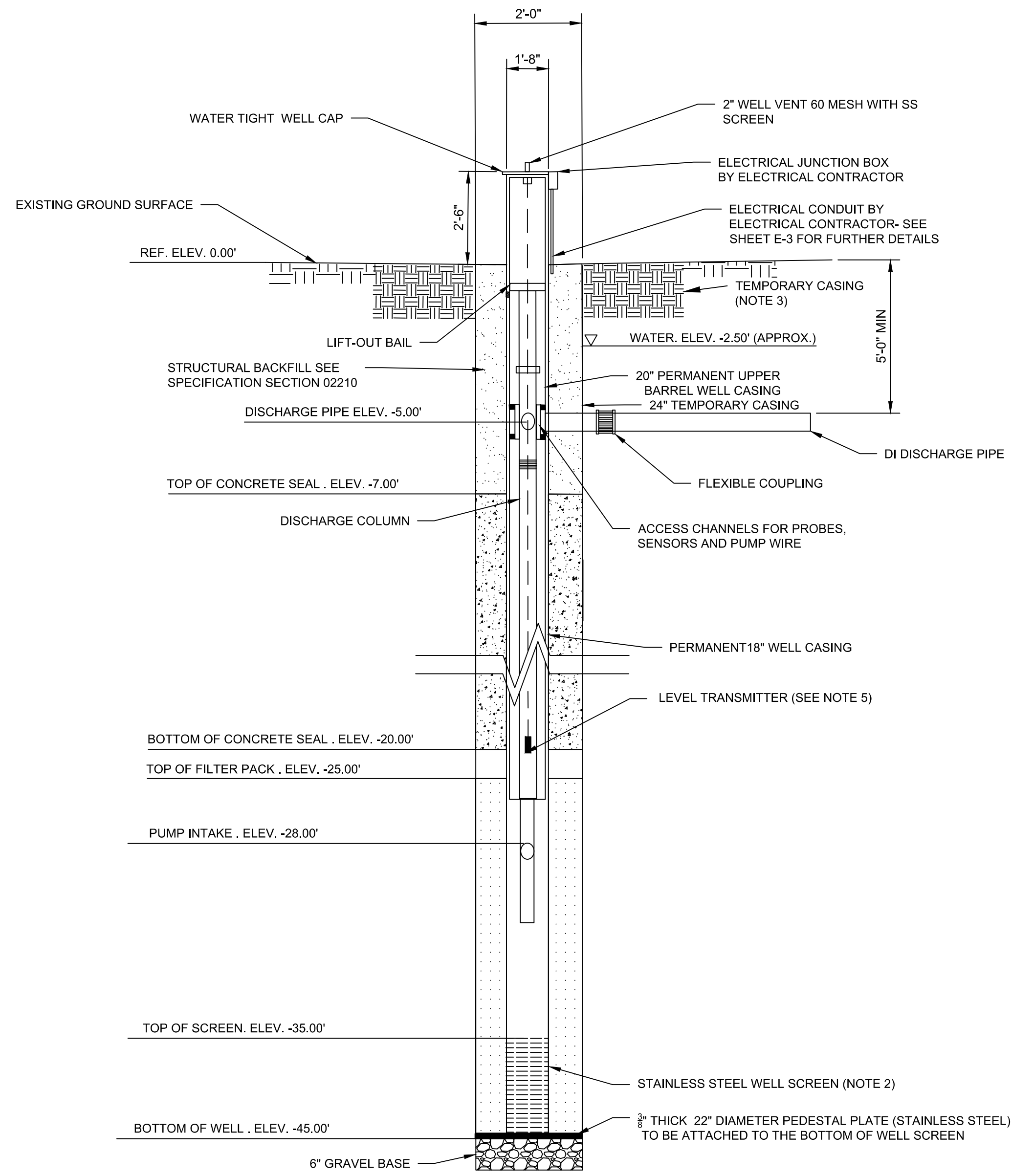
TYPICAL WATER MAIN TRENCH DETAIL

N.T.S.



SILT FENCE WITH STRAW WATTLE

NTS

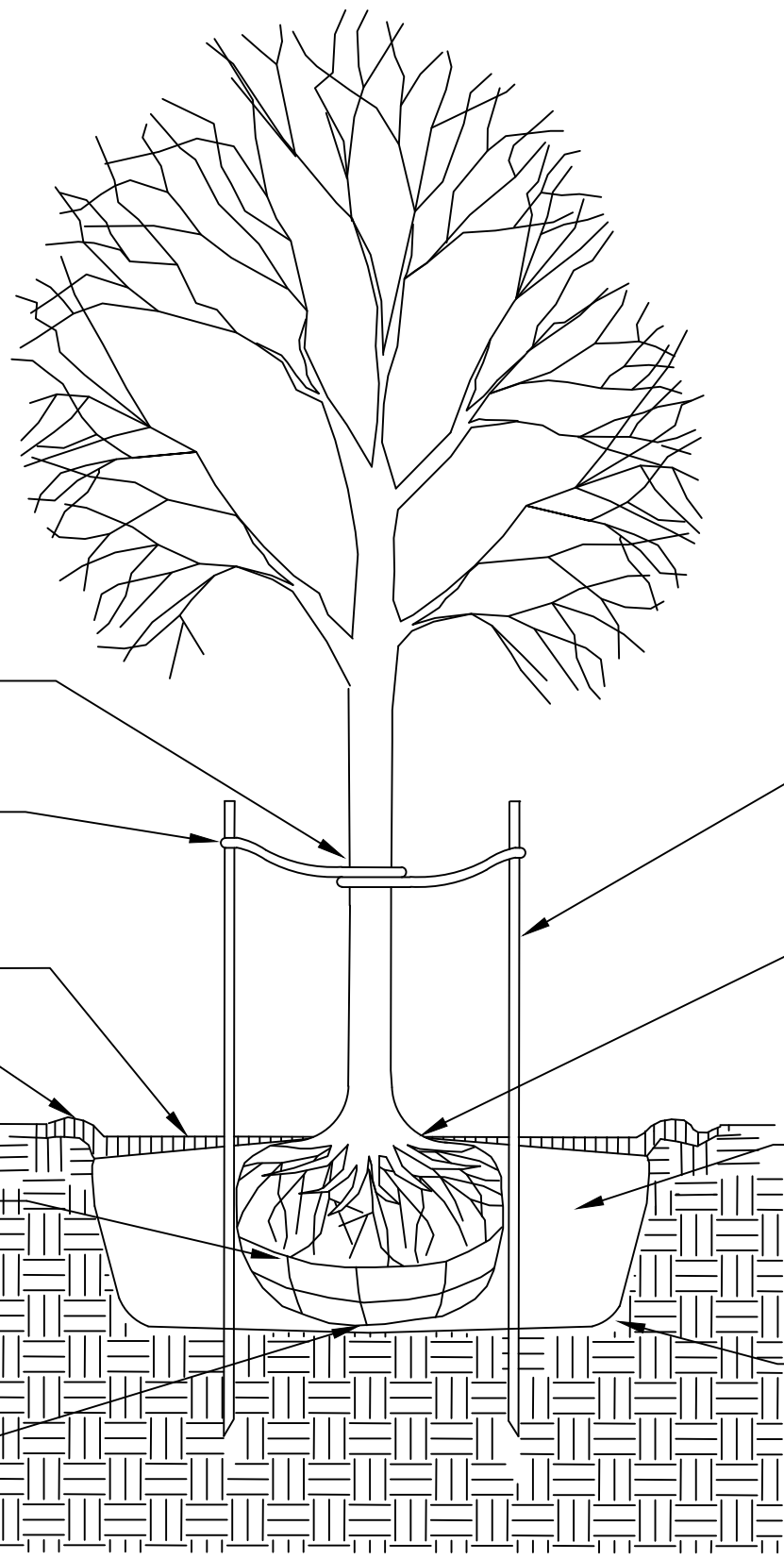


NOTES:

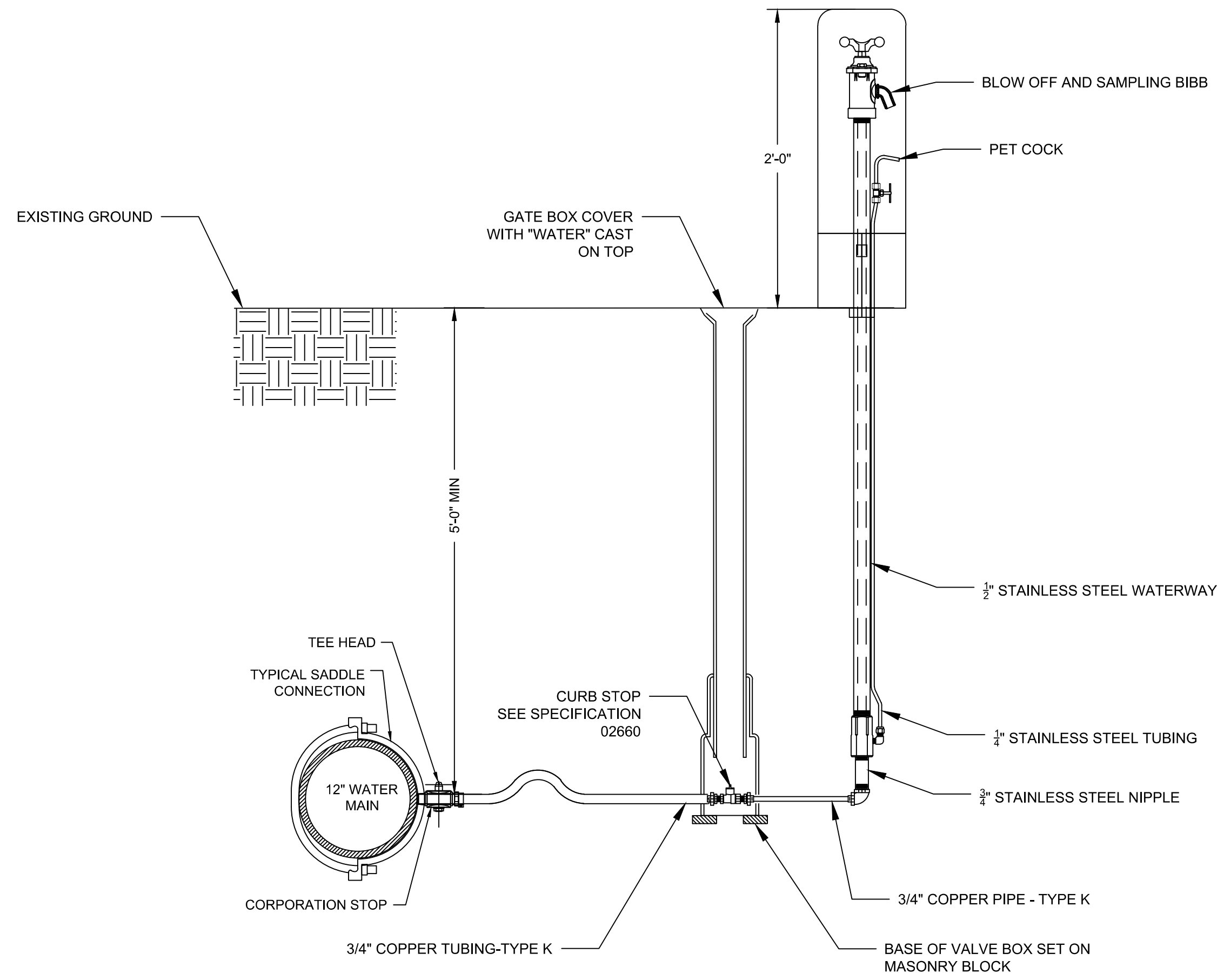
1. FILTER PACK MATERIAL SHALL BE NSF-61 CERTIFIED GLASS BEADS AS SPECIFIED IN SECTION 02671. DIAMETER SIZE TO BE DETERMINED FOLLOWING SIEVE ANALYSIS.
2. SCREEN SLOT SIZE TO BE DETERMINED FOLLOWING SIEVE ANALYSIS.
3. CONTRACTOR TO DETERMINE APPROPRIATE TEMPORARY CASING SIZE BASED ON DIAMETERS OF THE WELLS. CONTRACTOR SHALL BE RESPONSIBLE FOR TELESCOPING CASINGS, AT NO ADDED COST TO OWNER.
4. DEPTH OF WELLS VARY BASED ON FIELD CONDITIONS OBSERVED DURING INSTALLATION. SEE SHEET C-2 FOR ANTICIPATED DEPTHS OF WELL INSTALLATION.
5. 3/8\"/>

18" BY 24" WELL INSTALLATION DETAIL

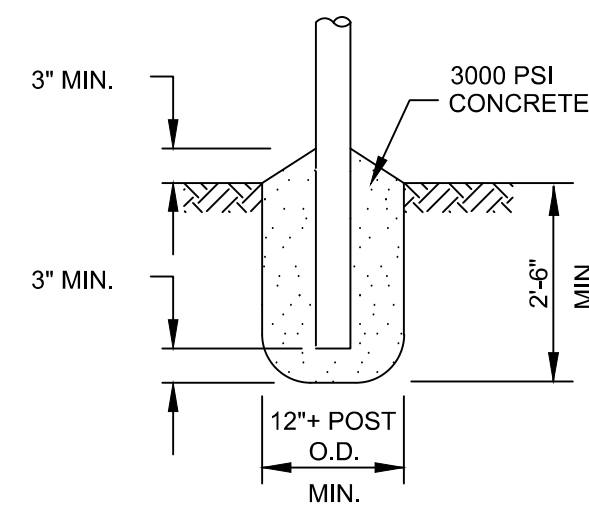
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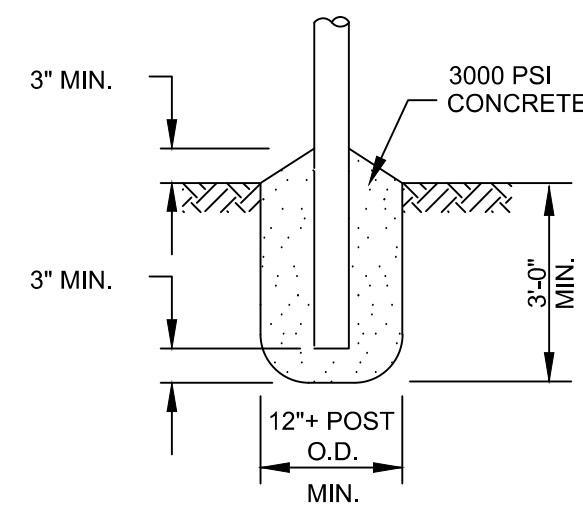
TREE PLANTING DETAIL
N.T.S.



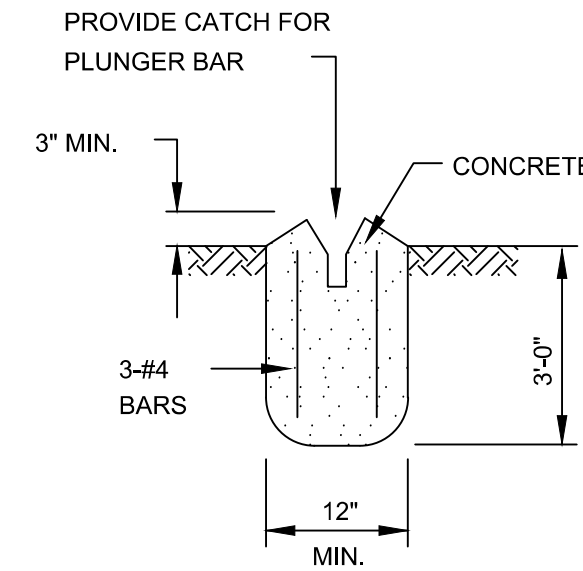
SAMPLING STATION DETAIL
N.T.S.



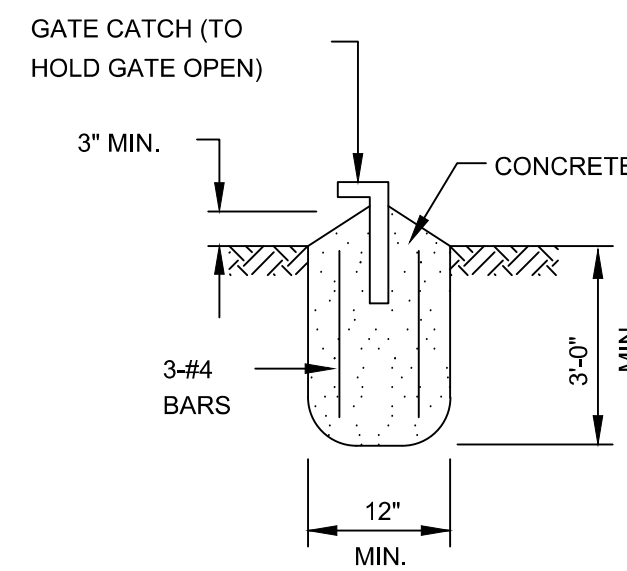
LINE POST
N.T.S.



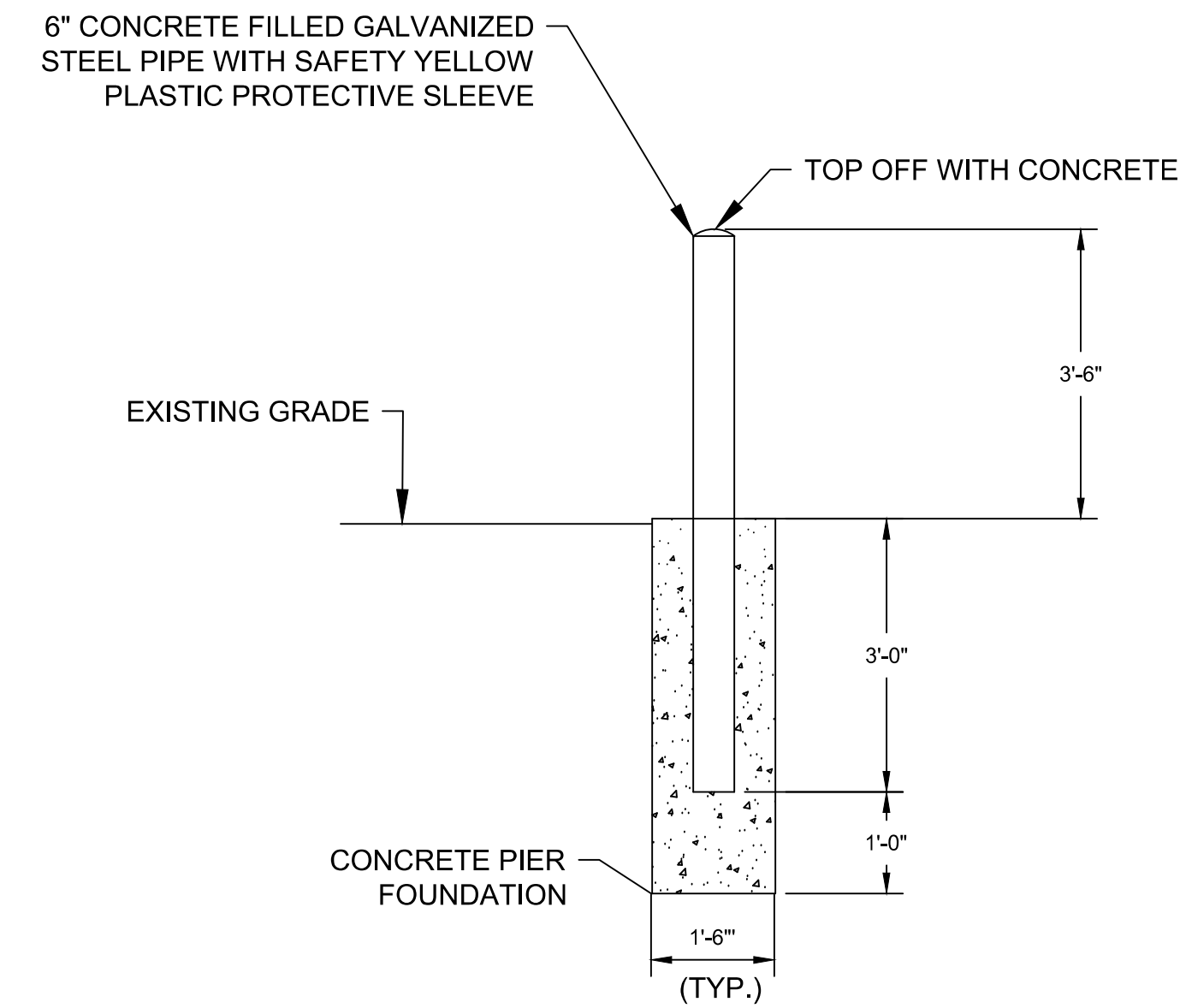
CORNER, END, PULL AND GATE POST
N.T.S.



GATE KEEPER
N.T.S.

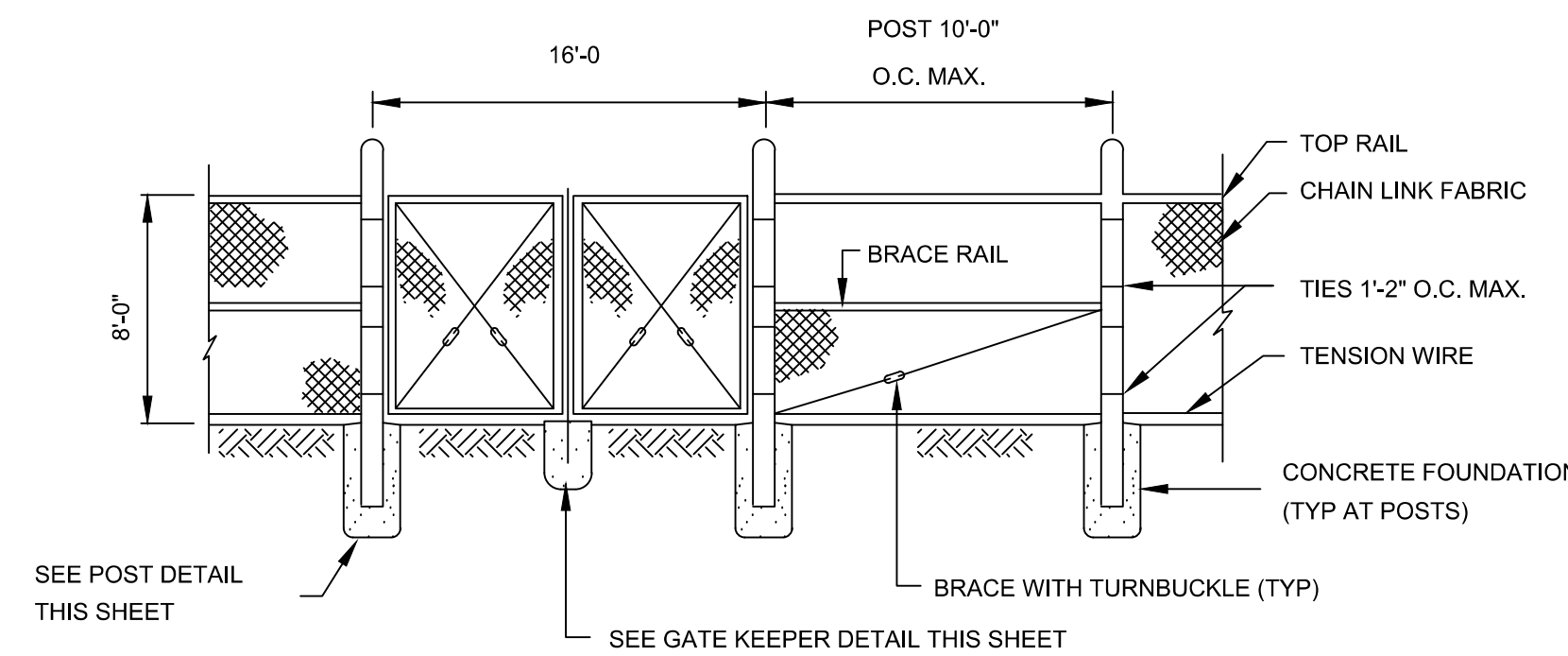


GATE CATCH
N.T.S.



BOLLARD DETAIL

SCALE: N.T.S.



NOTES:

1. CONTRACTOR TO PROVIDE PADLOCKS FOR ONE VEHICULAR GATE. LOCKS SHALL BE KEYPED AS REQUIRED BY OWNER.
2. FOR VEHICULAR GATES, POSTS SHALL BE 6" DIAMETER MINIMUM, FOOTING DIAMETER SHALL BE 12" MINIMUM PLUS O.D. OF POST, AND FOOTING DEPTH SHALL BE 3'-6" MINIMUM.
3. CORNER, END AND PULL POSTS SHALL BE 2-7/8" DIAMETER, FOOTING DIAMETER SHALL BE 12" MINIMUM PLUS O.D. OF POST AND FOOTING DEPTH SHALL BE 3'-6" MINIMUM.
4. REFER TO SPECIFICATION SECTION 02444.

CHAIN LINK FENCE DETAIL



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REVISIONS

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DRAWING NTS

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CIVIL DETAILS

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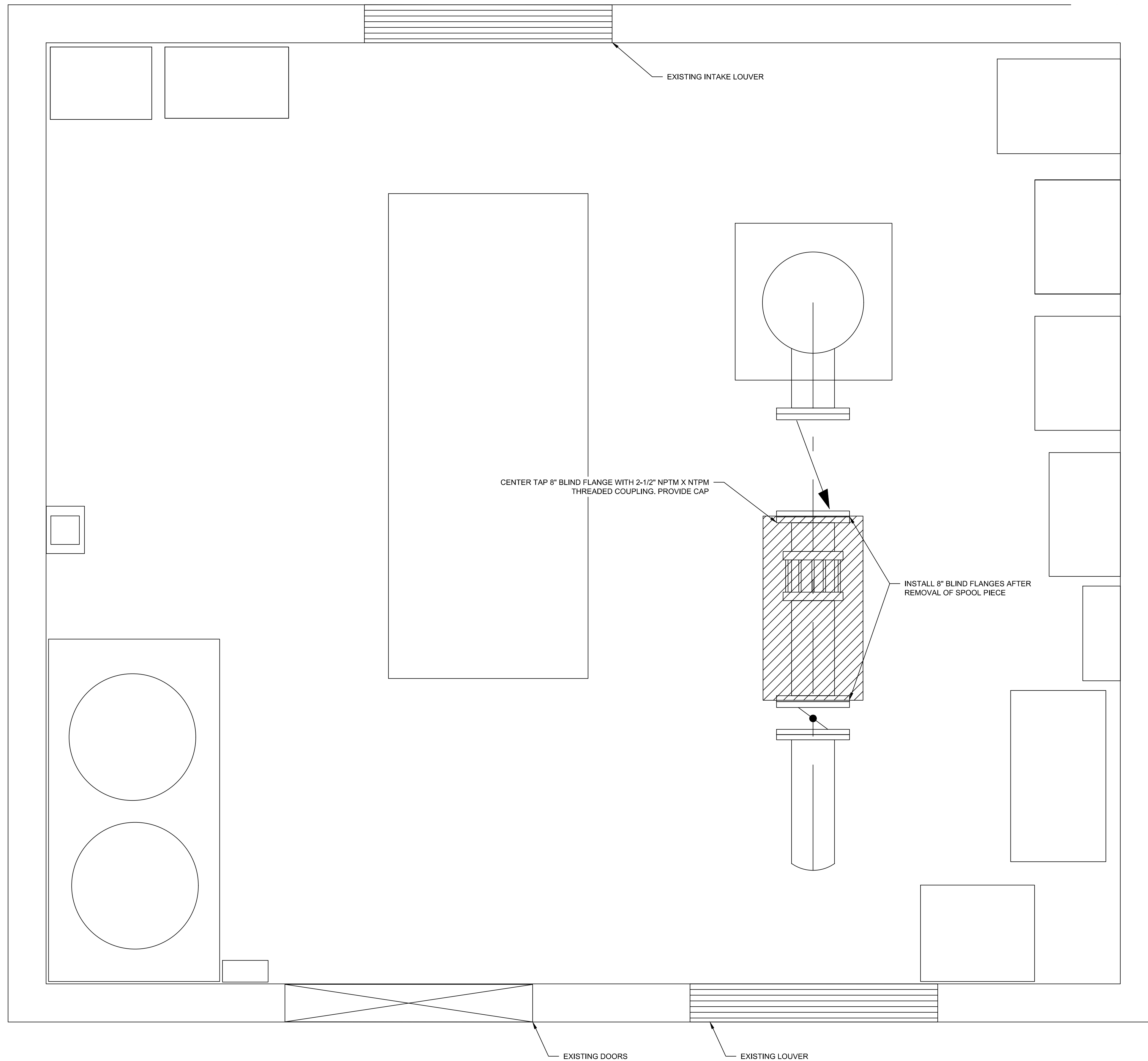
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C-4

CAD FILE: \\kleinfelder.com\hahara\BOSTON\DATA\Drawings\elena\Wilmington_MA\20202022.002A - Salem Street Well Phase 2\Drawings\Production Drawings\100%KIC-DETAILS.dwg LAYOUT: C-4 PLOTTED: 7/6/2021 2:35 PM BY: Tyler Bernier

NOTES:

- CONTRACTOR TO CLOSE EXISTING BUTTERFLY VALVE PRIOR TO STARTING WORK SHOWN ON THIS PLAN.
- CONTRACTOR SHALL REMOVE EXISTING SPOOL PIECE AS SHOWN ON THIS SHEET. SPOOL PIECE SHALL REMAIN PROPERTY OF THE OWNER AND SHALL BE STORED IN A LOCATION TO BE DETERMINED BY THE OWNER.



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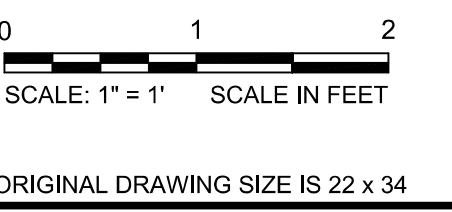
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PUMP STATION MODIFICATION PLAN
TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD
REPLACEMENT



100% DESIGN

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CAD FILE: G:\clients\Wilmington, MA\20202022.002A - Salem Street Well Phase 2\Drawings\Production Drawings\100%SM1-P\MPHOUSE.dwg LAYOUT: M-1 PLOTTED: 7/6/2021 11:44 AM BY: rishabh.lyer

CAD FILE: W11-Projects\12-20035-00 - Wilmington, Salem St. Well Pump Station\Electrical Department\00035.00 Electrical Plan.dwg LAYOUT: E-1 PLOTTED: 7/6/2021 8:44 AM BY: mhkc

ABBREVIATIONS	
(2)1" C, 3#8, #10GND	2, 1-INCH CONDUITS EACH CONDUIT CONTAINING 3--#8 AWG WIRES AND 1--#10 GROUND CONDUCTOR
3/4" CE	EMPTY CONDUIT. NUMERAL DENOTES SIZE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AR	ALARM RELAY
ATS	AUTOMATIC TRANSFER SWITCH
CR	CONTROL RELAY
CP	CONTROL PANEL
DRG. DWG.	DRAWING
EAN	EXCEPT AS NOTED
EC	ELECTRICAL CONTRACTOR
ETM	ELAPSED TIME METER
FE	FLOW ELEMENT
FIT	FLOW INDICATOR TRANSMITTER
FIR	FLOW INDICATOR CHART RECORDER
FLA	MOTOR FULL LOAD AMPS
FQI	FLOW SWITCH
FT	FLOW TRANSMITTER
FVNR	FULL VOLTAGE NON-REVERSING
GND, GRD	GROUNDING CONDUCTOR (EQUIPMENT)
HOA	HAND-OFF-AUTOMATIC
HH	HANDHOLE
J OR JB	JUNCTION BOX
JPB	JOG PUSHBUTTON
LE	LEVEL ELEMENT
LIT	LEVEL INDICATOR TRANSMITTER
LL	LOW LEVEL
LS	LEVEL SWITCH
LT	LEVEL TRANSMITTER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MOV	MOTOR OPERATED VALVE
NTS	NOT TO SCALE
OH	OVERHEAD
OL	MOTOR OVERLOAD HEATER
PB	PUSHBUTTON CONTROL STATION MOMENTARY CONTACT TYPE, STOP START
PBL	PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK-OUT DEVICE, STOP-START
PBM	PUSHBUTTON CONTROL STATION MAINTAINED CONTACT TYPE, STOP START
PCP	PUMP CONTROL PANEL, SUPPLIED BY DIV. 11
PIT	PRESSURE INDICATOR TRANSMITTER
PL	PUSHBUTTON CONTROL STATION MOMENTARY TYPE WITH LOCK-OUT DEVICE, STOP
PS	PRESSURE SWITCH
PT	PRESSURE TRANSMITTER
RGS	RIGID GALVANIZED STEEL
SPD	SURGE SUPPRESSOR DEVICE
SOV	SOLENOID VALVE
S/S	SOFT STARTER
TB	TERMINAL BOX
TD	MOTOR TEMPERATURE DETECTOR
TR	TIMING RELAY
TS	TEMPERATURE SWITCH
TSP	TWISTED SHIELDED PAIR
TSTW	TWO SPEED TWO WINDING
TYP	TYPICAL
UG	UNDERGROUND
UIR	MULTI CHANNEL INDICATOR CHART RECORDER
VFD	VARIABLE FREQUENCY DRIVE
WP	WATER PROOF

ELECTRICAL SYMBOLS	
	LINEAR FLUORESCENT LIGHTING FIXTURES "F1" INDICATES FIXTURE TYPE - TYPICAL FOR ALL FIXTURES "1" INDICATES CIRCUIT NUMBER - TYPICAL FOR ALL FIXTURE "o" INDICATES THE SWITCH CONTROL - TYPICAL FOR ALL FIXTURES
	WALL MOUNTED LIGHTING FIXTURE.
	SURFACE OR PENDANT MOUNTED FIXTURE.
	EMERGENCY EXIT SIGN
	EMERGENCY LIGHTING BATTERY UNIT WITH TWO LIGHT HEADS
	REMOTE EMERGENCY LIGHTING UNIT WITH TWO LIGHTING HEADS PROVIDE 3/4", 2#10, 1#10GND TO NEAREST THE EMERGENCY LIGHTING BATTERY UNIT
	SINGLE POLE SWITCH 120V, 20A "o" INDICATES THE SWITCH CONTROL
	2-POLE SWITCH 120V, 20A 1 POLE FOR ROOM LIGHT FIXTURES, 1-POLE FOR EXHAUST FAN CONTROL
	3-WAY SWITCH 120V, 20A "o" INDICATES THE SWITCH CONTROL
	DUPLX RECEPTACLE, WEATHER-RESISTANT 120V, 20A WITH WEATHERPROOF COVER "1" INDICATES CIRCUIT NUMBER - TYPICAL FOR ALL RECEPTACLES
	DUPLX RECEPTACLE 120V, 20A
	(2) DUPLX (QUAD) RECEPTACLE 120V, 20A
	SIMPLEX RECEPTACLE, WEATHER-RESISTANT, 120, 20A WITH WEATHERPROOF COVER, "TL" INDICATES TWIST LOCK TYPE
	UNFUSED DISCONNECT SWITCH, "30" INDICATES 30 AMP RATING, PROVIDE 3-POLE FOR 3-PHASE CIRCUITS AND 2-POLE FOR 1-PHASE CIRCUITS.
	FUSED DISCONNECT SWITCH, "20" INDICATES 20 AMP FUSE RATING, PROVIDE 3-POLE FOR 3-PHASE CIRCUITS AND 2-POLE FOR 1-PHASE CIRCUITS.
	ENCLOSED CIRCUIT BREAKER, "20" INDICATES 20 AMP BREAKER RATING, PROVIDE 3-POLE FOR 3-PHASE CIRCUITS AND 2-POLE FOR 1-PHASE CIRCUITS.
	3-PHASE RECEPTACLE
	WALL MOUNTED COMBINATION MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, "FVNR" INDICATES TYPE OF MOTOR STARTER
	MOTOR STARTER WITH MOTOR CIRCUIT PROTECTOR, "FVNR" INDICATES TYPE OF MOTOR STARTER,
	ENCLOSED VARIABLE FREQUENCY DRIVE
	MANUAL MOTOR STARTER 120V, 20A
	JUNCTION BOX
	HAND HOLE
	CONTROL RELAY, "CR1" REFERS TO RELAY NAME DESIGNATION
	TIMING RELAY, "TR1" REFERS TO RELAY NAME DESIGNATION
	NORMALY OPEN RELAY CONTACT
	NORMALY CLOSED RELAY CONTACT
	OPERATOR PUSH BUTTON NORMALLY OPEN CONTACT
	OPERATOR PUSH BUTTON NORMALLY CLOSED CONTACT
	PRESSURE SWITCH - CLOSSES ON HIGH PRESSURE
	PRESSURE SWITCH - CLOSSES ON LOW PRESSURE

ELECTRICAL SYMBOLS	
	UNDERGROUND CONDUIT DUCT BANK
	HOMERUN DESIGNATION TO PANEL PP1 CIRCUIT #1, WITH THE FOLOWING CONDUIT/WIRES UNLESS OTHERWISE NOTED: • 3/4"C WITH 2#12, 1#12GND FOR 20AMP SINGLE PHASE CIRCUITS. • 3/4"C WITH 3#12, 1#12GND FOR 20AMP THREE PHASE CIRCUITS. • 3/4"C WITH 2#10, 1#10GND FOR 30AMP SINGLE PHASE CIRCUITS. • 3/4"C WITH 3#10, 1#10GND FOR 30AMP THREE PHASE CIRCUITS. • 3/4"C WITH 2#8, 1#10GND FOR 40AMP & 50AMP SINGLE PHASE CIRCUITS. • 3/4"C WITH 3#8, 1#10GND FOR 40AMP & 50AMP THREE PHASE CIRCUITS.
	EYS TYPE CONDUIT SEAL
	SURGE PROTECTION DEVICE
	UTILITY POLE
	MOLDED CASE CIRCUIT BREAKER, 3-POLE UNLESS OTHERWISE INDICATED, "20" INDICATES TRIP AMPREE RATING, "100" INDICATES FRAME SIZE, "GFCI" INDICATES CIRCUIT BREAKER TO HAVE GROUND FAULT CIRCUIT INTERRUPT
	3/4"ø X 10'-0" COPPER CLAD GROUND ROD
	BUILDING GROUNDING SYSTEM
	MOTOR, "10" INDICATES HORSEPOWER RATING
	CABLE/CONDUIT DESIGNATION, "XX" REFERS CABLE CONDUIT REFERENCE, REFER TO CABLE/CONDUITSCHEDULES
	EMGERGENCY STOP OR HAND SWITCH, "XXXX" REFERS TO TAGNAME ID
	OPERATOR STATION, "XXXX" REFERS TO TAGNAME ID
	UNLESS OTHERWISE NOTED INSTRUMENTATION OR PROCESS EQUIPMENT "xx-xxxx" REFERS TO TAGNAME ID
	GENERATOR EMERGENCY STOP
	THERMOSTAT
	HVAC RTU REMOTE USER INTERFACE
	MOTOR OPERATED DAMPER
	WORK INDICATED WITHIN PHANTOM LINE BLOCK IS PART OF BID ALTERNATE WORK

GENERAL NOTES

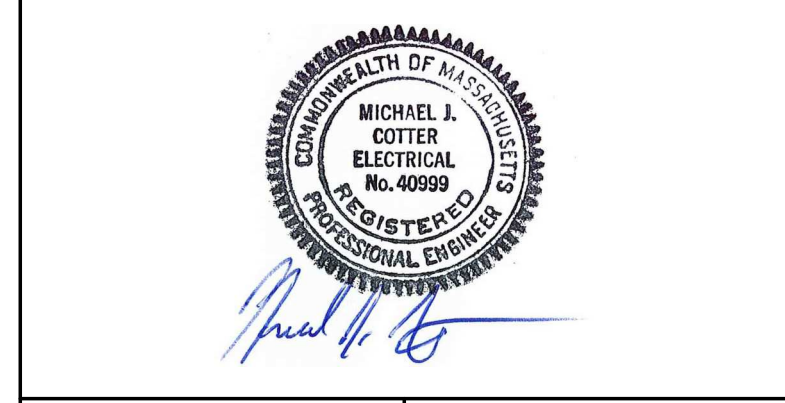
- PROVIDE CONCRETE MOUNTING AND HOUSEKEEPING PADS ON ALL FLOOR OR GRADE MOUNTED ELECTRICAL EQUIPMENT, THE FOLLOWING EQUIPMENT IS THE MINIMUM REQUIREMENT FOR HOUSEKEEPING PADS. ADDITIONAL PADS MAYBE REQUIRED BASED ON THE MOUNTING METHODS.
1.1. MAIN DISTRIBUTION PANEL
- ALL CONDUIT AND EQUIPMENT SHALL BE INSTALLED AND GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AND APPLICABLE LOCAL CODES.
- BACK BOXES SHALL BE RECESSED INTO WALLS, RACEWAYS SHALL BE INSTALLED IN WALLS WHERE POSSIBLE AND ABOVE SUSPENDED CEILING, ONLY VERTICAL RUNS OF RACEWAY SHALL BE ALLOWED TO BE EXPOSED.
- BONDING JUMPERS, CONDUIT CLAMPS AND POINTS OF ATTACHMENT ARE NOT SHOWN ON DRAWINGS. SIZE BONDING JUMPERS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. THE POINTS OF ATTACHMENT OF THE GROUND CLAMPS SHALL BE IN ACCESSIBLE LOCATIONS.
- EQUIPMENT & CONDUIT INSTALLATIONS ARE SHOWN DIAGRAMMATICALLY ONLY AND SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS.
- CONDUITS SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO MOTORS AND OTHER EQUIPMENT.
- NO CONDUIT SMALLER THAN 3/4" PIPE SIZE NOR WIRE SMALLER THAN NO. 12 A.W.G. SHALL BE USED UNLESS OTHERWISE NOTED.
- RECEPTACLES AND SWITCHES SHALL BE MOUNTED 45" ABOVE FINISHED FLOOR.
- THE WIRING AND BLOCK DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL AND PROCESS EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATIONS.

DEMOLITION NOTES

- UNLESS OTHERWISE NOTED, ALL EXISTING ELECTRICAL SYSTEMS (POWER, LIGHTING, LOW VOLTAGE, CONTROLS, ETC) AND ASSOCIATED EQUIPMENT INDICATED WITH HATCH MARKS IS TO BE DEMOLISHED. DISCONNECT AND DE-ENERGIZE THE EQUIPMENT. REMOVE THE EQUIPMENT TO BE DEMOLISHED OR SALVAGED PER SECTION 02050. ALL CONTROL DEVICES, CONDUIT, CABLING, BOXES, SUPPORTS, ETC, ASSOCIATED WITH THE DEMOLISHED EQUIPMENT SHALL BE REMOVED. THE CONDUIT AND CABLING SHALL BE REMOVED BACK TO SOURCE.
- DISCONNECT AND REMOVE THE ELECTRICAL SERVICE FROM METER. COORDINATE WITH READING MUNICIPAL LIGHT DEPARTMENT (RMLD) FOR DISCONNECTION OF SERVICE AT TRANSFORMERS.
- NO DEVICE OR EQUIPMENT INDICATED FOR DEMOLITION WILL BE REUSED OR SALVAGED UNLESS SPECIFICALLY NOTED AS SUCH. ALL EQUIPMENT REMOVED SHALL BE REMOVED FROM SITE AND PROPERLY DISPOSED OF, PRIOR TO REMOVAL OF EQUIPMENT COORDINATE WITH OWNER FOR ANY EQUIPMENT THE OWNER WILL KEEP.
- EXISTING EQUIPMENT INDICATED ON THE DEMOLITION PLANS ARE BASED ON SITE OBSERVATIONS AND IT IS NOT THE INTENTION OF THESE DRAWINGS TO SHOW ALL EQUIPMENT AND MATERIALS TO BE DISCONNECTED AND/OR REMOVED.
- ALL UNDERGROUND CONDUIT SHALL BE CUT BELOW GRADE, CAPPED AND BACKFILLED WITH DIRT TO MATCH GRADE. ALL CONDUIT STUBBING UP FROM CONCRETE SLAB SHALL BE CUT AND CAPPED AND SLAB LEVEL. ALL WIRING SHALL BE REMOVED COMPLETELY.



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ORIGINAL DRAWING SIZE IS 22 x 34

ELECTRICAL LEGEND AND GENERAL NOTES

TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD REPLACEMENT

TOWN OF WILMINGTON
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION
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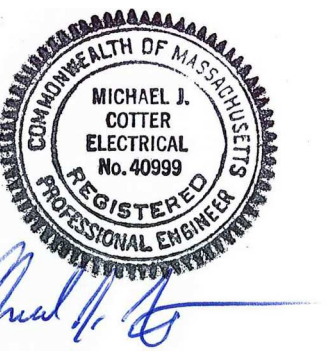
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E-1

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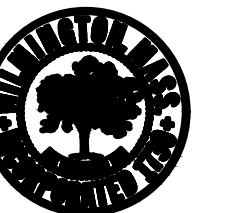
0 1"

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ELECTRICAL ONE LINE DIAGRAM

TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD REPLACEMENT



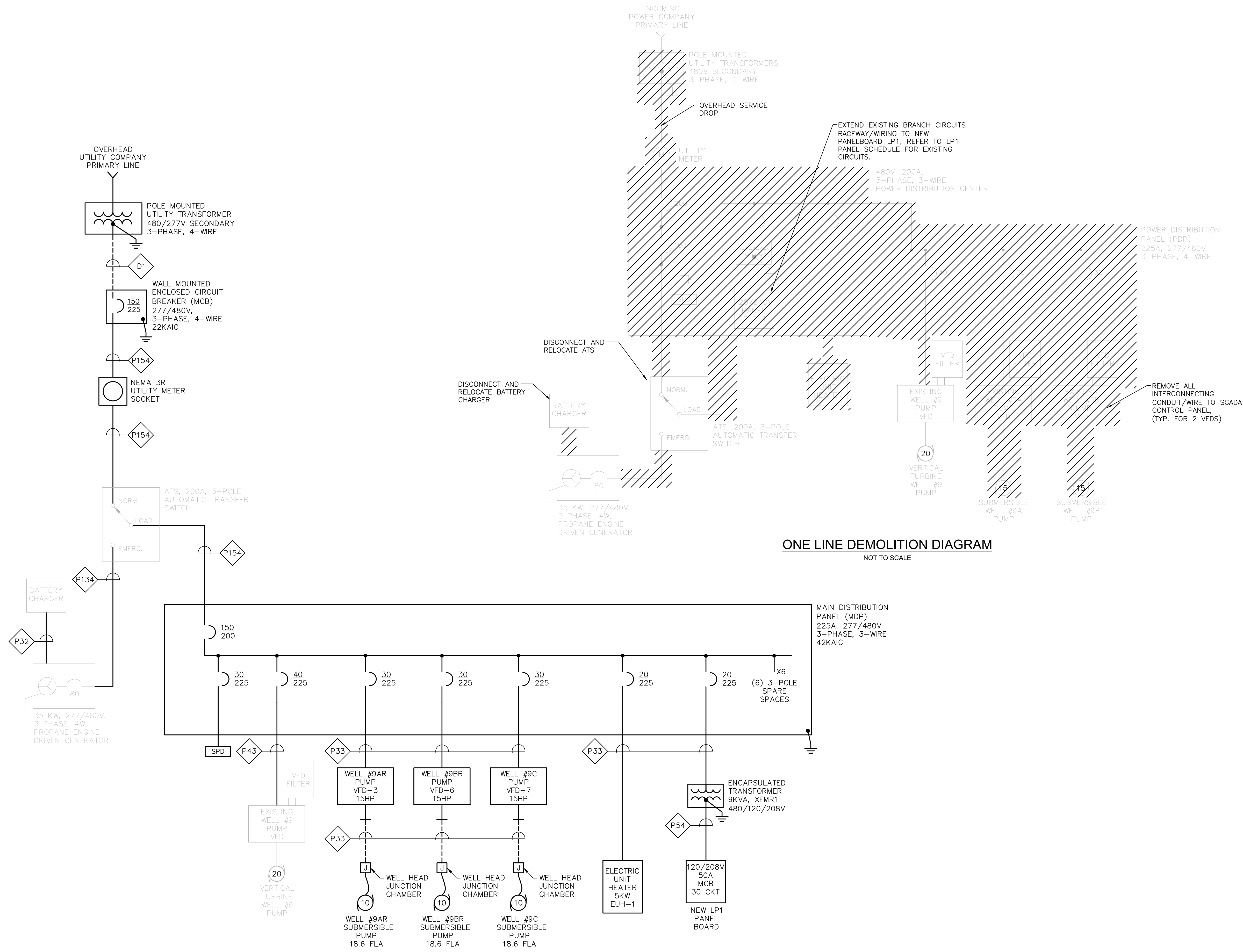
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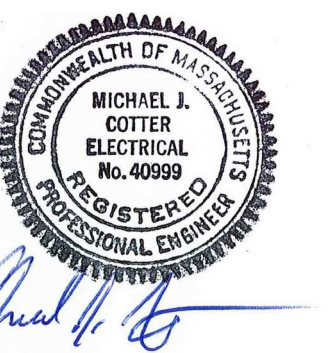
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0 10 20
SCALE: 1" = 10' SCALE IN FEET

ORIGINAL DRAWING SIZE IS 22 x 34

**ELECTRICAL
SITE PLAN AND SITE DETAILS**

TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD
REPLACEMENT



TOWN OF WILMINGTON
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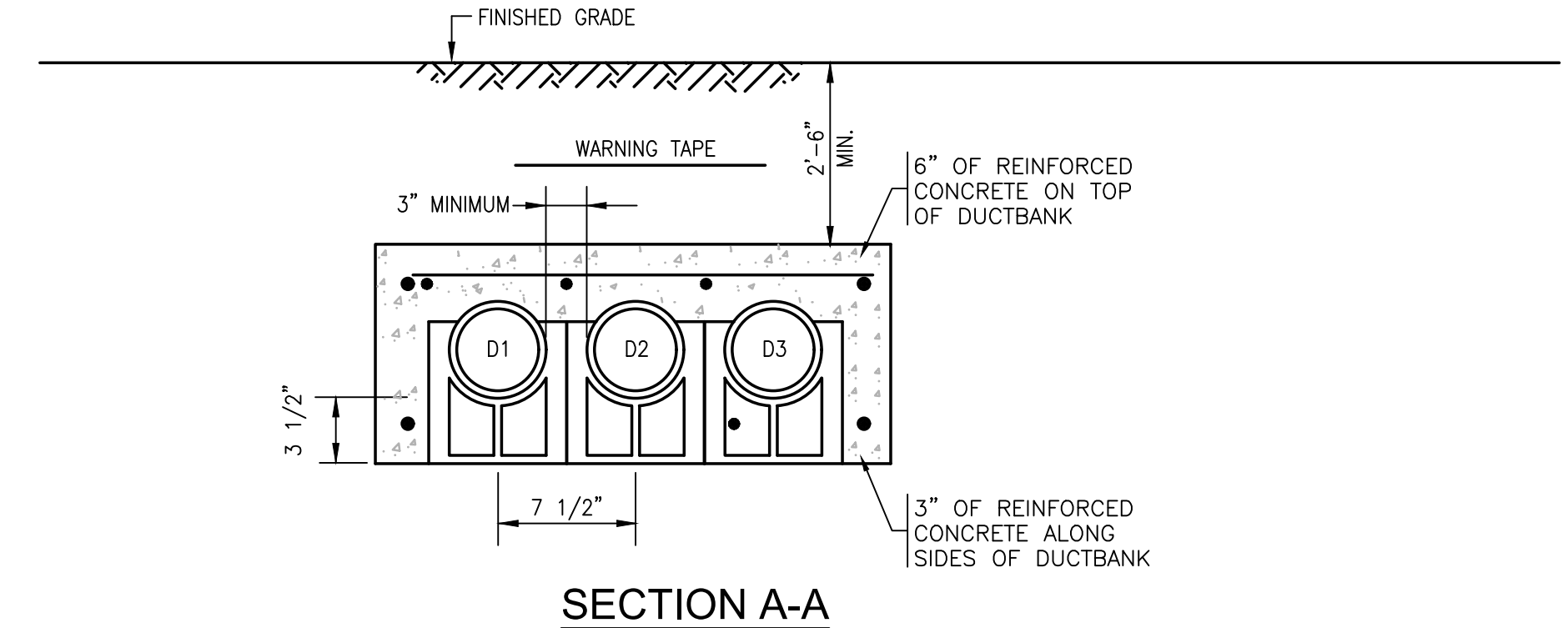
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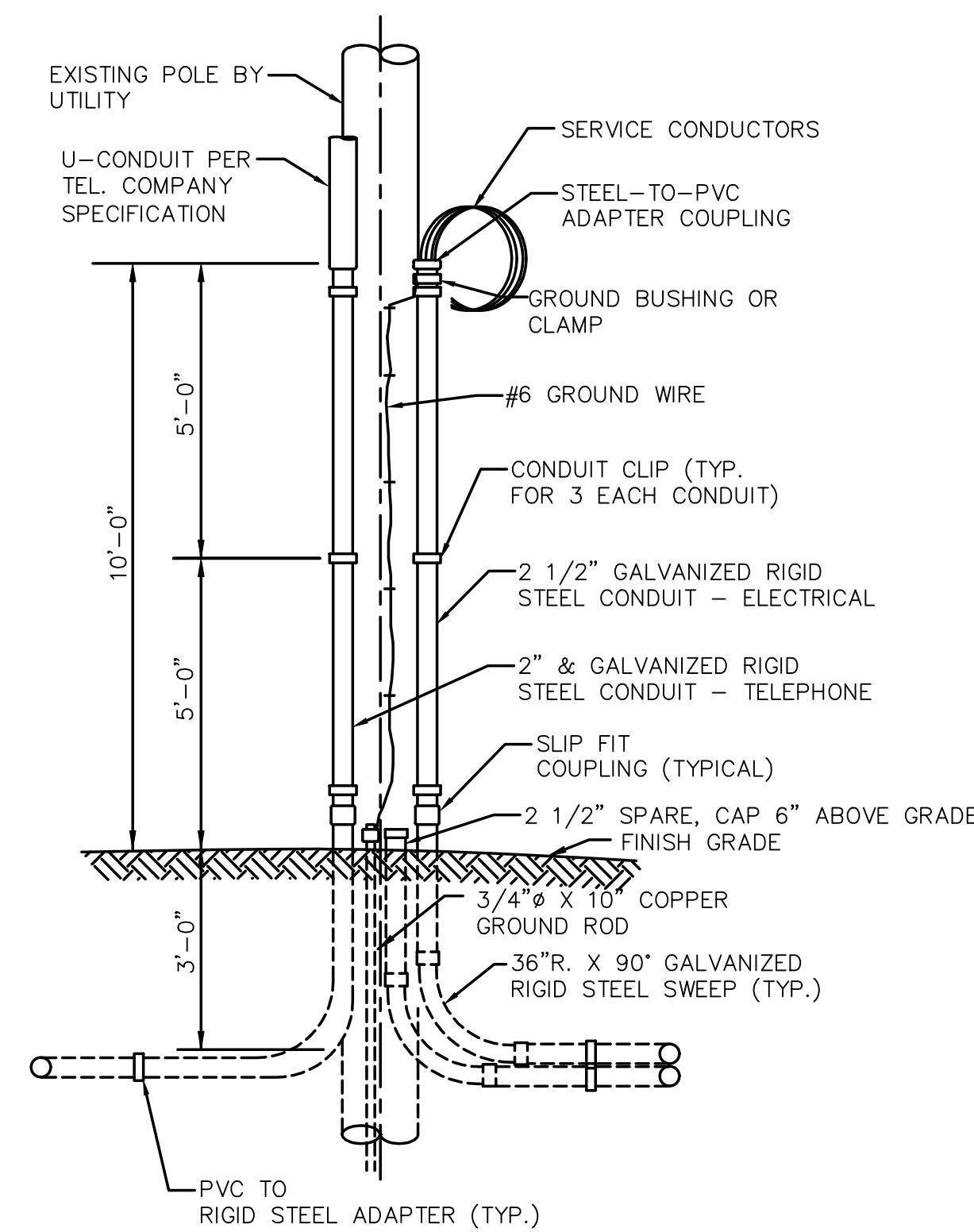
DUCT / CABLE SCHEDULE				
DUCT NO.	SIZE	CONDUCTORS	FROM	TO
D1	2 1/2"	(4)#1/0	UTILITY POLE	UTILITY METER VIA MCB
D2	2 1/2"	PULL STRING	UTILITY POLE	STUB UP AND CAP BELOW UTILITY METER
D3	2"	PULL STRING FOR TELE/COM CABLE	UTILITY POLE	TELE/COM DEMARK BOARD



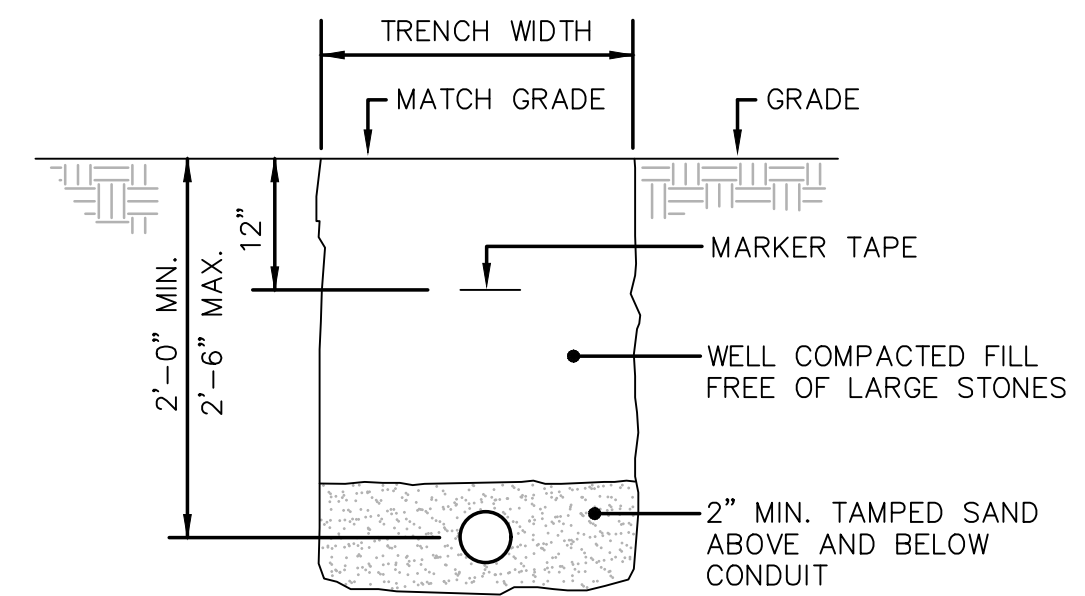
NOTES:

- BACKFILL DUCT BANK IN LAYERS AND MANUALLY TAMP OR "PUDDLE" CONCRETE FILL. PROVIDE RED DUCT BANK MARKER TAPES, READING "CAUTION - ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPES 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.
- A MINIMUM OF 12" SEPARATION SHALL BE KEPT BETWEEN DUCT BANK SECTIONS WITHIN SAME TRENCH.
- BASED ON AVAILABLE SUBSURFACE INFORMATION PROVIDED IN APPENDIX A OF THE SPECIFICATIONS A HIGH WATER TABLE IS ANTICIPATED. THE GENERAL CONTRACTOR SHALL BE PREPARED TO DEWATER TRENCH AS NECESSARY DURING THE DUCTBANK INSTALLATION AND FOR A MINIMUM OF 48 HOURS FOLLOWING THE PLACEMENT OF CONCRETE. GENERAL CONTRACTOR SHALL NOT BACKFILL TRENCH UNTIL THAT TIME.

DUCTBANK SECTIONS
NO SCALE



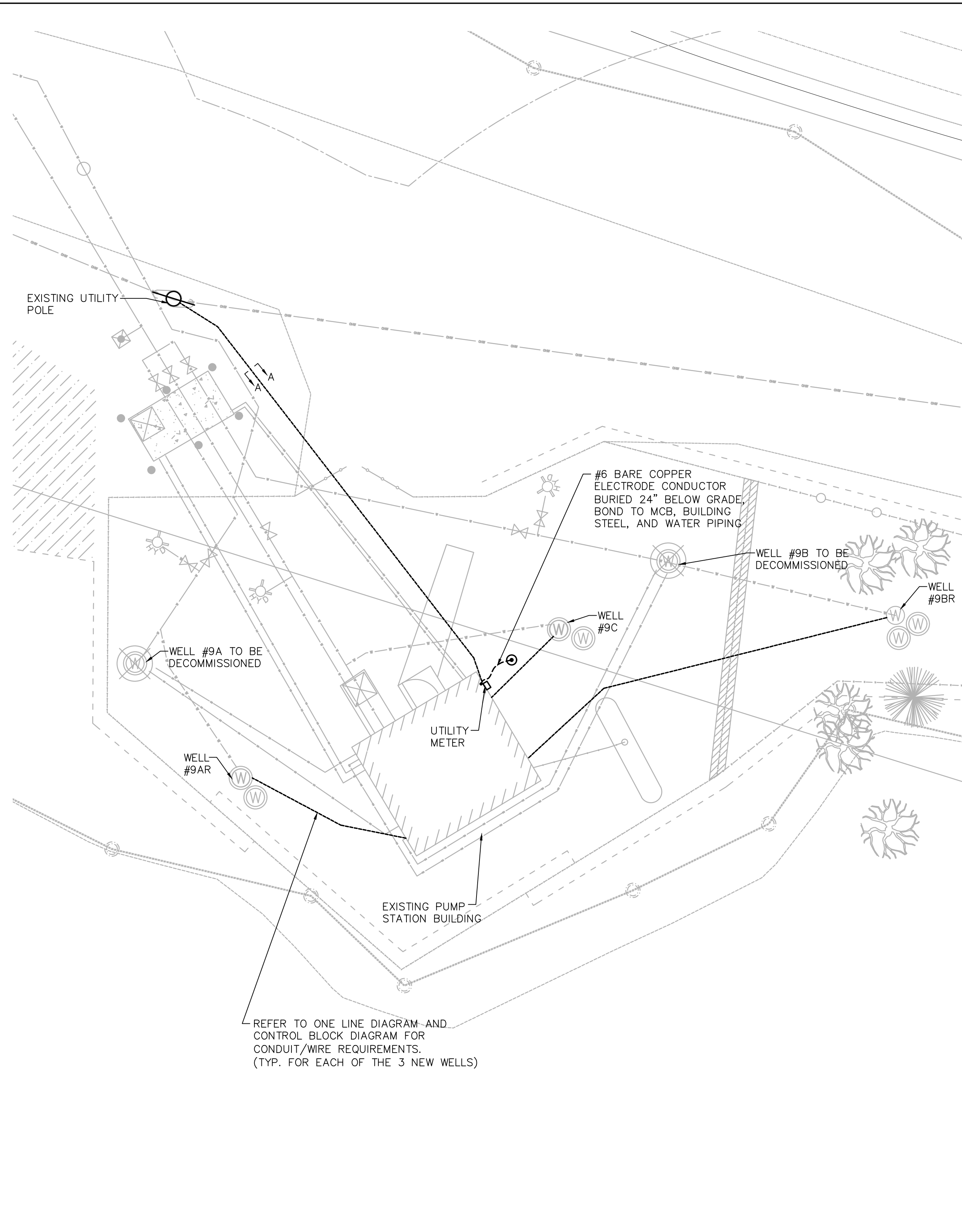
**UTILITY POLE SERVICE
RISER DETAIL**
NOT TO SCALE



NOTES:

- BACKFILL IN LAYERS AND MANUALLY TAMP. PROVIDE RED DUCT BANK MARKER TAPE, READING "CAUTION - ELECTRICAL LINES BELOW", OVER ENTIRE LENGTH OF DUCTLINE. LOCATE TAPE 12 INCHES BELOW GRADE. PROVIDE A TAPE FOR EVERY 12 INCHES OF WIDTH OF DUCTLINE.
- TRENCHING AND BACKFILLING SHALL BE PERFORMED UNDER DIVISION 2 OF THIS CONTRACT.
- REFER TO ONE LINE DIAGRAM AND CONTROL BLOCK WIRING DIAGRAM FOR REQUIRED SIZE AND QUANTITY OF CONDUITS IN TRENCH

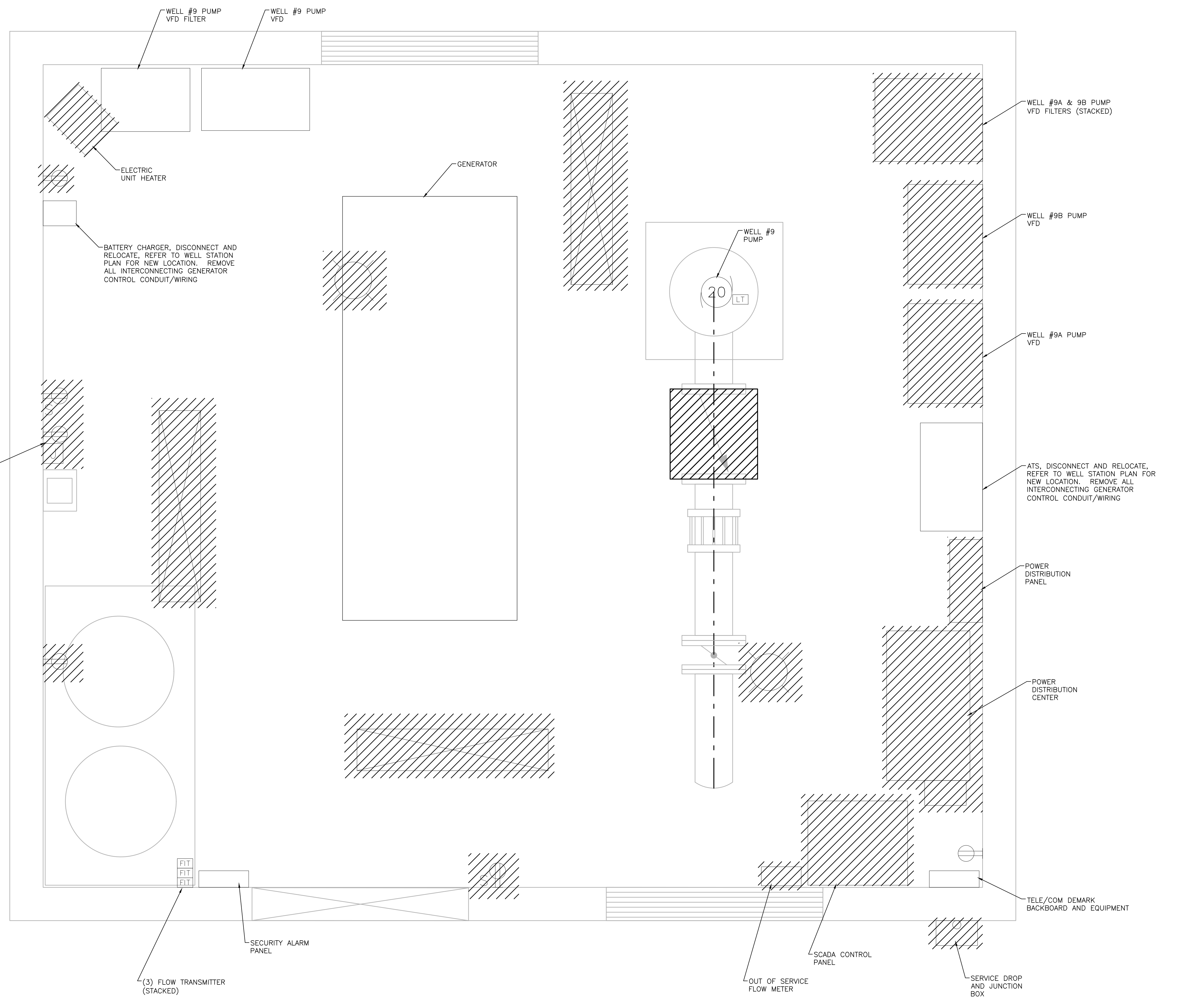
UNDERGROUND CONDUIT SECTION
NO SCALE



ELECTRICAL SITE PLAN
SCALE: 1" = 10'-0"

REFER TO ONE LINE DIAGRAM AND CONTROL BLOCK DIAGRAM FOR CONDUIT/WIRE REQUIREMENTS. (TYP. FOR EACH OF THE 3 NEW WELLS)

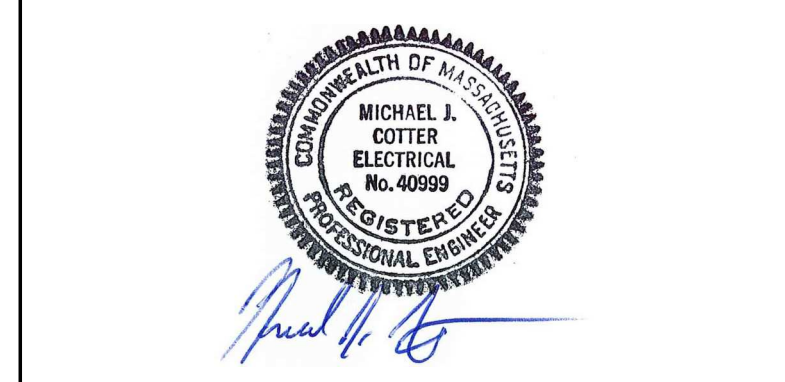
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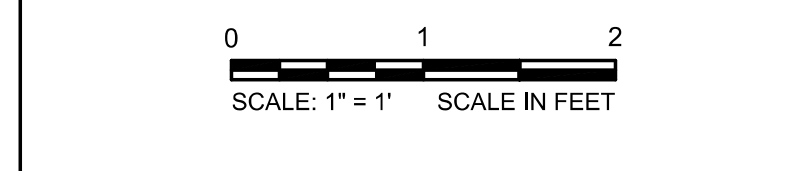
WELL PUMP STATION DEMOLITION PLAN
SCALE: 1" = 1'-0"



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**ELECTRICAL
WELL PUMP STATION DEMOLITION PLAN**
TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD REPLACEMENT

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**ELECTRICAL
WELL PUMP STATION PLAN**

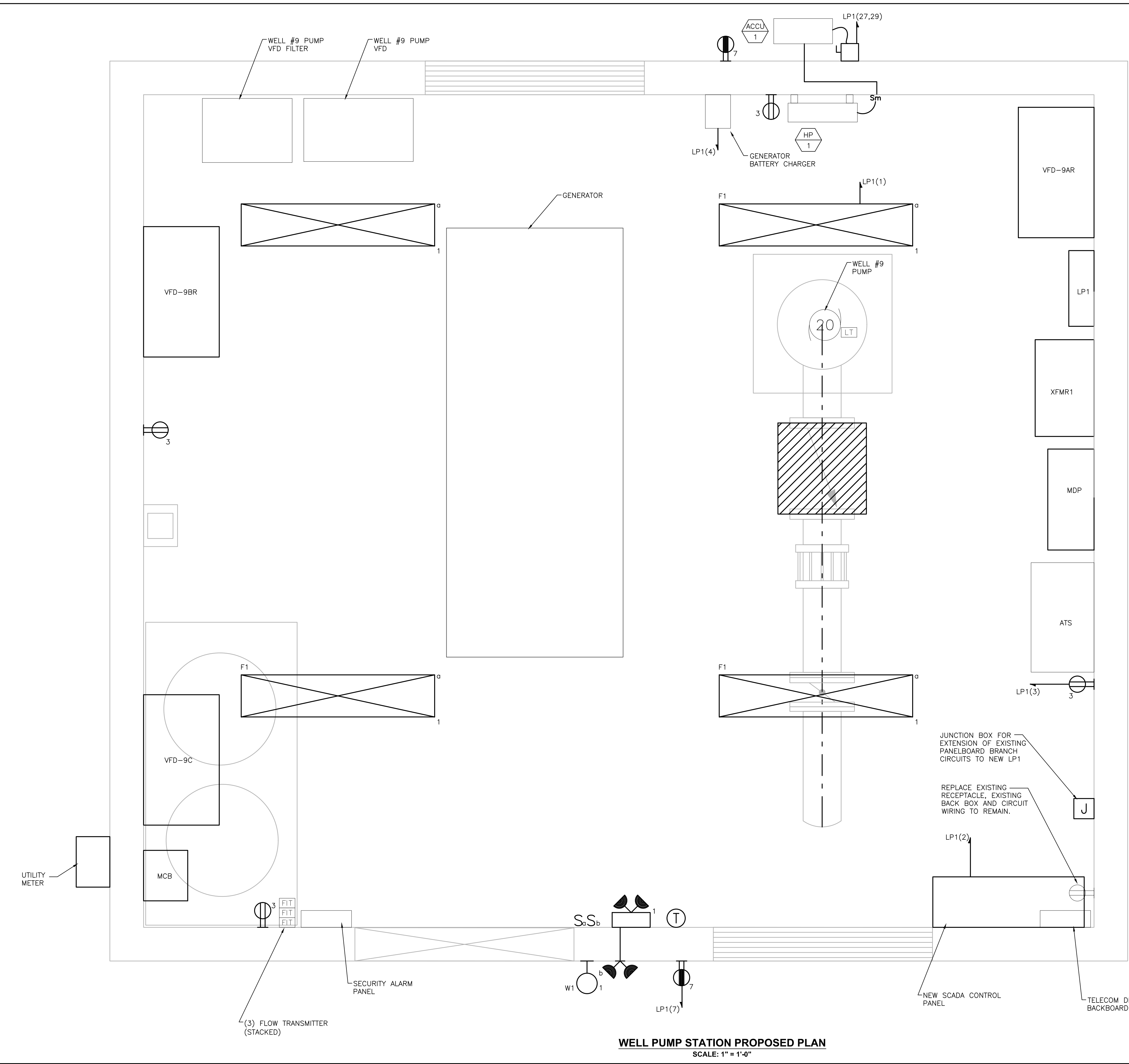
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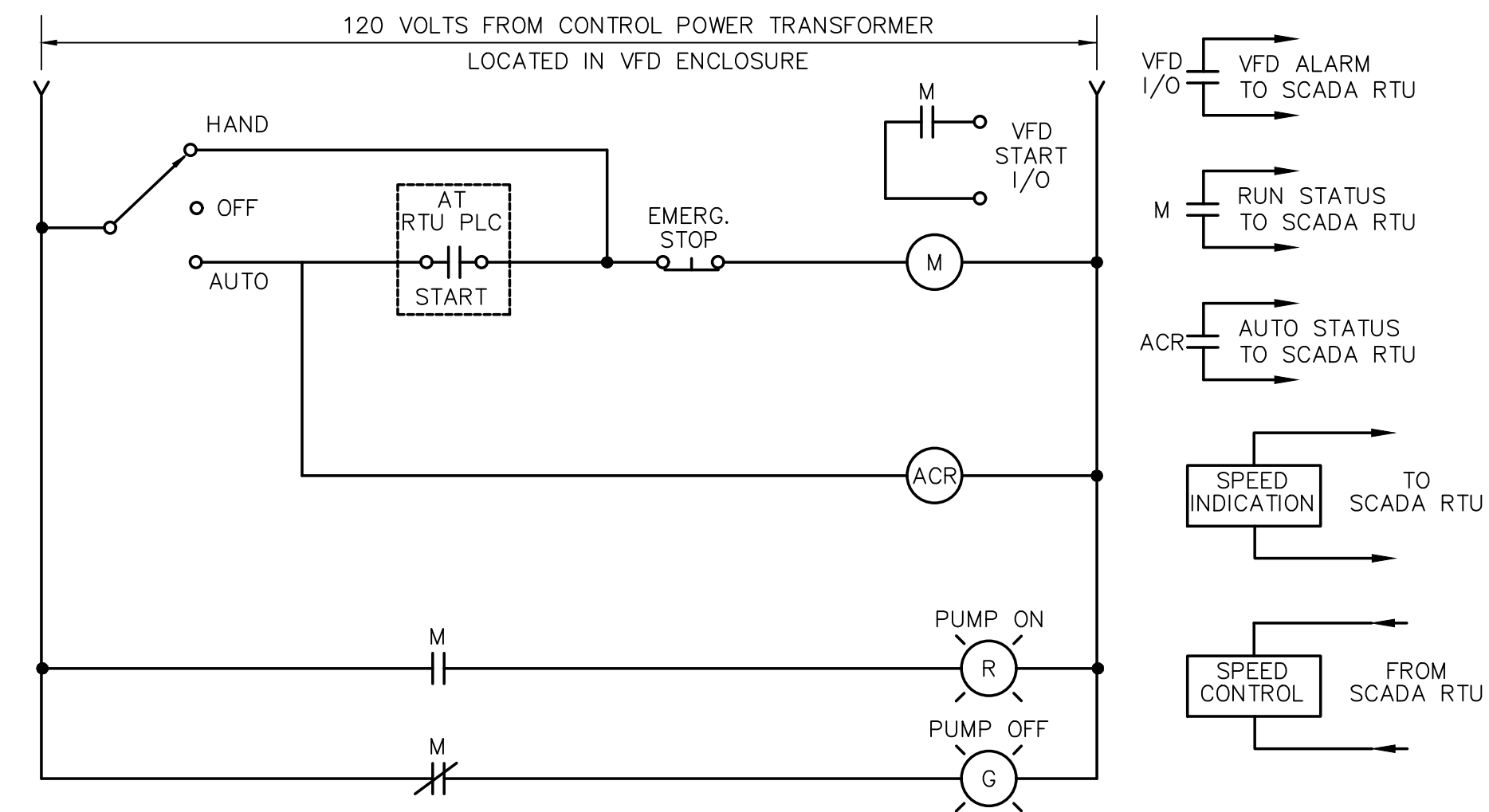
WELL PUMP STATION PROPOSED PLAN
SCALE: 1" = 1'-0"

CAD FILE: W11-Project17-20035-00 - Wilmington Salem St. Well Pump Station\Electrical Department\0035.00 Electrical Plan.dwg LAYOUT: E-5 PLOTTED: 7/8/2021 8:48 AM BY: mike c

LIGHTING FIXTURE SCHEDULE										
TYPE	DESCRIPTION	MANUFACTURER & CATALOG SERIES	LAMPS		VOLTS	WATTS	MOUNTING		REMARKS	
			TYPE	LUMENS			TYPE	HEIGHT		
F1	48" LED ENCLOSED AND GASKETED INDUSTRIAL LIGHTING FIXTURE.	LITHONIA FEM-L48-400LM-IMAFL-MVOLT-35K-80CRI	LED 3500K	4000lm	120	31	CEILING	-	-	
W1	EXTERIOR BUILDING MOUNTED LED WALL PACK LIGHT FIXTURE	LITHONIA TWP-LED-20C-700-40K-T3M-MVOLT-PE-DDXB	LED 4000K	4200lm	120	45	WALL	-	INTEGRAL PHOTOCELL CONTROLLED	
	SELF CONTAINED EMERGENCY LIGHTING BATTERY UNIT NEMA 4 WITH TWO LIGHTING HEADS	REFER TO SPECIFICATIONS	LED	-	120	8W	WALL	7'-6"	INSTALL 3/4"C, 2#12, 1#12GND TO REMOTE HEADS	
	SEALED-BEAM WEATHERPROOF REMOTE LIGHTING FIXTURE WITH TWO LIGHTING HEADS	REFER TO SPECIFICATIONS	LED	-	120	8W	WALL	7'-6"	-	

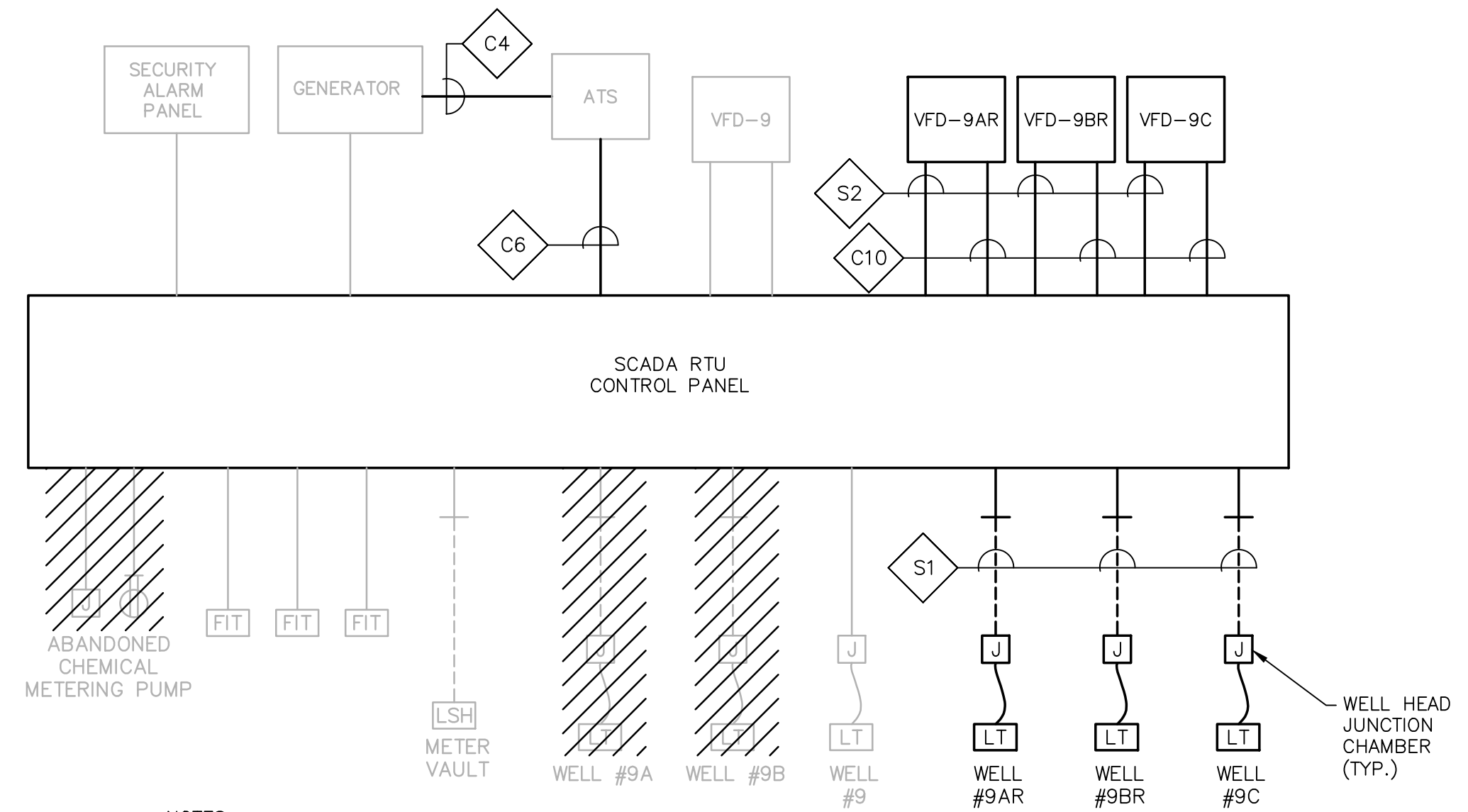
LIGHTING FIXTURE SCHEDULES NOTES:

1. THE CATALOG NUMBERS LISTED ARE GIVEN AS A GUIDE TO THE DESIGN AND QUALITY OF FIXTURE DESIRED. EQUIVALENT DESIGNS, MATERIALS, DIMENSIONS, COEFFICIENT OF UTILIZATIONS AND EQUAL QUALITY FIXTURES OF OTHER MANUFACTURERS WILL BE ACCEPTABLE.



**CONTROL WIRING DIAGRAM
WELL PUMP
NOT TO SCALE**

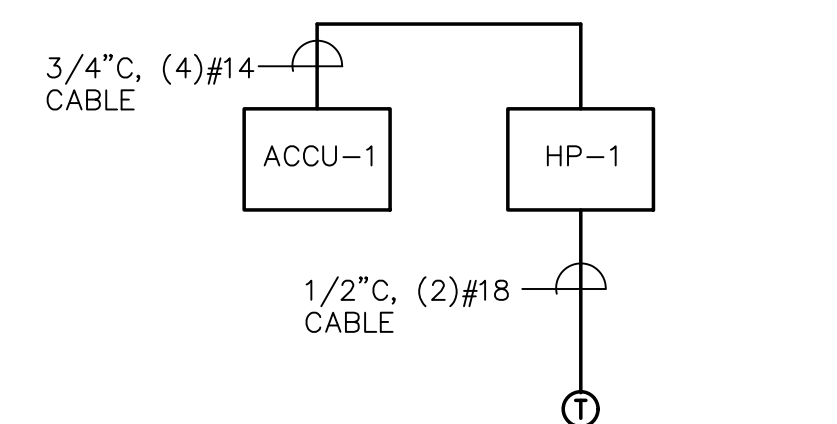
PANELBOARD SCHEDULE													
NO. LP1 LOCATION: CHEMICAL BUILDING													
120/208 V, 3 PH, 4 W, 100 A MAINS 100 A SOLID NEUTRAL 30 A MCB													
10,000 AIC AT 120 V 100 A GROUND BUS - A MLO SURFACE MOUNTING													
CIRCUIT	DESCRIPTION OF LOAD	LOAD (KVA)			BREAKER	BREAKER			LOAD (KVA)			DESCRIPTION OF LOAD	CIRCUIT
		A ϕ	B ϕ	C ϕ		TRIP	POLE	A ϕ	B ϕ	C ϕ			
1	LIGHTING	0.5			20	1						SCADA RTU CONTROL PANEL	2
3	RECEPTACLES		1.0		20	1				0.1		BATTERY CHARGER	4
5	FLOW METERS (EXISTING CKT.)			0.6	20	1				0.3		DAMPER AND TELE/COM RECEPTACLE (EXISTING CKT.)	6
7	EXTERIOR RECEPTACLE	0.4			20	1				0.5		HEATER PUMP #9 (EXISTING CKT.)	8
9	VAULT LIGHTS AND SUMP (EXISTING CKT.)		0.5		20	1				0.2		SECURITY PANEL (EXISTING CKT.)	10
11	VAULT DEHUMIDIFIER (EXISTING CKT.)			0.3	20	1				-		SPARE	12
13	SPARE				20	1				-		SPARE	14
15	SPARE				20	1				-		SPARE	16
17	SPARE				20	1				-		SPARE	18
19	SPARE				20	1				-		SPARE	20
21	SPARE				20	1				-		SPARE	22
23	SPARE				20	1				-		SPARE	24
25	SPARE				20	1				-		SPARE	26
27	ACCU-1		1.8		30	2				0.5		GENERATOR BATTERY CHARGER	28
29				1.8						0.3		GENERATOR JACKET HEATER (EXISTING CKT.)	30
SUB-TOTAL CONNECTED		0.9	2.3	2.7				1.0	0.8	0.6	SUB-TOTAL CONNECTED		
* - PROVIDE GFCI BREAKER													
SUB-TOTAL CONNECTED						KVA A ϕ = 1.9							
SUB-TOTAL CONNECTED						KVA B ϕ = 3.1							
SUB-TOTAL CONNECTED						KVA C ϕ = 3.3							
TOTAL CONNECTED						KVA = 8.3							



NOTES:

1. EXISTING SCADA CONTROL PANEL IS BEING REPLACED WITH A NEW SCADA CONTROL PANEL THAT IS BEING SUPPLIED BY THE TOWN'S SYSTEM INTEGRATOR. CONDUIT/WIRE INTERCONNECTIONS INDICATED AS EXISTING SHALL BE DISCONNECT FROM THE EXISTING SCADA CONTROL PANEL AND RECONNECTED TO THE NEW CONTROL PANEL.

**CONTROL BLOCK WIRING DIAGRAM
NOT TO SCALE**



**HVAC - SPLIT SYSTEM
CONTROL WIRING DIAGRAM
NOT TO SCALE**

POWER CABLE/CONDUIT SCHEDULE			
SYMBOL	CONDUIT SIZE*	CONDUCTORS*	GND*
P22	3/4"	(2)#12	(1)#12
P23	3/4"	(3)#12	(1)#12
P32	3/4"	(2)#10	(1)#10
P33	3/4"	(3)#10	(1)#10
P53	3/4"	(3)#8	(1)#10
P54	3/4"	(4)#8	(1)#10
P63	1"	(3)#6	(1)#8
P64	1"	(4)#6	(1)#8
P83	1 1/4"	(3)#4	(1)#8
P84	1 1/4"	(4)#4	(1)#8
P103	1 1/2"	(3)#3	(1)#6
P104	1 1/2"	(4)#3	(1)#6
P134	2"	(4)#1	(1)#6
P154	2"	(4)#1/0	(1)#6

CABLE/CONDUIT SCHEDULES NOTES:

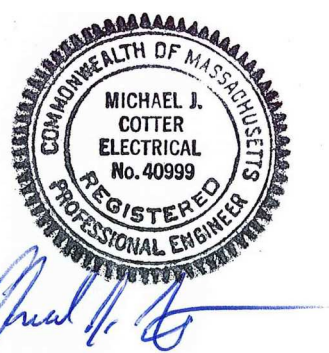
1. CONDUIT AND CONDUCTOR SIZES ARE TO BE PER THE ABOVE SCHEDULES UNLESS OTHERWISE NOTED.

SIGNAL CABLE/CONDUIT SCHEDULE		
SYMBOL	CONDUIT SIZE	CONDUCTORS
S	1"	VENDOR PROVIDED
S1	3/4"	1-2/C#16 TSP
S13	3/4"	1-3/C#16 TSP
S2	3/4"	2-2/C#16 TSP
S23	3/4"	2-3/C#16 TSP
S3	1"	3-2/C#16 TSP

CONTROL CABLE/CONDUIT SCHEDULE		
SYMBOL	CONDUIT SIZE	CONDUCTORS
C2	3/4"	2#14
C4	3/4"	4#14
C6	3/4"	6#14
C8	3/4"	8#14
C10	3/4"	10#14



REV	DESCRIPTION	DSN DWN	CHK APP	DATE

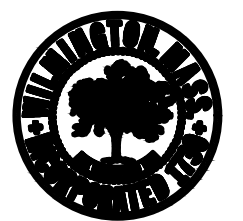


SCALE VERIFICATION
THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING
0 1"
IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 22 x 34

ELECTRICAL SCHEDULES AND WIRING DIAGRAMS

TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD REPLACEMENT



TOWN OF WILMINGTON
DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION
121 GLEN ROAD WILMINGTON, MA 01887
978 658 4499 978 658 3344 FAX

100% DESIGN

PROJECT NO.	20202022.002A
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DRAWN BY	
CHECKED BY	
APPROVED BY	

E-6

FILED SUB-BID REQUIRED



Mechanical/Electrical Engineers
150 Grossman Drive, Suite 309
Braintree, Massachusetts 02194
617 221-9220
web: www.sar.com

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GENERAL NOTES

- HVAC WORK IS INDICATED DIAGRAMMATICALLY. EXACT LOCATIONS OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD AND BY THE ACTUAL BUILDING CONDITIONS. DUCTS, PIPING OR EQUIPMENT INTERFERING WITH OTHER INSTALLATIONS SHALL BE RELOCATED AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER. EXACT LOCATIONS MUST HAVE THE APPROVAL OF THE ENGINEER.
- ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE ANY INSTALLATION IS MADE.
- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH STATE CODES, MANUFACTURER'S APPROVED PUBLISHED LITERATURE, AND AUTHORITIES HAVING JURISDICTION.
- INSTALLATION OF EQUIPMENT SHALL PERMIT ACCESSIBILITY FOR SERVICE AND/ REPAIR OR REPLACEMENT.
- HVAC CONTRACTOR SHALL COORDINATE ALL WALL, CEILING, FLOOR, ROOF AND BEAM PENETRATIONS WITH THE ENGINEER.
- HVAC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHEETMETAL TRANSITIONS AT FANS, COILS, AND OTHER SIMILAR HVAC EQUIPMENT.
- ALL MISCELLANEOUS SUPPORTS REQUIRED FOR HVAC EQUIPMENT INSTALLATION SHALL BE PROVIDED BY HVAC SUBCONTRACTOR.
- EXACT LOCATION OF THERMOSTAT TO BE COORDINATED WITH FINAL LOCATION OF WALL MOUNTED EQUIPMENT.
- ALL PIPE PENETRATIONS THROUGH WALLS AND FLOORS SHALL BE SEALED WITH FIRE-STOP PENETRATION SEAL IN ACCORDANCE WITH UL 1479.

ABBREVIATIONS

AFG	ABOVE FINISH GROUND
ACD	AUTOMATIC CONTROL DAMPER
AF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
ARCH	ARCHITECT
BDD	BACKDRAFT DAMPER
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT
DIA	DIAMETER
DB	DRY BULB TEMPERATURE
DN	DOWN
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
FA	FREE AREA
FT	FEET
GC	GENERAL CONTRACTOR
HP	HORSEPOWER
HZ	HERTZ
IN	INCHES
LAT	LEAVING AIR TEMPERATURE
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
RPM	REVOLUTIONS PER MINUTE
RR	RETURN REGISTER
S	SUPPLY
SA	SUPPLY AIR
SD	SMOKE DAMPER
SF	SQUARE FEET
SP	STATIC PRESSURE
SQ	SQUARE
SR	SUPPLY REGISTER
STL	STEEL
TYP	TYPICAL
V	VOLTS
VD	VOLUME DAMPER
W/	WITH
W/O	WITHOUT
WB	WET BULB TEMPERATURE
WMS	WIRE MESH SCREEN

INSTRUMENTATION

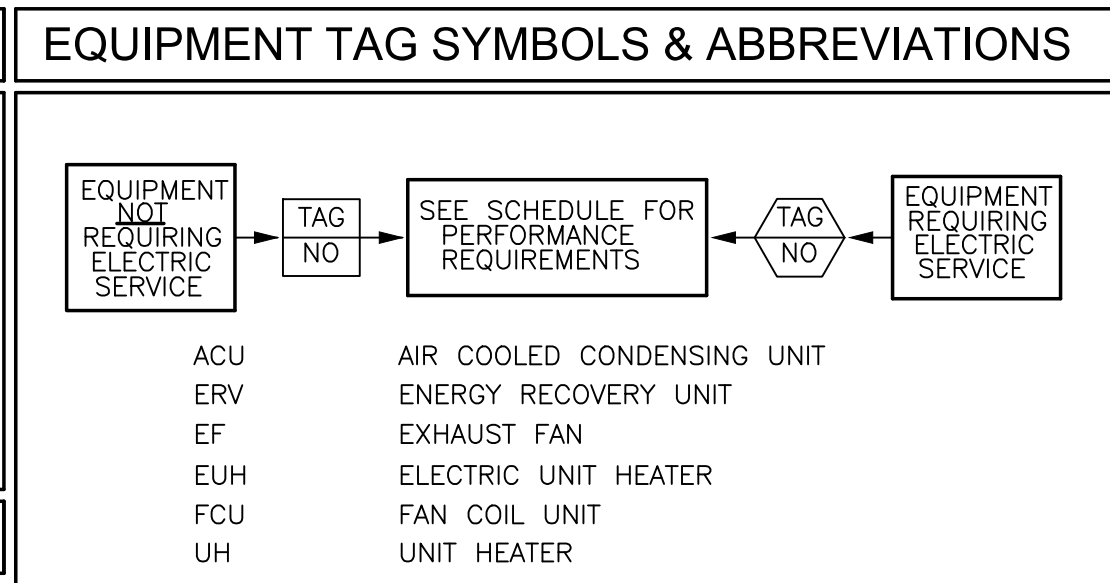
ⓘ HEATING/COOLING THERMOSTAT

LEGEND/SYMBOLS

→ SUPPLY AIR BLOW DIRECTION

↔ EXHAUST / RETURN / OR INTAKE

⬡
A
H-5 SECTION CALL OUT



SPLIT-SYSTEM HEAT PUMP SCHEDULE

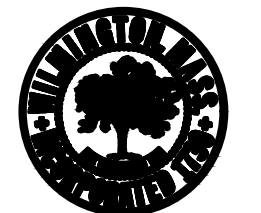
HP FAN COIL UNIT						ACCU OUTDOOR UNIT						REMARKS		
TAG	AREA SERVED	MFG'R. & MODEL NO.	TYPE UNIT	HEAT MBH	COOL MBH	POWER FED FROM	TAG	LOCATION	MFG'R. & MODEL NO.	HEAT MBH	COOL MBH	ELEC. V/PH/HZ	MCA/MOP	REMARKS
HP-1	PUMP STATION	TRANE TPKA0A0241KA70A	WALL MOUNTED	26.0	24.0	OUTDOOR UNIT	ACCU-1	WALL	TRANE TRUZH0241HA10NA	26.0	24.0	208/1/60	17 25	PROVIDE PAD MOUNTED STAND

NOTE:
UNITS SHALL BE COMPLETE WITH 2-SETS OF FILTERS, LOW AMBIENT COOLING, ALL REQUIRED REFRIGERANT PIPING AND VALVING, HANGER RODS AND VIBRATION ISOLATORS. REFRIGERANT PIPING SIZES AND ARRANGEMENTS SHALL BE PER APPROVED EQUIPMENT MANUFACTURER'S REQUIREMENTS.



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ORIGINAL DRAWING SIZE IS 22 x 34
HVAC
LEGEND, GENERAL NOTES & SCHEDULE
TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELDFIELD
REPLACEMENT



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SHEET 14 of 15

REV	DESCRIPTION	DSN DWN	CHK APP	DATE



SCALE VERIFICATION

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IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

SCALE: 1" = 1' SCALE IN FEET

ORIGINAL DRAWING SIZE IS 22 x 34

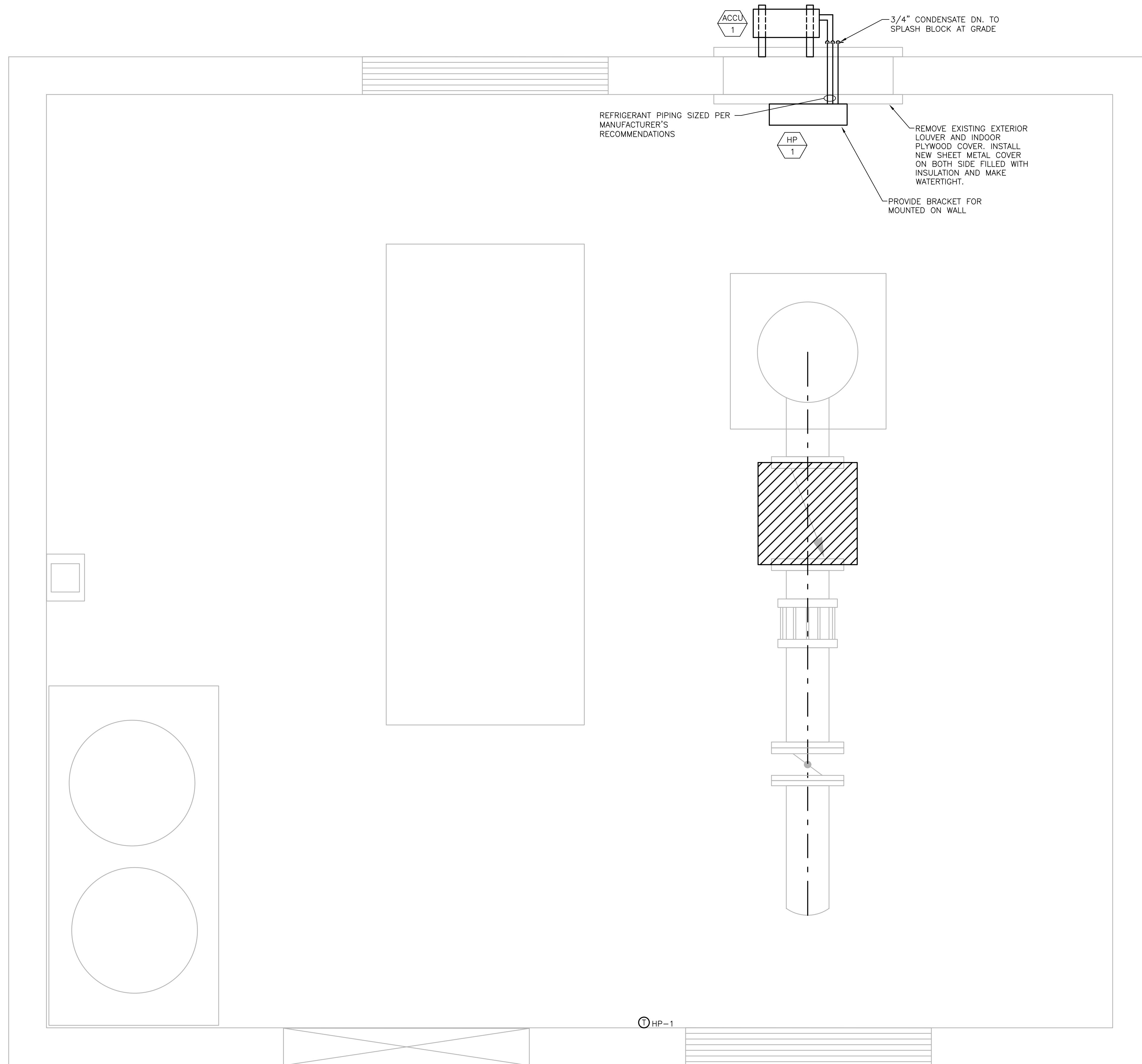
HVAC
WELL PUMP STATION PLAN
TOWN OF WILMINGTON, MASSACHUSETTS
SALEM STREET WELLFIELD
REPLACEMENT

TOWN OF WILMINGTON
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WELL PUMP STATION PLAN
SCALE: 1" = 1'-0"