

GENERAL NOTES

DESCRIPTION	PROPOSED	EXISTING
WATER MAIN	W	W
VALVE	V	V
REDUCER	R	R
TRANSITION COUPLING	T	T
CAP	C	C
CROSS	X	X
TEE	TE	TE
BEND	B	B
CURB STOP	CS	CS
SOLID SLEEVE	SS	SS
FIRE HYDRANT	FH	FH
WATER SERVICE LINE	WSL	WSL
WELL	W	W
ZONE 1	Z1	Z1
SEWER MANHOLE	S	S
SEWER GRAVITY MAIN	S	S
SEWER FORCE MAIN	FM	FM
LOW PRESSURE SEWER	LPS	LPS
VENT	V	V
DRAIN MANHOLE	DMH	DMH
CATCH BASIN	CB	CB
DRAIN LINE	D	D
RIP RAP	RR	RR
FLARED DRAINAGE PIPE	FD	FD
COMM. BOX	CB	CB
COMM. LINE	C	C
COMM. MANHOLE	CMH	CMH
ELECTRIC LINE	E	E
ELECTRIC MANHOLE	EMH	EMH
ELECTRIC OVERHEAD WIRE	EOH	EOH
TRANSFORMER	T	T
UTILITY POLE	U	U
GLY WIRE	G	G
LIGHT WALL MOUNT / POLE	LWM	LWM
GAS LINE	G	G
GAS VALVE	GV	GV
MISC. MANHOLE	M	M
TREE LINE	TL	TL
TREE	T	T
SHRUB	S	S
ROCK	R	R
WETLANDS	WF	WF
WETLAND FLAG	WF-19	WF-19
WETLAND BUFFER	WB	WB
EDGE OF WATER	EW	EW
RIVER FRONT	RF	RF
100 YEAR FEMA FLOOD ZONE	FFZ	FFZ
HAYBALES	H	H
SILTATION FENCE	SF	SF
LIMIT OF WORK	LW	LW
10' CONTOUR	C10	C10
2' CONTOUR	C2	C2
SPOT ELEVATION	SE	SE
BORING	B	B
MONITORING WELL	MW	MW
EASEMENT	E	E
SURVEY MARKER	SM	SM
STATIONING	STA	STA
TOWN LINE	TL	TL
CHAIN LINK FENCE	CLF	CLF
STONE WALL	SW	SW
GUARD RAIL	GR	GR
BOLLARD	B	B
MAIL BOX	MB	MB
SIGN POST	SP	SP
EDGE OF PAVEMENT	EOP	EOP
PROPERTY LINE	PL	PL
BENCH MARK	BM	BM

NOTE: LEGEND SYMBOLS PROVIDED AS A GENERAL GUIDE TO CONTRACTOR; DIRECT ANY QUESTIONS REGARDING SYMBOLS TO ENGINEER.

ABBREVIATIONS

HYD	HYDRANT
RCP	REINFORCED CONCRETE PIPE
DI	DUCTILE IRON
AC	ASBESTOS CONCRETE
CI	CAST IRON
WI	WROUGHT IRON
CLAY	VITRIFIED CLAY
PVC	POLYVINYL CHLORIDE
TYP	TYPICAL
PB	PULL BOX
IRR	IRRIGATION SYSTEM AREA
TGB	TRAFFIC CONTROL BOX
TRAN	TRANSFORMER
TRLT	TRAFFIC LIGHT
FM	FORCE MAIN
LDET	LOOP DETECTOR
CDP	CONTROLLED DENSITY FILL
CB	CATCH BASIN
DMH	DRAIN MANHOLE
SMH	SEWER MANHOLE
CONC	CONCRETE
BIT	BITUMINOUS
BLDG	BUILDING
DIA	DIAMETER
EX	EXISTING
ID	INNER DIAMETER
OD	OUTER DIAMETER
BFV	BUTTERFLY VALVE
GV	GATE VALVE

1. THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 1-888-344-7233, 72 HOURS PRIOR TO ANY EXCAVATION AND/OR SUBSURFACE TESTING TO INFORM THE UTILITY COMPANIES OF ANY EXCAVATION.

2. ONSITE ENGINEERING, INC. APPROVAL SHALL BE REQUIRED FOR ALL FIELD CHANGES IN THE WORK PRIOR TO IMPLEMENTATION; ONSITE ENGINEERING, INC., 279 EAST CENTRAL STREET, #241, FRANKLIN, MA 02038, (508) 553-0616. NO FIELD CHANGES SHALL BE MADE IN ANY SPECIFIED SITE WORK OR ANY MATERIALS FOR WHICH SHOP DRAWINGS HAVE BEEN SUBMITTED AND APPROVED WITHOUT PRIOR CONSULTATION OF ONSITE ENGINEERING, INC. ANY CHANGES SO MADE WITHOUT THE WRITTEN CONSENT OF ONSITE ENGINEERING, INC. SHALL, IF DEEMED UNACCEPTABLE BY ONSITE ENGINEERING, INC., BE PROMPTLY REMOVED FROM THE WORK SITE AT NO EXPENSE TO THE OWNER.

3. ALL CONSTRUCTION METHODS AND MATERIALS, AS WELL AS ALL MATERIAL SHOP DRAWINGS AND MANUFACTURERS DATA SHALL REQUIRE THE WRITTEN APPROVAL OF ONSITE ENGINEERING, INC. PRIOR TO FABRICATION AND INSTALLATION. ONSITE ENGINEERING, INC. IS NOT RESPONSIBLE FOR ANY WORK FOR WHICH SHOP DRAWINGS AND/OR CONSTRUCTION MATERIALS HAVE NOT BEEN PRE-APPROVED BY ONSITE ENGINEERING, INC.

4. ONSITE ENGINEERING, INC. ASSUMES NO RESPONSIBILITY OR LIABILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN ON THESE DRAWINGS. THIS PLAN DOES NOT PURPORT TO SHOW ALL EXISTING OR PROPOSED UTILITY LOCATIONS OR ELEVATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CHECK AND VERIFY ALL UTILITY LOCATIONS AND ELEVATIONS PRIOR TO ANY CONSTRUCTION ACTIVITY.

5. BASEPLAN USED IS BY OTHERS. ONSITE ENGINEERING, INC. IMPLIES NO WARRANTY AS TO THE ACCURACY OF ONSITE UTILITIES OR PROPERTY LINES. ALL PROPERTY LINE INFORMATION, WETLAND RESOURCE AREA BOUNDARIES AND ROADWAY AND UTILITY DATA WAS COMPILED BY OTHERS. ONSITE ENGINEERING DOES NOT ATTEST TO THE ACCURACY OF THE EXISTING CONDITION PLAN.

6. BASEPLAN USED IS FROM A PLAN ENTITLED "SALISBURY HILL SITE PLAN" PREPARED BY BOHLER ENGINEERING INC. DATED JUNE 22, 2020. ONSITE ENGINEERING, INC. IMPLIES NO WARRANTY AS TO THE ACCURACY OF UTILITIES OR PROPERTY LINES. ADDITIONALLY, THE PLANS MAY NOT SHOW ALL WALKWAYS AND LANDSCAPE FEATURES.

7. THE CONTRACTOR SHALL MAKE APPLICATION FOR AND PAY ALL FEES FOR PERMITS REQUIRED TO CONSTRUCT THIS PROJECT.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL WASTE MATERIAL AT A LOCATION APPROVED BY THE BOARD OF HEALTH AND/OR APPLICABLE APPROVING AUTHORITIES. BURIAL OF WASTE MATERIAL ON SITE WILL NOT BE PERMITTED.

9. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES TO DETERMINE THE LOCATION, SIZE, MATERIALS AND ELEVATION OF ALL EXISTING UTILITIES, CONDUITS AND LINES.

10. DRAINAGE GENERATED AS A RESULT OF DEWATERING SHALL BE DISCHARGED TO EXISTING DRAINAGE COURSES WITH PROPER EROSION CONTROL MEASURES SUBJECT TO APPROVAL BY THE ENGINEER. DISCHARGE ONTO PAVEMENT OR PRIVATE PROPERTY SHALL NOT BE ALLOWED.

11. THE MATERIALS AND CONSTRUCTION OF ALL PROPOSED UTILITIES SHALL CONFORM TO THE MASSDOT STANDARDS AND SPECIFICATIONS, LATEST EDITION, AND NEIWPCC TECHNICAL RELEASE 16.

12. WHENEVER EXISTING STRUCTURES ARE ENCOUNTERED, THE CONTRACTOR SHALL REPAIR ANY DAMAGED STRUCTURES, PAVEMENT, SIDEWALKS, WALLS, ETC. OR REPLACE ANY REMOVED STRUCTURES, AND MAKE ANY IMPROVEMENTS ABOVE AND BELOW GRADE TO A CONDITION BETTER THAN OR EQUAL TO PRE-EXISTING CONDITIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.

13. ANY ERRORS, OMISSIONS AND CHANGES IN CONDITIONS AT THE SITE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PERFORMING THE RELATED WORK.

14. ALL OPEN EXCAVATIONS SHALL BE ADEQUATELY SAFEGUARDED BY PROVIDING TEMPORARY BARRICADES AND/OR FENCING, CAUTION SIGNS, LIGHTS AND OTHER MEANS TO PREVENT ACCIDENTS TO PERSONS, AND DAMAGE TO PROPERTY. THE CONTRACTOR SHALL, AT THEIR OWN EXPENSE, PROVIDE SUITABLE AND SAFE BRIDGES AND OTHER CROSSINGS FOR ACCOMMODATING TRAVEL BY PEDESTRIANS AND WORKMEN AND PROVIDE POLICE DETAILS AS NECESSARY. ALL EXCAVATION MUST COMPLY WITH THE COMMONWEALTH OF MASSACHUSETTS TRENCH SAFETY REQUIREMENTS.

15. ALL WORK ASSOCIATED WITH THE SEWAGE PUMP STATION AND COLLECTION SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS. ALL CHANGES TO THE PLAN MUST BE APPROVED BY ONSITE ENGINEERING, INC.

16. ONSITE ENGINEERING, INC. IS NOT RESPONSIBLE FOR THE FAILURE OF THE CONTRACTOR TO NOTIFY THE ENGINEER FOR THE PROPER INSPECTIONS DURING CONSTRUCTION.

17. THE CONTRACTOR SHALL MAINTAIN 10 FEET HORIZONTAL SEPARATION FROM ALL WATER MAINS/SERVICES AND ALL SEWER LINES SHALL MAINTAIN A MINIMUM VERTICAL CLEARANCE OF LEAST (18) EIGHTEEN INCHES BELOW ALL WATER MAINS/SERVICES. SEWER LINES SHALL BE SLEEVED THAT CROSS BELOW, BUT WITHIN 18 INCHES OF THE WATER MAIN/SERVICE. BOTH THE SEWER LINE AND WATER MAIN/SERVICE SHALL BE SLEEVED WITHIN 10 FEET OF THE CROSSING WHEN THE SEWER LINE CROSSES ABOVE WATER MAINS/SERVICES.

18. ALL PRECAST STRUCTURE PENETRATIONS SHALL BE WATERTIGHT AND UTILIZE KOR-N-SEAL BOOTS WITH STAINLESS STEEL CLAMPS AND EXPANSION RINGS (GRAVITY SEWER) OR MECHANICAL LINK SEALS (FORCE MAINS) AND TESTED FOR WATER-TIGHTNESS.

19. ALL PRECAST CONCRETE TANKS SHALL BE TESTED OR WATERTIGHTNESS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS. IN ADDITION, ALL PRECAST CONCRETE STRUCTURES SHALL BE PROVIDED WITH SUFFICIENT BALLAST TO OFFSET GROUNDWATER CONDITIONS. CONTRACTOR, VIA TANK MANUFACTURER, IS RESPONSIBLE FOR DETERMINING BALLAST REQUIREMENTS BASED ON STRUCTURES TO BE PROVIDED PER THE PROJECT SPECIFICATION REQUIREMENTS.

20. ALL WORK/EXCAVATION PERFORMED IN PAVED AREAS SHALL REQUIRE THE SAWCUTTING OF PAVEMENT AND ULTIMATELY REPLACING THE PAVEMENT.

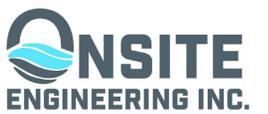
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING INVERT ELEVATIONS OF ALL SEWER MANHOLES PRIOR TO THE SUBMISSION OF MANHOLE SHOP DRAWINGS.

22. THE WORK DETAILED ON THESE DRAWINGS SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, WHICH ARE INCLUDED AS A SEPARATE MANUAL. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PERFORMING THE WORK. IN THE EVENT OF A DISCREPANCY, THE MORE STRINGENT OF THE REQUIREMENTS, AS DETERMINED BY THE ENGINEER, SHALL BE ADHERED TO.

23. THE STOCKPILING OF MATERIAL ON THE SITE SHALL BE LIMITED TO THE GREATEST EXTENT POSSIBLE. THE CONTRACTOR SHALL PLAN TO IMMEDIATELY REMOVE ANY MATERIAL NOT TO BE RE-USED, WHICH SHALL BE LEGALLY DISPOSED OF. ADDITIONALLY, ANY EXCAVATED MATERIAL SHALL BE PLACED/STORED IN TRUCKS AND NOT STOCKPILED ON THE SITE TO THE GREATEST EXTENT PRACTICABLE.

24. THE PLACEMENT OF CONSTRUCTION VEHICLES SHALL BE SUBJECT TO THE REVIEW OF THE LOCAL POLICE AND FIRE DEPARTMENTS. REFER TO SECTION 01100-SPECIAL PROJECT PROCEDURES AND SECTION 01570-TRAFFIC REGULATION FOR FURTHER REQUIREMENTS.

25. SITE LAYOUT AND GRADING IS SHOWN FOR INFORMATIONAL PURPOSES ONLY. REFER TO DRAWINGS PREPARED BY BOHLER ENGINEERING INC. FOR ALL SITE DETAILS.



Water, Wastewater and Stormwater Specialists

279 East Central Street
Franklin, MA 02038
508-553-0616
www.onsite-eng.com

CAPITAL GROUP PROPERTIES
SALISBURY HILL
WORCESTER, MASSACHUSETTS
SEWAGE PUMP STATION
GENERAL NOTES AND LEGEND



Matthew J. Winters

BID/CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION

PROJECT NO.: 01418
DATE: AUGUST 25, 2020
SCALE: N.T.S.
SHEET: 1 OF 3

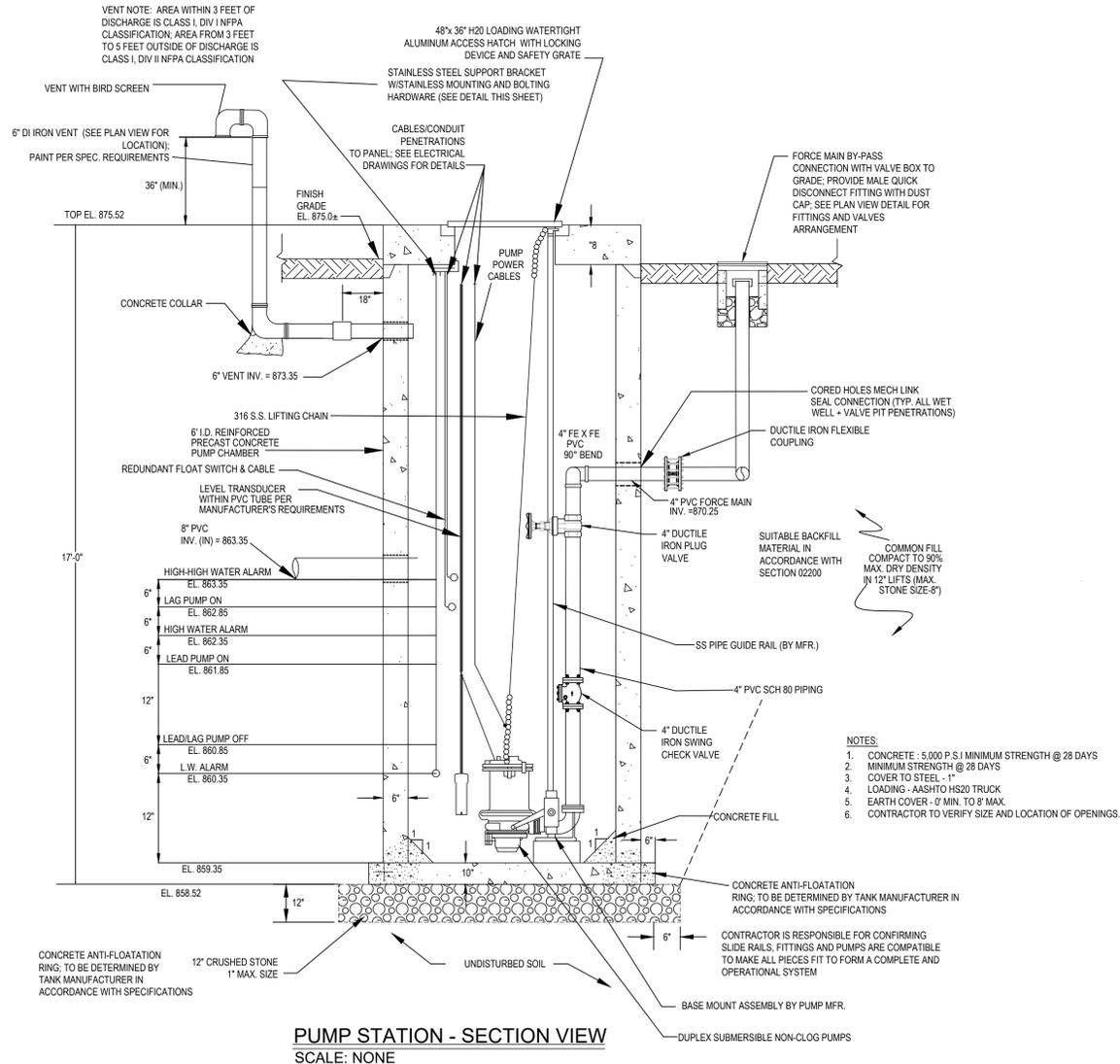
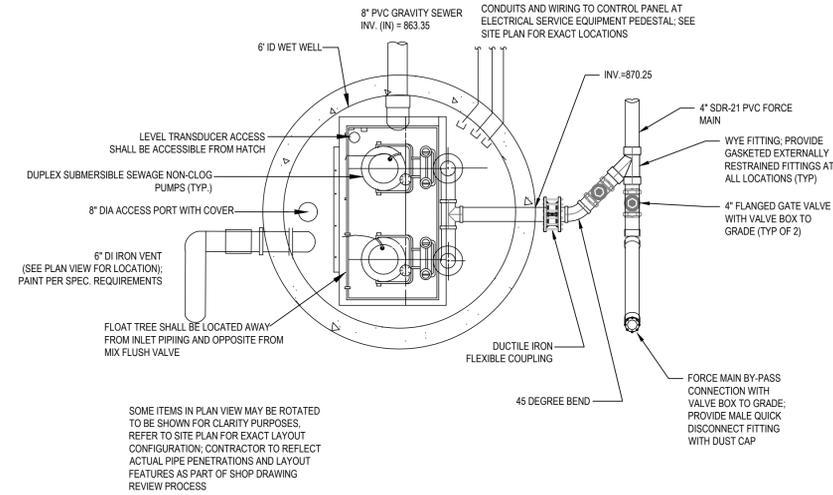
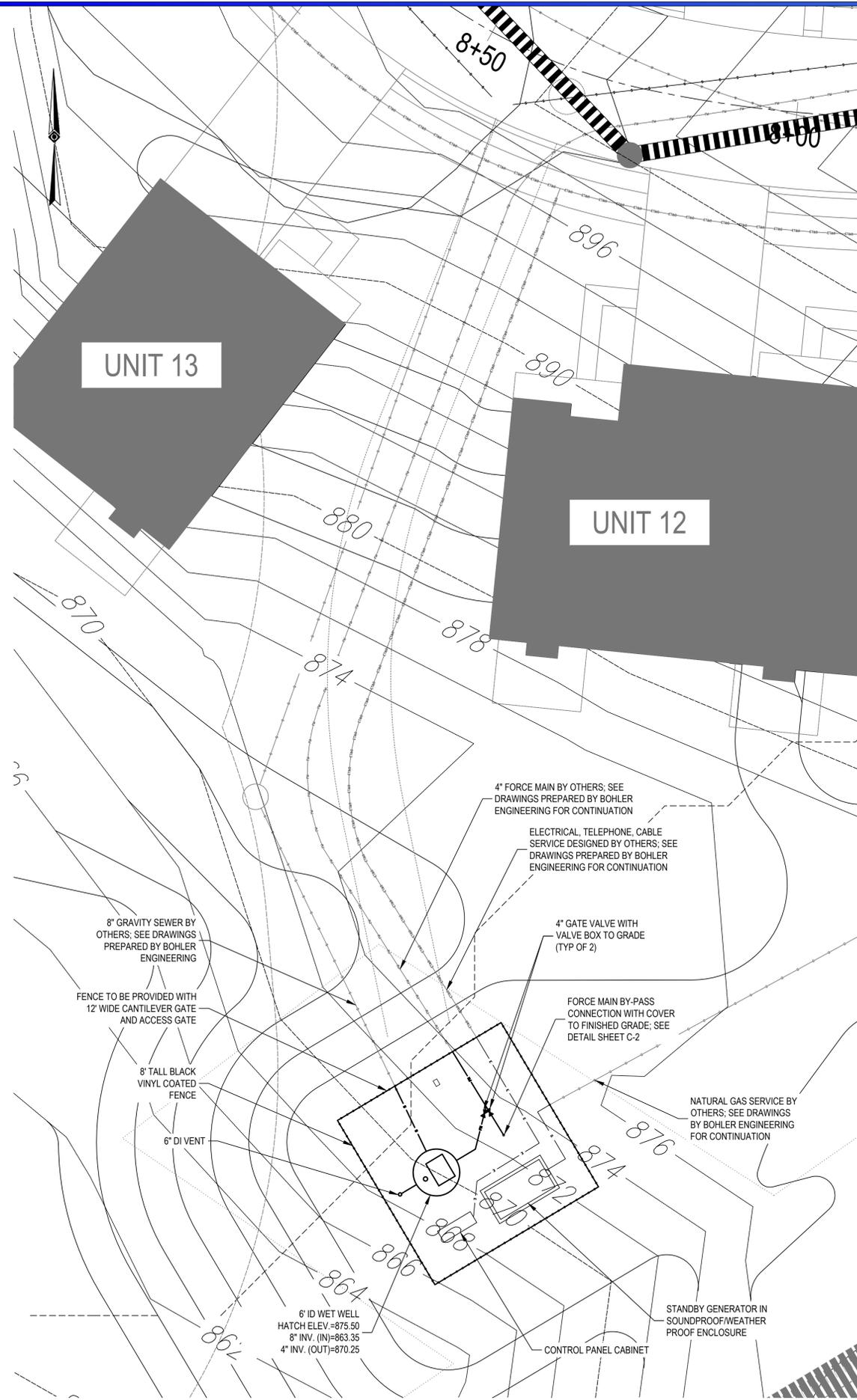
DRAWN BY: RLW DESIGNED BY: RLW
CHECKED BY: DCF APPROVED BY: DCF

THIS PLAN IS THE PROPERTY OF ONSITE ENGINEERING, INC. AND ITS CLIENT. COPYING OR MODIFYING WITHOUT WRITTEN PERMISSION IS PROHIBITED.

G-1

**CAPITAL GROUP PROPERTIES
SALISBURY HILL
WORCESTER, MASSACHUSETTS**

**SEWAGE PUMP STATION
SITE PLAN AND PUMP STATION DETAILS**



Raymond L. Willis

BID/CONSTRUCTION DRAWINGS

REV	DATE	DESCRIPTION

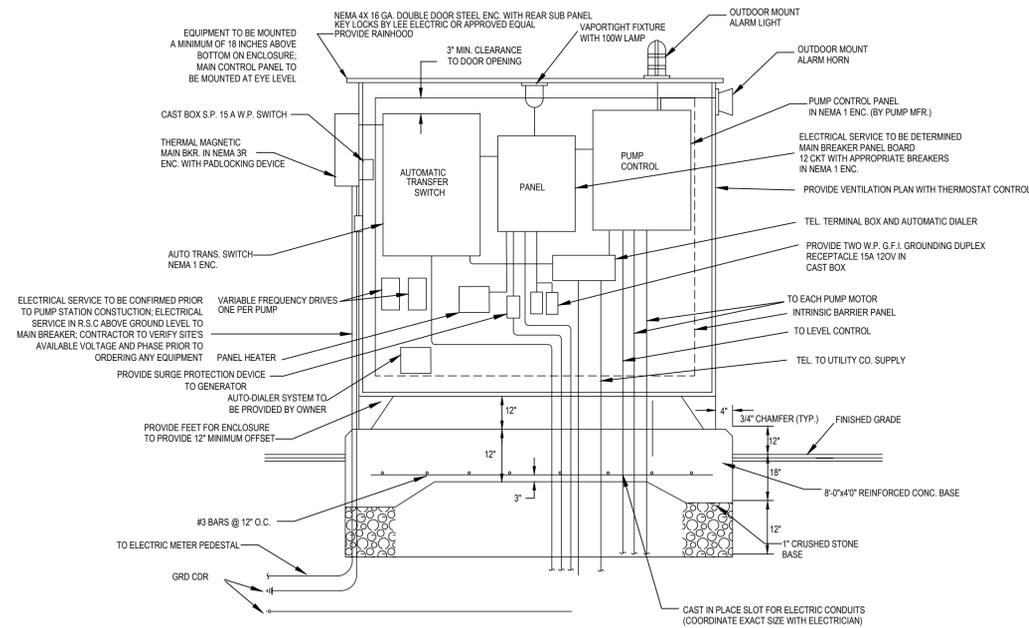
PROJECT NO.: 01418
DATE: AUGUST 25, 2020
SCALE: 1"=10'
SHEET: 2 OF 3

DRAWN BY: RLW DESIGNED BY: RLW
CHECKED BY: DCF APPROVED BY: DCF

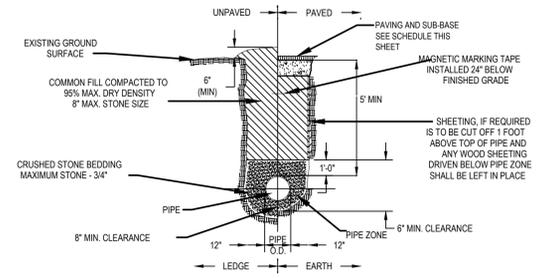
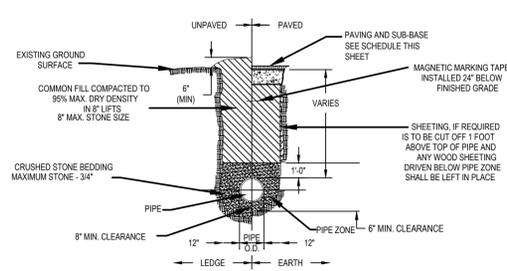
THIS PLAN IS THE PROPERTY OF ONSITE ENGINEERING, INC. AND ITS CLIENT. COPYING OR MODIFYING WITHOUT WRITTEN PERMISSION IS PROHIBITED.

**CAPITAL GROUP PROPERTIES
SALISBURY HILL
WORCESTER, MASSACHUSETTS**

**SEWAGE PUMP STATION
CONTROL PANEL AND CIVIL DETAILS**



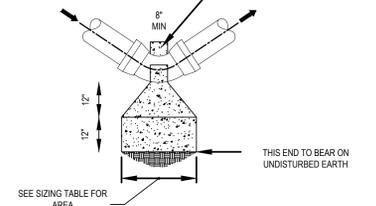
- GENERAL PANEL NOTES
1. PROVIDE A MINIMUM OF 12 INCHES FROM BOTTOM OF PANELS/EQUIPMENT TO BOTTOM OF ENCLOSURE.
 2. ENCLOSURE ASSEMBLY SHALL BE U.L. LISTED (UL1008A).
 3. ALL 120 VOLT CONDUCTORS IN ENCLOSURE SHALL BE ENCLOSED IN METALLIC FLEXIBLE CONDUIT. NO CONDUCTORS SHALL BE INSTALLED WITHOUT PROTECTIVE COVERING.



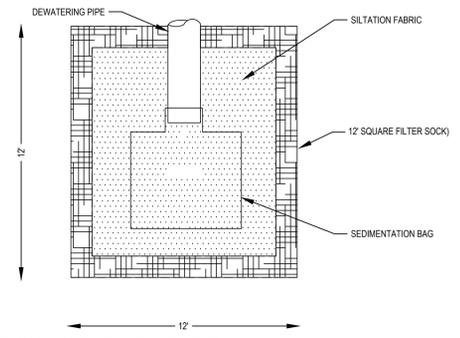
AREA OF BEARING SURFACE FOR THRUST BLOCKS(SF)						
FITTING	22 1/2"	33 3/4"	45"	56 1/4"	67 1/2"	90"
PIPE Ø	4"	6"	8"	10"	12"	15"
	1.67	1.83	2.00	-	-	-
	3.0	4.5	5.0	-	-	9.3

NOTE: FITTING BELL ENDS SHALL BE KEPT FREE OF CONCRETE

CARE SHALL BE TAKEN IN PLACING CONCRETE SO THAT THE ENTIRE FITTING IS NOT ENCLOSED



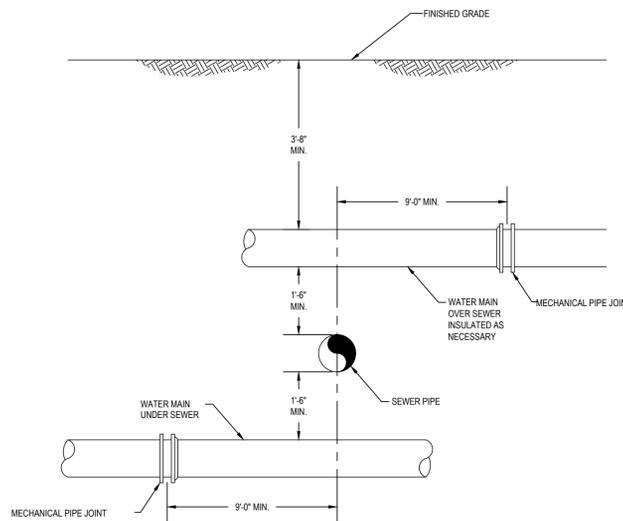
THRUST BLOCK DETAIL
SCALE: NONE



NOTE: CONTRACTOR SHALL COORDINATE LOCATION WITH ENGINEER

SEDIMENTATION DISCHARGE CONTROL
SCALE: NONE

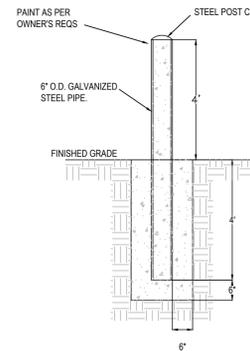
- NOTES:
1. DEWATERING BAG SIZE AND QUANTITY SHALL BE AS NEEDED TO ADEQUATELY FILTER ALL PUMP EFFLUENT FROM DEWATERING ACTIVITIES. CONTRACTOR SHALL PROVIDE A REDUNDANT BAG ON SITE AT ALL TIMES.
 2. EACH BAG SHALL HANDLE A 2", 3", OR 4" DISCHARGE HOSE.
 3. DISCHARGE HOSES CAN BE PLACED ALONG ANY EDGE 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.



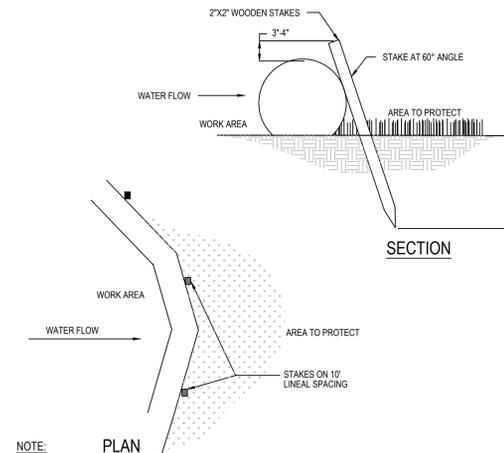
NOTES:

1. SEWERS SHALL BE KEPT REMOTE FROM WATER SUPPLY PIPING AND STRUCTURES. WHEREVER FEASIBLE, SEWERS SHOULD BE LAID AT A MINIMUM HORIZONTAL DISTANCE OF 10 FEET FROM WATER MAINS. IF LOCAL CONDITIONS PREVENT THIS, THE WATER MAIN SHOULD BE LAID IN A SEPARATE TRENCH, AND THE ELEVATIONS OF THE CROWN OF THE SEWER PLACED AT LEAST 18 INCHES BELOW THE INVERT OF THE WATER MAIN.
2. WHENEVER SEWERS MUST CROSS UNDER WATER MAINS, THE CROWN OF THE SEWER SHOULD BE PLACED A MINIMUM OF 18 INCHES BELOW THE INVERT OF THE WATER MAIN. IN ADDITION, THE WATER MAIN MUST BE CONSTRUCTED WITH ONE FULL LENGTH OF PIPE CENTERED ABOVE THE CROSSING. THE WATER PIPE SHALL HAVE MECHANICAL JOINTS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING.
3. WHEN IT IS IMPOSSIBLE TO OBTAIN HORIZONTAL OR VERTICAL SEPARATION AS STIPULATED ABOVE, BOTH THE WATER AND THE SEWER PIPING SHALL BE CONSTRUCTED SUCH THAT THE PIPE JOINTS ARE PLACED AS FAR AWAY FROM THE CROSSING AS POSSIBLE AND THE PIPE CROSSING SHALL BE ENCASED IN CONTROL DENSITY FILL FOR A DISTANCE OF 10 FEET ON ALL SIDES OF THE CROSSING AND WATER MAIN INSTALLED IN POLYETHYLENE WRAP.

WATER/SEWER CROSSING
SCALE: NONE



BOLLARD
SCALE: NONE



- NOTE:
1. FOLLOW MANUFACTURER'S SPECIFICATIONS.

SILTATION CONTROL
SCALE: NONE



By: R. L. WILLIS

BID/CONSTRUCTION DRAWINGS

REV DATE DESCRIPTION

PROJECT NO.: 01418
DATE: AUGUST 25, 2020
SCALE: N.T.S.
SHEET: 3 OF 3
DRAWN BY: RLW DESIGNED BY: RLW
CHECKED BY: DCF APPROVED BY: DCF

THIS PLAN IS THE PROPERTY OF ONSITE ENGINEERING, INC. AND ITS CLIENT. COPYING OR MODIFYING WITHOUT WRITTEN PERMISSION IS PROHIBITED.