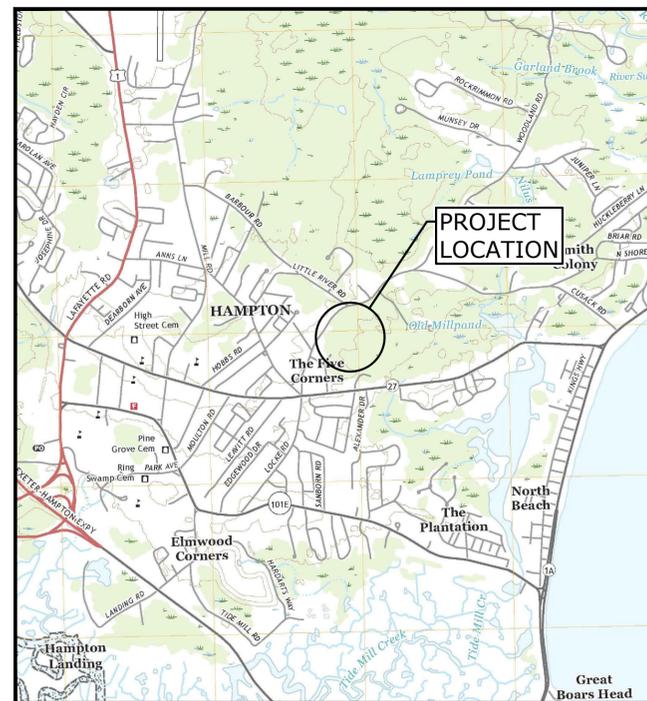
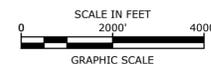


# AQUARION WATER COMPANY OF NEW HAMPSHIRE LITTLE RIVER WATER TREATMENT PLANT HAMPTON, NEW HAMPSHIRE AUGUST 2020 REVISED SEPTEMBER 8, 2020

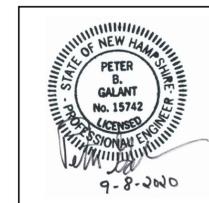
LIST OF DRAWINGS	
DRAWING NO.	DRAWING TITLE
G-001	COVER SHEET
C-101	EXISTING SITE PLAN AND DEMOLITION PLAN
C-102	PROPOSED SITE PLAN - 1
C-102A	PROPOSED SITE PLAN - 2
C-103	PROPOSED BUILDING SITE PLAN
C-104	SITE PIPING PLAN
C-105	STORMWATER MANAGEMENT PLAN
C-106	STORMWATER MANAGEMENT PLAN
C-501	SITE PIPING AND DETAILS - 1
C-502	SITE PIPING AND DETAILS - 2
C-503	SITE PIPING AND DETAILS - 3
C-504	SITE PIPING AND DETAILS - 4
C-505	SITE PIPING AND DETAILS - 5
C-506	SITE PIPING AND DETAILS - 6
A-101	ARCHITECTURAL FLOOR PLAN
A-201	EXTERIOR ELEVATIONS - 1
A-202	EXTERIOR ELEVATIONS - 2



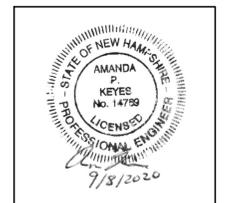
LOCATION MAP



PREPARED BY:  
**Tighe & Bond**



PETER B. GALANT, PE



AMANDA P. KEYES, PE

PREPARED FOR:  
AQUARION WATER COMPANY OF NEW HAMPSHIRE  
7 SCOTT ROAD  
HAMPTON, NEW HAMPSHIRE 03842

**PERMIT SET**  
**NOT FOR CONSTRUCTION**





**PERMIT SET  
NOT FOR  
CONSTRUCTION**

**Aquarion Water  
Company of  
New Hampshire**

**Little River  
Water Treatment  
Plant**

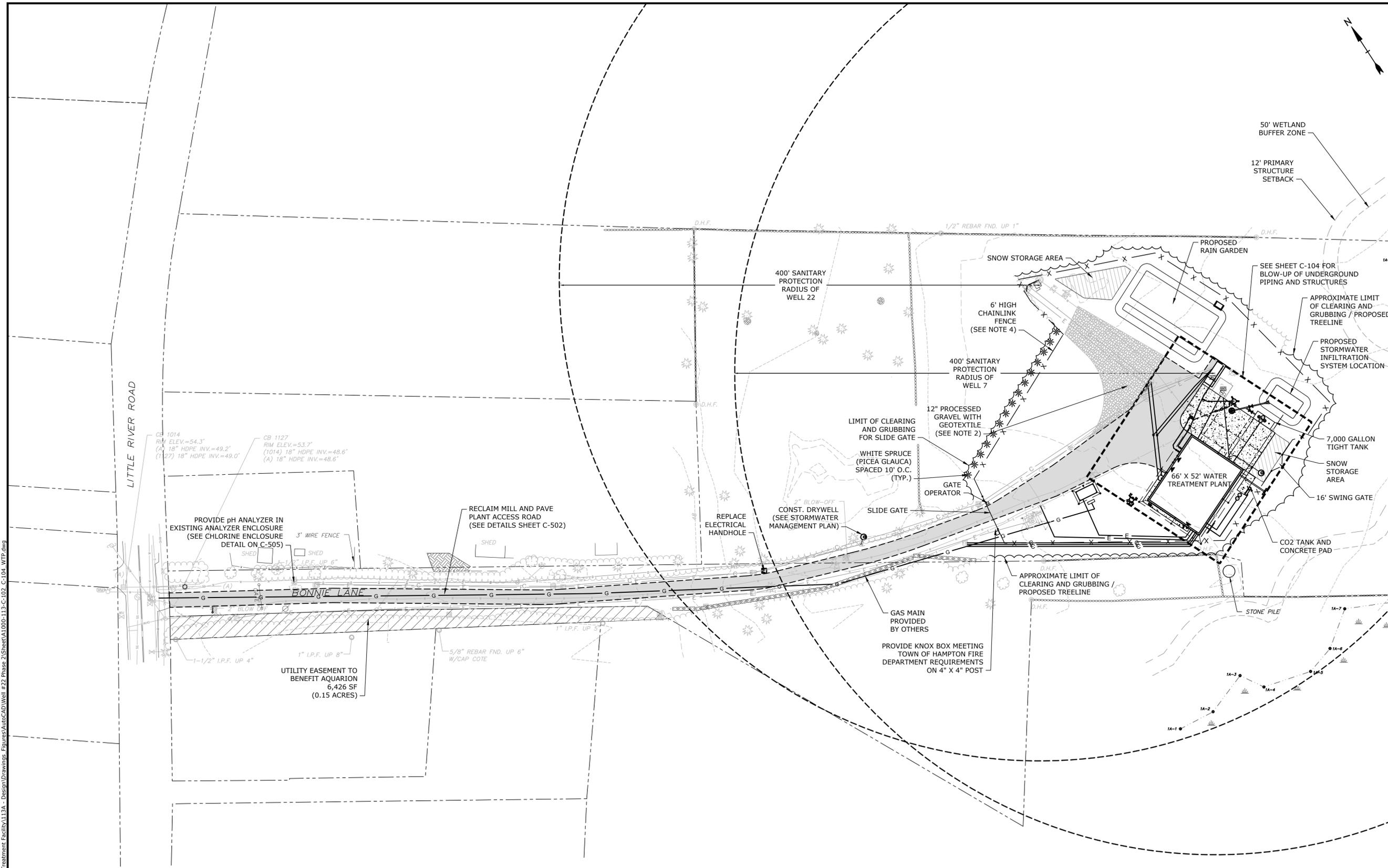
**Hampton,  
New Hampshire**

MARK	DATE	DESCRIPTION
B	9/8/2020	PERMIT SET
A	8/4/2020	PERMIT SET

PROJECT NO: A1000/113  
DATE: MAY 2020  
FILE: A1000-113-C-102\_C-104\_WTP.dwg  
DRAWN BY: BJL  
CHECKED: APK  
APPROVED: PBG

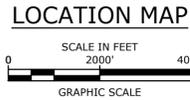
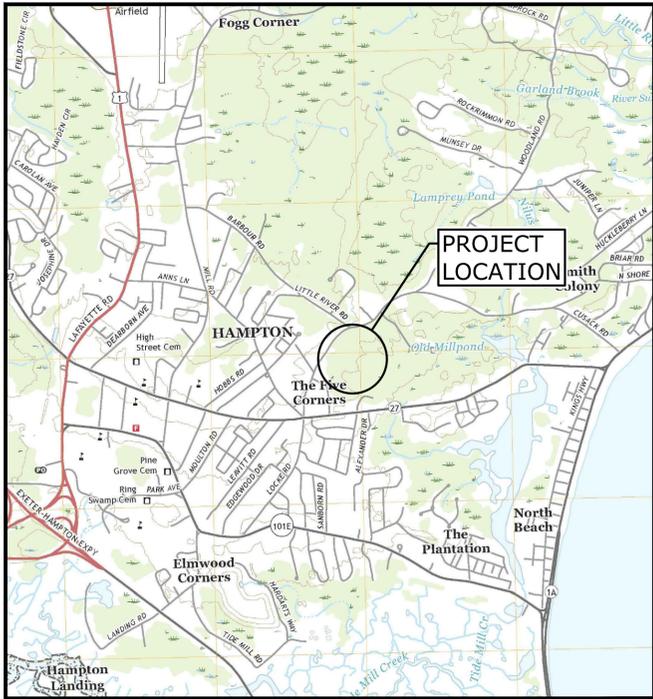
PROPOSED SITE PLAN - 1  
SCALE: AS SHOWN

**C-102**  
SHEET 3 OF 17



- NOTE:**
1. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL STAKE OUT THE 400-FOOT SANITARY RADIIUSES FOR WELLS 22 AND 7 AND SHALL MAINTAIN THESE MARKOUTS THROUGHOUT CONSTRUCTION.
  2. EXTEND GRAVEL 12" BEYOND FENCE LINE.
  3. CONTRACTOR TO COORDINATE WITH GAS COMPANY FOR THE INSTALLATION OF THE GAS LINE TO THE GAS METER.
  4. PROVIDE TEN FEET BETWEEN FENCE LINE AND PLANTINGS OR TREELINE.

Last Saved: 9/8/2020 8:31am By: BJL  
 Plotted On: Sep 09, 2020 8:31am By: BJL  
 Tighe & Bond: J:\A1000 AMVC113 - NH Well 7 & 22 Treatment Facility\113A - Design\Drawings - Figures\AutoCAD\Well #22 Phase 2\Sheet\A1000-113-C-102\_C-104\_WTP.dwg



APPROVED BY THE TOWN OF HAMPTON, NH PLANNING BOARD

CHAIRMAN \_\_\_\_\_ DATE \_\_\_\_\_

TOTAL PARCEL AREA: 483,516 SF (11.1 ACRES)					
IMPERVIOUS AREA					
	EXISTING IMPERVIOUS AREA (SF)	PROPOSED IMPERVIOUS AREA (SF)	TOTAL IMPERVIOUS AREA (SF)	NET CHANGE (SF)	% FINAL IMPERVIOUS AREA
DRIVEWAY, SIDEWALK, CONC. PADS	4,383	18,746	18,746	+ 14,363	3.88
GRAVEL AREA	11,665	3,824	3,824	- 7,841	0.79
BUILDINGS	328	3,760	3,760	+ 3,432	0.78
TOTAL	16,376	26,330	26,330	+ 9,954	5.45

**ZBA NOTE:**

1. SPECIAL EXCEPTION WAS GRANTED BY THE HAMPTON ZONING BOARD OF ADJUSTMENTS ON JULY 16, 2020.

**DIMENSIONAL REQUIREMENTS:**

SITE IS LOCATED IN RESIDENCE A (RA) ZONING DISTRICT

MINIMUM FRONTAGE: 125 FT  
 MINIMUM LOT WIDTH: 125 FT  
 MAXIMUM # OF STORIES: 3 STORIES / 35 FT  
 MINIMUM SETBACKS:  
 FRONT: 20 FT  
 SIDE: 15 FT  
 REAR: 10 FT

**GENERAL NOTES:**

- EXISTING SITE TOPOGRAPHY IS BASED ON A FIELD SURVEY PERFORMED AND PROVIDED BY DOUCET SURVEY INC. TITLED "TOPOGRAPHIC PLAN FOR TIGHE & BOND OF TAX MAP 165, LOT 1 LITTLE RIVER ROAD, HIGH STREET & BONNIE LANE OWNED BY AQUARIUM WATER OF NH, HAMPTON, NEW HAMPSHIRE" DATED JANUARY 7, 2018.
- HORIZONTAL DATUM IS BASED ON NEW HAMPSHIRE STATE PLANE (2800) NAD83 (2011) DERIVED FROM REDUNDANT GPS OBSERVATION UTILIZING THE KEYNET GPS VRS NETWORK.
- VERTICAL DATUM IS BASED ON NGVD29 PER USCSG DISK P 32 1943 WITH A PUBLISHED ELEVATION OF 42.53'.
- NO BOUNDARY SURVEY WAS PERFORMED ON THIS PARCEL. TAX MAP LINES SHOWN HEREON ARE BASED ON HAMPTON TAX MAP 165 ROUGHLY ALIGNED TO FOUND MONUMENTS AND INFORMATION FROM GIS.
- WETLAND DELINEATION WAS PERFORMED BY TIGHE & BOND, INC. JULY 31, 2018 AND OCTOBER 18, 2018 IN ACCORDANCE WITH THE CORPS OF ENGINEERS WETLANDS DELINEATION MANUAL, TECHNICAL REPORT Y-87-1 (JANUARY, 1987) AND THE REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION (JANUARY, 2012).

**SITE NOTES:**

- PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL STAKE OUT THE 400-FOOT SANITARY RADIUS FOR WELLS 22 AND 7 AND SHALL MAINTAIN THESE MARKOUTS THROUGHOUT CONSTRUCTION.
- EXTEND GRAVEL 12" BEYOND FENCE LINE.
- CONTRACTOR TO COORDINATE WITH GAS COMPANY FOR THE INSTALLATION OF THE GAS LINE TO THE GAS METER.



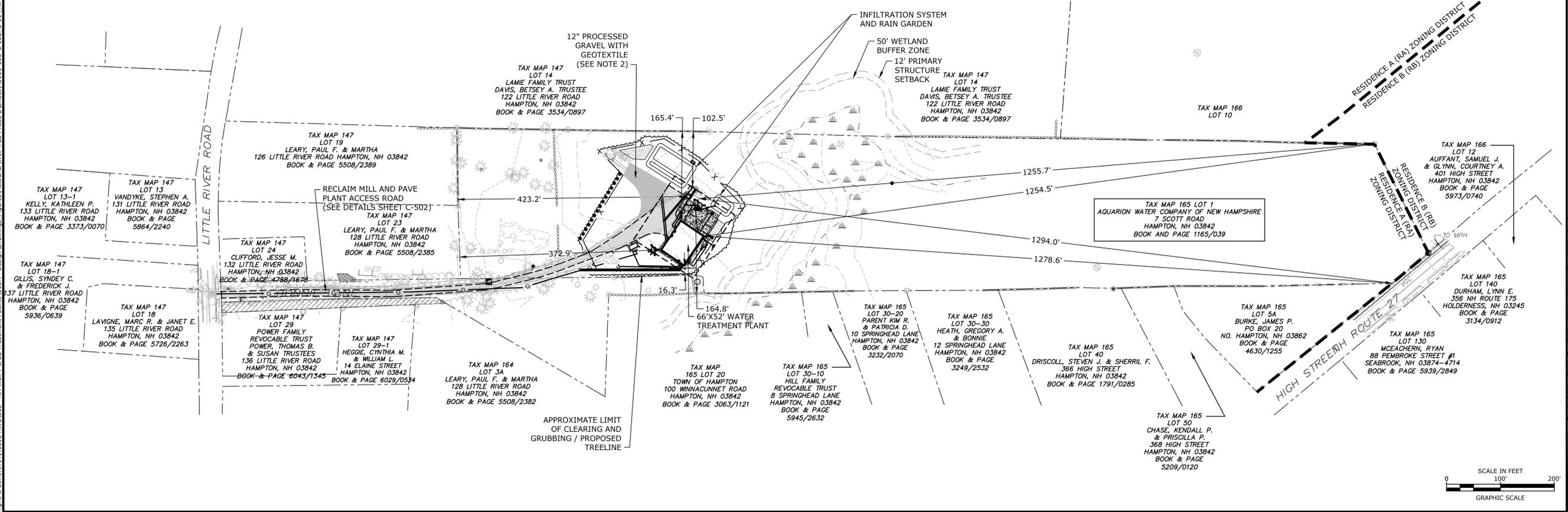
**PERMIT SET  
NOT FOR  
CONSTRUCTION**

**Aquarion Water  
Company of  
New Hampshire**

**Little River  
Water Treatment  
Plant**

**Hampton,  
New Hampshire**

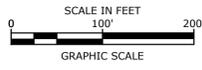
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MARK	DATE	DESCRIPTION
B	9/8/2020	PERMIT SET
A	8/4/2020	PERMIT SET
MARK	DATE	DESCRIPTION
PROJECT NO:	A1000/113	
DATE:	MAY 2020	
FILE:	A1000-113-C-102_C-104_WTP.dwg	
DRAWN BY:	BJL	
CHECKED:	APK	
APPROVED:	PBG	

PROPOSED SITE PLAN - 2

SCALE: AS SHOWN

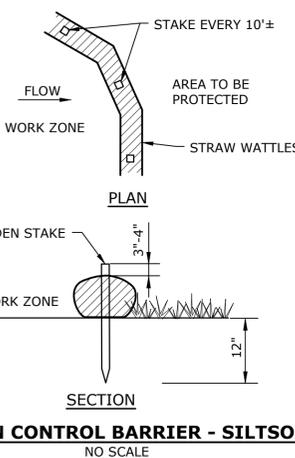
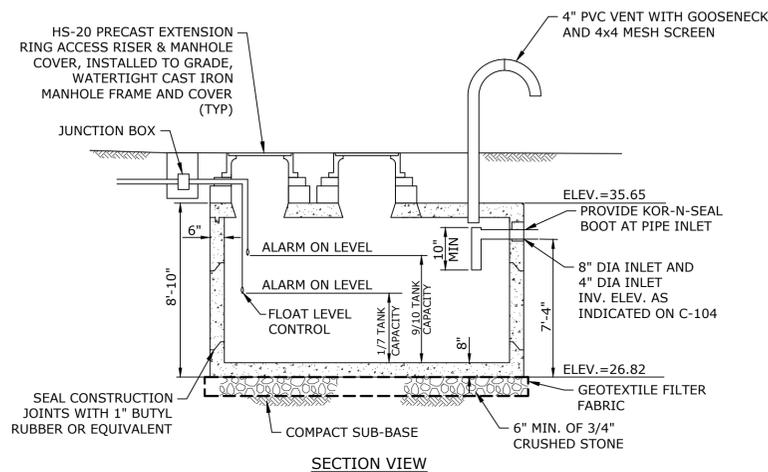
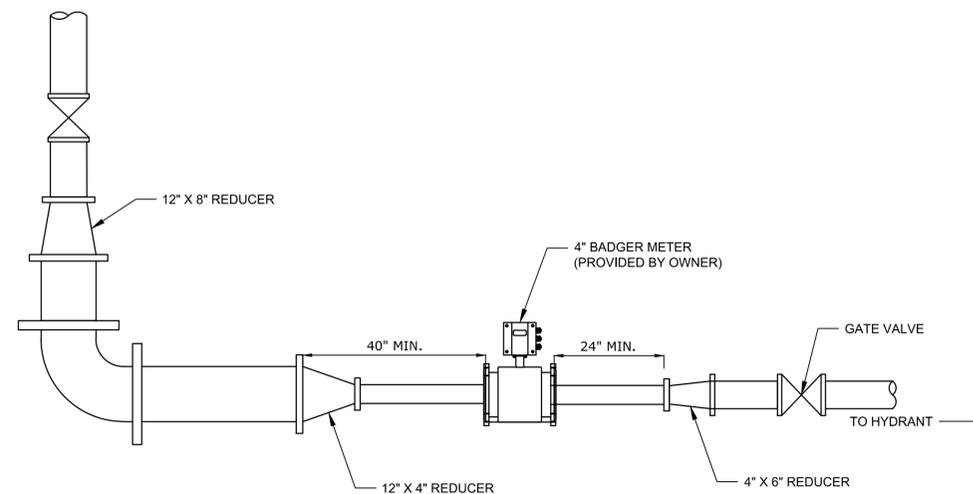
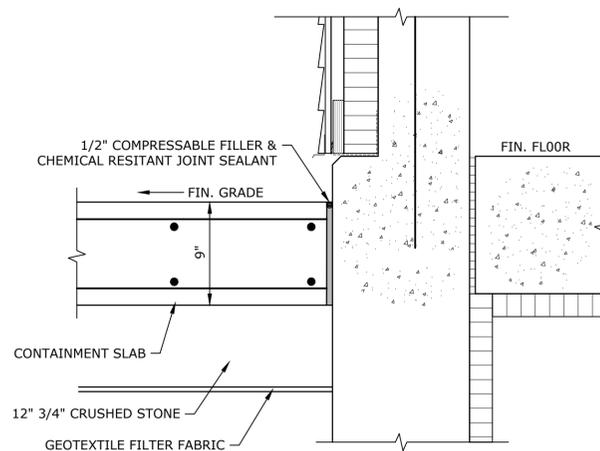
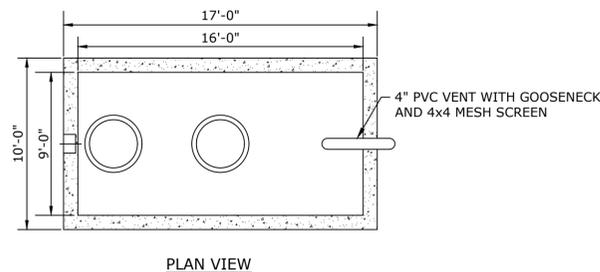






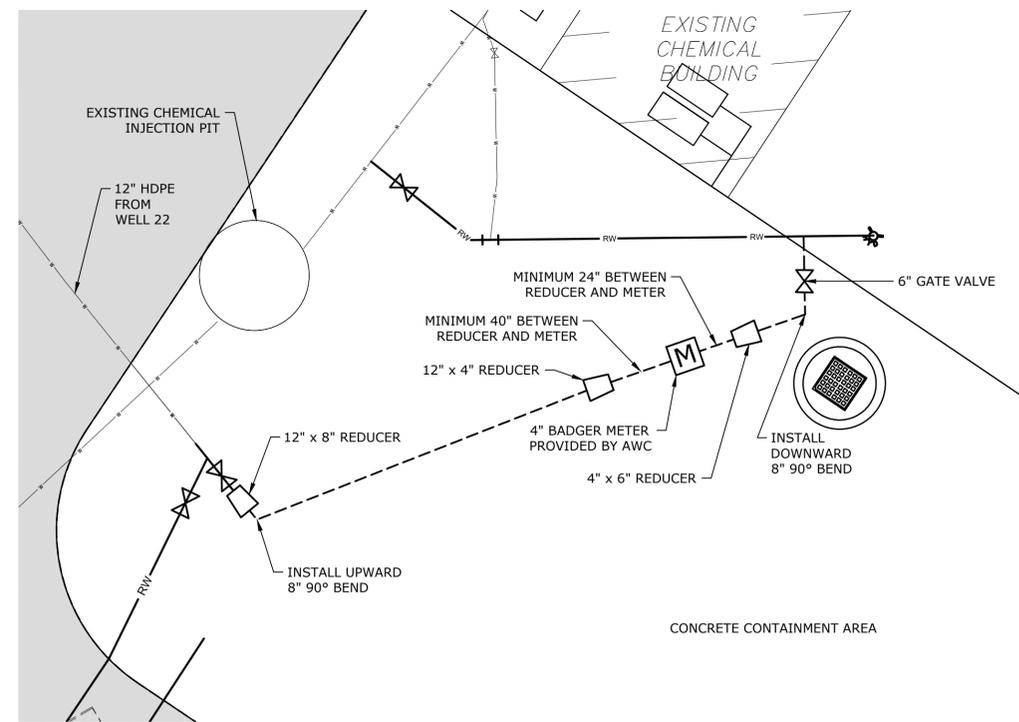
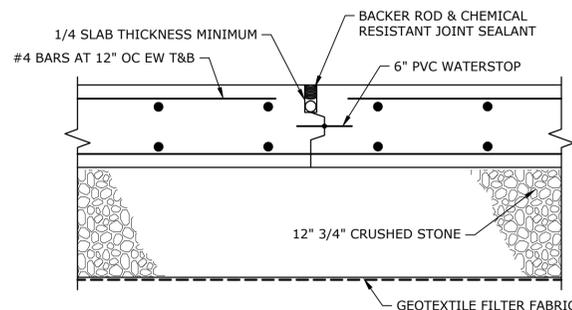
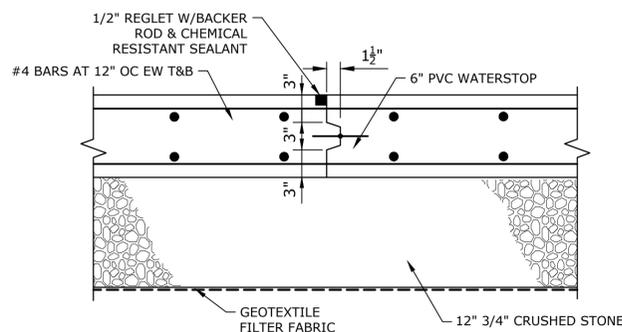






- NOTES:**
1. TIGHT TANK SHALL CONTAIN TWO FLOAT SWITCHES FOR "HIGH LEVEL" AND "HIGH HIGH LEVEL" INDICATION.
  2. INLET INVERTS SHALL BE AS SHOWN ON SHEET C-104.
  3. CONTRACTOR SHALL MAINTAIN TOP ELEVATION OF TIGHT TANK 35.65, AND ADJUST THE BOTTOM ELEVATION BASED ON DEPTH OF TIGHT TANK IF THE TANK IS NOT 8'-10" DEEP AS SHOWN IN THE DETAIL.

**7,000 GALLON WATERTIGHT HOLDING TANK FOR SPILL CONTAINMENT**  
NO SCALE



**PERMIT SET  
NOT FOR  
CONSTRUCTION**

**Aquarion Water  
Company of  
New Hampshire**

**Little River  
Water Treatment  
Plant**

**Hampton,  
New Hampshire**

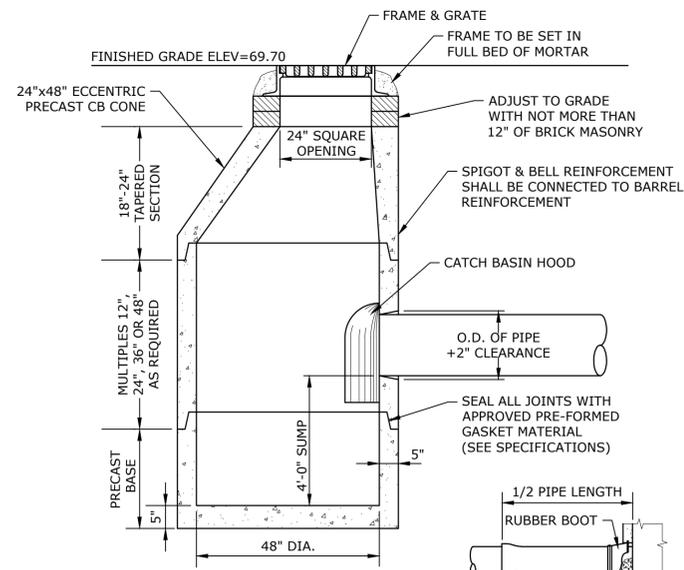
MARK	DATE	DESCRIPTION
B	9/8/2020	PERMIT SET
A	8/4/2020	PERMIT SET

PROJECT NO: A1000/113  
DATE: MAY 2020  
FILE: A1000-113-C-500\_WTP.dwg  
DRAWN BY: BJL  
CHECKED: APK  
APPROVED: PBG

**SITE PIPING  
AND  
DETAILS - 1**

SCALE: AS SHOWN

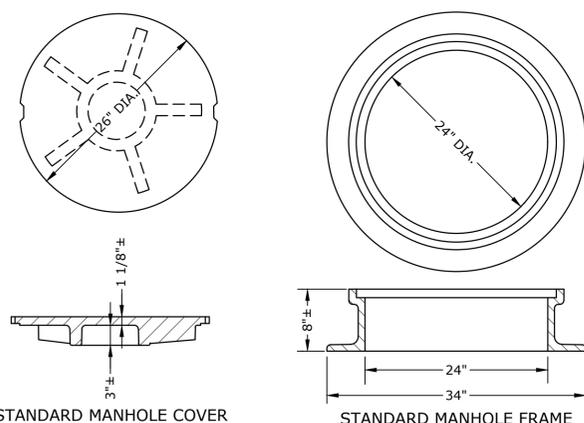
**C-501**  
SHEET 9 OF 17



- NOTES:**
- FOR USE WITH PVC PIPE, PROVIDE RUBBER BOOT.
  - INVERT AS INDICATED ON DRAWINGS.

**PRECAST CONCRETE CATCH BASIN**

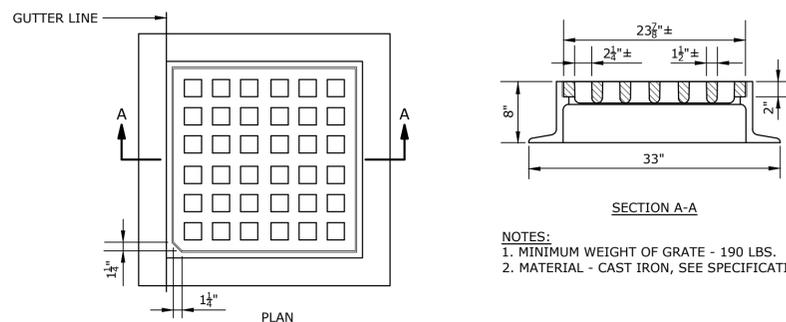
NO SCALE



- NOTES:**
- FRAME AND COVER SHALL BE PROVIDED FROM THE SAME MANUFACTURER.
  - LETTERING SHALL BE PROVIDED ON COVERS AS SPECIFIED.

**MANHOLE FRAME & COVER**

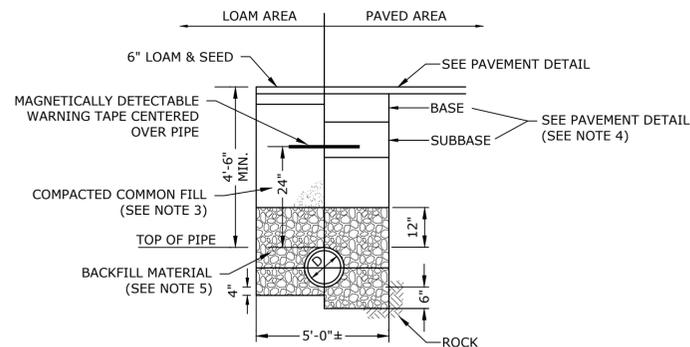
NO SCALE



- NOTES:**
- MINIMUM WEIGHT OF GRATE - 190 LBS.
  - MATERIAL - CAST IRON, SEE SPECIFICATIONS.

**CATCH BASIN FRAME & GRATE**

NO SCALE



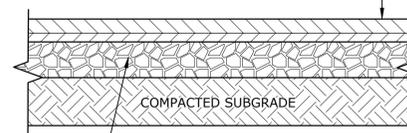
- NOTE:**
- SAND BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 4" BELOW PIPE IN EARTH AND 6" BELOW PIPE IN ROCK UP TO 12" ABOVE TOP OF PIPE.
  - ADDITIONAL COMPACTED COMMON FILL MATERIAL SHALL NOT CONTAIN STONES LARGER THAN 12" AND SHALL BE COMPACTED IN 12" LIFTS.
  - NO ROCK SHALL BE CLOSER THAN 6" FROM OUTSIDE OF PIPE.
  - BASE AND SUBBASE MATERIALS SHALL BE A MINIMUM OF 12" PROCESSED AGGREGATE BASE OR ROLLED GRANULAR BASE, OR AS IDENTIFIED IN THE PAVEMENT DETAIL, WHICH EVER IS GREATER.
  - BACKFILL MATERIAL SHALL NOT CONTAIN STONES LARGER THAN 4", NO STONE SHALL BE WITHIN 4" OF THE PIPE, AND THE MATERIAL SHALL BE THOROUGHLY COMPACTED.

**WATER MAIN UTILITY TRENCH**

NO SCALE

NHDOT ITEM No. 304.3 (CRUSHED GRAVEL)	
SIEVE SIZE	% PASSING
3"	100
2"	95-100
1"	55-85
#4	27-52
#200	0-12

HOT BITUMINOUS CONCRETE  
NHDOT SECTION 401. 3" NOMINAL  
1" OF 3/8" SUPERPAVE WEARING COURSE  
2" OF 3/4" SUPERPAVE BASE COURSE

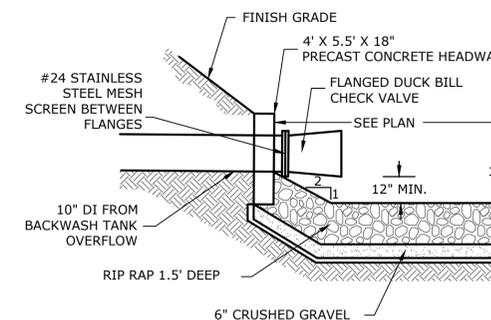


CRUSHED GRAVEL BASE  
(NHDOT ITEM No. 304.3)

- NOTES:**
- CRUSHED GRAVEL BASE CAN BE REUSED IN AREAS WHERE IT IS DEEMED SUITABLE BY THE ENGINEER.
  - SEE SITE PLAN FOR PAVEMENT WIDTH AND LOCATION.
  - SEE GRADING, DRAINAGE AND EROSION CONTROL PLAN FOR PAVEMENT SLOPE AND CROSS-SLOPE.
  - A TACK COAT SHALL BE PLACED ON TOP OF BINDER COURSE PAVEMENT PRIOR TO PLACING WEARING COURSE.

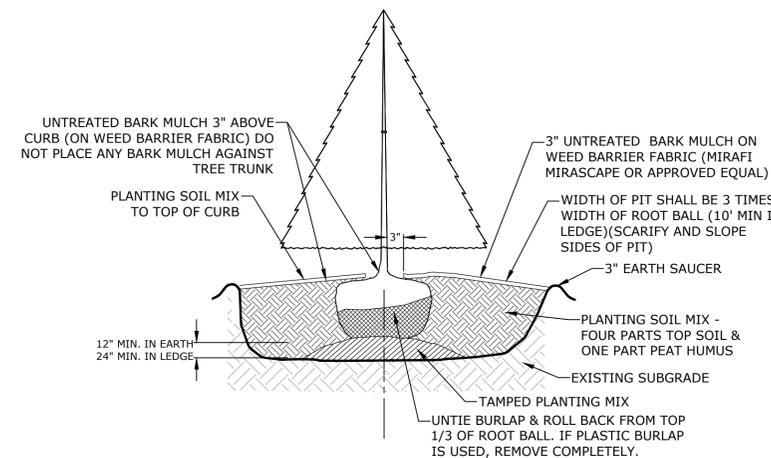
**PAVEMENT SECTION**

NO SCALE



**EMERGENCY OVERFLOW OUTLET**

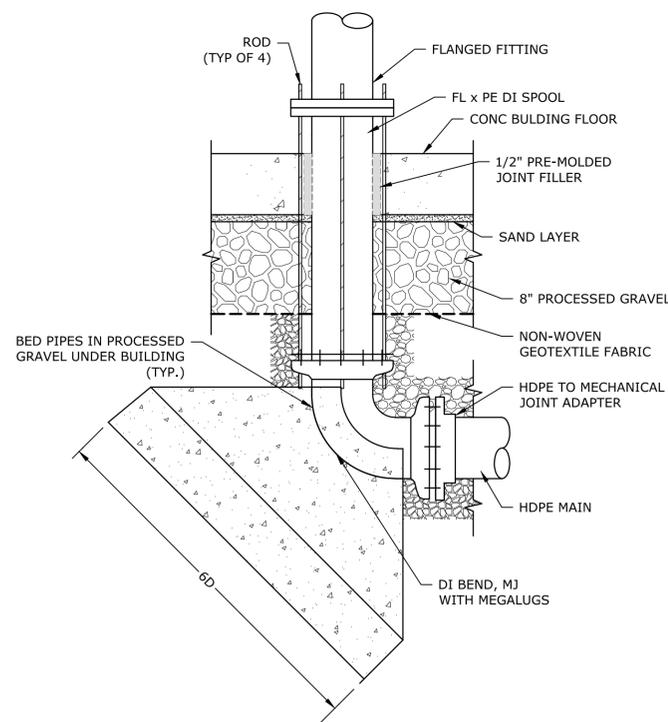
NO SCALE



- NOTE:**
- PLANT AT SAME DEPTH AS PREVIOUSLY PLANTED IN NURSERY, OR WITHIN 2" ABOVE.

**EVERGREEN TREE PLANTING DETAIL**

NO SCALE



- NOTE:**
- CONTRACTOR SHALL CONFIRM THAT ORIENTATION OF FLANGE WILL ALLOW PROPER ALIGNMENT TO CONNECT INTERIOR PIPING.

**JOINT RESTRAINT DETAIL**

NO SCALE

- NOTES:**
- THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS IN QUANTITIES AS SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS WILL BE PERMITTED UNLESS APPROVED BY OWNER.
  - ALL PLANTS SHALL BE NURSERY GROWN AND PLANTS AND WORKMANSHIP SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, INCLUDING BUT NOT LIMITED TO SIZE, HEALTH, SHAPE, ETC. AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER PRIOR TO ARRIVAL ON-SITE AND AFTER PLANTING.
  - PLANT STOCK SHALL BE GROWN WITHIN THE HARDINESS ZONES 4 THRU 7 ESTABLISHED BY THE PLANT HARDINESS ZONE MAP, MISCELLANEOUS PUBLICATIONS NO. 814, AGRICULTURAL RESEARCH SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE, LATEST REVISION.
  - PLANT MATERIAL SHALL BARE THE SAME RELATIONSHIP TO FINISHED GRADES AS TO THE ORIGINAL PLANTING GRADE PRIOR TO DIGGING.
  - THE NUMBER OF EACH INDIVIDUAL PLANT TYPE AND SIZE PROVIDED IN THE PLANT LIST OR ON THE PLAN IS FOR THE CONTRACTOR'S CONVENIENCE ONLY. IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS ON THE LABEL AND THE NUMBER OF SYMBOLS SHOWN ON THE DRAWINGS, THE GREATER NUMBER SHALL APPLY.
  - NO SUBSTITUTION OF PLANT MATERIALS WILL BE ALLOWED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
  - THE CONTRACTOR SHALL LOCATE, VERIFY, AND MARK ALL EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO ANY LAWN WORK OR PLANTING. ANY CONFLICTS WHICH MIGHT OCCUR BETWEEN THE PLANTING AND UTILITIES SHALL IMMEDIATELY BE REPORTED TO THE OWNER SO THAT ALTERNATE PLANTING LOCATIONS CAN BE DETERMINED.
  - ALL DISTURBED AREAS NOT TO BE PAVED OR OTHERWISE TREATED, SHALL RECEIVE 4-INCHES OF LOAM AND SEED.
  - THREE (3) INCH BARK MULCH IS TO BE USED AROUND THE TREE PLANTING AS SPECIFIED IN THE DETAIL.
  - PLANTING SHALL BE COMPLETED FROM APRIL 15TH THROUGH OCTOBER 1ST. NO PLANTING DURING JULY AND AUGUST UNLESS SPECIAL PROVISIONS ARE MADE FOR DROUGHT.
  - TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 'TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES'.
  - ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE 1-YEAR GUARANTEE PERIOD.
  - THE CONTRACTOR SHALL GUARANTEE ALL PLANTINGS TO BE IN GOOD, HEALTHY, FLOURISHING AND ACCEPTABLE CONDITION FOR A PERIOD OF (1) YEAR BEGINNING AT THE DATE OF ACCEPTANCE OF SUBSTANTIAL COMPLETION. ALL GRASSES, TREES AND SHRUBS THAT, IN THE OPINION OF THE ENGINEER, SHOW LESS THAN 80% HEALTHY GROWTH AT THE END OF ONE YEAR PERIOD SHALL BE REPLACE BY THE CONTRACTOR.
  - UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS OF DROUGHT.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL PLANTING AND LAWNS AGAINST DAMAGE FROM ONGOING CONSTRUCTION. THIS PROTECTION SHALL BEGIN AT THE TIME THE PLANT IS INSTALLED AND CONTINUE UNTIL THE FORMAL ACCEPTANCE OF ALL THE PLANTINGS.
  - PRE-PURCHASE PLANT MATERIAL AND ARRANGE FOR DELIVERY TO MEET PROJECT SCHEDULE AS REQUIRED. IT MAY BE NECESSARY TO PRE-DIG CERTAIN SPECIES WELL IN ADVANCE OF ACTUAL PLANTING DATES.



9-8-2020



9/8/2020

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Water Treatment  
Plant**

**Hampton,  
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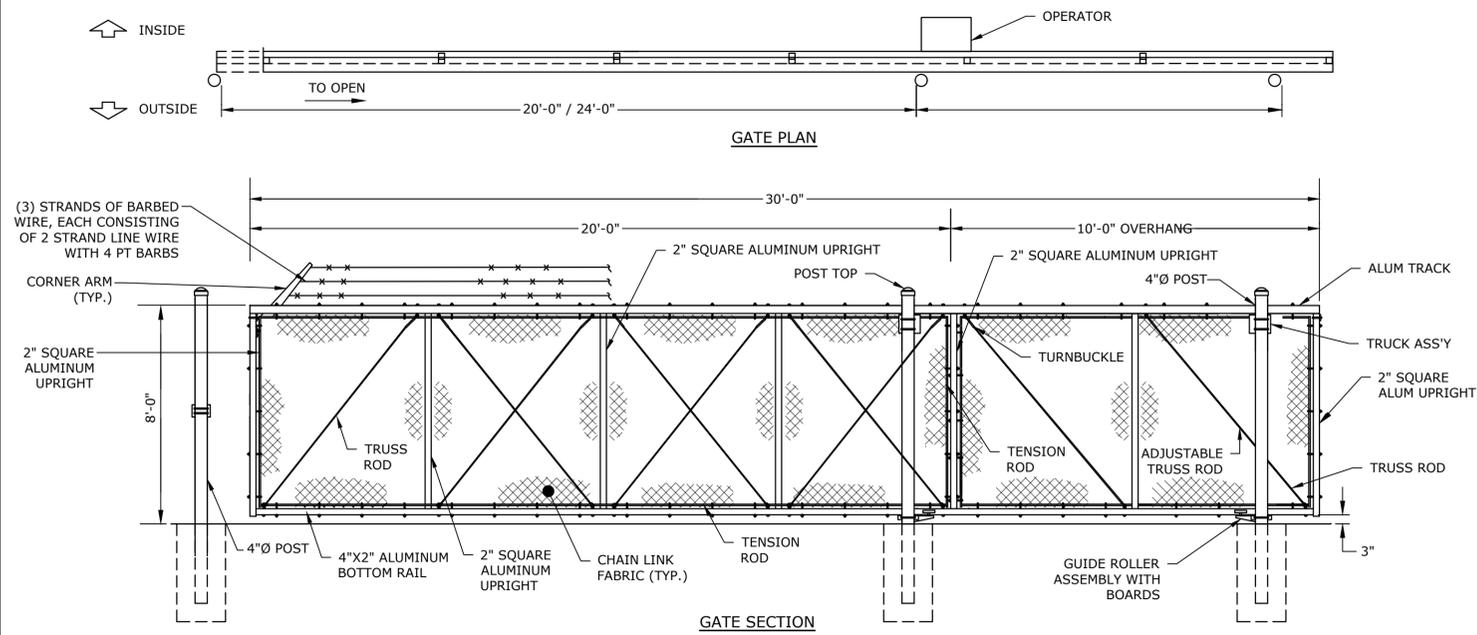
MARK	DATE	DESCRIPTION
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PROJECT NO:	A1000/113
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DRAWN BY:	BJL
CHECKED:	APK
APPROVED:	PBG

**SITE PIPING  
AND  
DETAILS - 2**

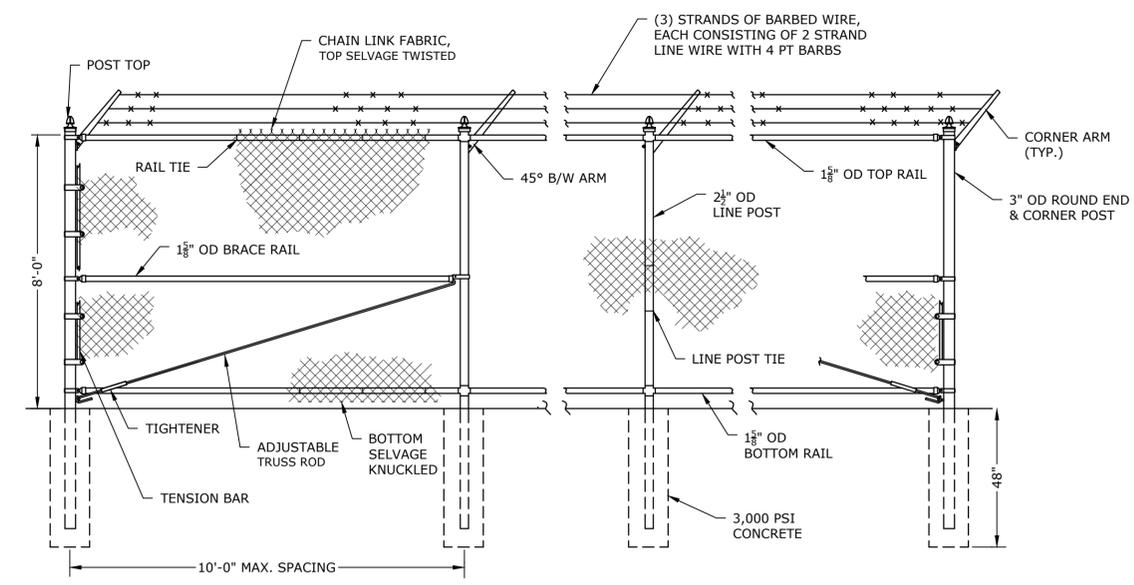
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**C-502**  
SHEET 10 OF 17



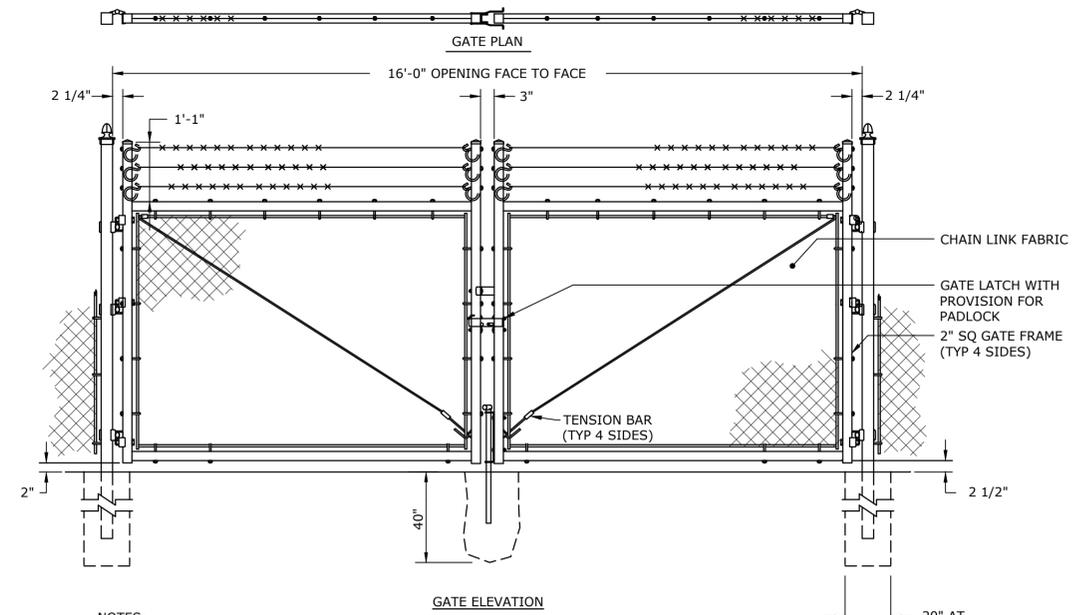
- NOTES:**
1. FOOTING WIDTH TO BE 4X POST WIDTH.
  2. FABRIC AND POSTS SHALL BE BLACK PVC COATED PER ASTM F 668 2B.
  3. REGRADE AND SELECTIVELY CLEAR AREA AROUND SLIDE GATE TO ENSURE THAT THE GATE'S CLEAR OPENING IS 20 FEET.

**CHAIN LINK SLIDE GATE**  
NO SCALE



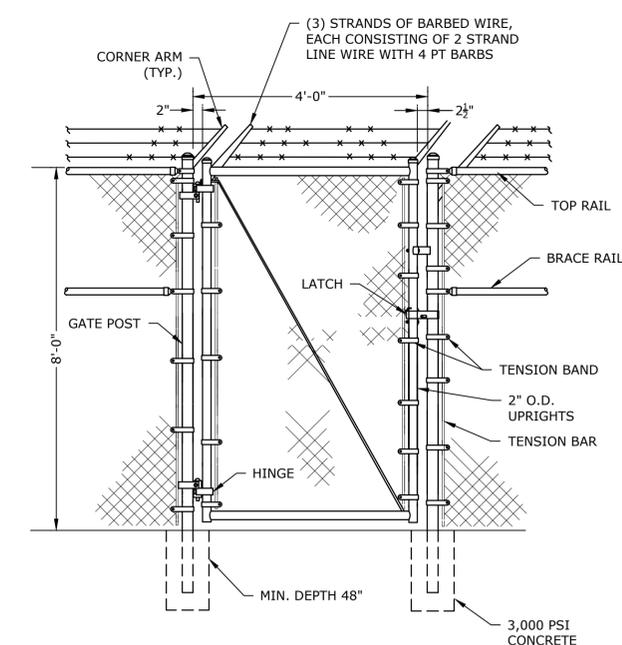
- NOTES:**
1. FOOTING WIDTH TO BE (4)X POST WIDTH.
  2. FABRIC AND POSTS SHALL BE BLACK PVC COATED PER ASTM F 668 2B.
  3. FENCE POSTS IN CONCRETE CONTAINMENT PAD AREA TO BE SURFACE MOUNTED.

**CHAIN LINK FENCE**  
NO SCALE



- NOTES:**
1. FOOTING WIDTH TO BE (4)X POST WIDTH.
  2. GATES MAY BE MANUALLY OPERATED.
  3. FABRIC AND POSTS SHALL BE BLACK PVC COATED PER ASTM F 668 2B.

**DOUBLE LEAF SWING GATE**  
NO SCALE



- NOTES:**
1. FOOTING WIDTH TO BE 4X POST WIDTH.
  2. GATES SHALL BE MANUALLY OPERATED.
  3. FABRIC AND POSTS SHALL BE BLACK PVC COATED PER ASTM F 668 2B.

**CHAIN LINK PERSONNEL GATE**  
NO SCALE



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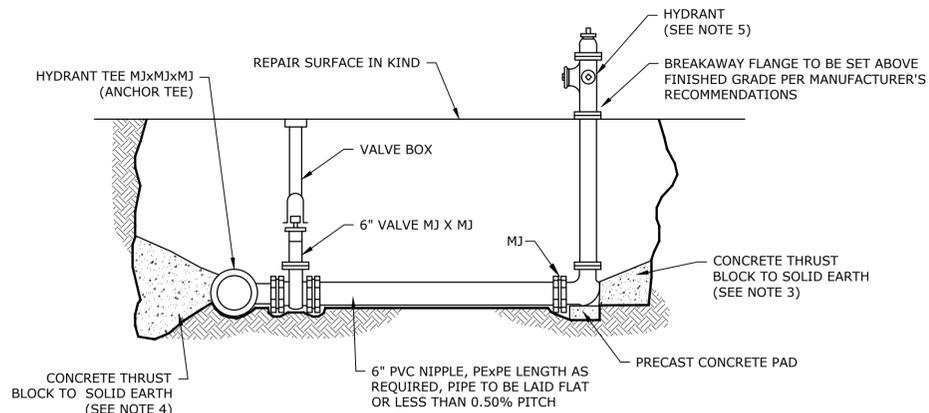
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DATE:	MAY 2020
FILE:	A1000-113-C-500_WTP.dwg
DRAWN BY:	BJL
CHECKED:	APK
APPROVED:	PBG

**SITE PIPING  
AND  
DETAILS - 3**

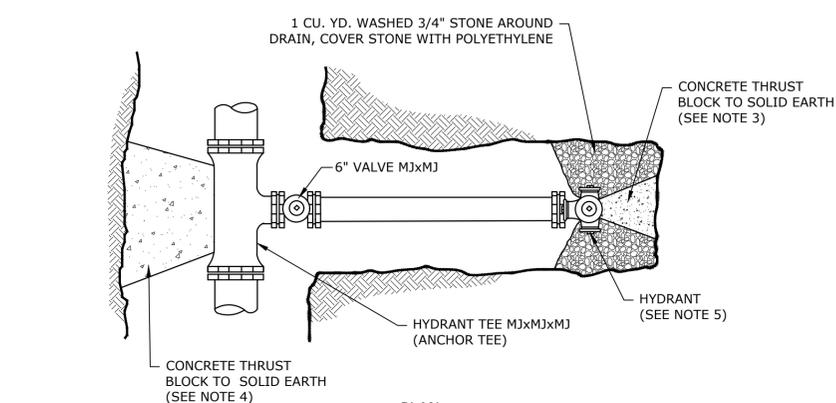
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**C-503**  
SHEET 11 OF 17

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 Design: Drawings - Figures/AutoCAD/Well # 22 Phase 2/Sheet/A1000-113-C-500\_WTP.dwg  
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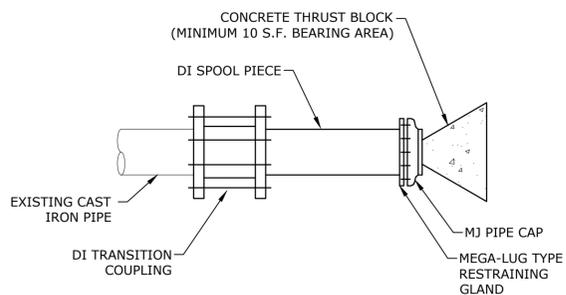
**ELEVATION**



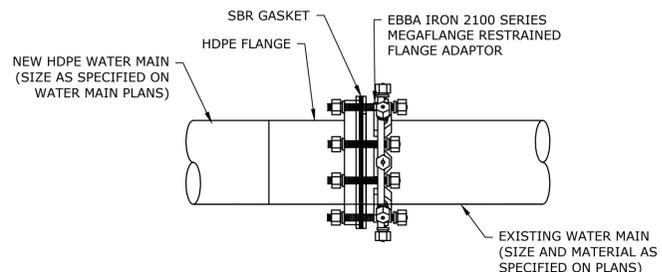
**PLAN**

- NOTES:**
1. ALL CONCRETE TO BE CAST-IN-PLACE (3000 PST)
  2. ALL MJ JOINTS SHALL HAVE RETAINER GLANDS
  3. CARE SHALL BE TAKEN TO SHIELD HYDRANT BASE DRAIN HOLES DURING PLACEMENT OF THE CONCRETE THRUST BLOCK. DRAIN HOLES SHALL BE VERIFIED AS OPEN AND FREE OF OBSTRUCTIONS PRIOR TO BACKFILLING.
  4. CARE SHALL BE TAKEN TO SHIELD ALL MECHANICAL JOINT GLANDS AND BOLTS DURING PLACEMENT OF CONCRETE THRUST BLOCK. ALL BOLTS AND GLANDS SHALL BE FREE AND UNOBSTRUCTED BEFORE BACKFILLING.
  5. HYDRANT SHALL BE SET PLUMB. VERTICAL HYDRANT EXTENSIONS SHALL BE USED AS NECESSARY TO PROPERLY LOCATE THE BREAKAWAY FLANGE PER MANUFACTURER'S RECOMMENDATIONS. HYDRANT LOCATION TO BE COORDINATED WITH THE AQUARION WATER COMPANY.
  6. POLYETHYLENE SHEETING SHALL BE PLACED OVER THE FITTING AND/OR HYDRANT BASE TO PREVENT DIRECT CONTACT OF CONCRETE WITH THE FITTING.

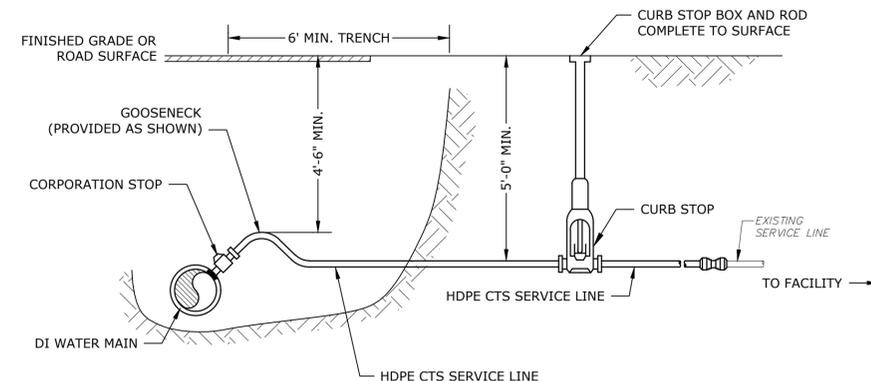
**DUCTILE IRON WATER MAIN HYDRANT INSTALLATION**  
NO SCALE



**DUCTILE IRON PIPE CAP DETAIL**  
NO SCALE



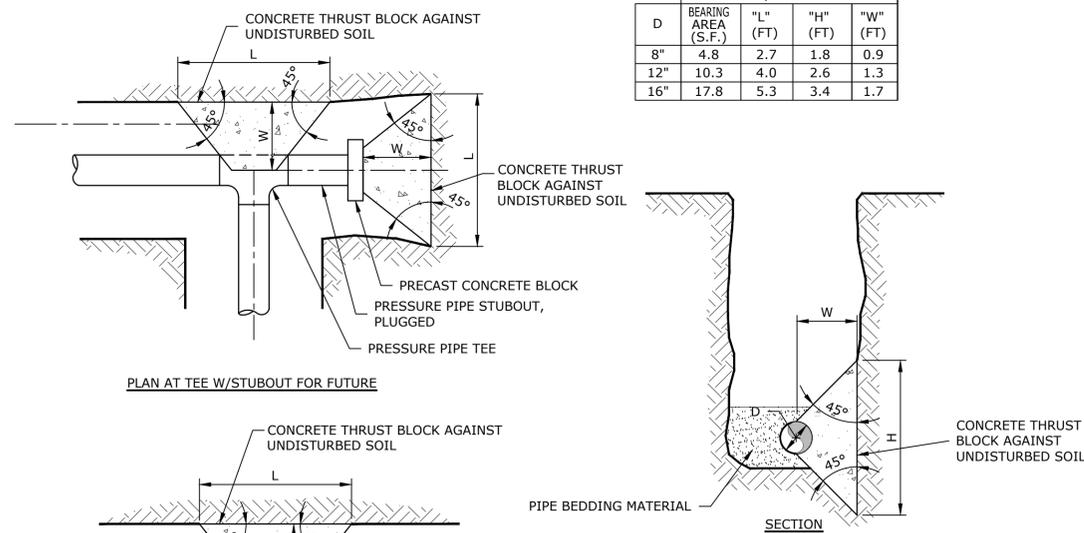
**CI/DI TO HDPE TRANSITION**  
NO SCALE



- NOTES:**
1. CORPORATION STOPS SHALL NOT BE INSTALLED VERTICALLY ON WATER MAIN.
  2. COORDINATE ALL TAPS OF IN SERVICE WATER MAINS WITH AQUARION WATER COMPANY OF NEW HAMPSHIRE.
  3. PROVIDE TRACER WIRE FOR ALL SERVICE CONNECTIONS.

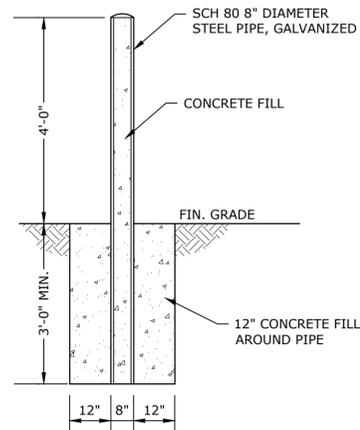
**TYPICAL WATER SERVICE TAP AND CONNECTION**  
NO SCALE

D	CONCRETE THRUST BLOCK TEE/END PLUG			
	BEARING AREA (S.F.)	"L" (FT)	"H" (FT)	"W" (FT)
8"	4.8	2.7	1.8	0.9
12"	10.3	4.0	2.6	1.3
16"	17.8	5.3	3.4	1.7



- NOTES:**
1. DIMENSIONS SHOWN CALCULATED PER 150 PSI INTERNAL PIPE PRESSURE FOR SOIL BEARING LOADS OF 3000 PSF.
  2. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED OF CONCRETE POURED AGAINST UNDISTURBED SOIL.
  3. DIMENSIONS L, W, & H MAY BE ADJUSTED TO MEET FIELD CONDITIONS PROVIDED THE BEARING AREA REMAINS UNCHANGED.
  4. THE HEIGHT OF THE BLOCK (H) SHALL BE LESS THAN OR EQUAL TO HALF THE TRENCH DEPTH.
  5. POLYETHYLENE SHEETING SHALL BE PLACED OVER MJ FITTINGS TO PREVENT DIRECT CONTACT BETWEEN CONCRETE AND THE FITTING.

**CONCRETE THRUST BLOCK FOR HORIZONTAL BENDS AND TEES**  
NO SCALE



**TYPICAL STEEL BOLLARD**  
NO SCALE



**PERMIT SET  
NOT FOR  
CONSTRUCTION**

**Aquarion Water  
Company of  
New Hampshire**

**Little River  
Water Treatment  
Plant**

**Hampton,  
New Hampshire**

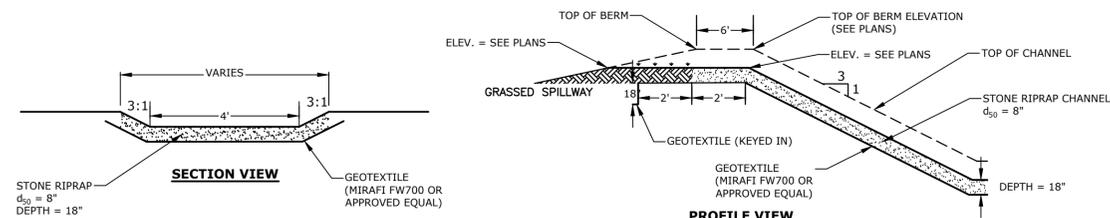
MARK	DATE	DESCRIPTION
B	9/8/2020	PERMIT SET
A	8/4/2020	PERMIT SET
PROJECT NO: A1000/113		
DATE: MAY 2020		
FILE: A1000-113-C-500_WTP.dwg		
DRAWN BY: BJL		
CHECKED: APK		
APPROVED: PBG		

**SITE PIPING  
AND  
DETAILS - 4**

SCALE: AS SHOWN

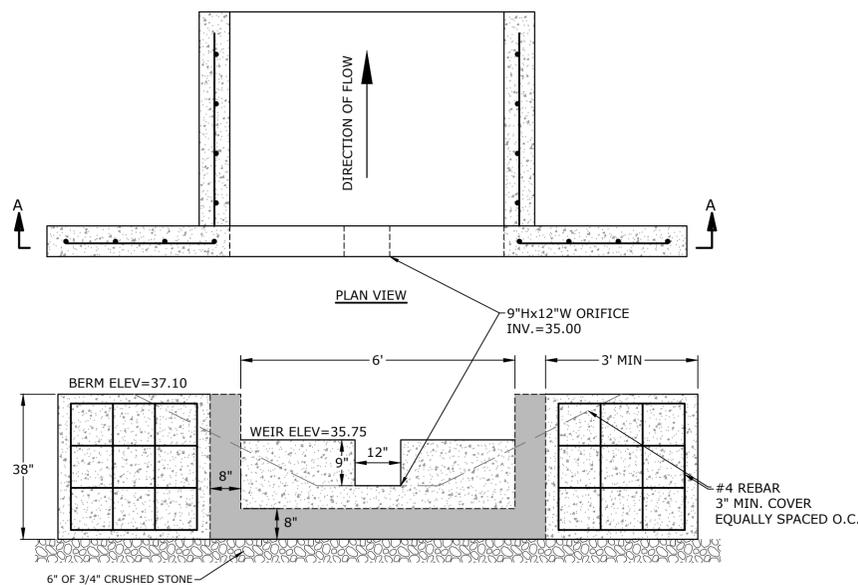
**C-504**  
SHEET 12 OF 17





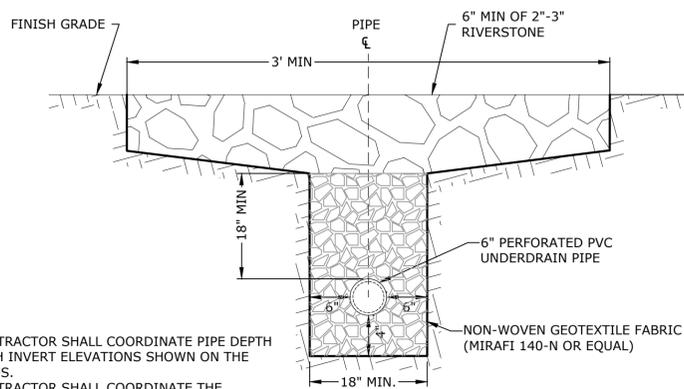
- NOTES:**
1. THE FOUNDATION AREA OF THE WATERWAY SHALL BE CLEARED AND GRUBBED OF ALL TREES, BRUSH, STUMPS, AND OTHER OBJECTIONABLE MATERIAL. MATERIALS REMOVED SHALL BE DISPOSED OF SO THEY WILL NOT INTERFERE WITH THE CONSTRUCTION OR PROPER FUNCTIONING OF THE WATERWAY.
  2. THE WATERWAY SHALL BE EXCAVATED OR SHAPED TO LINE, GRADE AND CROSS SECTION AS REQUIRED TO MEET THE DESIGN CRITERIA. THE WATERWAY SHALL BE FREE OF IRREGULARITIES WHICH WILL IMPEDE NORMAL FLOW.
  3. EARTH FILLS REQUIRED TO MEET SUBGRADE REQUIREMENTS BECAUSE OF OVER EXCAVATION OR TOPOGRAPHY SHALL BE COMPACTED TO THE SAME DENSITY AS THE SURROUNDING SOIL TO PREVENT UNEQUAL SETTLEMENT THAT COULD CAUSE DAMAGE TO THE COMPLETED WATERWAY. EARTH REMOVED AND NOT NEEDED IN CONSTRUCTION SHALL BE SPREAD OR DISPOSED OF SO IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE WATERWAY.
  4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO MINIMIZE EROSION AND AIR AND WATER POLLUTION. ALL APPROPRIATE STATE AND LOCAL LAWS AND REGULATIONS SHALL BE COMPLIED WITH FOR INSTALLATION.
  5. RIP-RAP SHALL BE PLACED OR VEGETATION ESTABLISHED IN THE WATERWAY PRIOR TO ALLOWING STORMWATER RUNOFF TO FLOW THROUGH THE WATERWAY.
  6. GEOTEXTILE FABRICS SHALL BE PROTECTED FROM PUNCTURE OR TEARING DURING PLACEMENT OF THE ROCK RIPRAP BY PLACING A CUSHION OF SAND OVER THE FABRIC. DAMAGED AREAS IN THE FABRIC SHALL BE REPAIRED BY PLACING A PIECE OF FABRIC OVER THE DAMAGED AREA OR BY COMPLETE REPLACEMENT OF THE FABRIC. ALL OVERLAPS REQUIRED FOR REPAIRS OR JOINING TWO PIECES OF FABRIC SHALL BE A MINIMUM OF 12 INCHES.
  7. A WELL GRADED MIXTURE OF ROCK SIZES SHALL BE USED FOR THE STONE. FIFTY PERCENT BY WEIGHT OF THE STONE MIXTURE SHALL BE SMALLER THAN THE MEDIAN SIZE STONE (D50). THE LARGEST STONE SIZE IN THE MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.
  8. STONES FOR RIPRAP SHALL BE ANGULAR OR SUBANGULAR. THE STONES SHALL BE SHAPED SO THAT THE LEAST DIMENSION OF THE STONE FRAGMENT SHALL BE NOT LESS THAN ONE-THIRD OF THE GREATEST DIMENSION OF THE FRAGMENT. FLAT ROCKS SHALL NOT BE USED FOR RIPRAP.
  9. STONE FOR THE RIPRAP MAY BE PLACED BY EQUIPMENT AND SHALL BE CONSTRUCTED TO THE FULL LAYER THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO PREVENT DISPLACEMENT OF THE UNDERLYING MATERIALS. HAND PLACEMENT MAY BE REQUIRED TO PREVENT DAMAGE TO ANY PERMANENT STRUCTURES.
  10. VOIDS IN THE ROCK RIPRAP SHOULD BE FILLED WITH SPALLS AND SMALLER ROCKS.

**EMERGENCY SPILLWAY**  
NO SCALE



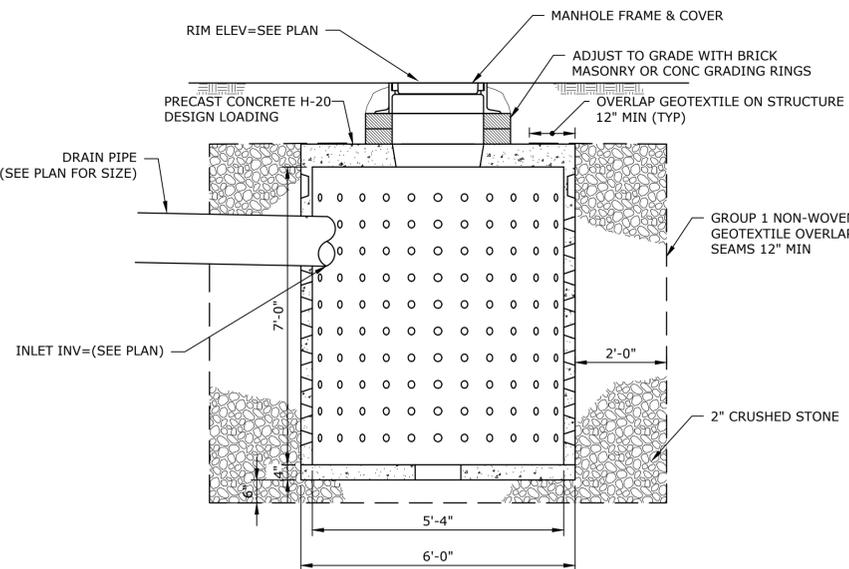
- NOTES:**
1. ALL SECTIONS SHALL BE 4,000 PSI CONCRETE (TYPE II CEMENT).
  2. DETAILING AND FABRICATION OF REINFORCEMENT, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)" AND ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315)", LATEST EDITION.
  3. STEEL REINFORCEMENT, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A615 GRADE 60 MINIMUM (YIELD STRENGTH - 60,000 PSI). ALL STEEL REINFORCEMENT SHALL BE EPOXY COATED PER ASTM A775. BARS SHALL BE HANDLED AND REPAIRED WHERE NECESSARY IN ACCORDANCE WITH ASTM D3963.
  4. THE CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT SHALL BE 3" MINIMUM.
  5. WHERE CONTINUOUS BARS ARE CALLED FOR, THEY SHALL BE RUN CONTINUOUSLY AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS.
  6. WHERE REINFORCEMENT IS NOT SHOWN ON DRAWINGS, PROVIDE REINFORCEMENT IN ACCORDANCE WITH APPLICABLE TYPICAL DETAILS OR SIMILAR TO THAT SHOWN FOR MOST NEARLY SIMILAR SITUATIONS, AS DETERMINED BY THE ENGINEER. IN NO CASE SHALL REINFORCEMENT BE LESS THAN MINIMUM REINFORCEMENT PERMITTED BY THE APPLICABLE CODES.
  7. WHERE REINFORCEMENT IS CALLED FOR IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
  8. REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
  9. REINFORCEMENT COUPLER SPLICES SHALL BE MECHANICAL DEVICES CAPABLE OF TRANSMITTING THE ULTIMATE TENSILE AND COMPRESSIVE STRENGTH OF THE BAR.

**OUTLET CONTROL WEIR**  
NO SCALE

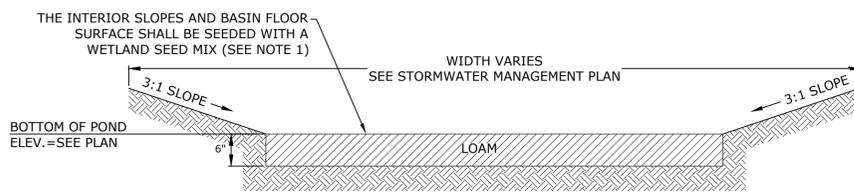


- NOTES:**
1. CONTRACTOR SHALL COORDINATE PIPE DEPTH WITH INVERT ELEVATIONS SHOWN ON THE PLANS.
  2. CONTRACTOR SHALL COORDINATE THE UNDERDRAIN PIPE LOCATION WITH THE BUILDING'S OBSERVED DRIP LINE AS SHOWN ON THE PLANS.

**DRIP STRIP DRAIN**  
NO SCALE

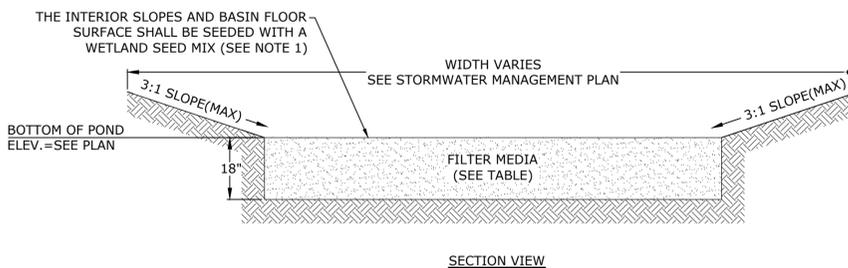


**PRECAST CONCRETE DRY WELL**  
NO SCALE



- NOTES:**
1. WETLAND SEED MIX SHALL BE "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES", BY NEW ENGLAND WETLAND PLANTS, INC. OR APPROVED EQUAL AND SHALL BE INSTALLED IN ACCORDANCE TO THE MANUFACTURER'S SPECIFICATIONS.
  2. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE BASIN.
  3. SEE STORMWATER MANAGEMENT PLAN (SHEET C-106) FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.

**INFILTRATION BASIN SECTION**  
NO SCALE

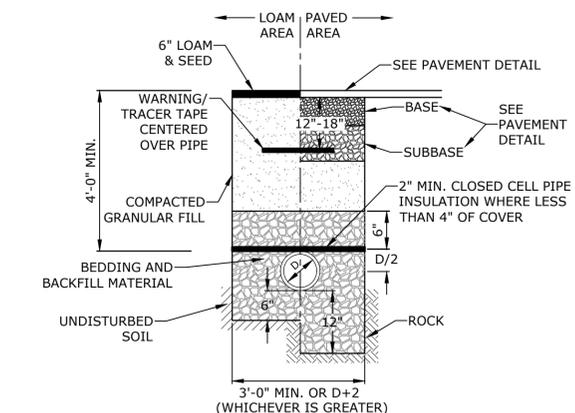


- NOTES:**
1. WETLAND SEED MIX SHALL BE "NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES", BY NEW ENGLAND WETLAND PLANTS, INC. OR APPROVED EQUAL AND SHALL BE INSTALLED IN ACCORDANCE TO THE MANUFACTURER'S SPECIFICATIONS.
  2. RAIN GARDENS SHALL NOT BE PLACED INTO SERVICE UNTIL THE PRACTICE HAS BEEN PLANTED AND ITS CONTRIBUTING AREAS HAVE BEEN FULLY STABILIZED.
  3. DO NOT TRAFFIC EXPOSED SOIL SURFACES WITH CONSTRUCTION EQUIPMENT. CONTRACTOR SHALL KEEP ALL EXCAVATION EQUIPMENT OUTSIDE OF THE LIMIT OF THE RAIN GARDEN.
  4. SEE STORMWATER MANAGEMENT PLAN (SHEET C-106) FOR LOCATIONS, LAYOUTS, AND ELEVATIONS.

**FILTER MEDIA COMPOSITION:**

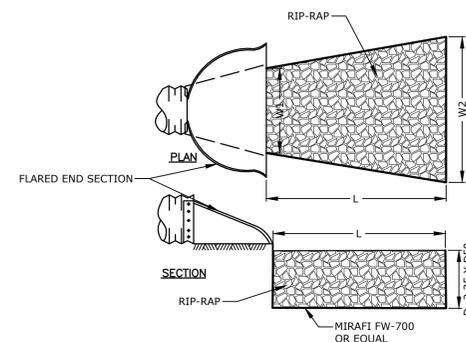
COMPONENT MATERIAL	PERCENT OF MIXTURE BY VOLUME	GRADATION OF MATERIAL SIEVE NO.	PERCENT PASSING
ASTM C-33 CONCRETE SAND	50-55	SEE NOTE #5	
LOAMY SAND TOPSOIL	20-30	200	15-25
MODERATELY FINE SHREDDED BARK OR WOOD FIBER MULCH	20-30	200	5 MAX

**RAIN GARDEN SECTION**  
NO SCALE



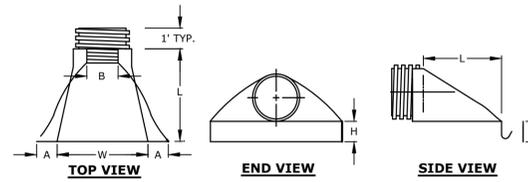
- NOTES:**
1. CRUSHED STONE BEDDING AND BACKFILL FOR FULL WIDTH OF THE TRENCH FROM 6" BELOW PIPE IN EARTH AND 12" BELOW PIPE IN ROCK UP TO 6" ABOVE TOP OF PIPE.

**STORM DRAIN TRENCH**  
NO SCALE



- NOTES:**
1. STONE SIZE AND MAT DIMENSIONS DETAILED ON PLANS.
  2. STONE SHALL CONSIST OF SUB-ANGULAR FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE. FLAT OR ROUND ROCKS ARE NOT ACCEPTABLE. THE STONE SHALL BE HARD AND OF SUCH QUALITY THAT IT WILL NOT DISINTEGRATE ON EXPOSURE TO WATER OR WEATHERING, BE CHEMICALLY STABLE AND IT SHALL BE SUITABLE IN ALL OTHER RESPECTS FOR THE PURPOSE INTENDED. THE BULK SPECIFIC GRAVITY (SATURATED SURFACE-DRY BASIS) OF THE INDIVIDUAL STONES SHALL BE AT LEAST 2.5.
  3. THE STONE SHALL BE COMPOSED OF A WELL-GRADED MIXTURE DOWN TO THE ONE-INCH SIZE PARTICLE SUCH THAT 50 PERCENT OF THE MIXTURE BY WEIGHT SHALL BE LARGER THAN THE D50 SIZE SPECIFIED. A WELL-GRADED MIXTURE IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF THE LARGER STONE SIZE BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE PROGRESSIVELY SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE SIZE IN SUCH A MIXTURE SHALL BE 1.5 TIMES THE D50 SIZE.

**RIP-RAP APRON DETAIL**  
NO SCALE



**HDPE END SECTION DIMENSIONS**  
NO SCALE

PIPE Ø	DIMENSION (INCHES)				
	PART NO.	A(1±)	B MAX	H(1±)	W(2±)
12" & 15"	1210 NP	6.5	10	6.5	25 29

**HDPE END SECTION DIMENSIONS**  
NO SCALE



**PERMIT SET**  
**NOT FOR**  
**CONSTRUCTION**

**Aquarion Water**  
**Company of**  
**New Hampshire**

**Little River**  
**Water Treatment**  
**Plant**

**Hampton,**  
**New Hampshire**

MARK	DATE	DESCRIPTION
B	9/8/2020	PERMIT SET
A	8/4/2020	PERMIT SET

PROJECT NO: A1000/113  
DATE: MAY 2020  
FILE: A1000-113-C-500\_WTP.dwg  
DRAWN BY: BJL  
CHECKED: APK  
APPROVED: PBG

**SITE PIPING**  
**AND**  
**DETAILS - 6**

SCALE: AS SHOWN

**C-506**  
SHEET 14 OF 17

Last Saved: 9/9/2020 20:20:54:2am By: Bl...  
Plotted On: Sep 09, 2020 8:42am By: Bl...  
Tighe & Bond: C:\A1000\A1000\C113 - NH Well 7 & 22 Treatment Facility\113A - Design\Drawings - Figures\AutoCAD\Well #22 Phase 2\Sheet\A1000-113-C-500\_WTP.dwg



**PERMIT SET  
NOT FOR  
CONSTRUCTION**

**Little River  
Water  
Treatment Plant**

Little River  
Water Treatment  
Plant

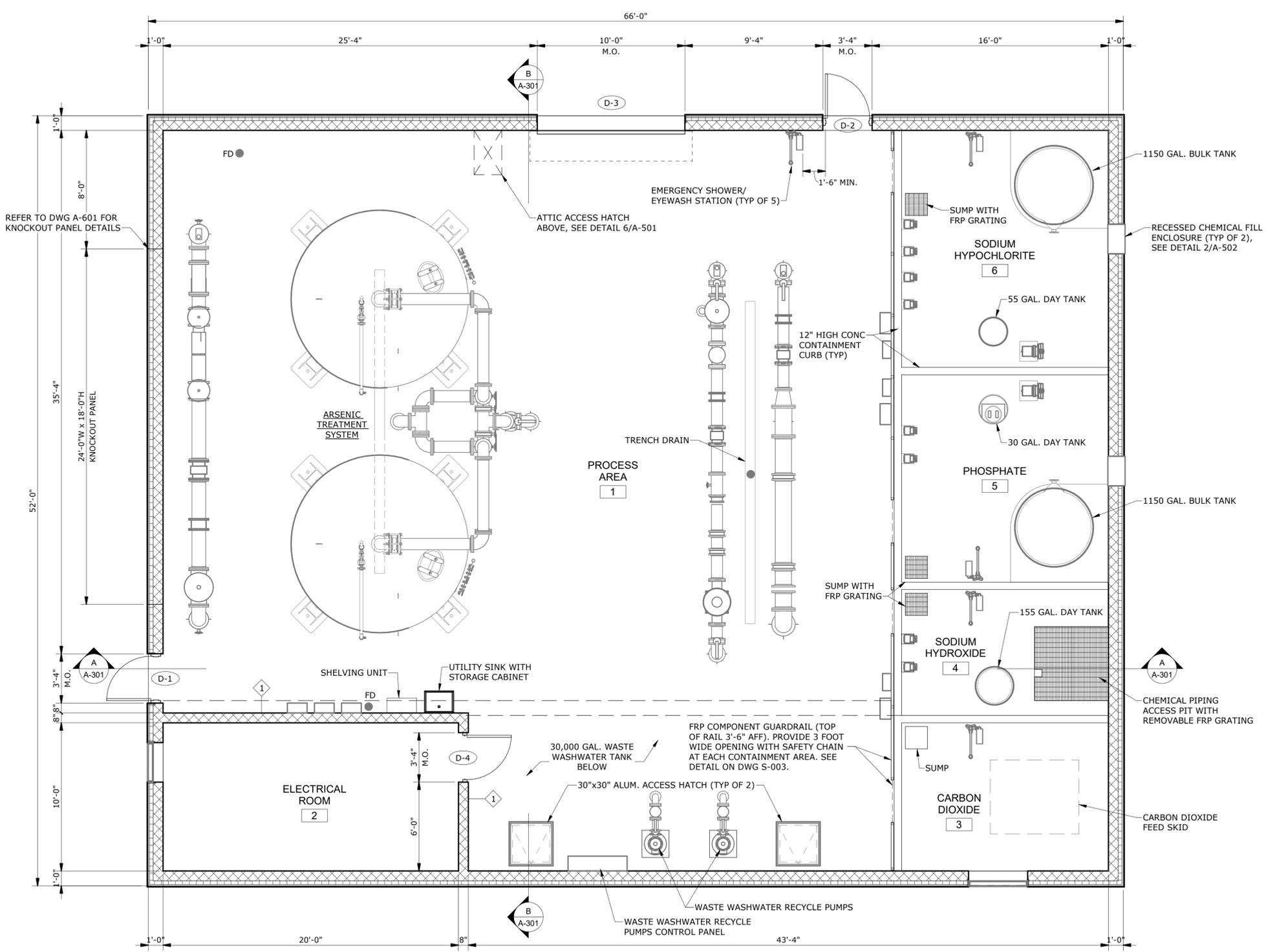
Hampton,  
New Hampshire

MARK	DATE	DESCRIPTION
A	8/4/2020	PERMIT SET
PROJECT NO: A1000/113		
DATE: MAY 2020		
FILE: A-101		
DRAWN BY: RWK		
CHECKED BY: MDD		
APPROVED BY: CSF, PBG		

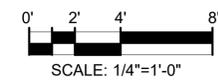
ARCHITECTURAL FLOOR  
PLAN

SCALE: 1/4" = 1'-0"

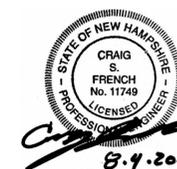
**A-101**  
SHEET 15 OF 17



**ARCHITECTURAL FLOOR PLAN**  
SCALE: 1/4" = 1'-0"



Plotted On: 8/10/2020 10:45:43 AM  
 Tighe & Bond: D:\Recent\1000-113 Little River WTP\_rvkennedy.rvt

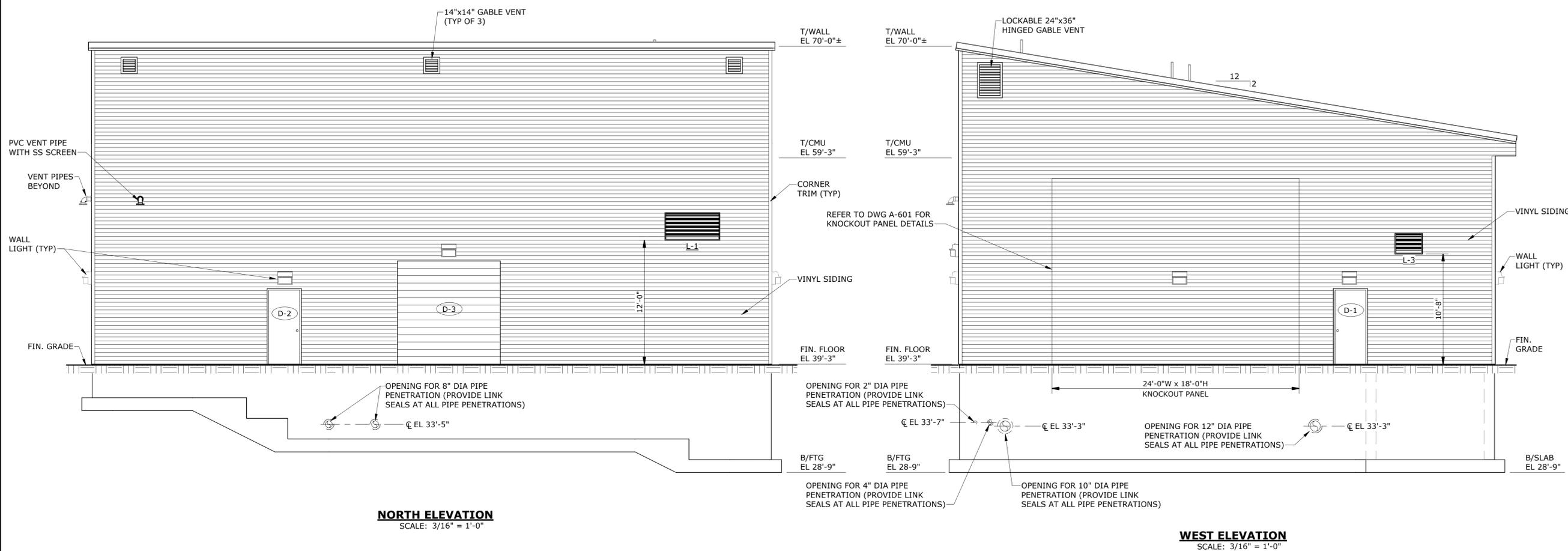


**PERMIT SET  
NOT FOR  
CONSTRUCTION**

**Little River  
Water  
Treatment Plant**

Little River  
Water Treatment  
Plant

Hampton,  
New Hampshire



**NORTH ELEVATION**  
SCALE: 3/16" = 1'-0"

**WEST ELEVATION**  
SCALE: 3/16" = 1'-0"

**NOTES:**

1. ALL EXTERIOR LIGHTING SHALL BE MOTION ACTIVATED AND DARK SKY COMPLIANT IN ACCORDANCE WITH SPECIFICATION SECTION 16500.



MARK	8/4/2020	PERMIT SET
DATE		DESCRIPTION
PROJECT NO:	A1000/113	
DATE:	MAY 2020	
FILE:	A-201	
DRAWN BY:	RWK	
CHECKED BY:	MDD	
APPROVED BY:	CSF, PBG	

EXTERIOR ELEVATIONS - 1

SCALE: 3/16" = 1'-0"

**A-201**  
SHEET 16 OF 17



**PERMIT SET  
NOT FOR  
CONSTRUCTION**

**Little River  
Water  
Treatment Plant**

Little River  
Water Treatment  
Plant

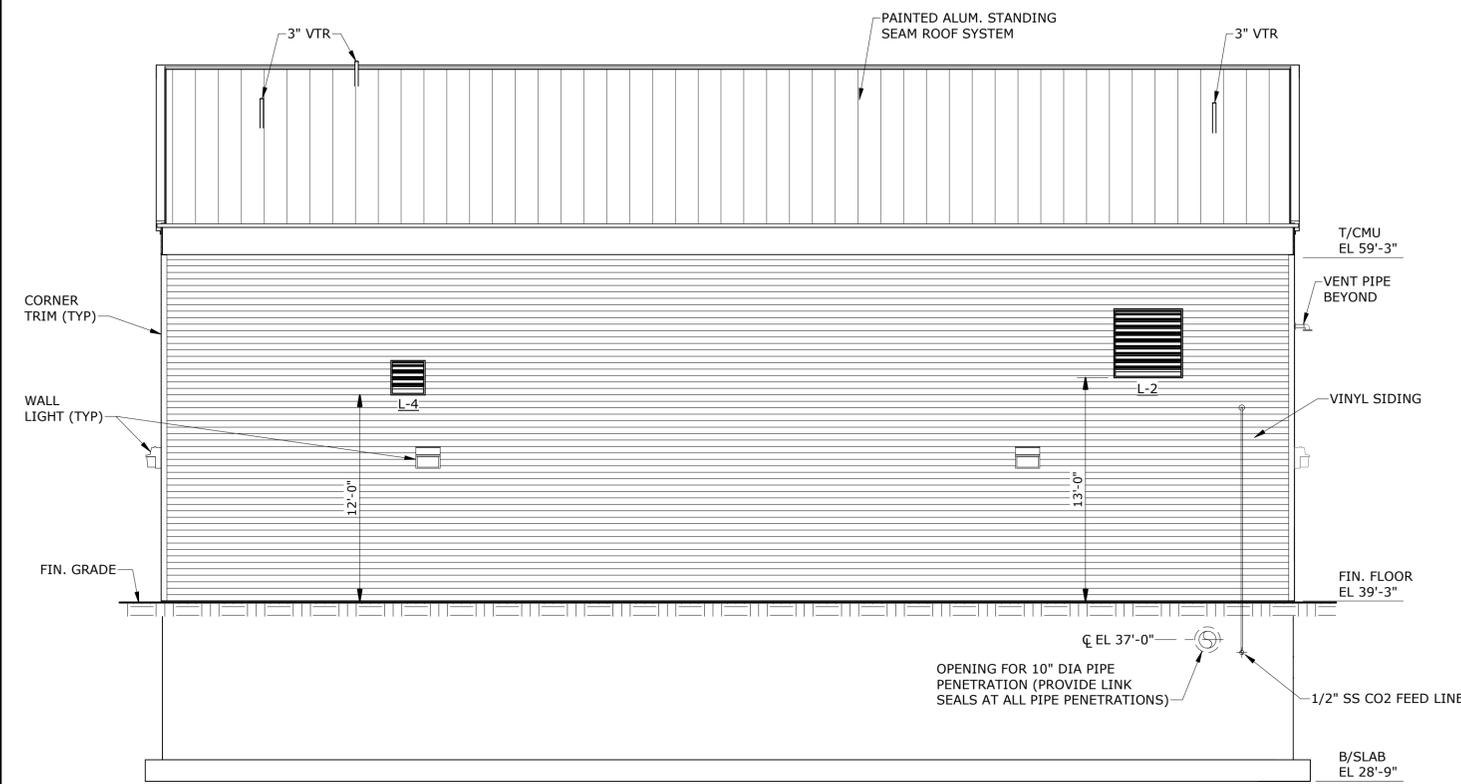
Hampton,  
New Hampshire

MARK	8/4/2020	PERMIT SET
DATE		DESCRIPTION
PROJECT NO:	A1000/113	
DATE:	MAY 2020	
FILE:	A-202	
DRAWN BY:	RWK	
CHECKED BY:	MDD	
APPROVED BY:	CSF, PBG	

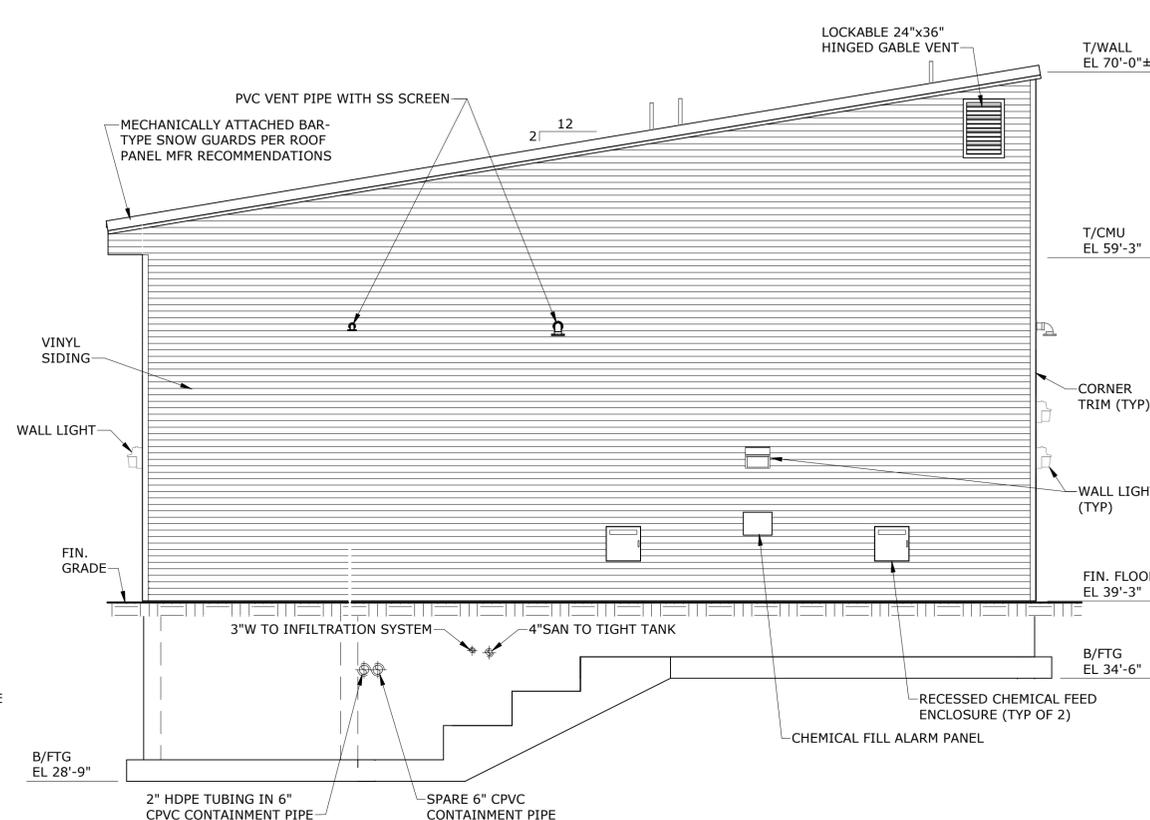
EXTERIOR ELEVATIONS - 2

SCALE: 3/16" = 1'-0"

**A-202**  
SHEET 17 OF 17



**SOUTH ELEVATION**  
SCALE: 3/16" = 1'-0"



**EAST ELEVATION**  
SCALE: 3/16" = 1'-0"

**NOTES:**

1. ALL EXTERIOR LIGHTING SHALL BE MOTION ACTIVATED AND DARK SKY COMPLIANT IN ACCORDANCE WITH SPECIFICATION SECTION 16500.

