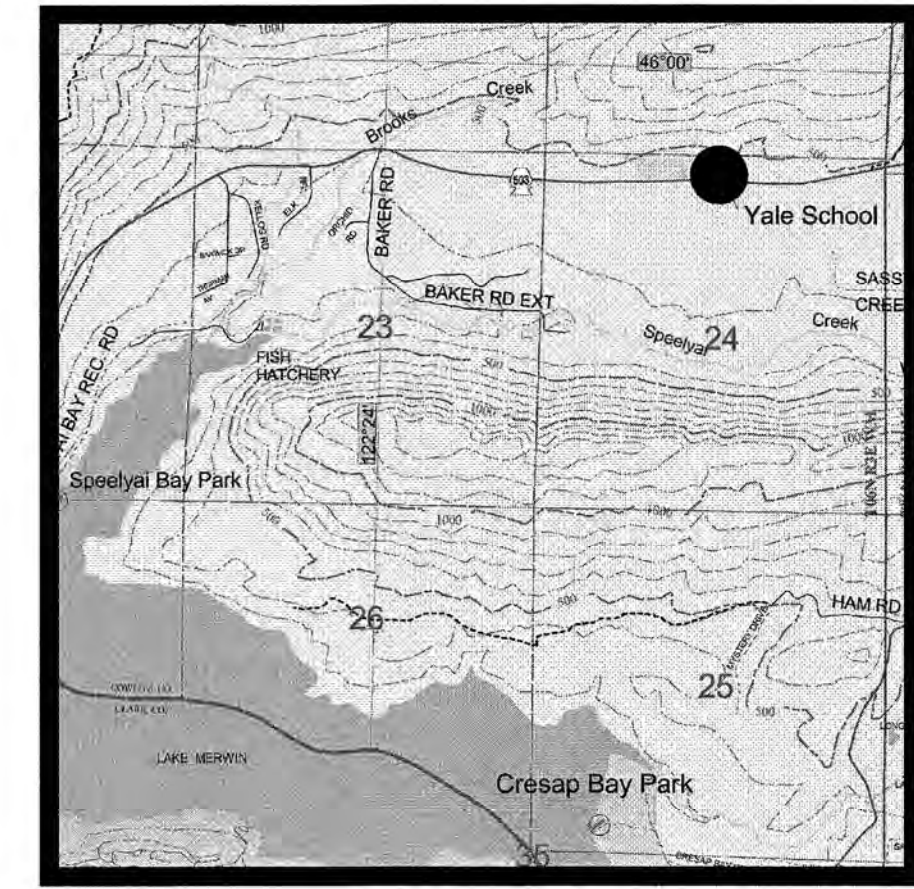
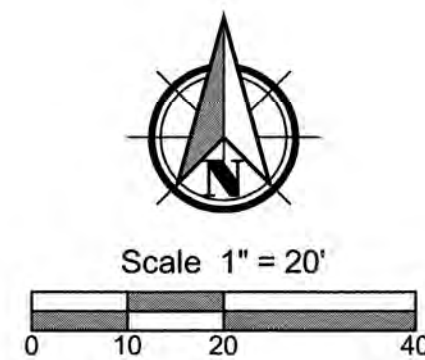
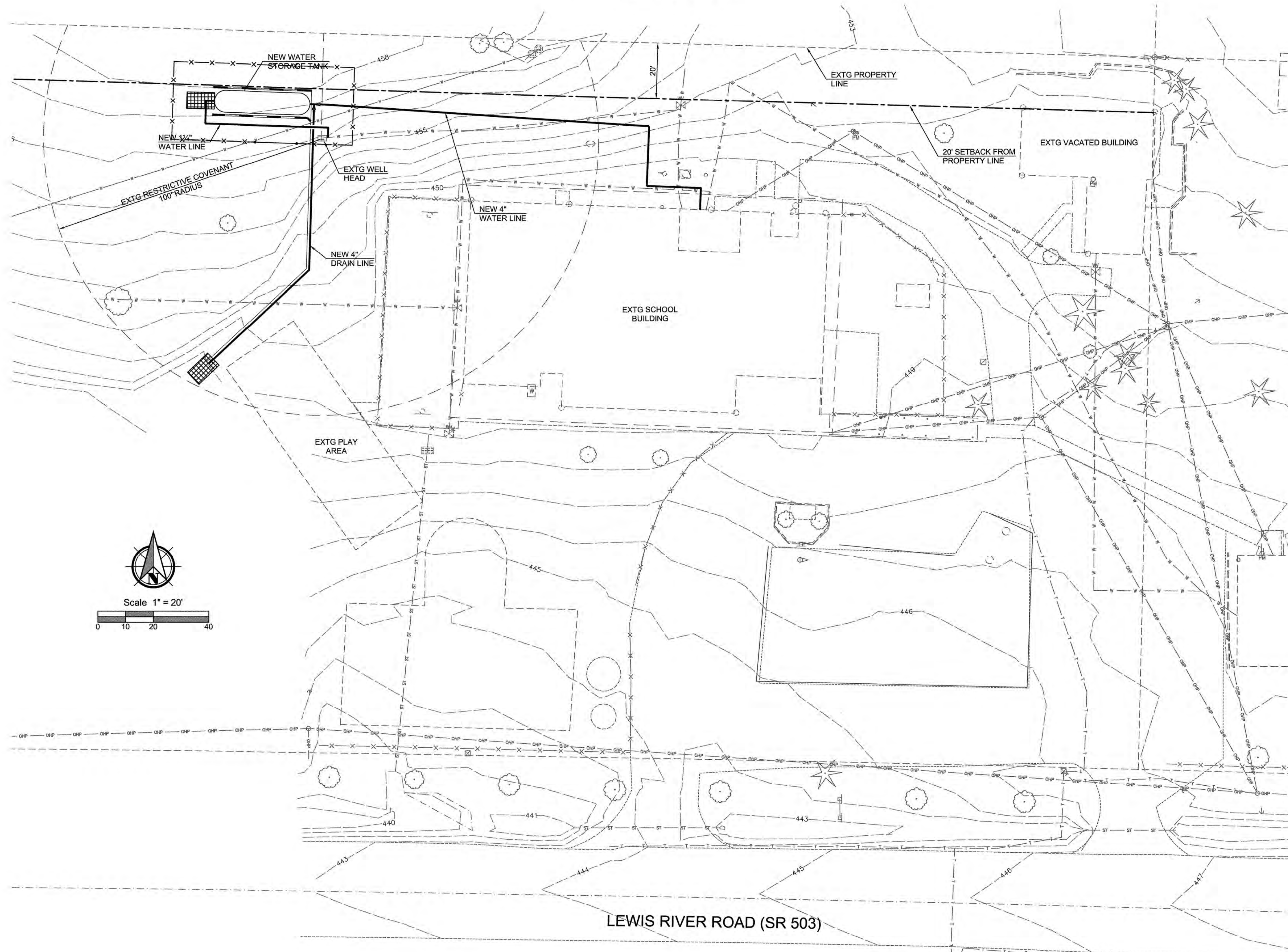


WATER SYSTEM IMPROVEMENTS FOR YALE ELEMENTARY SCHOOL

SEC 24, T6N, R3E, WM



VICINITY MAP
NOT TO SCALE

Sheet Index

1. Cover Sheet
2. General Notes
3. Site Plan, Erosion Control, & Grading Plan
4. Construction Details
5. Construction Details
6. Construction Details
7. Electrical Site Plan
8. One Line Diagram and Panel Schedules

Owner:
Woodland School District #404
800 Third Street
Woodland, WA 98674
Ph. 360-841-2700
Fax 360-841-2701

Project Contact:
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Electrical Engineer:
Athay & Associates, Inc.
Ronald Athay, Principal
411 NE 83rd Street
Vancouver, WA 98665
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Geotechnical Engineer:
Columbia West Engineering, Inc.
Jason Ordway, Principal Engineer
11917 NE 95th Street
Vancouver, WA 98682
Ph. 360-823-2900
Fax 360-823-2901

Site Address:
11842 Lewis River Road
Ariel, WA 98603

All materials, construction, and workmanship shall conform to the 2012 Uniform Plumbing Code and 2012 WSDOT Standard Specifications.

Contractor to locate existing water lines prior to construction and excavation.

No.	Revision	Date	By	App'd
D	DESIGN	4/14/14	NRR	MPW
C	CONSTRUCTION SET	04/21/14	NRR	MPW
B	CONSTRUCTION SET - ISSUED FOR APPROVAL	2/27/14	NRR	MPW
A	CONSTRUCTION SET - ISSUED FOR APPROVAL	11/11/13	NRR	MPW

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360/695-8767 fax
Internet: www.hdjg.com



DESIGNED: NRR
DRAWN: CAD
CHECKED: MPW
SCALE
HORIZONTAL: N/A
VERTICAL: N/A
DATE: FEB 2014
HDJ JOB #: 33986-02

YALE ELEMENTARY SCHOOL WATER SYSTEM IMPROVEMENTS

A SITE LOCATED IN COWLITZ COUNTY, WASHINGTON

COVER SHEET

SHEET ID

C001

General Notes:

Due to the nature of the project, the contractor shall coordinate construction activities timing with Woodland School District and Yale Elementary School.

Contractor to obtain necessary construction permits, including but not limited to, electrical and plumbing permits.

The Engineer shall schedule a preconstruction meeting prior to construction start.

The contractor shall be required to submit a construction schedule to the Engineer prior to construction.

Contractor to provide construction survey staking. Contractor shall provide asbuilt information, clearly marked on the construction drawings.

An electronic copy of the design file in AutoCAD format will be provided to the Contractor after the contract is awarded.

A site specific Geotechnical Observation Letter has been prepared for this project by Columbia West Engineering and is dated October 31, 2013.

Site preparation shall follow the recommendations in the Geotechnical Report.

All water pipe crossings with storm drain pipe shall have one foot minimum vertical clearance.

Contractor to provide material submittals to the Engineer.

Potable Water System Piping:

Piping between the well head enclosure and the proposed storage tank shall be Schedule 40 Class 90 PVC pipe with a nominal diameter of 1 1/4", and shall conform to WSDOT Standard Specifications 9-30.1(5)B and 9-30.2(5)B. Piping between the storage tank and the maintenance room shall be C900 PVC pipe with a nominal diameter of 4". PVC pipe and fittings shall conform to WSDOT Standard Specifications 9-30.1(5)A and 9-30.2(5)A, respectively.

All piping and fittings within the maintenance room shall be Schedule 40 galvanized iron pipe. All piping and fittings shall be AWWA approved for potable water applications and shall bear the National Sanitation Foundation Seal for use to transport potable water.

All gate valves installed below grade shall include a valve box. Valves shall include valve stem extensions such that the depth to the operator nut does not exceed 24". Gate valves shall conform to WSDOT Standard Specification 9-30.3(1), valve boxes per WSDOT Standard Specification 9-30.3(4).

For all trench backfill and utility installation, Contractor to follow the recommendations in the project Geotechnical Observation Letter prepared specifically for the site.

Inspection and Testing:

The Engineer shall be notified at the start of construction. As specified under WAC 246-290-125, the document 'A Construction Report for Public Water System Projects' will be submitted by the Engineer to the State Department of Health within sixty (60) days of project completion and prior to any use of the project.

Contractor to provide to the Engineer results of bacteriological tests and results of pressure tests for completion of the Construction Report.

Disinfection of the water system shall conform to AWWA standard C601-68. After disinfection and flushing, water sampling and bacteriological analyses shall be coordinated with Cowlitz County Health Department. Satisfactory results are required for water system acceptance. Hydrostatic pressure testing of the proposed distribution system shall be done in accordance with WSDOT Standard Specification 7-09.3(23).

Well Pump and Control:

The existing well pump shall be replaced with a "Goulds 7GS05R" 0.5 HP submersible pump, or equivalent. The well riser pipe shall be Schedule 40 galvanized iron pipe. The new well pump shall be wired to the existing power source located within the maintenance room. The new well pump shall utilize all existing control panels for operational purposes. The new well pump will be provided by the Owner. Contractor shall install owner-provided well pump.

Booster Pump System (BPS) and Control:

The booster pump system shall be "Mitchell Lewis Duplex Booster Pump Station with (2) Goulds 5SV5 Vertical Multi stage pumps that are controlled by (2) 1.5 HP Danfoss Variable Frequency Drives with fused step down control transformer", or equivalent. The pump station shall be self-contained and mounted on a fabricated steel skid with control panel.

The system shall be set such that the minimum pressure at the outlet of the pump system is maintained at or above 54 psi. The system shall be set such that the maximum pressure in the system does not exceed 70 psi.

BPS shall include "Amrol WX-302 86 gallon hydropneumatic tank," or equivalent.

The complete BPS system with hydropneumatic tank will be supplied by the owner. Contractor shall install owner-provided BPS.

Storage Tank:

The proposed storage tank shall be a "Xerxes Fiberglass Underground Water Tank 8' diameter single-wall with capacity of 11,000 gallons", or equivalent. Storage tank shall be NSF 61 compliant and shall have appropriate labeling indicating compliance. The storage tank will be provided by the owner. The following items are included with the storage tank: manways, locking covers, extensions, internal ladder, internal piping, concrete deadmen, jaw to jaw turnbuckles and tank strap. The Contractor shall furnish and install all piping, fittings, and mesh for tank vent and overflow. Contractor shall furnish and install all items necessary to connect the proposed storage tank to the proposed water system.

The tank shall bear upon 12" minimum compacted crushed surfacing base course. The foundation shall extend 2' horizontally beyond the lateral extents of the water tank. See geotechnical report for additional requirements.

The tank shall be equipped with an "Aquatel M107 Wireless Level Controller", or equivalent. The transducer unit shall be mounted according to manufacturer's specifications. The display and control units of the controller shall be mounted on the wall adjacent to the existing well pump control panel. The wireless level control shall be wired to the existing well pump control panel and shall be set to turn on and turn off the well pump at the levels indicated on sheet C005. The level controller shall be provided by the Contractor.

Leak testing shall be performed in accordance with manufacturer specifications. The storage tank shall be disinfected in accordance with AWWA C651-11 - Disinfection of Water Storage Facilities.

Contractor shall provide and install fencing around the storage tank as indicated on sheet C003, which shall conform to the details and specifications provided on sheet C006. Contractor shall install the fencing vertically around the storage tank as shown on the plans and horizontally over the tank installation area.

Existing Equipment:

The existing well pump shall be removed and replaced. The existing 119 gallon bladder style pressure tank within the maintenance room shall be separated from the water distribution system and removed. The Contractor shall coordinate with the Woodland School District for storage and/or disposal of existing equipment.

The plumbing infrastructure still utilizes asbestos pipe insulation in several locations, which can be observed in the maintenance room. Contractor should avoid damage or disruption to existing asbestos pipe insulation. If damage occurs, contractor shall follow all necessary safety procedures for proper handling, removal, and/or replacement as needed.

Grading Notes:

Contractor to grade around storage tank such that centerline of tank is at elevation 457.00. After excavation for storage tank, the native soil shall be compacted to 95% of maximum relative density per ASTM D1557. Over the compacted select native soil, 1" minimum crushed surfacing base course conforming to WSDOT Standard Specification 9-03.9(3) shall be laid and compacted to 95% of maximum relative density per ASTM D1557. Install trench drains on both sides of the storage tank, as shown on Section A-A, Sheet C005. For trench drain specifications, see "Drain Pipe" below and sheet C005.

Material conforming to WSDOT Standard Specification 9-03.14(2) from tank excavation shall be used to cover and grade around the tank such that the maximum distance from the top of the tank to ground level is 2'. Maximum slope for fill around tank is 4:1. Any remaining excavation can be graded around tank to a smooth appearance.

Geotextile filter fabric shall consist of Mirafi 140N or approved equivalent, with AOS between No. 70 and No. 100 siever. The water permittivity should be greater than 1.5/sec.

Backfill around the tank within the tank excavation footprint shall be placed and compacted in accordance with the tank manufacturer's installation specifications. See geotechnical report for additional requirements.

Any excess material that is not used on site shall be removed in accordance with WSDOT Standard Specification 2-03.3(7)C at the contractor's expense.

Penetrations into Existing Building:

The existing 1 1/4" pipe that enters the building at the northwest corner of the maintenance room shall be cut on both sides of the wall. The pipe on the exterior side of the building shall be cut at ground level and abandoned. The pipe through the wall shall be removed and the resulting hole shall be plugged using masonry mortar Type 3 conforming to WSDOT Standard Specification 9-20.4(4). Contractor may recommend alternative masonry mortar mixes for consideration by the Engineer.

A new penetration into the building shall be cut into the existing brick at the location shown in plans using a masonry bit. Once pipe is installed through hole, contractor shall grout around new pipe to seal the penetration into the building.

For freeze protection, contractor shall wrap pipe with pipe insulation and secure with tape.

Drain Pipe:

The trench drain on both sides of the storage tank shall consist of 3-inch perforated PVC pipe surrounded by clean, washed, angular drain rock and wrapped with geotextile filter fabric as shown on the trench drain detail. The drain rock shall be angular open-graded drain rock with a maximum particle size of 3-inches and less than 2 percent passing the No. 200 sieve, conforming to WSDOT Standard Specification 9-03.12(4). Geotextile filter fabric should consist of Mirafi 140N or approved equivalent, with AOS between No. 70 and No. 100 siever. The water permittivity should be greater than 1.5/sec.

When indicated on the plans, "3 Inch Drain Pipe" shall consist of solid wall PVC storm sewer pipe conforming to WSDOT Standard Specification 9-05.12(1). When indicated on the plans, "3 Inch Perf Pipe" shall consist of perforated PVC underdrain pipe conforming to WSDOT Standard Specification 9-05.2(6).

Reinforced Turf:

The reinforced turf at the drain pipe outlet and storage tank overflow shall be "Propex Pyramat", or equivalent. Soil and seeding used in conjunction with reinforced turf shall conform to specifications listed under "Landscaping" on this sheet.

Pumping Sequence Narrative:

With the well pump in the off condition, water is drawn by gravity flow from the storage tank. The booster pump system (BPS) within the building draws water from this tank into the school's distribution system and increases the pressure within the system to meet the minimum pressure requirements for the system. The control panel of the BPS monitors the pressure on the outlet side of the BPS. As the pressure drops to 54 psi, the BPS system is activated at variable speeds to raise the pressure. The system is designed to have a lead pump that starts operation, with a lag pump turning on if necessary to meet demand. The variable frequency drive of the BPS is set to alternate the lead and lag pumps to ensure even usage.

The BPS also includes a small hydro-pneumatic tank. Water within the hydro-pneumatic tank provides a small amount of pressurized water to act as a cushion upon startup of the pump. The water in the tank is replenished as needed.

As the BPS draws water from the storage tank, the elevation of the water within the tank decreases and activates the wireless level controller within the tank. The sensor then activates the well pump, which feeds the storage tank. Once the water elevation in the tank reaches the maximum elevation, the sensor signals the well pump to stop. This cycle repeats as necessary.

Both the well pump and BPS have designated controls that will monitor pressure and turn off the pumps in low-pressure conditions.

The storage tank and BPS can be valved off for maintenance purposes.

Erosion Control Notes:

- Do not disturb more area than needed for construction requirements.
- Earthwork shall not be performed during periods of precipitation, and shall not continue again until the soils are stable enough to minimize erosion and sedimentation.
- All erosion control measures shall be in place and in working condition prior to disturbing and exposing any soil surfaces (I.E. Filter fabric fence).
- All disturbed soil surfaces are to be stabilized. Stabilization of disturbed soil areas will consist of: Hydroseeding, handseeding, mulching, placing of erosion control blankets, plastic in landscaped soil areas. It will also consist of paving and concrete work in driving, parking and sidewalk areas. All seeded areas are to be fertilized, watered and maintained to enhance the immediate regrowth of vegetation.
- The contractor shall be responsible for monitoring the job site, inspecting and maintaining the erosion control measures throughout all phases of construction. All construction sites, including idle, uncompleted sites shall be inspected at least weekly and after each run off producing rainfall. The policing and inspection/ maintenance shall include, but not be limited to:
 - Verifying that all areas are graded such that all runoff is directed to a sedimentation trapping best management practices (BMP) facility before discharge to surface.
 - Removal of trapped silts at silt barriers, silt traps, or points of accumulation.
 - Additional protective measures, as required, due to job site conditions or as directed by the Engineer.
 - Monitoring of vehicles leaving the site to minimize transmission of loose soils to the public roadways.
- Trench dewatering devices shall discharge to a sediment trap or sediment pond.
- This sedimentation and erosion control plan is intended to be utilized as a guide to control the transportation of loose soils from the property that cause water quality and nuisance problems outside of the construction area. Depending upon the contractor's construction practices, some portions of the proposed erosion control plan may be varied according to the job site conditions. All changes to the plan must be reviewed and approved by the water quality manager and engineer prior to adjustment.
- Erosion control measures shown are a minimum and the contractor is responsible for additional measures that may be required.

Extg Symbol Legend		Extg Symbol Legend	
Extg Electric		Extg Manhole	
Extg Electric Pole		Extg Water Valve	
Extg Electric Light Pole		Extg Fire Hydrant	
Extg Sanitary Cleanout		Extg Water Meter	
Extg Sanitary Lateral End		Extg Street Sign	
Extg Sanitary Manhole		Extg Conifir Vegetation	
Extg Sanitary Valve		Extg Deciduous Vegetation	
Extg Storm Drywell		Extg Power Pole	
Extg Storm Manhole		Extg Street Light	
Extg Storm Curb Inlet			
Extg Storm Catch Basin			
Extg Telephone Box			
Extg Water Blow Off			
Extg Water Lateral End			
Extg Water Valve			

Abbreviation Legend			
Cubic Feet	CF	Invert Elevation	IE
Cement	CEM	Length	L
Centerline	CL	Maximum	MAX
Corrugated Metal Pipe	CMP	Minimum	MIN
Cleanout	CO	Number	No. or #
Combination	COMB	Overhead Electric	OHE
Compaction	COMP	Polyvinyl Chloride	PVC
Concrete	CONC	Radius	R
Construction	CONST	Sheet	SHT
Corrugated Polyethylene	CPE	Stainless Steel	SS
Concrete Sewer Pipe	CSP	Standard	STD
Cubic Yard	CY	Sanitary	SAN
Cement	CEM	Storm	STM
Ductile Iron	DI	Typical	TYP
Diameter	DIA	Underground Electric	UGE
Ductile Iron Pipe	DIP	Vertical	VERT
Existing	EXTG	Water	WTR
Elevation	EL	With	W/
Electric	ELEC	Without	W/O

Extg Linetype Legend	
Finished Floor	FF
Finished Grade	FG
Foot / Feet	FT
Galvanized Iron	GI
Ground	GRD
Gate Valve	GV
High Density Polyethylene	HDPE
	Extg Sanitary Sewer Pipe
	Extg Storm Sewer Pipe
	Extg Water Pipe
	Extg Fence
	Extg Cable Tv Line
	Extg Electric Line
	Extg Gas Line
	Extg Over Head Power Line
	Extg Telephone Line

Landscaping:

All areas of disturbed soil shall be re-seeded. Seeding of disturbed soil shall be completed during one of the following periods. If construction activities are performed outside the WSDOT planting window, all areas of disturbed soil shall be stabilized with temporary erosion control measures. Coordinate planting periods with maintenance periods to provide required maintenance as needed.

- Spring Planting: March - June.
- Summer Planting: July - August. Deep watering of plants at time of planting is required. Water daily to ensure soil does not completely dry out.
- Fall Planting: September - November

Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

Grass seed mix shall be Stabilizer E/C Mix as available from Sunmark Companies, or approved equal, consisting of:
40% Perennial Ryegrass
20% Creeping Red Fescue
20% Annual Ryegrass
10% Highland Colonial Bentgrass
10% White Clover

Topsoil shall be native soil; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth, such as stones, roots, plants, sod, clods, clay lumps, pockets of coarse sand, concrete slurry, concrete layers or chunks, cement, plaster, building debris. Mix surface soil with soil amendments and fertilizers as needed to promote seed growth.

Soil may be supplemented with fertilizer, at the Engineer's discretion. Contractor shall consult with Engineer after construction begins to determine recommended soil amendments prior to seeding. If used, fertilizer shall be commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium.

Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other. Do not use wet seed or seed that is moldy or otherwise damaged. Sow seed at a total rate 10 lbs per 1,000 square foot. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

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Internet: www.hjdj.com

engineers | landscape architects | planners | surveyors



DESIGNED: NRR	CAD	SCALE
DRAWN: CAD	MPW	HORIZONTAL: N/A
CHECKED: MPW		VERTICAL: N/A
		DATE: FEB 2014
		HJD JOB #: 3386-02

YALE ELEMENTARY SCHOOL WATER SYSTEM IMPROVEMENTS

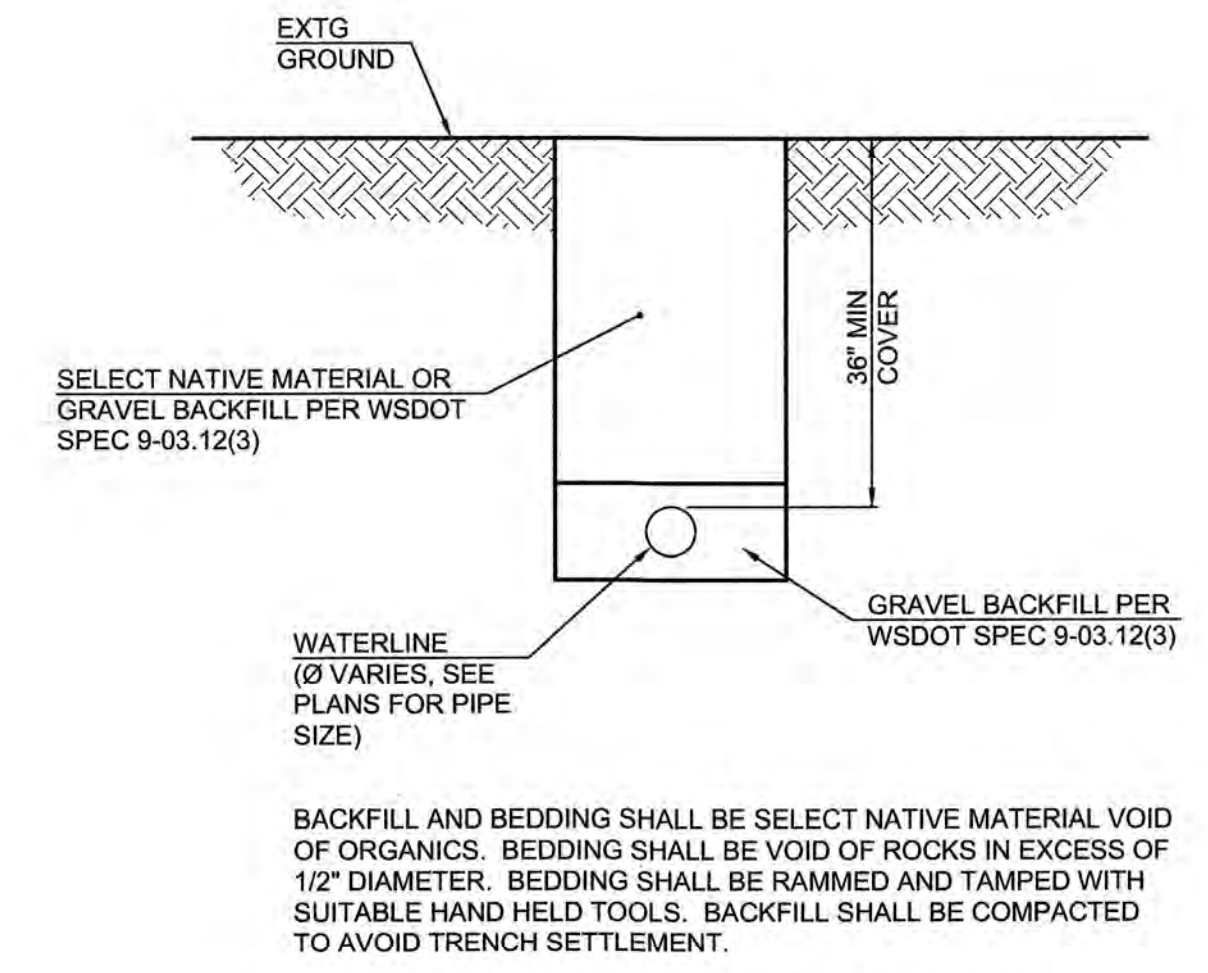
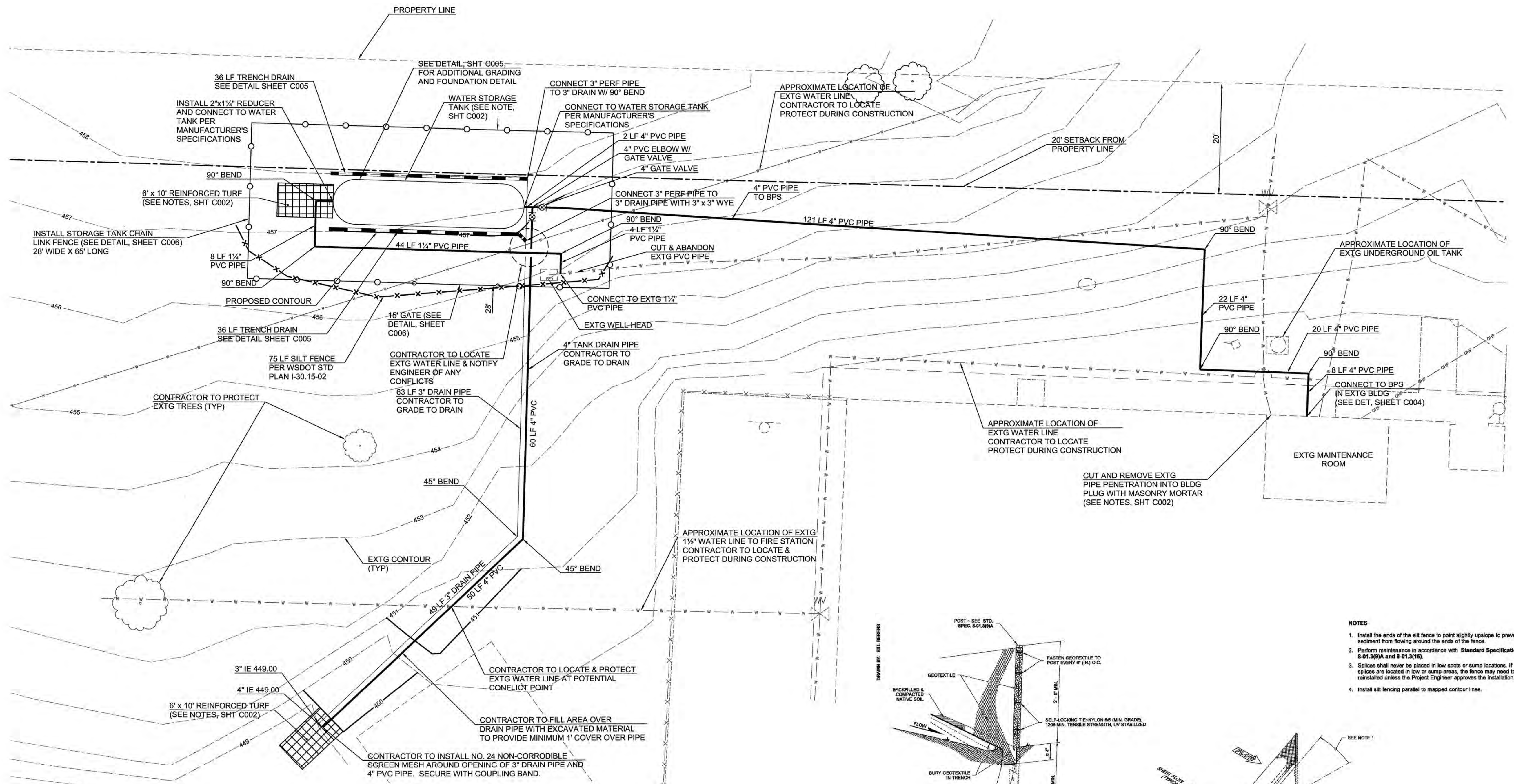
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GENERAL NOTES

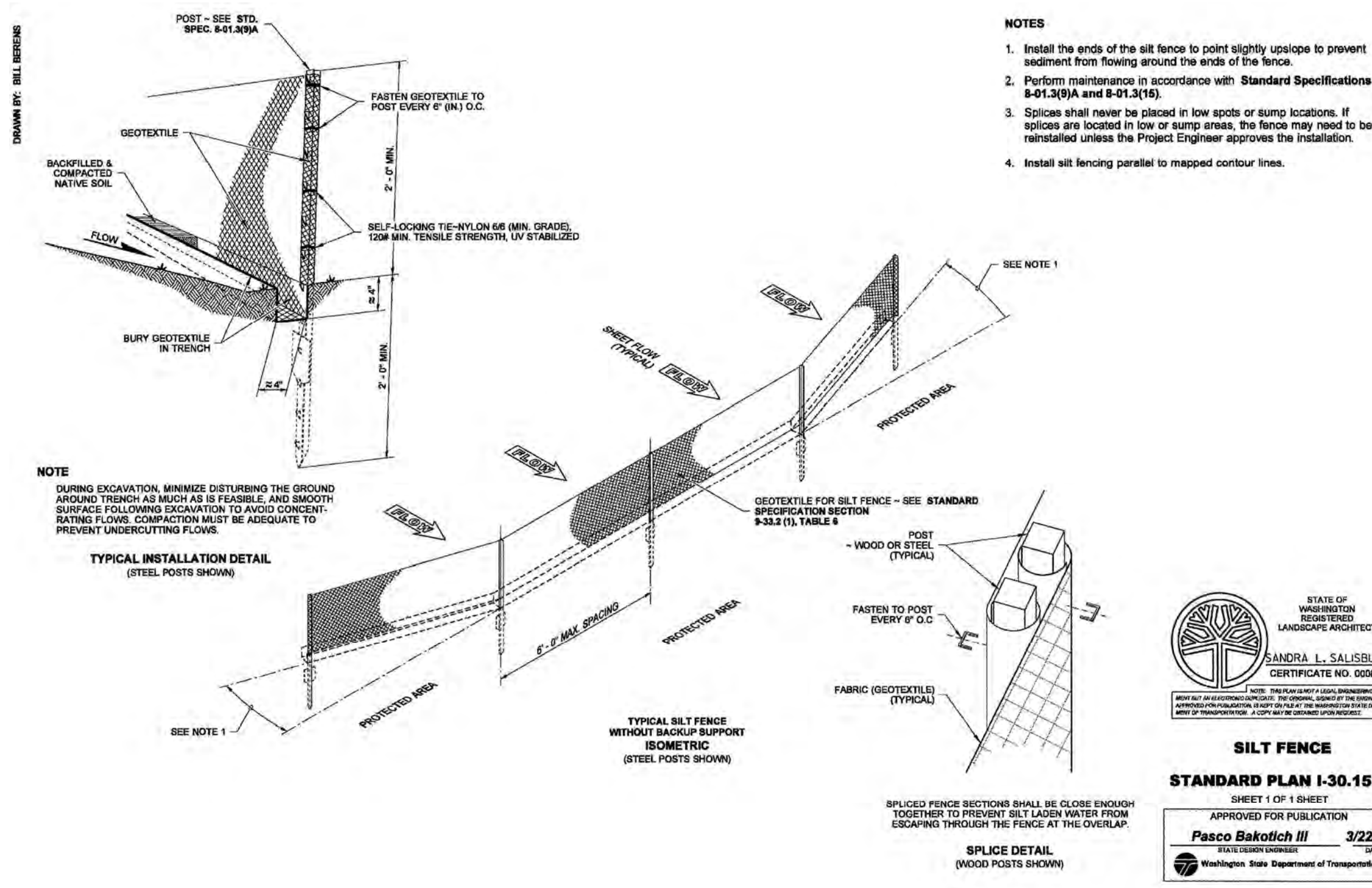


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		DATE: FEB 2014
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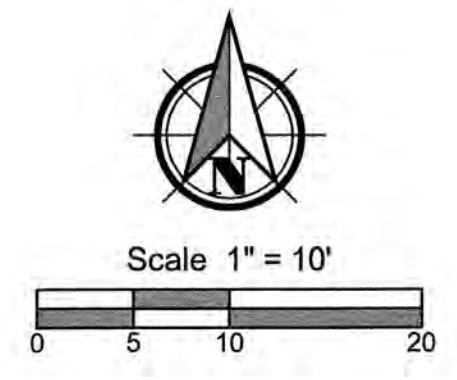
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 A SITE LOCATED IN COWLITZ COUNTY, WASHINGTON
SITE PLAN, EROSION CONTROL, AND GRADING PLAN



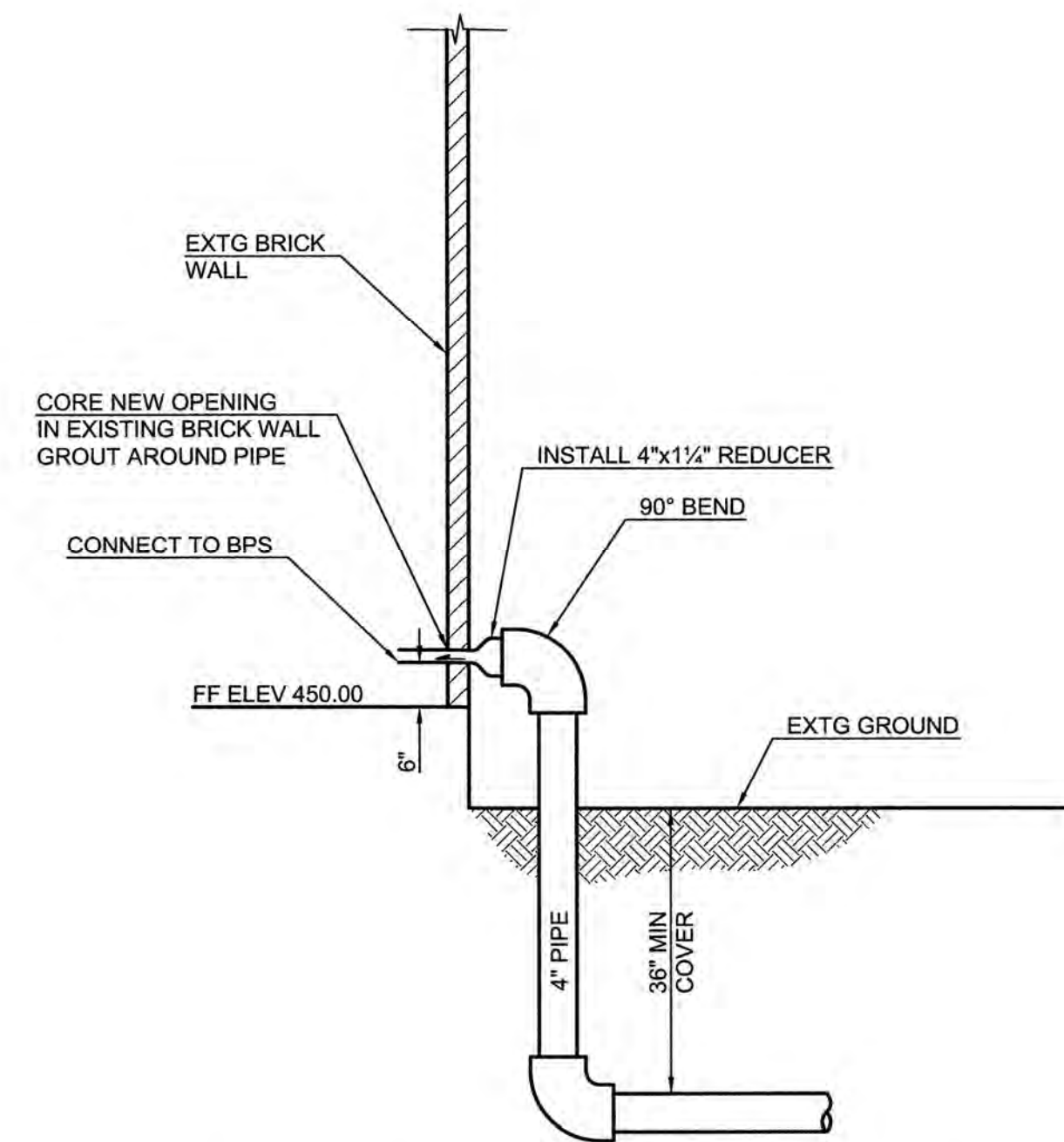
Waterline Trench Detail
 NTS



SILT FENCE
 STANDARD PLAN I-30.15-02
 SHEET 1 OF 1 SHEET
 APPROVED FOR PUBLICATION
Pasco Bakotich III
 3/22/13
 PASCO COUNTY ENGINEER
 Washington State Department of Transportation

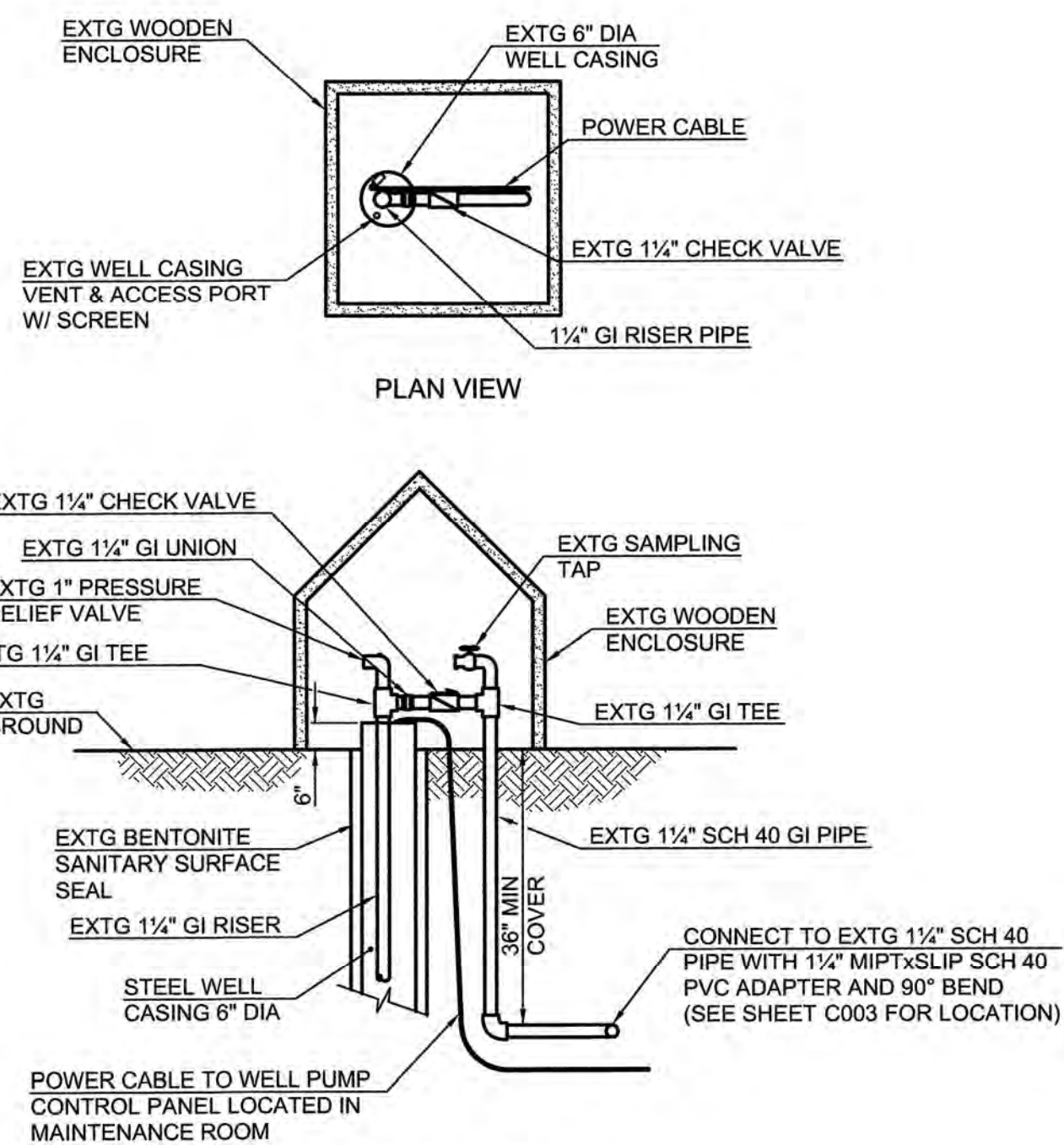


BACKFILL AND BEDDING SHALL BE SELECT NATIVE MATERIAL VOID OF ORGANICS. BEDDING SHALL BE VOID OF ROCKS IN EXCESS OF 1/2" DIAMETER. BEDDING SHALL BE RAMMED AND TAMPED WITH SUITABLE HAND HELD TOOLS. BACKFILL SHALL BE COMPACTED TO AVOID TRENCH SETTLEMENT.



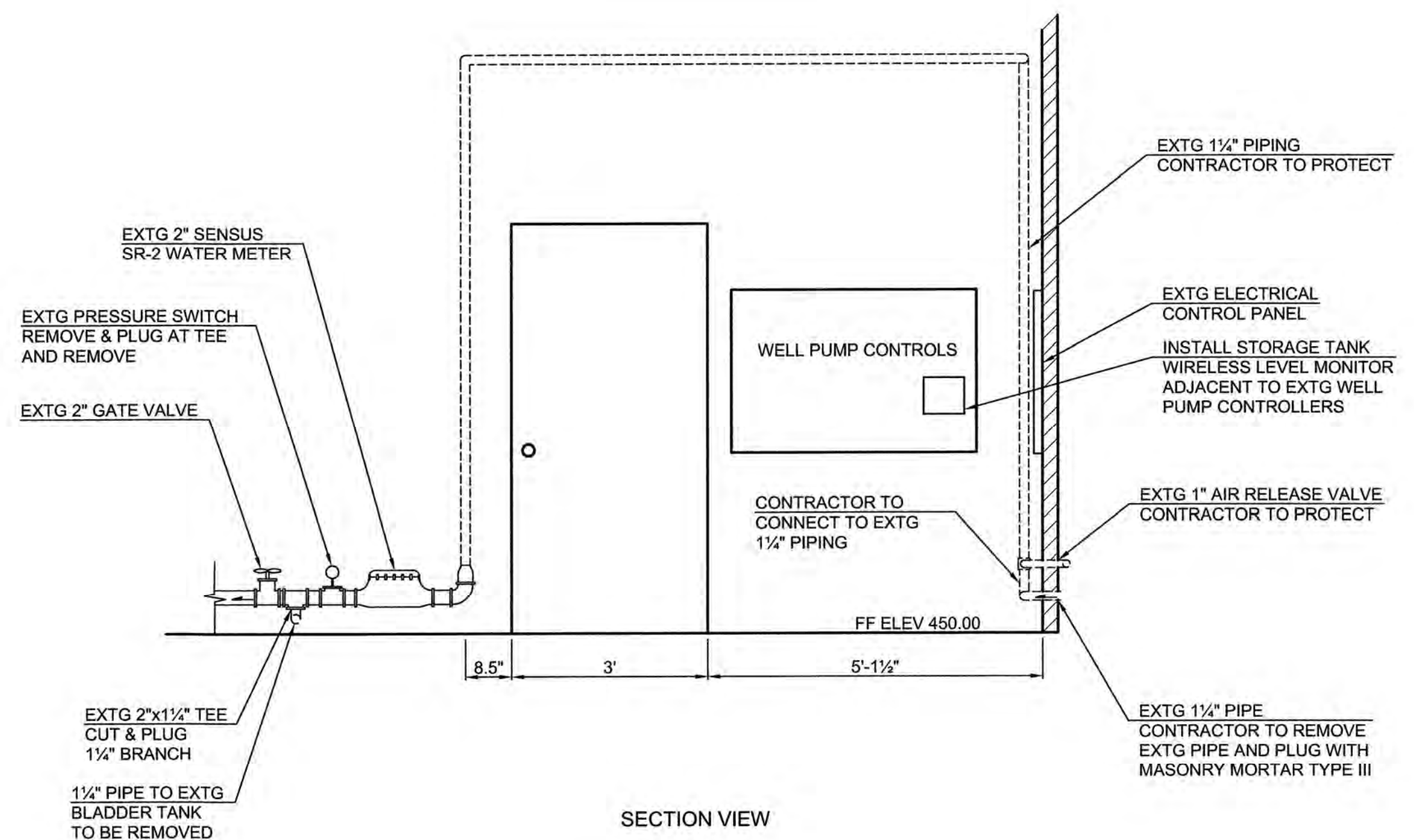
Piping Into Maintenance Room

NTS



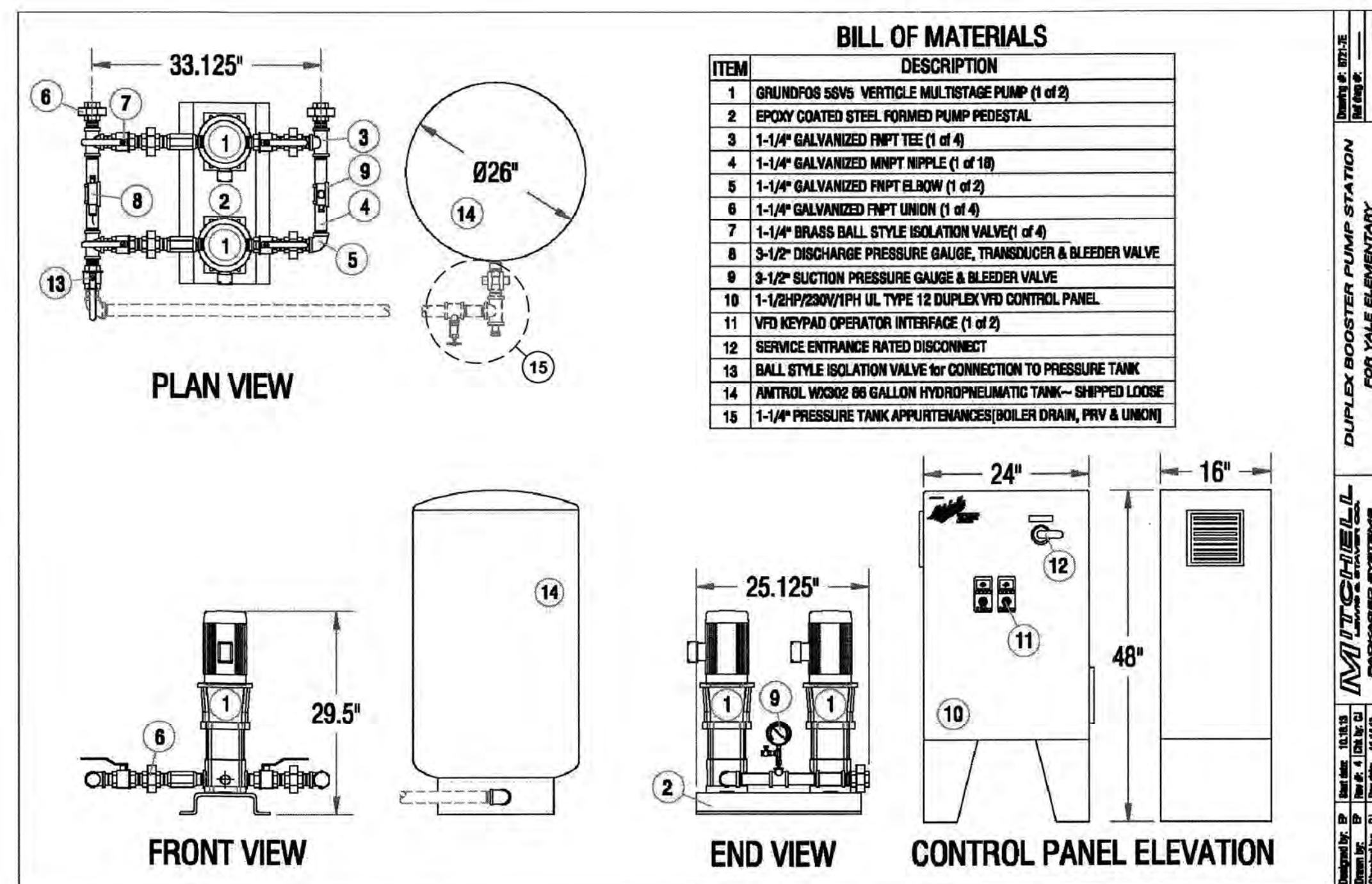
Well Head Detail

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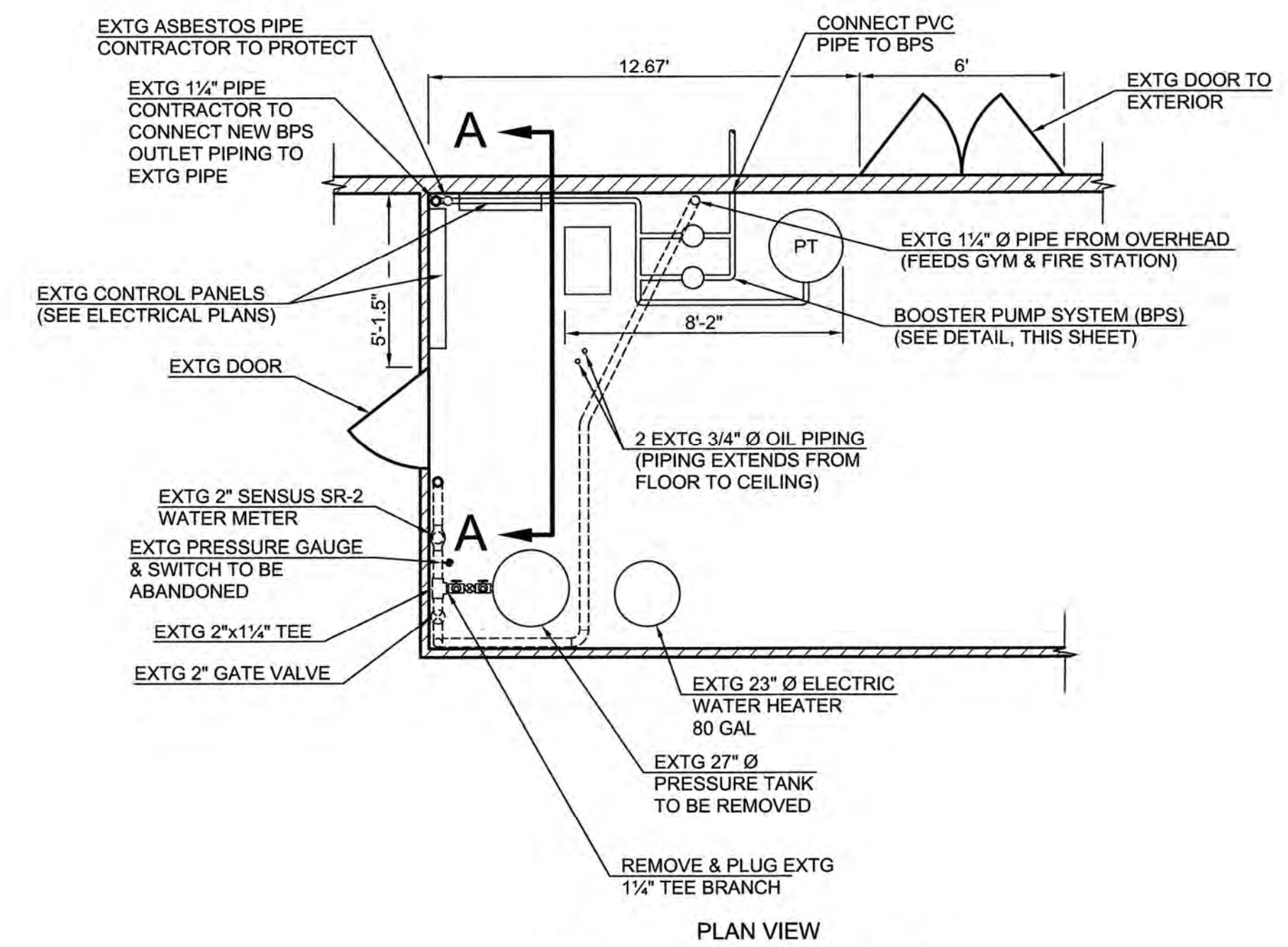
Section A-A

NTS



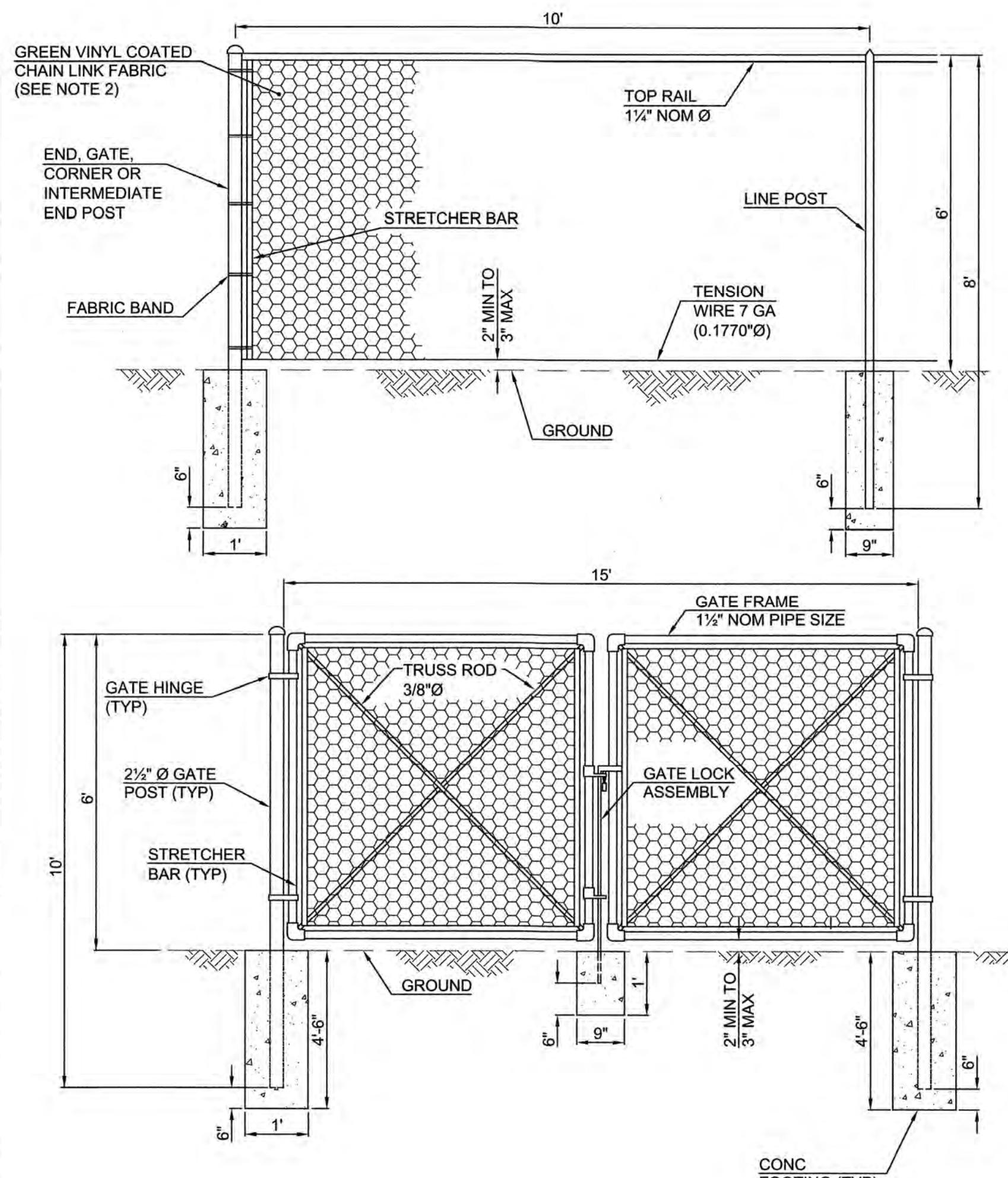
Booster Pump System

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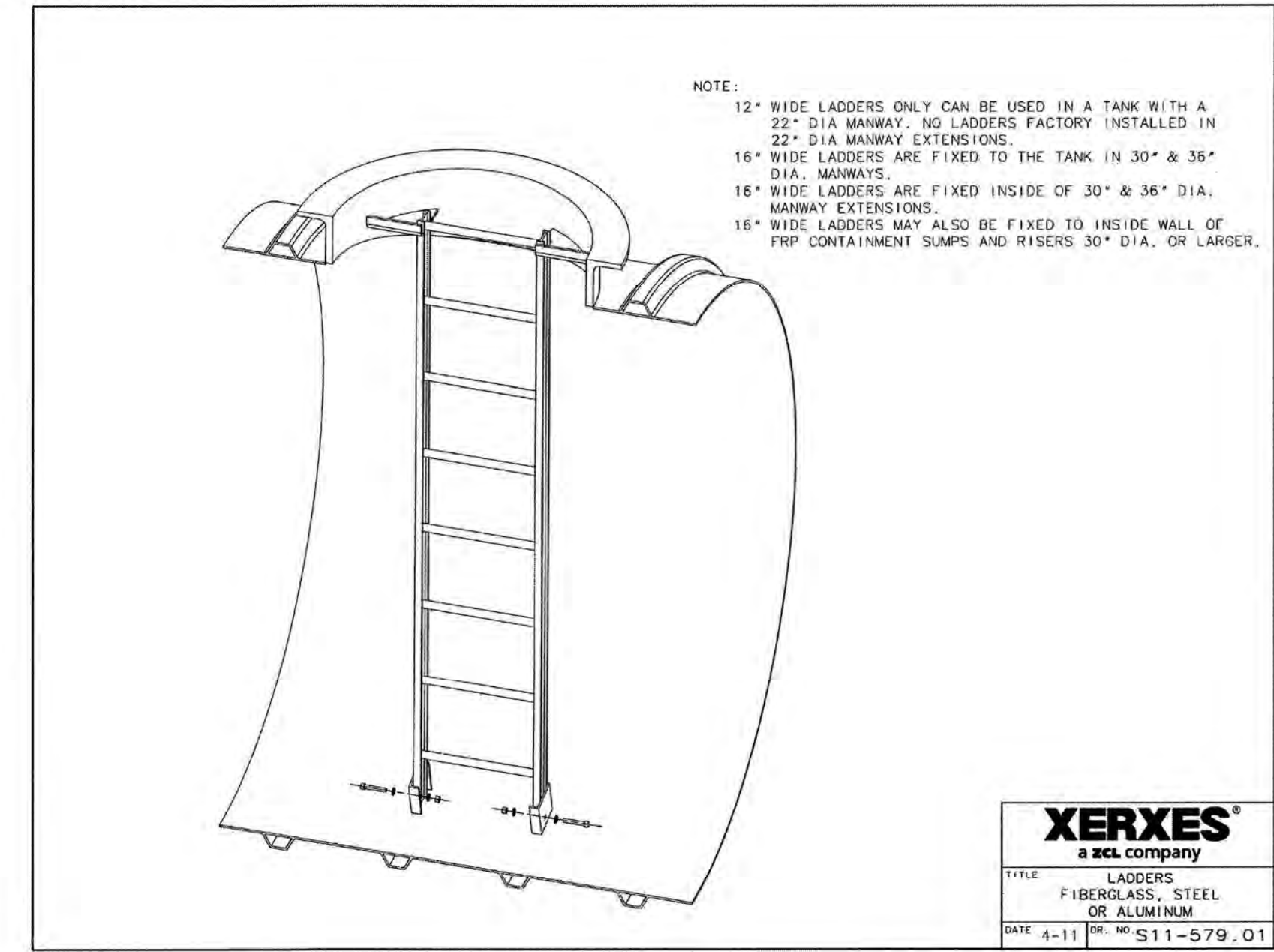
Maintenance Room

NTS



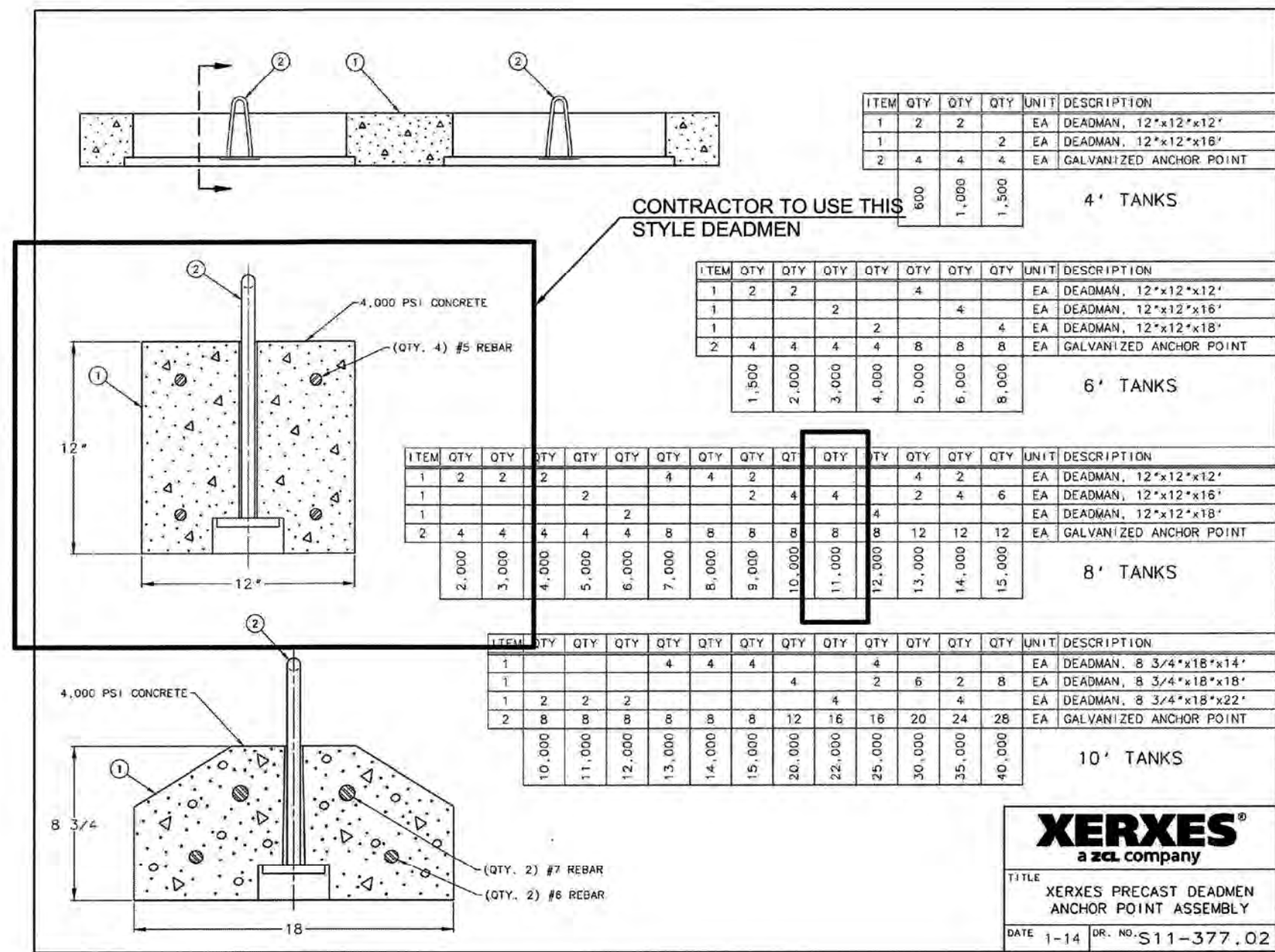
- Notes:
1. All material & workmanship shall be in accordance with the 2012 State of Washington standard specifications for road, bridge, & municipal construction.
 2. Vinyl coated chain link fence fabric to meet or exceed requirements of WSDOT specification 9-16.1(B) for type 1 fence (9 GA) 2\"/>
 - 3. Concrete for footing to conform to ASTM C94 having a minimum compressive strength of 3000 psi at 28 days.

Storage Tank Chain Link Fence
NTS

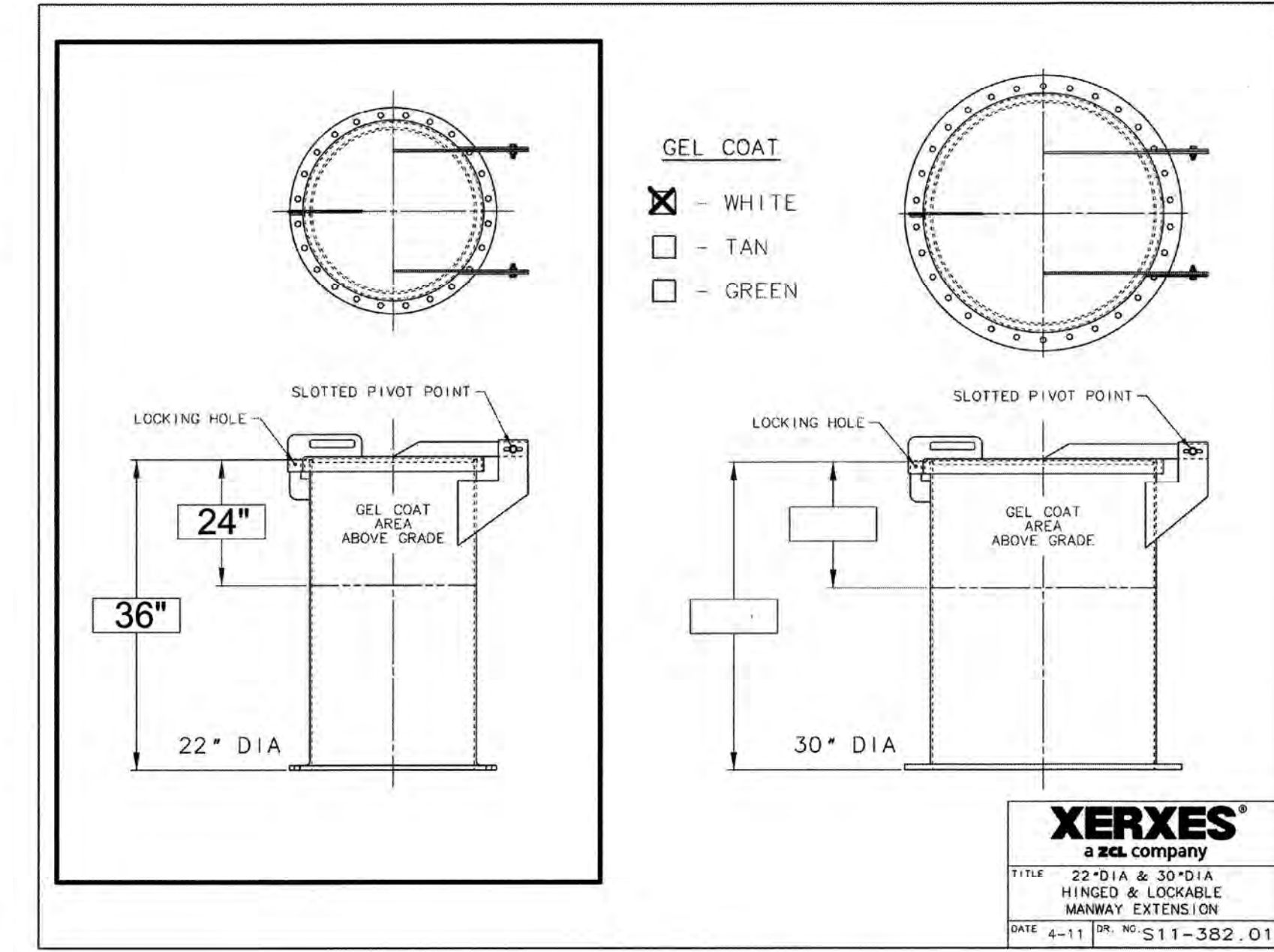


NOTE:
12\"/>

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FIBERGLASS, STEEL OR ALUMINUM
DATE: 4-11 DR. NO. S11-579.01

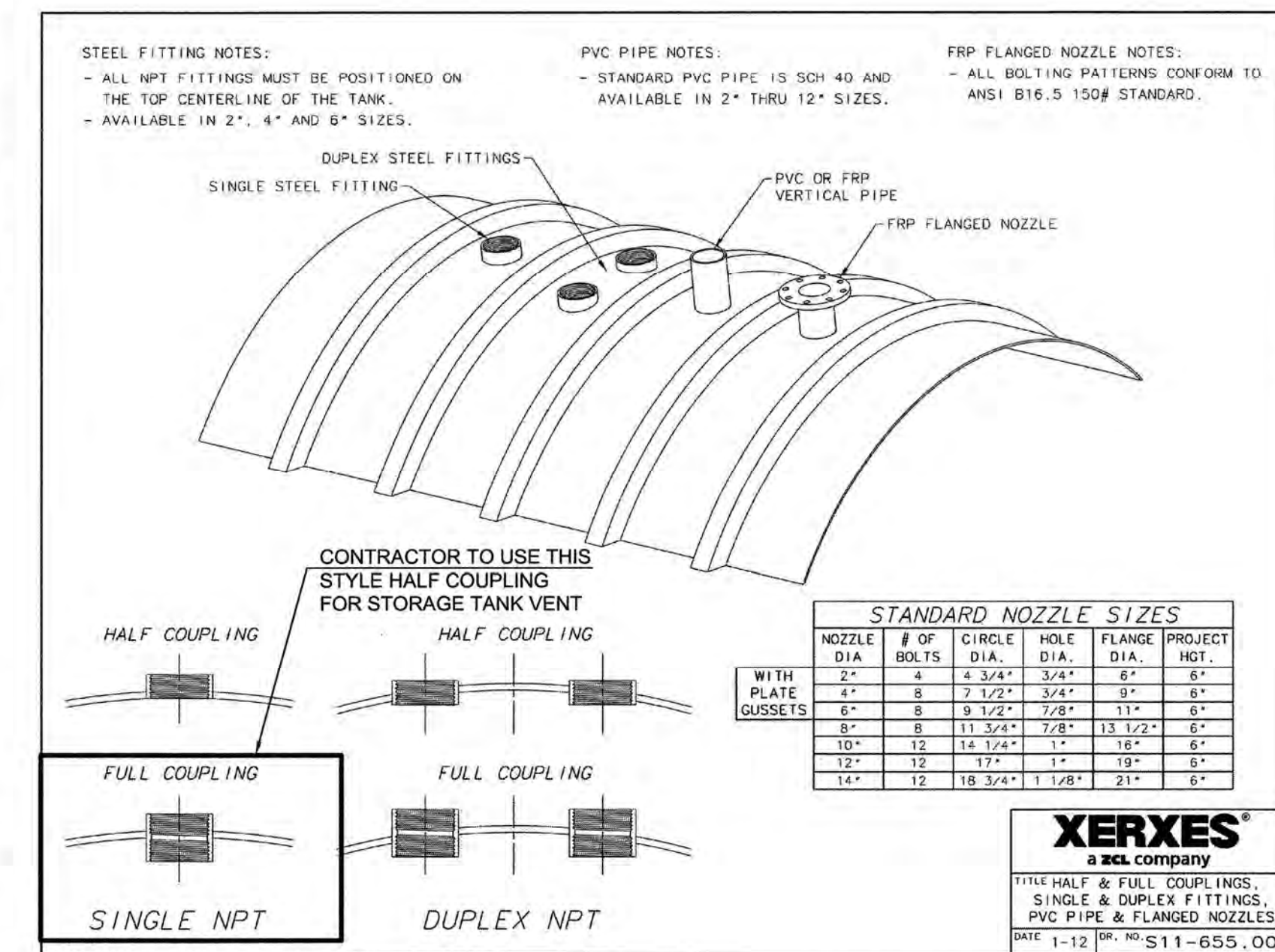


XERXES
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DATE: 1-14 DR. NO. S11-377.02

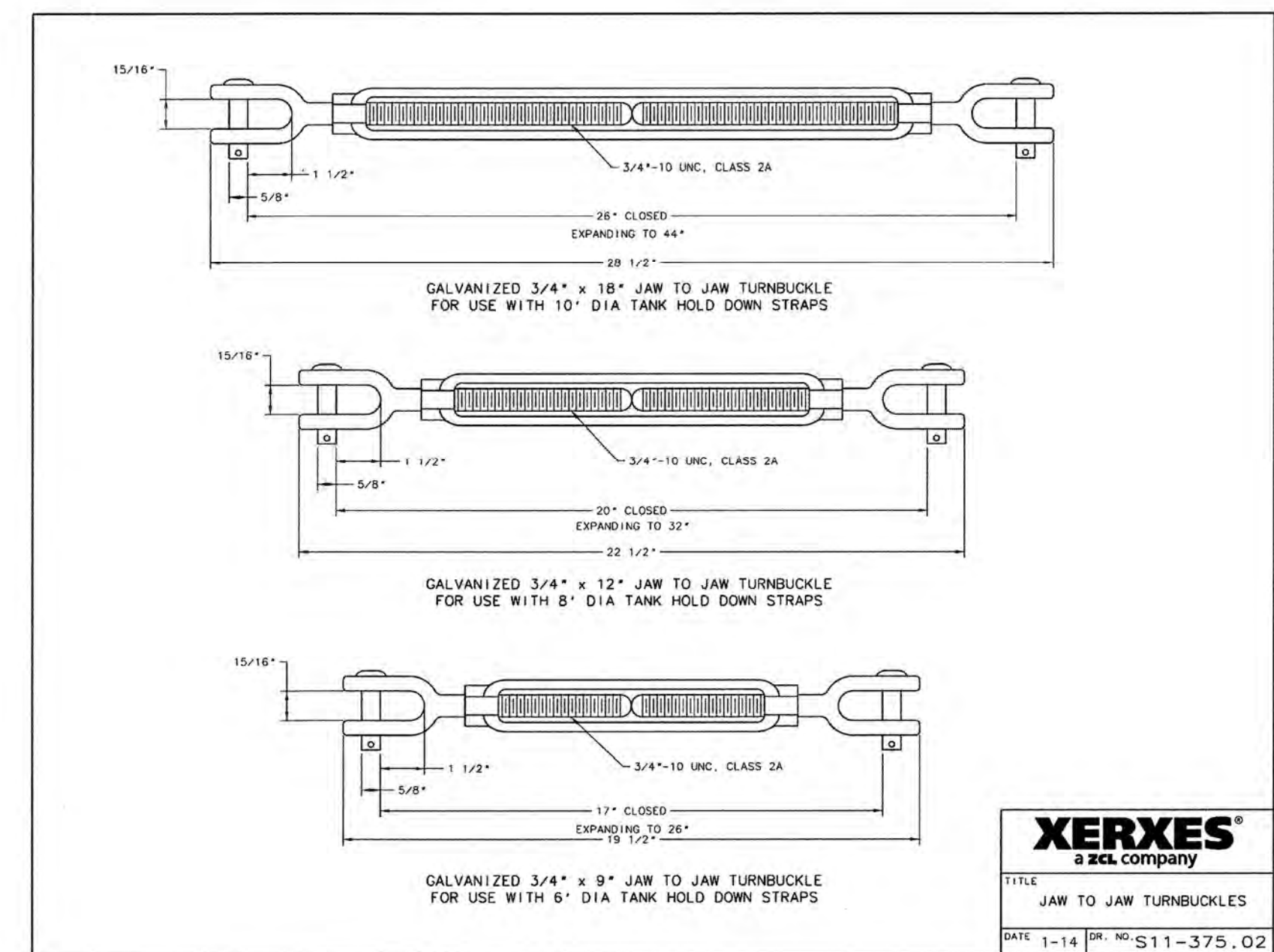


- GEL COAT
- WHITE
 - TAN
 - GREEN

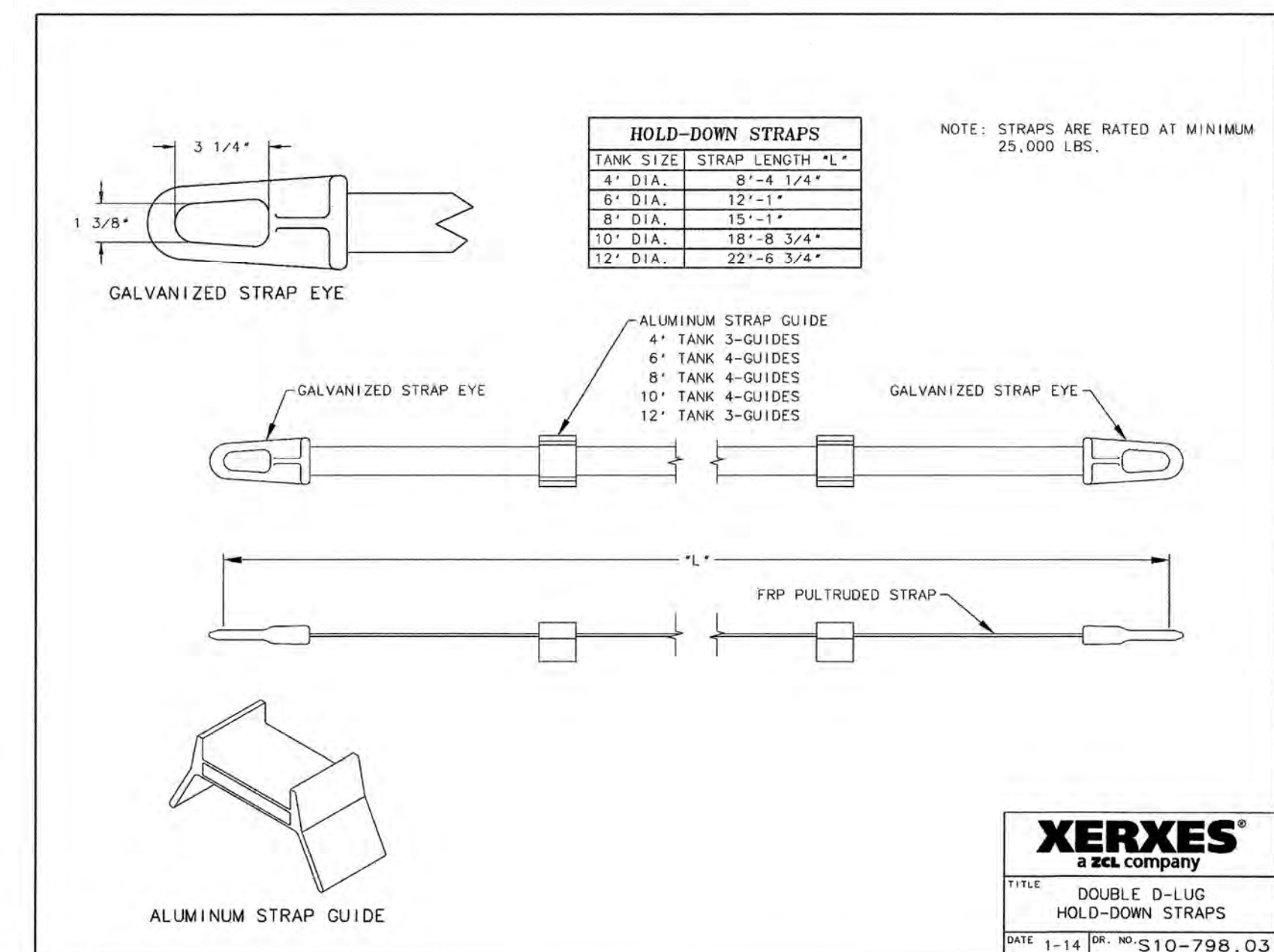
XERXES
a scl company
TITLE: 22\"/>



XERXES
a scl company
TITLE: HALF & FULL COUPLINGS, SINGLE & DUPLEX FITTINGS, PVC PIPE & FLANGED NOZZLES
DATE: 1-12 DR. NO. S11-655.00



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a scl company
TITLE: JAW TO JAW TURNBUCKLES
DATE: 1-14 DR. NO. S11-375.02



XERXES
a scl company
TITLE: DOUBLE D-LUG HOLD-DOWN STRAPS
DATE: 1-14 DR. NO. S10-798.03

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DESIGNED: NRR
DRAWN: CAD
CHECKED: MPW
SCALE
HORIZONTAL: N/A
VERTICAL: N/A
DATE: FEB 2014
HDJ JOB #: 3386-02

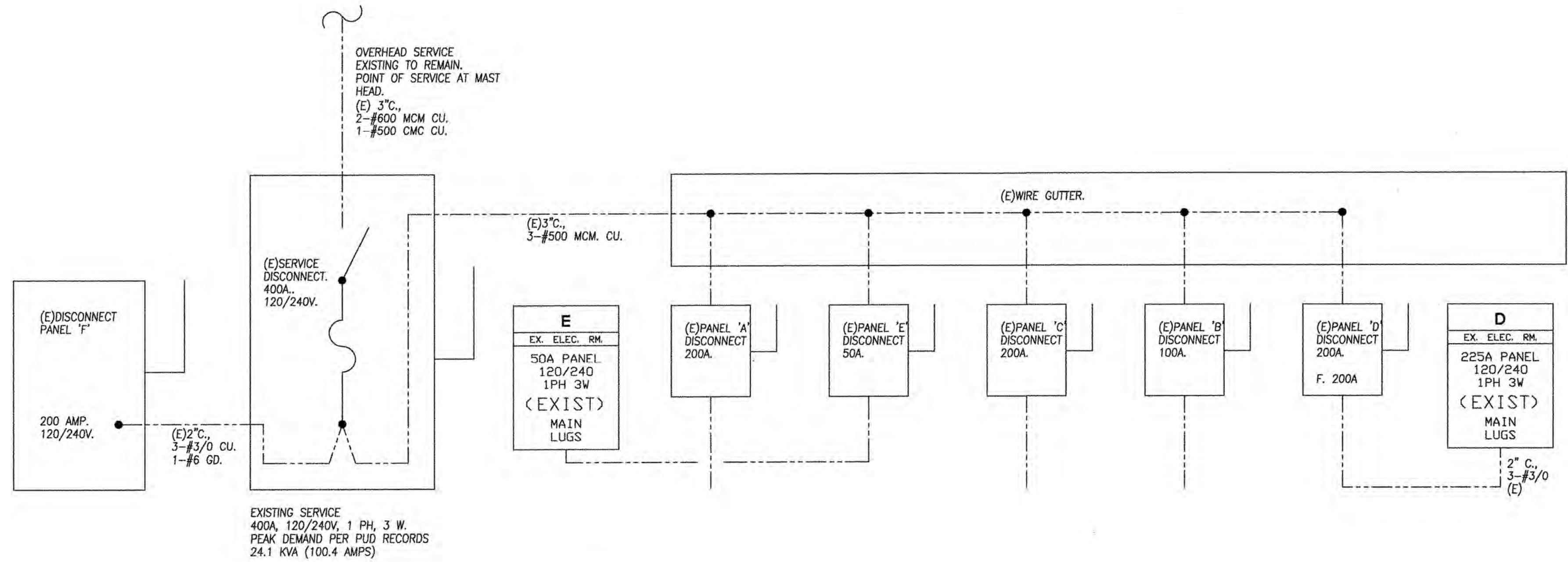
YALE ELEMENTARY SCHOOL WATER SYSTEM IMPROVEMENTS
A SITE LOCATED IN COWLITZ COUNTY, WASHINGTON
CONSTRUCTION DETAILS

SHEET ID
C006
DATE: 1-14 DR. NO. S11-375.02

ELECTRICAL SYMBOLS

SOME SYMBOLS MAY NOT APPEAR ON DRAWINGS

BRANCH CIRCUIT IN WALL OR CEILING	(E) ELECTRICAL PANEL W/NAME (TYPICAL TO NEW)
BRANCH CIRCUIT EXPOSED	(E) ELECTRICAL PANEL EXISTING W/NAME (TYPICAL TO REMOVE)
BRANCH CIRCUIT IN FLOOR OR EARTH	(E) ELECTRICAL PANEL EXISTING W/NAME (E) (TYPICAL TO REMAIN)
BRANCH CIRCUIT EXISTING	DISCONNECT W/FUSES
UNDERGROUND PRIMARY	DISCONNECT
POWER LINE	WP WEATHER PROOF
(E) LIGHTER LINES W/ (E) INDICATE EXISTING	WG WIRE GUARD
HASH MARKS = # OF WIRES (NO HASH MARKS = 2 WIRES + 1 GRND)	E.C. ELECTRICAL CONTRACTOR
HASH MARKS = # OF WIRES W/ HARD WIRED GROUND	BKR CIRCUIT BREAKER
DCD DUPLEX CONVENIENCE OUTLET (DCD)	NEC NATIONAL ELECTRICAL CODE
DCD 120V W/ GROUND FAULT PROTECTION	W/ WITH
DCD 120V W/ ARC FAULT PROTECTION	DCO DUPLEX CONVENIENCE OUTLET
OUTLET 208V - AS NOTED	CKT CIRCUIT
JUNCTION BOX	AFF ABOVE FINISH FLOOR
CONNECTION TO EQUIPMENT	BFG BELOW FINISHED GRADE
MOTOR DRIVEN DEVICE	(E) EXISTING ELECTRICAL DEVICE (TYPICAL TO REMAIN)
	(A) LETTERED HEX SYMBOLS REFER TO SHEET NOTES
	CONDUIT HOME RUN FROM DEVICE BOX TO PANEL AS CIRCUITED.



1 PARTIAL ONE LINE DIAGRAM
E200 SCALE: N.T.S.

ELECTRICAL SPECIFICATIONS:

- SCOPE: PROVIDE ALL LABOR, MATERIAL, AND WORK NECESSARY TO PROVIDE A COMPLETE AND OPERABLE ELECTRICAL INSTALLATION.
- SECURE AND PAY FOR ALL REQUIRED PERMITS, AND INSPECTIONS.
- PROVIDE 4 COMPLETE SETS OF ELECTRICAL SUBMITTAL CATALOG CUTS FOR ALL EQUIPMENT BEING SUPPLIED TO THIS PROJECT.
- REVIEW ALL CONTRACT DOCUMENTS AND PROVIDE ALL ELECTRICAL MATERIAL AND WORK INDICATED THEREON.
- RETURN PLAN PERMIT PLANS TO THE OWNER AT THE END OF THE PROJECT.
- APPROVAL OF SHOP DRAWINGS OR ALTERNATE EQUIPMENT SUBMITTALS DOES NOT REMOVE THE CONTRACTOR'S REQUIREMENT TO COMPLY WITH THE CONTRACT DOCUMENT'S INTENT.
- WARRANTY: ALL WORK AND MATERIAL SHALL BE WARRANTED FOR ONE YEAR FROM SUBSTANTIAL COMPLETION.
- PROVIDE AND MATERIAL AND LABOR IN COMPLIANCE WITH THE NEC, AND ALL OTHER APPLICABLE NATIONAL, STATE AND LOCAL CODES.
- ALL WORK SHALL BE DONE TO THE BEST INDUSTRY PRACTICES AND STANDARDS.
- DEMOLITION: DISCONNECT, REMOVE, AND PROPERLY DISPOSE OF ALL ELECTRICAL EQUIPMENT INDICATED TO BE REMOVED ON THE CONTRACT DOCUMENTS. IN ADDITION REMOVE ABANDONED WIRING AND ACCESSIBLE CONDUIT AND SIMILAR EQUIPMENT. NOT ALL SUCH REMOVALS WILL BE INDICATED ON THE DRAWINGS. VERIFY REQUIREMENTS AND EXISTING CONDITIONS ON SITE AND INCLUDE SUCH WORK IN THE BASE BID.
- EXTEND EXISTING FEEDERS AND BRANCH CIRCUITRY AS NECESSARY TO PROVIDE A COMPLETE AND OPERABLE INSTALLATION.
- REPAIR ANY DAMAGE TO EXISTING ELECTRICAL EQUIPMENT CAUSED BY PROJECT WORK. PATCH AND SURFACE OPENED OR DAMAGE BY THIS PROJECT TO MATCH ADJACENT SURFACE. VERIFY REQUIREMENTS WITH ARCHITECT.
- ALL MATERIAL SUPPLIED SHALL BE U.L. LISTED FOR THE INTENDED PURPOSE.
- ALL INTERIOR FEEDERS AND BRANCH CIRCUITRY SHALL BE IN EMT RACEWAY, OR MCCABLE. CONDUCTORS SHALL BE COPPER, THWN/THHN. ALL CIRCUITRY SHALL BE CONCEALED IN OCCUPIED SPACES UNLESS INDICATED SURFACE OR EXPOSED ON DRAWINGS.
- OUTLET BOXES, PRESSED STEEL, 4" X 4" X 1 1/2"D MINIMUM.
- RECEPTACLES SHALL BE COMMERCIAL GRADE, 120V, 20 AMP. APPROVED MANUFACTURERS: HUBBELL, P& S, AH, LEVITON.
- OCCUPANCY SENSORS: CEILINGS: DUAL TECHNOLOGY, 360 DEGREE; WALL SWITCH: INCLUDE A POSITIVE OFF SWITCH. APPROVED MANUFACTURERS: WATT STOPPER, SENSOR SWITCH, LEVITON, OR AS APPROVED.
- OUTLET COVER PLATES: GALVANIZED PRESSED STEEL..
- SAFETY SWITCHES: HEAVY DUTY, FUSED, WITH INTERLOCKING DOORS AND FUSE REJECTION CLIP HOLDERS. SQ. D. , GE, SIEMENS, CUTLER-HAMMER/WESTINGHOUSE. EXTERIOR: NEMA 3R.
- FUSES: U.L. CLASS RK5, T.D.
- GROUNDING: PROVIDE GROUND CONDUCTOR IN ALL NEW CIRCUITRY. PROVIDE ALL CODE REQUIRED GROUNDING.

LOAD CALCULATION:
EXISTING PEAK DEMAND: 24.1 KVA PER PUD RECORDS
ADDED LOAD: 4.98 KVA
NEW PEAK DEMAND: 29.08 KVA (121.17 AMPS AT 120/240V, 1 PH, 3 W.)

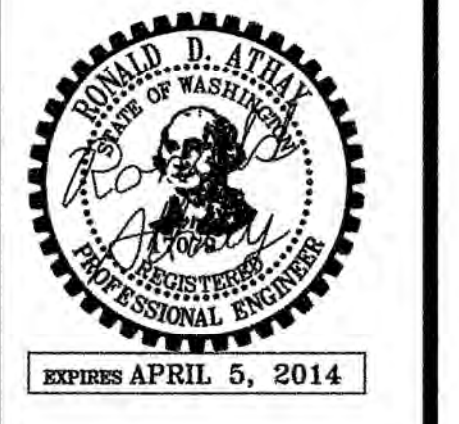
PANEL SCHEDULE		D LOCATION:		EXISTING ELECTRICAL ROOM.			
NO	T	DESCRIPTION	KVA	BKR	DESCRIPTION	T	NO
225A. BUSS 120/240v 1ph 3w MAIN (LUGS)							
1	M	(E)CONDENSATE PUMP	0.50	20A*	A	20A*	0.90 (E)BOILER
3				2P	B	2P	
5	M	WELL PUMP - REPLACEMENT-(SAME HP)	1.18	20A*	A		BLANK
7				2P	B		BLANK
9	X	NEW BOOSTER PUMPS	4.98	50A	A		BLANK
11		2- 1 1/2HP ON V.F.D.		2P(N)	B		BLANK
13		BLANK			A		BLANK
15		BLANK			B		BLANK
17	M	(E)OIL PUMP-NEW ADDITION	0.50	20A*	A	20A*	1.00 (E)AIR COMPRESSOR
19	M	(E)HV-3	0.73	20A*	B	20A*	0.10 (E)CONTR. HT. 6 VENT
21	M	(E)HV-4	0.73	20A*	A	20A*	0.15 (E)FLOOR-EXTERIOR
23	M	(E)HV-5	0.73	20A*	B	20A*	0.10 (E)FAN
25	M	(E)HV-1	0.73	20A*	A	20A*	0.54 (E)PLUGMOLD CLR. 2
27	M	(E)HV-2	0.73	20A*	B	20A*	0.54 (E)PLUGMOLD CLR. 2
29	X	(E)OUT BY PANEL-REFRIGERATOR	0.18	20A*	A	20A*	0.50 (E)CIRC. PUMP

LOAD CALCULATION		CIRCUIT BREAKER CODES	
LIGHTING	0.15	S	= SHUNT TRIP BREAKERS
LTG @ 125%	0.19	*	= EXISTING C.B. - ALL OTHERS NEW - (N) NEW LOAD
MOTORS	7.43	SPARE	= CIRCUIT BREAKER
LUGS @ 25%	0.30	BLANK	= C.B. POSITION
OUTLETS	1.08	K	= KITCHEN
DEDICATED OUTLETS	0.00	L	= LIGHTING
DEMAND OUTLETS@50%		M	= MOTORS
KITCHEN	0.00	O	= OUTLETS
DEMAND KITCHEN	0.00	H	= HEAT
HEAT	0.00	X	= MISCELLANEOUS
MISCELLANEOUS	6.16	W	= WELDERS
WELDERS	6.16	TG	= DEDICATED OUTLETS
		K	= DEDICATED KITCHEN
TOTAL ADDED LOAD: 4.98 KVA			

CONNECTED KVA		EXISTING PANEL	
14.82	=	61.75	AMP
15.15	=	63.14	AMP

(E)=EXISTING LOAD. (N)=NEW LOAD.
200 AMP FEEDER.

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DESIGNED: R. ATHAY
DRAWN: R. ATHAY
CHECKED: R. ATHAY
SCALE
HORIZONTAL: N.T.S.
VERTICAL: N.T.S.
DATE: FEB. 27, 2014
HOJ JOB #: 3386-02

YALE ELEMENTARY SCHOOL WATER SYSTEM IMPROVEMENTS
A SITE LOCATED IN COWLITZ COUNTY, WASHINGTON
ONE LINE DIAGRAM AND PANEL SCHEDULES