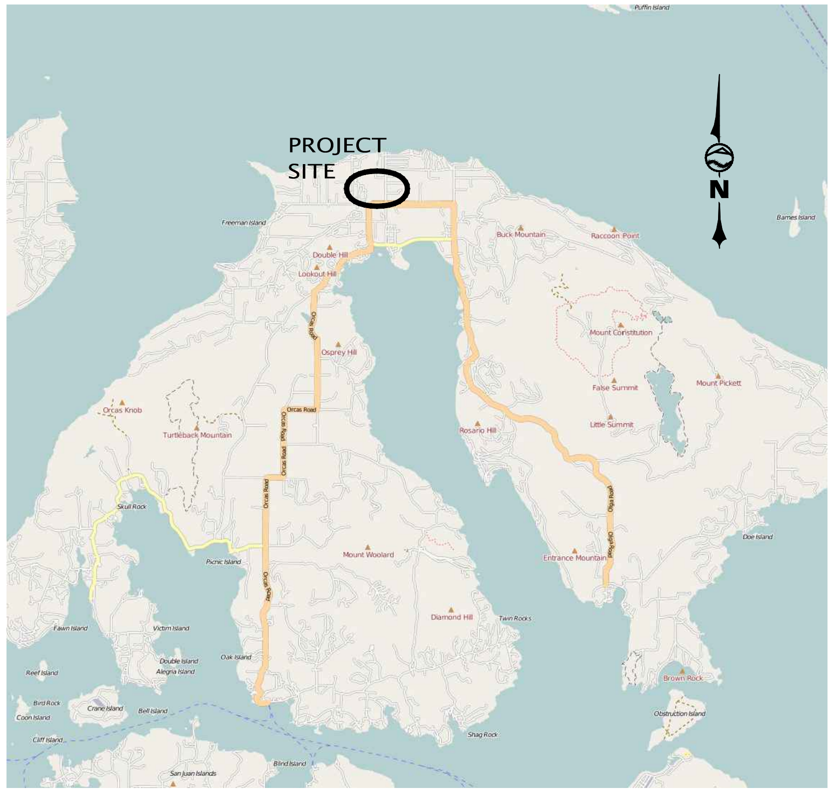
EASTSOUND SEWER AND WATER DISTRICT

WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2

NO.	REVISIONS	BY	DATE

AREA MAP- NOT TO SCALE



VICINITY MAP- NOT TO SCALE

INDEX TO DRAWINGS

INDEX TO DRAWINGS (CONTINUED)

PROTECTION OF THE ENVIRONMENT

NO CONSTRUCTION–RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATERS, OR ALLOW PARTICULATE EMISSIONS TO THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL OF THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.

PROJECT FUNDING INFORMATION

ECOLOGY SRF FUNDING NO. WQC–2023–EaSoWD

CONTACT INFORMATION

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WILSON ENGINEERING, LLC
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OWNER

EASTSOUND SEWER AND WATER DISTRICT
JASON BRADSHAW, GENERAL MANAGER

PROJECT DATUM

HORIZONTAL: NAD 83/91

VERTICAL: NGVD 1929

THIS PROJECT IS FUNDED IN PART BY THE WASHINGTON STATE DEPARTMENT OF ECOLOGY

Call 811 two business days before you dig

BID SET

WILSON ENGINEERING
WILSONENGINEERING.COM

JEFFREY G. CHRISTNER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER
01-27-2025

DESIGNED BY JCC | DRAWN BY MCS | CHECKED BY AWL

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2
COVER SHEET

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET G0.1

LEGEND & ABBREVIATIONS– SIZE & SCALE MAY VARY

EXISTING HATCH PATTERNS — DESCRIPTION
- EXIST. CONCRETE
- EXIST. BUILDING
- EXIST. EARTH
- EXIST. GRAVEL
- EXIST. SAND

PROPOSED HATCH PATTERNS — DESCRIPTION
- PROP. CONCRETE
- PROP. TOP COURSE GRAVEL
- PROP. GRAVEL
- PROP. ASPHALT
- PROP. QUARRY SPALLS
- WETLAND HATCH

SURFACE FEATURES EXISTING PLAN LINETYPES — DESCRIPTION
- BRIDGE
- BUILDING LINE
- BUILDING COLUMN
- BUILDING OVERHANG
- BULKHEAD
- CONCRETE EDGE
- CREEK EDGE
- CROWN OF ROAD
- CURB
- DITCH CENTERLINE
- DECK
- DOCK
- EDGE OF SAWCUT
- EDGE OF PAVEMENT
- FENCE
- GATE
- GRADE
- GRAVEL
- GUARDRAIL
- JERSEY BARRIER
- LAKE/POND WATER EDGE
- LIP OF CURB
- MISC SURFACE FEATURE
- MISC TRAFFIC
- PLANTER
- PATH
- RAILROAD
- RAMP (WOOD)
- HANDRAIL
- RETAINING WALL
- ROAD STRIPING
- ROCKERY
- RIVERBANK/SHORELINE
- THALWAG LINE
- TOP OF BANK/SLOPE
- TOE OF BANK/SLOPE
- VEGETATION/SHRUB LINE
- WETLAND/SWAMP PERIMETER
- WETLAND BUFFER

SURFACE FEATURES PROPOSED PLAN LINETYPES — DESCRIPTION
- BRIDGE
- BUILDING LINE
- CONCRETE
- CURB
- DITCH CENTERLINE
- EDGE OF BIKE LANE
- EDGE OF PAVEMENT
- FENCE
- GATE
- GRAVEL
- GUARDRAIL
- JERSEY BARRIER
- LIP OF CURB
- REBAR
- RETAINING WALL
- ROCKERY
- ROAD STRIPING
- HANDRAIL
- EDGE OF SAWCUT

UTILITIES EXISTING PLAN LINETYPES — DESCRIPTION
- CABLE TELEVISION (AERIAL)
- CABLE TELEVISION (BURIED)
- SURVEILLANCE CAMERA (BURIED)
- FIBER OPTIC/COMMUNICATIONS LINE (AERIAL)
- FIBER OPTIC/COMMUNICATIONS LINE (BURIED)
- TELEPHONE/COMMUNICATIONS (AERIAL)
- TELEPHONE/COMMUNICATIONS (BURIED)
- TRAFFIC SIGNAL CONDUIT LINE
- POWER (AERIAL)
- POWER (BURIED)
- UTILITY (AERIAL)
- UTILITY (BURIED)
- POWER DUCT BANK (BURIED)
- DRAIN FIELD
- SANITARY SEWER
- APPROXIMATE SANITARY SEWER
- SANITARY SEWER (FORCE MAIN)
- APPROXIMATE SANITARY SEWER (FORCE MAIN)
- STORM DRAINAGE
- APPROXIMATE STORM DRAINAGE
- CULVERT (⌀ WIDTH)
- CULVERT
- RECLAIMED WATER
- IRRIGATION
- WATER
- APPROXIMATE WATER
- 8" WATER
- OVERFLOW
- STEAM
- GAS
- GAS TANK/STRUCTURE
- OIL
- AIR LINE
- BURIED UTILITY APPROX. EXTENTS
- MISC UTILITY (BURIED)

PROPOSED PLAN UTILITY LINETYPES

WATER — DESCRIPTION
- WATER
- 8" WATER
- IRRIGATION
- RECLAIMED WATER
- POTABLE WATER
- WATER SERVICE
- WATER STRUCTURE
- FIRE DEPARTMENT CONNECTION
- FIRE PROTECTION LINE

SANITARY SEWER
- SEWER
- 8" SEWER
- FORCE MAIN
- DRAIN FIELD
- SEWER SERVICE
- SEWER STRUCTURE

STORM DRAIN
- STORM DRAIN
- STORM DRAIN
- STORM DRAIN
- STORM SERVICE
- FOOTING DRAIN
- STORM STRUCTURE

MISC. UTILITIES
- GAS
- POWER
- TELEPHONE/COMMUNICATIONS

EROSION CONTROL — DESCRIPTION
- EROSION TRIANGULAR SILT DIKE
- EROSION CONTROL COMPOST BERM
- EROSION CONTROL MINOR CONTOUR
- EROSION CONTROL MAJOR CONTOUR
- ORANGE BARRIER FENCE
- SILT FENCE
- STRAW WATTLE
- EROSION CONTROL FLOWLINE
- SB — STRAW BALE
- IP — INLET PROTECTION
- CD — CHECK DAM

Call 811 two business days before you dig

BID SET

SURVEY PLAN LINETYPES — DESCRIPTION
- CENTERLINE (EXISTING)
- CENTERLINE (CONSTRUCTION)
- CENTERLINE (PROPOSED)
- CONTOUR (EXISTING MINOR)
- CONTOUR (EXISTING INDEX)
- HYDRO CONTOUR (EXISTING INDEX)
- CONTOUR (PROPOSED INDEX)
- CONTOUR (PROPOSED MINOR)
- DONATION LAND CLAIM (EXIST.)
- EASEMENT (PROPOSED)
- EASEMENT (EXISTING)
- MEANDER LINE
- ORDINARY HIGH WATER LINE
- MEAN LOW LEVEL WATER LINE
- OWNERSHIP LINE
- PROPERTY LINE (RECORD OR ADJACENT)
- PROPERTY LINE
- QUARTER SECTION LINE
- RANGE/TOWNSHIP LINE
- RESERVATION/PARK/FOREST (EX)
- RIGHT–OF–WAY ℄ (EXISTING)
- RIGHT–OF–WAY (EXISTING)
- RIGHT–OF–WAY (EXISTING USED)
- RIGHT–OF–WAY (PROPOSED)
- RIGHT–OF–WAY (EX. RECORD) (RECORD OR ADJACENT)
- RIGHT–OF–WAY (LIMITED ACCESS)
- RIGHT–OF–WAY (LIMITED ACCESS)
- SECTION LINE
- SETBACK LINE (EXISTING)
- SIXTEENTH SECTION LINE
- STATE/COUNTY/CORPORATE LIMIT
- VACATED RIGHT–OF–WAY
- EASEMENT (RECORD)
- RIGHT–OF–WAY CENTER (RECORD)
- DONATION LAND CLAIM (RECORD)
- MEANDER LINE (RECORD)
- PARK LINE (RECORD)
- SECTION LINE (RECORD)
- QUARTER SECTION LINE (RECORD)
- SIXTEENTH SECTION LINE (RECORD)
- STATE LINE (RECORD)
- RANGE LINE (RECORD)

PROFILE LINETYPES — DESCRIPTION
- PROFILE EX. GRND ℄
- PROFILE FINISH GRND ℄
- PROFILE GRID
- PROFILE VERTICAL GRID
- PROFILE EX. GROUND LEFT
- PROFILE EXISTING GROUND RIGHT
- FIBER OPTIC PROFILE (EXISTING)
- GAS PROFILE (EXISTING)
- POWER PROFILE (EXISTING)
- RAILROAD PROFILE (EXISTING)
- SANITARY PROFILE (EXISTING)
- SANITARY PROFILE (PROPOSED)
- STORM PROFILE (EXISTING)
- TELEPHONE PROFILE (EXISTING)
- STORM PROFILE (PROPOSED)
- TV PROFILE (EXISTING)
- UTILITY PROFILE (EXISTING)
- WATER PROFILE (EXISTING)
- WATER PROFILE (PROPOSED)

DEMOLITION — DESCRIPTION
- SURFACE FEATURE OR UTILITY TO BE REMOVED
- SAWCUT
- CLEARING LIMIT
- TREE OR BUSH TO BE REMOVED

GRADING
- GRADE BREAK
- CATCHLINE
- CUT LINE
- FILL LINE
- SLOPE ARROWS

SECTION/DETAIL CALL-OUTS
SECTION CALL–OUTS: (A) REPRESENTS THE SECTION LABEL, (B) INDICATES THE SHEET ON WHICH THE SECTION APPEARS.

DETAIL CALL–OUTS: (A) REPRESENTS THE DETAIL LABEL, (B) INDICATES THE SHEET ON WHICH THE DETAIL APPEARS.

MISC. SYMBOLS (EXISTING / PROPOSED) — DESCRIPTION
- SOIL BORING
- MONITORING WELL
- TEST WELL
- TEST PIT
- EMBANKMENT
- MAIL BOX
- SIGN
- RIP RAP
- BOULDER
- SHRUB
- TREE (Conifer)*
- TREE (Deciduous)*
- STUMP–PLAN VIEW
- YARD LIGHT
- WELL
- PILE
- ROCKERY
- WHEEL STOP
- SPLASH BLOCK
- GAS METER
- GAS VALVE
- PAD MOUNTED TRANSFORMER
- POWER VAULT
- TRANSMISSION TOWER
- POWER METER
- GUY POLE
- UTILITY POLE
- UTILITY POLE ANCHOR
- TELE RISER
- CABLE RISER
- FIBER OPTIC RISER
- FIBER OPTIC MANHOLE
- TELEPHONE MANHOLE
- TELEPHONE VAULT
- STEAM MANHOLE
- PARKING METER
- POST
- PUMP

SANITARY SEWER SYMBOLS (EXISTING / PROPOSED) — DESCRIPTION
- SAN. SEWER CLEAN OUT
- SAN. SEWER MANHOLE

STORM DRAIN SYMBOLS (EXISTING / PROPOSED) — DESCRIPTION
- STORM DRAIN CB TYPE 1
- STORM DRAIN CB TYPE 2
- STORM DRAIN CB TYPE 2 W/CB LID
- STORM DRAIN WITH OVERFLOW GRATE
- STORM DRAIN CLEAN–OUT
- STORM DOWNSPOUTS

PIPE CALL-OUT
(A) (B) 36–SS XXXLF (C)

PIPE CALL–OUTS: (A) REPRESENTS THE PIPE SIZE IN INCHES, (B) INDICATES THE UTILITY TYPE (C) REPRESENTS THE PIPE LENGTH IN LINEAL FEET

SYMBOLS
- ° =DEGREES
- ± =PLUS/MINUS
- ⌀ =DIAMETER
- Δ =DELTA
- ℄ =CENTERLINE
- ℄ =FLOWLINE
- ℗ =PROPERTY LINE

SPOT ELEVATIONS
190.00① TBC②

① = ELEVATION
② = DESCRIPTION– SEE DEFINED ABBREVIATIONS ABOVE

SECTION SHEET LABELS: (A) REPRESENTS THE SECTION LABEL, (B) INDICATES THE SHEET ON WHICH THE SECTION IS CALLED OUT.

DETAIL SHEET LABELS: (A) REPRESENTS THE DETAIL LABEL, (B) INDICATES THE SHEET(S) ON WHICH THE DETAIL IS CALLED OUT.

CX.XC (B)

WATER SYMBOLS (EXISTING / PROPOSED) — DESCRIPTION
- ARV VALVE
- GLOBE VALVE, FL
- BALL CHECK VALVE, FL
- BLOW–OFF VALVE
- SWING CHECK VALVE, FL
- BUTTERFLY VALVE, FL
- HOSE BIB/SPIGOT
- DOUBLE LEAF CHECK VALVE
- PLUG VALVE
- BALL VALVE
- FLOAT VALVE
- PINCH VALVE
- PRESSURE & VACUUM RELIEF VALVE
- VACUUM RELIEF VALVE
- PRESSURE RELIEF VALVE
- PRESSURE REGULATING VALVE (SELF CONTAINED)
- BACK PRESSURE REGULATING VALVE (SELF CONTAINED)
- IN–LINE SPRING LOADED RELIEF VALVE
- CAP/PLUG
- GUARD POST
- THRUST BLOCK
- WATER METER
- FIRE DEPARTMENT CONNECTION
- WATER VALVE
- FIRE HYDRANT
- WATER MANHOLE
- POST INDICATOR VALVE
- 11–1/4 BEND, MJ–FL
- 22–1/2 BEND, MJ–FL
- 45 BEND, MJ–FL
- 90 BEND, MJ–FL
- FLXMJ ADAPTER
- COUPLER
- BLIND FLANGE
- GATE VALVE, FLxMJ
- GATE VALVE, MJ
- REDUCER, MJxFL
- REDUCER, MJ
- TEE, FL
- TEE, MJ
- TEE, MJxFL
- TEE, FLxMJ
- CROSS, FL
- CROSS, MJ

SURVEY SYMBOLS
- BRASS SURFACE MONUMENT
- CONCRETE MONUMENT
- SET REBAR
- FOUND IRON PIPE
- MONUMENT IN CASE
- TRAVERSE POINT

DIRECTIONAL ABBREVIATIONS
- N =NORTH
- NE =NORTHEAST
- E =EAST
- SE =SOUTHEAST
- S =SOUTH
- SW =SOUTHWEST
- W =WEST
- NW =NORTHWEST

ABBREVIATIONS
- AB =AS–BUILT (RECORD)
- AC =ASBESTOS CEMENT
- AL =ALIGNMENT
- ANC =UTILITY POLE ANCHOR
- APPROX =APPROXIMATE
- ASPH or AC =ASPHALT
- ASS'Y =ASSEMBLY
- ASTM =AMERICAN SOCIETY FOR TESTING & MATERIALS
- BLDG =BUILDING
- BMP =BEST MANAGEMENT PRACTICE
- BVCS =BEGIN VERTICAL CURVE STATION
- BVCE =BEGIN VERTICAL CURVE ELEVATION
- CB =CATCH BASIN
- CK =CHECK VALVE
- C/L, ℄ =CENTERLINE
- CESCL =CERTIFIED EROSION SEDIMENT CONTROL LEAD
- COL =COLUMN
- CMP =CORRUGATED METAL PIPE
- C.O. or CO =CLEAN OUT
- CONC, C =CONCRETE
- COR =CORNER
- CRSI =CONCRETE REINFORCING STEEL INSTITUTE
- CPP =CORRUGATED POLYETHYLENE PIPE
- CSBC =CRUSHED SURFACING BASE COURSE
- CSTC =CRUSHED SURFACING TOP COURSE
- DCVA =DOUBLE CHECK VALVE ASSEMBLY
- DI =DUCTILE IRON
- DIAM =DIAMETER
- DO =DISSOLVED OXYGEN
- DR =DIMENSION RATIO
- DS =DOWNSPOUT
- EB =EXPLORATION BORING
- EFFL =EFFLUENT
- EG =EXISTING GRADE
- ELEV, EL =ELEVATION
- EOG =EDGE OF GRAVEL
- EOP =EDGE OF PAVEMENT
- EP =EXPLORATION PIT
- EXIST, EX =EXISTING
- EVCS =END VERTICAL CURVE STATION
- EVCE =END VERTICAL CURVE ELEVATION
- FDC =FIRE DEPARTMENT CONNECTION
- FF =FINISH FLOOR
- FG =FINISH GRADE
- FL =FLOWLINE OR FLANGE (CONNECTION)
- ℄ =FLOWLINE
- FLC =FLOWLINE OF CURB
- FM =FORCEMAIN
- FNC =FENCE
- FRP =FIBERGLASS REINFORCED PIPE
- GB =GRADE BREAK
- GMET =GAS METER
- GP =GUY POLE
- GPM =GALLONS PER MINUTE
- GRVL, G =GRAVEL
- GV =GATE VALVE
- HB =HOSE BIB
- HDG =HOT–DIP GALVANIZED
- HDPE =HIGH DENSITY POLYETHYLENE
- HSS =HOLLOW STRUCTURAL SECTION
- H:V =HORIZONTAL:VERTICAL
- HWL =HIGH WATER LEVEL
- HYD =HYDRANT
- IBC =INTERNATIONAL BUILDING CODE
- IE =INVERT ELEVATION
- INFO =INFORMATION
- INV =INVERT
- IPS =IRON PIPE SIZE
- LF =LINEAR FEET
- LUM =LUMINAIRE
- LT =LEFT
- MAX =MAXIMUM
- MB =MAIL BOX
- MBR =MEMBRANE BIO–REACTOR
- MC =MAINTENANCE CLEANING
- MFR =MANUFACTURER
- MH =MANHOLE
- MIN =MINIMUM
- MISC =MISCELLANEOUS
- MJ =MECHANICAL JOINT
- MLSS =MIXED LIQUOR SUSPENDED SOLIDS
- MW =MONITORING WELL
- NPDES =NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
- O.C. =ON CENTER
- O.C.E.W =ON CENTER EACH WAY
- OD =OUTSIDE DIAMETER
- OHP =OVERHEAD POWER
- OHT =OVERHEAD TELEPHONE
- OSHA =OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
- PC =POINT OF CURVATURE
- PCC =POINT OF CONTINUING CURVATURE
- PE =POLYETHYLENE or PLAIN END
- PIV =POST INDICATOR VALVE
- P/L, ℗ =PROPERTY LINE
- PLC =PROGRAMMABLE LOGIC CONTROLLER
- PLTR =PLANTER
- POL =POINT ON LINE
- PROP =PROPOSED
- PS =PUMP STATION
- PSI =POUNDS PER SQUARE INCH
- PT =POINT OF TANGENCY
- PVC =POLYVINYL CHLORIDE
- PVI =POINT OF VERTICAL INTERSECTION
- PW =POTABLE WATER
- R =RADIUS
- RCK =ROCK/BOULDER
- RET =RETAINING
- REC =RECORD
- REINF =REINFORCEMENT
- REQ'D =REQUIRED
- RI =RAPID INFILTRATION
- RPBA =REUSE PRESSURE BACKFLOW ASSEMBLY
- RR =RAILROAD
- RT =RIGHT
- R/W or ROW =RIGHT–OF–WAY
- RW =REUSE WATER
- SCADA =SUPERVISORY CONTROL AND DATA ACQUISITION
- SCH =SCHEDULE
- SDCB =STORM DRAIN CATCH BASIN
- SD =STORM DRAIN
- SDMH =STORM DRAIN MANHOLE
- SFH =SINGLE FAMILY HOUSING
- SN =SIGN
- SPD =STANDARD PROCTOR DENSITY
- SPK =SPIKE
- SS =SANITARY SEWER
- SSCO =SANITARY SEWER CLEAN–OUT
- SSMH =SANITARY SEWER MANHOLE
- STA =STATION
- STEP =SEPTIC TANK EFFLUENT PUMP
- S/W =SIDEWALK
- SYMM =SYMMETRY/SYMMETRICAL
- TBC =TOP BACK OF CURB
- TBD =TO BE DETERMINED
- TBM =TEMPORARY BENCH MARK
- T.O.W. =TOP OF WALL
- TYP =TYPICAL
- UNK =UNKNOWN
- UP =UTILITY POLE
- VAC =VACATED
- VC =VERTICAL CURVE
- VCI =VOLATILE CORROSION INHIBITOR
- VEG =VEGETATION
- VFD =VARIABLE FREQUENCY DRIVE
- WA =WATER
- WAS =WASTE ACTIVATED SLUDGE
- WL =WATERLINE
- WM =WATER METER
- WS =WATER SURFACE
- WSDOT =WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
- WV =WATER VALVE
- XFMR =TRANSFORMER
- YD =YARD DRAIN
- YL =YARD LIGHT

WILSON ENGINEERING
WILSONENGINEERING.COM

JEFFREY G. CHRISTNER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 01-27-2025

DESIGNED BY JCC | DRAWN BY MCS | CHECKED BY AWL

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY, WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
LEGENDS & ABBREVIATIONS – CIVIL & ARCHITECTURAL

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

NO.	REVISIONS	BY	DATE

NOTES & SPECIFICATIONS

GENERAL NOTES

1. THE CONTRACTOR SHALL COORDINATE WITH EASTSOUND SEWER AND WATER DISTRICT ON ALL CHANGES TO EXISTING WASTEWATER FACILITY OPERATIONS. IT IS ESSENTIAL THAT EASTSOUND SEWER AND WATER DISTRICT OPERATIONS ARE NOT INTERRUPTED BY CONTRACTOR ACTIVITIES.

2. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE EASTSOUND SEWER AND WATER DISTRICT AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE EASTSOUND WATER AND SEWER DISTRICT OR THE ENGINEER.

3. IF THERE ARE ANY DISCREPANCIES BETWEEN DIMENSIONS IN DRAWING AND EXISTING CONDITIONS WHICH WILL AFFECT THE WORK, THE CONTRACTOR SHALL BRING SUCH DISCREPANCIES TO THE ATTENTION OF THE ENGINEER FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF ALL WORK AND FOR THE COORDINATION OF ALL TRADES, SUBCONTRACTORS, AND PERSONS ENGAGED UPON THIS CONTRACT.

4. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ANY EXISTING IMPROVEMENTS OR UNDERGROUND FACILITIES DAMAGED BY HIM, HIS SUBCONTRACTORS, OR HIS MATERIAL SUPPLIERS WITHIN 48 HOURS OF THE DAMAGE OCCURRENCE AND/OR AS REQUIRED BY THE CONSTRUCTION INSPECTOR.

5. EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH. NEITHER THE EASTSOUND SEWER AND WATER DISTRICT NOR THE ENGINEER ASSUMES RESPONSIBILITY THAT THE UTILITIES AND UNDERGROUND FACILITIES INDICATED WILL BE THE UTILITIES AND UNDERGROUND FACILITIES ENCOUNTERED.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ELEVATIONS OF THE EXISTING STORM DRAINS, SEWERS, AND WATER TO BE EXTENDED, CROSSED, OR CONNECTED TO PRIOR TO COMMENCING THE WORK. NOTIFY ENGINEER IF ACTUAL IS DIFFERENT FROM PLANS.

7. ALL TRENCHES AND EXCAVATIONS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH THE APPLICABLE SECTIONS OF FEDERAL OSHA REQUIREMENTS AND OTHER APPLICABLE SAFETY ORDINANCES. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR TRENCH SHORING DESIGN AND INSTALLATION.

8. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPE, AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC, AND TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS, OR HAZARDOUS CONDITIONS.

9. A 1-WEEK NOTIFICATION TO THE EASTSOUND SEWER AND WATER DISTRICT IS REQUIRED PRIOR TO ANY UTILITY SERVICE DISRUPTION. CONTRACTOR MUST PROVIDE TEMPORARY EQUIPMENT (POWER GENERATOR, PUMPS, PIPING, ETC) AND AN APPROVED PLAN FOR ALL WASTEWATER TREATMENT PLANT DISRUPTIONS. SEE SUMMARY OF WORK (SPECIFICATION SECTION 01 11 00.

10. ALL APPROVALS AND PERMITS REQUIRED BY SAN JUAN COUNTY SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION.

SCHEDULE NOTES:

1. ALL SITE EARTH WORK, CONCRETE WORK AND ASPHALT PAVEMENT REPAIR TO BE PRIORITIZED DURING DRY WEATHER MONTHS.

SURVEY MONUMENTATION:

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING PERMITS FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES FOR REMOVING AND REPLACING ALL SURVEY MONUMENTATION THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITY, PURSUANT TO WAC 332-120. APPLICATIONS MUST BE COMPLETED BY A REGISTERED LAND SURVEYOR. APPLICATIONS FOR PERMITS TO REMOVE MONUMENTS MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES (DNR), OR BY CONTACTING THEIR OFFICE BY TELEPHONE AT (206) 902-1190.

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E.
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTS SHALL BE COMPLETED AND FILED WITH DNR AT THE CONTRACTOR'S EXPENSE.

CONSTRUCTION INSPECTIONS:

CONTRACTOR MUST COORDINATE REQUIRED INSPECTIONS WITH THE COUNTY BUILDING INSPECTION OFFICIALS. IN ADDITION, CONTRACTOR IS TO PROVIDE OWNER AND ENGINEER 24-HOUR (MINIMUM) NOTICE FOR SCHEDULED INSPECTIONS. REQUIRED INSPECTIONS INCLUDE THE FOLLOWING ITEMS:

1. BUILDING FOOTINGS
2. CONCRETE STRUCTURES
3. WELDING INSPECTIONS
4. ELECTRICAL INSPECTIONS
5. FINAL OVERALL INSPECTION

CONTRACTOR MUST PROVIDE OWNER AND ENGINEER 24-HOUR (MINIMUM) NOTICE FOR ALL SPECIAL INSPECTIONS IDENTIFIED ON S1.1 - SPECIAL INSPECTIONS, TESTING, AND STRUCTURAL OBSERVATIONS.

GENERAL NOTES, CONT.

PROTECTION OF THE ENVIRONMENT

NO CONSTRUCTION RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATERS, OR ALLOW PARTICULATE EMISSIONS TO THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL OF THE STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY

OPERATION PLAN

WWTP UGRADE CONSTRUCTION - GENERAL NOTES

1) THE EXISTING WASTEWATER TREATMENT PLANT (WWTP) SHALL NOT BE INTERRUPTED DURING CONSTRUCTION EXCEPT AS DESCRIBED BELOW. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEQUENCING CONSTRUCTION ACTIVITIES SO THAT NO INTERRUPTION OCCURS.

2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TEMPORARY BY-PASS PUMPING, PIPING, HOLDING TANKS AND ADDITIONAL STORAGE NECESSARY TO KEEP SEWER AND WWTP SYSTEM UNINTERRUPTED DURING CONSTRUCTION ACTIVITIES.

3) THE PLAN ASSUMES THAT ALL BASIN, BUILDINGS, EQUIPMENT, AND PIPING WILL BE INSTALLED/TESTED AND READY TO BE CONNECTED PRIOR TO SWITCH-OVER. THIS IS A SUGGESTED PLAN AND DOES NOT RELIEVE THE CONTRACTOR FROM OBLIGATIONS TO AVOID INTERRUPTION. SEE SHEET C0.9 FOR THE INTERIM PLAN OF OPERATION.

4) EMERGENCY CONTACTS:

ESWD: JASON BRADSHAW, GENERAL MANAGER, CELL: 620-441-4006
WILSON ENG: JEFF CHRISTNER, PROJECT ENGINEER, CELL: 360-303-5129

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JEFFREY CHRISTNER 36886 REGISTERED PROFESSIONAL ENGINEER STATE OF WASHINGTON 01-27-2025

DESIGNED BY	DRAWN BY	CHECKED BY
JGC	MCS	AWL

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2
NOTES & SPECIFICATIONS

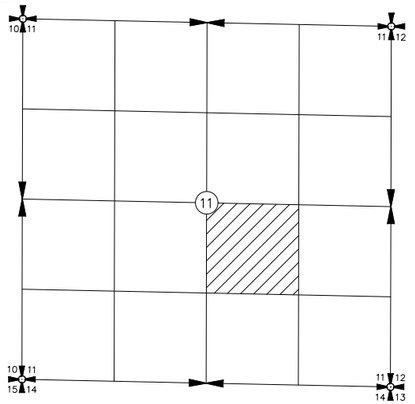
DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET G0.3
PAGE 03 OF 91

EASTSOUND SEWER AND WATER DISTRICT

WASTEWATER TREATMENT PLANT DESIGN
W.A.C. 332-130 COMPLIANCE SHEET

SECTIONAL INDEX DATA



NW QTR - SE QTR, SEC. 11, TWNSHP 37 NORTH, R 2 WEST, W.M.

NOTICE TO USER

EFFECTIVE JANUARY 13, 2019, ALL TOPOGRAPHIC MAPS PREPARED BY A LICENSED SURVEYOR IN THE STATE OF WASHINGTON, AND SUBJECT TO THE LICENSURE AND PRACTICE REQUIREMENTS ESTABLISHED BY THE WASHINGTON STATE BOARD OF REGISTRATION FOR ENGINEERS AND LAND SURVEYORS, MUST INCLUDE THE DESCRIPTIVE NOTES AND METADATA ENUMERATED UNDER W.A.C 332-130-145 AND ITS APPURTENANT SECTIONS OF 332-130. THIS EXHIBIT IS INTENDED TO ADDRESS THE STATUTORY REQUIREMENTS STIPULATED BY THIS W.A.C DIRECTIVE.

W.A.C. 332-130-145 REQUIRED DATA

1.E: THIS SURVEY WAS PREPARED UNDER THE DIRECT SUPERVISION OF:

PAUL J. DARROW, WA PLS #50697
SR. PROJECT SURVEYOR
WILSON ENGINEERING LLC
805 DUPONT STREET, SUITE 7
BELLINGHAM, WA 98225
360-733-6100 (EXT. 243)
pdarrow@wilsonengineering.com

2.A: BASIS OF ELEVATIONS: ELEVATION VALUES AND CONTOURS DEPICTED ON THIS SURVEY ARE BASED UPON HOLDING AS FIXED THE NGVD29 DATUM, PER BENCHMARK NO. 20 RLM, ACCORDING TO THE PERPETUATION OF SAN JUAN COUNTY BENCHMARK #00165, HAVING AN ELEVATION OF 34.28, PER LAND CORNER RECORD # 2000 0303018.

2.B: PURPOSE OF SURVEY: WILSON ENGINEERING PERFORMED THIS SURVEY DURING JANUARY OF 2013 WITH ADDITIONAL DATA AND CHANGES BEING SURVEYED IN MARCH OF 2021, JULY, SEPTEMBER AND NOVEMBER OF 2024 AT THE REQUEST OF EASTSOUND SEWER AND WATER DISTRICT PURSUANT TO WASTEWATER TREATMENT PLANT UPGRADE DESIGN. THIS SURVEY WAS PREPARED WITH THE BENEFIT OF A TITLE REPORT, AND THE DEPICTED PARCEL BOUNDARY SHOULD BE CONSIDERED AUTHORITATIVE.

2.C: SOURCE OF CONTOURS: THE CONTOURS DEPICTED ON THIS SURVEY WERE DERIVED BASED ON DIRECT FIELD OBSERVATIONS .

2.D: CONTOUR INTERVAL LABELING: MAJOR CONTOURS AT 1-FOOT INTERVALS HAVE BEEN EXPLICITLY LABELED.

2.E: DESCRIPTION OF BENCHMARKS SET PURSUANT TO THIS SURVEY: REFER TO THE ACCOMPANYING "CONTROL TABLE" FOR COORDINATES, ELEVATION, AND DESCRIPTION OF ON-SITE CONTROL SET PURSUANT TO THIS SURVEY.

2.F: ELEVATION AND/OR CONTOUR ACCURACY: IF CONTOURS HAVE BEEN DEPICTED ON THE FACE OF THIS SURVEY, IT IS ANTICIPATED THAT 90% OF ANY MEASURED ELEVATION VALUE, IF OBSERVED RELATIVE TO THE CONTROL POINTS SPECIFICALLY ENUMERATED IN THE ACCOMPANYING CONTROL TABLE, WILL BE, IN FACT, WITHIN ONE-HALF OF THE MINOR-CONTOUR INTERVAL DEPICTED HEREON. SPECIFIC ELEVATIONS DEPICTED HEREON, IF ANY, ARE EXPECTED TO BE WITHIN ONE INTEGRAL VALUE OF THE FINAL DEPICTED SIGNIFICANT FIGURE. THAT IS, 90% OF ELEVATIONS EXPRESSED TO THE TENTH-FOOT, SHOULD BE WITHIN 0.1 FEET OF THAT VALUE, IF OBSERVED RELATIVE TO THE SURVEY CONTROL SPECIFICALLY ENUMERATED IN THE ACCOMPANYING CONTROL TABLE. IF OFF-SITE CONTROL IS EMPLOYED, EVEN CONTROL PURPORTING TO BE ON THE SAME DATUM OR BASED ON THE SAME OFF-SITE BENCHMARK, THEN NO ABSOLUTE STATEMENT REGARDING THE ACCURACY OF THE DEPICTED POINTS CAN BE MADE, AND VALUES SO OBSERVED ARE OUTSIDE OF THIS SURVEY'S AUTHORITY OR INTEREST.

2.G: STATEMENT OF USE: AS NOTED IN SECTION 2.B, THIS SURVEY WAS PREPARED FOR THE SPECIFIC PURPOSE OF WASTEWATER TREATMENT PLAN UPGRADE DESIGN. IN THE COURSE OF PREPARING THIS SURVEY, PURSUANT TO THIS PURPOSE, ANCILLARY DATA NECESSARY TO ACCOMPLISH THIS SURVEYS INTENDED PURPOSE MAY HAVE BEEN CAPTURED. IN THE CASE OF THIS SURVEY A NUMBER OF BUILDING ENVELOPES ON ADJACENT PARCELS WERE CAPTURED, BUT THE DEPICTION OF SAME SHOULD NOT BE CONSIDERED AUTHORITATIVE.

2.H: SOURCE OF CONTROLLING BOUNDARY INFORMATION: THE OWNERSHIP BOUNDARIES DEPICTED ON THIS SURVEY ARE BASED UPON SOME, OR ALL, OF THE DOCUMENTS ENUMERATED IN THE ACCOMPANYING "REFERENCE DOCUMENTS" AS THEREIN CHARACTERIZED. BEARINGS HAVE BEEN TRANSLATED AND/OR ROTATED FROM THE RECORD VALUES TO CONFORM WITH THE CURRENT DATUM OF THIS SURVEY.

3.A: SOURCE OF DEPICTED UTILITY INFORMATION: UTILITY LINES DEPICTED ON THIS SURVEY ARE BASED UPON DIRECT OBSERVATION OF SURFACE VISIBLE STRUCTURES AND LOCATE MARKS MADE BY UTILITY LOCATING PROFESSIONALS.

3.B: ACCURACY OF DEPICTED UTILITY INFORMATION: WILSON ENGINEERING DOES NOT PROVIDE FOR-HIRE UTILITY LOCATION AND/OR MARKING SERVICES, AND CAN NOT INDEPENDENTLY ASCERTAIN THE ACCURACY OF ANY DEPICTED UTILITY THAT WAS NOT DIRECTLY OBSERVED IN THE COURSE OF THIS SURVEY.

3.C: STATEMENT OF LIMITATIONS REGARDING UTILITY-DEPICTION ACCURACY: EASTSOUND SEWER AND WATER DISTRICT HAS BEEN NOTIFIED THAT WILSON CAN NOT, AND DOES NOT, GUARANTEE THE ACCURACY, AT ANY LEVEL, OF DEPICTED UTILITIES BASED ON THIRD-PARTY PAINT MARKS OR RECORD INFORMATION.

CONTROL NOTES

HORIZONTAL DATUM: BASIS OF COORDINATES, BEARINGS AND CALCULATIONS ARE NAD 83/91 WASHINGTON STATE PLANE NORTH ZONE BASED ON TIES TO MONUMENTS AS SHOWN PER RECORD OF SURVEY ON FILE IN BOOK 16 OF SURVEYS AT PAGE 99, RECORDS OF SAN JUAN COUNTY, WASHINGTON.

BASIS OF COORDINATES: COORDINATION AND MENSURATION ARE LOCAL GROUND VALUES, BASED UPON HOLDING THE PUBLISHED NAD83/91 POSITION FOR THE 3" BRASS DISC IN CASE AT PROJECTED CENTERLINE OF MT. BAKER ROAD, SOUTH OF THE AIRPORT CENTER BUILDING. DISC BEARS THE STAMP "SAN JUAN COUNTY SURVEY CONTROL MONUMENT 00165". SAID MONUMENT HAS THE FOLLOWING PUBLISHED POSITION:

NORTHING = 628,007.20 USFT
EASTING = 1,138,590.22 USFT

BASIS OF BEARINGS: BEARINGS ARE BASED UPON HOLDING THE CALCULATED INVERSE BETWEEN SAN JUAN COUNTY MONUMENTS "00165" AND THE BRASS DISK PRESUMED TO BE THAT MONUMENT MARKING THE E 16TH CORNER BETWEEN SECTIONS 11 AND 14, PER THE AFOREMENTIONED RECORD OF SURVEY. SAID INVERSE BEING S 88° 16' 54" E, AT A DISTANCE OF 1301.67' (GRID). THE PUBLISHED WASHINGTON STATE PLANE (NORTH ZONE) VALUES FOR THE 16TH-CORNER MONUMENT ARE AS FOLLOWS:

NORTHING = 627,968.17 USFT
EASTING = 1,139,891.30 USFT

VERTICAL DATUM:
NGVD 29

BASIS OF ELEVATIONS: ELEVATIONS SHOWN ON THIS SURVEY ARE BASED ON THE USGS BENCH MARK DESIGNATED 20 RLM (BRASS DISC IN CONCRETE) AT THE SOUTH END OF THE RUNWAY AT ORCAS ISLAND AIRPORT, HAVING AN ELEVATION OF 31.0 FEET (NGVD 29), PER THE PERPETUATION OF SAN JUAN COUNTY BENCHMARK #00165, HAVING AN ELEVATION OF 34.28, PER LAND CORNER RECORD #2000 0303018.

ON-SITE SURVEY CONTROL TABLE

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
118	629,614.54	1,139,264.69	22.84	MAG NAIL
122	629,609.13	1,139,450.50	24.93	MAG NAIL
205	629,477.19	1,139,257.92	23.74	REBAR AND PLASTIC CAP

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A LICENSED LAND SURVEYOR IN THE STATE OF WASHINGTON, THAT THIS MAP IS BASED ON AN ACTUAL FIELD SURVEY DONE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT ALL DATA SHOWN HEREON ACTUALLY EXISTS IN THE LOCATIONS SHOWN AT THE TIME OF THIS SURVEY. THIS TOPOGRAPHIC MAP WAS DONE AT THE REQUEST OF EASTSOUND SEWER AND WATER DISTRICT IN 2021 AND AMENDED IN 2024.

PAUL JONATHAN DARROW, P.L.S. NO. 50697 DATE

1/28/25

LEGAL DESCRIPTION PER AFN. 2021-1022007

THE NORTH 144 FEET OF THE WEST 148 FEET OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 11, TOWNSHIP 37 NORTH, RANGE 2 WEST, W.M., IN SAN JUAN COUNTY, WASHINGTON.

TOGETHER WITH THE SOUTH 10 FEET OF THE NORTH 154 FEET OF THE EAST 112 FEET OF THE WEST 148 FEET OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 11, TOWNSHIP 37 NORTH, RANGE 2 WEST, W.M., IN SAN JUAN COUNTY, WASHINGTON.

RECORD DOCUMENTS

1. BOOK 3, PAGE 61 - PLAT OF SURVEY FOR EASTSOUND WATER DISTRICT
2. BOOK 18, PAGE 131 - RECORD OF SURVEY FOR PORT OF ORCAS
3. BOOK 16, PAGE 99 - RECORD OF SURVEY FOR SAN JUAN COUNTY

SURVEYOR'S NOTES

1. THIS TOPOGRAPHIC SURVEY WAS ORIGINALLY PERFORMED IN JANUARY 2013. ADDITIONAL DATA WAS SURVEYED IN MARCH 2021 AND JULY, SEPTEMBER AND NOVEMBER OF 2024. ALL MONUMENTS SHOWN HEREON WERE VISITED DURING THE COURSE OF THIS SURVEY UNLESS OTHERWISE NOTED. THIS SURVEY CORRECTLY SHOWS THE AREA OF THE SUBJECT PROPERTY AND THE LOCATION OF ALL STRUCTURES AND IMPROVEMENTS SITUATED ON THE SUBJECT PROPERTY.

2. ANGULAR AND LINEAR MEASUREMENTS WERE COLLECTED USING A COMBINATION OF GPS AND CONVENTIONAL METHODOLOGIES. PRIMARY CONTROL WAS COLLECTED USING TRIMBLE 5700 SURVEY-GRADE GPS RECEIVERS OPERATING IN NETWORKED RTK MODE. FROM GPS CONTROL, A TRIMBLE S7 ROBOTIC TOTAL STATION WAS USED TO TIE SECONDARY CONTROL POINTS, COLLECT TOPOGRAPHIC DATA AND MEASURE LOT CORNERS.

3. THE LOCATION OF UTILITIES SHOWN HEREON ARE FROM OBSERVED EVIDENCE OF ABOVE GROUND APPURTENANCES TOGETHER WITH MARKINGS BY UTILITY COMPANIES.

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JONATHAN DARROW — 50697 — STATE OF WASHINGTON — REGISTERED PROFESSIONAL LAND SURVEYOR

1/28/25

DESIGNED BY	DRAWN BY	CHECKED BY
	ARB	PJD

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
W.A.C. 332-130 COMPLIANCE SHEET

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET G0.4

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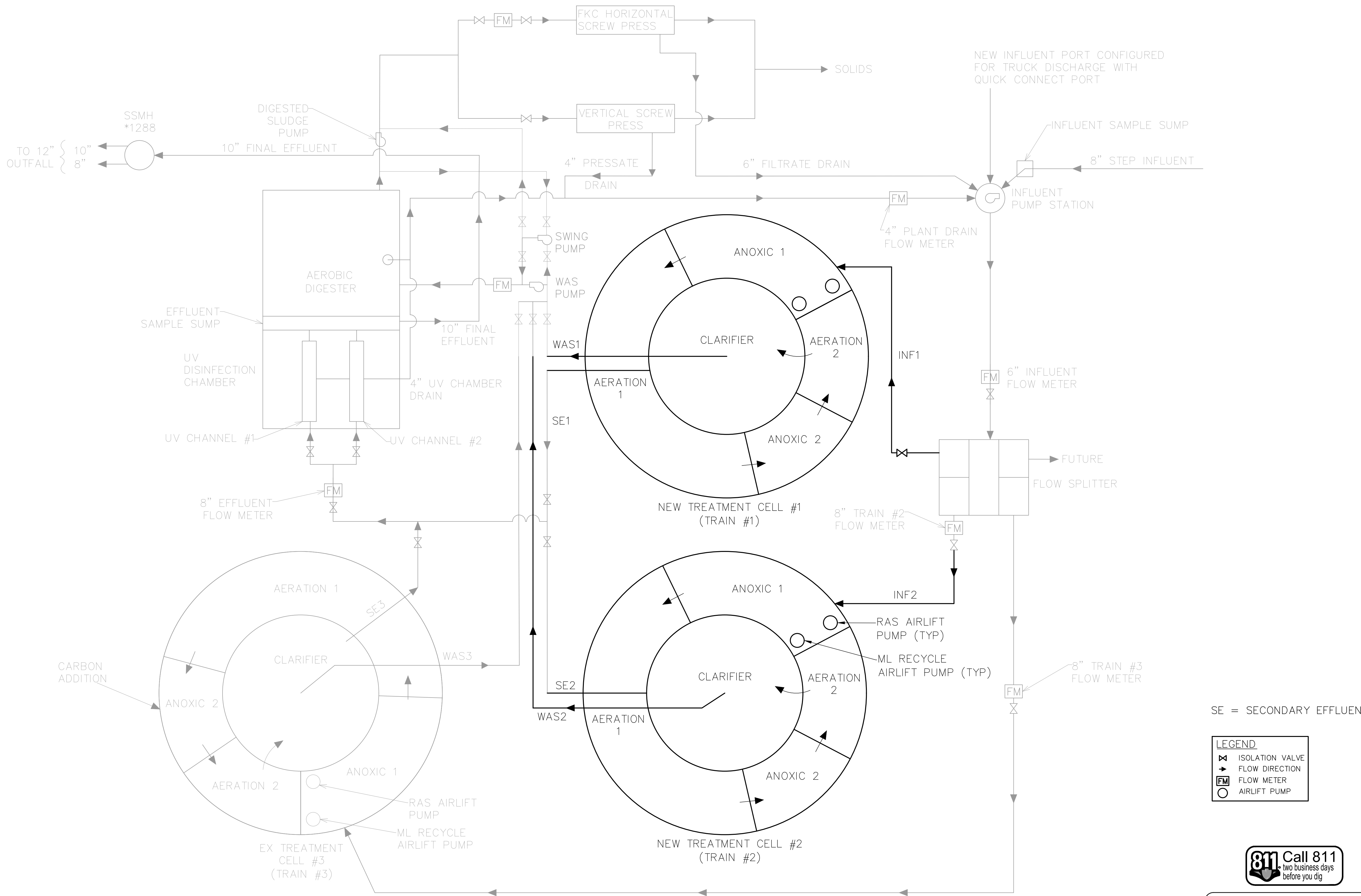
PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
W:\2023\2023-123 ESWD WWTP UPGRADE PHASE 2 - DESIGN\DWG\V2020_2023-123 G0.4 WAC COMPLIANCE.DWG - 1/27/2025 2:01 PM - Matthew Strittmatter



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JEFFREY G. CHRISTNER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER — 01-27-2025

DESIGNED BY JGC
DRAWN BY MCS
CHECKED BY AWL

EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

PROCESS SCHEMATIC

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

SHEET G0.5
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PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
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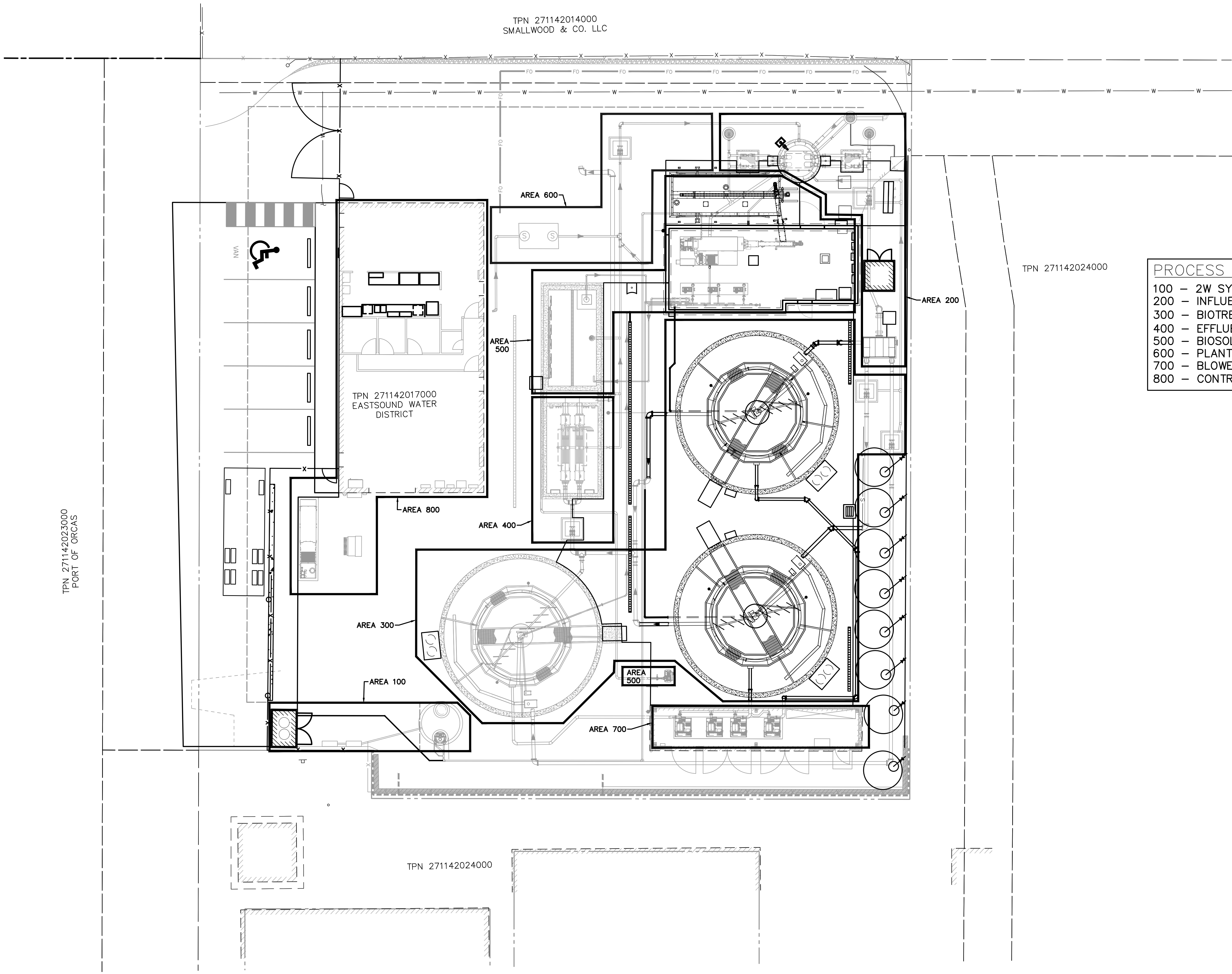

PROCESS AREA DESIGNATIONS
100 – 2W SYSTEM
200 – INFLUENT
300 – BIOTREATMENT SYS./CLARIFIERS
400 – EFFLUENT/UV SYSTEM
500 – BIOSOLIDS FACILITIES
600 – PLANT DRAIN SYSTEM
700 – BLOWER BUILDING
800 – CONTROL BUILDING

10 0 10 20
SCALE HORIZONTAL SCALE FEET

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DESIGNED BY JCC | DRAWN BY MCS | CHECKED BY AWL

EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

PROCESS AREA DESIGNATIONS

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET G0.6

PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
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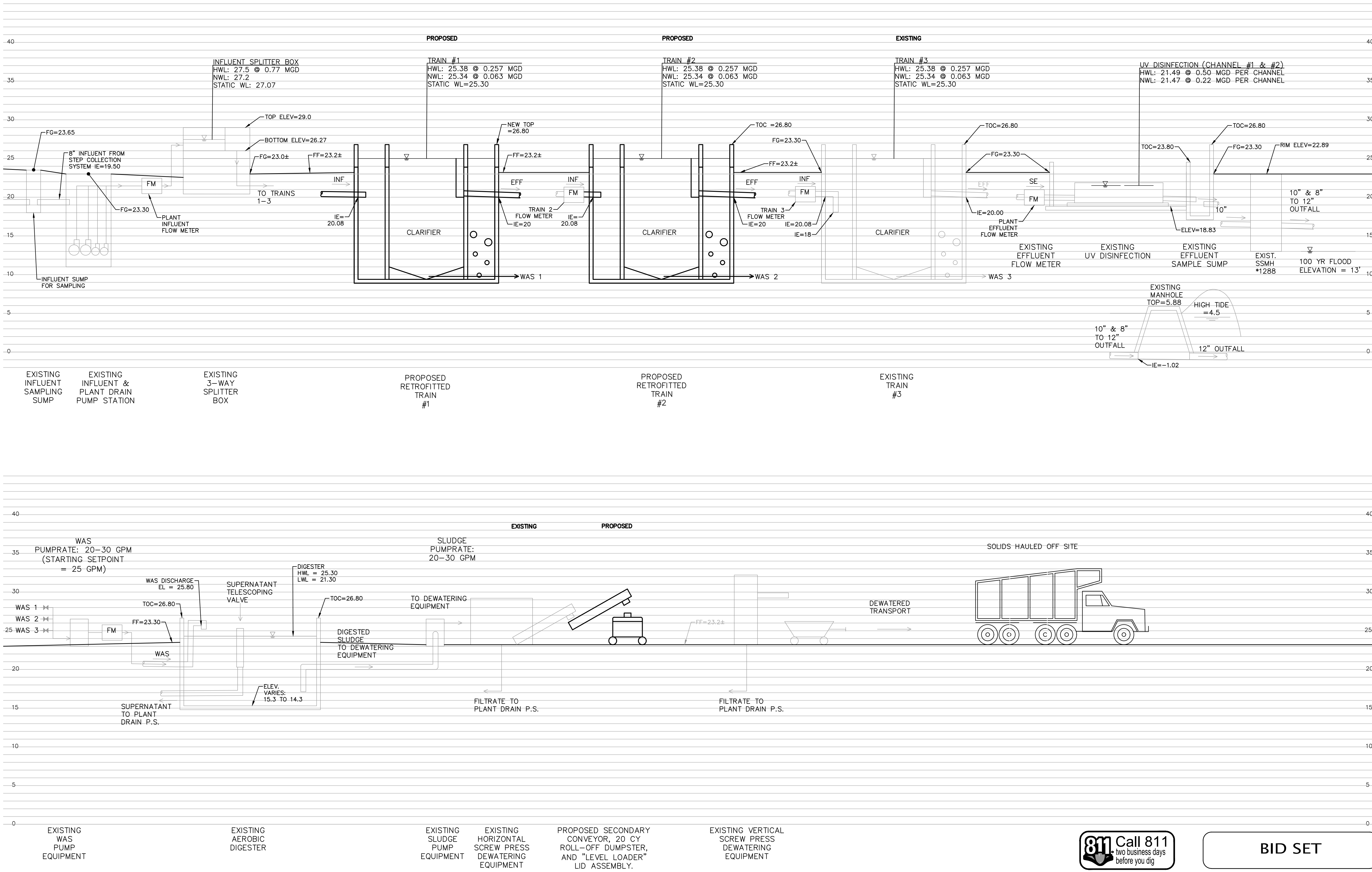
NO.	REVISIONS	BY	DATE



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JEFFREY G. CHRISTNER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 01-27-2025

DESIGNED BY JCC
DRAWN BY MCS
CHECKED BY AWL

EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2

HYDRAULIC PROFILE

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

SHEET G0.7
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PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
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NO.	REVISIONS	BY	DATE

WASTEWATER TREATMENT PLANT DESIGN INFORMATION

PHASE 1 + PHASE 2 DESIGN INFORMATION

FLOW:

ADF	= 0.19 MGD
MMF	= 0.22 MGD
MAX. DAY	= 0.46 MGD
PEAK HR	= 0.77 MGD

AVERAGE DAILY LOADS:

BOD	= 181 mg/L	= (287 lbs/day)
TSS	= 44 mg/L	= (69 lbs/day)
Ammonia-N	= 45 mg/L	
Nitrate/Nitrite-N	= 0 mg/L	
TIN	= 45 mg/L	
TKN	= 60 mg/L	
Alkalinity	= 314 mg/L	

MAX MONTH LOADS:

BOD	= 250 mg/L	= (454 lbs/day)
TSS	= 118 mg/L	= (216 lbs/day)
Ammonia-N	= 62 mg/L	
Nitrate/Nitrite-N	= 0 mg/L	
TIN	= 62 mg/L	
TKN	= 82 mg/L	
Alkalinity	= 433 mg/L	

CLARIFIER INFORMATION:

NO. OF UNITS:	3
DIAMETER:	18 FT
SWD:	15.50 FT
RAS:	0.5Q TO 1.0Q

CLARIFIERS

ADF SOR:	249 GAL/DAYSF
MMF SOR:	314 GAL/DAY/SF
MAX DAY:	603 GAL/DAY/SF
PEAK HR:	1008 GAL/DAY/SF

AERATION & ANOXIC BASIN INFORMATION

NO OF TRAINS: 3
NO. OF AERATION BASIN PER TRAIN: 2
NO. OF ANOXIC BASINS PER TRAIN: 2
TOTAL VOLUME OF AERATION & ANOXIC BASINS PER TRAIN: 0.0624 MG
MMF HRT: 21 HOURS

UV DISINFECTION:

MONTHLY GEOMETRIC MEAN:	200 FC/100ML
WEEKLY GEOMETRIC MEAN:	400 FC/100 ML
CAPACITY OF 1 CHANNEL:	0.5 MGD
CAPACITY OF 2 CHANNELS:	1.0 MGD

AEROBIC DIGESTER

VOLUME: 15,000 GAL
ADF STORAGE AT 2.0% SOLIDS (WITH CARBON ADDITION) = 1.9 WEEKS
MMF STORAGE AT 2.0% SOLIDS (WITH CARBON ADDITION) = 1.2 WEEKS

PROCESS DESIGN CRITERIA

TRAINS 1 & 2 AERATION BASIN: DESIGN INFORMATION
- AERATION BASIN MIXING = PLENUM COARSE BUBBLE DIFFUSERS
- ANOXIC BASIN MIXER = SUBMERSIBLE MIXERS
  - O ONE 5 HP SUBMERSIBLE MIXER IN ANOXIC ZONE #1: 15,686 GALLONS.
  - O ONE 5 HP SUBMERSIBLE MIXER IN ANOXIC ZONE #2: 8,789 GALLONS.
- AERATION BASINS
  - O AERATION ZONE #1: 29,793 GALLONS, 8 DIFFUSERS. DESIGN: 24 SCFM/DIFFUSER, 192 SCFM TOTAL
  - O AERATION ZONE #2: 9,889 GALLONS, 2 DIFFUSERS. DESIGN: 24 SCFM/DIFFUSER, 48 SCFM TOTAL
  - O TOTAL AERATION AIR = 240 SCFM
- AIR LIFT PUMPS
  - O AIR NEEDED FOR RAS AIRLIFT PUMP = 15 SCFM. PIPE SIZE = 3-INCH. FLOW = 51 GPM. TARGET = 1Q
  - O AIR NEEDED FOR NITRATE RECYCLE AIRLIFT PUMP = 61 SCFM. PIPE SIZE = 6-INCH. FLOW = 203 GPM. TARGET = 4Q.
  - O TOTAL AIRLIFT AIR = 76 SCFM
- TOTAL AIR REQUIRED = 316 SCFM AT 9.2 PSIG
- SRT = 15 DAYS (YR-2040 MMF)
- HRT = 21 HOURS (YR-2040 MMF)
- MLSS = 3000 MG/L (RANGE = 2000 TO 4000 MG/L)
- F/M = 0.10 TO 0.20 (LBS INFLUENT BOD/LBS MLVSS)
- VOLUMETRIC LOAD = 10 TO 30 (LBS. INFLUENT BOD/KCF DAY)

TRAINS 1 & 2 RAS RECYCLE: DESIGN INFORMATION
AIR NEEDED FOR RAS AIRLIFT PUMP = 15 SCFM. FLOW = 51 GPM. TARGET = 1Q

TRAINS 1 & 2 NITRATE RECYCLE (MLR): DESIGN INFORMATION
AIR NEEDED FOR NITRATE RECYCLE AIRLIFT PUMP = 61 SCFM. LOW = 203 GPM. TARGET = 4Q.

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CHRISTNER BENNINGTON STATE OF WASHINGTON 36886 REGISTERED PROFESSIONAL ENGINEER 01-27-2025

DESIGNED BY	DRAWN BY	CHECKED BY
JCC	MCS	AWL

EASTSOUND SEWER AND WATER DISTRICT
WASHINGTON
SAN JUAN COUNTY
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DESIGN CRITERIA

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET G0.8
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WSEC COMMERCIAL PROVISION COMPLIANCE

BUILDING ENCLOSURE AIR LEAKAGE TESTING
C103.2 & C402.5.1.2 & C402.5.1.2.1
BUILDING ENCLOSURE AIR LEAKAGE TESTING IS REQUIRED FOR WSEC COMPLIANCE. TESTING SHALL BE PERFORMED PER ASTM C779 (OR EQUIVALENT METHOD APPROVED BY THE CODE OFFICAL). THE TARGET LEAKAGE RATE IS 0.25 CFM/FT² (1.5 L/S*M²) AT 0.3 IN WG (75 PA).
AIR BARRIER BOUNDARY AREA CALCULATIONS ARE INCLUDED ON SHEET A1.2.

DOCUMENTATION REQUIREMENTS
C103.6.3
PROJECT CLOSE OUT DOCUMENTATION IS REQUIRED. CLOSE OUT DOCUMENTATION SHALL INCLUDE THE INTERIOR LIGHTING COMPLIANCE FORM PROVIDED ON THIS SHEET DEMONSTRATING COMPLIANCE WITH THE 20% LIGHTING REDUCTION CREDIT.

THERMAL RESISTANCE OF MECHANICAL EQUIPMENT PENETRATIONS
C402.1.4
THROUGH-WALL PENETRATIONS AND CALCULATION OF TOTAL PERCENT SQUARE FOOT AREA OF PENETRATIONS ARE INCLUDED ON SHEET A1.2.

VERTICAL FENESTRATION MAXIMUM AREA
C402.4.1 & C502.2.1
THIS BUILDING IS CONSIDERED A CONDITIONED SPACE. NO WINDOWS ARE PROPOSED ON THIS BUILDING. NO DOORS OR GARAGES WITH OPAQUE OR GLAZED WINDOWS ARE PROPOSED. THEREFORE, THE WINDOW-TO-WALL RATIO (WWR) OF THIS BUILDING IS ZERO.

WSEC ENVELOPE COMPLIANCE FORM

24040 Eastsound WWTP - 2021 WSEC

U x A Calculation	NEW BUILDING - FULLY CONDITIONED				COMPLIES			
Opaque Envelope Assemblies		PROPOSED			TARGET			
Roof/Ceiling	**Assembly ID**	**Roof/Ceiling Assembly U-Factor**	**Net Area (SF)**	**U x A**	**Roof/Ceiling Assembly U-Factor**	**Net Area (SF)**	**U x A**
Metal building (purlins)	Typical Roof Section	0.029	700.0	20.3	0.031	700.0 (1)	21.7
Walls	**Assembly ID**	**Wall Assembly U-factor**	**Net Area (SF)**	**U x A**	**Wall Assembly U-factor**	**Net Area (SF)**	**U x A**
Metal building (girts)	Typical Wall Section	0.048	1,710.0	82.1	0.050	1,710.0 (1)	85.5
Slab on Grade Floors		PROPOSED			TARGET		
Slab-on-grade Floors	**Assembly ID**	**F-Factor**	**Perimeter Length (LF)**	**U x A**	**F-Factor**	**Perimeter Length (LF)**	**U x A**
Unheated slab	STD_FLO1	0.52	116.5	60.6	0.54	116.5 (1)	62.9
Fenestration Assemblies		PROPOSED			TARGET		
Opaque Doors	**Assembly ID**	**Door Assembly U-Factor**	**Assembly Rough Opening (SF)**	**U x A**	**Door Assembly U-Factor**	**Assembly Rough Opening (SF)**	**U x A**
Swinging	Door 101C	0.37	70.0	25.9	0.37	70.0 (1)	25.9
Garage - Glazed <14%	Overhead Garage Door	0.07	110.0	7.7	0.31	110.0 (1)	34.1

	Proposed Area	Proposed UxA	Target Area	Target UxA
Project Totals	**2,707**	**197**	**2,707**	**230**

INTERIOR LIGHTING COMPLIANCE

Interior Lighting Power Allowance - Building Area

Add Building Area (Select One)

Building Area	Gross Interior Area (SF)	LPA (Watts/SF)	Total Watts Allowed (SF x LPA x 0.8)	Total Proposed Watts By Building Area
Workshop	650	0.91	473	400

Proposed Lighting Power Density - Building Area

Add Fixtures (Select One) — Hide Details

Fixture Category	Fixture Type / Application	Building Area	Fixture ID	Quantity of Fixtures (#F)	Watts per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures	Suspended	Workshop	L1	10	40			400
Exempt Fixtures	Emergency (off when unoccupied)	Workshop	X1	1				

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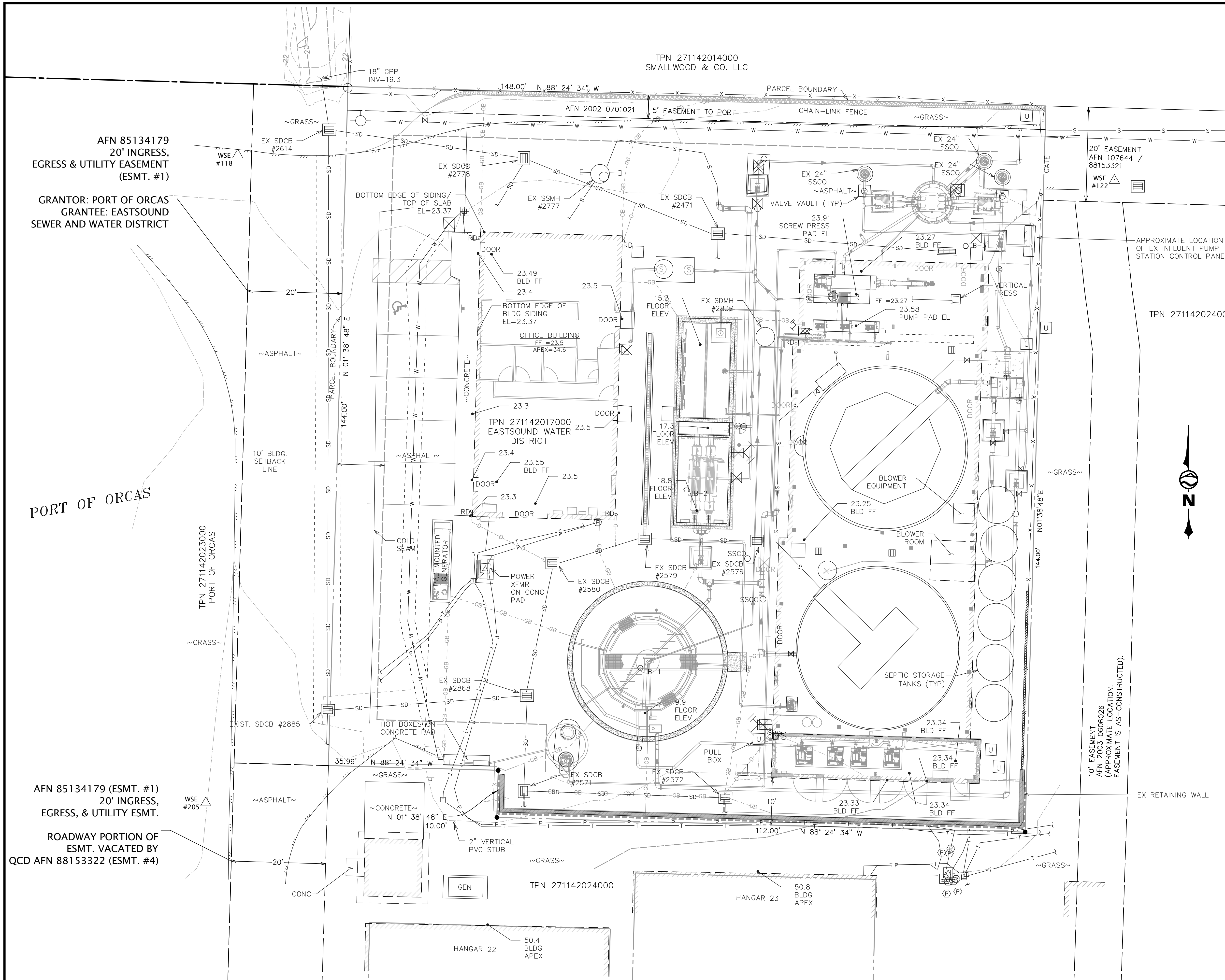
CHRISTNER BENJAMIN — STATE OF WASHINGTON — 36886 — REGISTERED PROFESSIONAL ENGINEER — 01-27-2025

DESIGNED BY JGC | DRAWN BY MCS | CHECKED BY AWL

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING WSEC COMPLIANCE

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET G0.9 | PAGE 09 OF 91



NO.	REVISIONS	BY	DATE

STORM & SEWER STRUCTURE TABLE

EX SDCB #2471
TYPE 1
RIM=22.70
NW 12" CPP INV=19.7
S 4" PVC INV=20.3
E 6" PVC INV=19.8
SUMP=20.7

EX SDCB #2571
TYPE 1
RIM=22.77
N 12" CPP INV=20.6
E 12" CPP INV=20.6
S 4" PVC INV=21.1
SUMP=19.2

EX SDCB #2572
TYPE 1
RIM=22.74
W 12" CPP INV=20.9
S 4" PVC INV=21.2
SUMP=19.1

EX SDCB #2576
TYPE 1
RIM=22.81
W 6" CPP INV=21.0
SUMP=19.2

EX SDCB #2579
TYPE 1
RIM=23.01
E 6" CPP INV=20.8
W 12" CPP INV=20.8
N 4" PVC INV=20.8
SUMP=19.4

EX SDCB #2580
TYPE 1
RIM=22.99
E 12" CPP INV=20.7
S 12" CPP INV=20.7
SUMP=19.4

EX SDCB #2614
TYPE 1
RIM=22.31
N 18" CPP INV=19.4
E 12" CPP INV=19.3
S 18" CPP INV=19.3
SUMP=18.2

EX SSMH #2777
RIM=23.11
N 10" PVC INV=15.2
SW 10" PVC INV=15.1

EX SDCB #2778
TYPE 1
RIM=22.65
W 12" CPP INV=19.4
SE 12" CPP INV=19.4
SW 4" PVC INV=20.3
SUMP=18.1

EX SDMH #2837
GROUNDWATER SUMP PS
RIM=23.46
N 1.5" PVC INV=19.7
SUMP=7.1

EX SDCB #2868
TYPE 1
RIM=22.94
N 12" CPP INV=20.5
S 12" CPP INV=20.5
W 12" CPP INV=20.5
SUMP=19.1

EX SDCB #2885
TYPE 1
RIM=23.75
N 18" CPP INV=20.4
E 12" CPP INV=20.4
S 18" CONC INV=20.4
SUMP=19.5

NOTE
GROUNDWATER MONITORING BORE AREAS (TB) HAVE BEEN RESURFACED AND NO VISIBLE REMNANTS REMAIN.

10 0 10 20
SCALE HORIZONTAL SCALE FEET

Call 811
two business days before you dig

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JEFFREY G. CHRISTNER
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
01-27-2025

DESIGNED BY
DRAWN BY PJD
CHECKED BY AWL

EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

EXISTING CONDITIONS

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET C0.1
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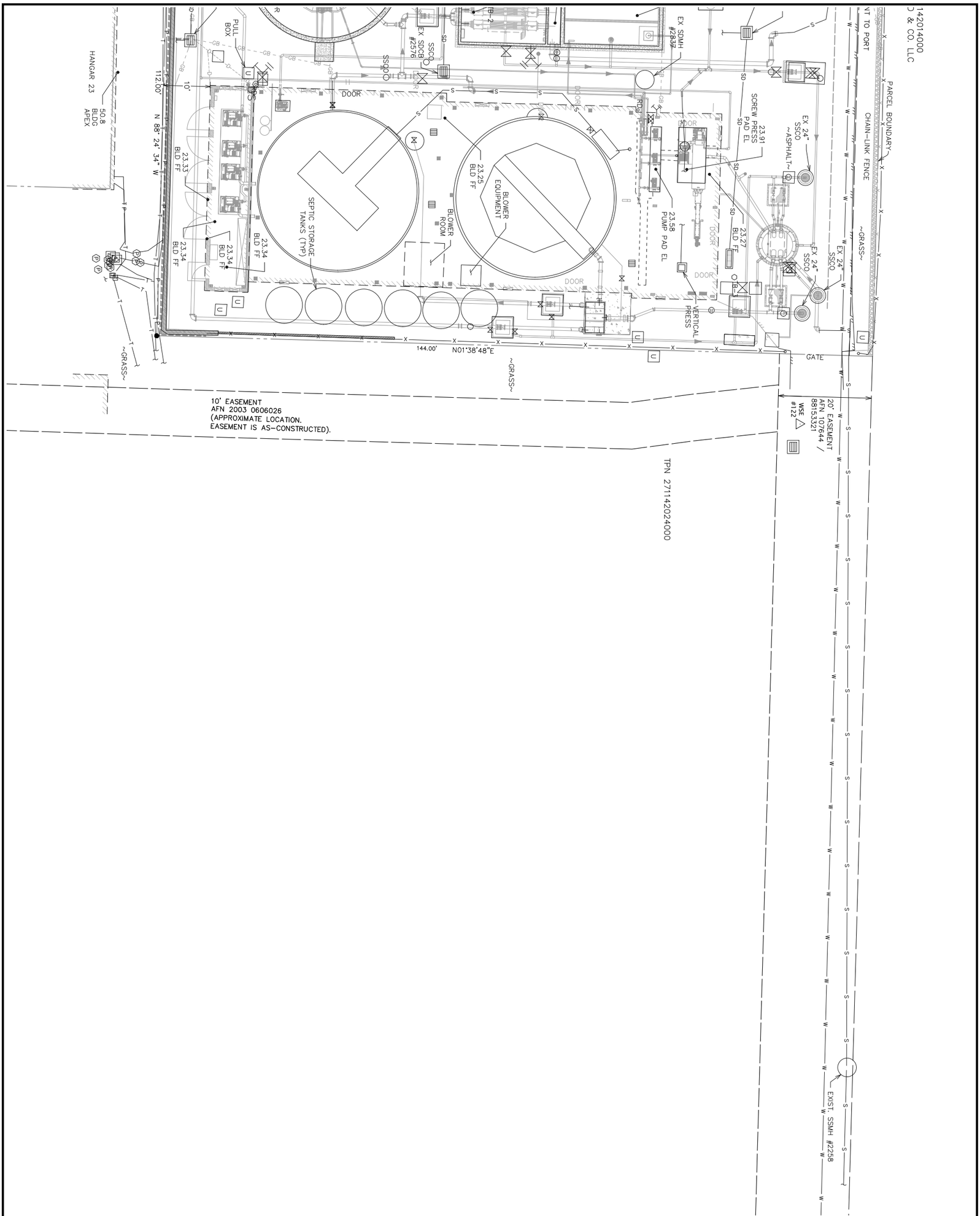
PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
W:\2023\2023-123 ESWD WWTP UPGRADE PHASE 2 - DESIGN\DWG\V2020_2023-123 C0.2 EXISTING CONDITIONS.DWG - 1/27/2025 2:02 PM - Matthew Strittmatter



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PAGE	SCALE	WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2	DRAWN BY	JEFFREY G. CHRISSINGER STATE OF WASHINGTON 16886 REGISTERED PROFESSIONAL ENGINEER 01-27-2025	WILSON ENGINEERING WILSONENGINEERING.COM
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REQUIRED TESC ELEMENTS

ELEMENT 1: PRESERVE VEGETATION/MARK CLEARING LIMITS

A) BEFORE BEGINNING LAND DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRADING, CLEARLY MARK ALL CLEARING LIMITS, SENSITIVE AREAS AND THEIR BUFFERS, AND TREES THAT ARE TO BE PRESERVED WITHIN THE CONSTRUCTION AREA.

B) RETAIN THE DUFF LAYER, NATIVE TOP SOIL, AND NATURAL VEGETATION IN AN UNDISTURBED STATE TO THE MAXIMUM DEGREE PRACTICABLE.

ELEMENT 2: ESTABLISH CONSTRUCTION ACCESS

A) LIMIT CONSTRUCTION VEHICLE ACCESS AND EXIT TO ONE ROUTE, IF POSSIBLE.

B) STABILIZE ACCESS POINTS WITH A PAD OF QUARRY SPALLS, CRUSHED ROCK, OR OTHER EQUIVALENT BMPS, TO MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC ROADS.

C) LOCATE WHEEL WASH OR TIRE BATHS ON SITE, IF THE STABILIZED CONSTRUCTION ENTRANCE IS NOT EFFECTIVE IN PREVENTING TRACKING SEDIMENT ONTO ROADS.

D) IF SEDIMENT IS TRACKED OFF SITE, CLEAN THE AFFECTED ROADWAY THOROUGHLY AT THE END OF EACH DAY, OR MORE FREQUENTLY AS NECESSARY (FOR EXAMPLE, DURING WET WEATHER). REMOVE SEDIMENT FROM ROADS BY SHOVELING, SWEEPING, OR PICK UP AND TRANSPORT THE SEDIMENT TO A CONTROLLED SEDIMENT DISPOSAL AREA.

E) CONDUCT STREET WASHING ONLY AFTER SEDIMENT IS REMOVED IN ACCORDANCE WITH THE ABOVE ITEM.

F) CONTROL STREET WASH WASTEWATER BY PUMPING BACK ON-SITE, OR OTHERWISE PREVENT IT FROM DISCHARGING INTO SYSTEMS TRIBUTARY TO WATERS OF THE STATE.

ELEMENT 3: CONTROL FLOW RATES

A) THIS ELEMENT IS NOT REQUIRED ON SITE THAT ARE THIS SMALL.

ELEMENT 4: INSTALL SEDIMENT CONTROLS

A) DESIGN, INSTALL, AND MAINTAIN EFFECTIVE EROSION CONTROLS AND SEDIMENT CONTROLS TO MINIMIZE THE DISCHARGE OF POLLUTANTS.

B) CONSTRUCT SEDIMENT CONTROL BMPS (SEDIMENT, TRAPS, SILT FENCE, INLET PROTECTION, ETC.) AS ONE OF THE FIRST STEPS IN GRADING. THESE BMPS SHALL BE FUNCTIONAL BEFORE OTHER LAND DISTURBING ACTIVITIES TAKE PLACE.

C) MINIMIZE SEDIMENT DISCHARGES FROM THE SITE. THE DESIGN, INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS MUST ADDRESS FACTORS SUCH AS THE AMOUNT, FREQUENCY, INTENSITY AND DURATION OF PRECIPITATION, THE NATURE OF RESULTING STORMWATER RUNOFF, AND SOIL CHARACTERISTICS, INCLUDING THE RANGE OF SOIL PARTICLE SIZES EXPECTED TO BE PRESENT ON THE SITE.

D) DIRECT STORMWATER RUNOFF FROM DISTURBED AREAS THROUGH A SEDIMENT REMOVAL BMP, BEFORE THE RUNOFF LEAVES A CONSTRUCTION SITE. RUNOFF FROM FULLY STABILIZED AREAS MAY BE DISCHARGED WITHOUT A SEDIMENT REMOVAL BMP.

E) BMP C140 DUST CONTROL. CONTRACTOR SHALL KEEP DUST FROM CONSTRUCTION ACTIVITIES AND EXPOSED SOILS TO A MINIMUM.

ELEMENT 5: STABILIZE SOILS

A) STABILIZE EXPOSED AND UNWORKED SOILS BY APPLICATION OF EFFECTIVE BMPS THAT PREVENT EROSION. APPLICABLE BMPS INCLUDE, BUT ARE NOT LIMITED TO: TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, PLASTIC COVERING, EROSION CONTROL FABRICS AND MATTING, SOIL APPLICATION OF POLYACRYLAMIDE (PAM), THE EARLY APPLICATION OF GRAVEL BASE EARLY ON AREAS TO BE PAVED, AND DUST CONTROL.

B) CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION.

C) SOILS MUST NOT REMAIN EXPOSED AND UNWORKED FOR MORE THAN THE TIME PERIODS SET FORTH BELOW TO PREVENT EROSION:

- DURING THE DRY SEASON (MAY 1 – SEPT. 30): 7 DAYS
- DURING THE WET SEASON (OCTOBER 1 – APRIL 30): 2 DAYS

D) STABILIZE SOILS AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST.

E) STABILIZE SOIL STOCKPILES FROM EROSION, PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHERE POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATERWAYS AND DRAINAGE CHANNELS.

F) MINIMIZE THE AMOUNT OF SOIL EXPOSED DURING CONSTRUCTION ACTIVITY.

G) MINIMIZE THE DISTURBANCE OF STEEP SLOPES.

H) PRESERVE TOPSOIL AND MINIMIZE COMPACTING OF THESE AREAS.

ELEMENT 6: PROTECT SLOPES

A) DESIGN AND CONSTRUCT CUT-AND-FILL SLOPES IN A MANNER TO MINIMIZE EROSION. APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, REDUCING CONTINUOUS LENGTH OF SLOPE WITH TERRACING AND DIVERSIONS, REDUCING SLOPE STEEPNESS, AND ROUGHENING SLOPE SURFACES (FOR EXAMPLE, TRACK WALKING).

B) DIVERT OFF-SITE STORMWATER (RUN-ON) OR GROUND WATER AWAY FROM SLOPES AND DISTURBED AREAS WITH INTERCEPTOR DIKES, PIPES AND/OR SWALES. OFF-SITE STORMWATER SHOULD BE MANAGED SEPARATELY FROM STORMWATER GENERATED ON THE SITE.

C) AT THE TOP OF SLOPES, COLLECT DRAINAGE IN PIPE SLOPE DRAINS OR PROTECTED CHANNELS TO PREVENT EROSION.

D) PLACE EXCAVATED MATERIAL ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS.

E) PLACE CHECK DAMS AT REGULAR INTERVALS WITHIN CONSTRUCTED CHANNELS THAT ARE CUT DOWN A SLOPE.

ELEMENT 7: PROTECT DRAIN INLETS

A) PROTECT ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION SO THAT STORMWATER RUNOFF SHALL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT.

B) CLEAN OR REMOVE AND REPLACE INLET PROTECTION DEVICES WHEN SEDIMENT HAS FILLED ONE-THIRD OF THE AVAILABLE STORAGE (UNLESS A DIFFERENT STANDARD IS SPECIFIED BY THE PRODUCT MANUFACTURER).

ELEMENT 8: STABILIZE CHANNELS AND OUTLETS

A) DESIGN, CONSTRUCT, AND STABILIZE ALL ON-SITE CONVEYANCE CHANNELS TO PREVENT EROSION.

B) PROVIDE STABILIZATION, INCLUDING ARMORING MATERIAL, ADEQUATE TO PREVENT EROSION OF OUTLETS, ADJACENT STREAM BANKS, SLOPES AND DOWNSTREAM REACHES AT THE OUTLETS OF ALL CONVEYANCE SYSTEMS.

ELEMENT 9: CONTROL POLLUTANTS

A) DESIGN, INSTALL, IMPLEMENT AND MAINTAIN EFFECTIVE POLLUTION PREVENTION MEASURES TO MINIMIZE THE DISCHARGE OF POLLUTANTS.

B) HANDLE AND DISPOSE OF ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS THAT OCCUR ON-SITE IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.

C) PROVIDE COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND OTHER MATERIALS THAT HAVE THE POTENTIAL TO POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT. ON-SITE FUELING TANKS MUST INCLUDE SECONDARY CONTAINMENT. SECONDARY CONTAINMENT MEANS PLACING TANKS OR CONTAINERS WITHIN AN IMPERVIOUS STRUCTURE CAPABLE OF CONTAINING 110% OF THE VOLUME CONTAINED IN THE LARGEST TAKE WITHIN THE CONTAINMENT STRUCTURE. DOUBLE-WALLED TANKS DO NOT REQUIRE ADDITIONAL SECONDARY CONTAINMENT.

D) CONDUCT MAINTENANCE, FUELING, AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES USING SPILL PREVENTION AND CONTROL MEASURES. CLEAN CONTAMINATED SURFACES IMMEDIATELY FOLLOWING ANY SPILL INCIDENT.

E) DISCHARGE WHEEL WASH OR TIRE BATH WASTEWATER TO A SEPARATE ON-SITE TREATMENT SYSTEM THAT PREVENTS DISCHARGE TO SURFACE WATER, SUCH AS CLOSED-LOOP RECIRCULATION OR UPLAND APPLICATION, OR TO THE SANITARY SEWER, WITH LOCAL SEWER DISTRICT APPROVAL.

F) APPLY FERTILIZERS AND PESTICIDES IN A MANNER AND AT APPLICATION RATES THAT WILL NOT RESULT IN LOSS OF CHEMICAL TO STORMWATER RUNOFF. FOLLOW MANUFACTURERS' LABEL REQUIREMENTS FOR APPLICATION RATES AND PROCEDURES.

G) USE BMPS TO PREVENT CONTAMINATION OF STORMWATER RUNOFF BY PH MODIFYING SOURCES. THE SOURCES FOR THIS CONTAMINATION INCLUDE, BUT ARE NOT LIMITED TO: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHING AND CURING WATERS, WASTE STREAMS GENERATED FROM CONCRETE GRINDING AND SAWING, EXPOSED AGGREGATE PROCESSES, DEWATERING CONCRETE VAULTS, CONCRETE PUMPING AND MIXER WASHOUT WATERS.

H) ADJUST THE PH OF STORMWATER IF NECESSARY TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS.

I) ASSURE THAT WASHOUT OF CONCRETE TRUCKS IS PERFORMED OFF-SITE OR IN DESIGNATED CONCRETE WASHOUT AREAS ONLY. DO NOT WASH OUT CONCRETE TRUCKS ONTO THE GROUND, OR INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS. DO NOT DUMP EXCESS CONCRETE ON-SITE, EXCEPT IN DESIGNATED CONCRETE WASHOUT AREAS. CONCRETE SPILLAGE OR CONCRETE DISCHARGE TO SURFACE WATERS OF THE STATE IS PROHIBITED.

J) OBTAIN WRITTEN APPROVAL FROM ECOLOGY BEFORE USING CHEMICAL TREATMENT OTHER THAN CO2 OR DRY ICE TO ADJUST PH.

ELEMENT 10: CONTROL DE-WATERING

A) DISCHARGE FOUNDATION, VAULT, AND TRENCH DE-WATERING WATER, WHICH HAS SIMILAR CHARACTERISTICS TO STORMWATER RUNOFF AT THE SITE, INTO A SEDIMENT REMOVAL BMP BEFORE DISCHARGING OFFSITE.

B) CLEAN, NON-TURBID DE-WATERING WATER, SUCH AS WELL-POINT GROUND WATER, CAN BE DISCHARGED TO SYSTEMS TRIBUTARY TO, OR DIRECTLY INTO SURFACE WATERS OF THE STATE PROVIDED THE DE-WATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. DO NOT ROUTE CLEAN DEWATERING WATER THROUGH STORMWATER SEDIMENT PONDS.

C) HANDLE HIGHLY TURBID OR OTHERWISE CONTAMINATED DEWATERING WATER SEPARATELY FROM STORMWATER.

D) OTHER TREATMENT OR DISPOSAL OPTIONS MAY INCLUDE:

- TRANSPORT OFF-SITE IN A VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS.
- ECOLOGY-APPROVED ON-SITE CHEMICAL TREATMENT OR OTHER SUITABLE TREATMENT TECHNOLOGIES.
- SANITARY OR COMBINED SEWER DISCHARGE WITH LOCAL SEWER DISTRICT APPROVAL, IF THERE IS NO OTHER OPTION.
- USE OF A SETTLING TANKS WITH OUTFALL TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DEWATERING.

ELEMENT 11: MAINTAIN BMPS

A) MAINTAIN AND REPAIR ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMPS AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION IN ACCORDANCE WITH BMP SPECIFICATIONS.

B) REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS WITHIN 30 DAYS AFTER ACHIEVING FINAL SITE STABILIZATION OR AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED.

ELEMENT 12: MANAGE THE PROJECT

A) PHASE LAND DISTURBANCE TO THE MAXIMUM DEGREE PRACTICABLE AND TAKE INTO ACCOUNT SEASONAL WORK LIMITATIONS.

B) THIS PROJECT IS NOT REQUIRED TO OBTAIN A CONSTRUCTION STORMWATER GENERAL PERMIT.

C) PROJECTS THAT DISTURB ONE OR MORE ACRES MUST HAVE SITE INSPECTIONS CONDUCTED BY A CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL). PROJECT SITES DISTURBING LESS THAN ONE ACRE MAY HAVE A CESCL OR A PERSON WITHOUT CESCL CERTIFICATION CONDUCT INSPECTIONS. BY THE INITIATION OF CONSTRUCTION, THE SWPPP MUST IDENTIFY THE CESCL OR INSPECTOR, WHO MUST BE PRESENT ON-SITE OR ON-CALL AT ALL TIMES.

D) THE CESCL OR INSPECTOR (PROJECT SITES LESS THAN ONE ACRE) MUST HAVE THE SKILLS TO ASSESS THE:

- SITE CONDITIONS AND CONSTRUCTION ACTIVITIES THAT COULD IMPACT THE QUALITY OF STORMWATER.
- EFFECTIVENESS OF EROSION AND SEDIMENT CONTROL MEASURES USED TO CONTROL THE QUALITY OF STORMWATER DISCHARGES.

E) THE CESCL OR INSPECTOR MUST EXAMINE STORMWATER VISUALLY FOR THE PRESENCE OF SUSPENDED SEDIMENT, TURBIDITY, DISCOLORATION, AND OIL SHEEN. THEY MUST EVALUATE THE EFFECTIVENESS OF BMPS AND DETERMINE IF IT IS NECESSARY TO INSTALL, MAINTAIN, OR REPAIR BMPS TO IMPROVE THE QUALITY OF STORMWATER DISCHARGES. BASED ON THE RESULTS OF THE INSPECTION, CONSTRUCTION SITE OPERATORS MUST CORRECT THE PROBLEMS IDENTIFIED BY:

- REVIEWING THE SWPPP FOR COMPLIANCE WITH THE 13 CONSTRUCTION SWPPP ELEMENTS AND MAKING APPROPRIATE REVISIONS WITHIN 7 DAYS OF THE INSPECTION.
- IMMEDIATELY BEGINNING THE PROCESS OF FULLY IMPLEMENTING AND MAINTAINING APPROPRIATE SOURCE CONTROL AND/OR TREATMENT BMPS AS SOON AS POSSIBLE, ADDRESSING THE PROBLEMS NOT LATER THAN WITHIN 10 DAYS OF THE INSPECTION. IF INSTALLATION OF NECESSARY TREATMENT BMPS IS NOT FEASIBLE WITHIN 10 DAYS, THE CONSTRUCTION SITE OPERATOR MAY REQUEST AN EXTENSION WITHIN THE INITIAL 10-DAY RESPONSE PERIOD.
- DOCUMENTING BMP IMPLEMENTATION AND MAINTENANCE IN THE SITE LOG BOOK (SITES LARGER THAN 1 ACRE).

F) THE CESCL OR INSPECTOR MUST INSPECT ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, ALL BMPS, AND ALL STORMWATER DISCHARGE POINTS AT LEAST ONCE EVERY CALENDAR WEEK AND WITHIN 24 HOURS OF ANY DISCHARGE FROM THE SITE. (FOR PURPOSES OF THIS CONDITION, INDIVIDUAL DISCHARGE EVENTS THAT LAST MORE THAN ONE DAY DO NOT REQUIRE DAILY INSPECTIONS. FOR EXAMPLE, IF A STORMWATER POND DISCHARGES CONTINUOUSLY OVER THE COURSE OF A WEEK, ONLY ONE INSPECTION IS REQUIRED THAT WEEK.) THE CESCL OR INSPECTOR MAY REDUCE THE INSPECTION FREQUENCY FOR TEMPORARY STABILIZED, INACTIVE SITES TO ONCE EVERY CALENDAR MONTH.

ELEMENT 13: PROTECT LOW IMPACT DEVELOPMENT BMPS

A) THERE ARE NO LID BMPS ON THIS SITE.

GENERAL NOTES

1. BMPS: BEST MANAGEMENT PRACTICES (BMPS) REFERRED TO ON THIS PLAN AND IN THESE NOTES SHALL BE CONSTRUCTED AND MAINTAINED AS DESCRIBED IN MOST RECENT VERSION OF THE DEPARTMENT OF ECOLOGY'S STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (SWMMWW) SECTION ON CONSTRUCTION STORMWATER POLLUTION PREVENTION.

2. EXTENT: THE EXTENT OF EROSION AND SEDIMENTATION CONTROL MEASURES IS DEPENDENT ON WEATHER CONDITIONS, SITE SLOPES, LENGTH OF TIME GROUND IS LEFT EXPOSED, AND THE AREA OF EXPOSED GROUND. THE CONTRACTOR SHALL AT ALL TIMES MINIMIZE THE RISK OF SITE EROSION BY CAREFUL SCHEDULING AND BY IMPLEMENTING AND MAINTAINING BMPS UNTIL THE SITE IS PERMANENTLY STABILIZED.

3. VEGETATION: EXISTING VEGETATION SHALL BE PRESERVED WHERE ATTAINABLE.

4. ADJACENT PROPERTIES: PROPERTIES ADJACENT TO THE PROJECT SHALL BE PROTECTED FROM SEDIMENT DEPOSITION.

5. REMOVAL OF BMPS: ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMPS SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMPS ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON-SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.

6. OTHER REQUIREMENTS: THE ENGINEER, OWNER, DEPARTMENT OF ECOLOGY, OR OTHER AGENCIES MAY REQUIRE BMPS IN ADDITION TO WHAT IS SHOWN ON THIS PLAN IF NECESSARY TO PREVENT VIOLATIONS OF SURFACE WATER QUALITY. THE CONTRACTOR SHALL IMPLEMENT THE BMPS AS REQUIRED.

7. THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/FINAL SURFACING IS ESTABLISHED.

8. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.

9. THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT LEAVE THE SITE.

10. OBTAIN PERMISSION AND/OR PERMIT APPROVAL AS REQUIRED FROM EASTSOUND WATER AND SEWER DISTRICT PRIOR TO ANY DISCHARGES TO THE SANITARY SEWER SYSTEM.

11. CONVEYANCE BYPASS: IF REQUIRED, PROVISION FOR BYPASS OF STORMWATER CONVEYANCE SHALL BE PROVIDED. BYPASS SHALL BE INSTALLED FOR THE DURATION OF THE WORK. MATERIALS FOR BYPASS NEED NOT BE INSTALLED WHILE WORK IS IN PROGRESS AT A PARTICULAR LOCATION, BUT MATERIALS AND EQUIPMENT FOR IMMEDIATE INSTALLATION SHALL BE ON HAND. BYPASS SHALL BE IN PLACE WHILE SITE IS UNATTENDED FOR GREATER THAN 12 HOURS.

12. PUBLIC RIGHTS-OF WAY SHALL BE KEPT IN A CLEAN AND SERVICEABLE CONDITION AT ALL TIMES. IN THE EVENT MATERIALS ARE INADVERTENTLY DEPOSITED ON ROADWAYS, THE MATERIAL SHALL BE PROMPTLY REMOVED. MATERIALS ARE TO BE SWEPT AND REMOVED PRIOR TO ANY STREET FLUSHING. PUBLIC AND PRIVATE DRAINAGE WAYS SHALL BE PROTECTED FROM POLLUTION. NO MATERIAL IS TO BE DISCHARGED TO OR DEPOSITED IN STORMWATER SYSTEMS THAT MAY RESULT IN VIOLATION OF STATE OR FEDERAL WATER QUALITY STANDARDS.

13. ALL CATCH BASINS WITHIN THE PROJECT LIMITS SHALL BE CLEANED OUT AT THE COMPLETION OF THE PROJECT AND ANY MATERIAL REMOVED SHALL BE PROPERLY DISPOSED OF.

14. CONCRETE PROCESS WATER AND SLURRY FROM PAVEMENT CUTTINGS SHALL NOT BE ALLOWED TO ENTER ANY DRAINAGE CONVEYANCE. SLURRY/CUTTINGS SHALL NOT REMAIN ON PAVEMENT OVERNIGHT. ALL SAWCUTTING AND SURFACING OPERATIONS SHALL USE BMP C152 FOR POLLUTION PREVENTION.

15. PROJECT DESCRIPTION
  a. TOTAL PROJECT AREA. 0.08 ACRES
  b. TOTAL PROPOSED IMPERVIOUS AREA. 0.08 ACRES
  c. TOTAL PROPOSED AREA TO BE DISTURBED. 0.08 ACRES
  d. TOTAL VOLUME OF PROPOSED CUT/FILL. CUT = 0 CY, FILL = 0 CY. (ESTIMATED VOLUME BETWEEN EXISTING GROUND SURFACE AND PROPOSED FINISH GRADES FOR BASE BID AND ALL ALTERNATES. NO SHRINK OR SWELL FACTORS APPLIED.) VOLUMES ARE FOR TESC NARRATIVE ONLY AND ARE NOT INTENDED FOR BIDDING OR TAKE-OFF PURPOSES.

16. EXISTING SITE CONDITIONS
  a. DESCRIPTION OF EXISTING TOPOGRAPHY. EXISTING SLOPES VARY SLIGHTLY THROUGHOUT THE PROJECT SITE. MOST AREAS ARE FLAT TO SLOPED UP TO 2 PERCENT.
  b. DESCRIPTION OF EXISTING VEGETATION. AREAS ALONG THE NORTH AND SOUTH PROPERTY LINES ARE GRASS TURF. THERE ARE NO TREES OR SHRUBS ON THE SITE.

17. DESCRIPTION OF EXISTING DRAINAGE. RUNOFF FROM THE SITE FLOWS GENERALLY FROM SOUTHEAST TO NORTHWEST TO WHERE IT ENTERS A DITCH ON THE ADJOINING SITE ALONG THE NORTH BOUNDARY.

18. ADJACENT AREAS
  a. DESCRIPTION OF ADJACENT AREAS WHICH MAY BE AFFECTED BY SITE DISTURBANCE:
    I. STREAMS. NONE.
    II. LAKES. NONE.
    III. WETLANDS. NONE.
    IV. RESIDENTIAL AREAS. NONE.
    V. ROADS. CESSNA ROAD, UNNAMED AIRPORT ACCESS ROADS.
  b. DESCRIPTION OF THE DOWNSTREAM DRAINAGE PATH LEADING FROM THE SITE TO THE RECEIVING BODY OF WATER (MINIMUM DISTANCE OF 400 YARDS). RUNOFF FROM THE SITE WILL CONTINUE WITH THE SAME PATTERN THAT EXISTS. RUNOFF WILL BE ROUTED TO A DITCH THAT IS JUST NORTHWEST OF THE SITE. RUNOFF IN THE DITCH IS CONVEYED NORTH THROUGH A SERIES OF DITCHES AND CULVERTS THROUGH PORT PROPERTY. IT APPEARS THAT THE OUTFALL MAY BE TO PUGET SOUND FURTHER TO THE NORTH.

19. CRITICAL AREAS
  a. DESCRIPTION OF CRITICAL AREAS THAT ARE ON OR ADJACENT TO THE SITE. THERE ARE NO CRITICAL AREAS WITHIN THE PROJECT SITE. THE SITE IS SURROUNDED BY DEVELOPMENT ON ALL SIDES. IT IS UNCLEAR IF THERE ARE CRITICAL AREAS NEAR THE SITE.
  b. DESCRIPTION OF SPECIAL REQUIREMENTS FOR WORKING IN OR NEAR CRITICAL AREAS. ALL WORK ON THIS PROJECT WILL BE DONE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL PERMITS AS APPLICABLE. NO KNOWN CRITICAL AREAS ARE WITHIN OR ADJACENT TO THE PROJECT LIMITS.

20. DESCRIPTION OF ONSITE SOILS
  a. THE FOLLOWING SOIL DESCRIPTIONS WERE TAKEN FROM THE USDA NRCS WEB SOIL SURVEY (HTTP://WEBSOILSURVEY.NRCS.USDA.GOV/APP/). SOILS IN THE WORK AREAS ARE CLASSIFIED AS:
    –ROCHE-KILLEBREW COMPLEX. 2 TO 10 PERCENT SLOPES.

21. EROSION PROBLEM AREAS.
  NO EROSION PROBLEM AREAS ARE EXPECTED.

22. CONSTRUCTION PHASING.
  a. CONSTRUCTION SEQUENCE. THE CONSTRUCTION SEQUENCE WILL GENERALLY BE AS FOLLOWS;
    - INSTALL EROSION PREVENTION FACILITIES: SILT FENCE, CONSTRUCTION ENTRANCE, INLET PROTECTION;
    - REMOVE PORTIONS OF THE PAVEMENT TO INSTALL UNDERGROUND AND ABOVE GROUND SEWER STRUCTURES. CLEAR AND GRADE AREAS FOR BUILDING ADDITION AND RETAINING WALL.
    - INSTALL ABOVE AND BELOW GROUND SEWER STRUCTURES, BUILDING ADDITION, AND RETAINING WALL
    - REMOVE REMAINDER OF PAVEMENT AND INSTALL STORMWATER CONVEYANCE FACILITIES
    - CLEAR NEW PAVING AREAS
    - PAVE SITE WITH ASPHALT AND PROVIDE FINAL STABILIZATION TO LANDSCAPE AREAS.
  b. CONSTRUCTION PHASING. CONTRACTOR IS ENCOURAGED TO PHASE WORK SUCH THAT DISTURBED AREAS ARE OPENED UP, IMPROVEMENTS INSTALLED, AND PERMANENTLY STABILIZED IN SECTIONS SUCH TO MINIMIZE POTENTIAL FOR EROSION.

23. CONSTRUCTION SCHEDULE
  a. PROVIDE A PROPOSED CONSTRUCTION SCHEDULE. CONSTRUCTION IS EXPECTED TO OCCUR STARTING IN SPRING OF 2025 AND ENDING IN WINTER OF 2027/2028.
  b. WET SEASON CONSTRUCTION ACTIVITIES. WET SEASON CONSTRUCTION ACTIVITIES ARE EXPECTED. INCREASED DILIGENCE WILL EMPLOYED TO PREVENT EROSION AND PROTECT DOWNSTREAM WATERS AND PROPERTIES FROM SEDIMENT. ALL WET SEASON HEIGHTENED TESC ACTIVITIES WILL BE IMPLEMENTED IN ACCORDANCE WITH THE SWMMWW.
    I. PROPOSED WET SEASON CONSTRUCTION RESTRAINTS FOR ENVIRONMENTALLY SENSITIVE/CRITICAL AREAS. THERE ARE NO KNOWN ENVIRONMENTALLY SENSITIVE /CRITICAL AREAS WITHIN THE SITE, SO THERE ARE NO ADDITIONAL MEASURES TO BE UTILIZED.

24. ENGINEERING CALCULATIONS
  a. SEDIMENT PONDS/TRAPS. NONE USED.
  b. DIVERSIONS. NONE ARE ANTICIPATED
  c. WATERWAYS. NONE USED.
  d. RUNOFF/STORMWATER DETENTION CALCULATIONS. NONE NEEDED.

NO.	REVISIONS	BY	DATE

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JEFFREY G. CHRISTNER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 01-27-2025

DESIGNED BY: JCC
DRAWN BY: MCS
CHECKED BY: AWL

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY, WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
T.E.S.C. NARRATIVE

DATE: 1-27-2025
SCALE: AS SHOWN
JOB NUMBER: 2023-123
SHEET: C0.3
PAGE: 12 OF 91

TPN 271142014000
SMALLWOOD & CO. LLC

SILT FENCE

AFN 2002 0701021
5' EASEMENT TO PORT

20' EASEMENT
AFN 107644 / 88153321

WSE #118

WSE #122

SDCB#1
SDCB#2
SDCB#3
SDCB#4
SDCB#5
SDCB#6
SDCB#7
SDCB#8
SDCB#9
SDCB#10

IP

EMERGENCY ACCESS

TPN 271142017000
EASTSOUND WATER DISTRICT

~CONCRETE~

TPN 271142024000

TPN 271142023000
PORT OF ORCAS

EMERGENCY ACCESS

WSE #205

GEN

TPN 271142024000

10' EASEMENT
AFN 2003 0606026
(APPROXIMATE LOCATION.
EASEMENT IS AS-CONSTRUCTED).

NO.	REVISIONS	BY	DATE

LEGEND

IP = INLET PROTECTION PER (2 / C0.7)

SF = SILT FENCE PER (3 / C0.7)

= STEEL ACCESS PLATES AS NEEDED TO AVOID DAMAGING PAVEMENT (4 / C0.7)

KEYED NOTES

1. = EMERGENCY ACCESS. NO PARKING, BLOCKING, STOCKPILING, STAGING ALLOWED. THIS AREA CAN BE USED FOR VEHICLE TURN AROUND
2. = SOLE INGRESS & EGRESS LOCATION
3. = EX CB TO BE REMOVED (TYP, SEE SHEET C0.5)

SHEET NOTE:

1) SEE SHEET C0.1 FOR EXISTING CONDITIONS.

2) ALL CATCHBASINS REQUIRE INLET PROTECTION ONCE INSTALLED.

N

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SCALE HORIZONTAL SCALE FEET

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CHRISTNER ENGINEERING
STATE OF WASHINGTON
36886
REGISTERED PROFESSIONAL ENGINEER
01-27-2025

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JCC	MCS	AWL

EASTSOUND SEWER AND WATER DISTRICT

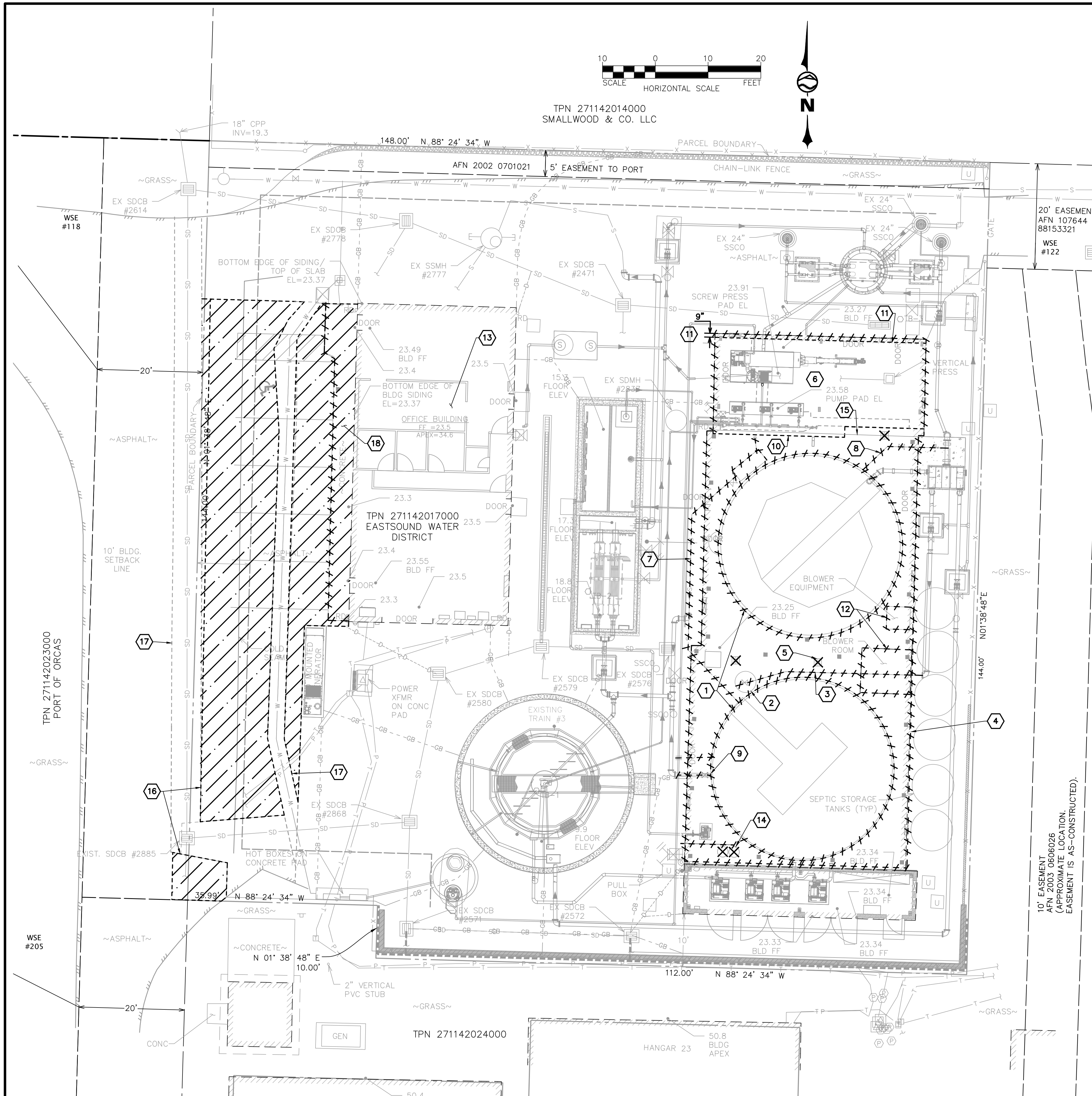
SAN JUAN COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

T.E.S.C. SITE PLAN

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET	PAGE
C0.4	13 OF 91



KEYED NOTES:

1. REMOVE EXISTING TREATMENT TRAINS #1 & #2. REMOVAL WORK INCLUDES BRIDGE & WALKWAYS, ALL INTERNAL PIPING, ALL INTERNAL EQUIPMENT & INSTRUMENTATION, ALL INTERNAL BAFFLES/WEIRS/WALLS, AND ALL INTERNAL MISC. MATERIALS (SUPPORTS, BRACKETS, ETC). HOWEVER, THE EXTERNAL STEEL WALL MAY REMAIN AND BE USED AS A FORM FOR EXTERNAL WALL CONCRETE WORK (SEE CIVIL DESIGN DRAWINGS).
2. REMOVE EXISTING VALVE AND VALVE VAULT.
3. ABANDON AND REMOVE 34 LF OF EXISTING INFLUENT PIPE.
4. REMOVE EXISTING CONCRETE SLAB PER CONSTRUCTION SEQUENCE NOTES (SHEET C0.9).
5. REMOVE EXISTING CATCH BASINS AND ABANDON CONNECTED DRAIN PIPE. REMOVE DRAIN PIPE AS NEEDED AFTER REMOVAL OF EXISTING CONCRETE SLAB. PROVIDE WSDOT APPROVED PLUGS FOR ALL ABANDONED DRAIN PIPES (TYP)
6. PORTION OF EX SLAB TO REMAIN
7. ABANDON AND REMOVE 51 LF OF EXISTING EFFLUENT PIPE.
8. ABANDON AND REMOVE 26 LF OF EXISTING INFLUENT PIPE.
9. REMOVE 10 LF OF EXISTING 10" EFFLUENT PIPE.
10. SAWCUT EXISTING CONCRETE SLAB AND REMOVE SLAB SOUTH OF THIS LINE.
11. SAWCUT EXISTING CONCRETE SLAB 9" FROM NORTHERN EDGE AND REMOVE SLAB & FOOTING NORTH OF THIS LINE.
12. REMOVE EXISTING BLOWER EQUIPMENT, BLOWER AIR PIPING, BLOWER CONTROLS, AND BLOWER POWER, CONDUIT, & THE ENTIRE BLOWER ROOM BUILDING (WELLS, ETC.)
13. ALL EXISTING LAB ROOM CABINETRY AND SHELVING TO BE REMOVED. CABINETRY BENEATH FUME HOOD MUST BE REMOVED FOR NEW CABINETRY, BUT FUME HOOD WILL REMAIN.
14. EXISTING BLADDER TANKS TO BE MOVED AND RECONNECTED. SEE PIPING PLAN.
15. APPROXIMATE LOCATION OF DIVIDING LINE BETWEEN EX DEWATERING BLDG SLAB AND TRAIN #1 BLDG SLAB.
16. REMOVE ASPHALT SURFACE, SAWCUT AS NEEDED
17. EXISTING SAWCUT (TYP)
18. DEMOLISH AND REMOVE EXISTING SIDEWALK

DEMOLITION SCHEDULE:

1. REMOVE & DISPOSE OF EXISTING BUILDING STRUCTURES OVER DEWATERING AREA & TRAINS #1 & #2.
2. REMOVE & DISPOSE OF EXISTING TRAINS #1 & #2 AND THE EXISTING CONCRETE SLAB SURROUNDING THEM. CONTRACTOR SHALL SAW CUT CONCRETE SLAB AS CLOSE TO SOUTH FACE OF DEWATERING BUILDING AS POSSIBLE, LEAVING PORTION OF 8" SLAB THAT EXTENDS UNDER DEWATERING BUILDING.
3. PER CONSTRUCTION PHASING SCHEDULE, CONTRACTOR SHALL REMOVE REMAINING EXISTING PIPING AND FACILITIES AS SHOWN ON THE DEMOLITION PLAN.
4. SEE WWTP INTERIM PLAN OF OPERATION, SHEET C0.9.

GENERAL NOTES:

CONTRACTOR TO PREPARE A DEMOLITION PLAN WITH SCHEDULE, AND PRESENT TO ENGINEER FOR COORDINATION AND APPROVAL PRIOR TO BEGINNING ANY DEMOLITION ACTIVITIES.

NO.	REVISIONS	BY	DATE

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEMOLITION PLAN

DATE	1-27-2025
SCALE	AS SHOWN
JOB NUMBER	2023-123
SHEET	C0.5
PAGE	14 OF 91

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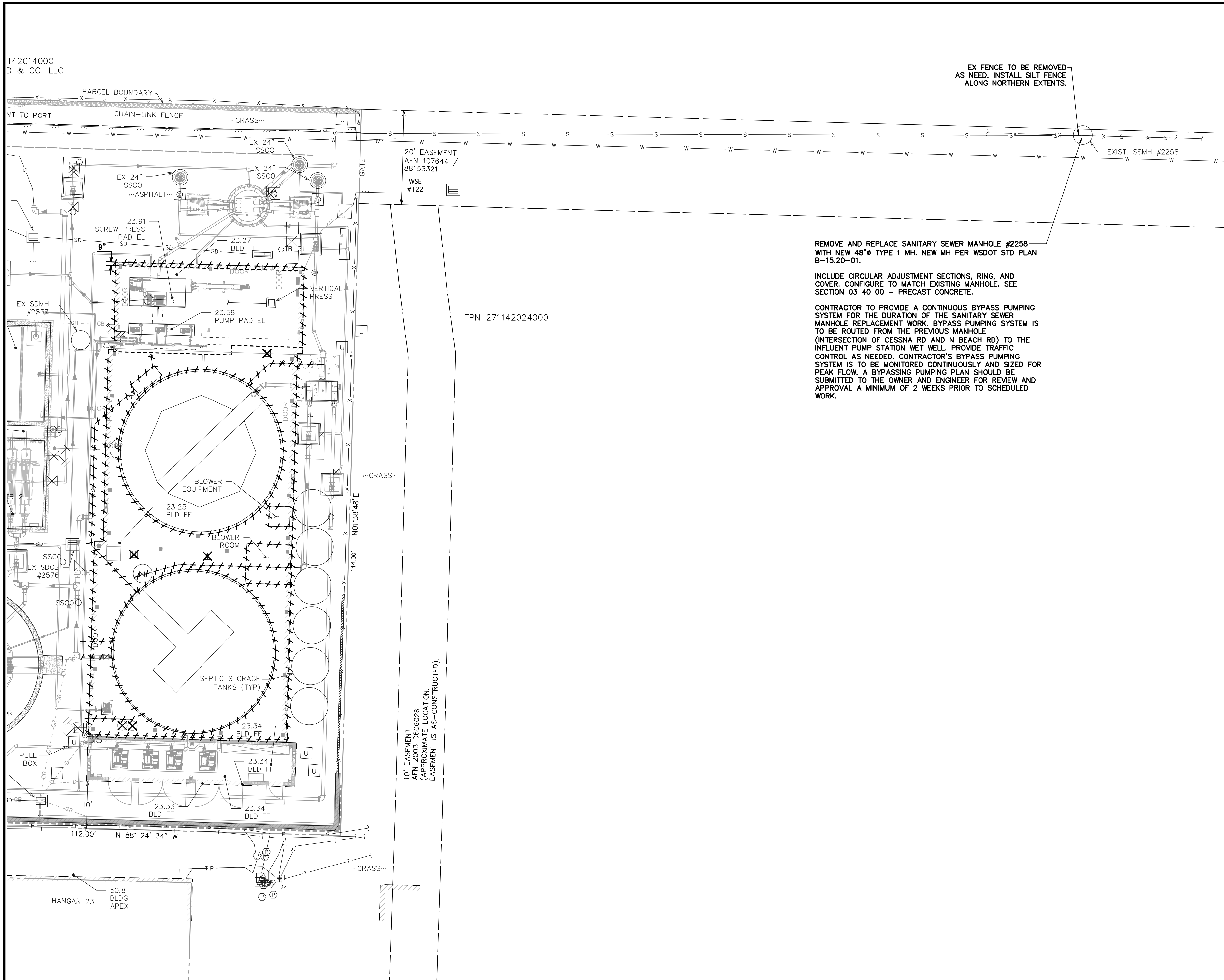

142014000
D & CO. LLC
PARCEL BOUNDARY
CHAIN-LINK FENCE
NT TO PORT
~GRASS~
EX 24" SSCO
EX 24" SSCO
EX 24" SSCO
~ASPHALT~
20' EASEMENT AFN 107644 / 88153321
WSE #122
GATE
23.91 SCREW PRESS PAD EL
23.27 BLD FF
9"
VERTICAL PRESS
23.58 PUMP PAD EL
EX SDMH #2837
BLOWER EQUIPMENT
23.25 BLD FF
BLOWER ROOM
SSCO
EX SDCB #2576
SSCO
SEPTIC STORAGE TANKS (TYP)
23.34 BLD FF
23.34 BLD FF
23.33 BLD FF
23.34 BLD FF
PULL BOX
10'
112.00'
N 88° 24' 34" W
N01°38'48"E
144.00'
~GRASS~
~GRASS~
HANGAR 23
50.8 BLDG APEX
TPN 271142024000
10' EASEMENT AFN 2003 0606026 (APPROXIMATE LOCATION. EASEMENT IS AS-CONSTRUCTED).
EX FENCE TO BE REMOVED AS NEED. INSTALL SILT FENCE ALONG NORTHERN EXTENTS.
EXIST. SSMH #2258
REMOVE AND REPLACE SANITARY SEWER MANHOLE #2258 WITH NEW 48"ø TYPE 1 MH. NEW MH PER WSDOT STD PLAN B-15.20-01.
INCLUDE CIRCULAR ADJUSTMENT SECTIONS, RING, AND COVER. CONFIGURE TO MATCH EXISTING MANHOLE. SEE SECTION 03 40 00 – PRECAST CONCRETE.
CONTRACTOR TO PROVIDE A CONTINUOUS BYPASS PUMPING SYSTEM FOR THE DURATION OF THE SANITARY SEWER MANHOLE REPLACEMENT WORK. BYPASS PUMPING SYSTEM IS TO BE ROUTED FROM THE PREVIOUS MANHOLE (INTERSECTION OF CESSNA RD AND N BEACH RD) TO THE INFLUENT PUMP STATION WET WELL. PROVIDE TRAFFIC CONTROL AS NEEDED. CONTRACTOR'S BYPASS PUMPING SYSTEM IS TO BE MONITORED CONTINUOUSLY AND SIZED FOR PEAK FLOW. A BYPASSING PUMPING PLAN SHOULD BE SUBMITTED TO THE OWNER AND ENGINEER FOR REVIEW AND APPROVAL A MINIMUM OF 2 WEEKS PRIOR TO SCHEDULED WORK.
N
10 0 10 20
SCALE HORIZONTAL SCALE FEET

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY — WASHINGTON

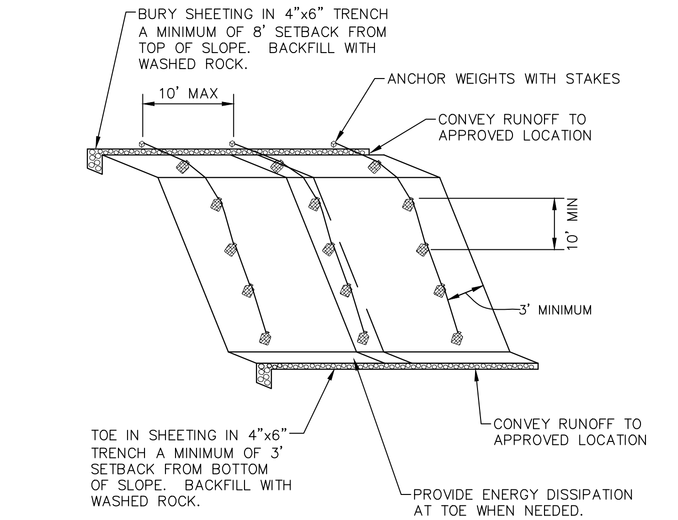
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

MANHOLE REPLACEMENT TESC & DEMO PLAN

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET C0.6

NO.	REVISIONS	BY	DATE

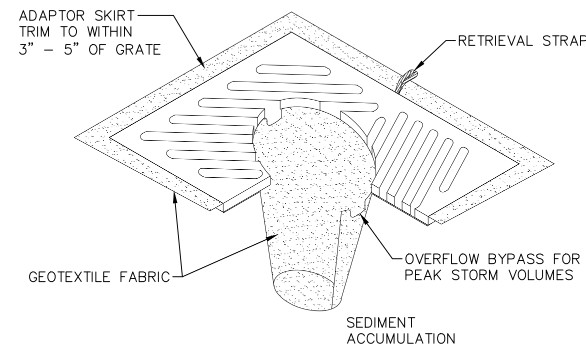


NOTES:

1. TIRES, SANDBAGS, OR EQUIVALENT MAY BE USED TO WEIGH DOWN PLASTIC SHEETING.
2. SEAMS BETWEEN SHEETS MUST OVERLAP A MINIMUM OF 12" AND BE WEIGHTED OR TAPED.
3. PLASTIC SHEETING SHALL HAVE A MINIMUM THICKNESS OF 6 MIL.
4. DUE TO RAPID RUNOFF CAUSED BY PLASTIC SHEETING, THIS METHOD SHALL NOT BE USED UPSLOPE OF AREAS THAT MIGHT BE ADVERSELY IMPACTED BY CONCENTRATED RUNOFF.
5. CONSTRUCT BERM OR SWALE AT TOP OF SLOPE AS DIRECTED BY THE CLEARING AND GRADING INSPECTOR.
6. CONSTRUCT DITCH AT BASE OF SLOPE IF NEEDED, AND DISCHARGE TO APPROVED LOCATION.

1 PLASTIC COVERING FOR SLOPES & STOCKPILES

NOT TO SCALE



NOTES:

1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL .
3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, AND RE-INSERTING IT INTO THE CATCH BASIN.

2 CATCH BASIN INSERT

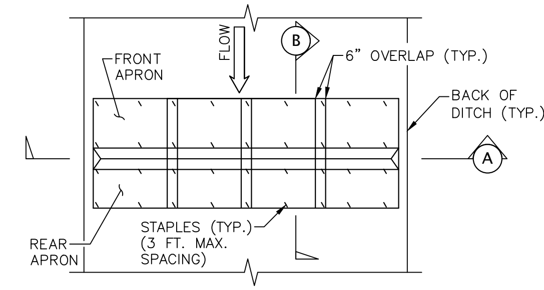
NOT TO SCALE

BMP C208 – GEOTEXTILE ENCASED CHECK DAM

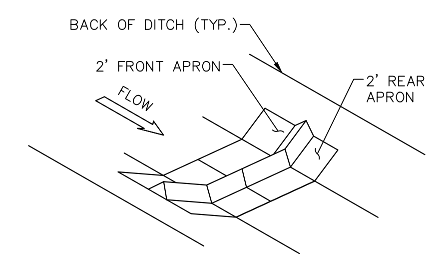
PURPOSE: GEOTEXTILE ENCASED CHECK DAMS MAY BE USED AS CHECK DAMS, FOR PERIMETER PROTECTION, FOR TEMPORARY SOIL STOCKPILE PROTECTION, FOR DROP INLET PROTECTION, OR AS A TEMPORARY INTERCEPTOR DIKE.

INSTALLATION: INSTALL WITH ENDS CURVED UP TO PREVENT WATER FROM FLOWING AROUND ENDS. THE FABRIC FLAPS AND CHECK DAM UNITS ARE ATTACHED TO THE GROUND WITH WIRE STAPLES. WIRE STAPLES SHOULD BE NO. 11 GAUGE AND SHOULD BE 200MM TO 300MM IN LENGTH. WHEN MULTIPLE UNITS ARE INSTALLED, THE SLEEVE OF FABRIC AT THE END OF THE UNIT SHALL OVERLAP THE ABUTTING UNIT AND BE STAPLED. CHECK DAMS SHOULD BE LOCATED AND INSTALLED AS SOON AS CONSTRUCTION WILL ALLOW AND SHOULD BE PLACED PERPENDICULAR TO THE FLOW OF WATER. WHEN USED AS CHECK DAMS, THE LEADING EDGE MUST BE SECURED WITH ROCKS, SANDBAGS, OR A SMALL KEY SLOT AND STAPLES. IN THE CASE OF GRASS-LINED DITCHES AND SWALES, CHECK DAMS AND ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE GRASS HAS MATURED SUFFICIENTLY TO PROTECT THE DITCH OR SWALE UNLESS THE SLOPE OF THE SWALE IS GREATER THAN 4 PERCENT. THE AREA BENEATH THE CHECK DAMS SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER DAM REMOVAL.

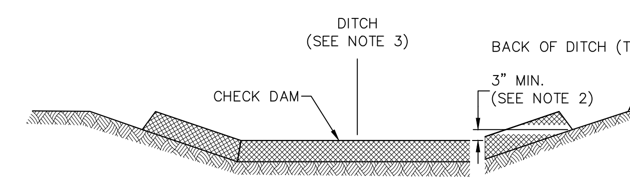
MAINTENANCE: CHECK DAMS SHALL BE MONITORED FOR PERFORMANCE AND SEDIMENT ACCUMULATION DURING AND AFTER EACH RUNOFF PRODUCING RAINFALL. SEDIMENT SHALL BE REMOVED WHEN IT REACHES ONE HALF THE HEIGHT OF THE DAM. ANTICIPATE SUBMERGENCE AND DEPOSITION ABOVE THE TRIANGULAR SILT DAM AND EROSION FROM HIGH FLOWS AROUND THE EDGES OF THE DAM. IMMEDIATELY REPAIR ANY DAMAGE OR ANY UNDERCUTTING OF THE DAM.



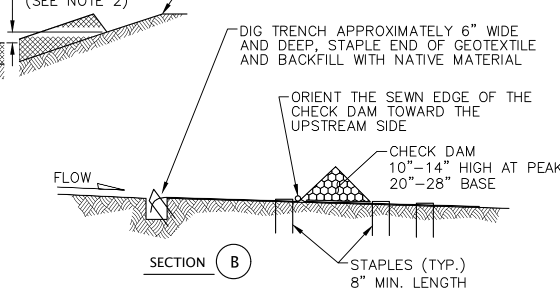
PLAN VIEW



ISOMETRIC VIEW



SECTION A



SECTION B

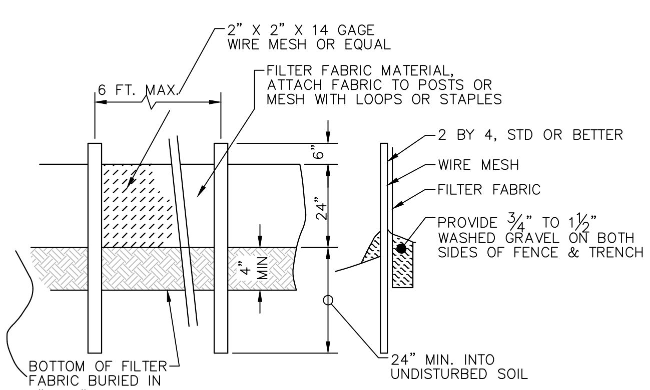
NOTES:

1. GEOTEXTILE ENCASED CHECK DAMS SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS 8-01.3(6)A AND 9-14.5(4).
2. INSTALL THE SLOPED ENDS OF THE CHECK DAM A MINIMUM OF 3" HIGHER THAN THE TOP OF THE CHECK DAM IN THE CHANNEL TO ENSURE THAT WATER FLOWS OVER THE DAM AND NOT AROUND IT.
3. FLAT BOTTOM DITCH DESIGN SHOWN, CHECK DAM INSTALLATION DETAILS ARE SIMILAR FOR "V" BOTTOM DITCHES.
4. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION 8-01.3(15).

NOTE:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING COVERAGE UNDER THE DOE'S "CONSTRUCTION STORMWATER GENERAL PERMIT". CONTACT MELINDA WILSON, PERMIT ADMINISTRATOR AT DOE (360-870-8290), EMAIL: MELINDA.WILSON@ECY.WA.GOV) FOR ADDITIONAL INFORMATION.

5 GEOTEXTILE ENCASED CHECK DAM

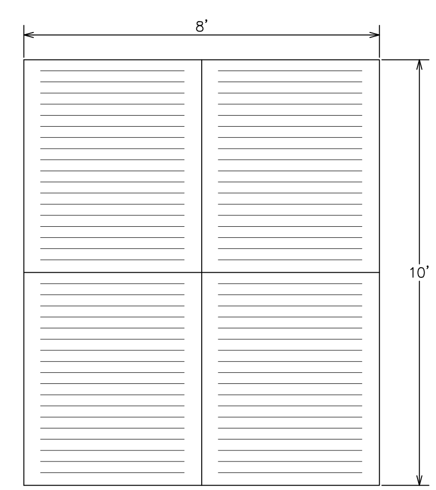
NOT TO SCALE



NOTE: SEE WSDOT STANDARD PLAN I-30.10-02 OR I-30.15-02. FOR HIGH VISIBILITY FENCE, SEE WSDOT STANDARD PLAN I-30.16-01 OR I-30.17-01.

3 FILTER FABRIC FENCE

NOT TO SCALE



NOTE:

COMPLY WITH REQUIREMENTS OF BMP C105: STABILIZATION CONSTRUCTION ENTRANCE FOUND IN VOLUME 2 OF THE STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.

4 TRACKCLEAN PLATE

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY, WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
T.E.S.C. DETAILS

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET C0.7 | PAGE 16 OF 91

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SCALE HORIZONTAL SCALE FEET 30 0 30 60

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SHEET NOTE:
1) SEE SHEET C0.1 FOR EXISTING CONDITIONS.

KEYED NOTES
1 = STAGING AREA
2 = EXISTING VEGETATED DITCH

LEGEND
SF = SILT FENCE PER 3/C0.7
= EXISTING GROUND SLOPE
= EXISTING DITCH FLOW
= VEHICLE PATH

NO.	REVISIONS	BY	DATE

SHEET	DATE	EASTSOUND SEWER AND WATER DISTRICT	DESIGNED BY	
C0.8	1-27-2025	SAN JUAN COUNTY WASHINGTON	JGC	WILSON ENGINEERING
PAGE	SCALE	WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2	DRAWN BY	WILSONENGINEERING.COM
17 OF 91	AS SHOWN		MCS	
	JOB NUMBER	STAGING PLAN	CHECKED BY	
	2023-123		AWL	

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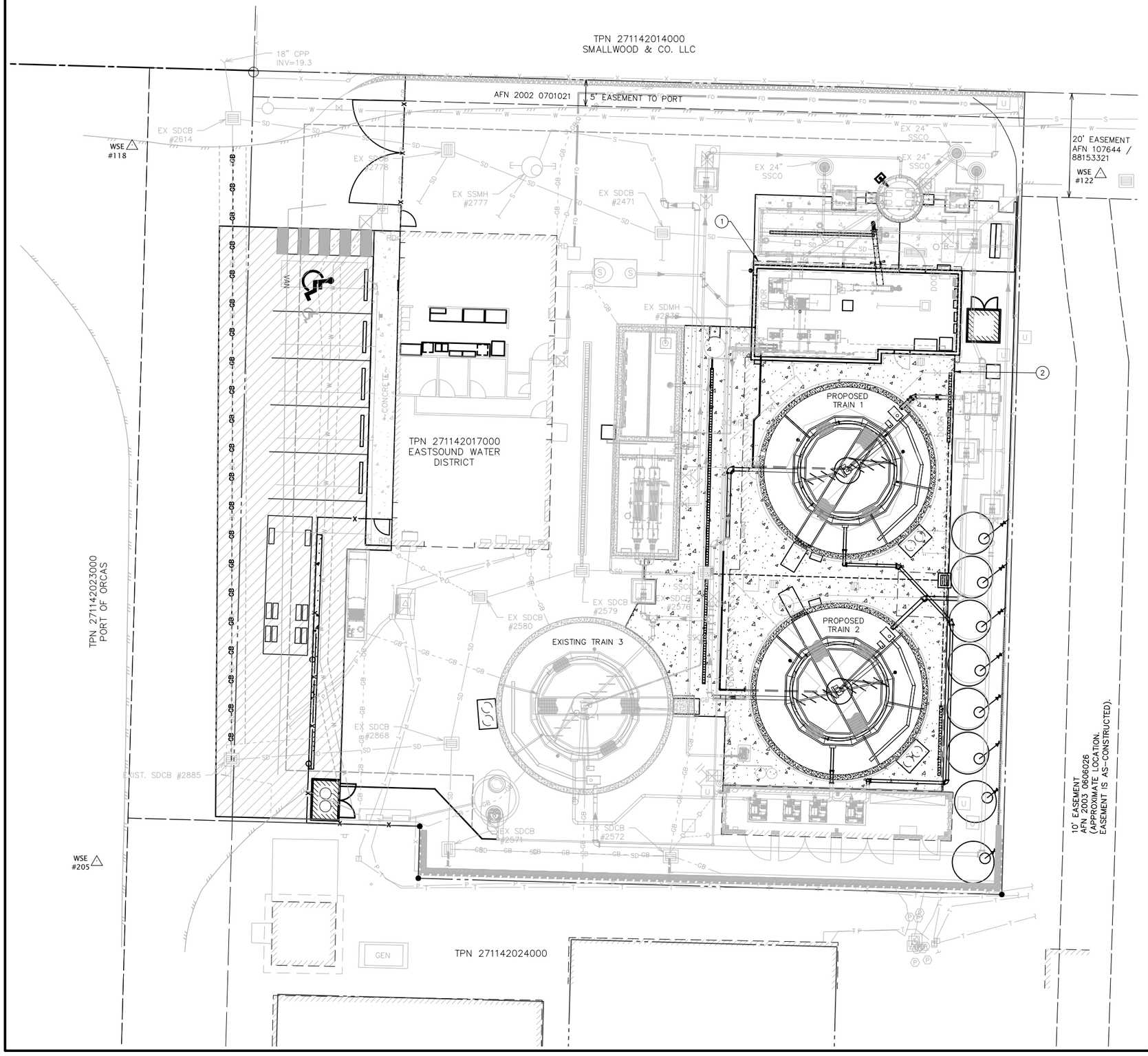

NO.	REVISIONS	BY	DATE

SHEET NOTE

THIS SHEET SHOWS BOTH EXISTING AND PROPOSED CONDITIONS. FOR EXISTING CONDITIONS ONLY SEE SHEET C0.1.

CONSTRUCTION NOTES:

NOTE: ALL CONSTRUCTION PHASING STEPS SHALL BE COORDINATED WITH THE OWNER AND ENGINEER.

(1) EXISTING BUILDING OVER DEWATERING SYSTEM.

(2) EXISTING BUILDING OVER TRAIN 1 AND TRAIN 2.

PROPOSED CONSTRUCTION SEQUENCE INFO:

CRITICAL PATH FOR THIS PROJECT WILL BE CONTROLLED BY THE FOLLOWING 3 STAGES OF WORK:

STAGE 1
A. TAKE TRAIN 1 OFFLINE: SPRING 2025
B. PROVIDE TEMPORARY AIR PIPING FROM NEW BLOWER (#3) TO TRAIN 2: SPRING 2025
C. CONFIGURE TEMPORARY 208/120V POWER TO TRAIN 2 (LIGHTING, CLARIFIER, RECEPTACLES, ETC.): SPRING 2025
D. TRAIN 1 EXISTING BUILDING REMOVAL (INCLUDING ALL EXIST. BLOWER EQUIPMENT): SPRING 2025
E. TAKE SLUDGE DEWATERING EQUIPMENT OFFLINE AND BUILD PROTECTIVE PLYWOOD ENCLOSURES AROUND ALL EXISTING EQUIPMENT IN THE DEWATERING BUILDING: SUMMER 2025 (SEE DEWATERING BUILDING EQUIPMENT PROTECTION PLAN ON SHEET A1.4)
F. REMOVE AND REPLACE DEWATERING BUILDING: SUMMER/FALL 2025

STAGE 2
A. TRAIN 1 NEW CONCRETE: WINTER/SPRING 2025 & 2026
B. TRAIN 1 NEW EQUIPMENT INSTALLATION: SPRING/SUMMER/FALL 2026
C. TRAIN 1 START UP: SUMMER/FALL/WINTER 2026

STAGE 3
A. TAKE TRAIN 2 OFFLINE: AFTER STAGE 2 IS COMPLETED: FALL/WINTER 2026
B. DISCONTINUE AND ABANDON THE TEMPORARY 208/120V POWER TO TRAIN 2: FALL/WINTER 2026
(ALL OTHER RESIDUAL 208/120V POWER NEEDS ARE TO BE SUPPLIED VIA NEW SERVICES)
C. TRAIN 2 EXISTING BUILDING REMOVAL: FALL/WINTER 2026.
D. TRAIN 2 NEW CONCRETE: WINTER/SPRING 2027.
E. TRAIN 2 NEW EQUIPMENT INSTALLATION: SPRING/SUMMER 2027.
F. TRAIN 2 START UP: SUMMER/FALL 2027.

NOTE: ALL OTHER WORK ITEMS ARE TO BE COMPLETED IN A TIMELY MANNER. CONTRACTOR TO CONSIDER WEATHER AND WORKLOAD WHEN SCHEDULING NON CRITICAL PATH WORK ITEMS. EVERYTHING IS TO BE COMPLETED WITHIN THE AGREED CONTRACT TIME PERIOD.

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STATE OF WASHINGTON
36886
REGISTERED PROFESSIONAL ENGINEER
01-27-2025

DESIGNED BY	DRAWN BY	CHECKED BY
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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
WWTP INTERIM PLAN OF OPERATION

SHEET	DATE	SCALE	JOB NUMBER
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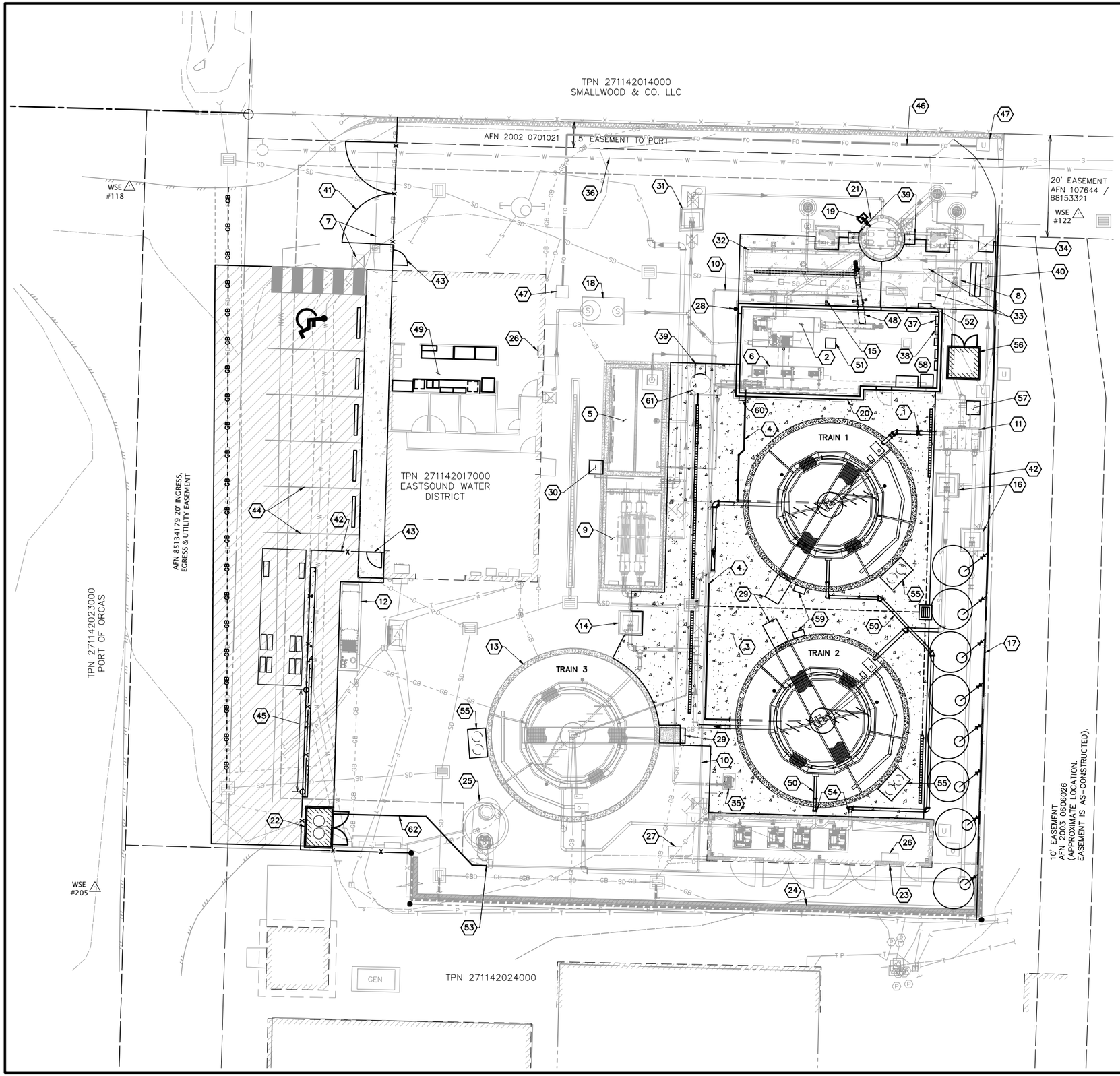

NO.	REVISIONS	BY	DATE

KEYED NOTES

1. = NEW 8" TRAIN #1 INFLUENT LINE TRANSITION BELOW GRADE
2. = EXISTING DEWATERING EQUIPMENT
3. = REMOVE EXISTING METAL BUILDING OVER TRAIN 1 & 2. LEAVE AREA OPEN.
4. = NEW 2" WAS PIPING TO WAS PUMPS
5. = EXISTING DIGESTER
6. = EXISTING WAS PUMPS FOR TRAINS 1, 2, & 3
7. = EXISTING WATER SERVICE
8. = EXISTING INFLUENT FLOW METER VAULT
9. = EXISTING UV DISINFECTION BASIN
10. = EXISTING 2W WATERMAIN HDPE
11. = EXISTING HEADWORKS FLOW SPLITTER
12. = EXISTING GENERATOR
13. = EXISTING TRAIN #3
14. = EXISTING EFFLUENT FLOW METER VAULT
15. = 2" AIR VENT FROM PUMP STATION
16. = EXISTING TRAINS 2&3 FLOW METER VAULTS
17. = NEW 3" HEADER & SEPTAGE PIPING PER (–/C1.7)
18. = EXISTING 1000 GALLON TRAFFIC-RATED SEPTIC TANK.
19. = NEW INFLUENT DISCHARGE PORT PER (–/C1.5)
20. = NEW METAL BUILDING OVER SLUDGE FACILITIES PER (–/C1.5)
21. = EXISTING INFLUENT PUMP STATION
22. = NEW LOCATION OF 2W BLADDER TANKS W/ ENCLOSURE INSTALLED OVER PER (1/C6.6)
23. = EXISTING BLOWER BUILDING
24. = EXISTING RETAINING WALL
25. = EXISTING 2W AIR GAP WATER SYSTEM
26. = EXISTING MAIN CONTROL PANEL
27. = UTILITY HANDHOLE (TYP)
28. = EXISTING YARD HYDRANT
29. = MOBILE PLATFORM W/ METAL STAIRS PER SECTION 05 51 19
30. = NEW EFFLUENT SAMPLER
31. = EXISTING PLANT DRAIN FLOW METER VAULT
32. = NEW 20 CY BOX & LEVEL LOADER
33. = EX UTILITY PULL BOX
34. = EXISTING INFLUENT SAMPLER
35. = EXISTING DIGESTER BLOWER
36. = EXSITING 6" CPVC WATER LINE
37. = HYDROGEN SULFIDE SENSOR (TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR)
38. = COMBUSTIBLE GAS DETECTOR (TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR)
39. = NEW DAVIT CRANE ASSEMBLY PER (3/C6.5)
40. = EXISTING INFLUENT PUMP STATION CONTROL PANEL
41. = 20'-WIDE DOUBLE LEAF GATE PER SPEC
42. = NEW CHAINLINK FENCE PER SECTION 02 83 00
43. = 6'-TALL CHAINLINK PEDESTRIAN GATE
44. = PARKING STALLS PER (TYP, 5 STALLS TOTAL) (3/C6.1)
45. = MANUAL ROLLING GATE TO FIT 20'-WIDE OPENING & CONCRETE CHANNEL AS REQUIRED BY MANUFACTURER
46. = EX 4" CONDUIT FOR FUTURE FIBER OPTIC CABLING FROM PHASE 1
47. = EX HAND HOLE FOR FIBER OPTIC CABLING
48. = NEW SECONDARY SLUDGE CONVEYOR
49. = LAB AREA IMPROVEMENTS PER (–/A2.2)
50. = 6" AIR PIPING (–/C1.8)
51. = RELOCATED BACK-UP POLYMER UNIT
52. = CONTROL PANEL FOR SECONDARY CONVEYOR & LEVEL-LOADER (SEE SHEET E1.1)
53. = 1" REDUCER & TEE INTO VERTICAL DROP SEGMENT OF EX 3" 2W WATER MAIN
54. = CONNECT NEW 6" AIR PIPING TO EX PORT
55. = CARBON FEED SHELTER
56. = ALKALINITY FEED STATION W/ ENCLOSURE PER (2/C6.6)
57. = FUTURE INFLUENT SAMPLE STATION. STATION SHOWN FOR REFERENCE ONLY. REFER TO ELECTRICAL PLAN FOR REQUIRED ELECTRICAL WORK.
58. = PROPOSED ELECTRICAL PANELS (SEE SHEET E1.1)
59. = TREATMENT TRAIN CONTROL PANEL (SEE SHEET E0.5)
60. = DEWATERING SUMP CONTROL PANEL (SEE SHEET E1.1)
61. = EX MANHOLE RIM TO BE LOWERED 3" TO ELEV 23.31' (–/C4.2)
62. = NEW 1" 2W WATER LINE (HDPE)

SHEET NOTES

1) SEE SHEET C0.1 FOR EXISTING CONDITIONS.

N

10 0 10 20
SCALE HORIZONTAL SCALE FEET

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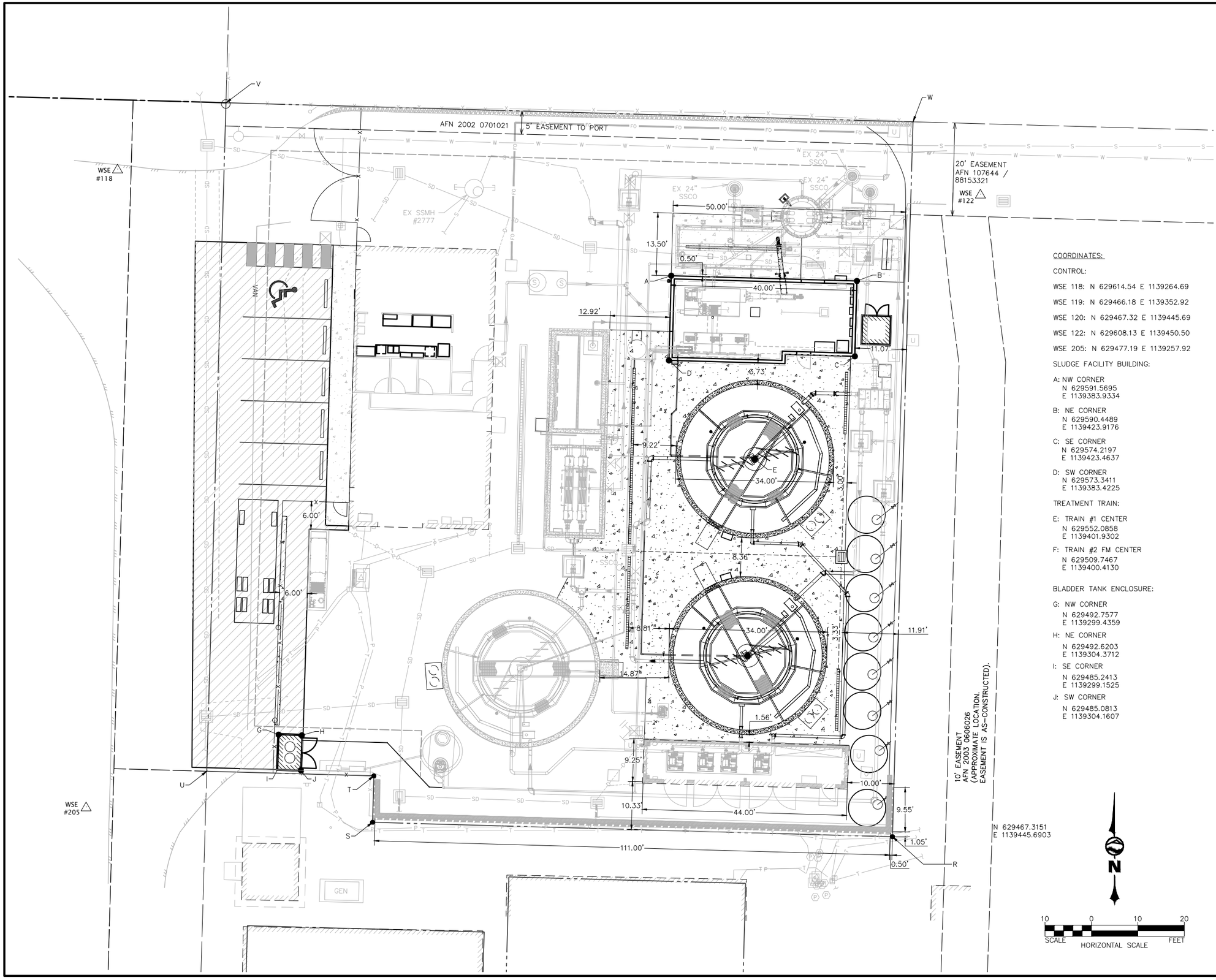
EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
SITE PIPING PLAN WITH GENERAL NOTES

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C1.1
PAGE 19 OF 91

PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
W:\2023\2023-123 ESWD WWTP UPGRADE PHASE 2 – DESIGN\DWG\2020_2023-123 C1.1 PROPOSED SITE PLAN.DWG – 1/27/2025 2:05 PM – Matthew Strittmatter

NO.	REVISIONS	BY	DATE



COORDINATES:

CONTROL:

WSE 118: N 629614.54 E 1139264.69

WSE 119: N 629466.18 E 1139352.92

WSE 120: N 629467.32 E 1139445.69

WSE 122: N 629608.13 E 1139450.50

WSE 205: N 629477.19 E 1139257.92

SLUDGE FACILITY BUILDING:

A: NW CORNER
N 629591.5695
E 1139383.9334

B: NE CORNER
N 629590.4489
E 1139423.9176

C: SE CORNER
N 629574.2197
E 1139423.4637

D: SW CORNER
N 629573.3411
E 1139383.4225

TREATMENT TRAIN:

E: TRAIN #1 CENTER
N 629552.0858
E 1139401.9302

F: TRAIN #2 FM CENTER
N 629509.7467
E 1139400.4130

BLADDER TANK ENCLOSURE:

G: NW CORNER
N 629492.7577
E 1139299.4359

H: NE CORNER
N 629492.6203
E 1139304.3712

I: SE CORNER
N 629485.2413
E 1139299.1525

J: SW CORNER
N 629485.0813
E 1139304.1607

PROPERTY CORNERS:

R: N 629470.78 E 1139431.57

S: N 629473.88 E 1139319.61

T: N 629483.87 E 1139319.88

U: N 629484.88 E 1139283.90

V: N 629628.82 E 1139288.04

W: N 629624.71 E 1139435.99

SCALE HORIZONTAL SCALE FEET
10 0 10 20

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

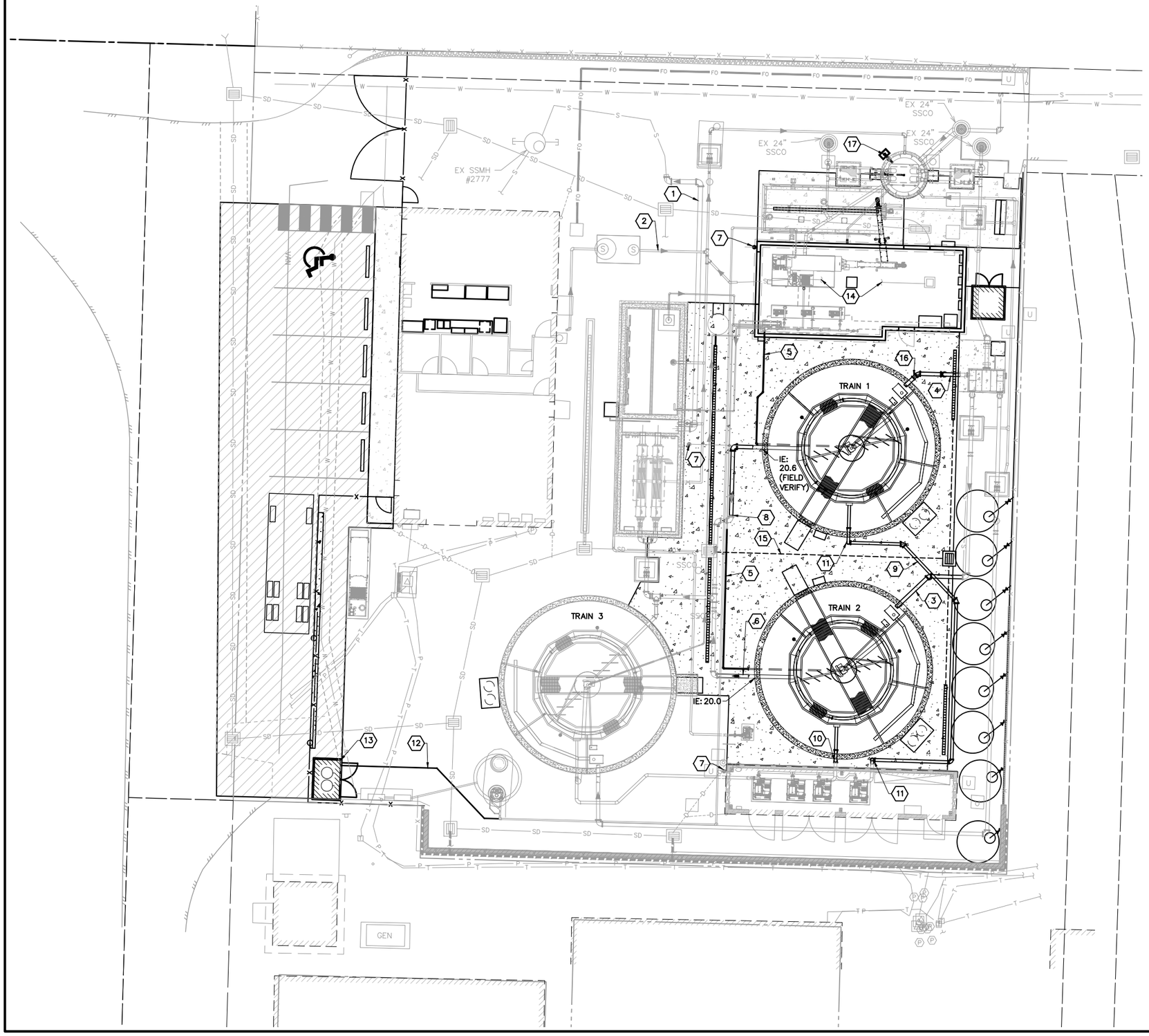
SITE DIMENSIONAL PLAN

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C1.2

PAGE 20 OF 91

NO.	REVISIONS	BY	DATE



PIPE IDENTIFICATION LEGEND

1	EXISTING 8" EXISTING EFFLUENT (DI GRAV.)
2	EXISTING 4" BUILDING SEPTIC (SCH. 80 PVC GRAV.) SLOPE = 2% MIN.
3	8" TRAIN 2 INFLUENT (DI GRAV.) SLOPE = 0.4% MIN.
4	8" TRAIN 1 INFLUENT (DI GRAV.) SLOPE = 0.4% MIN.
5	2" WAS (SCH. 80 PVC GRAV.) SLOPE = POSITIVE DRAINAGE THROUGHOUT
6	8" TRAIN 2 EFFLUENT (DI GRAV.) SLOPE = 0.4% MIN. (CONNECT TO EXISTING)
7	EXISTING 1" YARD HYDRANTS (3) LOCATIONS
8	8" TRAIN 1 EFFLUENT (DI GRAVITY) SLOPE=0.4% MIN. (CONNECT TO EXISTING)
9	6" BASIN 1 AIR (MATERIAL PER SPEC 33 31 00)
10	6" BASIN 2 AIR (MATERIAL PER SPEC 33 31 00) NOTE: CONTRACTOR TO FIELD CUT AND MODIFY EXISTING PIPE STUB AS NEEDED TO PROVIDE ROOM FOR PROPOSED FITTINGS
11	6" VERTICAL ELBOW (MATERIAL PER SPEC 33 31 00)
12	1" 2W WATER LINE (HDPE)
13	RELOCATION OF BLADDER TANKS AND NEW SHELTER (SEE DTL 1/C6.6)
14	EX SS DRAIN FROM EX VERTICAL SCREW PRESS TO REMAIN
15	PROPOSED STORM DRAIN PIPING (TYP), SEE SHEET C2.1
16	8" GATE VALVE FOR TRAIN 1 ISOLATION
17	4" INFLUENT PUMP STATION DISCHARGE PORT

SHEET NOTES

1) SEE SHEET C0.1 FOR EXISTING CONDITIONS.

2) SEE SHEETS C2.1–C2.2 FOR GRADING, STORM DRAINAGE, AND PIPING.

N

10 0 10 20
SCALE HORIZONTAL SCALE FEET

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01-27-2025

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
SITE PIPING PLAN WITH PIPING & VALVE ID

SHEET	DATE	SCALE	JOB NUMBER
C1.3	1-27-2025	AS SHOWN	2023-123

PAGE 21 OF 91

PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
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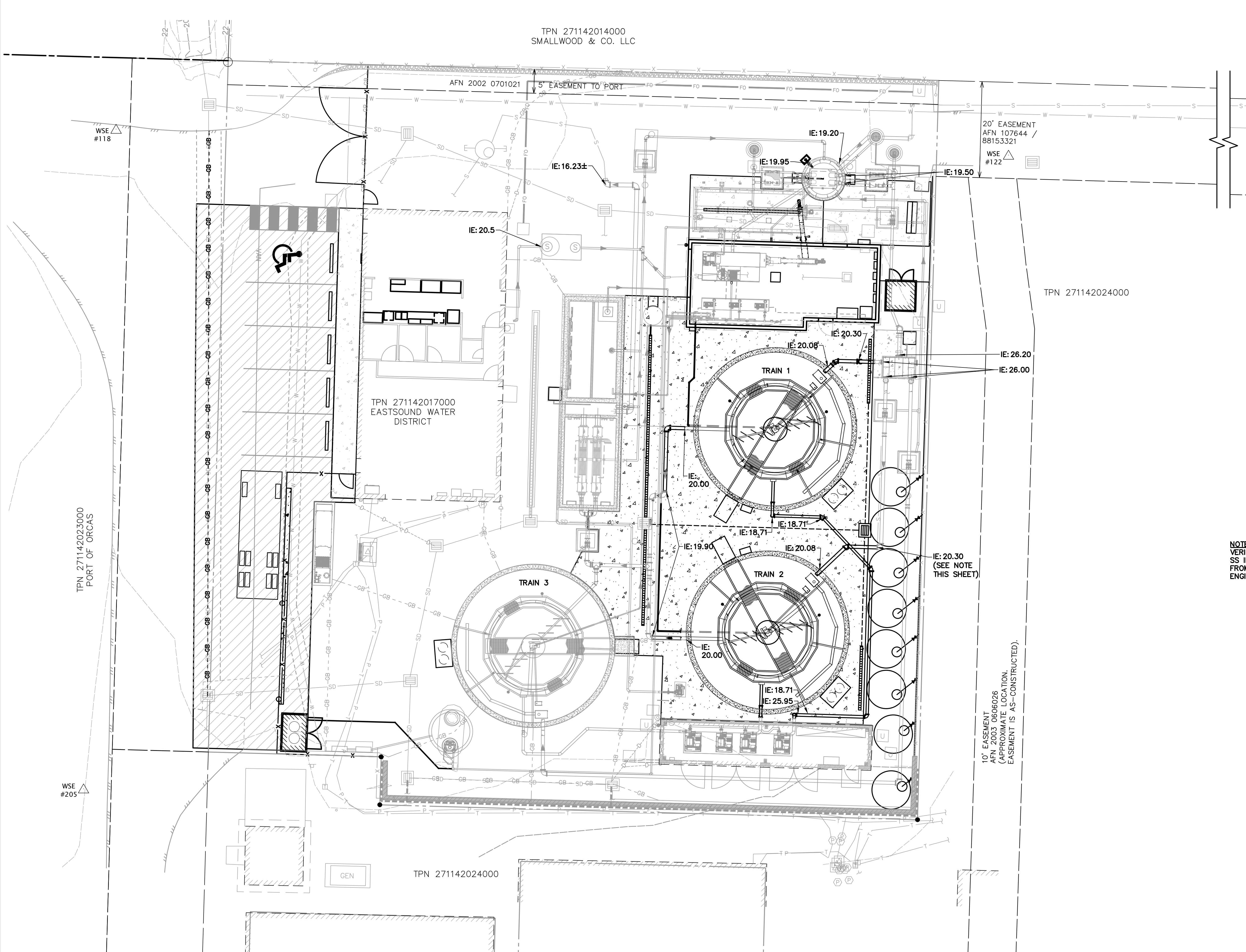

REMOVE AND REPLACE SANITARY SEWER MANHOLE #2258 WITH NEW 48"ø TYPE 1 MH. NEW MH PER WSDOT STD PLAN B-15.20-01.

INCLUDE CIRCULAR ADJUSTMENT SECTIONS, RING, AND COVER. COVER TO BE A LOCKING BOLT-DOWN STYLE COVER. CONFIGURE TO MATCH EXISTING MANHOLE. SEE SECTION 03 40 00 - PRECAST CONCRETE.

REPLACED SSMH 2258
RIM =28.79
8" PVC (W)
8" PVC (E)
FL @ CL =23.95

NOTE
VERIFY DEPTH AND LOCATION OF EXISTING TRAIN 2 SS INFLUENT LINE. IF DEPTH AND LOCATION DIFFER FROM WHAT IS SHOWN, CONTACT THE PROJECT ENGINEER.

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
SITE PIPING PLAN WITH PIPE ELEVATIONS

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET C1.4
PAGE 22 OF 91

PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
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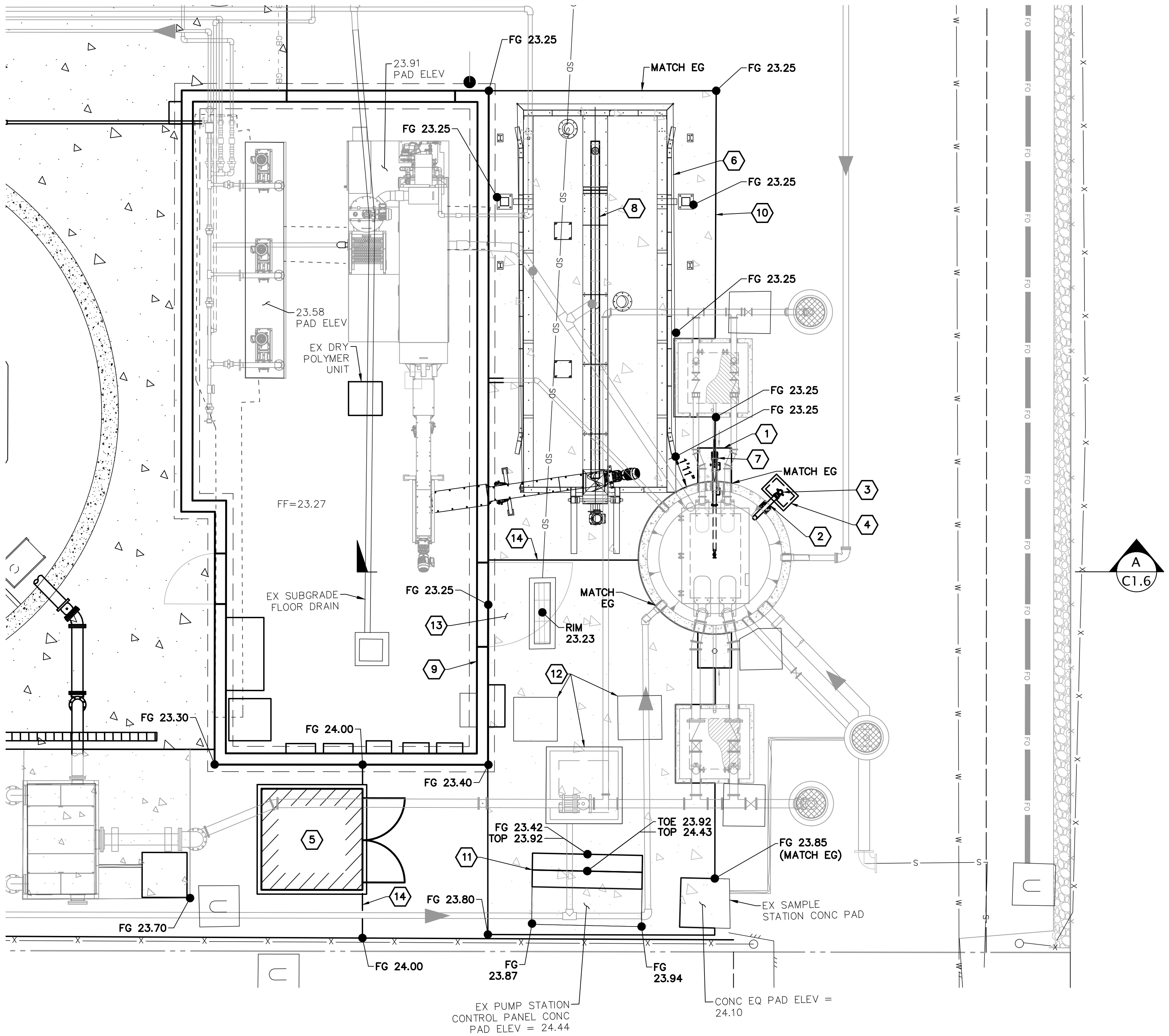

INFLUENT DISCHARGE PORT & SLUDGE BOX PLAN

4 0 4 8
SCALE HORIZONTAL SCALE FEET

IDENTIFICATION LEGEND

1	CONCRETE CRANE ANCHOR AND DAVIT CRANE BASE PER DTL 3, SHEET C6.6
2	CORE NEW HOLE DIRECTLY INTO WETWELL WALL
3	PROPOSED INFLUENT DISCHARGE PORT (4" CAMLOCK AND COVER) ALL CAMLOCK ACCESSORIES/FITTINGS ARE TO BE STAINLESS STEEL. PROVIDE FITTINGS AS NEEDED FOR WATER TIGHT ASSEMBLY.
4	COMPOSITE UTILITY VAULT WITH TRAFFIC RATED LID PROVIDED BY OWNER
5	AKALINITY STATION SHELTER PER 2/C6.6
6	20 CY SLUDGE BOX WITH SELF-LEVELING COVER SYSTEM
7	NEW PORTABLE DAVIT CRANE
8	SLUDGE BOX TRENCH DRAIN PER 4/C6.4
9	NEW DEWATER BUILDING PER SHEETS A1.1-A1.3
10	NEW 8"-THICK CONCRETE PAD SLOPING TO CENTERED TRENCH DRAIN PER 4/C6.3
11	NEW CONC STEPS TO EX EQ PAD @ 1.00% SLOPE FOR DRAINAGE. 6" EMBEDMENT BELOW FG.
12	MATCH RIM ELEV OF ALL EX VAULTS
13	CAREFULLY SLOPE CONCRETE AWAY FROM DOORWAY AT 0.8% SLOPE MIN. IF POSITIVE SURFACE SLOPE CAN NOT BE ACHIEVED, CONTACT THE ENGINEER.
14	GRADE BREAK

NO.	REVISIONS	BY	DATE

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY WASHINGTON

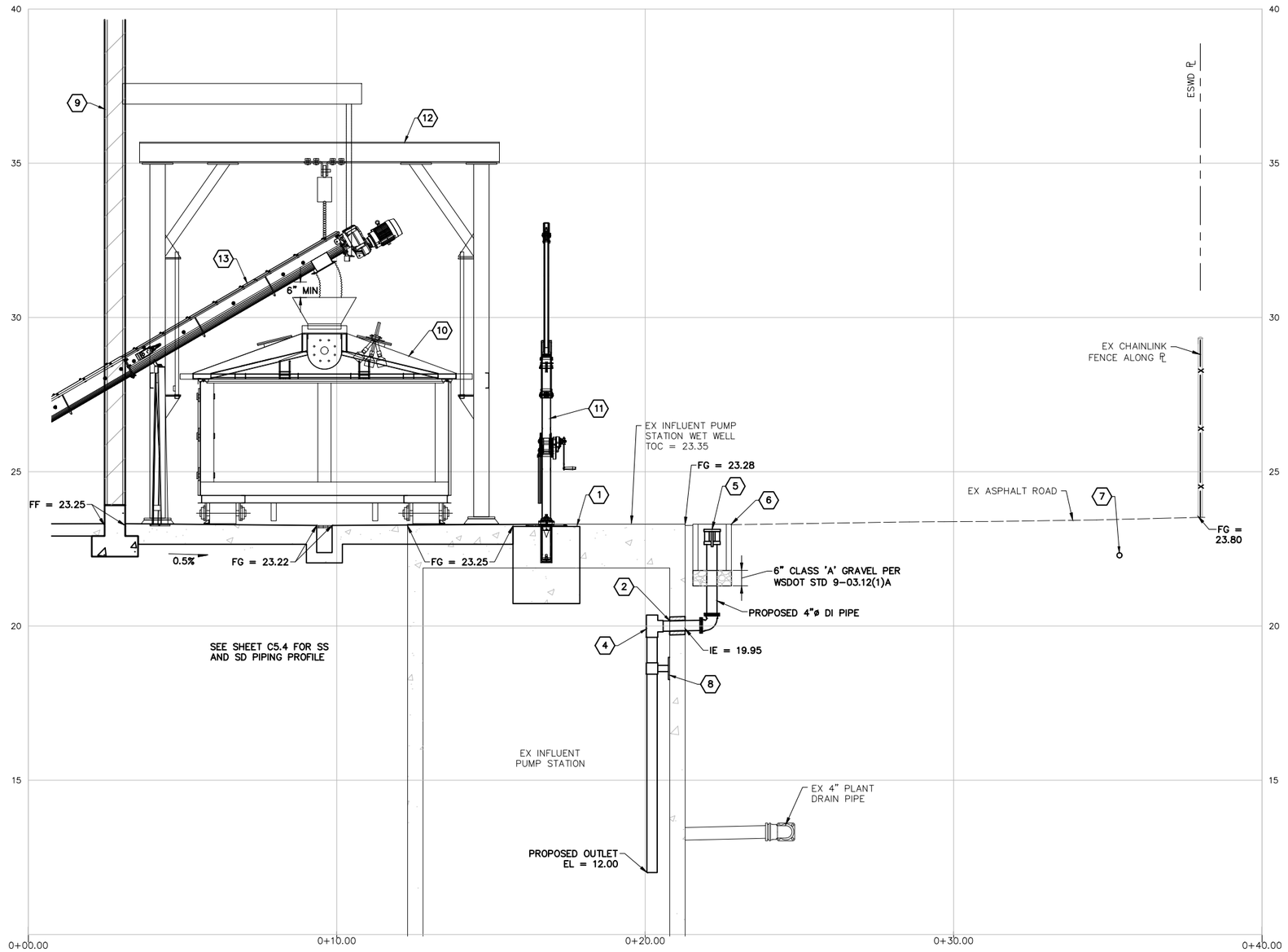
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

INFLUENT DISCHARGE PORT & SLUDGE BOX PLAN

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET C1.5

NO.	REVISIONS	BY	DATE



A INFLUENT DISCHARGE PORT & SLUDGE BOX PROFILE

SCALE 2 0 2 4 FEET — HORIZONTAL SCALE

SCALE 2 0 2 4 FEET — VERTICAL SCALE

IDENTIFICATION LEGEND

1	CONCRETE CRANE ANCHOR AND DAVIT CRANE BASE PER DTL 3, SHEET C6.6
2	CORE NEW HOLE DIRECTLY INTO WETWELL WALL
3	SLUDGE BOX TRENCH DRAIN
4	PROPOSED 4" SCH 80 PVC TEE AND DROP PIPE AS SHOWN. PROVIDE RESTRAINTS FOR WATER TIGHT CONNECTION SUITABLE FOR 100 PSI SURGE PRESSURE APPLICATIONS
5	PROPOSED INFLUENT DISCHARGE PORT (4" CAMLOCK W/ LOCKING CAP) ALL CAMLOCK ACCESSORIES/FITTINGS ARE TO BE EITHER ALUMINUM OR STAINLESS STEEL. PROVIDE FITTINGS AS NEEDED FOR WATER TIGHT ASSEMBLY
6	COMPOSITE UTILITY VAULT WITH TRAFFIC RATED LID PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR
7	PROPOSED FIBER OPTICS CONDUIT
8	PIPE SUPPORT PER DTL 5, SHEET C6.2
9	NEW DEWATER BUILDING NORTH WALL
10	20 CY SLUDGE BOX WITH SELF-LEVELING COVER SYSTEM
11	PORTABLE DAVIT CRANE PER SPEC
12	SLUDGE BOX CRANE SYSTEM (SEE SHEET C5.4)
13	SECONDARY CONVEYOR (SEE SHEET C5.4)

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
INFLUENT DISCHARGE PORT & SLUDGE BOX PROFILE

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C1.6

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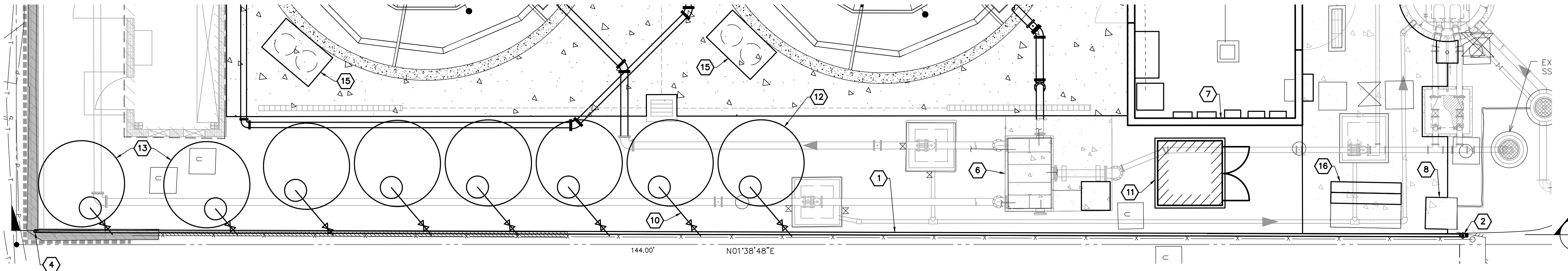
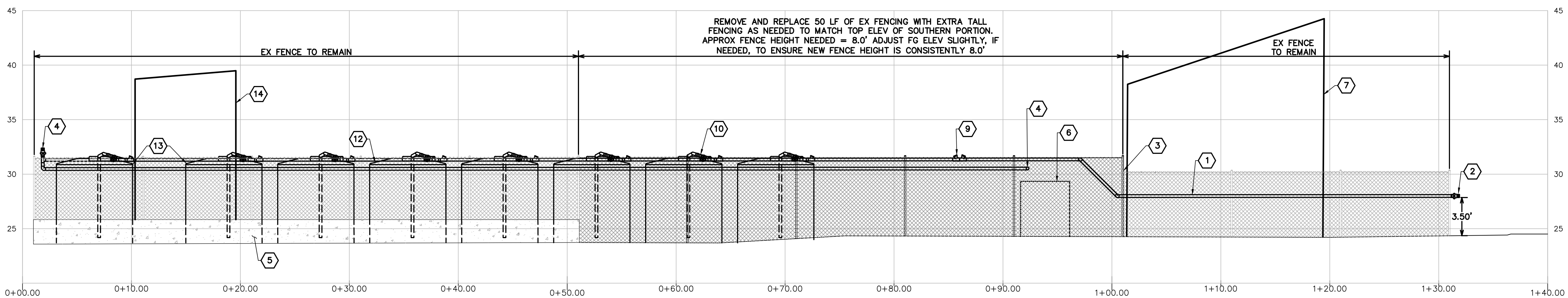
NO.	REVISIONS	BY	DATE



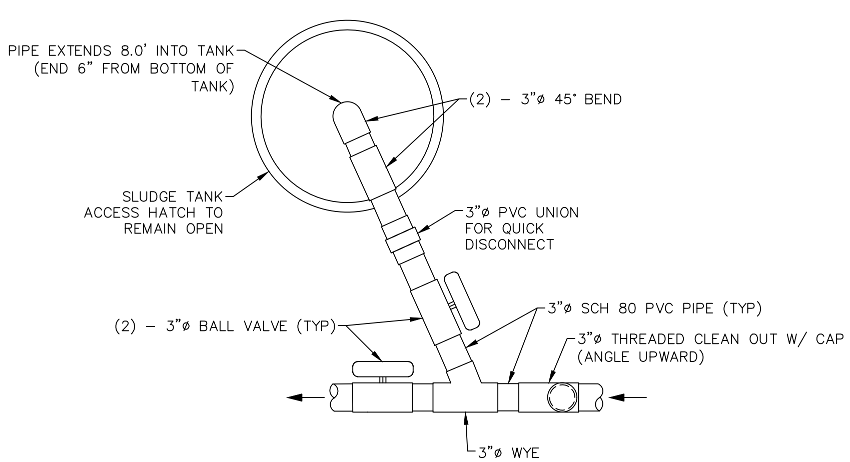
SLUDGE TANK PIPING PLAN

HORIZONTAL SCALE (SCALE 0 5 10 FEET)



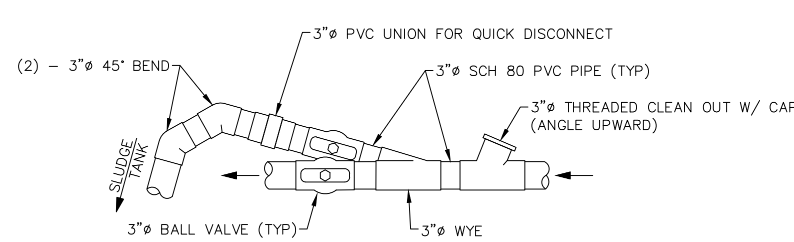
A SLUDGE TANK PIPING PROFILE

HORIZONTAL SCALE (SCALE 0 5 10 FEET) VERTICAL SCALE (SCALE 0 5 10 FEET)



1 BRANCH TO SEPTAGE TANK PLAN

NOT TO SCALE



2 BRANCH TO SEPTAGE TANK PROFILE

NOT TO SCALE

IDENTIFICATION LEGEND

1	3" SCH 80 PVC PIPE MOUNTED TO FENCE BY 316 STAINLESS STEEL ZIP TIES (PART #SSP8-LD OR EQUIV). TIES ARE TO BE PLACED AT 5.0' INCREMENTS. ENSURE ALL PIPING IS PROPERLY SUPPORTED.	9	TWO THREADED CLEAN OUTS IN OPPOSING DIRECTION (DOUBLE CLEAN OUT ASSEMBLY)
2	3" CAMLOCK & BALL VALVE	10	BRANCH INTO SLUDGE TANK (TYP) 1 – 3" BALL VALVE 2 – 3" 45° BENDS (1/–) (2/–)
3	TRANSITION TO TALLER CHAINLINK FENCE, CONTRACTOR TO VERIFY HEIGHT REQUIRED TO MATCH TALLER EX FENCE IMMEDIATELY SOUTH	11	ALKALINITY FEED SHELTER (NOT SHOWN IN PROFILE) (2/C6.6)
4	3" CAMLOCK & BALL VALVE TO SERVE AS CLEANOUT	12	EX SLUDGE STORAGE TANK FROM PUMPED SEPTIC TANKS (TYP)
5	EXISTING RETAINING WALL (~2' TALL)	13	NEW SLUDGE STORAGE TANK (2 TOTAL)
6	EXISTING FLOW SPLITTER	14	EXISTING BLOWER BUILDING
7	PROPOSED DEWATERING BUILDING	15	CARBON FEED SHELTER PER SPEC 10 56 00
8	EX SAMPLING STATION & EQ PAD TO REMAIN	16	NEW CONC STEP BETWEEN FG & TOP OF EQ PAD (7/S3.2)

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SAN JUAN COUNTY — WASHINGTON

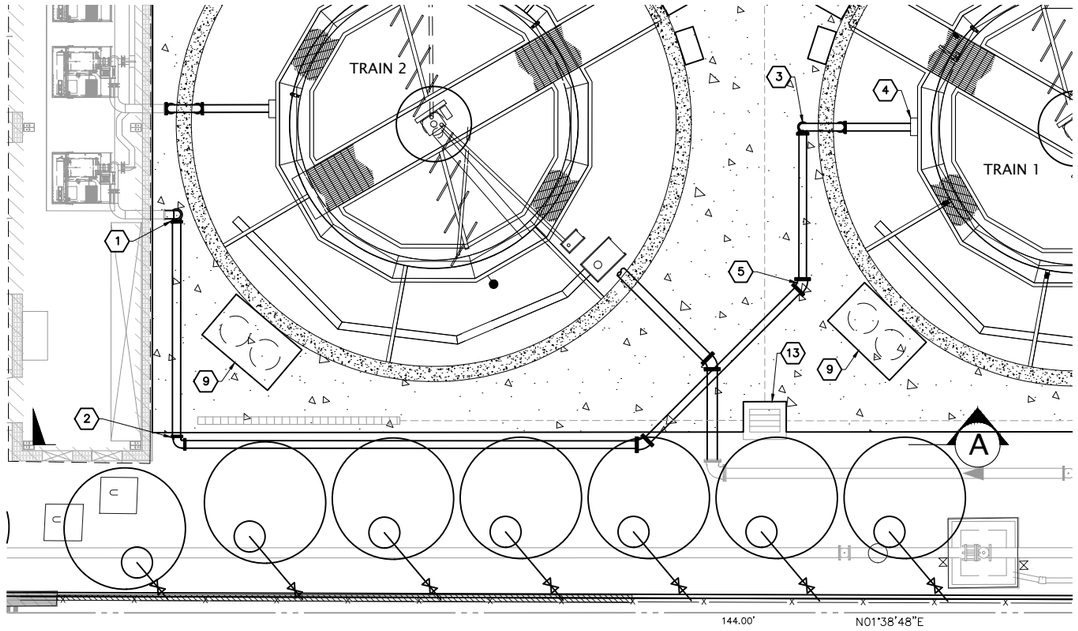
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

SEPTAGE POLYTANK PIPING PLAN & PROFILE

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET C1.7 | PAGE 25 OF 91

NO.	REVISIONS	BY	DATE

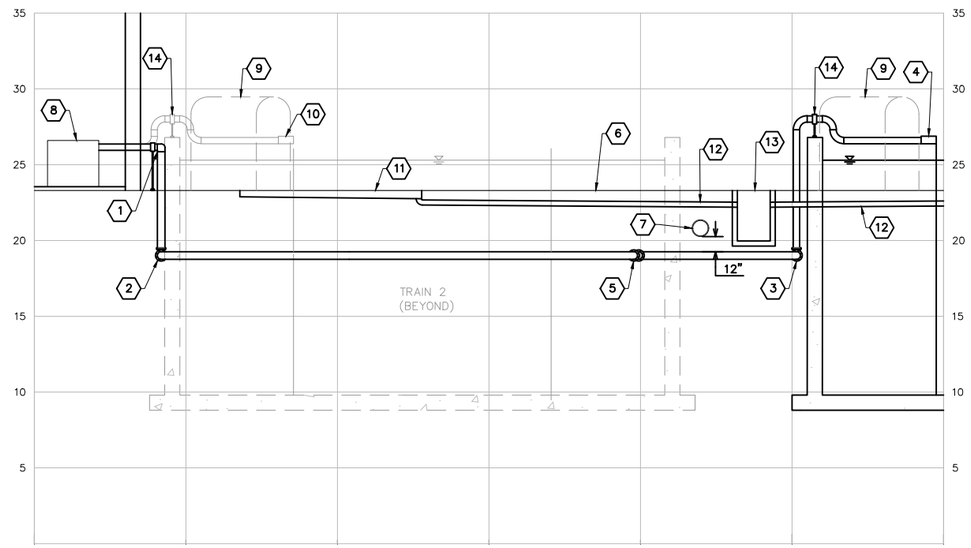


TRAIN 1 AERATION PIPING PLAN

5 0 5 10
SCALE HORIZONTAL SCALE FEET

N

IDENTIFICATION LEGEND	
1	(2)-90° VERTICAL BENDS TRANSITION TRAIN 1 AERATION PIPE UNDERGROUND & REDIRECT FLOW EAST.
2	90° HORIZONTAL BEND
3	(2)-90° VERTICAL BENDS TRANSITIONS TRAIN 1 AERATION PIPE ABOVE GRADE.
4	TRAIN 1 AIR HEADER (CATWALK NOT SHOWN IN PROFILE)
5	45° HORIZONTAL BEND (TYP)
6	FINISHED GRADE (VARIES, ~23.15')
7	TRAIN 2 INFLUENT PIPE (12"Ø DI)
8	EXISTING BLOWER
9	CARBON FEED SHELTER PER SPEC
10	TRAIN 2 AIR HEADER (CATWALK NOT SHOWN IN PROFILE)
11	PROPOSED TRENCH DRAIN (SEE SHEET C2.1)
12	4" STORM DRAIN @ 0.7% MIN
13	TYPE 1 CB (SEE SHEET C2.1)
14	PIPE SUPPORT



TRAIN 1 AERATION PIPING

A
5 0 5 10
SCALE HORIZONTAL SCALE FEET
5 0 5 10
SCALE VERTICAL SCALE FEET

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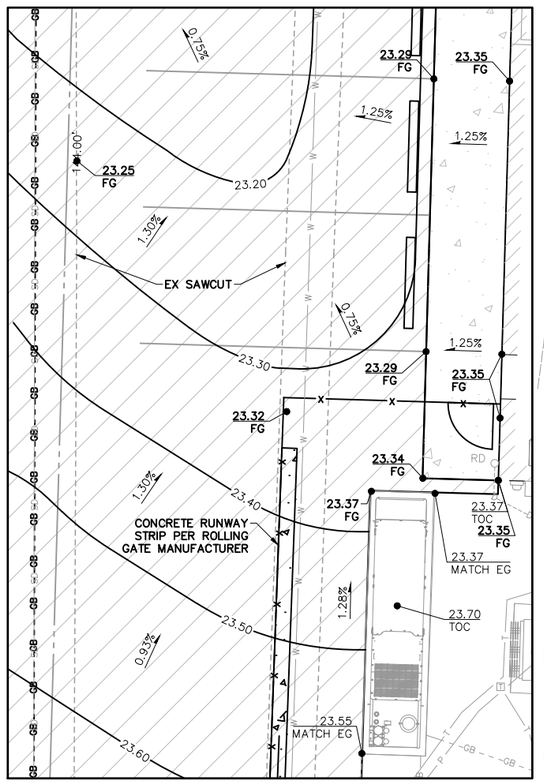
EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
TRAIN 1 AERATION PIPING PLAN & PROFILE

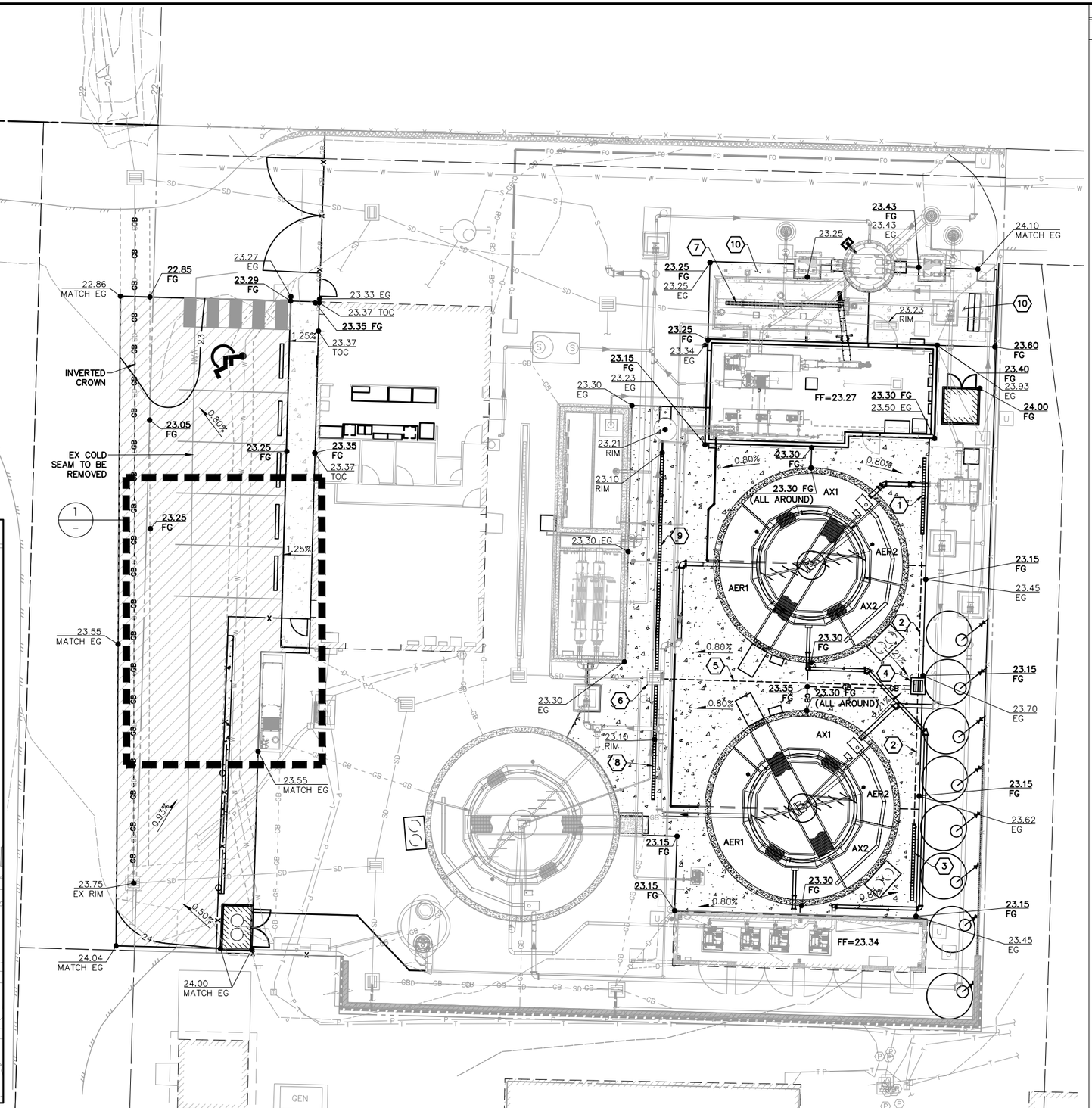
DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C1.8
PAGE 26 OF 91



1 PARKING GRADING (1/10' CONTOURS)

NOT TO SCALE



NO.	REVISIONS	BY	DATE

KEYED NOTES

1. = 13 LF TRENCH DRAIN
   RIM = 23.10
2. = 23 LF 4"ø PVC @ 2.00% SLOPE MIN
3. = 13 LF TRENCH DRAIN
   RIM = 23.10
4. = SDCB #11, TYPE 1
   RIM = 23.15
   6" (N) IE = 21.32
   6" (S) IE = 21.32
   6" (W) IE = 21.32
5. = 43.5 LF 6"ø @ 1.00% SLOPE
6. = EX SDCB #10, TYPE 1
   RIM = 23.10
   6" (N) IE = 20.88
   6" (S) IE = 20.88
   6" (W) IE = 20.88
7. = 23 LF TRENCH DRAIN, SEE SHEET C2.2 & C2.3 FOR DETAILS
8. = 20 LF TRENCH DRAIN
   RIM = 23.10
9. = 38 LF TRENCH DRAIN
   RIM = 23.10
10. = SEE SHEET C1.5 FOR ADDITIONAL FG INFORMATION AROUND PROPOSED CONCRETE SLAB

TOC = TOP OF EX CONC SLAB

NOTES:

1) MATCH ELEVATION AT BUILDING DOORS IS 0.02' BELOW FINISHED FLOOR.
2) ALL CATCH BASINS TO HAVE HERRINGBONE GRATES.
3) ALL NON-STORMWATER HATCHES AND COVERS SHOULD BE 0.02' ABOVE SURROUNDING GRADES. IN CASES WHERE HATCHES & COVERS ARE GREATER THAN 0.02' ABOVE SURROUNDING ASPHALT, SLOPE ASPHALT AT 1H:1V, AS NEEDED TO ACHIEVE 0.02' DISTANCE.
4) IF MATCHING EG WOULD NOT RESULT IN POSITIVE SURFACE SLOPE TO THE NEAREST DRAINAGE STRUCTURE OR IF EXISTING SURFACE CONDITIONS OTHERWISE DO NOT MATCH WHAT IS SHOWN ON THIS PLAN, CONTACT THE ENGINEER IMMEDIATELY.
5) SEE SHEET C0.1 FOR EXISTING CONDITIONS.

N

10 0 10 20
SCALE HORIZONTAL SCALE FEET

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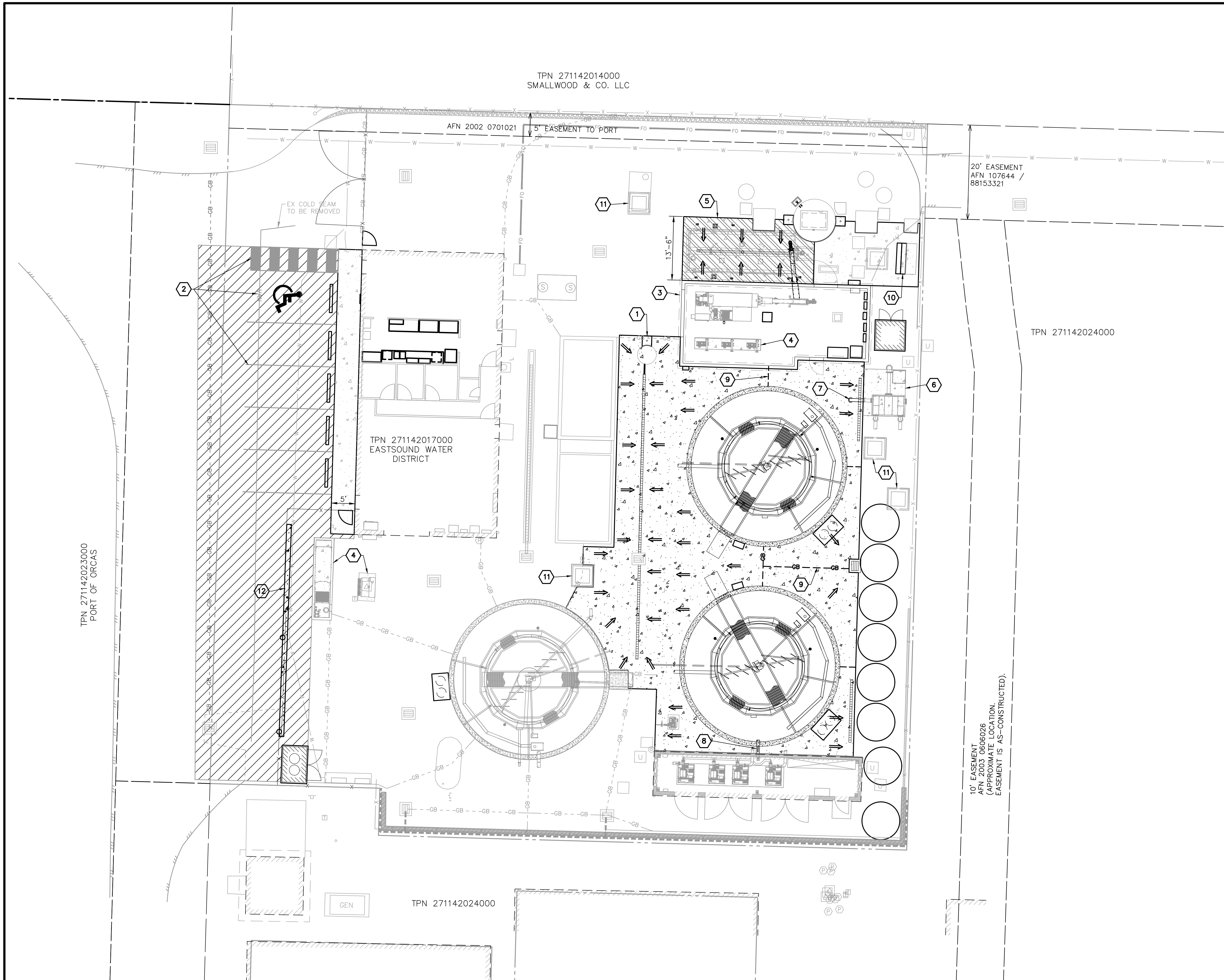
JCC	MCS	AWL

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
GRADING & STORM DRAINAGE PLAN

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C2.1
PAGE 27 OF 91



NO.	REVISIONS	BY	DATE

SURFACING PLAN LEGEND

- = EXISTING CONCRETE TO REMAIN
- = PROPOSED MEDIUM-DUTY CONCRETE PAVEMENT PER: 1/C6.2
- = PROPOSED HEAVY-DUTY CONCRETE PAVEMENT PER: 4/C6.3
- = PROPOSED ASPHALT PER:
- ASPHALT PAVEMENT= 3/C6.3
- = FLOW ARROWS
- ——GB—— = GRADE BREAK

KEYED NOTES

1. = PROPOSED DAVIT CRANE EQ PAD TO BE POURED DIRECTLY NORTH OF EX MH LID. SEE SHEET C4.2.
2. = PARKING STALL STRIPING, HANDICAP SYMBOL, AND DISABLED PARKING SIGNAGE PER DETAIL 3/C6.1
3. = PROPOSED STRUCTURAL FOOTING (TYP)
4. = EX CONCRETE EQUIPMENT PAD
5. = CONCRETE PAD BENEATH PROPOSED DUMPSTER POURED AROUND EXISTING WET WELL AND FLOW METER. SLOPE GENTLY TOWARD CENTER TRENCH DRAIN. PAD SHOULD EXTEND 6" MIN BEYOND SLUDGE BOX SUPPORT FRAME
6. = APPROXIMATE LOCATION OF EXISTING UNDERGROUND CONCRETE VAULT TO REMAIN
7. = ABOVE GROUND INFLUENT PIPE TO TRAIN #1 TRANSITIONS BELOW GRADE
8. = ABOVE GROUND AIR PIPING FROM BLOWER BUILDING TO TRAIN #2 WITH GRADE BREAK BENEATH
9. = GRADE BREAK (TYP)
10. = NEW CONC STEPS, SEE –/C1.5
11. = EX FLOW METER TO REMAIN
12. = CONCRETE RUNWAY FOR ROLLING GATE PER MANUFACTURER

SHEET NOTES

SEE SHEET C0.1 FOR EXISTING CONDITIONS.

N

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

SURFACING PLAN

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET C2.2

PAGE 28 OF 91

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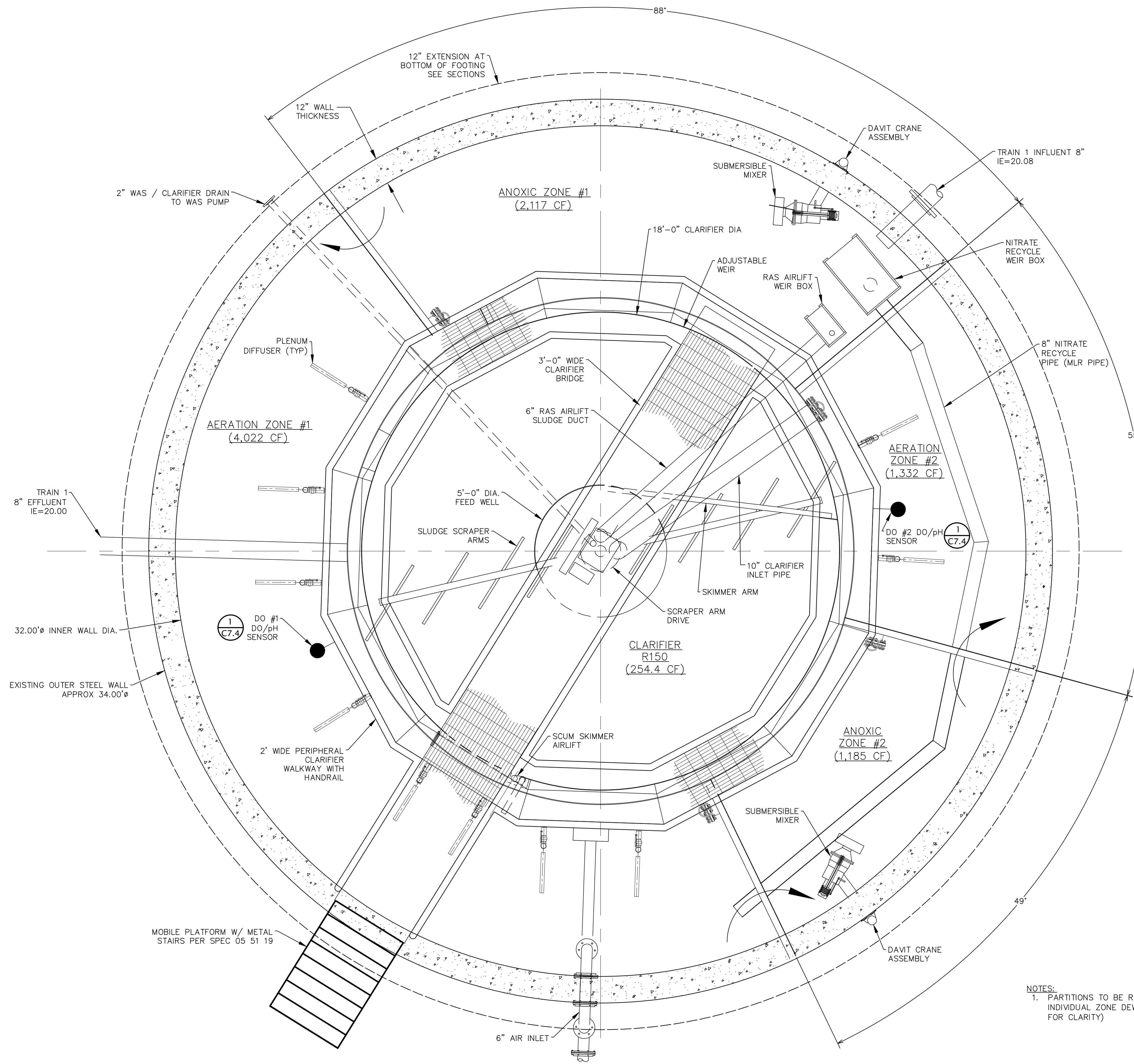

NOTES:
1. PARTITIONS TO BE REINFORCED FOR INDIVIDUAL ZONE DEWATERING. (NOT SHOWN FOR CLARITY)

N

2 0 2 4
SCALE HORIZONTAL SCALE FEET

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

TRAIN 1 PLAN

DATE: 1-27-2025
SCALE: AS SHOWN
JOB NUMBER: 2023-123
SHEET: C3.1
PAGE: 29 OF 91

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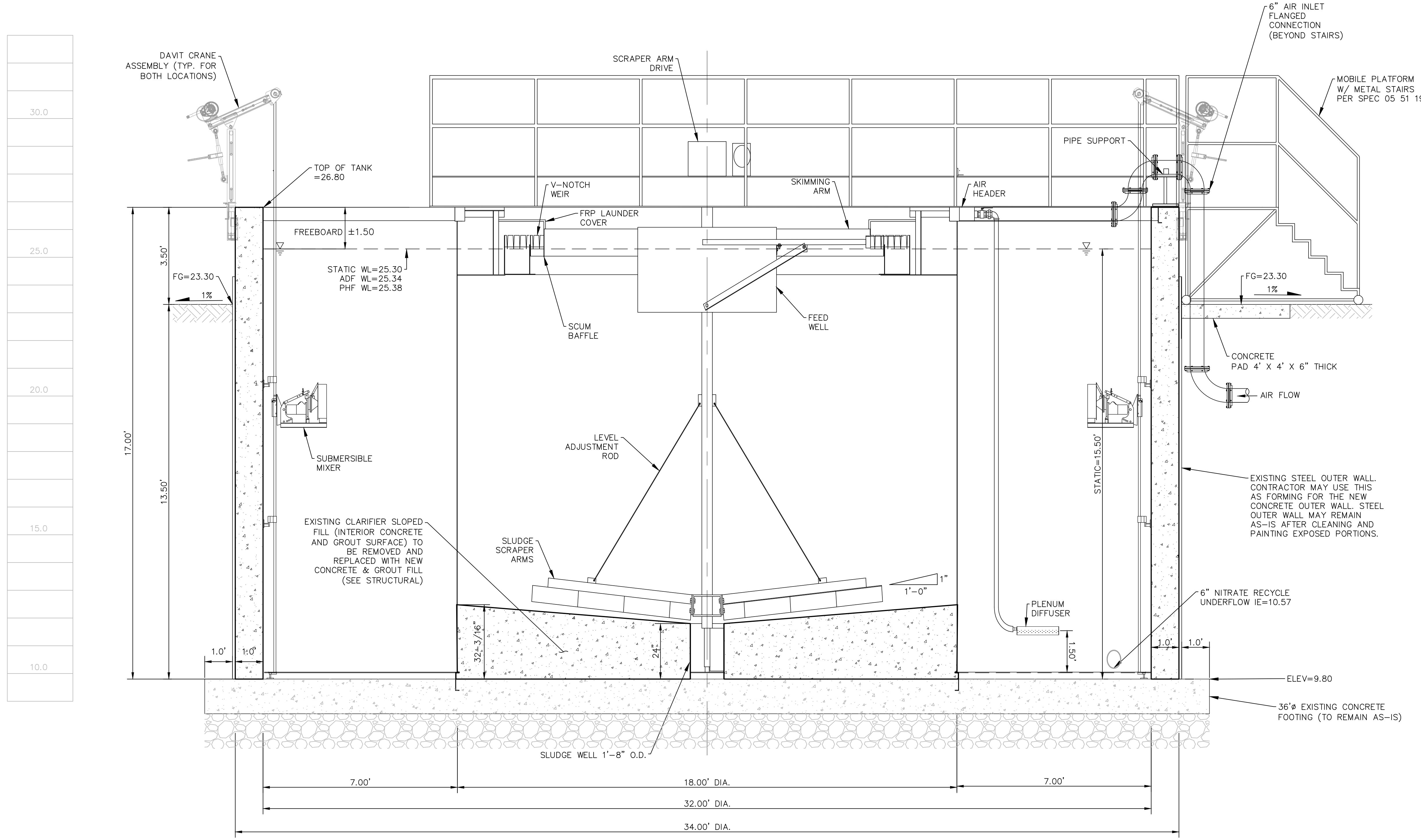

A EAST-FACING SECTIONAL ELEVATION

2 0 2 4
SCALE HORIZONTAL SCALE FEET

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SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
TRAIN 1 SECTION A

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

SHEET C3.2
PAGE 30 OF 91

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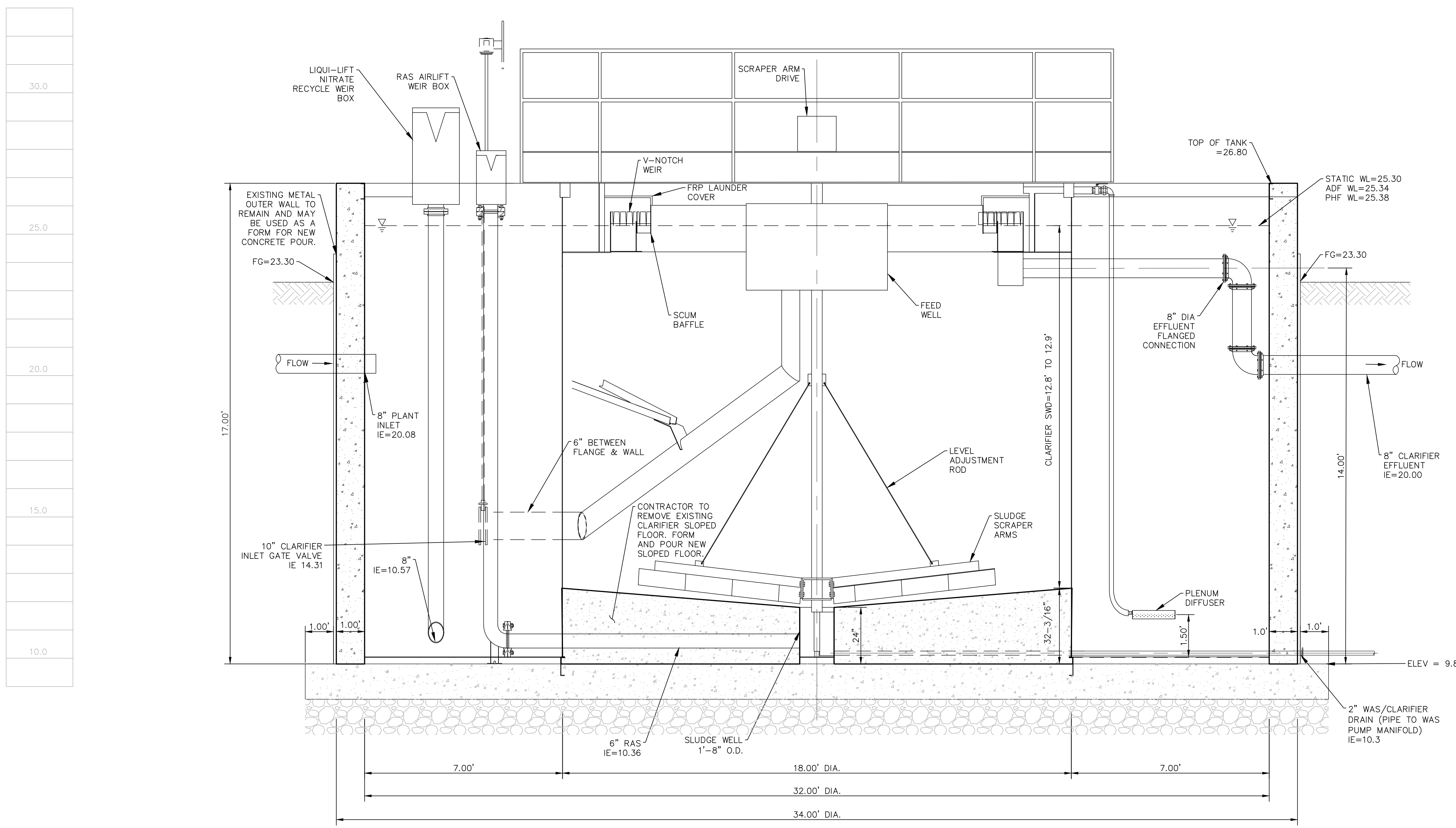

B SOUTH-FACING SECTIONAL ELEVATION

2 0 2 4
SCALE HORIZONTAL SCALE FEET

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

TRAIN 1 SECTION B

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET C3.3
PAGE 31 OF 91

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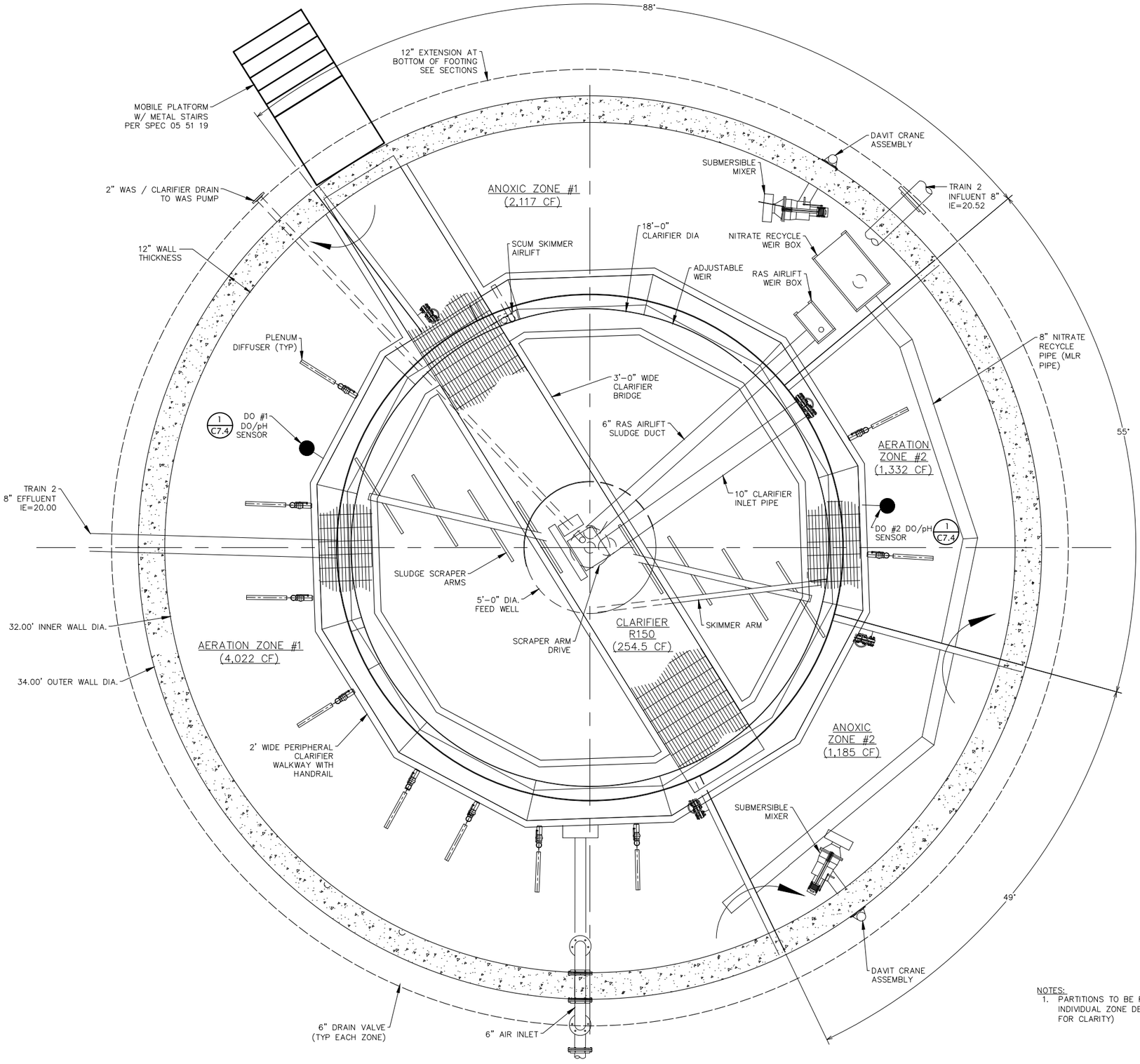

NOTES:
1. PARTITIONS TO BE REINFORCED FOR INDIVIDUAL ZONE DEWATERING. (NOT SHOWN FOR CLARITY)

NO.	REVISIONS	BY	DATE

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2 0 2 4
SCALE HORIZONTAL SCALE FEET

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
TRAIN 2 PLAN

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C3.4
PAGE 32 OF 91

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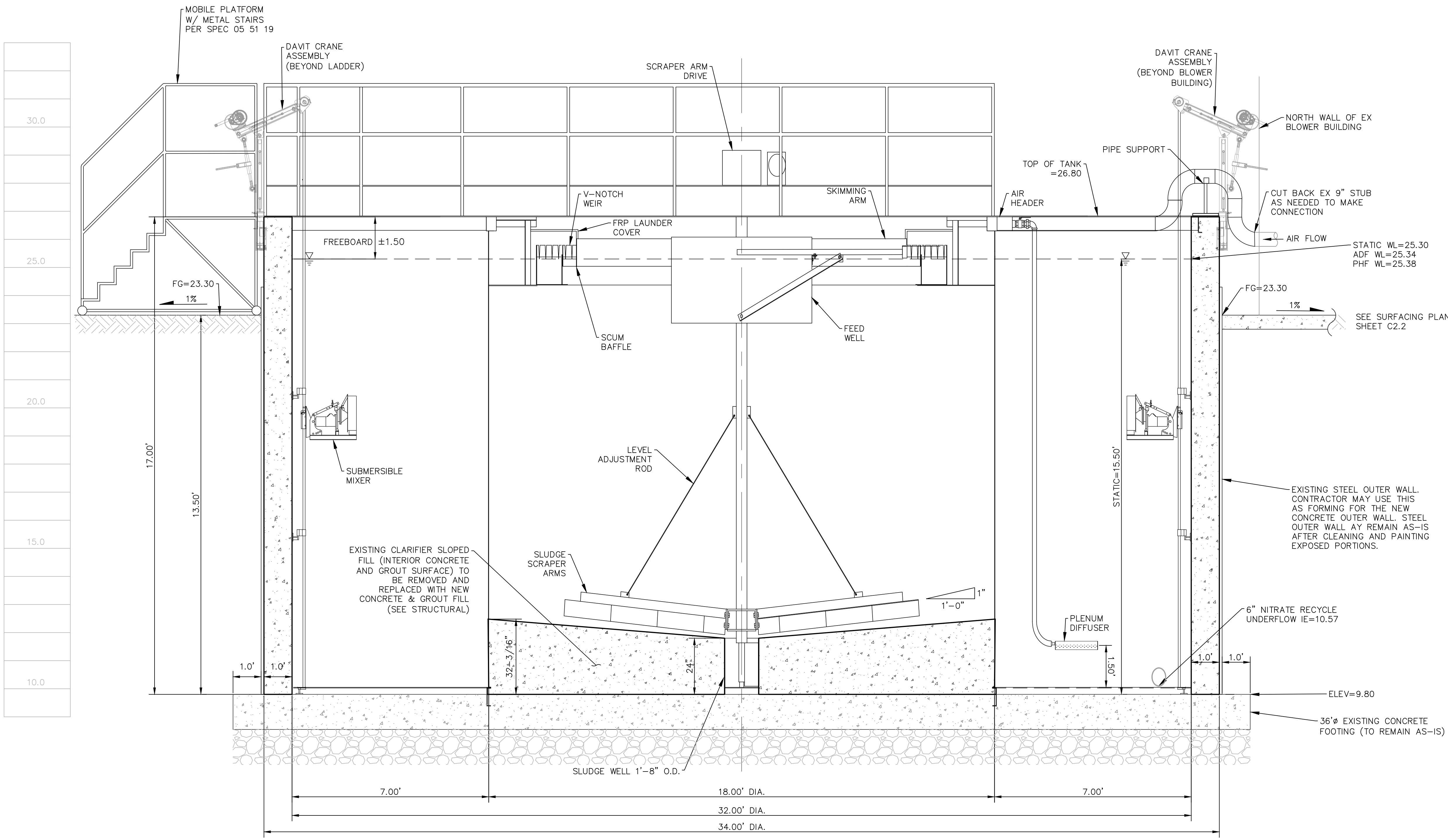

(A) EAST-FACING SECTIONAL ELEVATION

2 0 2 4
SCALE HORIZONTAL SCALE FEET

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SCALE	AS SHOWN
JOB NUMBER	2023-123
SHEET	C3.5
PAGE	33 OF 91

EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

TRAIN 2 SECTION A

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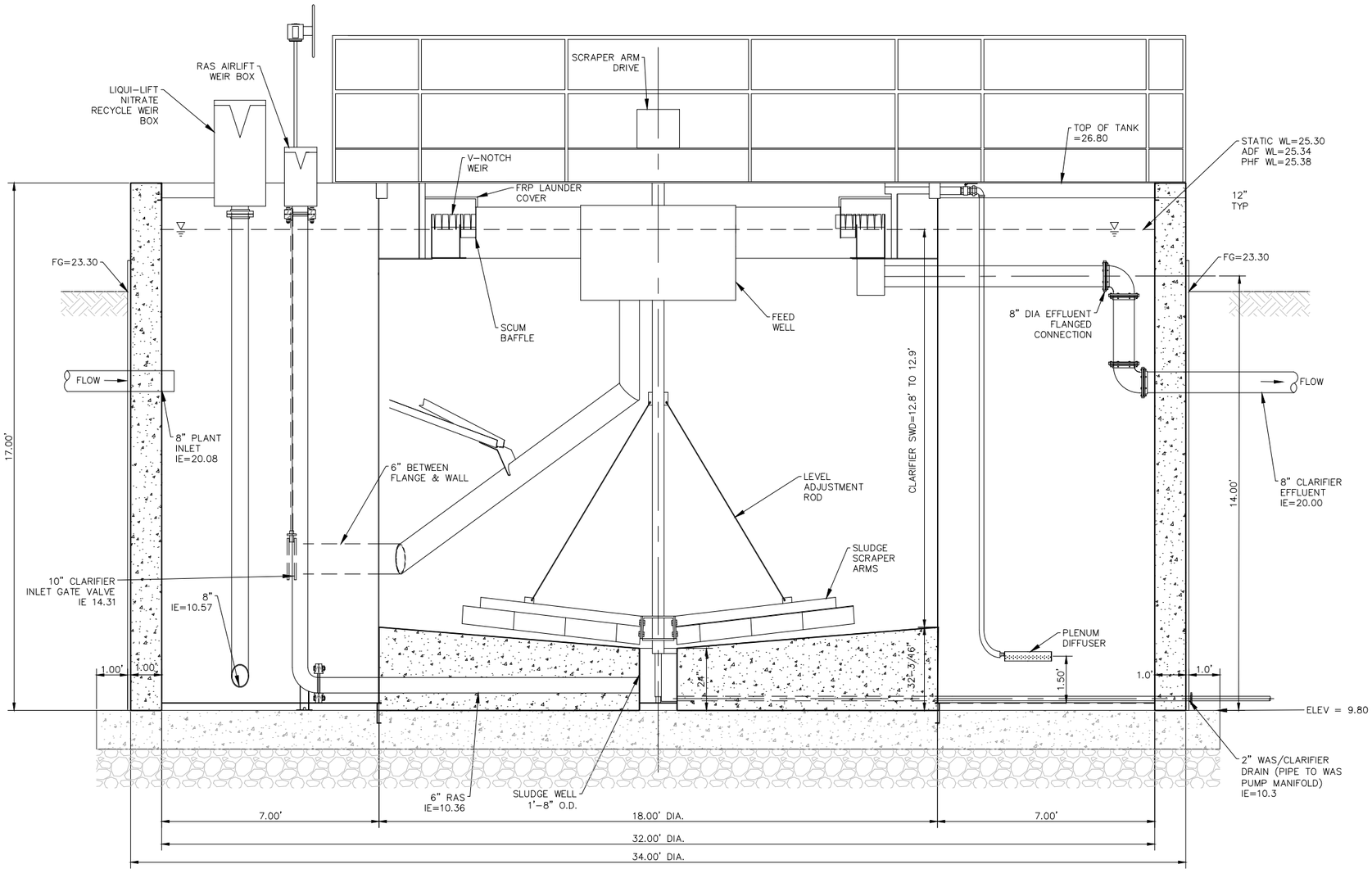

B SOUTH-FACING SECTIONAL ELEVATION

SCALE 2 0 2 4 FEET
HORIZONTAL SCALE

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SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
TRAIN 2 SECTION B

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

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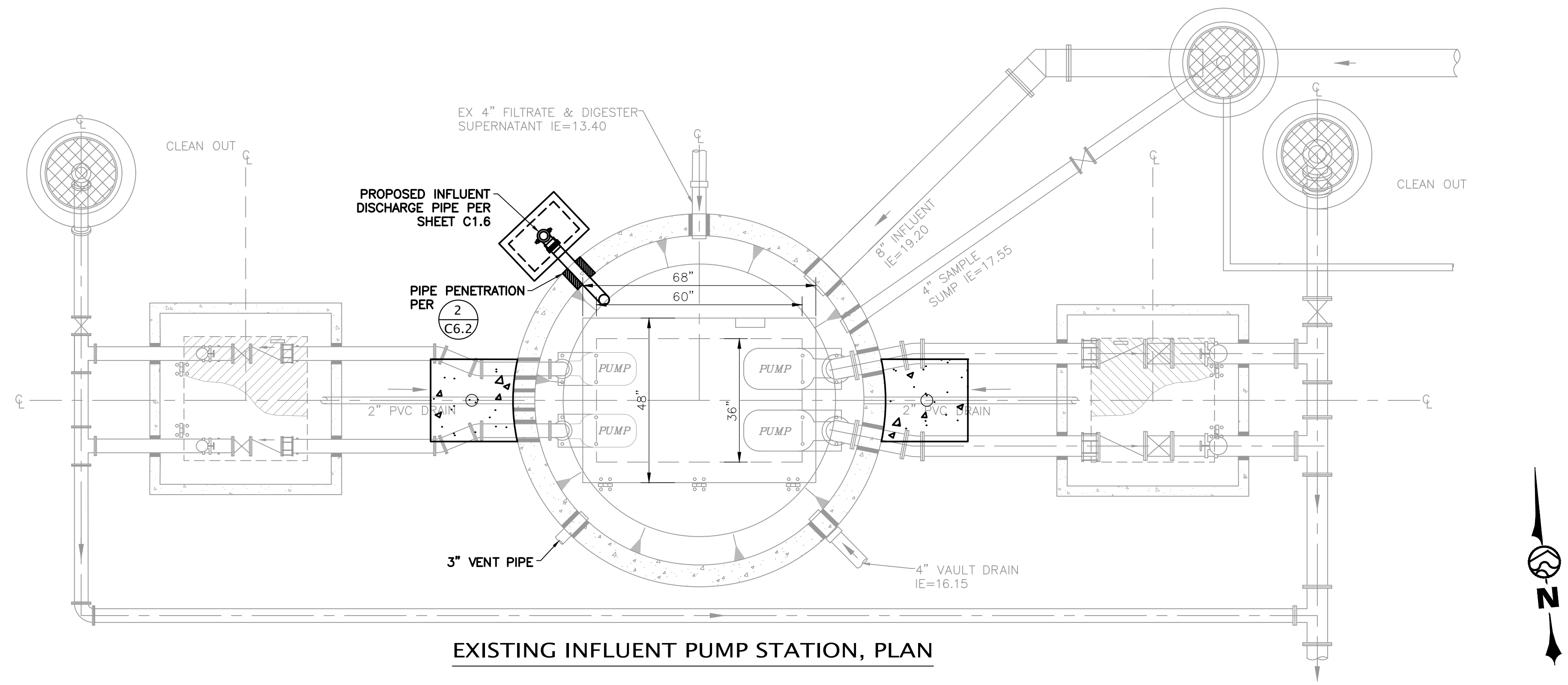
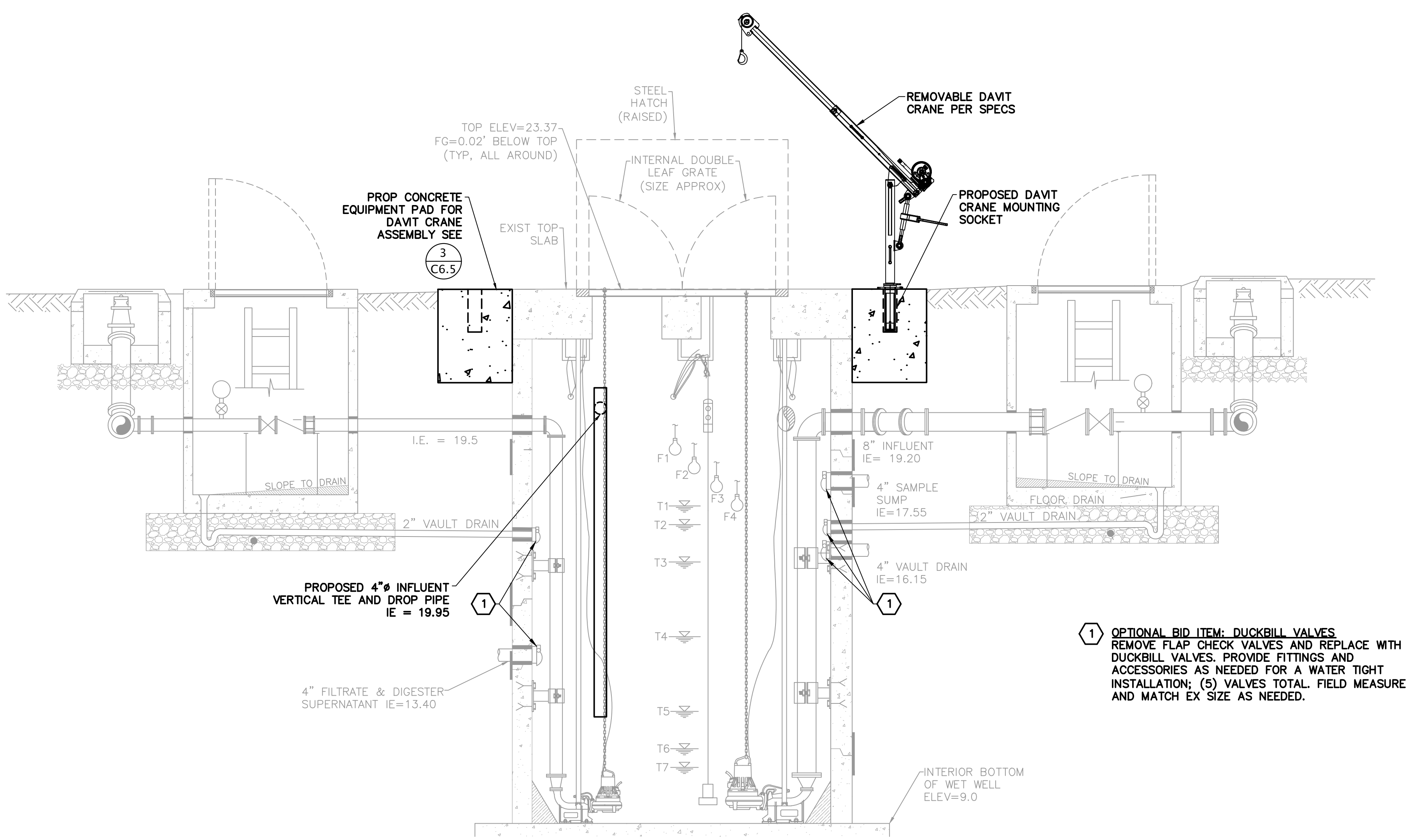


EXISTING INFLUENT PUMP STATION, PLAN



EXISTING INFLUENT PUMP STATION, ELEVATION

1 OPTIONAL BID ITEM: DUCKBILL VALVES
REMOVE FLAP CHECK VALVES AND REPLACE WITH DUCKBILL VALVES. PROVIDE FITTINGS AND ACCESSORIES AS NEEDED FOR A WATER TIGHT INSTALLATION; (5) VALVES TOTAL. FIELD MEASURE AND MATCH EX SIZE AS NEEDED.

VERTICAL SCALE: 2 0 2 4 FEET

HORIZONTAL SCALE: 2 0 2 4 FEET

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY, WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
INFLUENT PUMP STATION MODIFICATION

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET C4.1 | PAGE 35 OF 91

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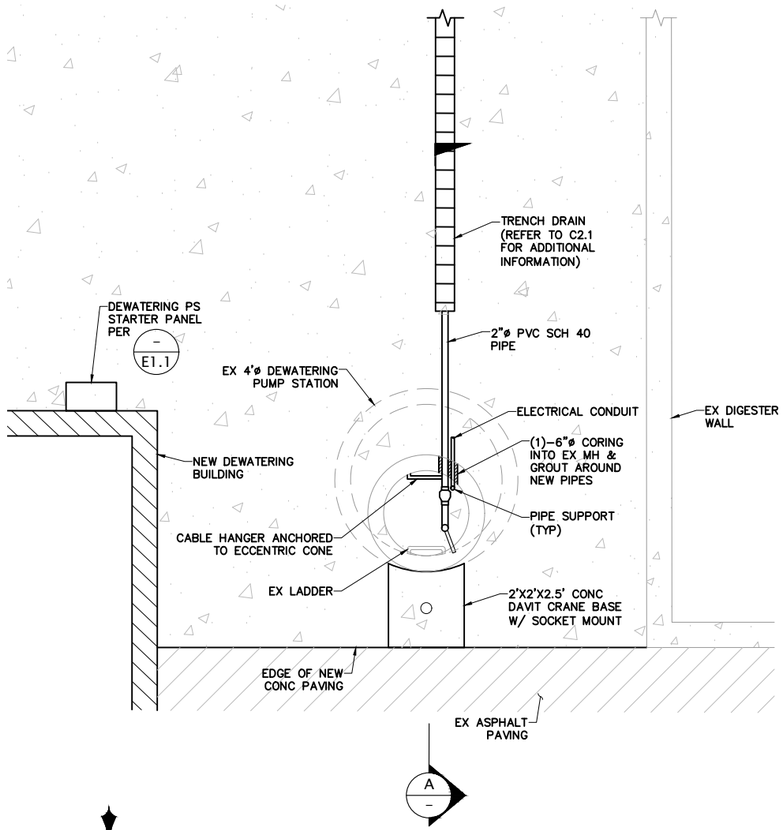
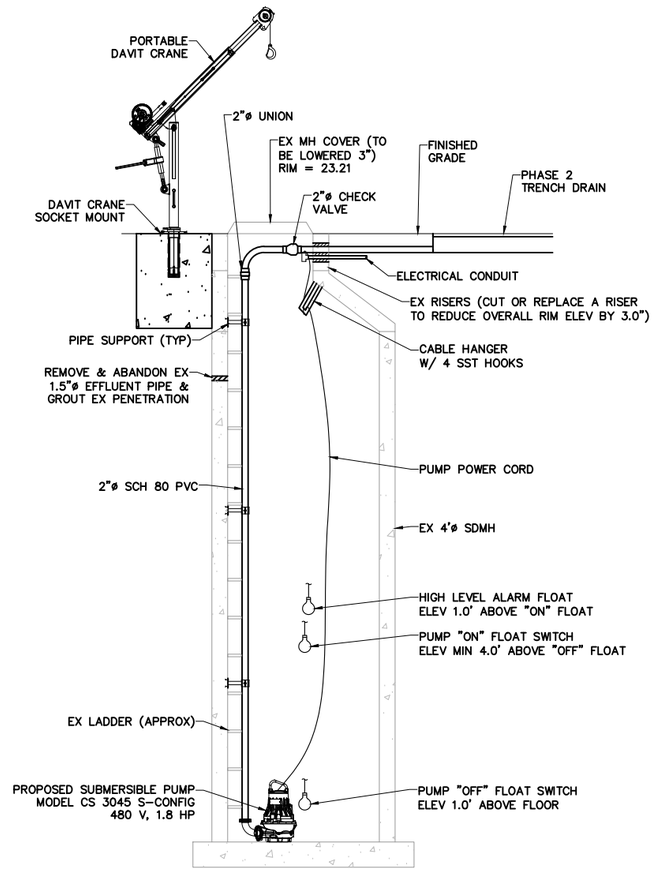


N

DEWATER SUMP PUMP STATION PLAN

2 0 2 4
SCALE HORIZONTAL SCALE FEET



A DEWATER SUMP PUMP STATION SECTION

2 0 2 4
SCALE VERTICAL SCALE FEET

2 0 2 4
SCALE HORIZONTAL SCALE FEET

DRAINAGE NOTE
ROUTE 4"ø FOOTING DRAIN FROM THE NEW DEWATERING BUILDING TO THE DEWATER SUMP PUMP STATION. FOOTING DRAIN PER 3/S2.2

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATER SUMP PUMP STATION UPGRADE

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET C4.2 | PAGE 36 OF 91

NO.	REVISIONS	BY	DATE

EASEMENT TO PORT

20' EASEMENT
AFN 107644 / 88153321

EX SSCO (TYP)

EX INFLUENT PUMP STATION

STA 0+27.27, 1.23'L
CONNECT NEW 6" DRAIN TO EX 6" STUB

B
C5.4

20 LF TRENCH DRAIN BENEATH SLUDGE BOX CONVEYS TO SS PUMP STATION

NEW 20 CY SLUDGE BOX PER SPECS

EX SDCB #2471
RIM 22.70

52 LF 6" SCH-80 PVC @ 1.00%

0+57 0+50 0+40 0+30 0+20 0+10 0+00

EX TRENCH DRAIN TO REMAIN

C
C5.5

EX 6" SS CLEANOUT

EX UTILITY PULL BOX (TYP)

EX 2" 2W WATER LINE

NEW FH TO BE INSTALLED & CONNECTED TO EX STUB

NEW CONVEYOR CARRIES DEWATERED SLUDGE TO THE SLUDGE BOX LEVEL LOADER

EX SSCO (TYP)

EX SDMH #2837
RIM 23.46
(RIM TO BE LOWERED TO 23.21)

EX DEWATERING SCREW PRESS

STA 0+27.05, 0.83'R
SD & SS CROSSING
SS IE = 18.66'
SD IE = 20.16'

EX AIR PIPE TO BE EXTENDED TO NEW FACE OF DEWATERING BUILDING

APPROXIMATE LOCATION OF EX VERTICAL SCREW PRESS TO REMAIN

EX WAS PUMPS

C5.3
A

N

BIOSOLIDS HANDLING PLAN

SCALE HORIZONTAL SCALE: 4 0 4 8 FEET

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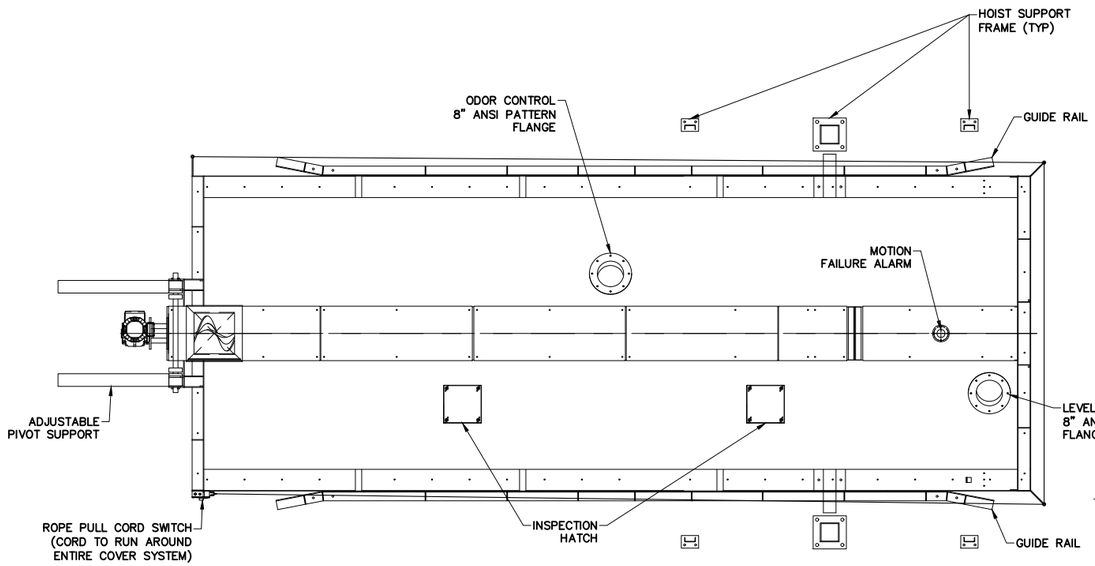
EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
BIOSOLIDS HANDLING PLAN

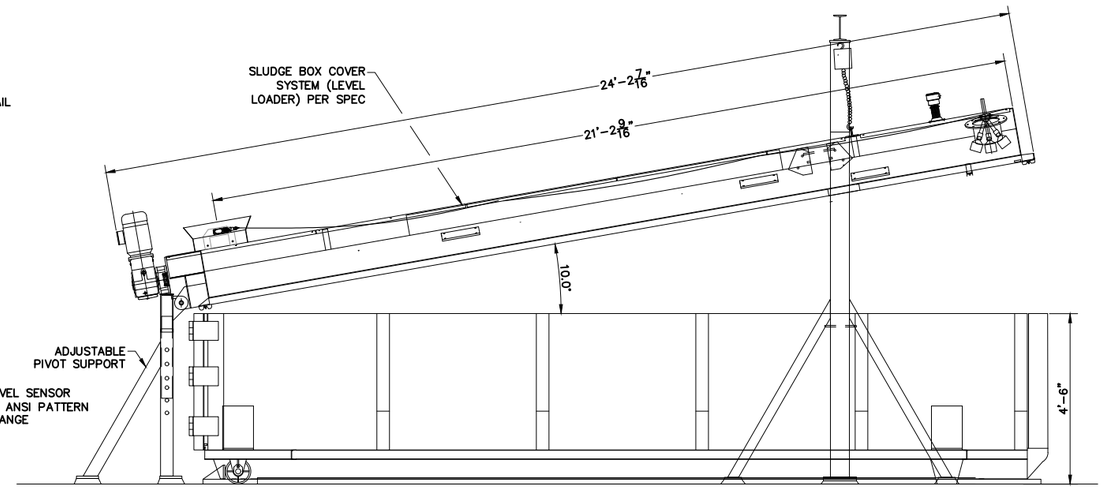
DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C5.1
PAGE 37 OF 91

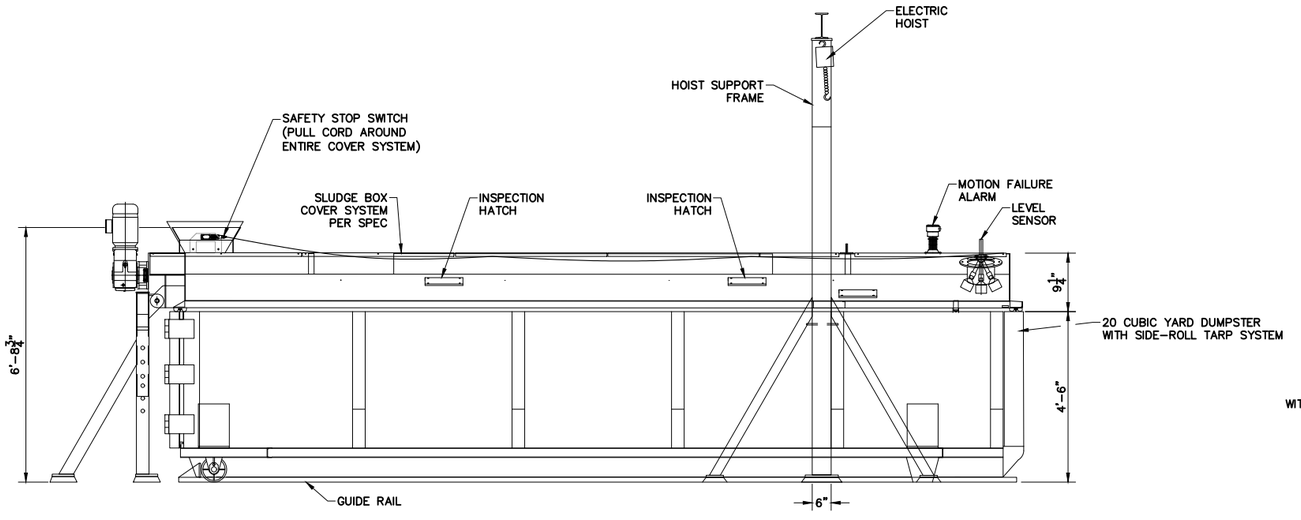
NO.	REVISIONS	BY	DATE



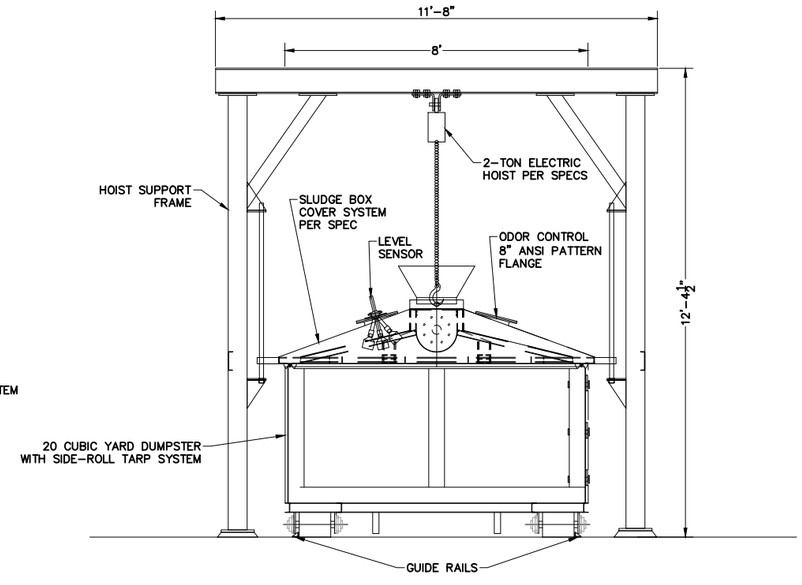
SLUDGE BOX AND COVER SYSTEM – PLAN VIEW



SLUDGE BOX AND COVER SYSTEM – LIFTED COVER ELEVATION VIEW (SOUTH)



SLUDGE BOX AND COVER SYSTEM – SOUTH ELEVATION VIEW



SLUDGE BOX AND COVER SYSTEM – EAST ELEVATION VIEW

SHEET NOTES:
1) ANY CONDUIT OR OTHER CONNECTION FOR MOTION FAILURE ALARM AND LEVEL SENSOR TO BE FLEXIBLE TO ALLOW LIFTING OF COVER.
2) ALL SUPPORT MEMBERS ARE TO BE LEVELED AND ANCHORED INTO CONCRETE FLOOR PER MANUFACTURER RECOMMENDATIONS.
3) ALL ANCHORING HARDWARE IS TO BE STAINLESS STEEL.
4) ANCHOR SIZE AND EMBEDMENT DEPTH IS TO BE PER MANUFACTURER RECOMMENDATIONS.

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
SLUDGE BOX DETAILS

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C5.2

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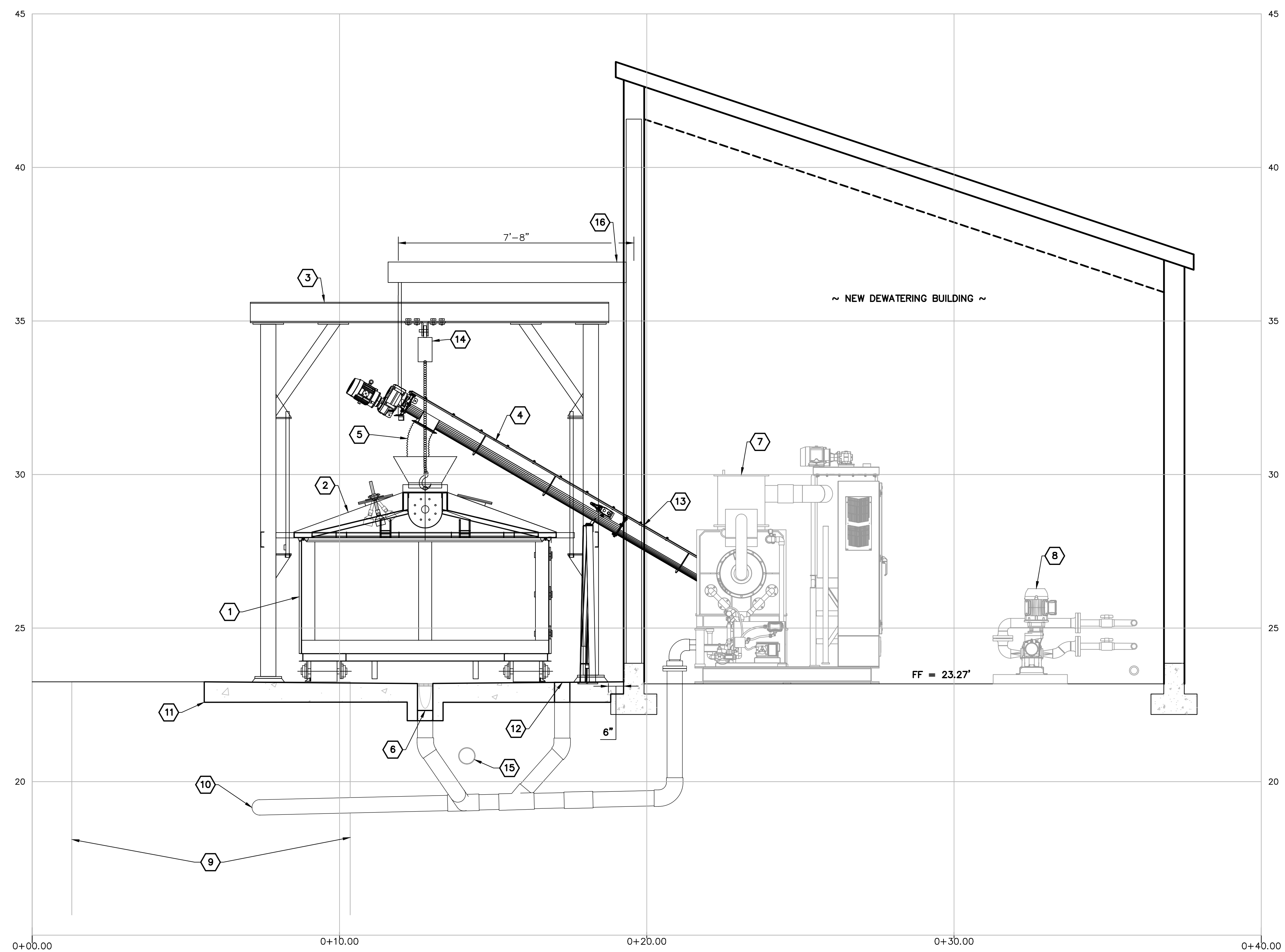

A BIOSOLIDS HANDLING SECTION

2 0 2 4
SCALE HORIZONTAL SCALE FEET

KEYED NOTES

1. = NEW 20 CY SLUDGE CONTAINMENT BOX PER SPECS
2. = NEW LEVEL-LOADER LID FOR SLUDGE BOX PER SPECS
3. = NEW CRANE FOR LEVEL-LOADER LID
4. = SECONDARY CONVEYOR TO DISCHARGE DIRECTLY INTO LEVEL LOADER HOPPER VIA CONNECTED FLEXIBLE CHUTE
5. = FLEXIBLE CHUTE
6. = TRENCH DRAIN PER SPECS TO CONNECT TO EX 6" VERTICAL STUB. CONCRETE ENCASEMENT AROUND TRENCH PER STRUCTURAL
7. = EXISTING DEWATERING SCREW PRESS
8. = EXISTING WAS PUMPS FOR TRAINS 1, 2, & 3
9. = EXISTING SS INFLUENT PUMP STATION VAULT
10. = EXISTING PRESSATE LINE DISCHARGES INTO EX PUMP STATION VAULT
11. = NEW 8"-THICK CONCRETE SLAB PER 4/C6.3
12. = EX CLEANOUT TO PRESSATE LINE. ENSURE LID IS FLUSH WITH TOP OF NEW CONCRETE SLAB.
13. = CONTRACTOR TO FRAME AND FLASH AROUND WALL PENETRATION FOR SECONDARY CONVEYOR EQUIPMENT.
14. = NEW HOIST FOR LEVEL-LOADER LID
15. = APPROX LOCATION OF EX 6" PVC STORM DRAIN
16. = SUPPORT BEAM FOR SECONDARY SCREW CONVEYOR PER 3/S2.1

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

BIOSOLIDS HANDLING SECTION

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET C5.3

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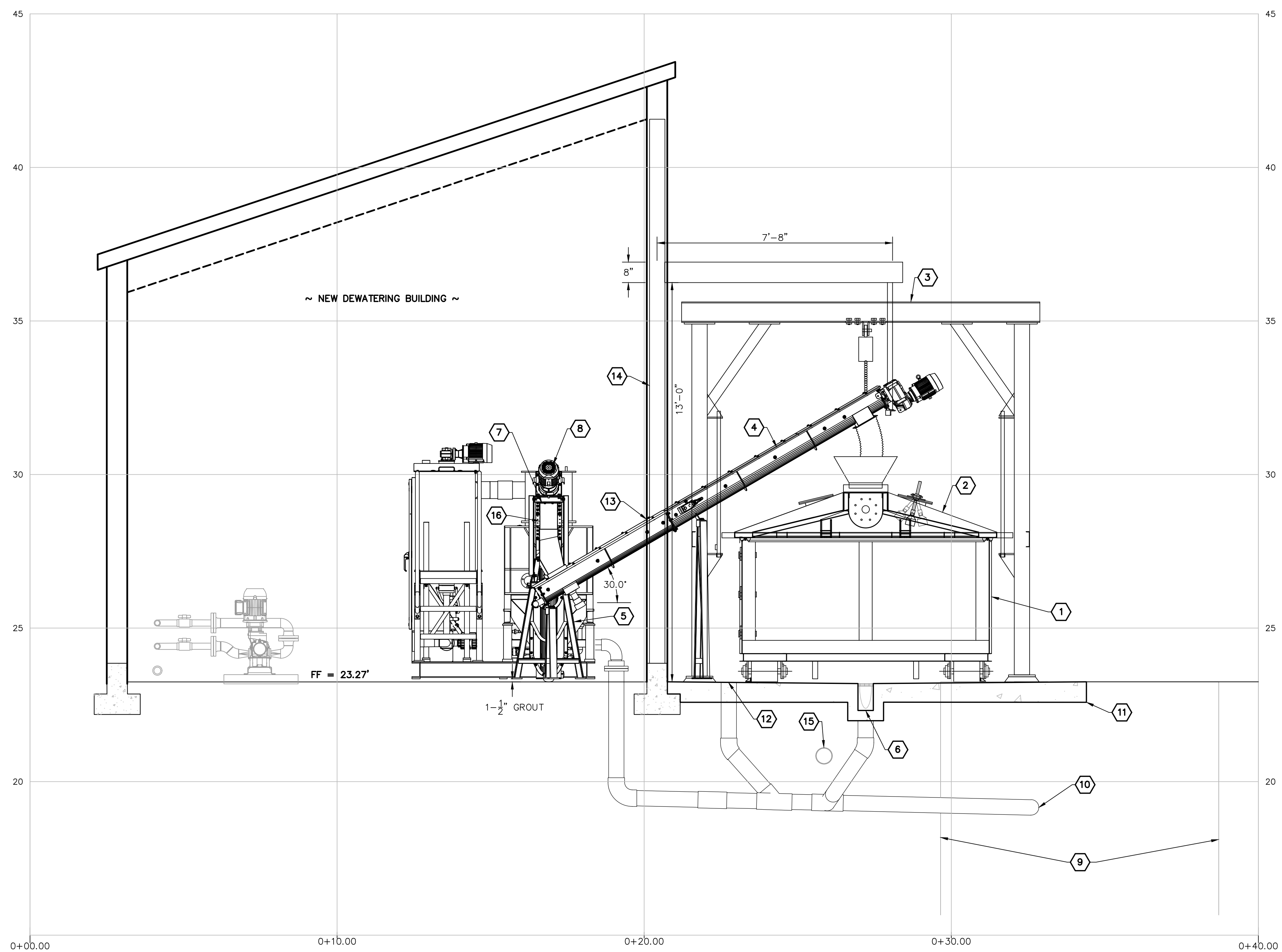

B — BIOSOLIDS HANDLING SECTION

HORIZONTAL SCALE 2 0 2 4 SCALE FEET

KEYED NOTES

1. = NEW 20 CY SLUDGE CONTAINMENT BOX PER SPECS
2. = NEW LEVEL-LOADER LID FOR SLUDGE BOX PER SPECS
3. = NEW CRANE FOR LEVEL-LOADER LID
4. = SECONDARY CONVEYOR TO DISCHARGE DIRECTLY INTO LEVEL LOADER HOPPER VIA CONNECTED FLEXIBLE CHUTE
5. = STAINLESS STEEL TRIPOD TO SUPPORT SECONDARY CONVEYOR
6. = TRENCH DRAIN PER SPECS TO CONNECT TO EX 6" VERTICAL STUB. CONCRETE ENCASEMENT AROUND TRENCH PER STRUCTURAL
7. = NEW SECONDARY CONVEYOR CONNECTS TO PRIMARY CONVEYOR CHUTE
8. = EX PRIMARY CONVEYOR
9. = EXISTING SS INFLUENT PUMP STATION VAULT
10. = EXISTING PRESSATE LINE DISCHARGES INTO EX PUMP STATION VAULT
11. = NEW 8"-THICK CONCRETE SLAB PER 4/C6.3
12. = EX CLEANOUT TO PRESSATE LINE. ENSURE LID IS FLUSH WITH TOP OF NEW CONCRETE SLAB.
13. = CONTRACTOR TO FRAME AND FLASH AROUND WALL PENETRATION FOR SECONDARY CONVEYOR EQUIPMENT.
14. = SUPPORT BEAM FOR SECONDARY SCREW CONVEYOR PER 3/S2.1
15. = APPROX LOCATION OF EX 6" PVC STORM DRAIN
16. = STAINLESS STEEL CHUTE FROM PRIMARY CONVEYOR TO SECONDARY CONVEYOR

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
BIOSOLIDS HANDLING SECTION

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET C5.4
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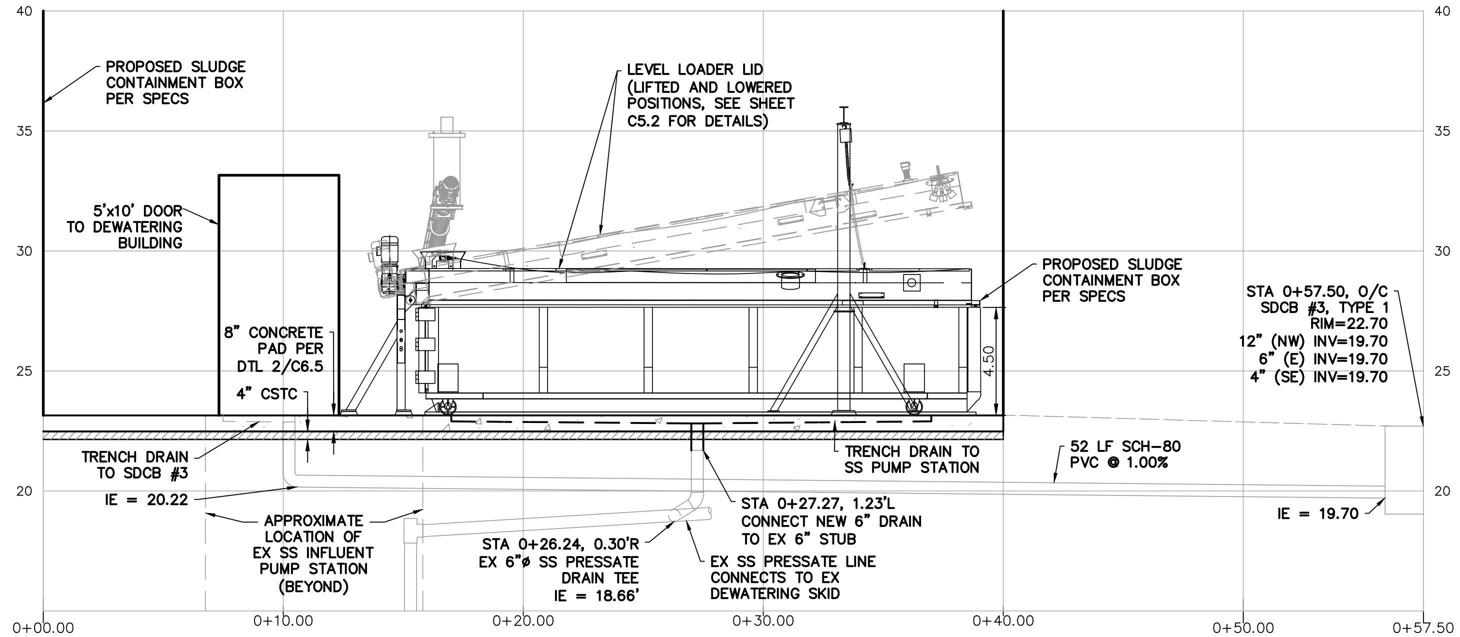
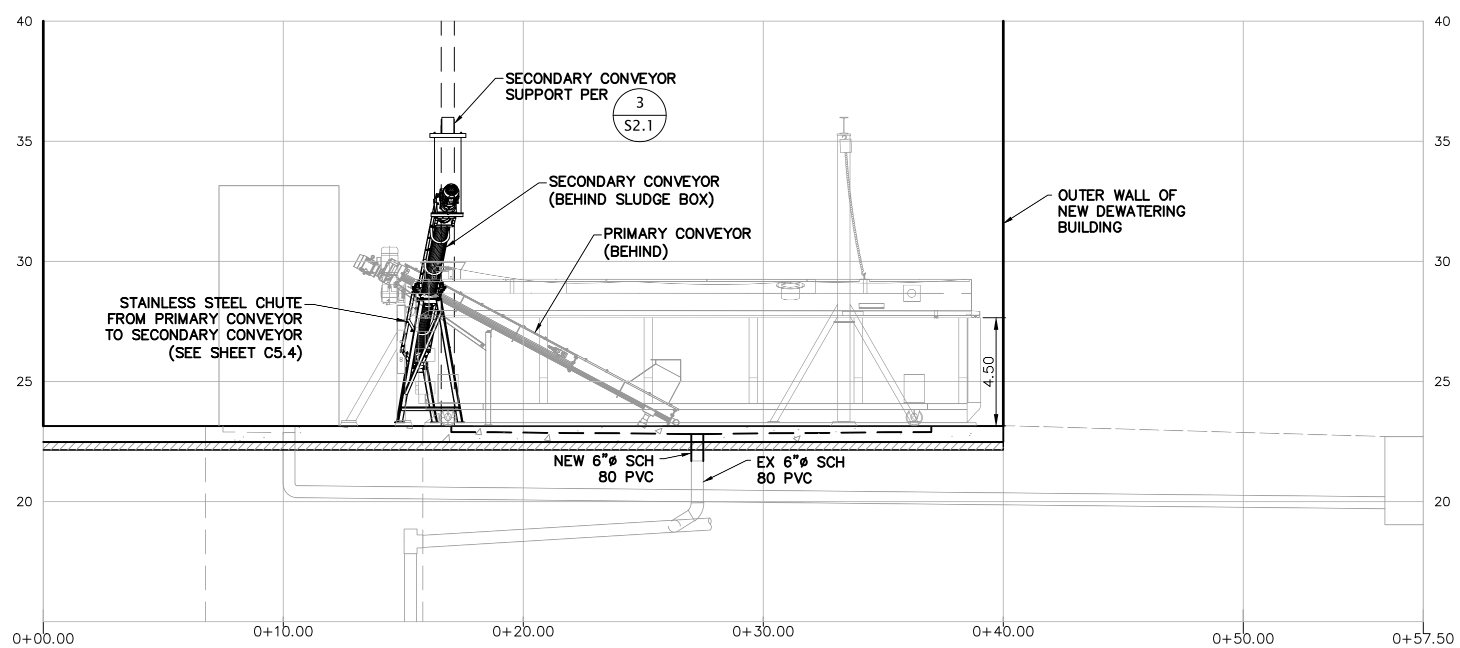
NO.	REVISIONS	BY	DATE



C
C5.1

SLUDGE BOX PIPING PROFILE

HORIZONTAL SCALE: 4 0 4 8 FEET — VERTICAL SCALE: 4 0 4 8 FEET



C
C5.1

CONVEYOR PROFILE

HORIZONTAL SCALE: 4 0 4 8 FEET — VERTICAL SCALE: 4 0 4 8 FEET

Call 811 two business days before you dig

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JEFFREY G. CHRISTNER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 01-27-2025

DESIGNED BY JCC
DRAWN BY MCS
CHECKED BY AWL

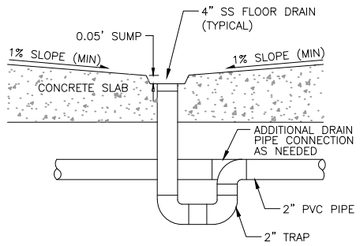
EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

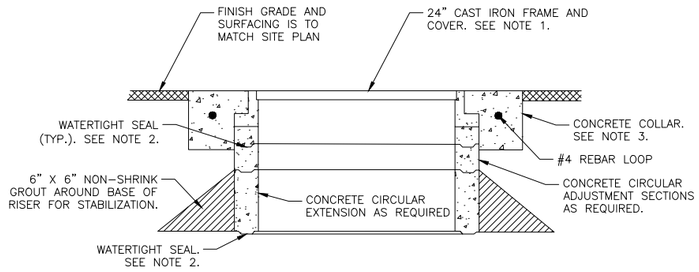
SLUDGE BOX PIPING PROFILE

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET C5.5
PAGE 41 OF 91



1 TYPICAL FLOOR DRAIN

NOT TO SCALE

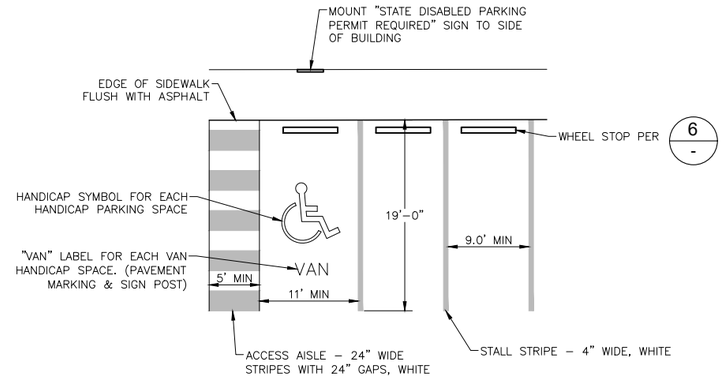


NOTES:

1. MANHOLE FRAME AND COVER SHALL BE PLACED AT GRADE AND LEVEL WITH EXISTING ROADWAY.
2. ASPHALTIC SEALANT SHALL BE USED, RAMNEK OR EQUAL, TO PROVIDE WATERTIGHT SEAL BETWEEN TANK AND RISER AND GRADE RINGS.
3. 12" WIDE BY 8" THICK STEEL REINFORCED CONCRETE COLLAR INSTALLED AROUND RISERS IN ALL TRAFFIC RATED AREAS.

2 TRAFFIC RATED RISER AND LID DETAIL

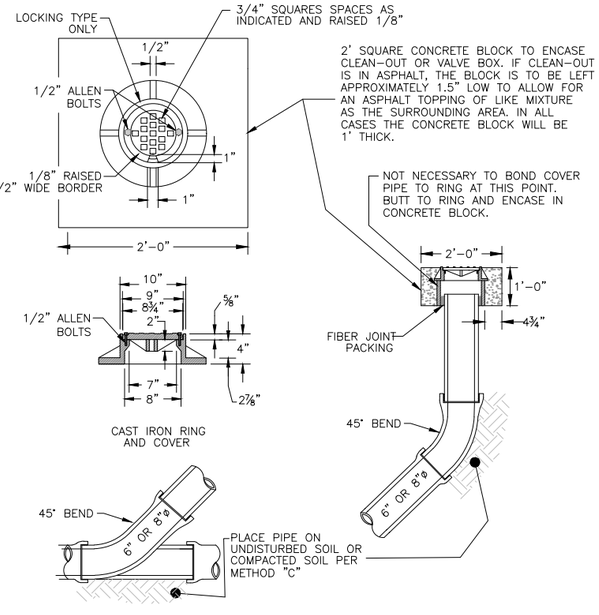
NOT TO SCALE



** STRIPING SHALL BE THERMOPLASTIC MATERIAL (NOT PAINT) AND CONFORM TO WSDOT 8-22 AND SJCC 18.30.630(A)(4)

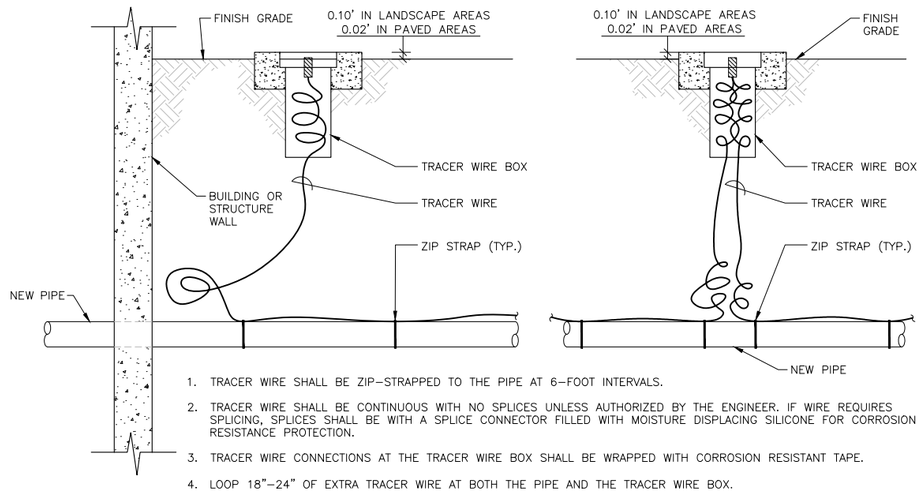
3 PARKING STALL STRIPING

NOT TO SCALE



4 GRAVITY SEWER CLEANOUT DETAIL

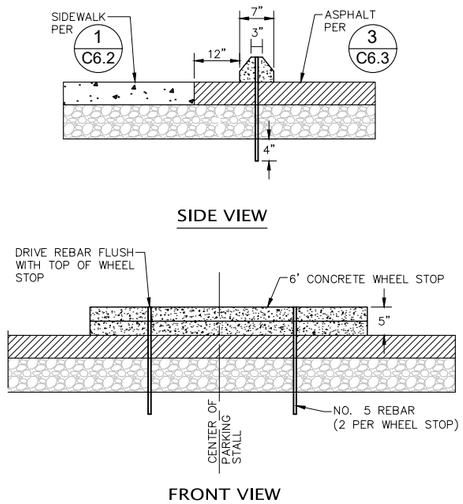
NOT TO SCALE



1. TRACER WIRE SHALL BE ZIP-STRAPPED TO THE PIPE AT 6-FOOT INTERVALS.
2. TRACER WIRE SHALL BE CONTINUOUS WITH NO SPLICES UNLESS AUTHORIZED BY THE ENGINEER. IF WIRE REQUIRES SPLICING, SPLICES SHALL BE WITH A SPLICE CONNECTOR FILLED WITH MOISTURE DISPLACING SILICONE FOR CORROSION RESISTANCE PROTECTION.
3. TRACER WIRE CONNECTIONS AT THE TRACER WIRE BOX SHALL BE WRAPPED WITH CORROSION RESISTANT TAPE.
4. LOOP 18"-24" OF EXTRA TRACER WIRE AT BOTH THE PIPE AND THE TRACER WIRE BOX.
5. CONTRACTOR SHALL PERFORM A CONDUCTIVITY/LOCATE UPON COMPLETION OF THE INSTALLATION.
6. TRACER WIRE IS TO BE PROVIDED FOR ALL NEW WATER PIPING. BOXES TO BE LOCATED NEXT TO ALL BUILDINGS OR STRUCTURES WHERE PIPE ENTERS. FINAL LOCATIONS TO BE SUBMITTED TO THE ENGINEER.

5 TRACER WIRE LOCATER BOX DETAIL

NOT TO SCALE



6 WHEEL STOP

NOT TO SCALE

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JGC	MCS	AWL

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2
BIOSOLIDS PIPING PROFILE

DATE	SCALE	JOB NUMBER
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SHEET C6.1
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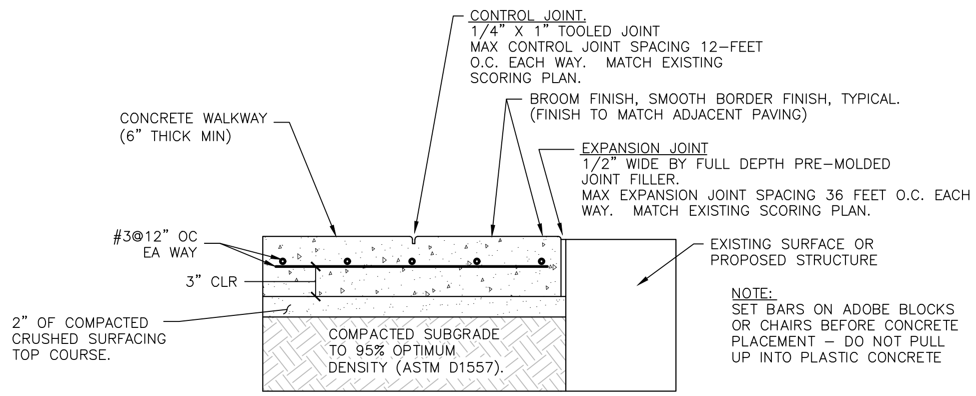
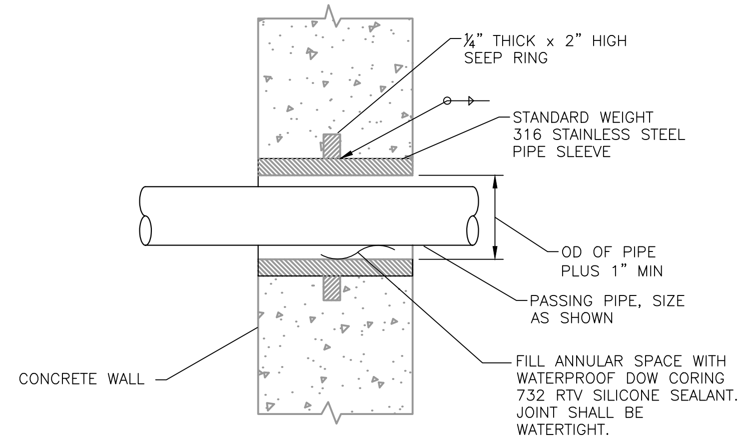
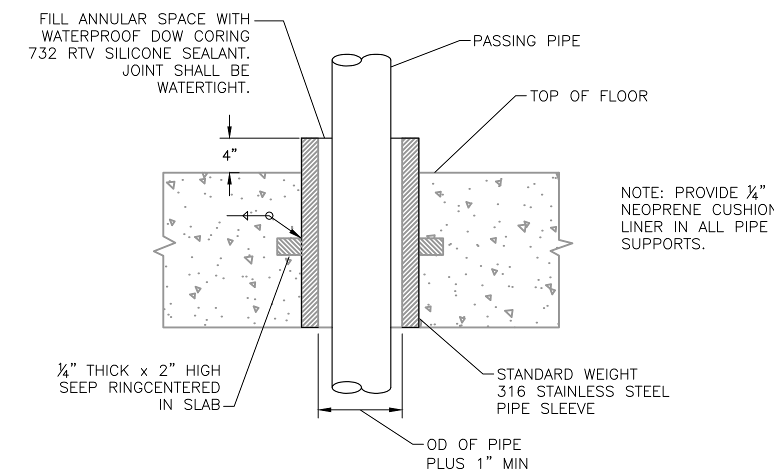


1 MEDIUM-DUTY CONCRETE PAVEMENT DETAIL
NOT TO SCALE



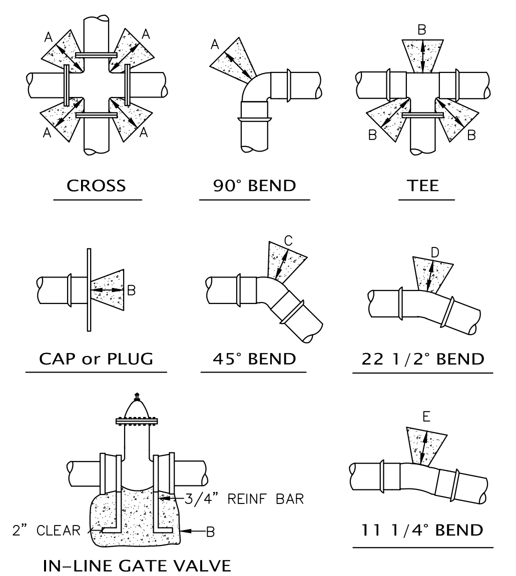
2 PIPE SLEEVE DETAIL
NOT TO SCALE



3 FLOOR SLEEVE DETAIL
NOT TO SCALE

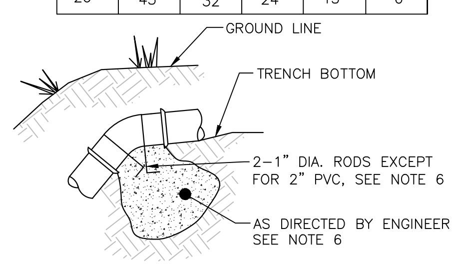
811 Call 811 two business days before you dig

BID SET



(PARTIAL RESTRAINT MUST BE PROVIDED BY PIPELINE BEYOND VALVE)

THRUST BLOCK TABLE					
MINIMUM BEARING AREA AGAINST UNDISTURBED SOIL IN SQUARE FEET					
PIPE SIZE	A	B	C	D	E
4"	2	2	2	2	2
6"	4	3	2	2	2
8"	7	5	4	2	2
10"	11	8	6	3	2
12"	16	12	9	5	3
16"	29	20	16	8	4
20"	45	32	24	13	6



VERTICAL BEND

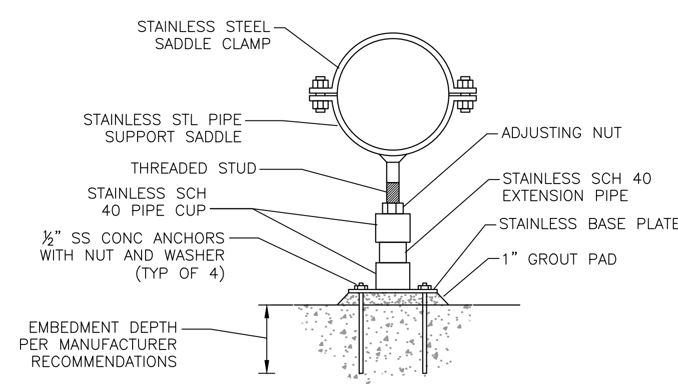
NOTES

1. SQUARE FEET OF CONCRETE THRUST BLOCK AREA IS BASED ON 200 P.S.I. INTERNAL PRESSURE, A SOIL SAFE BEARING OF 3000 POUNDS PER SQUARE FOOT AND A FACTOR OF SAFETY OF 1.5.
2. BEARING AREA MUST BE ADJUSTED FOR INTERNAL PRESSURES AND LOWER SOIL BEARING VALUES.
3. CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
4. BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING JOINT.
5. THE CONTRACTOR SHALL INSTALL BLOCKING WHICH IS ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATING PRESSURE UNDER ALL CONDITIONS OF SERVICE.
6. STAINLESS STEEL BANDING SHALL BE USED AT 2" PVC VERTICAL BENDS INSTEAD OF 1" RODS. CONTACT ENGINEER FOR SIZING OF THRUST BLOCK AND DETAILS.
7. ALL BENDS, TEES & CROSSES SHALL INCLUDE RESTRAINED JOINTS (ROMAC GRIPPER) AS WELL AS THRUST BLOCKING.

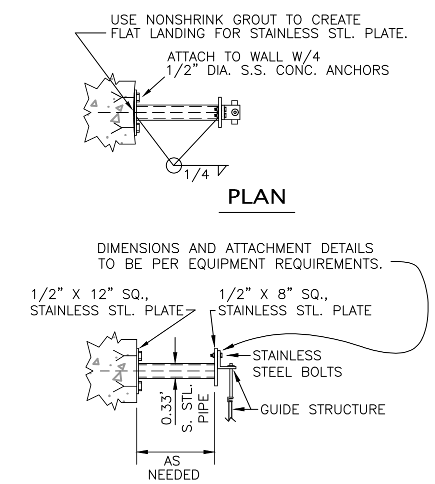
4 FORCEMAIN THRUST BLOCKING SCHEDULE
NOT TO SCALE

NOTES:

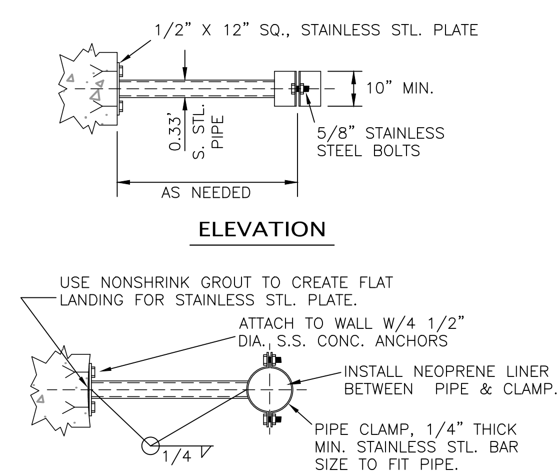
1. TO INSURE PROPER SUPPORT AND STABILITY, AFTER FINAL HEIGHT ADJUSTMENT IS ATTAINED, APPLY TACK WELDS TO BOTH SUPPORT CUPS AND EXTENSION PIPE.
2. MATERIAL: 100% 304 STAINLESS STEEL.
3. FIELD PAINT AS SPECIFIED.
4. SUPPORT: STANDON MODEL C92 ADJUSTABLE PIPE SADDLE CLAMP SUPPORT OR EQUAL.



5 PIPE SUPPORT DETAIL
NOT TO SCALE



6 GUIDE STRUCTURE SUPPORT
NOT TO SCALE



7 VERTICAL PIPE BRACE
NOT TO SCALE

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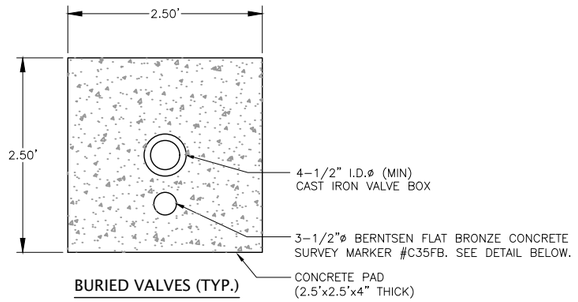
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
CIVIL DETAILS

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET C6.2



BURIED VALVES (TYP.)

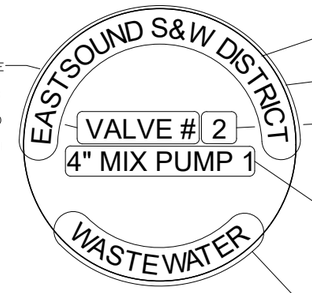
BURIED VALVE IDENTIFICATION LEGEND (C1.3)	
16	8" GATE VALVE FOR TRAIN 1 ISOLATION
17	4" GATE VALVE FOR INFLUENT PS DRAIN PIPE CONNECTION

BURIED VALVE LABELING SCHEDULE

1/4" TALL BERNTSEN STANDARD TEXT STYLE TO BE STAMPED BY BERNTSEN. THE TEXT "VALVE #" IS TO BE OFFSET AS SHOWN TO ALLOW ROOM FOR THE ENGRAVED ONE OR TWO DIGIT VALVE NUMBER PRECEDING IT TO BE CENTERED WITHIN THIS LINE OF TEXT. THIS TEXT TO REMAIN THE SAME PER EACH VALVE LABEL MARKER.

NOTES:
1) 14 BRONZE VALVE LABELING MARKERS TO BE FURNISHED AND INSTALLED AT LOCATIONS ACCORDING TO THE VALVE LABELING SCHEDULE.

2) SHEET C2.4 & C2.5 IS SCHEMATIC AND IS NOT INTENDED TO SHOW PRECISE LOCATIONS OF THE VALVES TO BE MARKED.



3–1/2"ø BERNTSEN FLAT BRONZE CONCRETE SURVEY MARKER #C35FB.

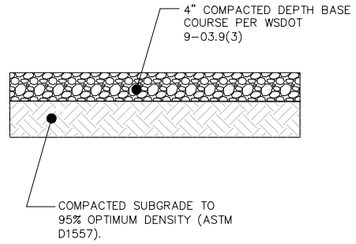
1/4" BERNTSEN STANDARD OUTSIDE TEXT STYLE. TO BE STAMPED BY BERNTSEN. THIS TEXT TO REMAIN THE SAME PER EACH VALVE LABEL MARKER.

1/4" TALL TEXT TO BE ENGRAVED. STYLE TO MATCH BERNTSEN'S. DIGITS CHANGE PER EACH VALVE LABEL MARKER. TEXT IS TO READ THE VALVE NUMBER DIGIT(S) FROM THE VALVE NUMBER COLUMN IN THE VALVE LABELING SCHEDULE ON THIS SHEET.

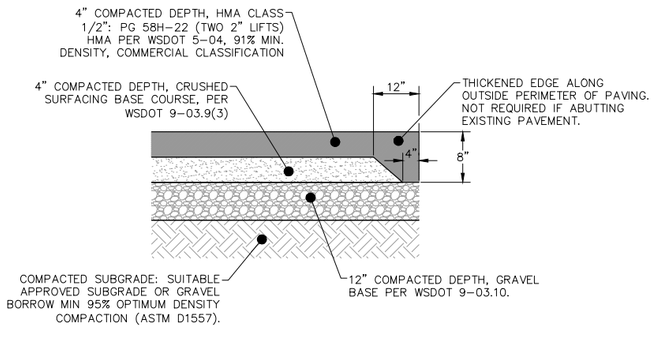
1/4" TALL TEXT TO BE ENGRAVED. STYLE TO MATCH BERNTSEN'S. TEXT CHANGES PER EACH VALVE LABEL MARKER. TEXT IS TO READ THE DESCRIPTION THAT CORRESPONDS WITH THE VALVE NUMBER COLUMN IN THE VALVE LABELING SCHEDULE ON THIS SHEET. TEXT IS TO BE CENTERED IN THIS LINE AS SHOWN.

1/4" BERNTSEN STANDARD OUTSIDE TEXT HEIGHT AND STYLE. TO BE STAMPED BY BERNTSEN. THIS TEXT TO REMAIN THE SAME PER EACH VALVE LABEL MARKER.

1 TYPICAL BURIED VALVE LABEL MARKER
NOT TO SCALE

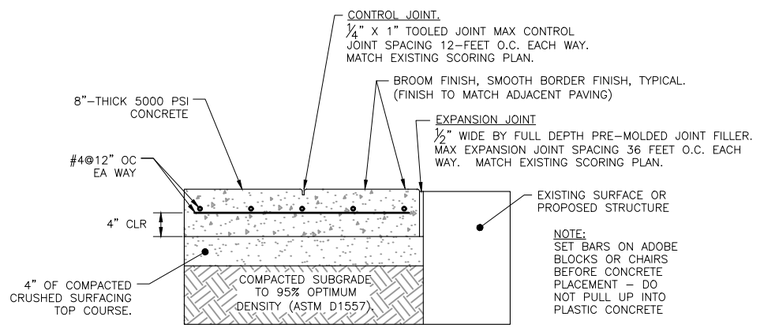


2 GRAVEL SURFACING SECTION
NOT TO SCALE



STANDARD ASPHALT SECTION–FOR AREAS WITH NO CURB

3 ASPHALT CONCRETE PAVEMENT WITH THICKENED EDGE
NOT TO SCALE



4 HEAVY–DUTY CONCRETE PAVEMENT DETAIL
NOT TO SCALE

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
CIVIL DETAILS

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C6.3

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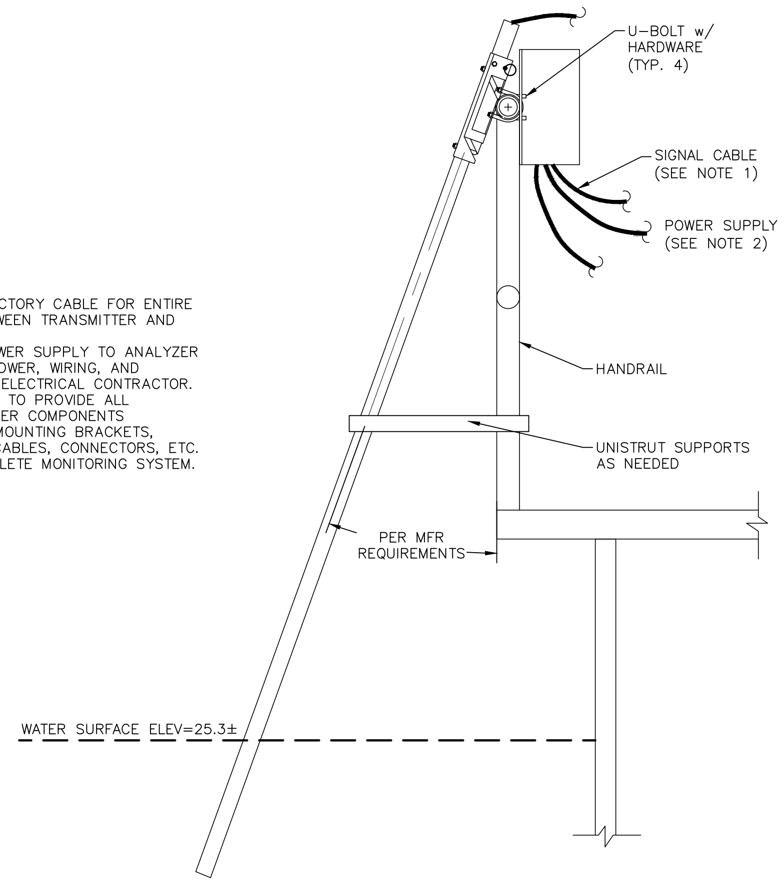
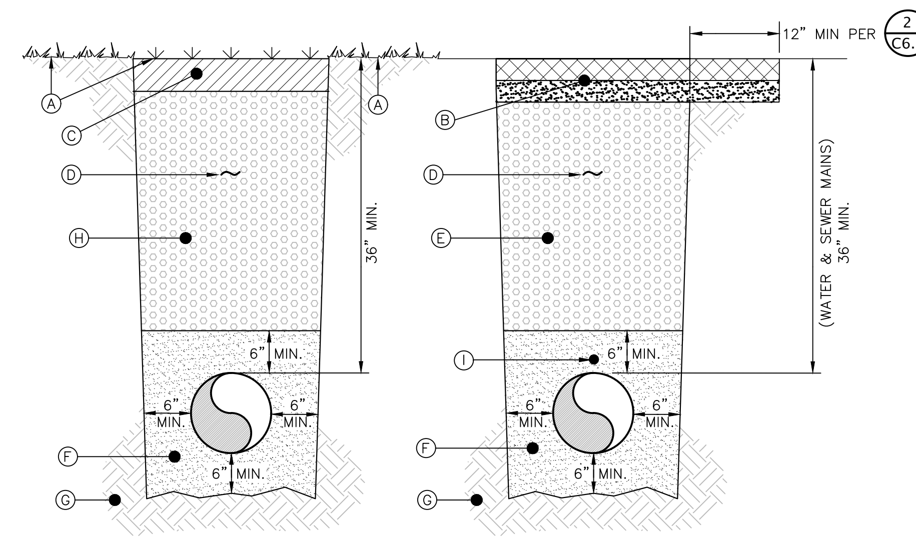
NO.	REVISIONS	BY	DATE

NOTE:

1. MAINTAIN FACTORY CABLE FOR ENTIRE LENGTH BETWEEN TRANSMITTER AND ELEMENT.
2. 120 VAC POWER SUPPLY TO ANALYZER REQUIRED. POWER, WIRING, AND CONDUIT BY ELECTRICAL CONTRACTOR.
3. CONTRACTOR TO PROVIDE ALL MANUFACTURER COMPONENTS INCLUDING: MOUNTING BRACKETS, ADAPTERS, CABLES, CONNECTORS, ETC. FOR A COMPLETE MONITORING SYSTEM.



1 D.O. PROBE ELEVATION (TYP.)
NOT TO SCALE



2 TYPICAL TRENCHING & BACKFILL
NOT TO SCALE

KEYED NOTES

A. HYDROSEED EXPOSED AREAS.

B. SEE SURFACING PLAN, SHEET C2.2 AT A MINIMUM:
GRAVEL: NEW CRUSHED SURFACING TOP COURSE (CSTC) LAYER PER WSDOT 9-03.9(3).
PAVED: HMA CL 1/2" APPLIED IN 2 LIFTS MIN. TO THICKNESS MATCHING EX. SECTION (4" MIN.) PER WSDOT 5-04.2, WITH 2" CSTC LAYER BELOW. HOWEVER, FINAL SURFACING WORK IS TO BE COMPLIANT WITH THE SURFACING PLAN AND THE SPECIFIED DETAILS.

C. NEW TOPSOIL LAYER MIN 4".

D. 2" METALLIC DETECTOR TAPE 8" TO 12" BELOW FINISH GRADE.

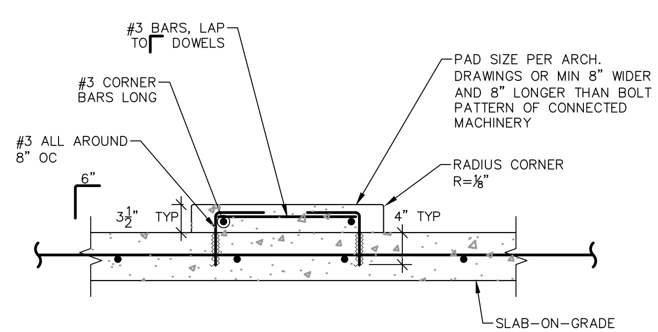
E. BANK RUN GRAVEL BACKFILL PER WSDOT 9-03.19 COMPACTED TO 95% MAX. DENSITY INSIDE RIGHT-OF-WAY.

F. PIPE ZONE GRAVEL BEDDING PER WSDOT 9-03.12(3) COMPACTED TO 95% MAX. DENSITY.

G. UNDISTURBED NATIVE MATERIAL.

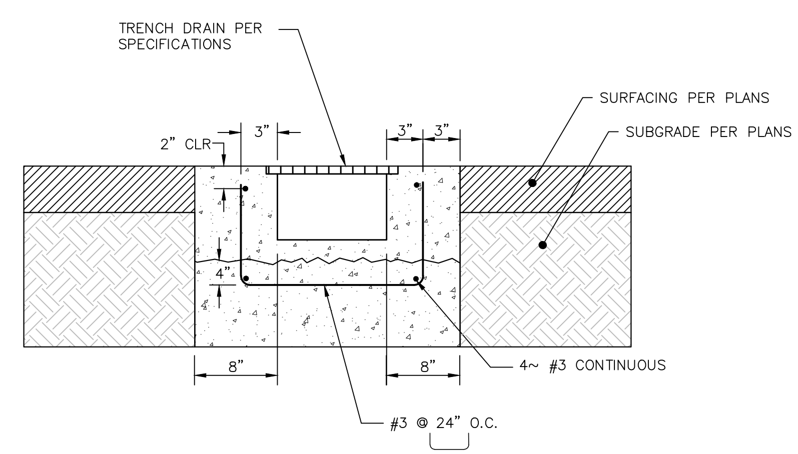
H. SELECT NATIVE BACKFILL COMPACTED TO 95% MAX. DENSITY.

I. #10 AWG INSULATED TRACER WIRE ON NONMETALLIC PIPE (IN ADDITION TO 2" DETECTOR TAPE)

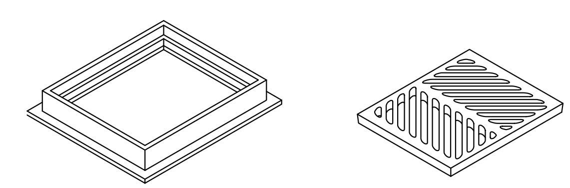


NOTE:
ADHESIVE FOR DOWELS PER STRUCTURAL NOTES

3 TYPICAL EQUIPMENT PAD
NOT TO SCALE



4 TRENCH DRAIN DETAIL
NOT TO SCALE



STANDARD FRAME
WSDOT STANDARD DETAIL B30.10-00
CASTING TYPE B

HERRINGBONE GRATE
WSDOT STD PLAN B-30.50-00
INSTALL WHERE ROAD SLOPE 4% OR LESS

4 CATCH BASIN CASTING TYPES
NOT TO SCALE

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY — WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

CIVIL DETAILS

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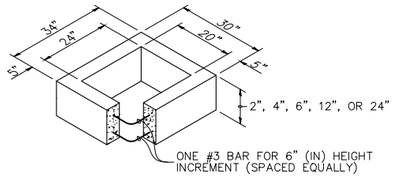
1-27-2025	AS SHOWN	2023-123

SHEET C6.4

PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
W:\2023\2023-123 ESWD WWTP UPGRADE PHASE 2 - DESIGN\DWG\V2020_2023-123 C6.1-C6.8 CIVIL DETAILS.DWG - 1/27/2025 2:12 PM - Matthew Strittmatter

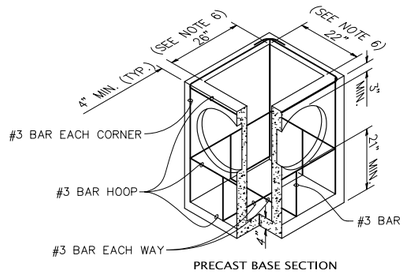


RECTANGULAR ADJUSTMENT SECTION

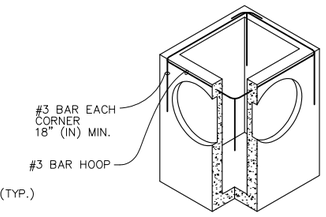
REFER TO WSDOT STANDARD PLAN NUMBER B-5.20-03 FOR ADDITIONAL INFORMATION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP* (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

*CORRUGATED POLYETHYLENE STORM SEWER PIPE



PRECAST BASE SECTION



(SEE NOTE 1)
ALTERNATIVE PRECAST BASE SECTION

NOTES:

1) AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.

2) THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 20" (IN). KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" (IN) MINIMUM TO 2.5" (IN) MAXIMUM. PROVIDE A 1.5" (IN) MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 9-04.3.

3) THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5' (FT).

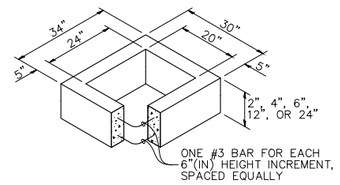
4) THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN, OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.

5) THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1 : 24 OR STEEPER.

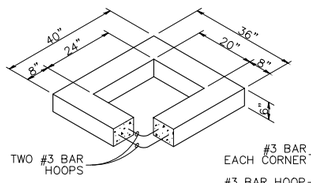
6) THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.

7) ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.

1 CATCH BASIN TYPE 1
NOT TO SCALE

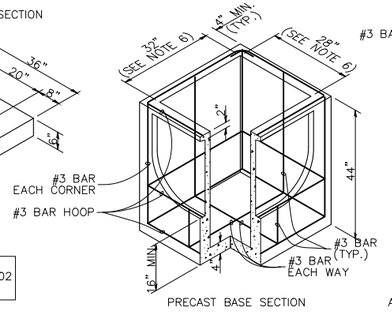


RECTANGULAR ADJUSTMENT SECTION

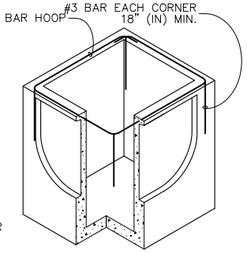


REDUCING SECTION

BASED ON WSDOT STD PLAN B05.40-02 01/26/17



PRECAST BASE SECTION

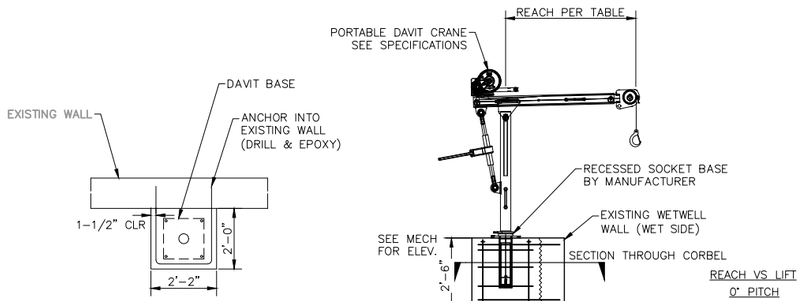


(SEE NOTE 1)
ALTERNATIVE PRECAST BASE SECTION

NOTES:

1. AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT, SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
2. THE KNOCKOUT SHALL NOT BE GREATER THAN 26" (IN), IN ANY DIRECTION. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" (IN) MINIMUM TO 2.5" (IN) MAXIMUM. PROVIDE A 1.5" (IN) MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 9-04.3.
3. THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5' (FT).
4. THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.
5. THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1 : 24 OR STEEPER.
6. THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
7. ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.

2 TYPE 1L CATCH BASIN DETAILS
NOT TO SCALE



SECTION THROUGH CORBEL

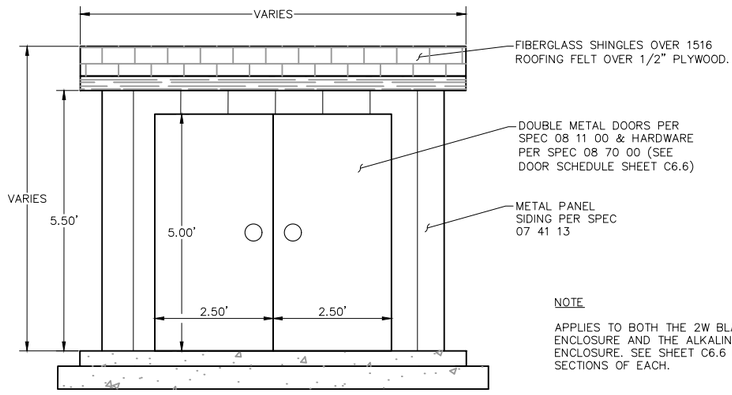
CONTRACTOR MAY SUBMIT FOR REVIEW AN ALTERNATE BASED ON POST INSTALLED STIRRUPS W/1'-6" LAP MIN.

REACH VS LIFT
0° PITCH

REACH	LIFT
3'-0"	550#
3'-10"	425#
4'-8"	350#
5'-6"	300#

GENERAL NOTE: FIELD DETERMINE DAVIT CRANE LOCATION; FOR BEST ACCESS.

3 TYPICAL MEDIUM-DUTY DAVIT CRANE DETAIL
NOT TO SCALE



NOTE

APPLIES TO BOTH THE 2W BLADDER TANK ENCLOSURE AND THE ALKALINITY STATION ENCLOSURE. SEE SHEET C6.6 FOR INTERIOR SECTIONS OF EACH.

4 SHELTER EXTERIOR ELEVATION
NOT TO SCALE

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2
CIVIL DETAILS

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET C6.5
PAGE 46 OF 91

PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (17.00 x 11.00 Inches), Portrait, 1:2, WE APWA_UNSCREENED.ctb
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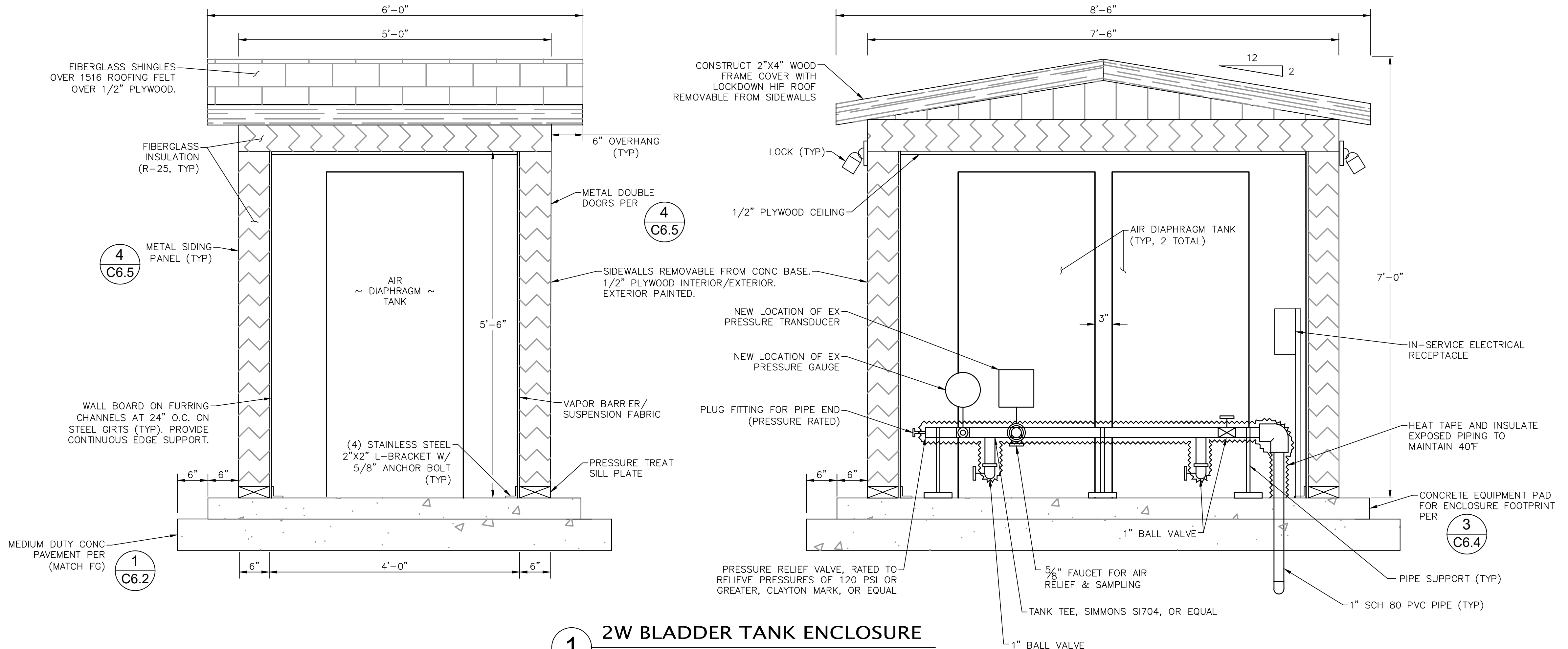
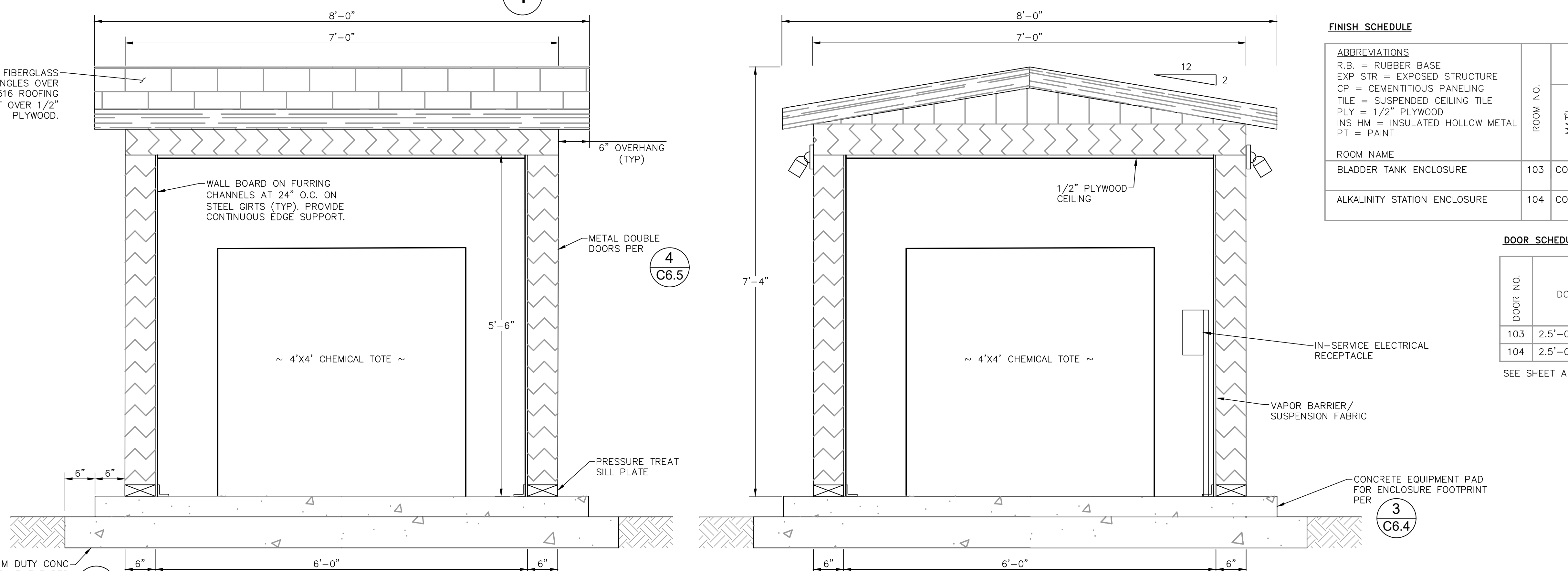


1 2W BLADDER TANK ENCLOSURE

NOTES:

1. FILL ALL PIPING WITH CLEAN WATER (DOMESTIC POTABLE WATER) PRIOR TO STARTING AND TESTING 2W WATER SYSTEM EQUIPMENT.
2. CONTRACTOR RESPONSIBLE FOR COORDINATING PIPING CONNECTION STYLE (GROOVED, FLANGED, THREADED, ETC.) AND PERFORMING PRESSURE TESTING TO DEMONSTRATE WATER TIGHT CONSTRUCTION.
3. SEE DTL 4 SHEET C6.5 FOR EXTERIOR ELEVATION.



2 ALKALINITY STATION ENCLOSURE

FINISH SCHEDULE

ABBREVIATIONS
R.B. = RUBBER BASE
EXP STR = EXPOSED STRUCTURE
CP = CEMENTITIOUS PANELING
TILE = SUSPENDED CEILING TILE
PLY = 1/2" PLYWOOD
INS HM = INSULATED HOLLOW METAL
PT = PAINT

ROOM NAME	ROOM NO.	FLOOR MAT'L	FLOOR FINISH	BASE MAT'L	WALL MAT'L	WALL FINISH	CEILING MAT'L	CEILING FINISH
BLADDER TANK ENCLOSURE	103	CONC	SEALER	EXP STR	PLY	PT	PLY	PT
ALKALINITY STATION ENCLOSURE	104	CONC	SEALER	EXP STR	PLY	PT	PLY	PT

DOOR SCHEDULE

DOOR NO.	DOOR SIZE WxHxT	TYPE	MATERIAL	FINISH	HARDWARE GROUP #
103	2.5'-0"x5'-0"x1 3/4"	C	INS HM	PT	2
104	2.5'-0"x5'-0"x1 3/4"	C	INS HM	PT	2

SEE SHEET A1.1 FOR DOOR TYPES.

SCALE 1 0 1 2 FEET

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

CIVIL DETAILS

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET C6.6
PAGE 47 OF 91

PLOT SETTINGS: AutoCAD PDF (General Documentation).pc3, ANSI full bleed B (11.00 x 17.00 Inches), Landscape, 1:2, WE APWA_UNSCREENED.ctb
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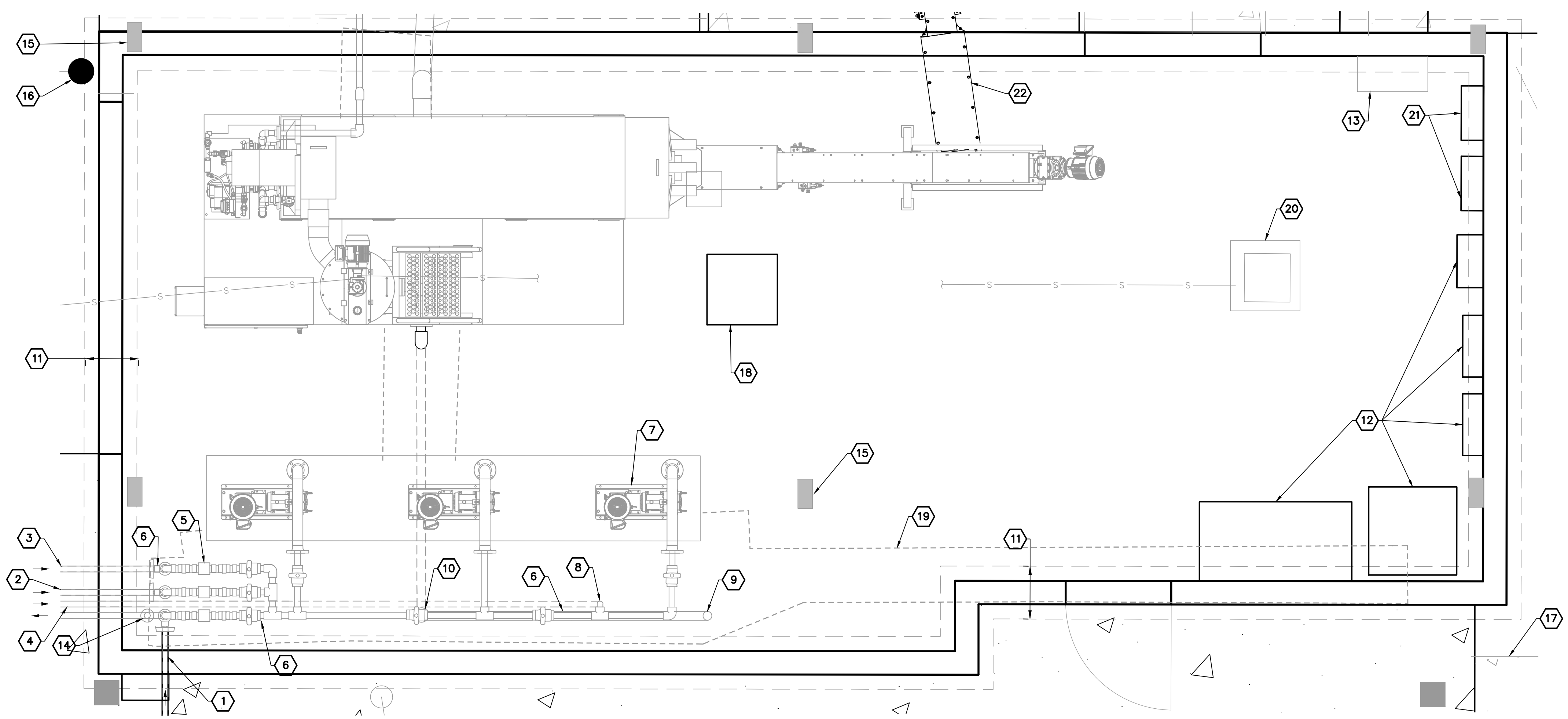

DEWATERING BUILDING & EQUIPMENT LAYOUT

N

2 0 2 4
SCALE HORIZONTAL SCALE FEET

NO.	REVISIONS	BY	DATE

KEYED NOTES

1. = 2" WAS FROM TRAIN #1
2. = 2" WAS FROM TRAIN #2
3. = 2" WAS FROM TRAIN #3
4. = 2" SLUDGE FROM DIGESTER
5. = SOLENOID VALVE (TYP)
6. = GATE VALVE (2" TYP)
7. = WAS PUMP (TYP)
8. = (1)–90° VERT BEND TRANSITIONS DIGESTER WAS PIPE ABOVE GRADE. (1)–90° BEND CONNECTS DIGESTER WAS PIPE TO TRAINS 1–3 WAS PIPE.
9. = (1)–90° 2" VERT BEND (1)–2" GATE VALVE (1)–90° 3" VERT BEND
10. = (2)–3" 90° VERT BENDS TRANSITION SCREW PRESS INFLUENT PIPE BELOW GRADE AND NORTH.
11. = NEW STRUCTURAL FOOTING (TYP)
12. = ELECTRICAL PANELS (SEE SHEET E1.1)
13. = APPROX LOC OF EX VERTICAL SCREW PRESS CONTROL PANEL
14. = (2)–2" 90° VERT BEND TRANSITIONS DIGESTER INFLUENT PIPE BELOW GRADE.
15. = EX METAL BUILDING COLUMN AND FOOTING (TYP, TO BE REMOVED)
16. = NEW YARD HYDRANT PROVIDED BY OWNER TO BE CONNECTED TO EX BURIED VALVE BY CONTRACTOR AFTER NEW BUILDING IS ERECTED
17. = EX EXPOSED CONCRETE VAULT TO REMAIN
18. = 2'X2' CONCRETE PAD FOR BACK-UP POLYMER UNIT (MATCH ELEV OF WAS PUMP PAD)
19. = EX SAWCUT TO BE REPAVED
20. = APPROX LOC OF EX VERTICAL SCREW PRESS TO REMAIN
21. = SULFIDE & GAS SENSORS (SEE SHEET A1.1)
22. = PROPOSED SECONDARY CONVEYOR

NOTE
PIPE GALLERY IS EXISTING, CONSTRUCTED IN PHASE 1. THE NEW DEWATERING BUILDING WILL BE ERECTED AROUND THE EXISTING PIPING AND SCREW PRESS.

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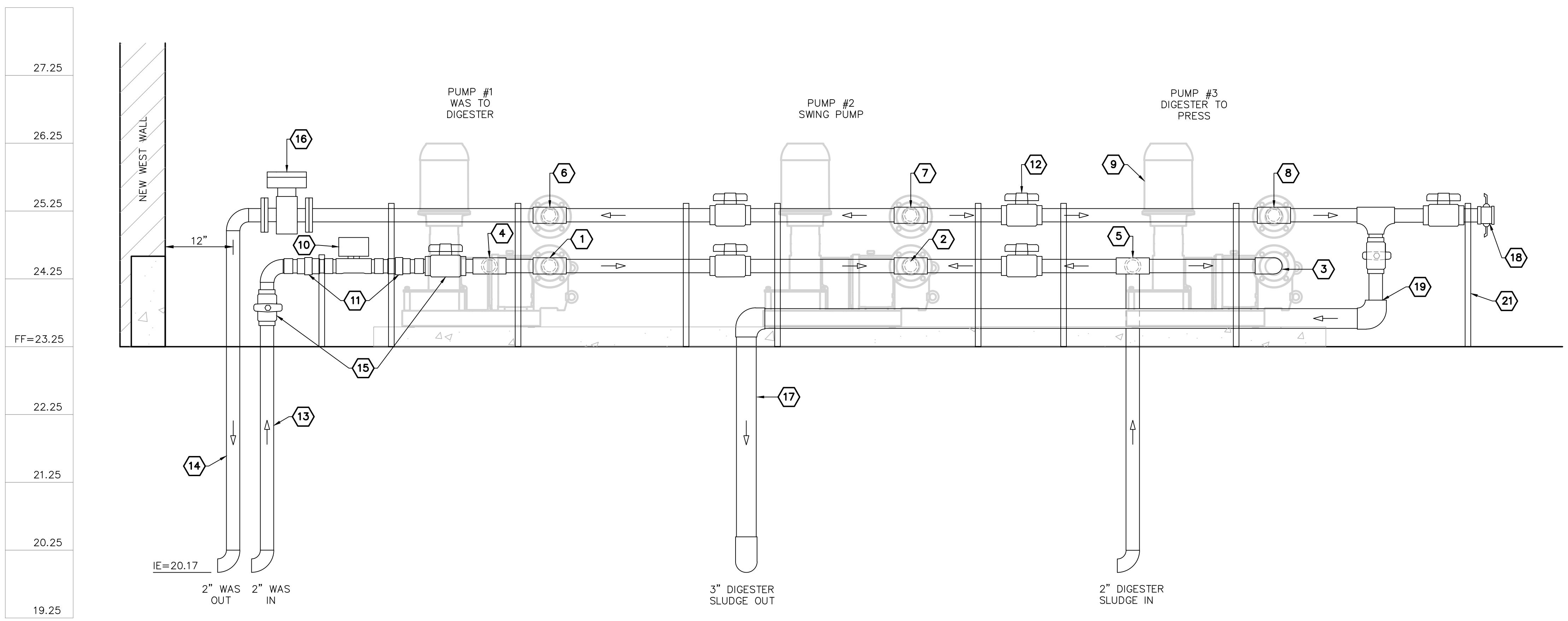
SAN JUAN COUNTY, WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

DEWATERING BUILDING & EQUIPMENT LAYOUT

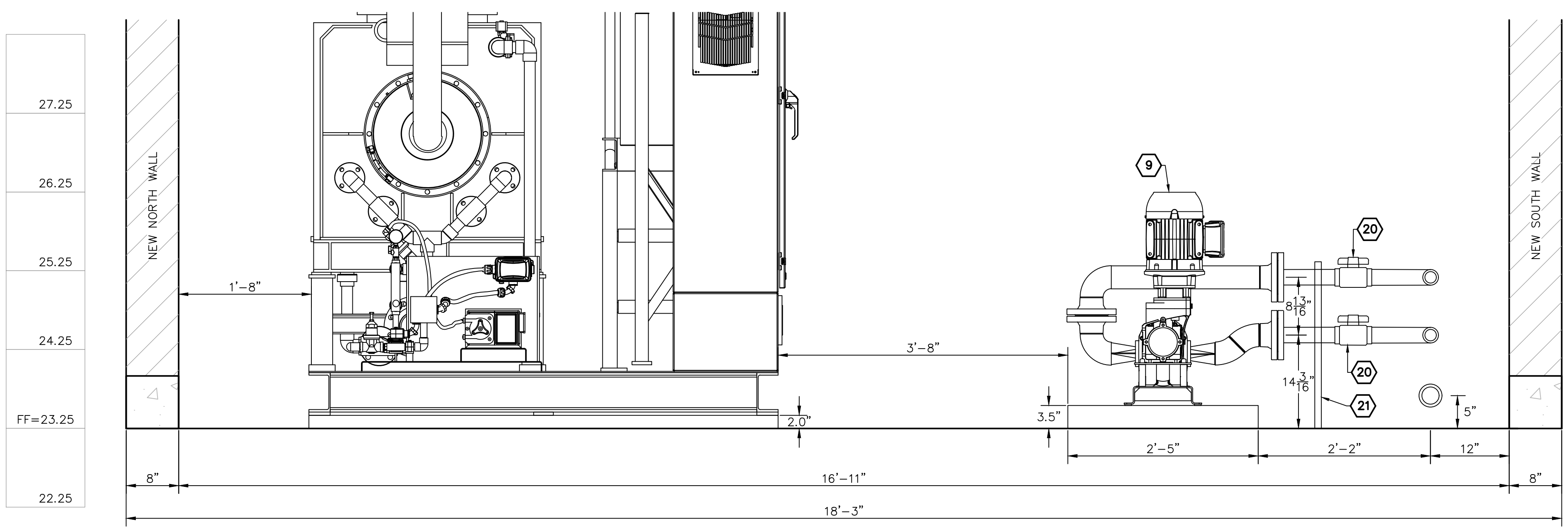
DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

SHEET C7.1



EX WAS PIPE GALLERY PROFILE

SCALE 1 0 1 2 FEET
HORIZONTAL SCALE



NEW BUILDING CROSS-SECITON

SCALE 1 0 1 2 FEET
HORIZONTAL SCALE

NO.	REVISIONS	BY	DATE

KEYED NOTES

1. = TEE INTO WAS PUMP #1
2. = TEE INTO WAS PUMP #2
3. = TEE INTO WAS PUMP #3
4. = INFLUENT FROM TRAINS 1, 2, & 3 MERGE
5. = INFLUENT FROM DIGESTER
6. = DISCHARGE FROM WAS PUMP #1
7. = DISCHARGE FROM WAS PUMP #2
8. = DISCHARGE FROM WAS PUMP #3
9. = WAS PUMP PER SPEC 22 13 36
10. = SOLENOID VALVE
11. = 2" PVC UNION
12. = 2" BALL VALVE (TYP)
13. = INFLUENT FROM TRAIN 1, 2, & 3
14. = EFFLUENT TO DIGESTER
15. = 2" BALL VALVE BEFORE AND AFTER SOLENOID VALVE ON EACH INFLUENT LINE FROM TRAINS 1, 2, & 3
16. = EX FLOW METER TO DIGESTER
17. = EFFLUENT TO DEWATERING SKID
18. = 2"ø FEMALE CAMLOCK & CAP
19. = PIPE TRANSITIONS FROM 3" TO 2"ø
20. = 2" BALL VALVE ON BOTH INLET AND OUTLET PIPING FOR PUMPS #1 & #3
21. = EX PIPE SUPPORT (TYP). EX GALV STEEL STRUTS MUST BE REPLACED WITH 304 SST AND ANCHORED TO THE NEW CONCRETE FLOOR AFTER REPAIRING EX SAWCUT.

NOTE
PIPE GALLERY IS EXISTING, CONSTRUCTED IN PHASE 1. THE NEW DEWATERING BUILDING WILL BE ERECTED AROUND THE EXISTING PIPING AND SCREW PRESS.

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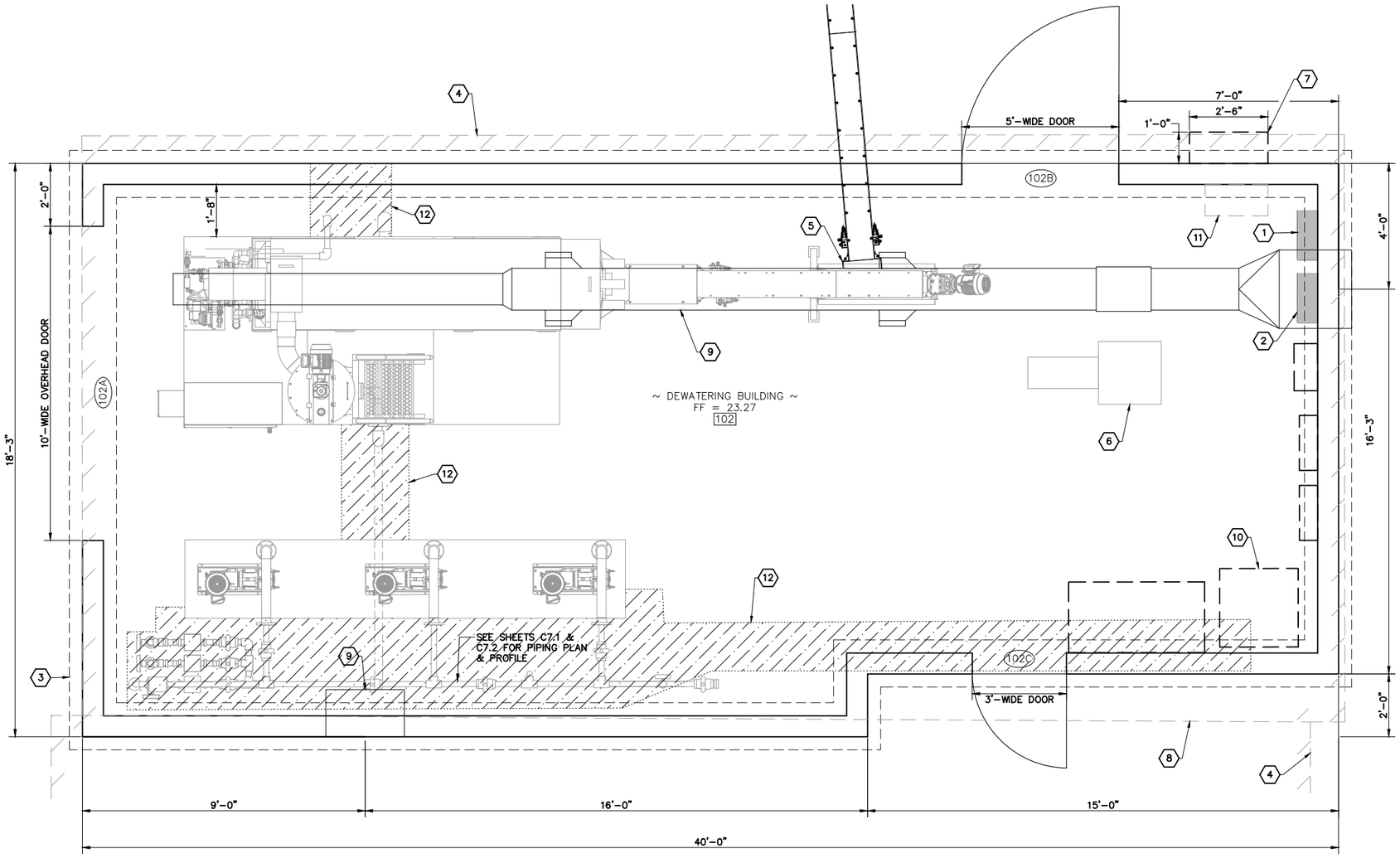
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING & EQUIPMENT PROFILE

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET C7.2



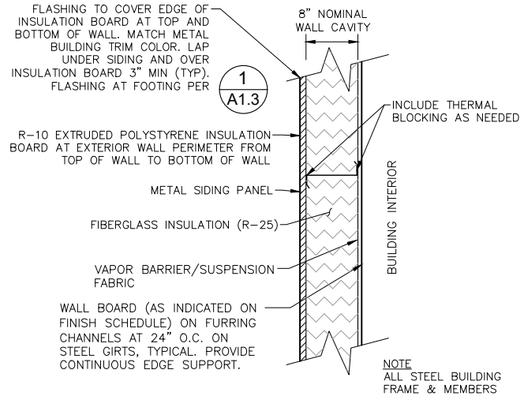
N

KEYED NOTES

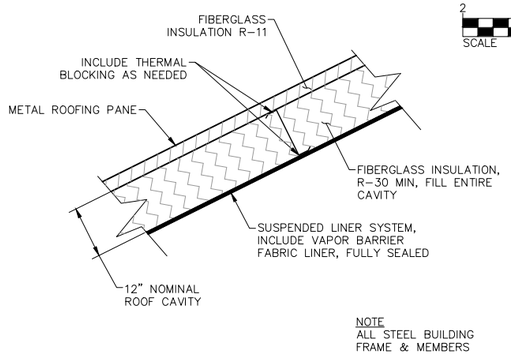
1. = INSTALL HYDROGEN SULFIDE SENSOR
2. = INSTALL COMBUSTIBLE GAS DETECTOR
3. = OUTER EDGE OF NEW 18"-WIDE FOOTING PER (1/A1.3)
4. = EXTENTS OF EXISTING CONCRETE FOOTING. LIMITS WITHIN PROPOSED FOOTING TO REMAIN. REMOVE PORTIONS AS NEEDED TO CONSTRUCT NEW STEMWALL & FOOTING. (1/A1.3)
5. = SECONDARY CONVEYOR TO CONNECT TO EX PRIMARY CONVEYOR VIA STAINLESS STEEL CHUTE
6. = APPROX LOC OF EX VERTICAL SCREW PRESS TO REMAIN
7. = PROPOSED CONTROL PANEL FOR SECONDARY CONVEYOR AND LEVEL LOADER EQUIPMENT. PANEL TO INCLUDE STARTER AND CONTROLS.
8. = APPROX LOC OF DIVIDING LINE BETWEEN EX DEWATERING BLDG SLAB AND TRAIN #1 BLDG SLAB.
9. = VENTILATION SYSTEM (SEE H SHEETS)
10. = ELECTRICAL PANEL (TYP, SEE SHEET E1.1)
11. = APPROX LOC OF EX VERTICAL SCREW PRESS CONTROL PANEL TO REMAIN
12. = EX SAWCUT TRENCH TO BE REPAIRED PER (1/S2.2)

DEWATERING BUILDING – PLAN

SCALE 2 0 2 4 FEET — HORIZONTAL SCALE



1 TYPICAL EXTERIOR WALL
NOT TO SCALE



2 TYPICAL ROOF SECTION
NOT TO SCALE

FINISH SCHEDULE

ROOM NAME	ROOM NO.	FLOOR MAT'L	FLOOR FINISH	BASE MAT'L	WALL MAT'L	WALL FINISH	CEILING MAT'L	CEILING FINISH	CEILING HEIGHT
DEWATERING ROOM	102	CONCRETE	SEALER	6" RB	CP	PAINT	EXP STR	PAINT	VARIES

ABBREVIATIONS
R.B. = RUBBER BASE
EXP STR = EXPOSED STRUCTURE
CP = CEMENTITIOUS PANELING
TILE = SUSPENDED CEILING TILE
PLY = 1/2" PLYWOOD
INS HM = INSULATED HOLLOW METAL
PT = PAINT

DOOR SCHEDULE

DOOR NO.	DOOR SIZE WxHxT	TYPE	MATERIAL	FINISH	HARDWARE GROUP #
102A	10'-0"x11'-0"x1 3/4"	B	METAL	PT	–
102B	5'-0"x10'-0"x1 3/4"	A	INS HM	PT	1
102C	3'-0"x6'-8"x1 3/4"	A	INS HM	PT	1

TYPE A: FLUSH PANEL
TYPE B: OVERHEAD DOOR
TYPE C: FLUSH PANEL, FLUSH PANEL

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING PLAN

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET A1.1
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KEYED NOTES

1 = EX CONCRETE SLAB TO REMAIN (TYP)

2 = GUTTERS, DOWNSPOUTS, CONNECTING TO STORM SYSTEM AS SHOWN ON –/C2.1

3 = NEW CONCRETE STEMWALL FOOTING PER 1/A1.3

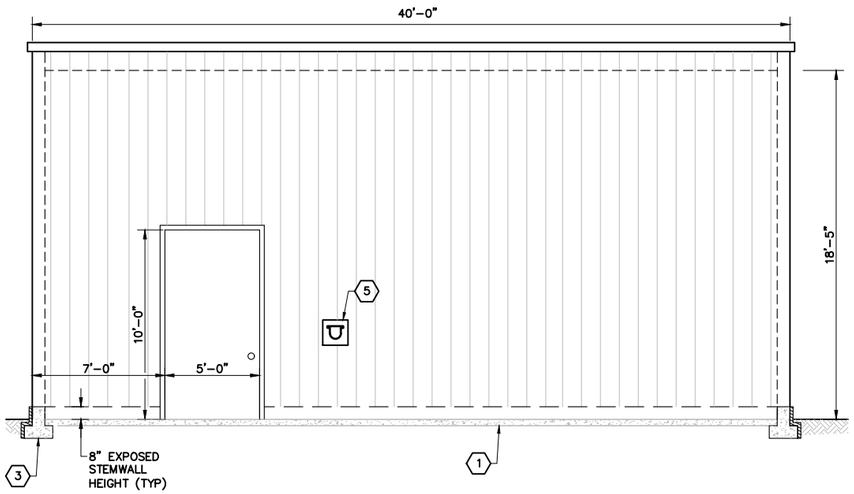
4 = SOUTH WALL RECEDES 2.0'. SEE –/A1.1

5 = WALL PENETRATION & FLASHING FOR SECONDARY CONVEYOR. CONTRACTOR TO ENSURE AIR-TIGHT SEAL.

THERMAL RESISTANCE OF MECHANICAL EQUIPMENT PENETRATIONS CALCULATIONS

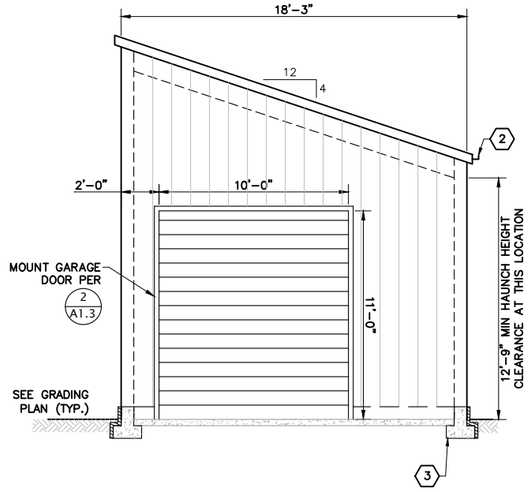
SIX SIDE AIR BARRIER BOUNDARY AREA CALCULATION:

TOTAL WALL AREA	= 1902.5 SF
SUM THROUGH-WALL PENETRATIONS	= (12.5 SF)
SUM DOOR & GARAGE AREA	= (180 SF)
NET WALL AREA	= 1710 SF
TOTAL PERCENT AREA OF WALL PENETRATION	(12.5 SF / 1710 SF) * 100% = 0.73%



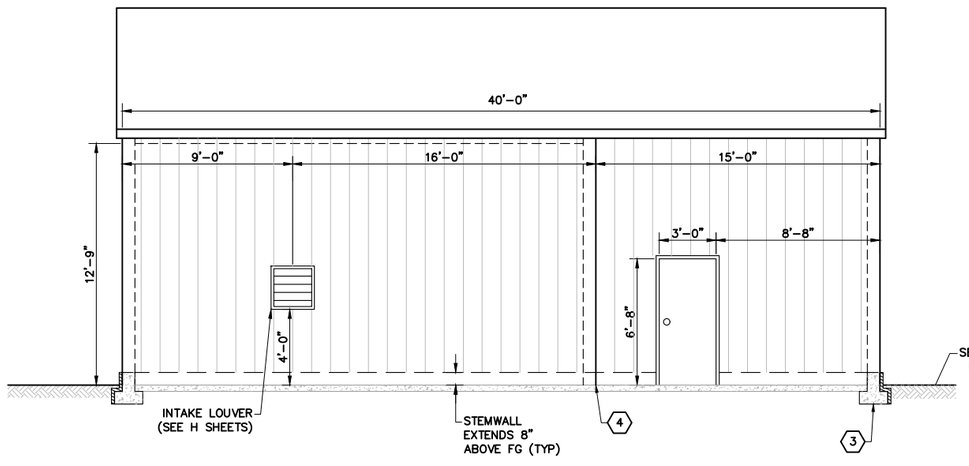
NORTH ELEVATION

SCALE 4 0 4 8 FEET
HORIZONTAL SCALE



WEST ELEVATION

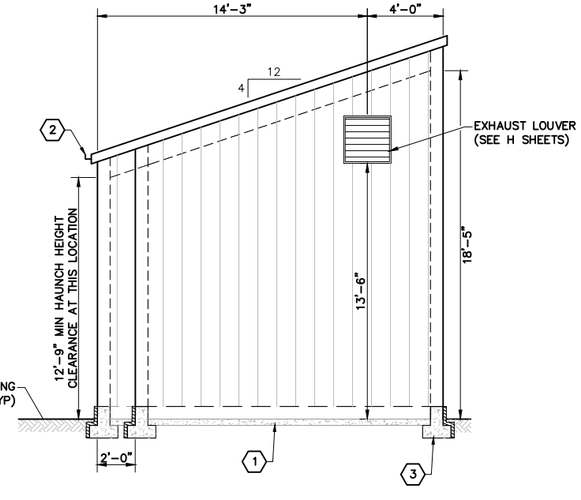
SCALE 4 0 4 8 FEET
HORIZONTAL SCALE



SOUTH ELEVATION

SCALE 4 0 4 8 FEET
HORIZONTAL SCALE

NOTE: CONTRACTOR SHALL PROVIDE PRE-ENGINEERED METAL BUILDING WITH SIMILAR COLUMN AND BRACING LAYOUT.



EAST ELEVATION

SCALE 4 0 4 8 FEET
HORIZONTAL SCALE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING EXTERIOR ELEVATIONS

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET A1.2
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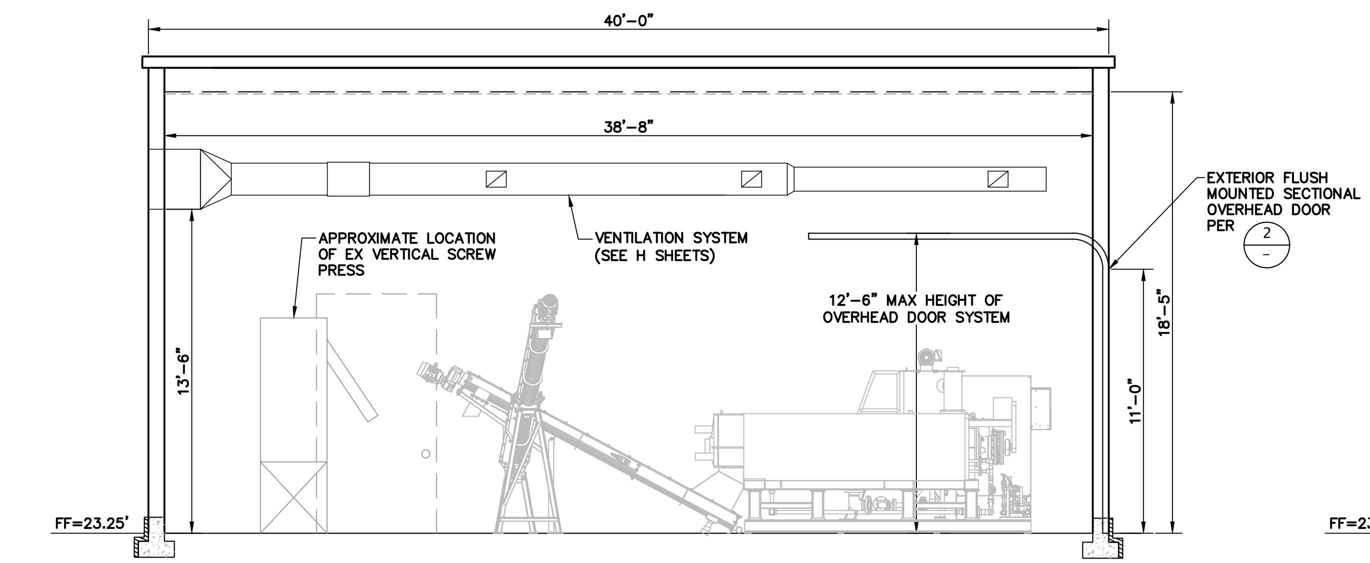
PROPOSED DEWATERING BUILDING INTERIOR ELEVATIONS



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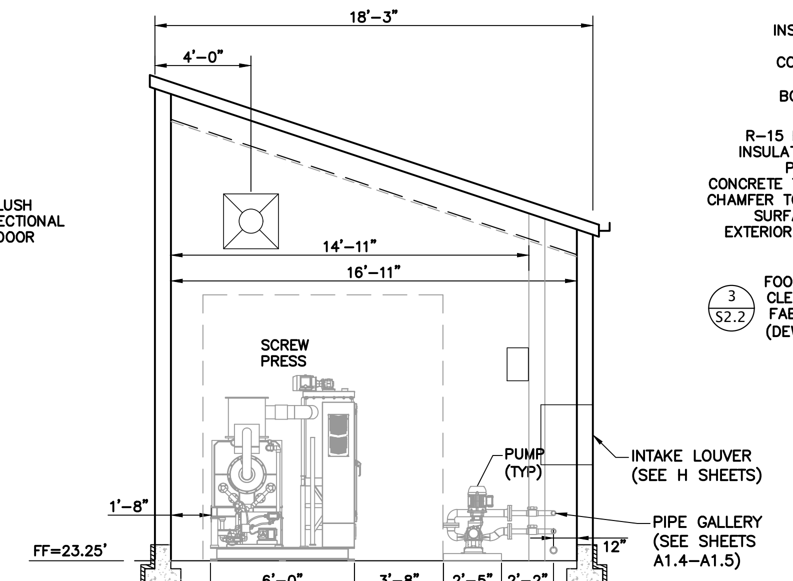

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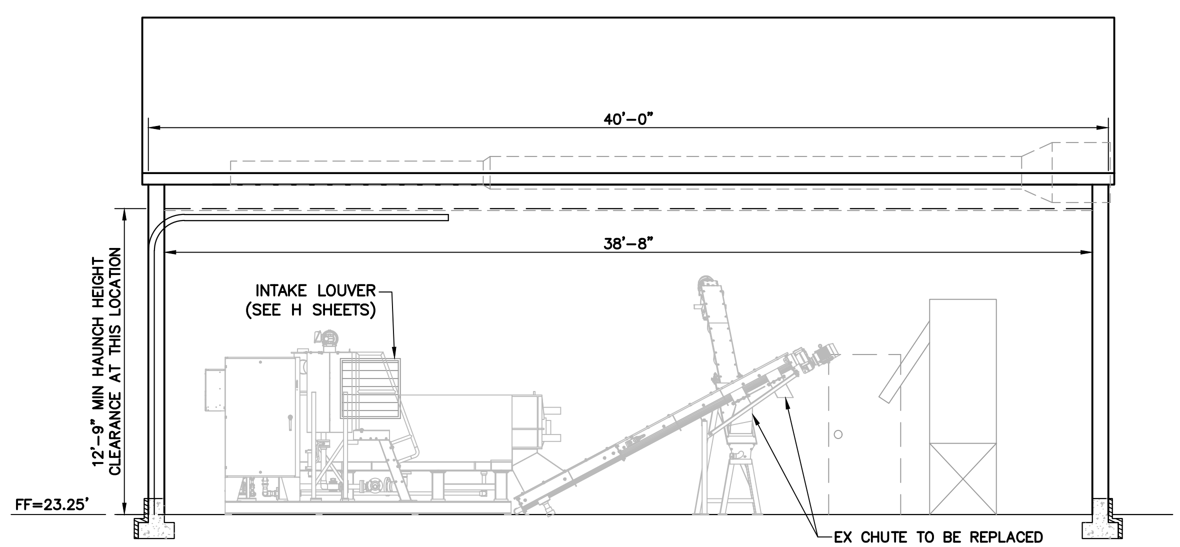
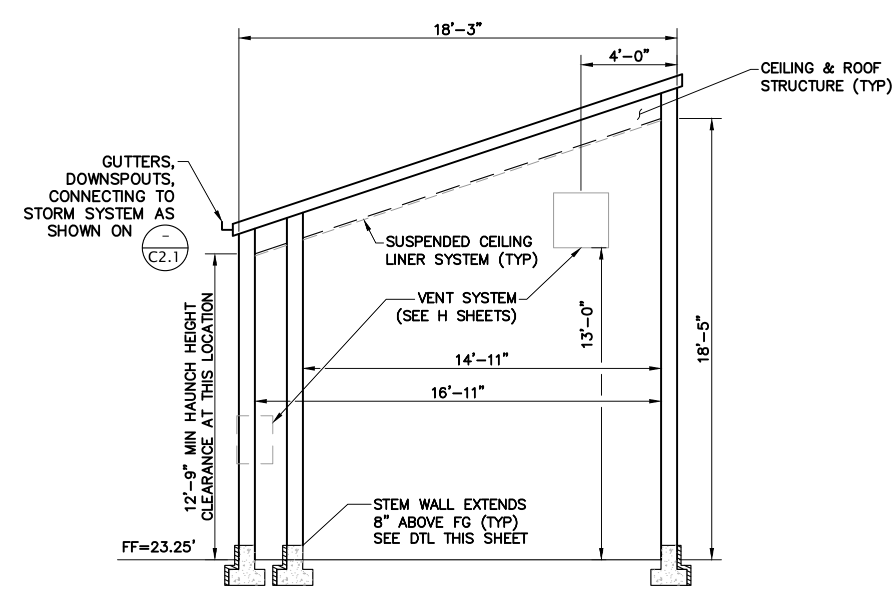
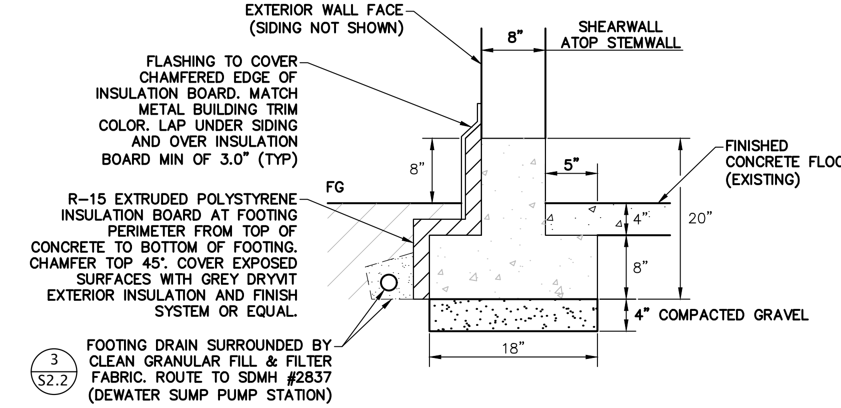


SOUTH ELEVATION

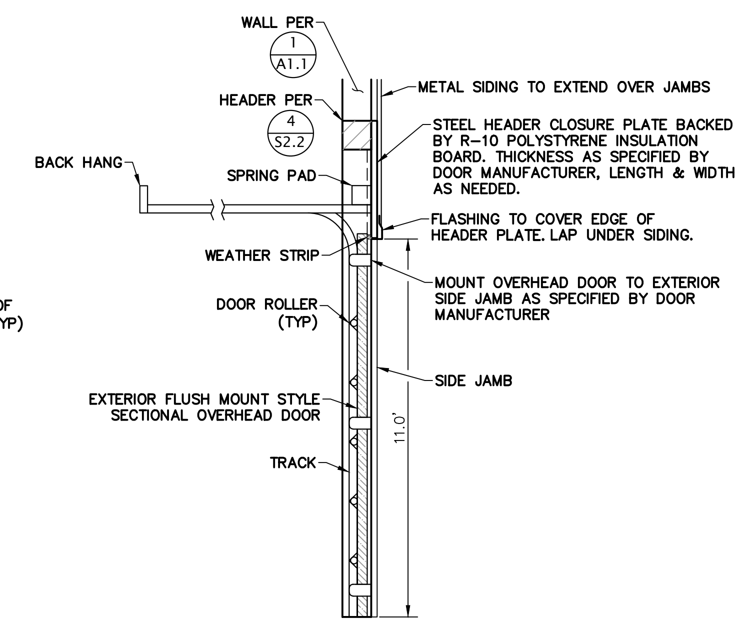


EAST ELEVATION

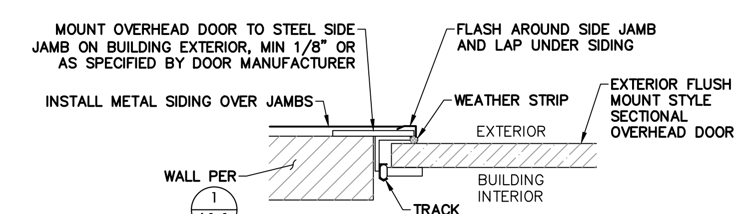
SCALE 4 0 4 8 FEET
HORIZONTAL SCALE



1 NEW STEMWALL FOOTING DIMENSIONS
NOT TO SCALE



SECTION VIEW
NOT TO SCALE



2 SECTION OVERHEAD DOOR MOUNTING DETAIL
NOT TO SCALE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING INTERIOR ELEVATIONS

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET A1.3
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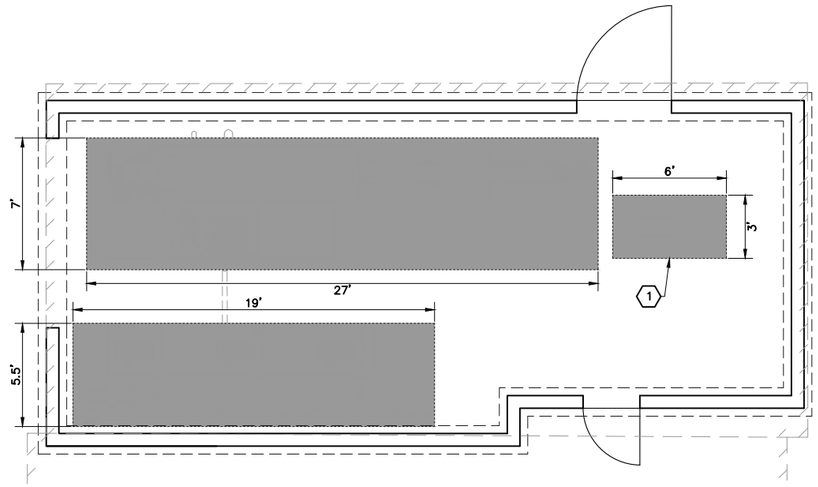
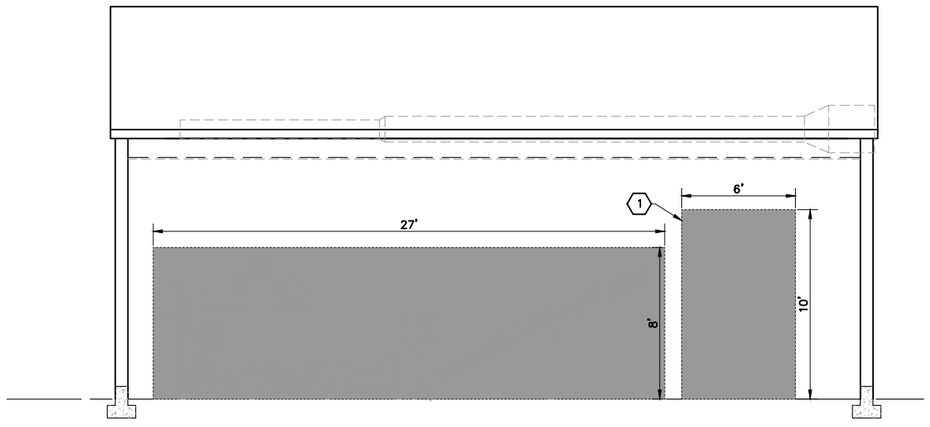
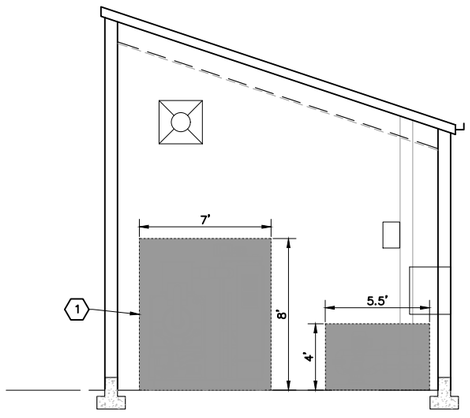


1 TEMPORARY PLYWOOD SHELLS
CONTRACTOR TO CONSTRUCT TEMPORARY PROTECTIVE PLYWOOD SHELLS AROUND ALL EXISTING EQUIPMENT IN THE DEWATERING BUILDING. PROTECTIVE PLYWOOD SHELLS ARE TO BE INSTALLED AND APPROVED PRIOR TO DEWATERING BLDG DEMOLITION WORK. DIMENSIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHOULD VERIFY LENGTH, WIDTH, AND HEIGHT OF EXISTING EQUIPMENT FOR PROTECTIVE SHELLS.

PROVIDE ACCESS TO EQUIPMENT, AS NEEDED. IN PARTICULAR, THE WAS PUMP IS TO REMAIN ON-LINE AND OWNER ACCESS TO WAS PUMP, PIPING, AND VALVING IS TO BE MADE AVAILABLE THROUGHOUT THE ENTIRE STAGE 1 INTERIM PERIOD. IN ADDITION, ALL PROTECTIVE PLYWOOD SHELLS ARE TO BE COMPLETELY REMOVED AFTER THE NEW DEWATERING BUILDING STRUCTURE IS ERECTED.



SOUTH ELEVATION



EAST ELEVATION

PROTECTIVE SHELLS PLAN & PROFILE

4 0 4 8
SCALE HORIZONTAL SCALE FEET

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING EQUIPMENT PROTECTION PLAN

DATE	SCALE	JOB NUMBER
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SHEET A1.4
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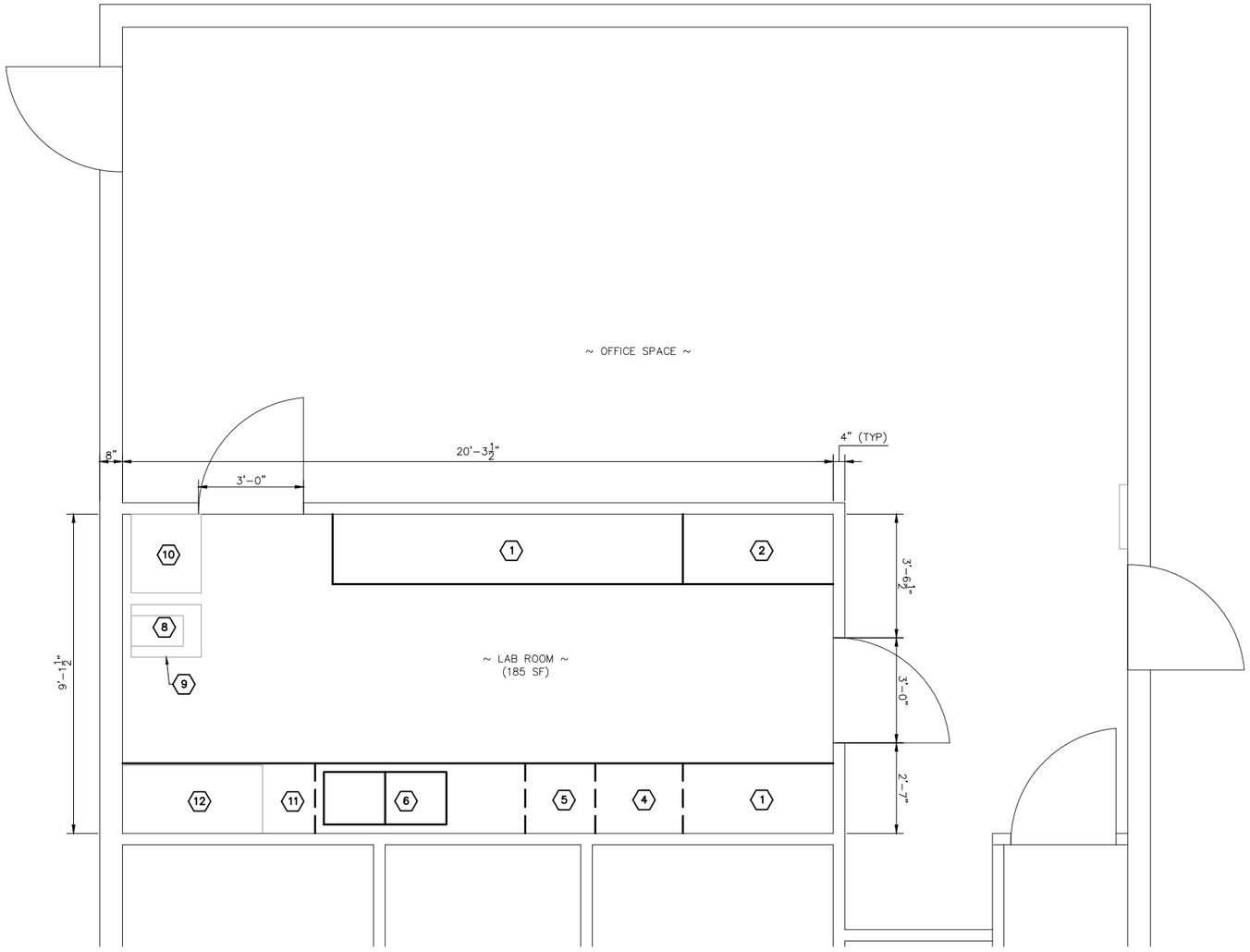
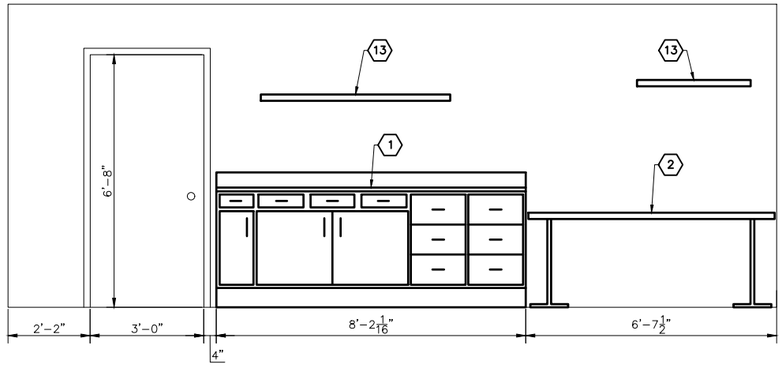


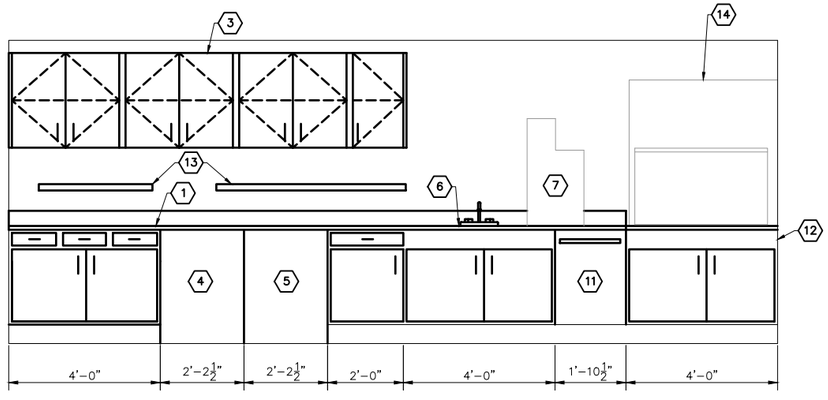
EXISTING LAB ROOM – PLAN

SCALE 2 0 2 4 FEET



EX LAB ROOM WALL – NORTH ELEVATION

SCALE 2 0 2 4 FEET



EX LAB ROOM WALL – SOUTH ELEVATION

SCALE 2 0 2 4 FEET

EQUIPMENT TO BE REMOVED

1. = EX CABINETS TO BE REMOVED (TYP)
2. = EX DESK TO BE REMOVED
3. = HANGING CABINETS TO BE REMOVED
4. = EX REFRIGERATOR TO BE REMOVED
5. = EX INCUBATOR TO BE REMOVED
6. = EX SINK TO BE REMOVED
11. = EX DISHWASHER TO BE REMOVED
12. = FUME HOOD BASE TO BE REPLACED
13. = EX SHELF TO BE REMOVED (TYP)

EQUIPMENT TO REMAIN

7. = EX DISTILLER TO BE RELOCATED
8. = ANALYTICAL BALANCE TO REMAIN
9. = EX SCALE STAND TO REMAIN
10. = EX SIDE TABLE TO REMAIN
14. = EX FUME HOOD TO REMAIN

NOTE:

ALL DIMENSIONS OF EXISTING CABINETS AND APPLIANCES ARE APPROXIMATE.

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SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

EXISTING LAB INTERIOR

DATE	SCALE	JOB NUMBER
1-27-2025	AS SHOWN	2023-123

SHEET A2.1

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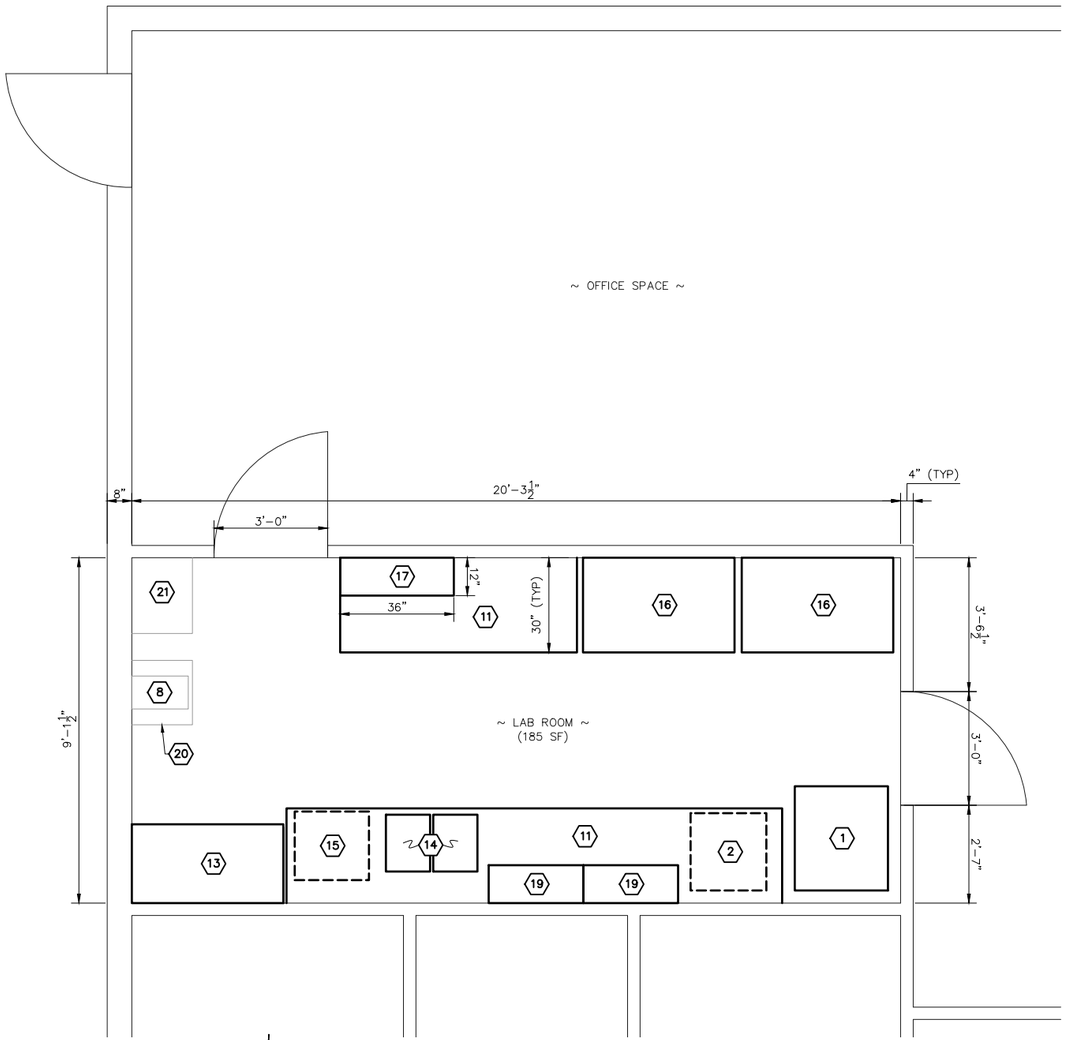
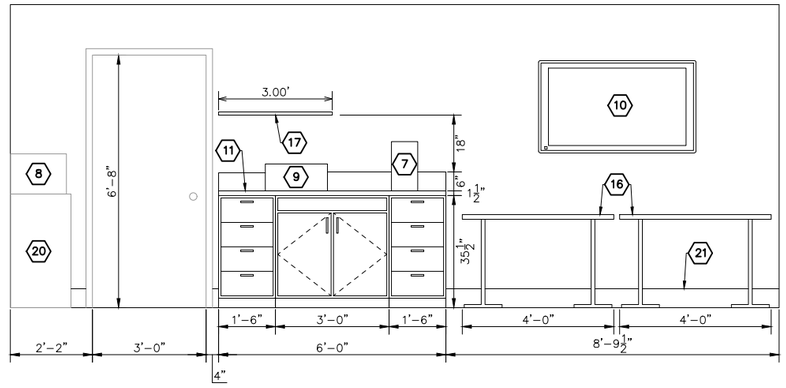


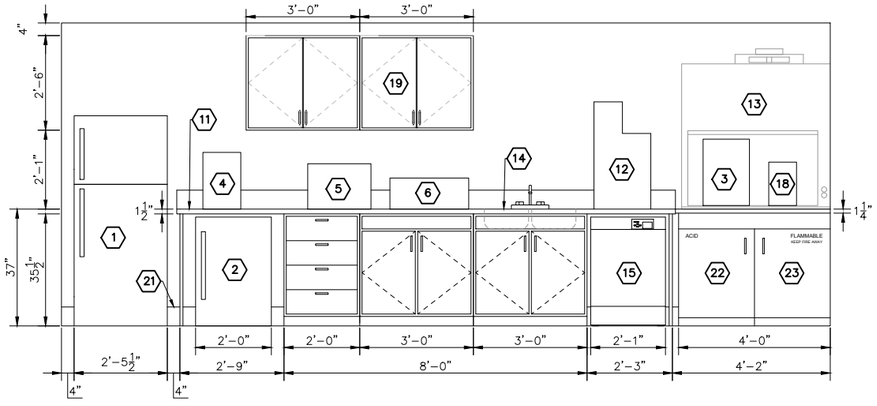
LAB ROOM – PLAN

SCALE 2 0 2 4 FEET



LAB ROOM WALL – NORTH ELEVATION

SCALE 2 0 2 4 FEET



LAB ROOM WALL – SOUTH ELEVATION

SCALE 2 0 2 4 FEET

FINISH SCHEDULE LEGEND:

ACT	ACOUSTIC CEILING TILE
BSC	BRUSHED / SATIN CHROME
CMU	CONCRETE MASONRY UNIT
CP	CEMENTITIOUS PANEL
FRP	FIBERGLASS REINFORCED PANEL
GWB	GYPSUM WALLBOARD
PLY	PLYWOOD
PT#	PAINTED, # INDICATES TYPE / COLOR
RB	RUBBER
SC	SEALED CONCRETE
SRC	SLIP RESISTANT COATING

FINISH SCHEDULE

	FLOOR		BASE	WALL		CEILING		
ROOM NAME	MAT'L	FINISH	MAT'L	MAT'L	FINISH	MAT'L	FINISH	HEIGHT
LAB	EXISTING	EXISTING	6" RB	EX GWB	PAINT	EX TILE	PAINT	8'-0"

KEYED NOTES

1. = REFRIGERATOR
2. = BOD INCUBATOR
3. = DRYING OVEN
4. = DESICCATOR
5. = AUTOCLAVE
6. = FC INCUBATOR
7. = MICROSCOPE
8. = ANALYTICAL BALANCE
9. = SPECTROPHOTOMETER
10. = WALL-MOUNTED 50" TV MONITOR (SEE ELECTRICAL)
11. = 30" DEEP STAINLESS STEEL COUNTER WITH INTEGRAL 6" BACKSPLASH
12. = DISTILLER
13. = EX FUME HOOD TO REMAIN
14. = DUAL BASIN UNDERMOUNTED EPOXY SINK, INTEGRAL DRAINBOARD AT COUNTER, CONNECT TO EX PLUMBING
15. = DISHWASHER
16. = STANDING 48"x30" WORKSTATION (2 TOTAL)
17. = WALL-MOUNTED SHELF (STAINLESS STEEL)
18. = MUFFLE FURNACE
19. = UPPER CABINET WITH UNDER CABINET LIGHTING (TYP)
20. = EX SCALE STAND TO REMAIN
21. = 6" RUBBER WALL BASE (TYP)
22. = 24"-WIDE ACID STORAGE CABINET
23. = 24"-WIDE SOLVENT STORAGE CABINET

NOTE:

SEE SHEET A2.3 FOR LAB EQUIPMENT SCHEDULES

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
PROPOSED LAB INTERIOR IMPROVEMENTS

DATE 1-27-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET A2.2 | PAGE 55 OF 91

LAB EQUIPMENT SCHEDULE

KEY	TYPE OF EQUIPMENT/INSTRUMENT	MANUFACTURER	MODEL NUMBER	SOURCE	DEPTH (IN)	WIDTH (IN)	HEIGHT (IN)	ELECTRICAL	MECHANICAL
1	REFRIGERATOR	THERMO SCIENTIFIC	TSV18CPSA	FCIC	32.79	29.53	66.61	115 V, 60 HZ, 1.1 A	VERIFY
2	BOD INCUBATOR	THERMO SCIENTIFIC	PR205745R	FCIC	24.5	24	34.5	115 V, 60 HZ, 9.5 A, NEMA 5-15 PLUG	N/A
3	DRYING OVEN	QUINCY LAB INC	20GC	EXISTING	15.25	15	21.5	115 V, 60 HZ, 6.95 A	N/A
4	DESSICATOR	NALGENE	38090	FCIC	12	12	18	N/A	N/A
5	AUTOCLAVE	TUTTNAUER	2340M	FCIC	21.5	20	14.4	120 V, 60HZ, 12 A	VERIFY
6	FECAL COLIFORM INCUBATOR	THERMO SCIENTIFIC	TSCOL19	FCIC	15.5	24.9	9.8	120/230 V, 60 HZ, 9-10.5 A	N/A
7	MICROSCOPE	ACCU-SCOPE	EXC-123-PH	FCIC	10	7.8	14.5	N/A	N/A
8	ANALYTICAL BALANCE	METTLER TOLEDO	XS 104	EXISTING	12.7	10.4	17.8	N/A	N/A
9	SPECTROPHOTOMETER	HACH	DR6000 UV VIS	FOIO	18.1	19.7	8.5	110-240 VAC, 60 HZ	N/A
12	STILL	THERMO SCIENTIFIC	MP-1	FCIC	9.75	18	34	120 V, 60 HZ, 9 A	WATER AND DRAIN CONNECTION
13	FUME HOOD	LABCONCO	224660	EXISTING	25	47	54	115 VOLTS, 60 HZ, 1 A, DOMESTIC	VERIFY
15	GLASSWARE WASHER	LABCONCO	401001000	FCIC	27.7	24.1	32.1-36	115 V, 60 HZ, 16 A, 1P	VERIFY
16	STANDING DESK (X2)	UPLIFT	UPL922-MAPLE-48x30	FCIC	30	48	22.6-48.7	100-240 V, 60 HZ, 400W MAX	N/A
18	MUFFLE FURNACE	THERMO SCIENTIFIC	FB1315M	FCIC	13	9	14	120 V, 60 HZ, 8.9 A	VERIFY
	MICROSCOPE CAMERA	ACCU-SCOPE	AU-300-HDS	FCIC	-	-	-		
	COLORIMETER	HACH	DR300	EXISTING	HANDHELD			BATTERY POWERED	N/A
	PH PROBE	HACH	PHC101	EXISTING	HANDHELD			N/A	N/A
	DO PROBE	HACH	LBOD101	EXISTING	HANDHELD			N/A	N/A
	DO/PH METER	HACH	HQ2200	EXISTING	HANDHELD			N/A	N/A

FOIO = FURNISHED BY OWNER & INSTALLED BY OWNER
FCIC = FURNISHED BY CONTRACTOR & INSTALLED BY CONTRACTOR

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
LAB SCHEDULES & TYPES

DATE 1-27-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

GENERAL ABBREVIATIONS

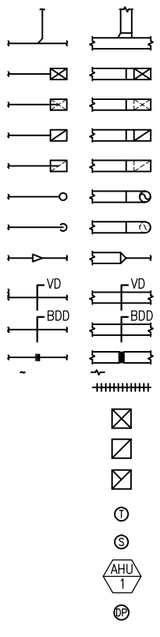
AFF	ABOVE FINISHED FLOOR
BLDG	BUILDING
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CAP	CAPACITY
COND	CONDENSATE
COL	COLUMN
CONN	CONNECT; CONNECTION
CONST	CONSTRUCTION
COORD	COORDINATE
DEG	DEGREE
DIA	DIAMETER
DIM	DIMENSION
DISCH	DISCHARGE
DIV	DIVISION
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
EA	EACH
EFF	EFFICIENCY
ELEV	ELEVATION; ELEVATOR
ENT	ENTERING
EQUIP	EQUIPMENT
F	FAHRENHEIT
FLR	FLOOR
FT	FEET; FOOT; FEET OF WATER(PRESS)
GC	GENERAL CONTRACTOR
GEN	GENERAL
H	HEIGHT; HIGH
HP	HORSE POWER
HR	HOUR
HZ	HERTZ
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
IMC	INTERNATIONAL MECHANICAL CODE
IN	INCH
KW	KILOWATT
L	LENGTH; LONG (DIM)
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MECH	MECHANICAL; MECHANICAL CONTRACTOR
N	NORTH
OC	ON CENTER
OD	OUTSIDE DIAMETER; OVERALL DIMENSION
OPP	OPPOSITE
PD	PRESSURE DROP
PH	PHASE
PRESS	PRESSURE
PSI	POUNDS PER SQUARE INCH
QTY	QUANTITY
RPM	REVOLUTIONS PER MINUTE
S	SOUTH
SCHED	SCHEDULE
SECT	SECTION
SPEC	SPECIFICATION
TEMP	TEMPERATURE
TYP	TYPICAL
V	VOLT
VAR	VARIABLE
VEL	VELOCITY
VOL	VOLUME

HVAC ABBREVIATIONS

BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
CFM	CUBIC FEET PER MINUTE
DMPR	DAMPER
EA	EXHAUST AIR
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EXH	EXHAUST
GR	GRILLE
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
SP	STATIC PRESSURE
T, TSTAT	THERMOSTAT
TG	TRANSFER GRILLE
UMC	UNIFORM MECHANICAL CODE
UH	UNIT HEATER
UV	UNIT VENTILATOR
VENT	VENTILATE; VENTILATION
VD	VOLUME DAMPER
WSEC	WASHINGTON STATE ENERGY CODE

HVAC DUCTWORK LEGEND

SINGLE LINE DUCTWORK INDICATES VIEW DIMENSION LESS THAN 12 INCHES



SUPPLY OR EXHAUST TAKEOFF
SUPPLY DUCT TURNING TOWARD
SUPPLY DUCT TURNING AWAY
EXHAUST DUCT TURNING TOWARD
EXHAUST DUCT TURNING AWAY
ROUND DUCT TURNING TOWARD
ROUND DUCT TURNING AWAY
TRANSITION
VOLUME DAMPER
BACKDRAFT DAMPER
FLEXIBLE CONNECTION
FLEXIBLE DUCT
SUPPLY DIFFUSER
RETURN GRILLE
EXHAUST GRILLE
THERMOSTAT
SWITCH
EQUIPMENT TAG
DIFFERENTIAL PRESSURE SENSOR

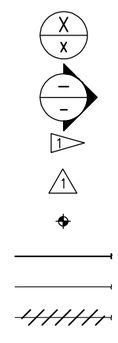
GENERAL CONSTRUCTION NOTES

1. PLANS ARE DIAGRAMMATIC AND DO NOT SHOW ALL BRANCHES, VALVES, SPECIALTIES AND EQUIPMENT.

2021 WASHINGTON STATE ENERGY CODE NOTES

1. PROVIDE POST CONSTRUCTION COMMISSIONING AND COMPLETION REQUIREMENTS IN ACCORDANCE WITH SECTION C408 AND ACCORDING WITH THE CONTRACT DOCUMENTS. SEE SPECIFICATION SECTIONS 23 05 00 AND ALL OTHER APPLICABLE SPECIFICATION SECTIONS.
2. PROVIDE CLOSE OUT DOCUMENTATION AND TRAINING OF BUILDING OPERATIONS PERSONNEL FOR ALL MECHANICAL COMPONENTS IN ACCORDANCE WITH SECTION C103.6. SEE SPECIFICATIONS FOR MORE INFORMATION.
3. EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING PER SECTION C408.2.2.1. SEE SPECIFICATIONS FOR DETAILS.
4. BALANCE ALL HVAC SYSTEMS IN ACCORDANCE WITH SECTION C408.2.2, GENERALLY ACCEPTED ENGINEERING STANDARDS AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. SEE SPECIFICATION SECTION 23 05 93 AND ALL OTHER APPLICABLE SPECIFICATION SECTIONS.
5. ALL DUCTWORK SHALL BE CONSTRUCTED AND ERECTED PER THE INTERNATIONAL MECHANICAL CODE 2021 EDITION. SEE SECTION C403.10.2 OF THE 2021 WASHINGTON STATE ENERGY CODE AND SPECIFICATIONS FOR MORE INFORMATION.
6. ALL NEW DUCTWORK IS LOW PRESSURE.
7. ALL DUCTS AND PLENUMS THAT ARE PART OF AN HVAC SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE C403.10.1.1 OR C403.10.1.2. SEE SPECIFICATIONS FOR MORE INFORMATION.
8. ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH TABLE C403.10.3. SEE SPECIFICATIONS FOR MORE INFORMATION.
9. PROVIDE CONTROLS IN ACCORDANCE WITH SECTION C403.4 AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

GENERAL LEGEND



DETAIL/DRAWING REFERENCE
SECTION REFERENCE
CONSTRUCTION NOTE
REVISION SYMBOL
POINT OF CONNECTION
BOLD LINE WEIGHT INDICATES NEW WORK
LIGHT LINE WEIGHT INDICATES EXISTING WORK
SLASHED LINE INDICATES EXISTING WORK TO BE DEMOLISHED

DRAWING INDEX

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
MECHANICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES

DATE	SCALE	JOB NUMBER
1-24-2025	AS SHOWN	2023-123

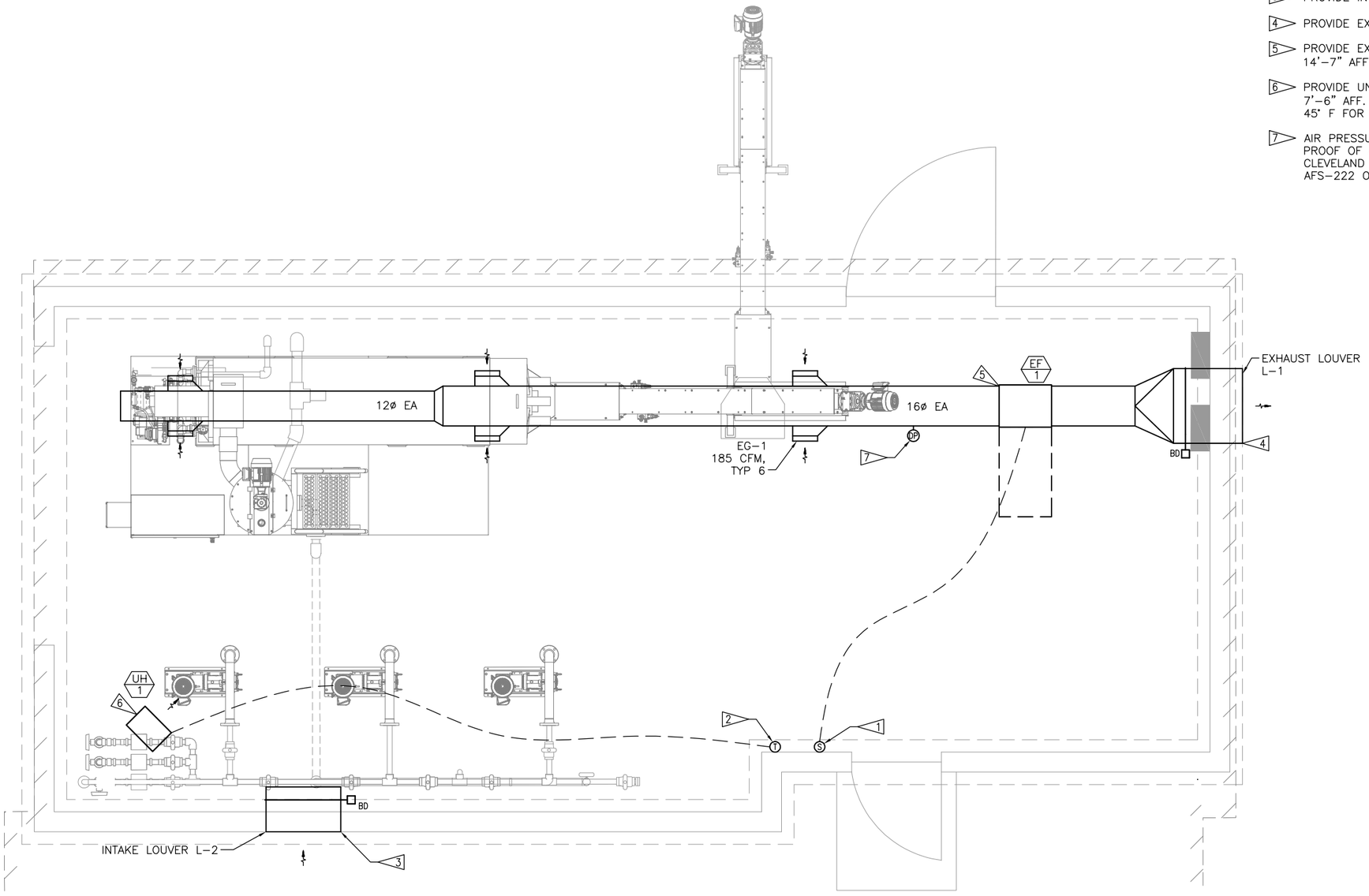
SHEET	PAGE
H0.1	57 OF 91

GENERAL NOTES

1. EXHAUST FAN EF–1 INTENDED TO OPERATE 24/7. PROVIDE BACK DRAFT DAMPERS ON LOUVERS L–1 AND L–2.

CONSTRUCTION NOTES

1. PROVIDE AND LABEL DISCONNECT SWITCH FOR EF–1. LOCATE 42" AFF.
2. PROVIDE THERMOSTAT. LOCATE 42" AFF.
3. PROVIDE INTAKE LOUVER 48" AFF.
4. PROVIDE EXHAUST LOUVER 13'–6" AFF
5. PROVIDE EXHAUST FAN. LOCATE FAN 14'–7" AFF.
6. PROVIDE UNIT HEATER. LOCATE HEATER 7'–6" AFF. HEATER SETPOINT TO BE 45° F FOR FREEZE PROTECTION.
7. AIR PRESSURE SENSING SWITCH FOR PROOF OF AIR FLOW. PROVIDE CLEVELAND CONTROLS MODEL AFS–222 OR APPROVED EQUAL.



DEWATERING BUILDING MECHANICAL PLAN

2 0 2 4
SCALE FEET
HORIZONTAL SCALE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING MECHANICAL PLAN

DATE	SCALE	JOB NUMBER
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SHEET H1.0

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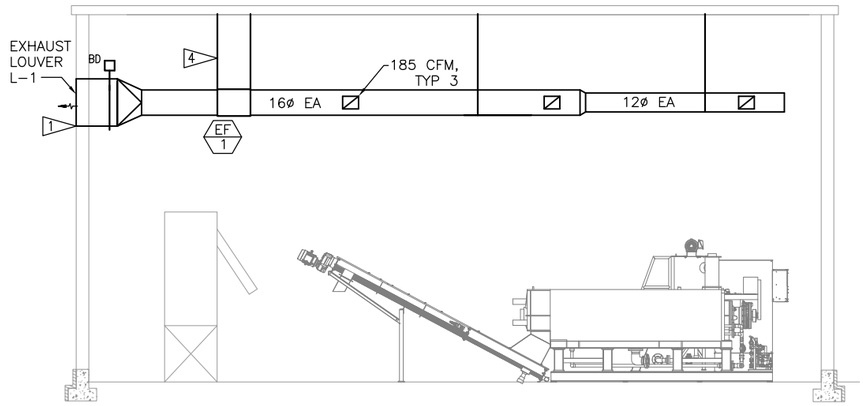
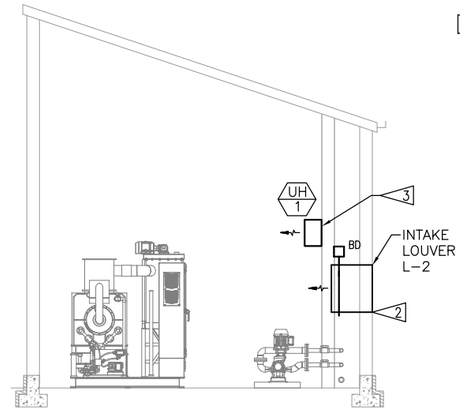
CONSTRUCTION NOTES

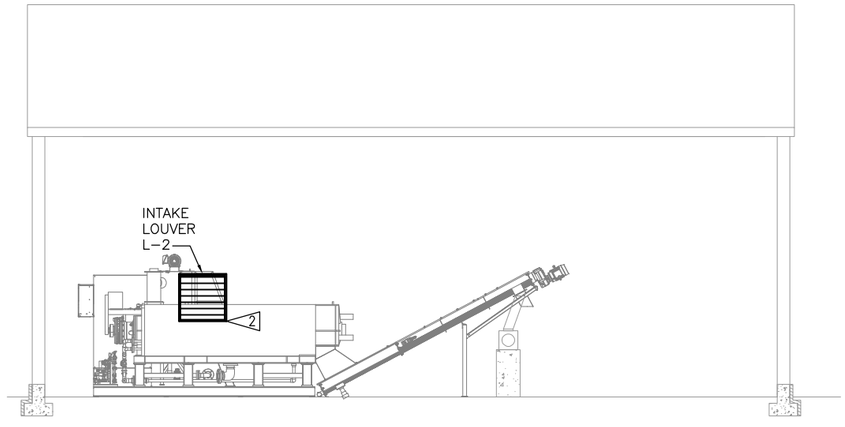
1. INSTALL EXHAUST LOUVER 13'-6" AFF.
2. INSTALL INTAKE LOUVER 48" AFF.
3. INSTALL UNIT HEATER 7'-6" AFF WITH FACTORY WALL MOUNTING BRACKET.
4. SUPPORT AND BRACE DUCTWORK AND EXHAUST FAN FROM STRUCTURE ABOVE.



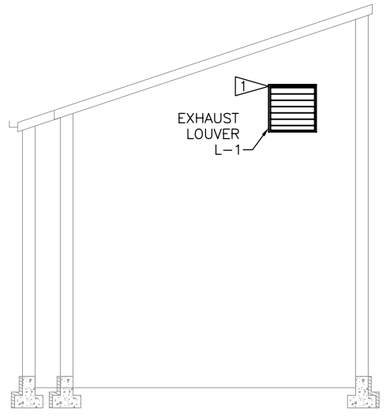
NORTH ELEVATION



WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION

MECHANICAL SECTIONS

4 0 4 8
SCALE HORIZONTAL SCALE FEET

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
MECHANICAL SECTIONS

DATE	SCALE	JOB NUMBER
1-24-2025	AS SHOWN	2023-123

SHEET H2.0
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EXHAUST FAN SCHEDULE

CALLOUT					FAN												MAX SOUND LEVEL (DBA)	BASIS OF DESIGN	
									MOTOR [3]			ELECTRICAL [2]							
TYPE	MARK	LOCATION	FAN TYPE	SERVICE	CFM	DRIVE TYPE	E.S.P (IN WC) [1]	RPM	SPEED	HP	BHP	V	HZ	ø	MOP	MCA		MANUFACTURER	MODEL
EF	1	DEWATERING	INLINE	DEWATERING	1110	DIRECT	0.50	1612	1612	1/3	1/4	115	60	1	20	9	55	GREENHECK FAN	SQ-100

SCHEDULE NOTES:
[1] STATIC PRESSURE EXTERNAL TO FAN.
[2] SINGLE POINT CONNECTION AND UNIT PROVIDED WITH INTEGRAL DISCONNECT
[3] PROVIDE ECM MOTOR WITH FAN MOUNTED DIAL.

AIR TERMINAL SCHEDULE

CALLOUT	AIR TERMINAL DESCRIPTION	AIRFLOW CAPACITY LIMITS (CFM)		NOMINAL SIZE		NECK DIMENSIONS			MAX NC	MAX TSP DROP (IN. W.G.)	MATERIAL	OPD	FINISH	BASIS OF DESIGN		NOTES
							FOR RECTANGULAR									
		MAXIMUM	MINIMUM	LENGTH	WIDTH	DIAMETER	LENGTH	WIDTH						MANUFACTURER	MODEL	
EG-1	SIDEWALL MOUNTED EXHAUST GRILLE	200	0	10"	8"	–	10"	8"	20	0.02	STEEL	NO	#26 WHITE	TITUS	350RL	[1]

SCHEDULE NOTES:
[1] PROVIDE WITH BALANCING DAMPER ON BRANCH CONNECTION.

UNIT HEATER SCHEDULE

CALLOUT				FAN				ELECTRICAL				OPERATING WEIGHT (LBS)	BASIS OF DESIGN		NOTES
TYPE	MARK	LOCATION	SERVICE	CFM	MOTOR HP (W)	CAPACITY (KW) [4]	STAGES	V	HZ	ø	AMPS		MANUFACTURER	MODEL	
UH	1	DEWATERING	FREEZE PROTECTION	825	35	12.5	1	480	60	3	15	46.5	KING	KB4812-3MP-B2	[1][2][3]

SCHEDULE NOTES:
[1] PROVIDE WITH WALL MOUNTING BRACKET
[2] PROVIDE WITH INTEGRAL DISCONNECT SWITCH
[3] PROVIDE WITH WALL THERMOSTAT AND LOW VOLTAGE CONTROL KIT.
[4] ELECTRIC RESISTANCE HEAT PER 2021 WSEC SECTION C403.1.4, EXCEPTION 15.

LOUVER

CALLOUT			SIZE			BASIS OF DESIGN		NOTES
TYPE	MARK	SERVICE	WIDTH (IN)	HEIGHT (IN)	MINIMUM FREE AREA (FT^2)	MANUFACTURER	MODEL	
L	1	EXHAUST	30	30	2.6	RUSKIN	ELBD375E	[1]
L	2	INTAKE	30	30	2.35	RUSKIN	ELBD375I	[1][2]

SCHEDULE NOTES:
[1] PROVIDE WITH INSECT SCREEN.
[2] PROVIDE WITH FILTER RACKS

BID SET

fsi ENGINEERS Seattle // Spokane // Baltimore

WILSON ENGINEERING
WILSONENGINEERING.COM

ANDREW W. LANGTON STATE OF WASHINGTON 43289 REGISTERED PROFESSIONAL ENGINEER 01.24.25 SIGNED

DESIGNED BY	DRAWN BY	CHECKED BY
TDC	WHB	AWL

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
MECHANICAL SCHEDULES

DATE	SCALE	JOB NUMBER
1-24-2025	AS SHOWN	2023-123

SHEET H3.0
PAGE 60 OF 91

-- GENERAL NOTES --

1. DESIGN BASIS: Designed in accordance with the 2021 International Building Code (IBC).
2. RISK CATEGORY: III (per IBC Table 1604.5)
3. DESIGN DEAD / LIVE LOADS
   - Floor Live Load: 100 PSF Typical
   - Roof Dead Load: 15 PSF Typical (Incl. Framing)
   - Roof Live Load: 20 PSF Typical
4. DESIGN SNOW LOADS (ASCE 7-16)
   - Ground Snow Load: Pg = 20 PSF
   - Flat Roof Snow Load: Pf = 25 PSF
   - Minimum Uniform Roof Snow Load = 25 PSF (unreducible)
   - Thermal Factor: Ct = 1.2 / Exposure Factor: Ce = 1.1 / Snow Load Importance Factor: Is = 1.1
5. DESIGN WIND LOADS (ASCE 7-16)
   - V = 105 MPH / V(asd) = 81 MPH
   - Exposure: C / Internal Pressure Coefficient: +/- 0.18
   - Components & Cladding: Components and cladding-wind pressures to be used for the design of exterior components and cladding (by others) shall be determined in accordance with ASCE 7 and the IBC.
6. DESIGN SEISMIC LOADS (ASCE 7-16)
   - Site Class = D
   - Seismic Design Category = D / Importance Ie = 1.25
   - Ss = 1.13g / S1 = 0.40g
   - Sds = 0.79g / Sd1 = 0.51g
   - Building System: Bearing Wall System
   - SFRS: Light frame (cold-formed steel) wall with wood panels
   - Response Modification Factor Used: R = 6.5
   - Seismic Response Coefficient: Cs = 0.152
   - Design Base Shear: V = 3.2 kips ASD
   - Analysis Procedure: Equivalent Lateral Force Procedure
7. QUALITY: Contractor shall ensure high standards of workmanship throughout, with strict adherence to the contract documents and all governing codes and standards.
8. DESIGN RESPONSIBILITY: Kingworks is responsible only for the design of the primary structural system as shown in the contract documents. Design of all secondary structure or non-structural elements are by others.
9. DISCREPANCIES: Notify Wilson Engineering immediately of any discrepancies between these notes, the contract drawings, the specification, or the governing code. Wilson Engineering shall reply in writing. Any related work performed by the Contractor prior to receiving a reply from Wilson Engineering is at the Contractor's sole risk. For purposes of bidding, the most stringent of the conflicting documents shall apply.
10. VERIFICATIONS: Verify all existing conditions; verify all dimensions in the field; verify architectural, mechanical and electrical openings for size, location and number; notify Wilson Engineering of any discrepancies, substandard existing conditions, or conditions not included in or contrary to the Contract Documents prior to shop drawing submittal or construction.
11. DRAWING COORDINATION: Coordinate the structural drawings with drawings from all other disciplines (including but not limited to Architectural, Civil, Mechanical, and Electrical).
12. COMPLETED FORM: The structure shown in these drawings is designed to be stable and to resist the loads above only in a fully completed form. Contractor shall ensure that the structure is adequately braced and shored during construction for all temporary loads until all elements are in place, and shall ensure that temporary loadings do not exceed the allowable capacity of any structural elements both before and after these elements are in place.
13. MEANS AND METHODS: Contractor is solely responsible for site safety, coordination, procedures, construction methodology, shoring, bracing, sequencing, and all other means and methods of construction except where specifically shown in the Contract Documents.
14. PROTECTION AND BRACING: Contractor is solely responsible for the protection of existing buildings, utilities, streets, equipment, etc. during construction. Provide temporary bracing and protection as required.
15. SCALING: Do not scale drawings. See architectural and civil drawings for dimensions, and notify Wilson Engineering of any discrepancies.
16. ALTERATIONS: Any holes or other alterations to the structure which are not specifically detailed on the Contract Drawings shall be submitted to the engineer for approval.
17. LOAD COORDINATION: The design of all pre-engineered components shall include provisions for precise locations and weights of all mechanical units and other concentrated loads. Concentrated loads are not necessarily indicated on the Structural Drawings, and must be coordinated by the General Contractor, who shall also inform Wilson Engineering of any significant loads not shown in the contract documents. The Contractor shall assume full responsibility for coordination of weights, locations, hanger spacings, methods of attachment and seismic bracing of all mechanical units, sprinklers, pipes, ductwork, and other miscellaneous MEP assemblies.
18. MEP CONNECTIONS TO STRUCTURE: Unless specifically shown otherwise in the Contract Documents, all anchorage, support, and seismic bracing of mechanical and electrical equipment, piping, ceilings, fixtures and other non-structural components shall be designed by a Washington State Licensed Professional Engineer and installed by the Contractor. The engineer shall be retained by the Contractor, and the Contractor is responsible for all associated engineering, component, and installation costs. Design shall be per ASCE 7 Chapter 13.
19. DELIVERY, STORAGE AND HANDLING: All products shall be delivered, stored, and handled according to the Manufacturer's recommendations and installation instructions. Protect all items from damage, moisture, corrosion, or other deterioration before, during and after installation.
20. COPYRIGHT: These drawings, and all designs shown within these drawings, are copyrighted by Kingworks Structural Engineers. Duplication is not permitted without written permission. The designs shown herein are intended for this project only and may not be used on any other project or for any other purpose.

-- SUBMITTALS --

1. GENERAL: Provide PDF of all submittals to Wilson Engineering. Allow two weeks for review. Submittals will be reviewed for general conformance to the contract documents. Responsibility for adherence to the contract documents lies solely with the Contractor, including but not limited to dimensions, sizes, connections, and quantities.
2. CONTRACTOR REVIEW: Contractor shall review, mark, and stamp all submittals before submittal to Wilson Engineering. Unreviewed or unstamped submittals will be returned to the Contractor without review.
3. RESUBMITTALS: Resubmittals shall have all revisions clearly identified with "drawing clouds" and revision dates. KW shall not be responsible for review of any unmarked revisions.
4. SHOP DRAWINGS: To include typical and unique conditions and all connections, shall be submitted to the Structural Engineer of Record for the following products prior to fabrication. Shop drawings shall clearly demonstrate the Contractor's understanding of the contract documents. The following shall be considered minimum structural submittals for this project:
   - Concrete Reinforcing Steel (incl. wall elevations)
   - Concrete Mix Designs (confirm f'c prior to construction)
   - Concrete Accessories
   - Light Gauge Steel Framing
5. DEFERRED SUBMITTALS: Shall be designed by a Washington State Licensed Professional Engineer (Structural Engineer where required by jurisdiction). Submittals shall clearly indicate all loads and reactions to be imposed on the primary structure. Submittals shall include all components and connections required to perform the work. Where the Contract Documents indicate member or connection qualities and/or quantities, these shall be considered a minimum and remain the design responsibility of the component engineer to increase as required to satisfy load and deflection requirements. Deferred submittals shall include calculation set. Both the calculation set and all related shop drawings of the deferred submittal shall be sealed prior to submission. Wilson Engineering shall forward deferred submittals to the Building Official where required. The following shall be considered Deferred Submittals on this project:
   Ground Improvements
   - Precast Vaults
6. SUBMITTAL REVIEW COMMENTS: Engineer marks and comments on shop drawings and other submittals are a normal and expected part of the submittal process, and are not to be used as a basis for change orders except in cases where these marks result in or derive from substantial changes to the Contract Drawings. Time required to revise and resubmit any submittal shall be considered inherent to the submittal review process and shall not be deemed a change order. If discrepancies are discovered between the submittals and the Contract Documents (either before, during, or after submittal review), the Contract shall govern and be implemented unless specifically directed otherwise.

-- SPECIAL INSPECTIONS, TESTING, AND STRUCTURAL OBSERVATION --

1. GENERAL: A special inspection agency shall be retained by the owner to perform inspections according to IBC Chapter 17. The following scheduled structural special inspection and testing regimen shall be cross-referenced with the IBC and its referenced standards for more specific requirements and exceptions. Special inspection and test reports shall be submitted to the Building Official, Wilson Engineering, and Kingworks in accordance with IBC 1704.2.4.

-- STRUCTURAL SPECIAL INSPECTION SCHEDULE --

	STRUCTURAL ITEM	FREQUENCY (C=continuous, P=periodic)	REFERENCE (2021 IBC Section, uon)
1	STEEL		1705.2, 1705.13.1
	- Cold-Formed Steel	P	1705.12.2, 1705.13.3, AWS D1.3
2	CONCRETE		1705.3, ACI 318-19 26.13
	- Reinf Placement	P (and prior to all pours)	Table 1705.3, ACI 318-19 26.6.2
	- Anchor Placement	P (and prior to all pours)	Table 1705.3
	- Concrete Placement	C	Table 1705.3
	- Concrete Testing	Per ACI 318-19 26.12	Table 1705.3
	- Formwork & Curing	P	Table 1705.3
	- Erection of Precast Members	P	Table 1705.3
3	POST-INSTALLED ANCHORS		Table 1705.3
	- Epoxy or Adhesive Anchors Used in Horizontal or Overhead Position	C	See ICC-ES report
	- All Other Anchors Installed in Hardened Concrete	P (except where C req'd by ICC-ES report)	See ICC-ES report
4	WOOD SHEATHED SHEAR WALLS		
	- Shearwalls (nailing, thickness, grade, blocking, top and bottom fastening, sill bolts, holdowns)	P (not req'd when fasteners are in single row and spaced greater than 4" o/c)	1705.13.3
5	SOILS & FOUNDATIONS		1705.6, Table 1705.6, Geotech Report
	- Subgrade Adequacy	P (beneath fill and/or foundations)	Table 1705.6
	- Excavation Depth	P	Table 1705.6
	- Fill Materials	P	Table 1705.6
	- Fill Placement & Compaction	C	Table 1705.6

2. NONSTRUCTURALCOMPONENTS: Nonstructural components are also subject to special inspection for conformance to the Seismic Design Requirements of ASCE 7-16 Chapter 13. The support and seismic bracing of nonstructural components shall be designed by a Washington State Licensed Engineer, who shall be retained by the Contractor. Nonstructural components subject to seismic design and periodic special inspection requirements of ASCE 7-16 and IBC Chapter 17 include (but are not limited to) the following:
   - Architectural components (IBC 1705.13.5)
   - Nonstructural components (IBC 1705.14.2)
   - MEP Components (IBC 1705.13.6)
   - Reference the architectural, electrical, and mechanical drawings and/or specifications for additional special inspection and testing requirements.
3. STRUCTURAL OBSERVATION: KW will perform Structural Observation if/as required by IBC 1704.6. Structural Observation is for intermittent review of general conformance to the design intent and shall be in addition to (not replacing) the third-party special inspection regimen.

-- FOUNDATIONS & SUBGRADE --

1. SOIL ALLOWABLE BEARING PRESSURE: 2500 PSF (x 1.33 when subjected to wind or seismic loadings).
2. GEOTECHNICAL REPORT: Reference GeoEngineers geotechnical report dated September 7, 2021 for subgrade preparation, backfill, compaction, wet weather work, and other recommendations. All provisions of the geotechnical report shall be enacted by the Contractor.
3. GEOTECHNICAL VERIFICATION: The Owner shall retain a geotechnical inspection agency to inspect the excavations and confirm that the provisions of the Geotechnical Report are followed. All recommendations of the geotechnical inspector shall be followed and communicated with the design team via inspection report. Contractor shall coordinate this inspection effort with the Owner.
4. UTILITIES: Utilities are not to pass through or beneath footings, stemwalls, and other concrete work on grade except as shown in specific details.
5. MISCELLANEOUS VERIFICATIONS: Verify sizes, slopes and locations of tunnels, electrical cells, pits, pipes, floor drains, trenches and floor recesses with architectural, mechanical and electrical contractors.
6. ALIGNMENT: All footings shall be centered below columns and walls, unless dimensioned otherwise.
7. BACKFILL: Do not backfill against below-grade walls until strength has been achieved and floor framing is in place.
8. FROST PROTECTION: Maintain minimum 1'-0" soil cover, measured from finished grade to the bottom of the footing, for perimeter wall foundations and isolated exterior foundations.
9. EXCAVATION SLOPE: Excavation slope shall not exceed that permitted by local regulation, except as specifically approved by the geotechnical engineer.

-- REINFORCED CONCRETE --

1. REFERENCED STANDARDS: Reinforced concrete shall conform to the requirements of the following documents, except as modified in these drawings.
   - ACI 301-16 "Standards Specifications for Structural Concrete"
   - ACI 318-19 "Building Code Requirements for Structural Concrete"
2. MATERIALS
   - Conform to following concrete material schedule requirements:

-- CONCRETE MATERIAL SCHEDULE --

	f'c (PSI)	W/CM (MAX)	COARSE AGG (MAX)	AIR CONTENT	MIN FLY ASH AND/OR SLAG
BLDG FOUNDATIONS / STEMWALLS	4500	0.45	1"	SEE NOTES	20%
EXTERIOR SOG & EQUIPMENT PADS	5000	0.45	3/4"	6%	30%
INTERIOR SOG & EQUIPMENT PADS	3500	0.55	3/4"	-	20%
HYDRAULIC STRUCTURES (SEE ADDT'L REQ BELOW)	4500	0.45	3/4"	SEE NOTES	20%

   - Required concrete strength "f'c" shall be evaluated at 28 days (56 days OK for fly ash or slag concrete).
   - Cementitious Materials: Provide Type IL Blended Hydraulic Cement per ASTM C595 for hydraulic structures. Provide Type I or II Cement per ASTM C150 (Type III OK for Precast) for all else. Cementitious materials for use in concrete exposed to soil or weather must meet or exceed the S1 exposure class per ACI 318-19 Table 19.3.2.1.
   - Fly Ash: Class F per ASTM C618.
   - Slag: GGBF Slag per ASTM C989, Grade 100 minimum.
   - Air Entrainment: Provide air entrainment per concrete mix table +/- 1.5%, all other locations exposed to weather shall have air entrainment of 6% (+/- 1.5%).
   - Typical Reinforcing Steel: ASTM A615, Grade 75 for Train #1 and #2 (H) bars, Grade 60 for all else.
   - Mixes for hydraulic structures shall also satisfy the following:
     1. Shrinkage reducing admixture per ASTM C494 shall be added so that test mixes shall demonstrate shrinkage of no more than 400 microstrain at 7 days.
     2. Air percentage shall be per the manufacturer of the shrinkage reducing admixture recommendation.
     3. Hydraulic structure concrete shall contain a minimum of 500 pounds of cementitious materials per cubic yard.
     4. For hydraulic structures, the requirement for stone aggregate shall not be waived.
3. SPLICES: All reinforcing steel lap splices are to be per typical schedule unless noted otherwise.
4. CONTINUITY: Horizontal reinforcing steel in walls and wall footings shall be continuous around corners, same size and spacing. At intersections of walls or footings, extend all bars as far as possible into continuous element and terminate with standard hook.
5. CLEAR COVER: Provide clear cover from outermost reinforcing to surface of concrete in accordance with the following unless noted otherwise:
   - Elements cast against and permanently exposed to earth: 3" clr
   - Elements formed and exposed to earth or weather: 2" clr (#6-#18), 1 1/2" clr (#3-#5)
6. ACCESSORIES: Provide all accessories, chairs, spacer bars and supports necessary to secure steel In accordance with ACI Code of Standard Practice.
7. CHAMFER: Chamfer all exposed corners and edges above grade per Wilson Engineering.
8. FORM STRIPPING: Do not strip forms until concrete has reached adequate strength.
9. SLEEVES / OPENINGS: Furnish and place all sleeves and openings as shown on the drawings or as specified.
10. REINFORCING FABRICATION: All reinforcing shall be shop fabricated. Exception: #3 or #4 bars may be field bent one time in any location, do not rebend or restraighten.
11. HOOKS: All hooked bars shall be a standard shop fabricated hook with bend radii and length per ACI 318, unless noted otherwise.
12. TESTING: Test cylinders shall be taken by qualified personnel according to ACI 318-19 Section 26.12
13. WEATHER PROVISIONS: Observe all ACI recommendations for hot or cold weather concreting cure slabs using an approved curing compound or wet cure system per ACI recommendations, with special consideration for slag and fly ash concrete as appropriate.
14. CONSTRUCTION JOINTS: All construction joint locations shall be submitted to the Architect for approval. Roughen joints to 1/4-inch minimum amplitude, remove all laitance. Soak joint continuously for 2 hours minimum, then remove all standing water, immediately prior to second pour. Unless noted otherwise, all reinforcing shall be spliced/continuous across the construction joints.

-- ANCHORAGE TO CONCRETE --

1. MATERIALS (unless noted otherwise in the drawings)
   - Concrete must cure for a minimum of 21 days prior to drilling any holes or placing post-installed anchors.
   - Anchor type shall be according to the drawings. All post-installed anchors installed in concrete shall have ICC-ES reports demonstrating IBC compliance for use in cracked concrete and for seismic loading. Substitutions not permitted without written permission by KW.
   - Pre-approved Epoxy for post-installed threaded rod or reinforcing in concrete base material: HILTI HIT-RE 500 V3 or Simpson SET-3G.
   - Pre-approved "Screw Anchors" in concrete base material: HILTI KH-EZ or Simpson Titen HD or DEWALT/Powers Screw-Bolt+.
   - Post-installed or Cast-in-Place Threaded Rod (Anchor): ASTM A36
   - Post-installed Reinforcing: ASTM A615 Grade 60
2. EMBEDMENT: Anchor embedment in base material shall be per the drawings, which shall govern over the typical values shown below. Where not otherwise indicated, provide embedment as follows:
   - Epoxy to Concrete: Min Embed = 12 x (Rod/Bar Ø) for 5/8"Ø (#5) or smaller, 14 x (Rod/Bar Ø) for 3/4"Ø (#6) or larger
   - Screw Anchor to Concrete: Min Embed = 9 x (Anchor Ø)
   - Cast-In-Place Anchor: Min Embed = 7" to top of embedded washer or hook
3. INSTALLATION: Post-installed anchor hole diameter, drilling depth, cleaning and installation procedure shall be in accordance with the current Manufacturer's Printed Installation Instructions (MPII) provided in the ICC/ES report. Holes shall be drilled with rotohammer equipment and dry. Core-drilled holes are not permitted unless specifically noted otherwise.
4. COLD-WEATHER INSTALLATION: Do not use epoxy or adhesive anchors outside of their rated temperature range. Contact the Structural Engineer for alternate if the base material temperature may be less than 40 degrees during installation or curing.
5. CAST-IN-PLACE ANCHORS: Cast-in-place anchors shall have nut and washer at embedded end, UON. Anchors shall be affixed to the form to prevent movement during pouring, vibration, or set-up and shall not be "stabbed" into wet concrete or grout. Verify adequate length of exposed thread to fully engage all attached work.
6. FINISHES: All anchors used at exterior or where subject to moisture shall be hot-dip galvanized per ASTM A153 or stainless steel, including matching washers and nuts.
7. REINFORCEMENT LOCATIONS: All post-installed anchors shall be located to avoid drilling into reinforcement, unless specifically approved by the Engineer. Reinforcement shall be placed with consideration for locations of post-installed anchors. Do not damage reinforcing during drilling operations.

-- COLD-FORMED STEEL FRAMING --

1. REFERENCED STANDARD: All work shall conform to AISI S100-16.
2. MATERIALS: All cold-formed steel members and accessories shall be galvanized (G90), and shall be from same manufacturer as required by compatibility.
3. YIELD STRENGTH: Minimum yield strength shall be as follows:
   - 16 gauge (54 mil) and heavier: fy=50 ksi
   - 18 gauge (43 mil) and lighter: fy=33 ksi
4. STUD INSTALLATION: Plumb, align and securely attach studs to the flange or web of both upper and lower tracks. Bear studs firmly against inside track web before stud and track attachment. Provide top and bottom tracks of the same gauge or heavier than studs.
5. CONNECTORS: Connector types shall be as indicated in the drawings; submit alternates of equal strength for review. Cold-formed steel connectors shall be installed in accordance with manufacturer's guidelines.
6. JOINING: Multiple studs shall be joined by welds 3/4" long each edge @ 12" O.C., or by (2) rows #8 @ 12" O.C. each edge of web when joined back to back. Space rows of screws as far apart as possible.
7. SPLICES: Splices in studs are not permitted. At track splices, butt-weld full section or splice with overlapping section at least 12" long with (6) #8 screws to each lapped flange section.
8. MINIMUM CONNECTION: Minimum connection of piece-to-piece in all cold-formed steel, where no other connection is shown, is (2) #8 screws or (2) 1" x 1/8" fillet welds; place connections symmetrically.
9. STUD BRACING: Each face of studs shall be braced against rotation and weak axis buckling by one of the following methods:
   - OPTION A (BRIDGING): Approved manufactured bracing system utilizing stud punching and special hardware. Submit desired system for Kingworks approval. Vertical spacing between bridging rows shall be 4'-0" o/c maximum.
   - OPTION B (SHEATHING): Minimum 5/8" GWB permanent sheathing with #8 screws at not more than 12" o/c, plus bridging per Option A on any face not sheathed. This option may not be used unless sheathing is applied to both faces during initial construction and may not be used if the sheathing is subject to change or removal due to tenant improvement or other owner uses.
10. WELDING: Cold-formed steel welding requirements are as follows:
    - Conform to the requirements of AWS D1.3-2018, "Structural Welding Code - Sheet Steel".
    - All welds shall be flux-cored arc welding process, unless otherwise approved.
    - Use only pre-qualified weld procedures.
    - Welding shall be carefully controlled to eliminate burn-through. Burn-through will be cause for rejection of weld. Repair or replace all burn-through damaged pieces.
    - Bring pieces into firm contact before welding.
11. SCREWS: All screws shall be self-tapping and self-drilling in compliance with ASTM C1513, SAEJ78, and ICC-ES AC118.
    - Screws shall have a Type II coating in accordance with ASTM B633 and have tested resistance to hydrogen embrittlement.
    - Steel-to-steel screws shall have a minimum projection of 3 threads through the last joined ply of material. No gap shall be permitted between joined plies.
    - Screws shall have a minimum center to center spacing and edge distance of three times the screw diameter unless noted otherwise on the drawings.
    - Tighten screws per manufacturer recommendations. Stripped screws or holes are to be considered ineffective and shall be replaced with screws of the next larger diameter.

NO.	REVISIONS	BY	DATE

-- STRUCTURAL STEEL --

1. REFERENCED STANDARDS: Fabrication, erection and dimensional tolerances of structural steel members shall be in accordance with AISC 303-16 "Code of Standard Practice for Steel Buildings and Bridges" and ASTM A6.
2. MATERIALS (unless otherwise noted on drawings)
   - Wide Flange and WT shapes: ASTM A992, fy=50 ksi.
   - Hollow Structural Sections (HSS): A500 Grade C, Rectangular fy= 50 ksi, Round fy=46 ksi.
   - Welding Electrodes: E70XX
   - Anchor Rods: ASTM F1554 Grade 36
   - Angles / Channels / Plates / Rods / Miscellaneous: ASTM A36
3. WELDING: All welding to be performed by qualified welders and shall conform to A.W.S. D1.1.
4. GALVANIZING: All steel elements and fasteners exposed to the exterior shall be hot-dip galvanized in accordance with ASTM A153/A123, unless a suitable exterior-grade paint system is indicated by Civil.
5. GALVANIZING REPAIR: Repair all damage to hot-dip galvanized coating by hot-stick or high-zinc paint method in accordance with ASTM A780. Where welding of galvanized steel is required, all galvanizing on the area of steel to be welded, plus 3/4-inch each side of the welded area, shall be ground off prior to welding; affected area shall be repaired per ASTM A780.
6. ERECTION: Contractor shall comply with all current OSHA/WISHA requirements concerning steel erection. This may require additional bolts, shims, guys, bracing, and other elements that are not detailed in the Contract Documents but remain the Contractor's responsibility to implement.
7. BOLT SPECIFICATION: All bolted connections shall conform to the current "RCSC Specification for Structural Joints Using High-Strength Bolts".
8. BOLT INSTALLATION: Bolts shall be snug-tightened (-ST). "-ST" bolts shall be tightened as needed to bring all plies of the connection into firm contact, achieved by a few impacts of an impact wrench or the full effort of an iron worker using an ordinary spud wrench.
9. BOLT HOLES: Bolt holes in steel shall be 1/16" larger than bolt diameter, except where specifically detailed otherwise.
10. GROUT: Grout for baseplates, sleeves, and embedded steel shall be an approved nonshrink cementitious grout containing natural aggregates delivered to the job site in factory prepackaged containers requiring only the addition of water. The minimum 28-day compressive strength shall be at least 1000 psi higher than the supporting concrete strength, UON. Grout shall be mixed, applied, and cured strictly in accordance with the manufacturer's printed instructions. For grouting under base plates, grout shall be proportioned as a flowable mix. When a flowable mix does not provide the required strength, an epoxy grout shall be used. Grout thickness shall be per the typical details.

-- WOOD FRAMING --

1. REFERENCED STANDARD: All work shall conform to 2021 IBC unless otherwise indicated.
2. EXTERIOR WOOD PROTECTION: Provide flashings, sealants, and finishes per Wilson Engineering in order to protect all exterior wood surfaces from moisture.
3. SHEATHING: Place roof sheathing with face grain oriented in the direction of span. Offset adjacent rows of sheathing panels by 24" minimum, with all panel ends bearing on joists, beams, or walls. Install wall sheathing in either the horizontal or up-right orientation. Adjust all sheathing layouts so that no panel is less than 24" in length or width. Where edges are not required to be blocked per schedule, provide Simpson PSCA clips at spacing per catalog recommendation. All sheathing shall be APA rated, with type/blocking/fastening per the following schedule. Provide 1/8" gaps between abutting sheet edges, typical.
4. SHEATHING FASTENING: Minimum fastening per the following schedule shall apply at all locations, except where larger screws and/or smaller spacing are required by plans or details. Shearwall fastening is shown by schedule on the plans. Where "boundary fastening" (BF) and/or "edge fastening" (EF) are referenced in these drawings, panel edge values per the schedule shall apply. Blocking for edges shall be per the typ wall detail.

-- WOOD SHEATHING SCHEDULE --

USE	TYPE	BLOCK EDGES	MIN EDGE NAILING	MIN FIELD NAILING
Shearwalls	7/16" OSB	Yes	Per SW Sched (EF)	#8 @ 12"
Other Sheathed Walls	7/16" OSB	No	#8 @ 6"	#8 @ 12"
Roof	7/16" PLY	No	#8 @ 6" (BF)	#8 @ 12"

WILSON ENGINEERING
WILSONENGINEERING.COM

KINGWORKS STRUCTURAL ENGINEERS
600 Dupont St, Suite B
Bellingham, WA 98225
360.714.8260
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Verify Scale:
Enclosing box measures 1/2 inch tall x 2 inch wide when drawings are printed at full scale.

DESIGNED BY THeidersdorf
DRAWN BY CKinney
CHECKED BY THeidersdorf

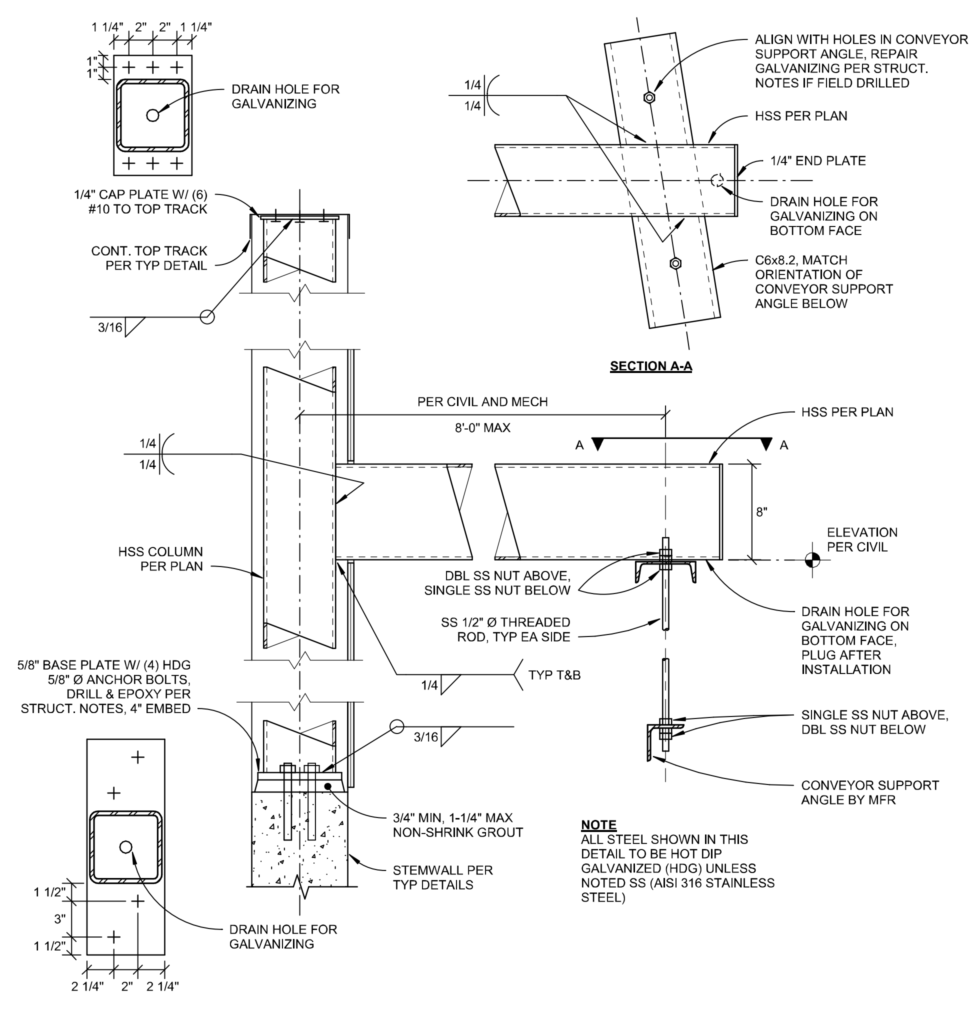
EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
STRUCTURAL NOTES

JOHN R. KING
STATE OF WASHINGTON
37388
PROFESSIONAL ENGINEER
01/16/2025

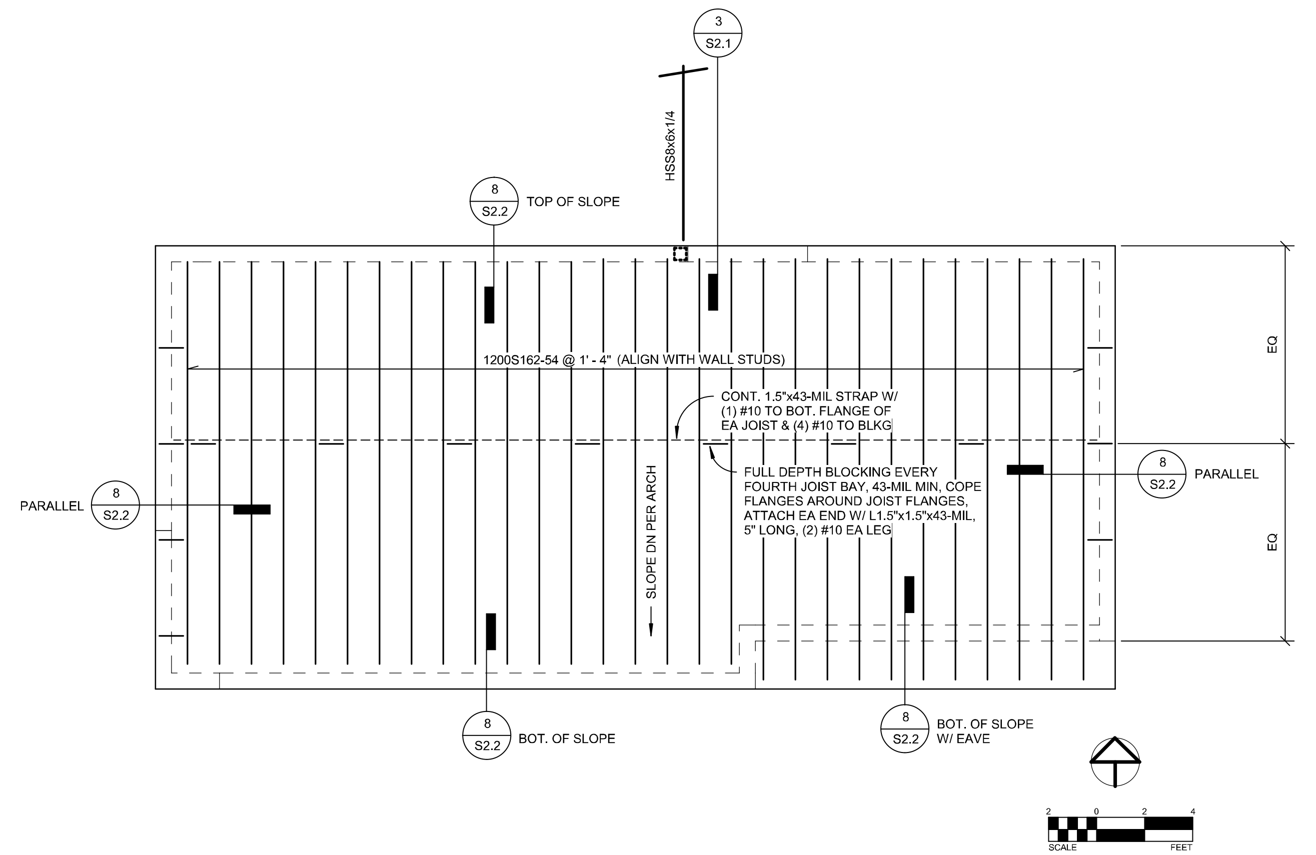
DATE 1-16-2025
SCALE AS SHOWN
JOB NUMBER Wilson: 2023-123 KW: 23093

BID SET

SHEET S1.1



3 CONVEYOR SUPPORT
NOT TO SCALE

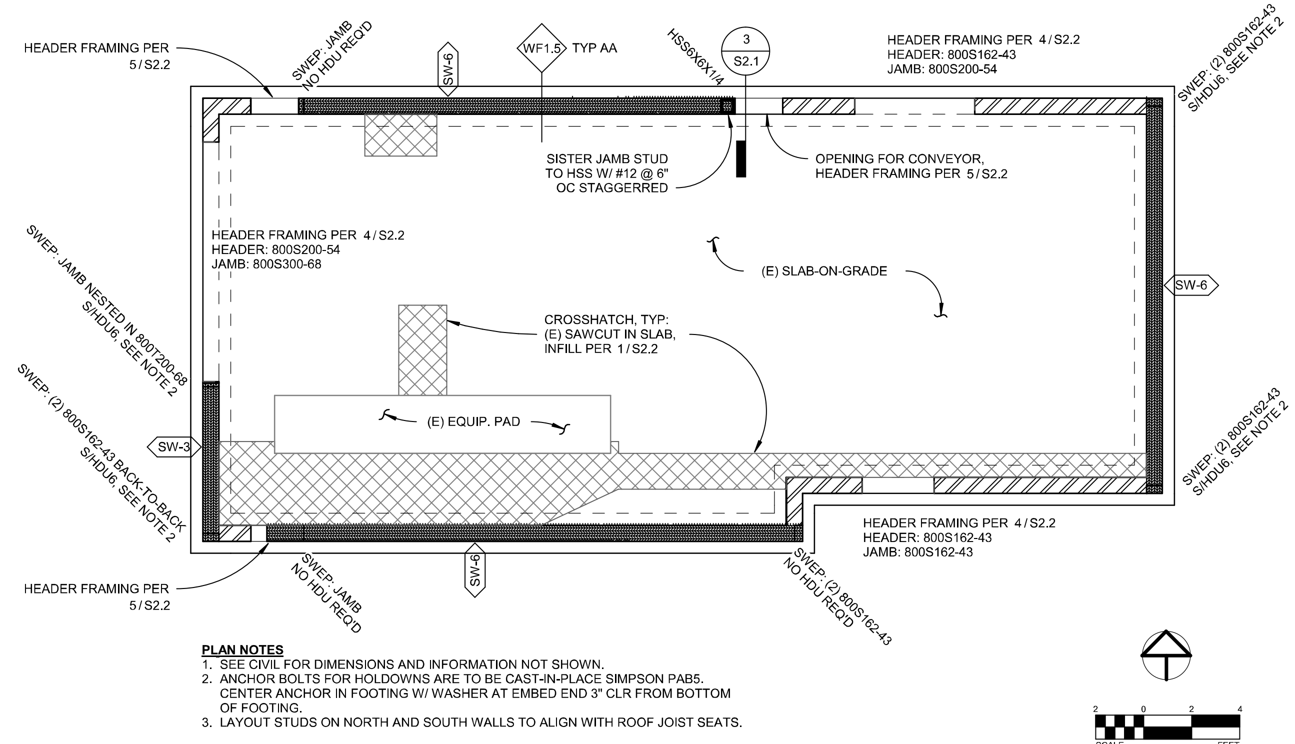


2 DEWATERING BUILDING - ROOF FRAMING PLAN

CFS SHEAR WALL SCHEDULE						
WALL TYPE	SHEATHING TYPE (MIN)	SHEATHING APPLIED TO	SCREW SIZE (MIN)	SCREW SPACING, PANEL EDGES	SCREW SPACING, FIELD	SILL BOLTING
SW-3	7/16" OSB	1 - SIDE	#8	3" OC	12" OC	1/2" BOLT @ 24" OC
SW-6	7/16" OSB	1 - SIDE	#8	6" OC	12" OC	1/2" BOLT @ 48" OC

[1] STRUCTURAL SHEATHING SHALL CONSIST OF APA RATED 7/16" (MIN) SHEATHING
[2] STEEL SHEETS MAY BE INSTALLED EITHER PARALLEL OR PERPENDICULAR TO FRAMING. PROVIDE 1/8" GAP BETWEEN ALL ABUTTING HORIZONTAL SHEET EDGES. LAYOUT SHEETS TO ENSURE 32" MIN SHEET DIMENSION AT ANY LOCATION.
[3] SHEATHING SHALL EXTEND FULL HEIGHT OF SHEARWALL AND TO THE FURTHEST EXTENTS OF EACH SHEARWALL ENDPOST, UNLESS SPECIFICALLY NOTED OTHERWISE.
[4] ALL SHEATHING EDGES SHALL BE ATTACHED TO FRAMING MEMBERS OR BLOCKING. BLOCKING SHALL CONSIST OF STUD SECTIONS SAME AS WALL STUDS OR 43-MIL x 1-1/2" CONTINUOUS FLAT STRAPPING.
[5] SEE TYPICAL DETAILS FOR TRACK FASTENING AT SHEARWALLS.
[6] SCREWS SHALL BE INSTALLED NO CLOSER THAN 3/8" TO EDGE OF SHEET OR BASE MATERIAL.
[7] SW "EDGE FASTENING" (EF) INDICATED ON DETAILS ELSEWHERE SHALL BE EQUAL TO PANEL EDGE FASTENING SHOWN ABOVE.
[8] SCREWS IN THE FIELD ARE INSTALLED 12" OC UNO
[9] WALL STUDS AND TRACK SHALL BE ASTM A1003 STRUCTURAL GRADE 50 TYPE H FOR 54 MILS AND GREATER OR ASTM A1003 STRUCTURAL GRADE 33 TYPE H FOR MIL THICKENS OF 33 OR 43.
[10] FASTENERS TO HAVE MINIMUM HEAD DIAMETER OF 0.285IN AND MEET ASTMC1513.

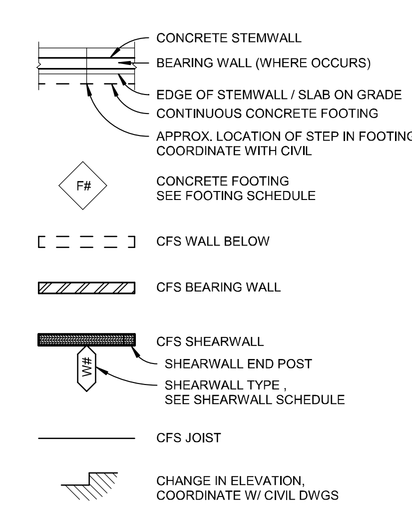
FOOTING SCHEDULE					
MARK	SIZE	DEPTH	REINFORCING	DESCRIPTION	DETAIL REF
WF1.5	1'-6"	10"	(2) #4 CONT. LONGITUDINAL	CONT. STEMWALL FOOTING	1/S2.2



PLAN NOTES
1. SEE CIVIL FOR DIMENSIONS AND INFORMATION NOT SHOWN.
2. ANCHOR BOLTS FOR HOLDOWNS ARE TO BE CAST-IN-PLACE SIMPSON PAB5. CENTER ANCHOR IN FOOTING W/ WASHER AT EMBED END 3" CLR FROM BOTTOM OF FOOTING.
3. LAYOUT STUDS ON NORTH AND SOUTH WALLS TO ALIGN WITH ROOF JOIST SEATS.

1 DEWATERING BUILDING - FOUNDATION & FRAMING PLAN

LEGEND



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DRAWN BY GKinney
CHECKED BY THeidersdorf

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING FOUNDATION & ROOF FRAMING PLANS

DATE 1-16-2025
SCALE AS SHOWN
JOB NUMBER Wilson: 2023-123 KW: 23093

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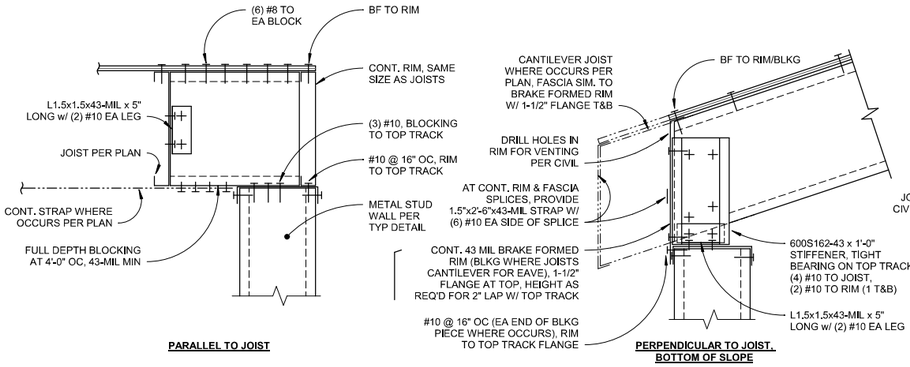
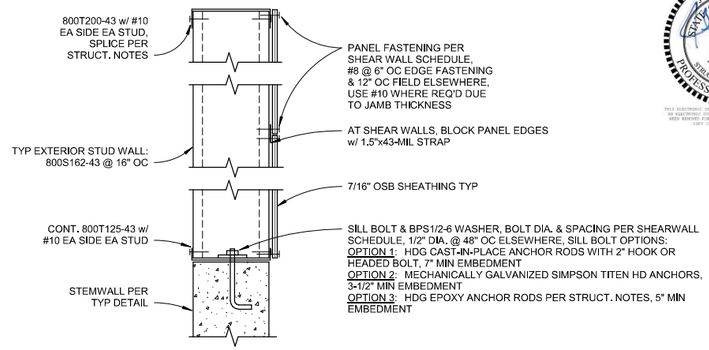
NOTE: ROOFING, FLASHING, AND INSULATION PER CIVIL AND ARCH



PARALLEL TO JOIST | **PERPENDICULAR TO JOIST, BOTTOM OF SLOPE** | **PERPENDICULAR TO JOIST, TOP OF SLOPE**

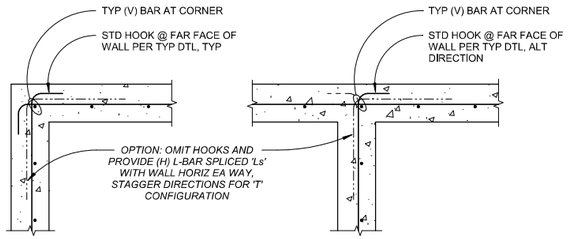
8 TYP ROOF FRAMING AT EXTERIOR WALL
NOT TO SCALE

INTERIOR | **EXTERIOR**



7 TYP EXTERIOR CFS WALL
NOT TO SCALE

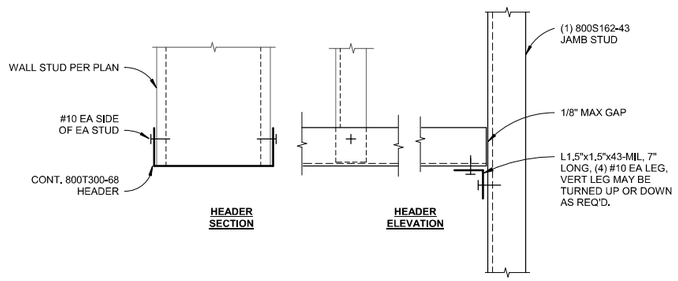
WALL REINF CONFIGURATION NOTES
1. SEE STRUCTURAL NOTES FOR REQUIRED CLEARANCES.
2. WALL REINFORCING SHALL BE PER PLANS
3. IN TWO LAYER WALLS LOCATE WALL (V) BARS OUTBOARD OF WALL (H) BARS (UON).
4. IN SINGLE LAYER WALLS LOCATE WALL (V) BARS AT THE WALL CENTERLINE (UON).
5. ALL WALL (V) REINFORCING SHALL BE CONTINUOUS FULL HEIGHT (UON) AND DOWELED TO FOUNDATION PER TYP DETAILS.
6. WALL (H) BARS SHALL USE THE TOP BAR LAP LENGTHS.



WALL CORNER - SINGLE LAYER REINF | **WALL INTERSECTION - SINGLE LAYER REINF**

6 TYP CONCRETE WALL REINFORCING AT CORNERS & INTERSECTIONS
NOT TO SCALE

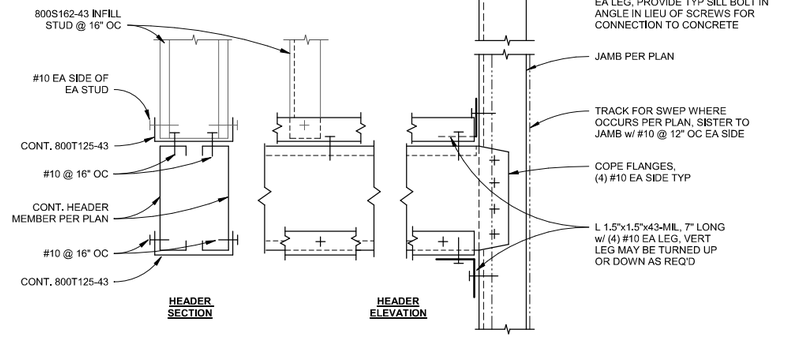
NOTE: DETAIL APPLIES TO ROUGH OPENINGS 2'-0" WIDE OR LESS



HEADER SECTION | **HEADER ELEVATION**

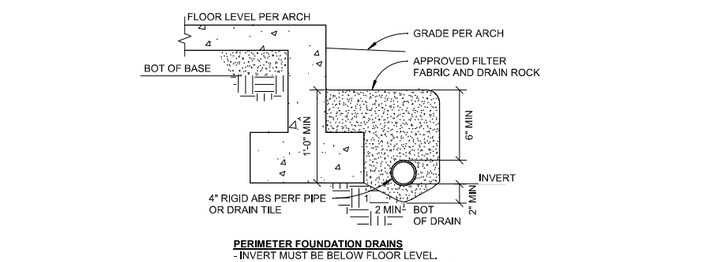
5 TYP SMALL OPENING HEADER
NOT TO SCALE

NOTES:
1) DETAIL APPLIES TO ROUGH OPENINGS MORE THAN 2'-0" WIDE.
2) INSULATE WITHIN BOX HEADER PER CIVIL WHERE REQ'D



HEADER SECTION | **HEADER ELEVATION**

4 TYP DOOR HEADER
NOT TO SCALE

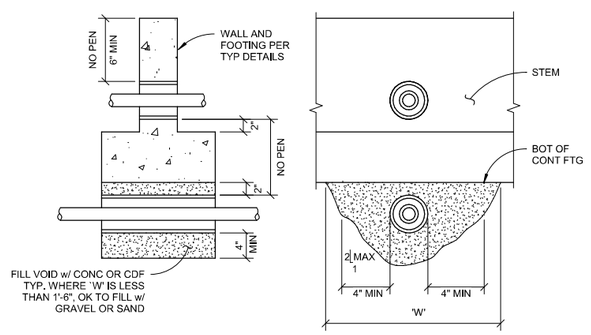


PERIMETER FOUNDATION DRAINS
- INVERT MUST BE BELOW FLOOR LEVEL.
- BOTTOM OF DRAIN MUST BE BELOW BOT OF BASE.

NOTE
1. DRAIN PIPES MUST DISCHARGE BY GRAVITY OR MECHANICAL MEANS TO AN APPROVED DRAINAGE SYSTEM THAT COMPLIES w/ THE INTERNATIONAL PLUMBING CODE.
2. MINIMUM SLOPE FOR DRAIN PIPE RUNS IS 0.25%
3. DO NOT CONNECT FOUNDATION DRAIN SYSTEMS TO RAIN LEADERS OR DOWN SPOUTS.
4. PROVIDE APPROVED CLEANOUTS FOR ALL DRAIN PIPE AT ENDS, CORNERS, AND NO MORE THAN 120'-0" ON CENTER.
5. SEE CIVIL DRAWINGS FOR GRADES, DISCHARGE POINTS, AND OTHER REQMTS. ALSO SEE GEOTECH REPORT FOR ADDITIONAL REQMTS.
6. SUBMIT A FOUNDATION DRAINAGE PLAN TO THE ARCHITECT FOR REVIEW.
7. DRAIN ROCK/BASE MATERIAL SHALL CONSIST OF GRAVEL OR STONE WITH LESS THAN 10% OF MATERIAL PASSING THROUGH A NUMBER 4 SIEVE.

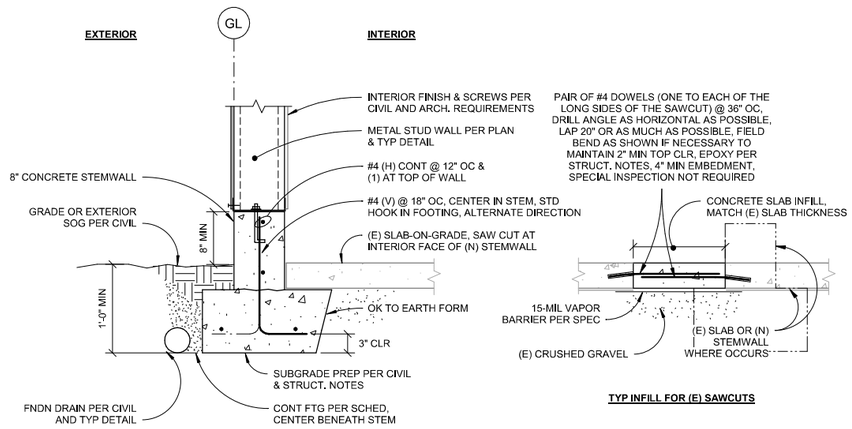
3 TYP FOUNDATION DRAINS
NOT TO SCALE

NOTE
1. PROVIDE SLEEVES w/ ID 2" LARGER THAN PIPE OD. CENTER PIPE AND WRAP w/ COMPRESSIBLE MATERIAL.
2. ADJACENT PENETRATIONS THROUGH STEMWALL SHALL BE SPACED TO PERMIT 6" MIN REMAINING CONCRETE BETWEEN THEM. IF CLOSER PENETRATION SPACING IS REQUIRED, OR IF ANY TYP REINF REQUIRES INTERRUPTION, SUCH LOCATIONS SHALL BE CLEARLY INDICATED ON THE SUBMITTED REINFORCING SHOP DRAWINGS; THE ENGINEER SHALL REVIEW THE SHOP DRAWING FOR ADEQUACY AND ADD REINFORCING AS REQUIRED. FOR BIDDING PURPOSES ONLY, INCLUDE (2) ADD'L #4 x 6'-0" ON EACH SIDE OF EACH MULTIPLE-PIPE PENETRATION.
3. FIGURE BELOW SHOWS ACCEPTABLE PENETRATION LOCATIONS THROUGH STEM OR BELOW FTG:



2 TYP FOOTING PENETRATIONS
NOT TO SCALE

EXTERIOR | **INTERIOR**



TYP INFILL FOR (E) SAWCUTS

1 TYP PERIMETER STEMWALL & FOOTING
NOT TO SCALE

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

DEWATERING BUILDING DETAILS

DATE	SCALE	JOB NUMBER
1-16-2025	AS SHOWN	Wilson: 2023-123 KW: 23093

SHEET S2.2

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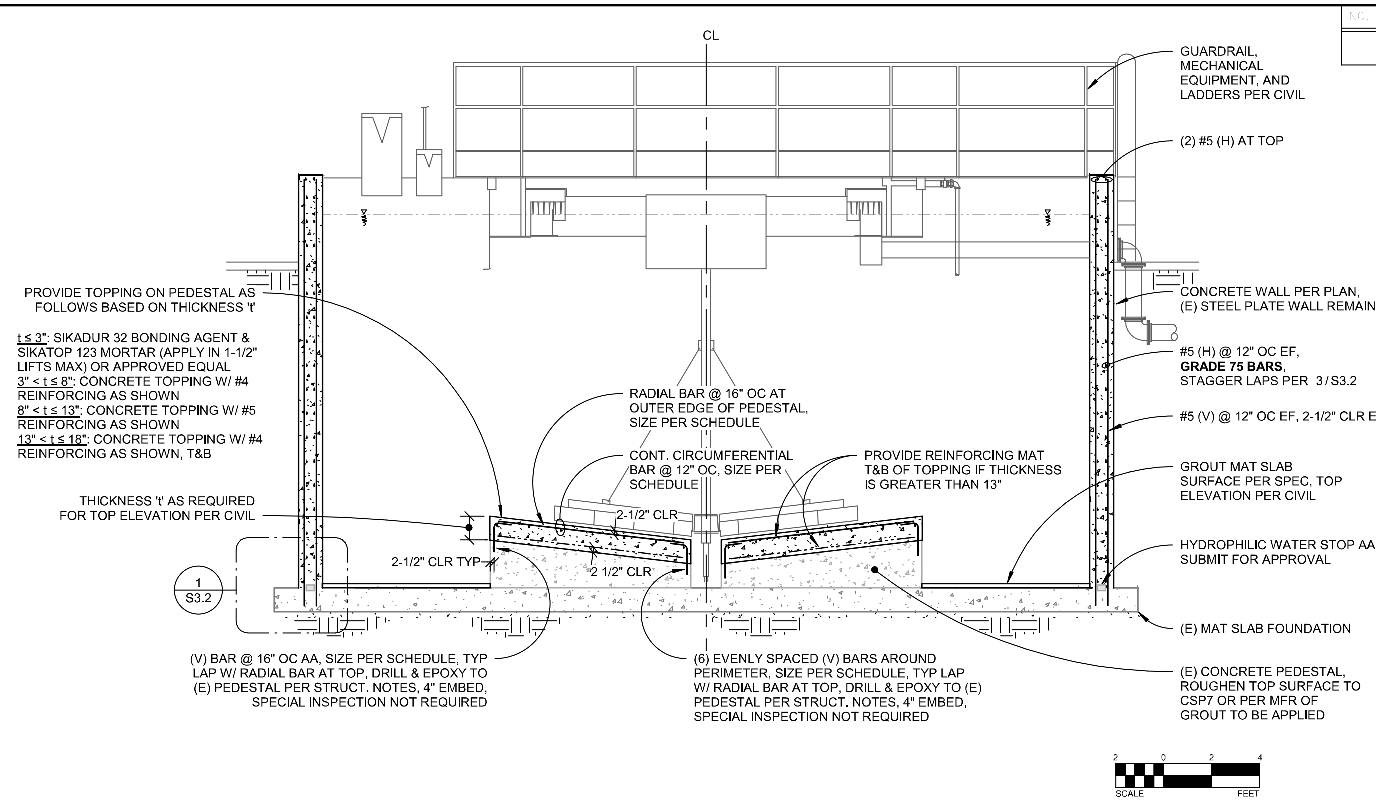
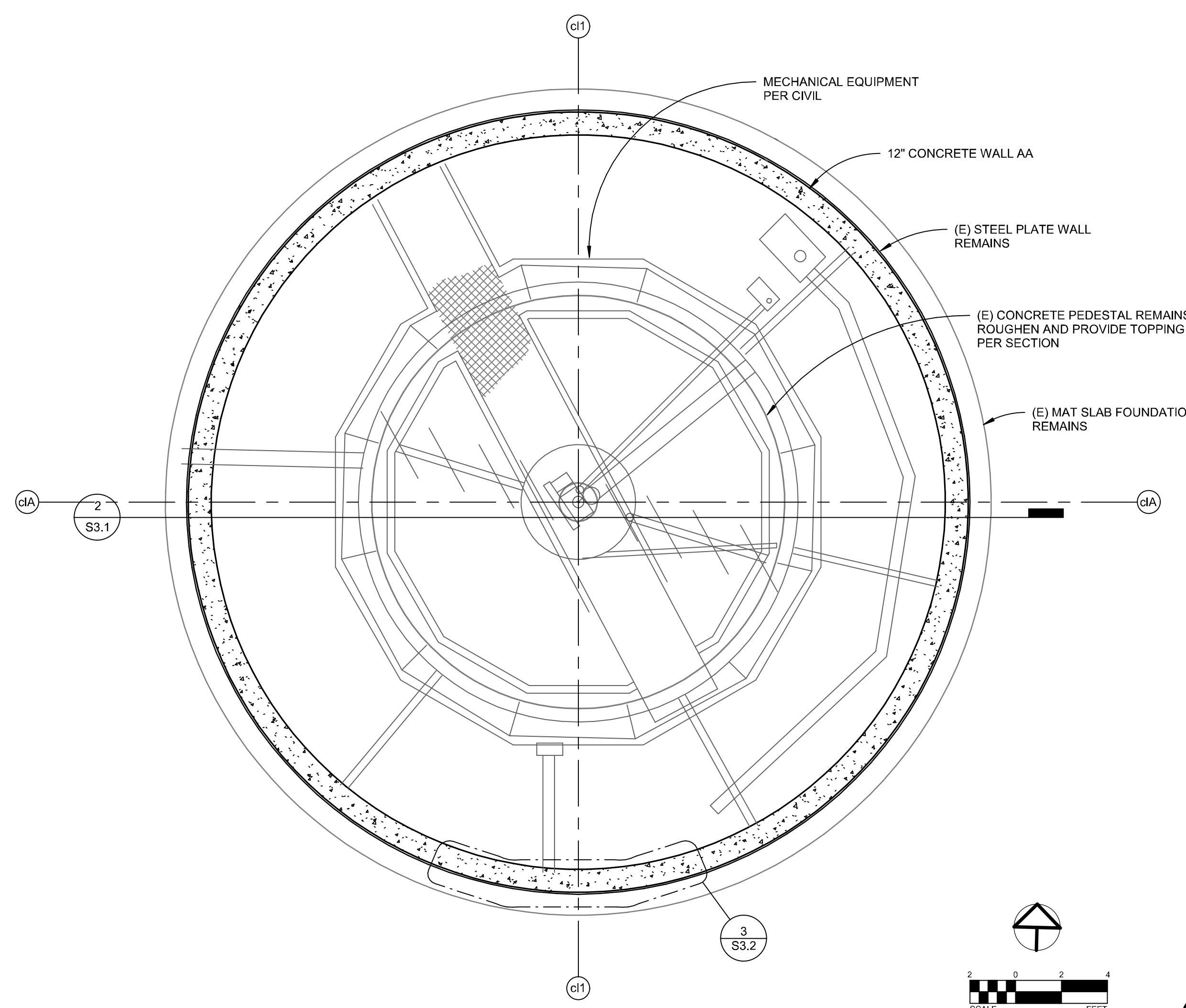


2 TYP TRAIN #1 & #2 SECTION



1 TYP TRAIN #1 AND #2 PLAN

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F.C.	REVISIONS	BY	DATE

JOHN R. KING, STATE OF WASHINGTON, 37388, PROFESSIONAL ENGINEER, STRUCTURAL ENGINEER, 01/16/2025

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY, WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
TRAIN 1 & 2 PLAN & SECTION

DATE 1-16-2025
SCALE AS SHOWN
JOB NUMBER Wilson: 2023-123 KW: 23093

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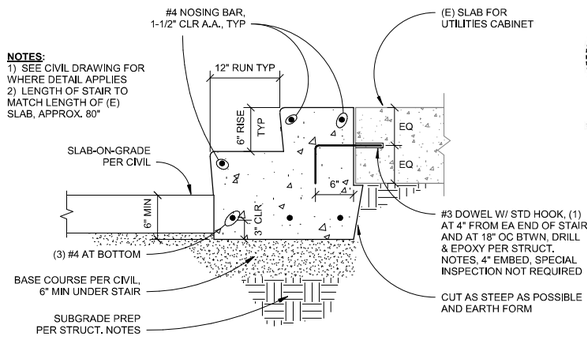
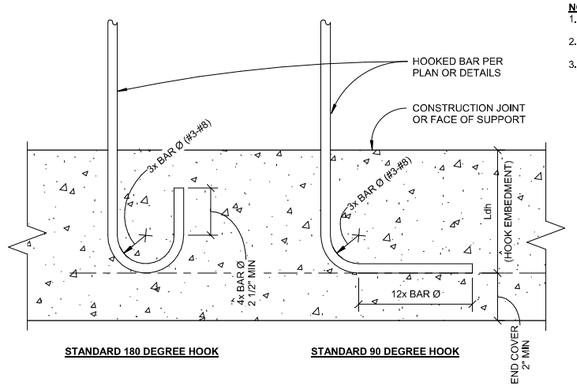


NOTES:
1) SEE CIVIL DRAWING FOR WHERE DETAIL APPLIES
2) LENGTH OF STAIR TO MATCH LENGTH OF (E) SLAB, APPROX. 80"

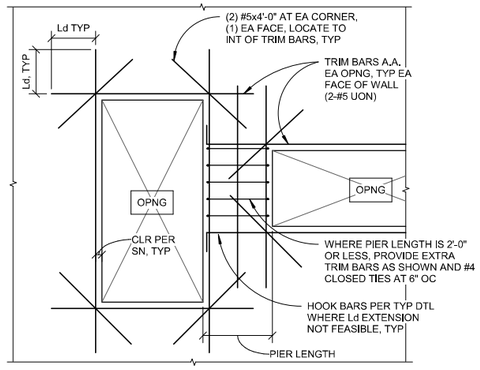
7 STAIR-ON-GRADE AT CABINET
NOT TO SCALE



NOTES
1. FOR CONC STRENGTHS NOT INDICATED, USE NEXT LOWEST TABULATED f'c VALUE.
2. PROVIDE 2 1/2" SIDE COVER AND 2" END COVER FOR HOOKS.
3. TABULATED VALUES ARE APPLICABLE FOR GRADE 60 UNCOATED REINF BARS.

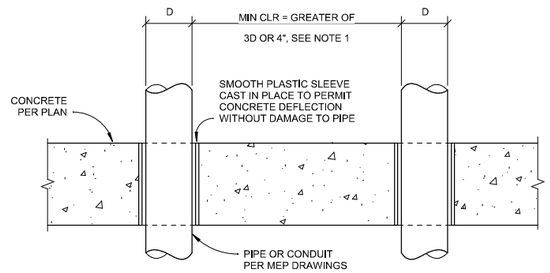
	STANDARD HOOK EMBEDMENT (Ldh)
	CONC DESIGN STRENGTH (f'c)
BAR SIZE	4,500 PSI
#3	6"
#4	7"
#5	9"
#6	10"
#7	12"
#8	14"

6 TYP CONCRETE REINFORCING STANDARD HOOKS
NOT TO SCALE



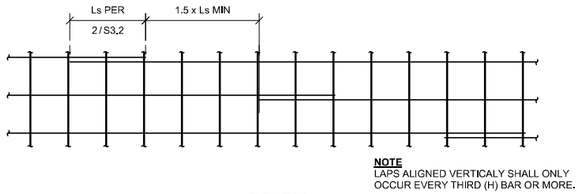
NOTES
1. DETAIL APPLIES TO ALL OPENINGS WITH EITHER HEIGHT OR WIDTH GREATER THAN 2'-0".
2. Ld IS DEVELOPMENT LENGTH PER TYPICAL DETAIL.
3. REINFORCING SHOWN ABOVE IS TYP MINIMUM. OMIT ADDED REINFORCEMENT ABOVE WHEN SPECIAL REINFORCING INDICATED ON PLANS OR DETAILS EXCEEDS THIS REINFORCING.
4. CONTRACTOR SHALL VERIFY ALL OPENINGS NOT SHOWN IN THE STRUCTURAL DRAWINGS WITH THE STRUCTURAL ENGINEER PRIOR TO SUBMITTAL DEVELOPMENT AND INSTALLATION.

5 TYP LARGE PENETRATIONS IN CONCRETE
NOT TO SCALE



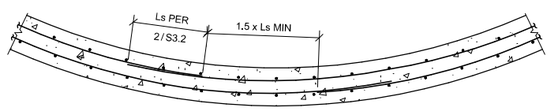
NOTES
1. DETAIL APPLIES TO D= 9" OR LESS.
2. IF MINIMUM CLR SPACING CANNOT BE ACHIEVED, REINFORCE AROUND COMBINED EXTENTS PER TYP LARGE OPENING DETAIL.

4 TYP SMALL PENETRATIONS IN CONCRETE
NOT TO SCALE



NOTE
LAPS ALIGNED VERTICALY SHALL ONLY OCCUR EVERY THIRD (H) BAR OR MORE.

ELEVATION



PARTIAL PLAN

3 TYP TRAIN HORIZONTAL BAR LAPS
NOT TO SCALE

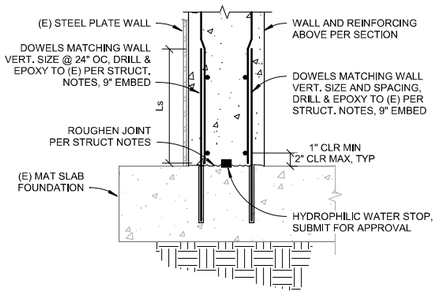
4,500 PSI CONCRETE

	DEVELOPMENT LENGTHS (Ld)		LAP SPLICE LENGTHS (Ls)	
BAR SIZE	TOP	OTHER	TOP	OTHER
#3	16 in	12 in	18 in	16 in
#4	20 in	15 in	24 in	20 in
#5	28 in	22 in	36 in	28 in
#6	38 in	30 in	50 in	38 in

NOTES
1. TABULATED VALUES ARE APPLICABLE FOR GRADE 60 UNCOATED REINF BARS.
2. BAR C/C SPACING MUST BE GREATER THAN TWICE THE BAR DIAMETER AND COVER GREATER THAN ONE BAR DIAMETER.
3. "TOP" BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST BELOW THE BARS, INCLUDING WALL HORIZONTALS.
4. AT LOCATIONS WHERE Ld IS CALLED OUT BUT CANNOT BE ACHIEVED, EXTEND BAR AS FAR AS POSSIBLE AND PROVIDE STANDARD HOOK PER TYP DETAIL.

2 TYP CONCRETE REINFORCING DEVELOPMENT / SPLICE LENGTHS
NOT TO SCALE

NOTE: SEE PLANS AND STRUCTURAL NOTES FOR REQUIRED CLEARANCES OF REINF IN WALL.



1 TYP TRAIN CONCRETE WALL REINFORCING TO MAT SLAB
NOT TO SCALE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
TYP STRUCTURAL DETAILS

DATE	SCALE	JOB NUMBER
1-16-2025	AS SHOWN	Wilson 2023-123 KW: 23093

SHEET S3.2
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RACEWAYS AND CONDUCTORS

- MANUFACTURERS CORD/CABLE
- HEAT TAPE ON PIPING
- FLEXIBLE CONDUIT
- TWISTED SHIELDED PAIR
- S — SEWER LINE
- OE — OVERHEAD ELECTRICAL
- EE — EXISTING CONDUIT UNDERGROUND
- CONDUIT EXPOSED
- CONDUIT BELOW GRADE OR CONCEALED
- CONDUIT CAPPED
- CONDUIT BENT UP OR TOWARD
- CONDUIT BENT DOWN OR AWAY
- GROUNDING CAD WELD CONNECTION
- CONDUCTORS NOT CONNECTED
- CONDUCTORS CONNECTED
- CONDUIT SEALS CLASS 1, DIV. 1/2 EXPLOSION PROOF
- NEW EQUIPMENT (STANDARD LINEWEIGHT)
- EXISTING EQUIPMENT (E) (LIGHT LINEWEIGHT)
- EQUIPMENT TO BE REMOVED

LIGHTING AND RECEPTACLES

- a / F1 — LED LIGHTING FIXTURE. FIXTURE IDENTIFIER AND SWITCHED CIRCUIT INDICATED. REFER TO LIGHTING SCHEDULE FOR FIXTURE AND LAMP TYPE.
- a / F1 — LED LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK
- LED LIGHTING FIXTURE, EMERGENCY DUAL HEAD WITH INTEGRAL BATTERY PACK. EXIT SIGN WHERE INDICATED.
- LED EXIT SIGN
- INCANDESCENT, COMPACT FLUORESCENT OR H.I.D. LIGHTING FIXTURE, CEILING MOUNTED
- PHOTOELECTRIC CONTROL UNIT. WALL MOUNTED
- LIGHTING FIXTURE, POLE MOUNT
- LIGHTING FIXTURE, WALL MOUNT
- 3 — DUPLEX RECEPTACLE, NUMBER INDICATES CIRCUIT. GFCI WHERE INDICATED
- 3 — FOURPLEX RECEPTACLE, NUMBER INDICATES CIRCUIT.
- 3 — DUPLEX RECEPTACLE MOUNTED 6" ABOVE COUNTER NUMBER INDICATES CIRCUIT.
- 3 — DUPLEX RECEPTACLE FLOOR MOUNTED, NUMBER INDICATES CIRCUIT.
- SPECIAL PURPOSE RECEPTACLE OR DEDICATED EQUIPMENT CONNECTION, AS NOTED.
- TELEPHONE OUTLET
- DATA OUTLET
- SPLIT TELEPHONE DATA OUTLET
- IC — INTERCOM
- 3a — SWITCH, NUMBERS REFER TO SWITCH TYPE AND SWITCHED CIRCUIT.
- J — JUNCTION BOX
- J XP — JUNCTION BOX, EXPLOSION PROOF
- T — THERMOSTAT

CALLOUTS AND DESIGNATIONS

- A — CONDUIT CALLOUT
- A — TRENCH CALLOUT
- EF-1 — EQUIPMENT CALLOUT
- F1 — LIGHTING FIXTURE CALLOUT: SEE SCHEDULE
- X — DRAWING KEY NOTE CALLOUT
- X / XX — DETAIL NUMBER / DETAIL IDENTIFIER / REFERENCE DRAWING NUMBER
- LPA-1,3 — PANEL AND CIRCUIT (EXAMPLE: PANEL LPA, CIRCUITS 1 AND 3); PHASE/SWITCHLEG CONDUCTOR; HOMERUN/CONDUIT; GROUND CONDUCTOR; NEUTRAL CONDUCTOR

ELECTRICAL AND POWER DISTRIBUTION

- PANELBOARD 208Y/120V OR 120/240V
- PANELBOARD 480Y/277V
- UTILITY METER
- 5 — MOTOR CONNECTION NUMBER INDICATES HORSEPOWER
- O.L. — THERMAL OVERLOAD RELAY
- 2 — FULL VOLTAGE NON REVERSING MOTOR STARTER NUMBER INDICATES NEMA SIZE
- REDUCED VOLTAGE SOLID STATE STARTER
- VARIABLE FREQUENCY DRIVE
- LINE REACTOR
- G — BUS CONNECTION (N=NEUTRAL, G=GROUND)
- 75KW — HEATER, NUMBER INDICATES KW
- 50 — DISCONNECT SWITCH - HP RATED, AS INDICATED
- 50 — DISCONNECT SWITCH (FUSED)
- TRANSFORMER
- CARTRIDGE FUSE AND FUSEHOLDER
- ATS - AUTOMATIC TRANSFER SWITCH; MTS - MANUAL TRANSFER SWITCH
- 200/3 — THERMAL MAG CIRCUIT BREAKER, RATING/NO. POLES
- 200/3 MCP — MOTOR CIRCUIT PROTECTOR, RATING/NO. POLES
- GROUND ROD AND WELL
- GROUNDING ELECTRODE
- PULL OUT PLUG-RECEPTACLE/MCC CONNECTION

CONTROLS AND INSTRUMENTATION

NORMALLY CLOSED	NORMALLY OPEN	
		TEMPERATURE SWITCH - TS
		LEVEL SWITCH - LS
		PRESSURE SWITCH - PS
		LIMIT SWITCH - LS
		CONTACT - CR = CONTROL RELAY, MS-MOTOR STARTER, OR AS INDICATED
		SWITCH - SW
		FLOW SWITCH - FS
	PB	PUSHBUTTON - PB

- OFF / HAND / AUTO — SELECTOR SWITCH. HAND-OFF-AUTO SHOWN. X'S INDICATE CONTACT SWITCHING CONVENTION.
- AM — AMMETER
- VM — VOLTMETER
- GEN — GENERATOR
- MS — MOTOR STARTER
- PFR — PHASE FAIL RELAY
- ETM — ELAPSED TIME METER
- SCT — STARTS COUNTER
- CR — CONTROL RELAY
- TDR — TIME DELAY RELAY
- SV-SOLENOID VALVE
- PT — INSTRUMENT (L=LEVEL, F=FLOW P=PRESSURE)
- R — INDICATING LIGHT, LETTER INDICATES: R-RED, G-GREEN, A-AMBER, W-WHITE, B-BLUE
- D.C. TERMINAL
- A.C. TERMINAL
- FIELD INSTRUMENT
- HORN
- SPEED POTENTIOMETER

STANDARD ABBREVIATIONS

A, AMP	AMPERE
AC	AIR COMPRESSOR
AFF	ABOVE FINISHED FLOOR
AI	ANALOG INPUT POINT (PLC)
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALARM
ALT	ALTERNATOR
AO	ANALOG OUTPUT POINT (PLC)
ATS	AUTOMATIC TRANSFER SWITCH
BAT	BATTERY
BC	BATTERY CHARGER
BH	BLOCK HEATER
BP	BYPASS CONTACTOR
C	CONDUIT (RGS)
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CNT	COUNTER
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
CV	CHECK VALVE
DEM	DEMAND
DI	DIGITAL INPUT POINT (PLC)
DO	DIGITAL OUTPUT POINT (PLC)
DWG	DRAWING
E OR (E)	EXISTING DEVICE
EF	EXHAUST FAN
FE	FLOW ELEMENT
FS	FLOW SWITCH
FT	FLOW TRANSMITTER
FU	FUSED
FVNR	FULL VOLTAGE NON-REVERSING
G, GND	GROUND
GEN	GENERATOR
GFCI/GFI	GROUND FAULT CIRCUIT INTERRUPTER
H	HOT, HIGH
HH	HAND HOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HTR	HEATER
IC	ISOLATION CONTACTOR
IS	INTRINSICALLY SAFE
ISR	INTRINSICALLY SAFE RELAY
KW	KILOWATT
KWH	KILOWATT HOUR
KWD	KILOWATT DEMAND
LC	LIGHTING CONTACTOR
LCP	LOCAL CONTROL PANEL
LE	LEVEL ELEMENT
LS	LIMIT SWITCH
LT	LEVEL TRANSMITTER
LTG	LIGHTING
M	METER
MCC	MOTOR CONTROL CENTER
MCP	MAIN CONTROL PANEL
MFR	MANUFACTURER
MOV	MOTOR OPERATED VALVE
MS	MOTOR STARTER
MTS	MANUAL TRANSFER SWITCH
N	NEUTRAL
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OI	OPERATOR INTERFACE
OIT	OPERATOR IN TROUBLE
OL	OVERLOAD RELAY
OT	OVER TEMP
P	POWER
PB	PUSH BUTTON
PE	PHOTO ELECTRIC RELAY
PFR	PHASE FAILURE RELAY
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
POT	POTENTIOMETER
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLY VINYL CHLORIDE (CONDUIT)
RGS	RIGID GAVLANIZED STEEL (CONDUIT)
RTM	RUN TIME METER
RV	REDUCED VOLTAGE
S	SIGNAL
SA	SURGE ARRESTOR
SE	SERVICE ENTRANCE
SHT	SHEET
SS	STAINLESS STEEL
SSS	SOLID STATE STARTER
SV	SOLENOID VALVE
T	THERMOSTAT
TC	TIME CLOCK
TDR	TIME DELAY
TST	TWISTED SHIELDED 3 CONDUCTOR (TRIAD)
TYP	TYPICAL
UH	UNIT HEATER
UPS	UNINTERUPTABLE POWER SUPPLY
VS	VIBRATION SWITCH
VT	VIBRATION TRANSMITTER
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DRIVE
W	WATT
WHM	WATT HOUR METER
WP	WEATHER PROOF, IN-USE COVER
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
XMTR	TRANSMITTER
ZS	LIMIT SWITCH

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PROJECT GENERAL NOTES:

1. THE ELECTRICAL DRAWINGS AND SCHEDULES ARE FUNCTIONAL IN NATURE AND DO NOT SPECIFY EXACT LOCATIONS OF EQUIPMENT OR EQUIPMENT TERMINATIONS. IT IS THE INTENT OF THESE DRAWINGS TO DESCRIBE AND PROVIDE FOR THE FURNISHING, INSTALLING, TESTING AND PLACING IN FULLY OPERATIONAL CONDITION ALL EQUIPMENT, MATERIALS, DEVICES AND NECESSARY APPURTENANCES TO PROVIDE A COMPLETE ELECTRICAL SYSTEM, TOGETHER WITH SUCH OTHER MISCELLANEOUS INSTALLATIONS AND EQUIPMENT SHOWN ON THE DRAWINGS. THE WORK SHALL INCLUDE ALL MATERIALS, APPLIANCES AND APPARATUS NOT SPECIFICALLY MENTIONED HEREIN OR SHOWN ON THE DRAWINGS, BUT WHICH ARE NECESSARY TO MAKE A COMPLETE, FULLY OPERATIONAL INSTALLATION OF ALL ELECTRICAL SYSTEMS SHOWN ON THE DRAWINGS.
2. THIS PROJECT INCLUDES THE INSTALLATION OF PACKAGED EQUIPMENT SYSTEM(S) OR SUB-SYSTEM(S) THAT WILL REQUIRE COORDINATION BETWEEN THE CONTRACTOR AND THE MANUFACTURER TO DETERMINE THE DETAILED INSTALLATION REQUIREMENTS. THE ENGINEER HAS SHOWN GENERAL INSTALLATION INFORMATION FOR THESE SYSTEMS BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF DESIGN. WHERE INDICATED ON THE DRAWINGS TO 'PROVIDE A COMPLETE AND OPERATIONAL SYSTEM' THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, INSTALLATION, AND COORDINATION WITH THE MANUFACTURER REQUIRED SO THE EQUIPMENT IS INSTALLED AND OPERATES IN A SATISFACTORY MANNER. MINOR CHANGES IN EQUIPMENT LOCATIONS, QUANTITY OF TERMINATIONS OR WIRES, JUNCTION BOXES, CONDUIT, ETC SHALL BE INCLUDED IN THE CONTRACT PRICE.
3. CONTRACTOR SHALL COORDINATE WITH OWNER FOR REMOVAL OF EXISTING EQUIPMENT AND ANY REQUIRED PHASING TO MAINTAIN FACILITY OPERATIONS .
4. DISPOSE OF ALL DEMO MATERIALS NOT WANTED BY OWNER.
5. ALL CONDUIT IN NEW WALLS OR CEILINGS SHALL BE CONCEALED WHERE POSSIBLE.
6. THE NUMBER OF CONDUCTORS AND CONDUIT ROUTING WILL VARY BASED ON HOW THE CONTRACTOR ELECTS TO ROUTE AND COMBINE CIRCUITING. THE CONTRACTOR SHALL PROVIDE DETAILED REDLINE MARKUPS ON A DEDICATED SET OF CONSTRUCTION DRAWINGS TO THE ENGINEER UPON COMPLETION OF THE PROJECT FOR PREPARATION OF RECORD DRAWINGS. THIS INCLUDES ACTUAL RACEWAY ROUTING, CONDUCTOR QUANTITIES, PANEL SCHEDULES, RECEPTACLE CONFIGURATIONS AND MOUNTING ELEVATIONS, ETC.
7. ALL MATERIALS SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE ARTICLE 110-14C. WIRING AND CIRCUIT BREAKERS ON THIS PROJECT ARE DESIGNED FOR 75 DEG C OPERATION ABOVE 100 AMPERES; 60 DEG C FOR 100 AMPERES AND BELOW. ALL PRODUCTS FURNISHED ON THIS PROJECT SHALL HAVE ELECTRICAL TERMINATIONS RATED FOR 60 DEG C FOR AMPACITIES OF 100 AMPERES AND BELOW, AND RATED FOR 75 DEG C FOR AMPACITIES ABOVE 100 AMPERES. ALL CONDUCTORS SHALL BE COPPER.

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ELECTRICAL SHEET INDEX:

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
ELECTRICAL SYMBOLS AND ABBREVIATIONS

DATE	SCALE	JOB NUMBER
01-24-2025	AS SHOWN	2023-123

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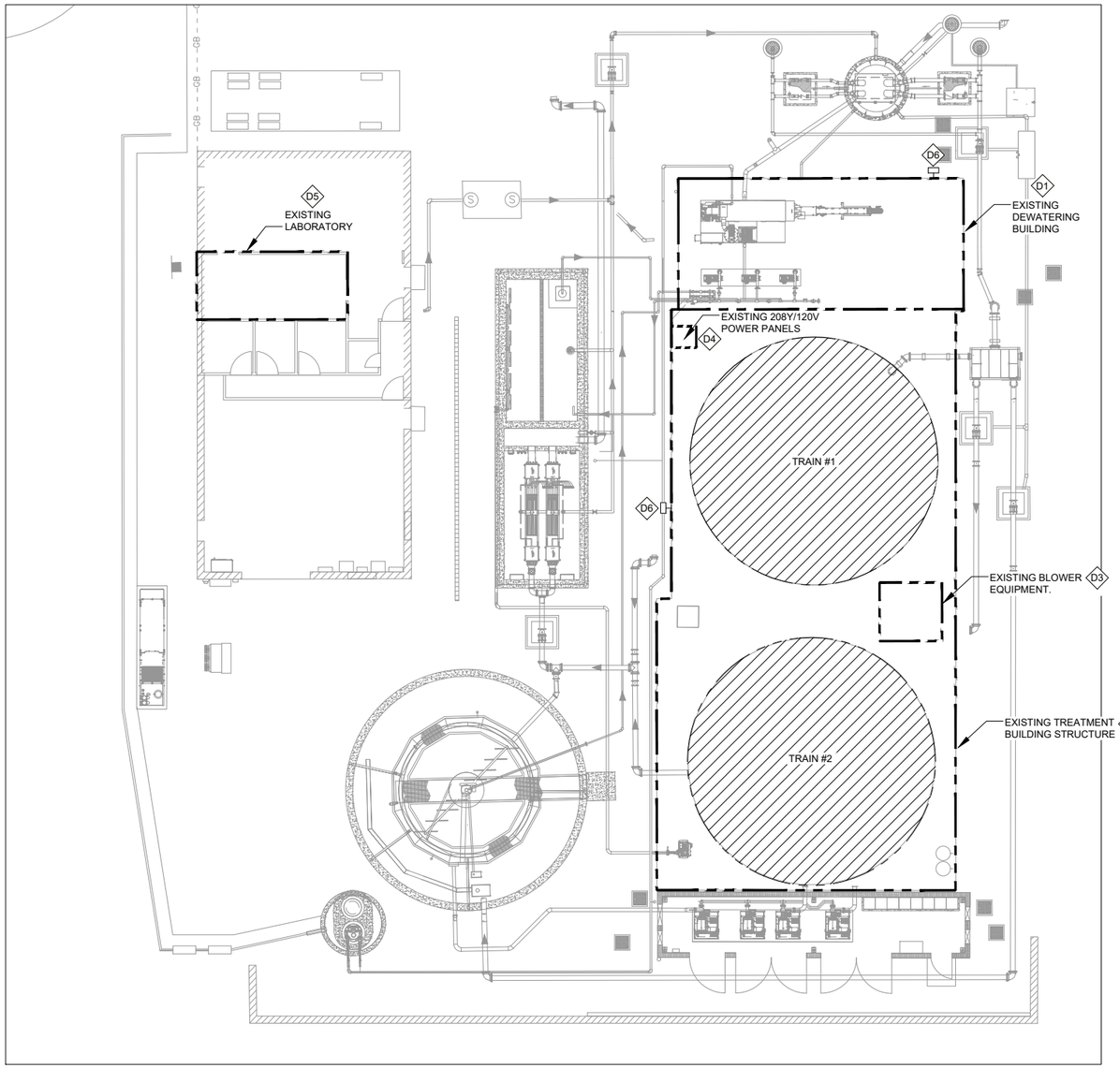

ELECTRICAL DEMOLITION SITE PLAN

SCALE: 1" = 10' AT FULL SCALE

10 0 10 20
SCALE HORIZONTAL SCALE FEET

DEMOLITION GENERAL NOTES:

1. PROVIDE SELECTIVE ELECTRICAL DEMOLITION OF EXISTING ELECTRICAL EQUIPMENT WHERE SHOWN ON CIVIL PLANS.
2. ALL DEMOLITION WORK REQUIRED UNDER THIS CONTRACT IS NOT SHOWN ON THE DRAWINGS.
3. THE CONTRACTOR SHALL INSPECT THE EXISTING SITE AND INSTALLATIONS PRIOR TO BIDDING AND SHALL DETERMINE THE WORK REQUIRED TO PROVIDE COMPLETE DEMOLITION AS SHOWN OR WITHIN THE INTENT OF THE CONTRACT DOCUMENTS.
4. EXISTING EQUIPMENT, SYSTEMS, AND MATERIALS REMOVED DURING DEMOLITION SHALL BE MADE AVAILABLE FOR INSPECTION AND DECISION AS TO WHETHER THE OWNER WILL RETAIN POSSESSION. ITEMS SELECTED FOR RETENTION SHALL BE TURNED OVER TO THE OWNER. THESE ITEMS SHALL BE DELIVERED TO A LOCATION ON THE PREMISES SELECTED BY THE OWNER.
5. ALL MATERIAL NOT SELECTED FOR RETENTION BY THE OWNER AND DEBRIS SHALL BE LEGALLY DISPOSED OF BY THE CONTRACTOR.
6. SEE CIVIL DRAWING C0.6 FOR ADDITIONAL DEMOLITION REQUIREMENTS.

DEMOLITION KEY NOTES:

D1 PROTECT EXISTING ELECTRICAL EQUIPMENT IN EXISTING DEWATERING BUILDING. PROVIDE DEMOLITION AND COMPLETE REPLACEMENT OF DEWATERING BUILDING PER CIVIL DRAWINGS AND SPECIFICATIONS.

D2 PROVIDE SELECTIVE DEMOLITION OF ELECTRICAL EQUIPMENT FOR TREATMENT TRAINS NO.1 AND NO.2. REMOVE ALL LED LIGHTING FIXTURES FOR RE-USE IN NEW DEWATERING BUILDING OR RETURN TO OWNER.

D3 REMOVE EXISTING BLOWER ELECTRICAL EQUIPMENT INCLUDING BLOWER MOTORS, ELECTRICAL CONDUIT AND CONNECTIONS AND CONTROLS.

D4 REMOVE EXISTING 208Y/120V ELECTRICAL PANELS AFTER NEW CONSTRUCTION AND INSTALLATION OF NEW PANELS. PROVIDE TEMPORARY POWER PROVISIONS TO MAINTAIN POWER TO REQUIRED EQUIPMENT AND LIGHTING DURING CONSTRUCTION.

D5 PROVIDE SELECTIVE ELECTRICAL DEMOLITION OF POWER CIRCUITS IN EXISTING LABORATORY DURING REMOVAL OF EXISTING CABINETRY AND LAB EQUIPMENT.

D6 REMOVE EXISTING EXTERIOR WALL PACK LIGHTING FIXTURES, PROTECT FOR RE-INSTALLATION ON NEW DEWATERING BUILDING.

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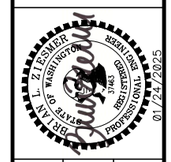

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AREA CLASSIFICATION LEGEND:

- CLASS I, DIVISION 1
- CLASS I, DIVISION 2
- UNCLASSIFIED

GENERAL NOTES:

1. AREA CLASSIFICATIONS BASED ON NFPA 820, STANDARD FOR FIRE PROTECTION IN WASTEWATER TREATMENT AND COLLECTION FACILITIES, 2024 EDITION.
2. ELECTRICAL INSTALLATION IN CLASSIFIED AREAS SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 70, NATIONAL ELECTRICAL CODE, AND OTHER STATE AND AGENCY REQUIREMENTS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

CLASSIFIED AREA NOTES:

C1 INFLUENT PUMP STATION: PRIMARILY RESIDENTIAL SEWER - CLASS I, DIV 2 PER NFPA 820-2024 TABLE 4.2.2, ROW 10a. EXTENT OF CLASSIFIED LOCATION: WITHIN ENCLOSED SPACE.

C2 BELOW GRADE METERING VAULT WITH CLOSED PIPING SYSTEM: CLASS I, DIV 2 PER NFPA 820-2024 TABLE 4.2.2 ROW 34a. EXTENT OF CLASSIFIED LOCATION: WITHIN ENCLOSED SPACE PLUS 3' AROUND VENTS.

C3 AEROBIC TREATMENT OF WASTEWATER PRECEDED BY PRIMARY TREATMENT: UNCLASSIFIED PER NFPA 820-2024 TABLE 5.2.2.11.

C4 UV DISINFECTION UNITS: UNCLASSIFIED PER NFPA 820-2024 TABLE 5.2.2.26.

C5 2W PUMP STATION: UNCLASSIFIED PER NFPA 820-2024 TABLE 5.2.2.21.

C6 EFFLUENT FLOW METER VAULT: UNCLASSIFIED PER NFPA 820-2024 TABLE 5.2.2.27.

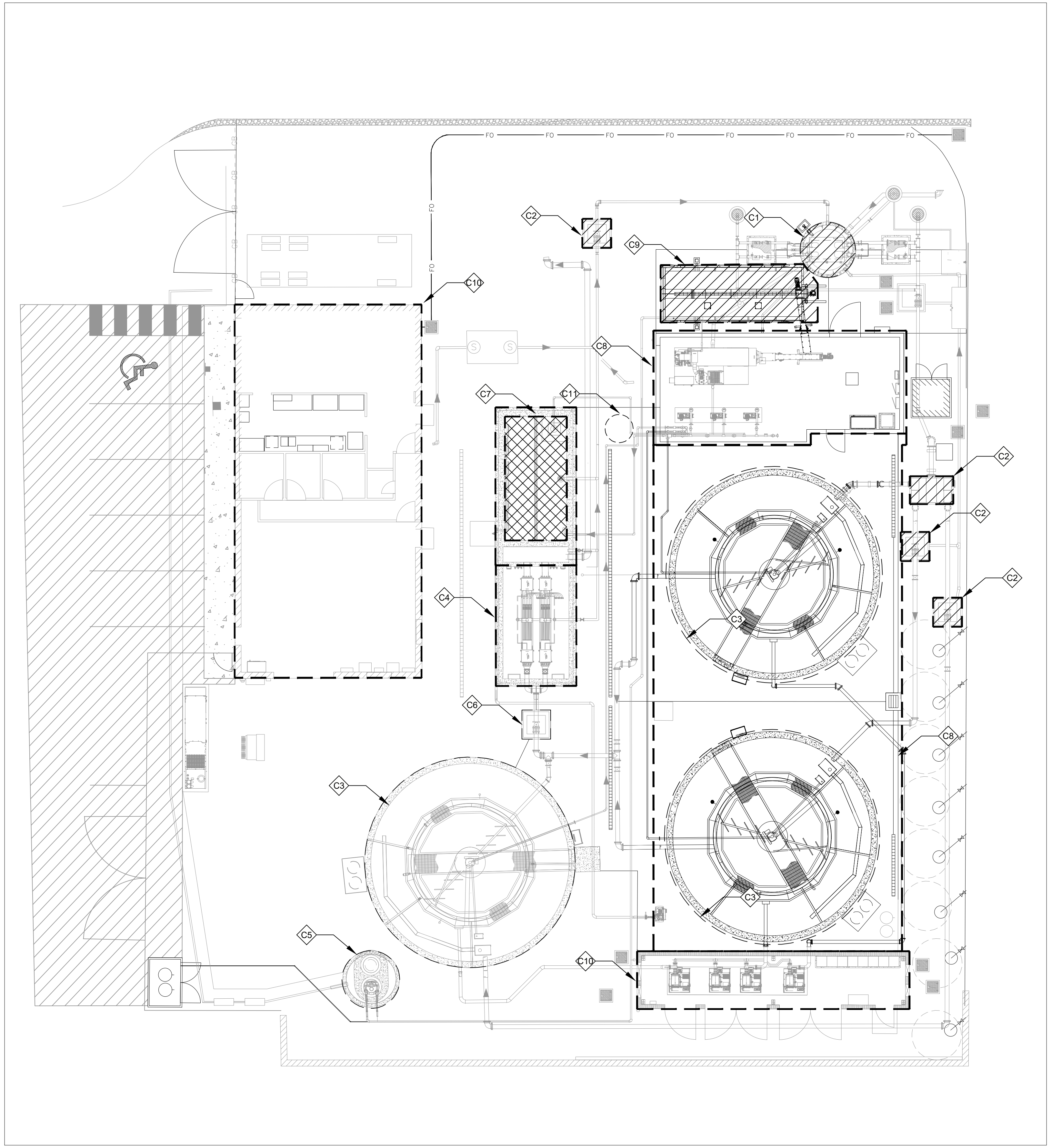
C7 SLUDGE BLENDING AND HOLDING TANK: RETAINAGE OF SLUDGE WITH SOME AGITATION. CLASS I, DIV 1 PER NFPA 820-2024 TABLE 6.2.2.11.a. EXTENT OF CLASSIFIED LOCATION: WITHIN ENCLOSED SPACE.

C8 DEWATERING BUILDING WITH DEWATERING PRESS: UNCLASSIFIED PER NFPA 820-2024 TABLE 6.2.2, ROW 12a WITH TYPE 'C' VENTILATION, CONTINUOUSLY VENTILATED AT 6 AIR CHANGES PER HOUR AND IN ACCORDANCE WITH NFPA 820-2024 CHAPTER 9.

C9 LEVEL LODOR SYSTEM: CLASS I, DIV 2 PER NFPA 820-2024. EXTENT OF CLASSIFIED LOCATION: WITHIN ENCLOSED BIN SPACE, 18" ABOVE AND 10' HORIZONTALLY AROUND TOP OF STORAGE BIN.

C10 OFFICE BUILDING AND BLOWER BUILDING: UNCLASSIFIED.

C11 DEWATERING SUMP PUMP: UNCLASSIFIED PER NFPA 820-2024 TABLE 5.2.2.21



AREA CLASSIFICATION SITE PLAN

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AREA CLASSIFICATION SITE PLAN

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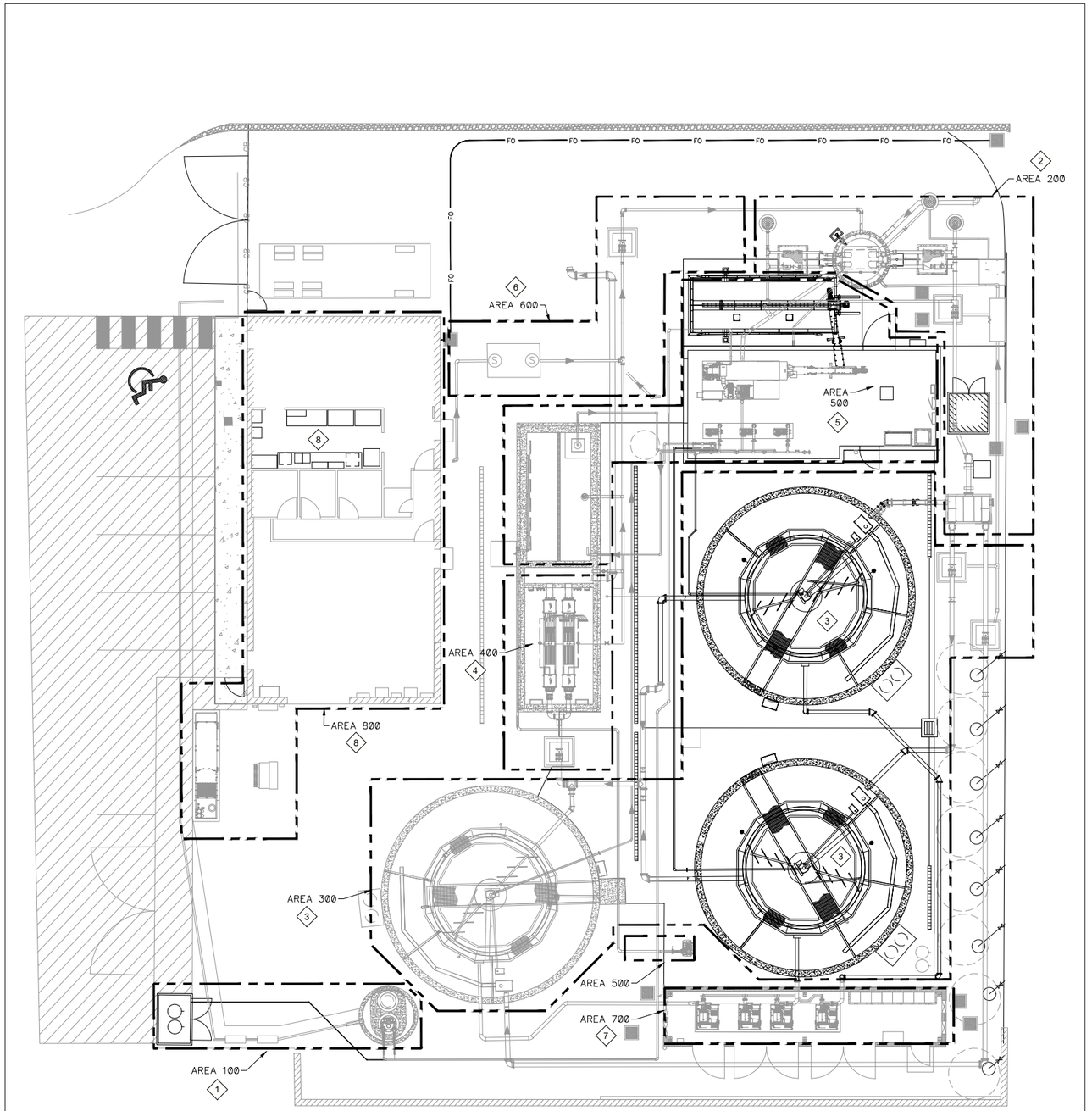

PROCESS AREA ELECTRICAL PLAN

SCALE: 1" = 10' AT FULL SCALE

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SCALE HORIZONTAL SCALE FEET

GENERAL NOTES:

1. ALL CONDUIT ROUTING IS NOT SHOWN, AND WHERE SHOWN, IS SCHEMATIC. ELECTRICAL CONTRACTOR SHALL DETERMINE THE BEST ROUTING PATH AND CIRCUIT COMBINATIONS BASED ON FIELD CONDITIONS AND ELECTRICAL CODES.
2. EQUIPMENT LOCATIONS AND ARRANGEMENT ARE SCHEMATIC. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER FOR DETAILED CONNECTION REQUIREMENTS AND PROVIDE MATERIALS AND INSTALLATION FOR A COMPLETE AND OPERATIONAL SYSTEM.
3. ELECTRIC HAND HOLES ARE NOT SHOWN ON THESE PLANS BUT SHALL BE REQUIRED TO MEET CODE AND AS SPECIFIED IN DIVISION 26. COORDINATE ALL FINAL LOCATIONS WITH ENGINEER.

SUMMARY OF ELECTRICAL AND CONTROLS WORK BY PROCESS AREA:

1 AREA 100 - 2W SYSTEM:
- CONSTRUCTION OF NEW ENCLOSURE FOR 2W BLADDER TANKS AND PRESSURE SENSOR. PROVIDE NEW RECEPTACLE AND HEAT TAPE FOR EXPOSED WATER PIPING. RELOCATE PRESSURE SENSOR TO NEW LOCATION AS SHOWN ON CIVIL PLANS.

2 AREA 200 - INFLUENT:
- PROVIDE UPGRADES TO EXISTING INFLUENT CONTROL PANEL INCLUDING NEW DIGITAL DISPLAY IN INFLUENT CONTROL PANEL FOR TRAIN NO.1 FLOW DISPLAY, PANEL MODIFICATIONS AND NEW AC UNIT.

3 AREA 300 - BIOTREATMENT SYSTEMS:
- PROVIDE ALL ELECTRICAL AND CONTROLS FOR THE COMPLETE REPLACEMENT OF TRAINS NO.1 AND NO.2 INCLUDING NEW CLARIFIER DRIVES, MIXERS, INSTRUMENTATION, CONTROLS, LIGHTING AND POWER DISTRIBUTION.
- INSTALL LOCAL CONTROL PANELS FROM MANUFACTURERS, POWER FEEDERS FROM MCC, CONTROL WIRING AND RACEWAY TO NEW PLC CONTROL PANEL LOCATED IN NEW DEWATERING BUILDING.

4 AREA 400 - EFFLUENT/UV SYSTEM:
- NO ELECTRICAL WORK ANTICIPATED.

5 AREA 500 - BIOSOLIDS FACILITY:
- CONSTRUCTION OF NEW DEWATERING BUILDING INCLUDING POWER AND LIGHTING, VENTILATION SYSTEM, PLC CONTROL PANEL, NEW ELECTRICAL PANELS AND TRANSFORMER, GAS SENSORS AND OTHER ITEMS SHOWN ON THE PLANS.
- NEW SLUDGE CONVEYOR, LEVEL LODER AND HOIST SYSTEM.
- NEW DEWATERING SUMP PUMP WITH CONTROL PANEL.

6 AREA 600 - PLANT DRAIN SYSTEM:
- NO ELECTRICAL WORK ANTICIPATED.

7 AREA 700 - BLOWER BUILDING:
- NEW CIRCUIT BREAKER AND 480V FEEDER FROM EXISTING MCC TO NEW DEWATERING BUILDING.
- EXTEND 480V POWER FROM EXISTING MCC TO TRAINS #1 AND #2 CONTROL PANELS.
- EXTEND POWER AND CONTROL CIRCUITS TO NEW EQUIPMENT AS REQUIRED.

8 AREA 800 - CONTROL BUILDING:
- ELECTRICAL UPGRADES FOR LAB RENOVATION INCLUDING NEW CABINETRY, LAB EQUIPMENT AND POWER RECEPTACLES.
- SCADA SYSTEM ADDITIONS FOR ALL NEW PHASE 2 PROJECT COMPONENTS.

PROCESS AREA DESIGNATIONS

100 - 2W SYSTEM
200 - INFLUENT
300 - BIOTREATMENT SYSTEM/CLARIFIERS
400 - EFFLUENT/UV SYSTEM
500 - BIOSOLIDS FACILITIES
600 - PLANT DRAIN SYSTEM
700 - BLOWER BUILDING
800 - CONTROL BUILDING

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PROCESS AREA ELECTRICAL PLAN

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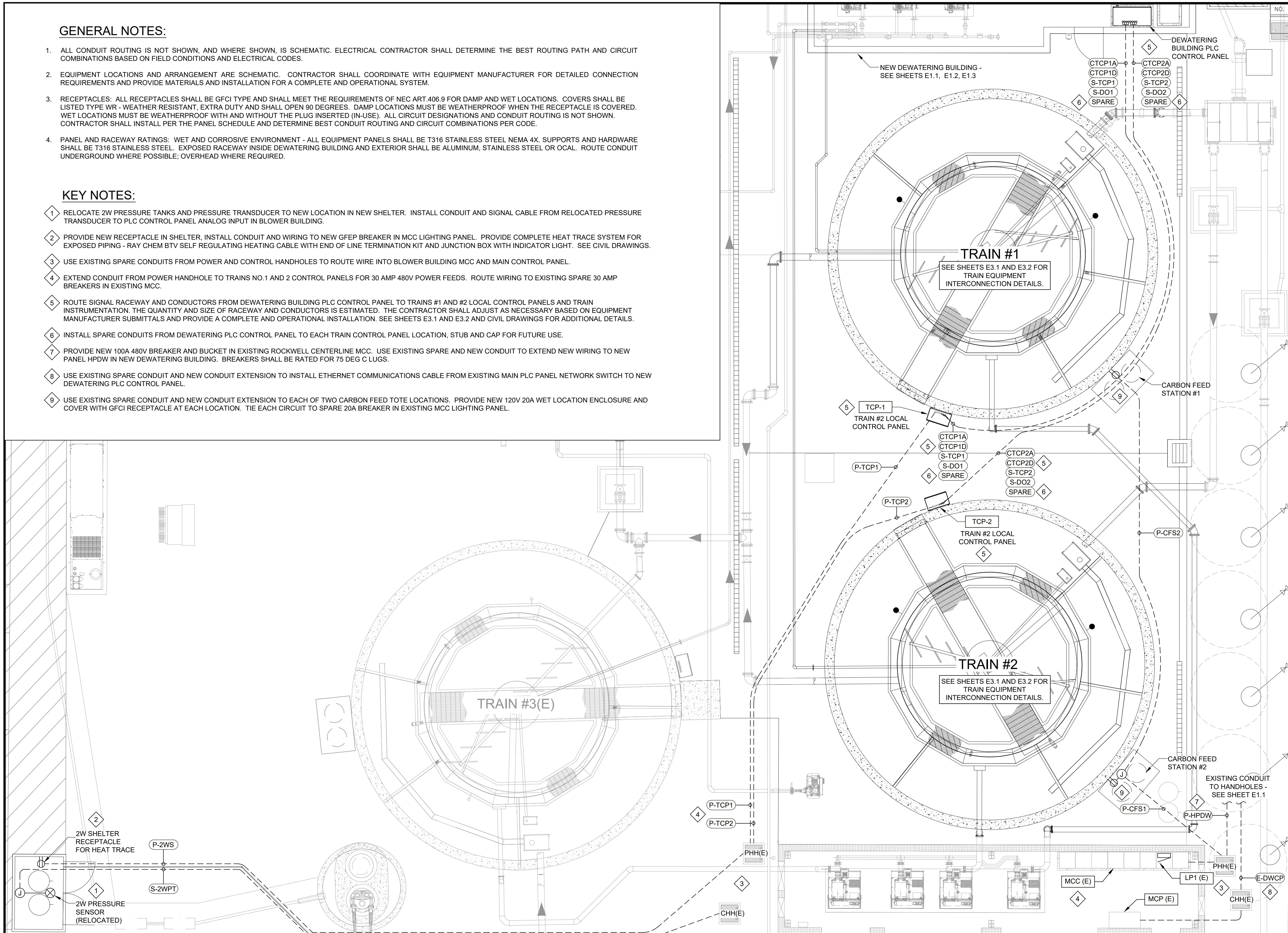
GENERAL NOTES:

1. ALL CONDUIT ROUTING IS NOT SHOWN, AND WHERE SHOWN, IS SCHEMATIC. ELECTRICAL CONTRACTOR SHALL DETERMINE THE BEST ROUTING PATH AND CIRCUIT COMBINATIONS BASED ON FIELD CONDITIONS AND ELECTRICAL CODES.
2. EQUIPMENT LOCATIONS AND ARRANGEMENT ARE SCHEMATIC. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER FOR DETAILED CONNECTION REQUIREMENTS AND PROVIDE MATERIALS AND INSTALLATION FOR A COMPLETE AND OPERATIONAL SYSTEM.
3. RECEPTACLES: ALL RECEPTACLES SHALL BE GFCI TYPE AND SHALL MEET THE REQUIREMENTS OF NEC ART.406.9 FOR DAMP AND WET LOCATIONS. COVERS SHALL BE LISTED TYPE WR - WEATHER RESISTANT, EXTRA DUTY AND SHALL OPEN 90 DEGREES. DAMP LOCATIONS MUST BE WEATHERPROOF WHEN THE RECEPTACLE IS COVERED. WET LOCATIONS MUST BE WEATHERPROOF WITH AND WITHOUT THE PLUG INSERTED (IN-USE). ALL CIRCUIT DESIGNATIONS AND CONDUIT ROUTING IS NOT SHOWN. CONTRACTOR SHALL INSTALL PER THE PANEL SCHEDULE AND DETERMINE BEST CONDUIT ROUTING AND CIRCUIT COMBINATIONS PER CODE.
4. PANEL AND RACEWAY RATINGS: WET AND CORROSIVE ENVIRONMENT - ALL EQUIPMENT PANELS SHALL BE T316 STAINLESS STEEL NEMA 4X. SUPPORTS AND HARDWARE SHALL BE T316 STAINLESS STEEL. EXPOSED RACEWAY INSIDE DEWATERING BUILDING AND EXTERIOR SHALL BE ALUMINUM, STAINLESS STEEL OR OCAL. ROUTE CONDUIT UNDERGROUND WHERE POSSIBLE; OVERHEAD WHERE REQUIRED.

KEY NOTES:

1. RELOCATE 2W PRESSURE TANKS AND PRESSURE TRANSDUCER TO NEW LOCATION IN NEW SHELTER. INSTALL CONDUIT AND SIGNAL CABLE FROM RELOCATED PRESSURE TRANSDUCER TO PLC CONTROL PANEL ANALOG INPUT IN BLOWER BUILDING.
2. PROVIDE NEW RECEPTACLE IN SHELTER, INSTALL CONDUIT AND WIRING TO NEW GFEP BREAKER IN MCC LIGHTING PANEL. PROVIDE COMPLETE HEAT TRACE SYSTEM FOR EXPOSED PIPING - RAY CHEM BTV SELF REGULATING HEATING CABLE WITH END OF LINE TERMINATION KIT AND JUNCTION BOX WITH INDICATOR LIGHT. SEE CIVIL DRAWINGS.
3. USE EXISTING SPARE CONDUITS FROM POWER AND CONTROL HANDHOLES TO ROUTE WIRE INTO BLOWER BUILDING MCC AND MAIN CONTROL PANEL.
4. EXTEND CONDUIT FROM POWER HANDHOLE TO TRAINS NO.1 AND 2 CONTROL PANELS FOR 30 AMP 480V POWER FEEDS. ROUTE WIRING TO EXISTING SPARE 30 AMP BREAKERS IN EXISTING MCC.
5. ROUTE SIGNAL RACEWAY AND CONDUCTORS FROM DEWATERING BUILDING PLC CONTROL PANEL TO TRAINS #1 AND #2 LOCAL CONTROL PANELS AND TRAIN INSTRUMENTATION. THE QUANTITY AND SIZE OF RACEWAY AND CONDUCTORS IS ESTIMATED. THE CONTRACTOR SHALL ADJUST AS NECESSARY BASED ON EQUIPMENT MANUFACTURER SUBMITTALS AND PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION. SEE SHEETS E3.1 AND E3.2 AND CIVIL DRAWINGS FOR ADDITIONAL DETAILS.
6. INSTALL SPARE CONDUITS FROM DEWATERING PLC CONTROL PANEL TO EACH TRAIN CONTROL PANEL LOCATION, STUB AND CAP FOR FUTURE USE.
7. PROVIDE NEW 100A 480V BREAKER AND BUCKET IN EXISTING ROCKWELL CENTERLINE MCC. USE EXISTING SPARE AND NEW CONDUIT TO EXTEND NEW WIRING TO NEW PANEL HPDW IN NEW DEWATERING BUILDING. BREAKERS SHALL BE RATED FOR 75 DEG C LUGS.
8. USE EXISTING SPARE CONDUIT AND NEW CONDUIT EXTENSION TO INSTALL ETHERNET COMMUNICATIONS CABLE FROM EXISTING MAIN PLC PANEL NETWORK SWITCH TO NEW DEWATERING PLC CONTROL PANEL.
9. USE EXISTING SPARE CONDUIT AND NEW CONDUIT EXTENSION TO EACH OF TWO CARBON FEED TOTE LOCATIONS. PROVIDE NEW 120V 20A WET LOCATION ENCLOSURE AND COVER WITH GFCI RECEPTACLE AT EACH LOCATION. TIE EACH CIRCUIT TO SPARE 20A BREAKER IN EXISTING MCC LIGHTING PANEL.



ELECTRICAL SITE PLAN

SCALE: 1" = 5' AT FULL SCALE

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

ELECTRICAL SITE PLAN

DATE 01-24-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

SHEET E0.5

GENERAL NOTES:

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KEY NOTES:

1. PROVIDE GROUNDING IN ACCORDANCE WITH NEC ART.250. GROUNDING ELECTRODE SYSTEM TO INCLUDE GROUND RODS, CONCRETE ENCASED ELECTRODE, STRUCTURAL STEEL, METAL WATER PIPES AND OTHERS WHERE AVAILABLE.
2. RE-LOCATE THREE EXISTING MOTOR DISCONNECTS TO NEW DEWATERING BUILDING WALL AFTER CONSTRUCTION. EXTEND OR REPLACE CONDUIT AND CONDUCTORS AS REQ'D.
3. INSTALL NEW AND COMPLETE LEVEL LODOR, CONVEYOR AND HOIST ELECTRICAL AND CONTROL SYSTEM PER MANUFACTURER REQUIREMENTS. THIS INCLUDES CONTROL PANEL, MOTORS, SENSORS, SWITCHES. PROVIDE MOTOR DISCONNECTS AS REQUIRED BY CODE. THE QUANTITY AND SIZE OF RACEWAY AND CONDUCTORS IS ESTIMATED. THE CONTRACTOR SHALL ADJUST AS NECESSARY BASED ON EQUIPMENT MANUFACTURER SUBMITTALS AND PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION. EQUIPMENT AND INSTALLATION IN CLASSIFIED AREA SHALL BE RATED FOR CLASS I, DIV 2; SEE SHEET E0.3.
4. PROVIDE DEWATERING SUMP PUMP, FLOAT SWITCH CONTROLS, NEMA 4X T316SS STARTER PANEL WITH FEATURES INDICATED ON SHEET E8.2.
5. ROUTE SIGNAL RACEWAY AND CONDUCTORS FROM DEWATERING BUILDING PLC CONTROL PANEL TO TRAINS #1 AND #2 LOCAL CONTROL PANELS AND TRAIN INSTRUMENTATION. THE QUANTITY AND SIZE OF RACEWAY AND CONDUCTORS IS ESTIMATED. THE CONTRACTOR SHALL ADJUST AS NECESSARY BASED ON EQUIPMENT MANUFACTURER SUBMITTALS AND PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION.
6. USE EXISTING SPARE CONDUIT FROM POWER AND SIGNAL HANDHOLES TO EXTEND NEW 480V PANEL FEEDER AND DEWATERING PLC ETHERNET CABLE TO MCC AND PLC CONTROL PANEL IN BLOWER BUILDING.

NO.	REVISIONS	BY	DATE

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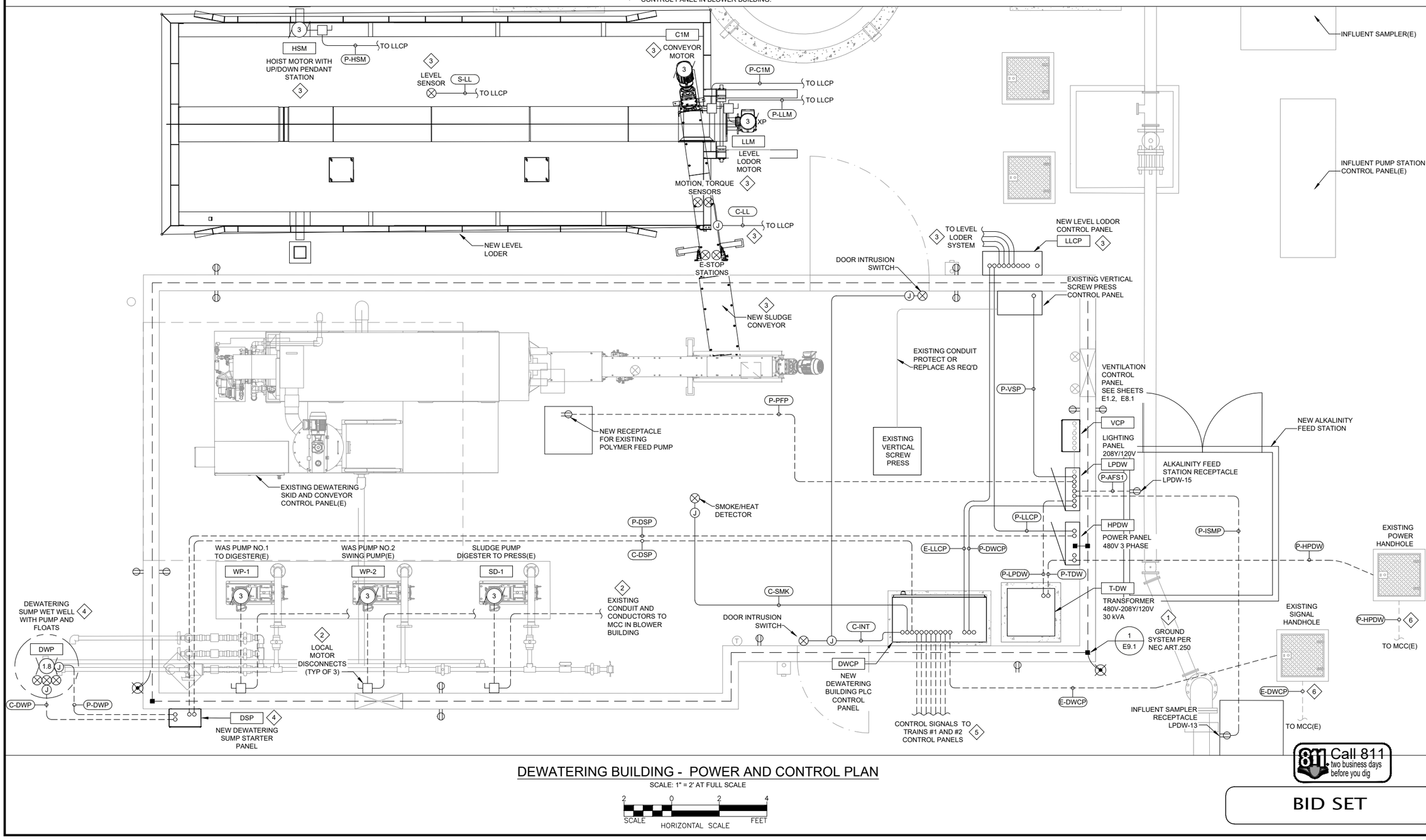
Wenatchee, WA 98801



DEWATERING BUILDING - POWER AND CONTROL PLAN

SCALE: 1" = 2' AT FULL SCALE

2 0 2 4
SCALE HORIZONTAL SCALE FEET

Call 811 two business days before you dig

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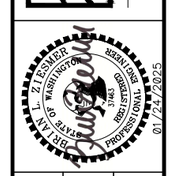


DESIGNED BY	DRAWN BY	CHECKED BY
BZ	BZ	BZ

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING – POWER AND CONTROL PLAN

DATE	SCALE	JOB NUMBER
01-24-2025	AS SHOWN	2023-123

SHEET E1.1
PAGE 71 OF 91

GENERAL NOTES:

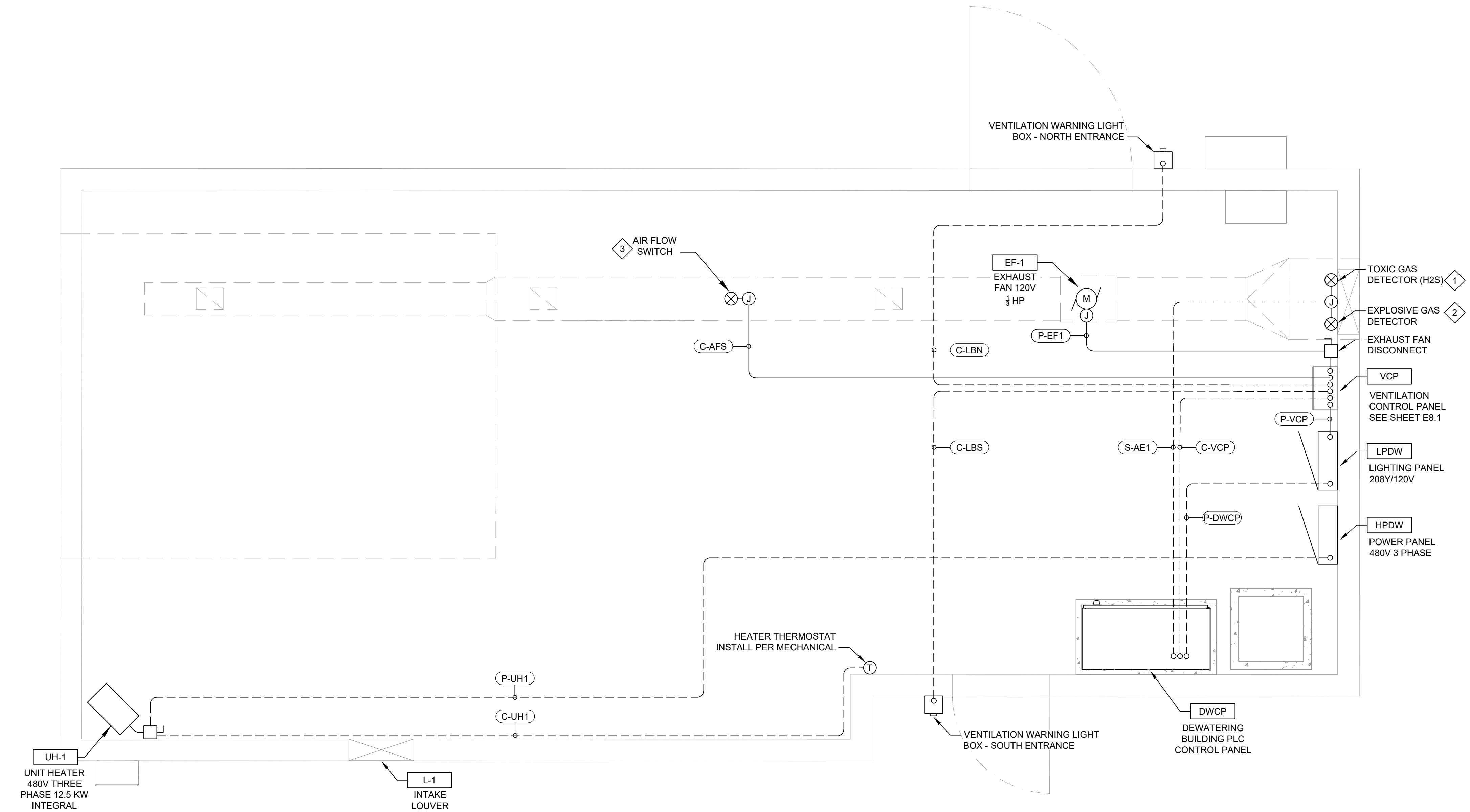
1. ALL CONDUIT ROUTING IS NOT SHOWN, AND WHERE SHOWN, IS SCHEMATIC. ELECTRICAL CONTRACTOR SHALL DETERMINE THE BEST ROUTING PATH AND CIRCUIT COMBINATIONS BASED ON FIELD CONDITIONS AND ELECTRICAL CODES.
2. EQUIPMENT LOCATIONS AND ARRANGEMENT ARE SCHEMATIC. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER FOR DETAILED CONNECTION REQUIREMENTS AND PROVIDE MATERIALS AND INSTALLATION FOR A COMPLETE AND OPERATIONAL SYSTEM.
4. PANEL AND RACEWAY RATINGS: WET AND CORROSIVE ENVIRONMENT - ALL EQUIPMENT PANELS SHALL BE T316 STAINLESS STEEL NEMA 4X. SUPPORTS AND HARDWARE SHALL BE T316 STAINLESS STEEL. EXPOSED RACEWAY INSIDE DEWATERING BUILDING AND EXTERIOR SHALL BE ALUMINUM, STAINLESS STEEL OR OCAL. ROUTE CONDUIT UNDERGROUND WHERE POSSIBLE; OVERHEAD WHERE REQUIRED.
5. BRANCH CIRCUITS NOT SHOWN ON CONDUIT SCHEDULE SHALL BE SIZED AS REQUIRED BY NEC.
6. ELECTRICAL CONTRACTOR SHALL PROVIDE THE COMPLETE INSTALLATION OF ALL HVAC ELECTRICAL EQUIPMENT AND CONTROLS AS SHOWN ON MECHANICAL SHEETS. PROVIDE DISCONNECTING MEANS WHERE INDICATED OR REQUIRED BY CODE.

CLASSIFIED AREA NOTES:

1. DEWATERING BUILDING WITH DEWATERING PRESS: UNCLASSIFIED PER NFPA 820-2024 TABLE 6.2.2, ROW 12a WITH TYPE 'C' VENTILATION, CONTINUOUSLY VENTILATED AT 6 AIR CHANGES PER HOUR AND IN ACCORDANCE WITH NFPA 820-2024 CHAPTER 9.

KEY NOTES:

1. INSTALL H2S GAS DETECTOR FURNISHED IN PROJECT PHASE 1, WIRE TO DEWATERING BUILDING PLC CONTROL PANEL FOR 24VDC POWER AND 4-20 mA SIGNAL. SMC MODEL 5100-05-IT.
2. INSTALL COMBUSTIBLE GAS DETECTOR FURNISHED IN PROJECT PHASE 1, WIRE TO DEWATERING BUILDING PLC CONTROL PANEL FOR 24VDC POWER AND 4-20 mA SIGNAL. DETCON MODEL FP-524D-316SS.
3. PROVIDE NEW AIR FLOW SWITCH PER MECHANICAL. WIRE TO VENTILATION CONTROL PANEL.



DEWATERING BUILDING - HVAC ELECTRICAL PLAN

SCALE: 1" =2' AT FULL SCALE

2 0 2 4
SCALE HORIZONTAL SCALE FEET

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BRIAN L. ZIESMER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER
01/24/2025

DESIGNED BY BZ | DRAWN BY BZ | CHECKED BY BZ

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING – HVAC ELECTRICAL PLAN

DATE 01-24-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

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SHEET E1.2

NO.	REVISIONS	BY	DATE

GENERAL NOTES:

1. ROUTE ALL BRANCH CIRCUITS TO LIGHTING PANEL(S) CIRCUIT SHOWN ON THE PLANS. ALL CONDUIT ROUTING IS NOT SHOWN. ELECTRICAL CONTRACTOR SHALL DETERMINE THE BEST ROUTING PATH AND CIRCUIT COMBINATIONS BASED ON FIELD CONDITIONS AND ELECTRICAL CODE.
2. BRANCH CIRCUITS NOT SHOWN ON CONDUIT SCHEDULE SHALL BE SIZED AS REQUIRED BY NEC.

WASHINGTON STATE ENERGY CODE NOTES:

1. INTERIOR POWER ALLOWANCE FOR WORKSHOP DESIGNATION: GROSS INTERIOR AREA=650 SF. LIGHTING POWER ALLOWANCE=0.91 W/SF. TOTAL WATTS ALLOWED (SF X LPA X 0.8)=473. TOTAL PROPOSED WATTS BY BUILDING AREA=400 ASSUMING 10 FIXTURES AT 40W EACH.
2. PROJECT CLOSEOUT DOCUMENTATION SHALL INCLUDE WSEC COMPLIANCE REPORTS PER WSEC SECTION C103.6.3

KEY NOTES:

1. RE-INSTALL TWO LED WALL PACKS REMOVED DURING DEMOLITION, AND PROVIDE TWO NEW MATCHING WALL PACKS FOR NEW DEWATERING BUILDING. COORDINATE MOUNTING HEIGHTS OVER NEW DOORS BASED ON DOOR SUBMITTALS. PROVIDE PHOTOCELL ON EXTERIOR OF BUILDING FOR AUTOMATIC EXTERIOR LIGHTING CONTROL.
2. WIRE EMERGENCY LIGHTS TO INTERIOR LIGHTING CIRCUIT.
3. PROVIDE DUAL TECHNOLOGY OCCUPANCY SENSORS FOR INTERIOR LIGHTING, QUANTITY AND LOCATIONS AS REQUIRED TO COVER ALL OCCUPIED AREAS. COMPLY WITH WASHINGTON STATE ENERGY CODE REQUIREMENTS.
4. PROVIDE NEW V-HOOK AND SUSPENDED MOUNTING OPTIONS FOR EXISTING LED STRIP FIXTURES REMOVED DURING DEMOLITION. RE-INSTALL LED STRIP LIGHTS IN NEW DEWATERING BUILDING. COORDINATE MOUNTING LOCATIONS TO AVOID ROLL UP DOOR, VENTILATION DUCTWORK AND OTHER EQUIPMENT. ALL HARDWARE SHALL BE STAINLESS STEEL.

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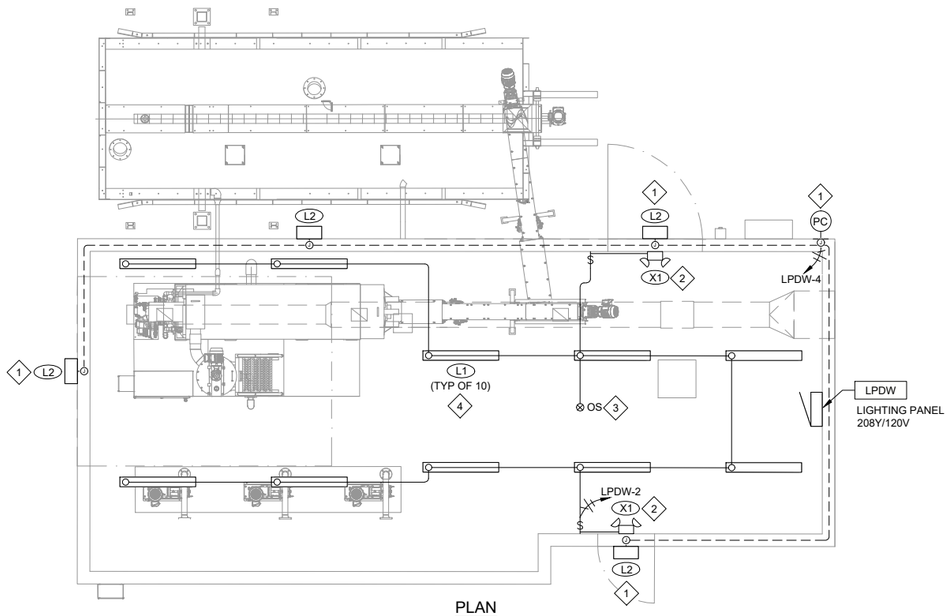
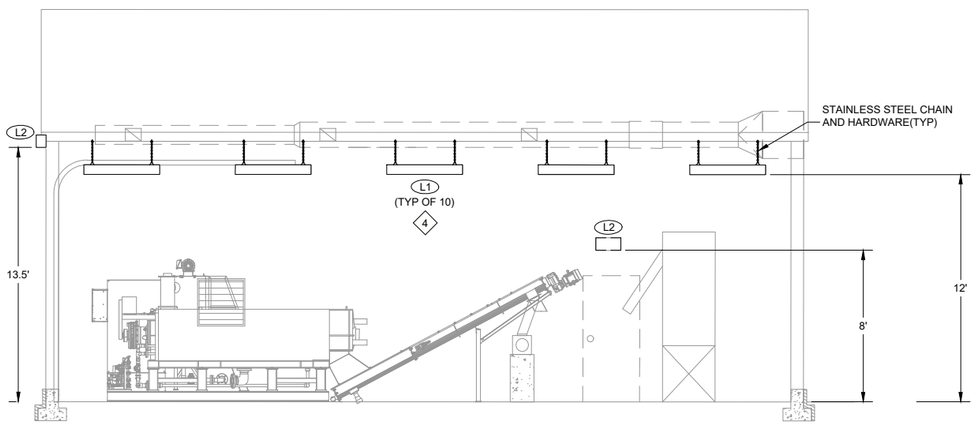
LIGHTING FIXTURE SCHEDULE

	ID	DESCRIPTION	MOUNTING	LAMPS	COLOR	VOLTAGE	VA	MANUFACTURER	CATALOG NUMBER
4	L1	NARROW LED 4' FIXTURE, VAPOR TIGHT	SUSPENDED	LED	35/4/5K SELECTABLE	120V	30/40/50W SELECTABLE	RAB	SEAL4
1	L2	LED WALL PACK, WET LOCATION	SURFACE	LED	3/4/5K SELECTABLE	120V	35/45/60W SELECTABLE	RAB	WP2XFU60
	X1	EMERGENCY LIGHTING W/BATTERY PACK	SURFACE	LED	5K	120V	6	LITHONIA	ECC EMERGENCY COMBO UNIT

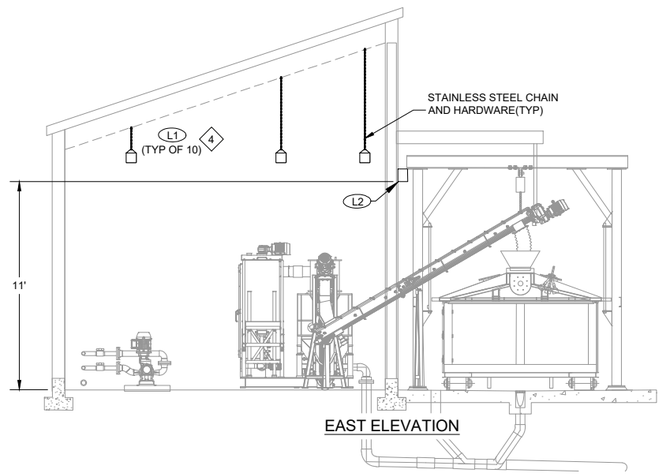
DEWATERING BUILDING LIGHTING FIXTURE SCHEDULE
SCALE: NONE



PLAN



SOUTH ELEVATION



EAST ELEVATION

DEWATERING BUILDING - LIGHTING PLAN
SCALE: 1" = 4' AT FULL SCALE

4 0 4 8
SCALE FEET
HORIZONTAL SCALE

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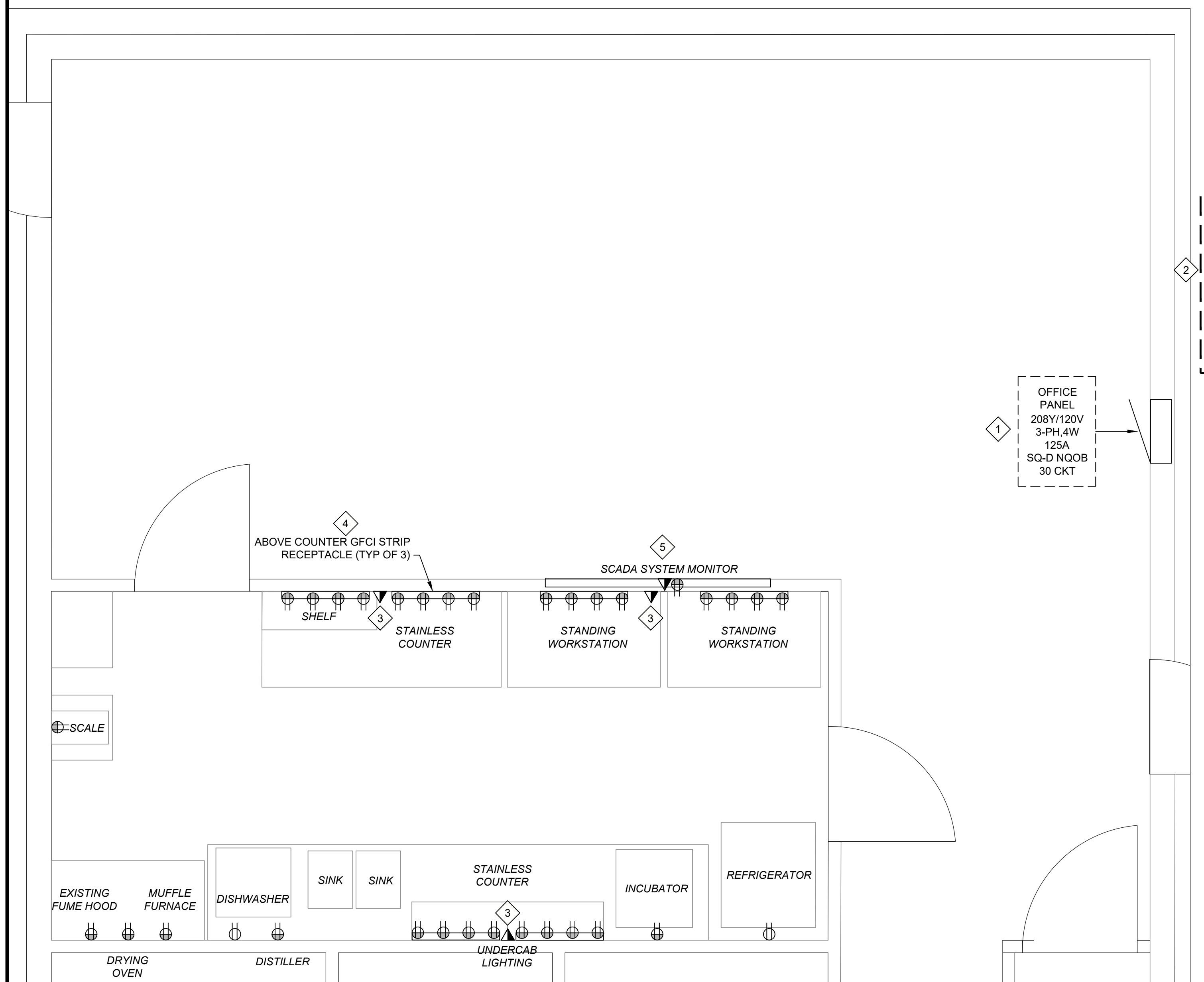
REGISTERED PROFESSIONAL ENGINEER
STATE OF WASHINGTON
BRIAN L. ZEMMER
01/24/2025

DESIGNED BY BZ
DRAWN BY BZ
CHECKED BY BZ

SAN JUAN COUNTY
EASTSOUND SEWER AND WATER DISTRICT
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
WASHINGTON
DEWATERING BUILDING – LIGHTING PLAN

DATE 01-24-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET E1.3
PAGE 73 OF 91

TYPE OF EQUIPMENT/INSTRUMENT	MANUFACTURER	MODEL NUMBER	PURCHASED?	DEPTH (IN)	WIDTH (IN)	HEIGHT (IN)	ELECTRICAL	MECHANICAL	COMMENTS
PH PROBE	HACH	PHC101	4/1/2023				N/A	N/A	
COLORIMETER/SPECTROPHOTOMETER	HACH	DR300	1/1/2020				BATTERY POWERED	N/A	
ANALYTICAL BALANCE	METTLER TOLEDO	XS 104	1/23/2020	12.7	10.4	17.8	N/A	N/A	REQUIRES SOLID BASE AND "CALM" ENVIRONMENT.
DO PROBE	HACH	LBOD101	6/1/2023				N/A	N/A	
DO/PH METER	HACH	HQ2200	6/1/2023				N/A	N/A	
DRYING OVEN	QUINCY LAB INC	20GC	9/1/2022				115 V, 60 HZ, 6.95 A	N/A	
FUME HOOD	LABCONCO	224660	Q4 2023	25	47	54	115 VOLTS, 60 HZ, 1 A, DOMESTIC	VERIFY	
SPECTROPHOTOMETER	HACH	DR6000 UV VIS	PHASE I	18.1	19.7	8.5	110–240 VAC, 60 HZ	N/A	
BOD INCUBATOR	THERMO SCIENTIFIC	PR205745R	PHASE II	24.5	24	34.5	115 V, 60 HZ, 9.5 A, NEMA 5–15 PLUG	N/A	UNDER–COUNTER MODEL.
FECAL COLIFORM INCUBATOR	THERMO SCIENTIFIC	TSCOL19	PHASE II	15.5	24.9	9.8	120/230 V, 60 HZ, 9–10.5 A	N/A	NEEDS TO INCLUDE SS PETRI DISH RACK.
AUTOCLAVE	TUTTNAUER	2340M	PHASE II	21.5	20	14.4	120 V, 60HZ, 12 A	VERIFY	
REFRIGERATOR	THERMO SCIENTIFIC	TSV18CPSA	PHASE II	32.79	29.53	66.61	115 V, 60 HZ, 1.1 A	VERIFY	MIN CLEARANCES 4 IN. ON SIDES, 4 IN. AT BACK, 11 IN. ON TOP.
STILL	THERMO SCIENTIFIC	MP–1	PHASE II	9.75	18	34	120 V, 60 HZ, 9 A	WATER AND DRAIN CONNECTION	
MICROSCOPE	OLYMPUS	CX33 W/ EP50 CAMERA SYSTEM	PHASE II	8.3	15.6	17	N/A	N/A	
MUFFLE FURNACE	THERMO SCIENTIFIC	FB1315M	PHASE II	13	9	14	120 V, 60 HZ, 8.9 A	VERIFY	
DESSICATOR	NALGENE	38090	PHASE II	12	12	18	N/A	N/A	FITS 230 MM DESICATOR PLATE.
GLASSWARE WASHER	LABCONCO	401001000	PHASE II	27.7	24.1	32.1–36	115 V, 60 HZ, 16 A, 1P	VERIFY	REQUIRES DEDICATED 20A CIRCUIT.
STANDING DESK (X2)	UPLIFT	UPL922–MAPLE 48x30	PHASE II	30	48	22.6–48.7	100–240 V, 60 HZ, 400W MAX	N/A	V2–COMMERCIAL C–FRAME



LABORATORY ELECTRICAL PLAN AND SCHEDULES

SCALE: 1" = 2' AT FULL SCALE

2 0 2 4
SCALE HORIZONTAL SCALE FEET

GENERAL NOTES:

1. ROUTE ALL BRANCH CIRCUITS TO LIGHTING PANEL(S) CIRCUIT SHOWN ON THE PLANS. ALL CONDUIT ROUTING IS NOT SHOWN. ELECTRICAL CONTRACTOR SHALL DETERMINE THE BEST ROUTING PATH AND CIRCUIT COMBINATIONS BASED ON FIELD CONDITIONS AND ELECTRICAL CODE.
2. BRANCH CIRCUITS NOT SHOWN ON CONDUIT SCHEDULE SHALL BE SIZED AS REQUIRED BY NEC.

KEY NOTES:

1. ROUTE NEW POWER CIRCUITS FROM EXISTING OFFICE PANEL TO NEW AND EXISTING RECEPTACLE LOCATIONS. ROUTE RACEWAY OVERHEAD IN CRAWL SPACE AND INSIDE WALLS; ALL ELECTRICAL RACEWAY SHALL BE CONCEALED.
2. ADD NEW CIRCUIT BREAKERS TO EXISTING PANEL FOR NEW LABORATORY CIRCUITS AND EXTEND TO NEW RECEPTACLES IN LAB AREA. LOAD CALC EXISTING= 10.8 kVA 30.1A, AFTER 19.2 kVA 53.4A.
3. PROVIDE ETHERNET DATA PORTS IN LOCATIONS INDICATED ON PLANS. ROUTE CAT6 CABLING TO NETWORK SWITCH IN OFFICE. COORDINATE FINAL LOCATIONS WITH OWNER DURING CONSTRUCTION.
4. PROVIDE THREE NEW ABOVE-COUNTER STRIP RECEPTACLES FOR GENERAL PURPOSE USE. 120VAC, 8-10 OUTLETS EACH, ALUMINUM HOUSING, PLASTIC END CAPS, BUILT IN CIRCUIT BREAKER. WIRE TO NEW GFCI RECEPTACLE TO EXISTING PANEL RECEPTACLE CIRCUIT.
5. SYSTEM INTEGRATOR SHALL PROVIDE NEW REMOTE SCADA MONITOR PER SPECIFICATIONS FOR INSTALLATION IN THE LAB. PROVIDE 120VAC POWER AND HDMI DATA PROVISIONS FOR SCADA SYSTEM REMOTE MONITOR. COORDINATE FINAL LOCATIONS WITH OWNER DURING CONSTRUCTION.

NO.	REVISIONS	BY	DATE

PANEL: OFFICE						PANEL SCHEDULE					PROJECT: Eastsound WWTP	
208Y/120V, 3Ph, 4W.			125A Bus				100A M.C.B.				FLUSH MOUNTED	
CKT NO	DESCRIPTION / LOCATION	LOAD (VA)	LOAD TYPE	C.B. AMP	C.B. POLE	PHASE	C.B. POLE	C.B. AMP	LOAD TYPE	LOAD (VA)	DESCRIPTION / LOCATION	CKT NO
1	OFFICE LIGHTS - NORTH (5)	320	L	20	1	A	1	20	R	900	RECEPTACLES - OFFICE (5)	2
3	LAB LIGHTS (7)	448	L	20	1	B	1	20	R	720	RECEPTACLES - OFFICE (2) LAB (2)	4
5	OFFICE RECEPTACLES - SOUTH	900	R	20	1	C	1	20	R	1,560	RECEPTACLES - LAB - OVEN, WORK	6
7	SPARE			20	1	A	1	20	R	900	RECEPTACLES - LAB SOUTH, POWER STRIP	8
9						B	1	20	R		SPARE	10
11	**NEW - DISHWASHER**	**1,920**	**G**	**20**	**1**	C	1	20	R	1,800	RECEPTACLES - LAB - BLOWER, DISH, WATER	12
13	**NEW - STANDING DESK X2**	**800**	**G**	**20**	**1**	A	1	20	R	1,800	RECEPTACLE - REFRIGERATOR	14
15	**NEW - MUFFLE FURNACE**	**1,068**	**G**	**20**	**1**	B	1	20	R	1,100	RECEPTACLE - INCUBATOR	16
17	**NEW - DISTILLER**	**1,080**	**G**	**20**	**1**	C	1	20	R	180	RECEPTACLE - SPECTROPHOTOMETER	18
19	**NEW - AUTOCLAVE**	**1,440**	**G**	**20**	**1**	A						20
21	**NEW - INCUBATOR**	**1,140**	**G**	**20**	**1**	B						22
23	**SCADA MONITOR**	**180**	**R**	**20**	**1**	C						24
25	**NEW - DRYING OVEN**	**834**	**G**	**20**	**1**	A						26
27	**NEW - REFRIGERATOR**	**132**	**G**	**20**	**1**	B						28
29						C						30

TOTAL CONNECTED LOAD:	PH A	6,994 VA	58.3 AMPS		DATE: November 27, 2024
TOTAL CONNECTED LOAD:	PH B	4,608 VA	38.4 AMPS		
TOTAL CONNECTED LOAD:	PH C	7,440 VA	62.0 AMPS		
MAX PHASE CONNECTED LOAD:	PH C	6,994 VA		PANEL RATING:	10,000 AIC
TOTAL CONNECTED LOAD (3 x MAX):		21.0 kVA	58.3 AMPS	TOTAL DEMAND LOAD:	19.2 kVA 53.4 AMPS

		CONNECTED LOADS	SUBFED LOADS [S]	TOTAL LOADS	DEMAND FACTOR	DEMAND LOAD
G	GENERAL (NON-CONTINUOUS)	8,414 VA	0 VA	8,414 VA	100%	8,414 VA
L	LIGHTING	768 VA	0 VA	768 VA	125%	960 VA
R	RECEPTACLES - ≥ 10 kVA	9,860 VA	0 VA	9,860 VA	100%	9,860 VA
	< 10 kVA		0 VA	0 VA	50%	0 VA
K	KITCHEN	0 VA	0 VA	0 VA	100%	0 VA
H	HEATING	0 VA	0 VA	0 VA	100%	0 VA
M	MOTORS	0 VA	0 VA	0 VA	100%	0 VA
LM	LARGEST MOTOR	0 VA	0 VA	0 VA	125%	0 VA
WH	WATER HEATER	0 VA	0 VA	0 VA	100%	0 VA
C	CONTINUOUS (GENERAL LOAD)	0 VA	0 VA	0 VA	125%	0 VA
N	NON-COINCIDENT	0 VA	0 VA	0 VA	0%	0 VA
	TOTAL:	19,042 VA	0 VA	19,042 VA		19,234 VA

OFFICE PANEL SCHEDULE

SCALE: 1" = 2' AT FULL SCALE

Call 811 two business days before you dig

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BRIAN L. ZILLESMER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 37463
01/24/2025

DESIGNED BY BZ | DRAWN BY BZ | CHECKED BY BZ

EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY, WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
LABORATORY ELECTRICAL PLAN AND SCHEDULES

DATE 01-24-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

NO.	REVISIONS	BY	DATE

GENERAL NOTES:

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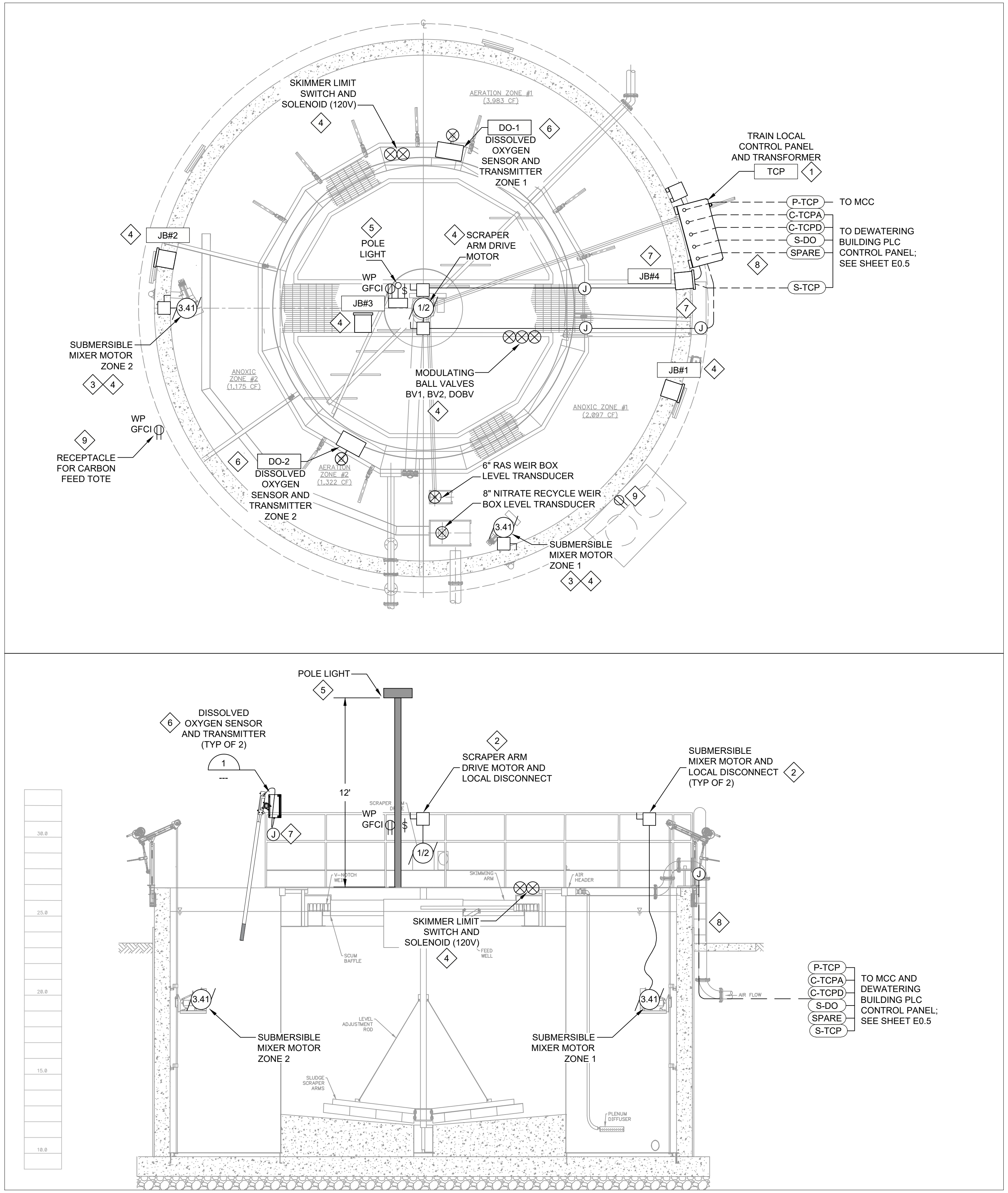
3. PANEL AND RACEWAY RATINGS: WET AND CORROSIVE ENVIRONMENT - ALL EQUIPMENT PANELS SHALL BE T316 STAINLESS STEEL NEMA 4X. SUPPORTS AND HARDWARE SHALL BE T316 STAINLESS STEEL. EXTERIOR EXPOSED RACEWAY SHALL BE ALUMINUM, STAINLESS STEEL OR OCAL. ROUTE CONDUIT UNDERGROUND WHERE POSSIBLE; OVERHEAD WHERE REQUIRED.
4. INSTALL NEW AND COMPLETE TREATMENT TRAIN ELECTRICAL AND CONTROL SYSTEM PER MANUFACTURER REQUIREMENTS. THIS INCLUDES CONTROL PANEL, JUNCTION BOXES MOTORS, SENSORS, SWITCHES AND ALL OTHER EQUIPMENT REQUIRED BY THE MANUFACTURER. PROVIDE MOTOR DISCONNECTS AS REQUIRED BY CODE. THE QUANTITY AND SIZE OF RACEWAY AND CONDUCTORS IS ESTIMATED. THE CONTRACTOR SHALL ADJUST AS NECESSARY BASED ON EQUIPMENT MANUFACTURER SUBMITTALS AND PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION

KEY NOTES:

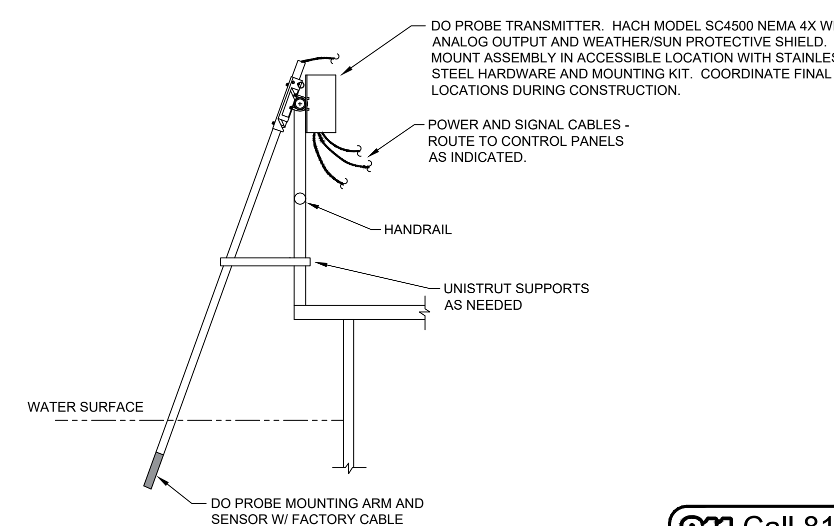
1. TREATMENT SYSTEM PROVIDER SHALL PROVIDE COMPLETE TREATMENT SYSTEM PER SPECIFICATIONS. CONTROL PANEL SHALL ACCEPT 480V 3 PHASE 30A INPUT AND INCLUDE ALL WIRING AND CONTROLS FOR THE COMPLETE TREATMENT SYSTEM. FEATURES SHALL INCLUDE BUT NOT BE LIMITED TO:
   1. NEMA 4X TYPE 316 STAINLESS STEEL ENCLOSURE SIZED FOR THE APPLICATION. INCLUDE DRIP SHIELD FOR OUTDOOR PANELS.
   2. NEMA FULL VOLTAGE MOTOR STARTERS FOR BOTH CLARIFIER DRIVE MOTOR AND TWO SUBMERSIBLE MIXERS.
   3. SEAL FAIL AND OVERTEMP SENSOR FOR SUBMERSIBLE MOTOR PROTECTION.
   4. 480-120V 5 kVA T316SS STEP DOWN TRANSFORMER FOR CONTROL CIRCUITS. MOUNT NEAR CONTROL PANEL.
   5. HARD WIRED RELAY LOGIC CONTROL CIRCUITS FOR SYSTEM CONTROL AND PROTECTION.
   6. ALARM LIGHT AND HORN WITH SILENCE PUSH BUTTON.
   7. INDICATOR LIGHTS, PUSH BUTTONS, HAND-OFF-AUTO SWITCHES FOR MOTOR CONTROL.
   8. WIRING TERMINALS FOR FIELD MOUNTED DEVICES INCLUDING TORQUE SWITCHES, LIMIT SWITCHES, SOLENOIDS AND ANY OTHER REQUIRED DEVICES.
   9. DRY RELAY CONTACTS FOR CUSTOMER CONNECTION INCLUDING: RUN AND FAIL FOR EACH MOTOR, SEAL FAIL AND OVERTEMP FOR MIXER, ALARM AND SHUTDOWN FOR CLARIFIER.
   10. PANEL HEATER WITH FAN TO PREVENT BUILDUP OF CONDENSATION IN PANEL.
   11. 120V CIRCUITS FOR POLE LIGHT AND RECEPTACLE.
   12. NEMA 4X TYPE 316 SS JUNCTION BOXES FOR INTERCONNECTION OF FIELD DEVICES.
   13. ALL PANELS AND COMPONENTS SHALL BE UL LISTED.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE LOCAL MOTOR DISCONNECTS FOR DRIVE MOTOR AND MIXERS. NEMA 4X TYPE 316 STAINLESS STEEL OR FIBERGLASS.
3. ROUTE SEAL FAIL AND OVERTEMP MOTOR WIRING BACK TO CONTROL PANEL SENSOR. COMBINE WIRING IN CONTROL RACEWAY AS REQUIRED.
4. CONTRACTOR SHALL INSTALL ALL TREATMENT SYSTEM COMPONENTS PROVIDED BY MANUFACTURER AND PROVIDE WIRING AND RACEWAY BACK TO TREATMENT CONTROL PANEL. RATINGS, RACEWAY AND CONDUCTORS SHOWN ARE ESTIMATED; ADJUST DURING SUBMITTAL PERIOD BASED ON TREATMENT SYSTEM EQUIPMENT SUBMITTAL REQUIREMENTS.
5. CONTRACTOR SHALL PROVIDE POLE LIGHT ON PLATFORM TO MATCH TRAIN NO.3. SECURE TO HANDRAIL WITH STAINLESS STEEL HARDWARE. PROVIDE 4" SQUARE ALUMINUM POLE 12' TALL WITH RECEPTACLE, PHOTOCELL AND LOCAL ON/OFF SWITCH. LITHONIA LIGHTING #DSX0-LED-P3-30K-T3M-MVOLT-SPA-DNAXD WITH PHOTOCELL, OR APPROVED EQUAL.
6. PROVIDE (2) COMPLETE DISSOLVED OXYGEN MONITORS FOR EACH TRAIN. MOUNT TO TOP OF WALL WITH FACTORY HARDWARE TO ALLOW FOR TRANSMITTER ACCESS AND CLEANING. HACH MODEL LDO PROBE WITH SC4500 TRANSMITTER AND ACCESSORIES. SEE SPECIFICATIONS.
7. PROVIDE JUNCTION BOXES AS REQUIRED TO ROUTE ALL POWER AND SIGNAL CIRCUITS TO TRAIN CONTROL PANEL AND PLC CONTROL PANEL. MAINTAIN SEPARATION OF AC AND DC SIGNAL CIRCUITS. CONDUIT ROUTING AND CIRCUIT COMBINATIONS SHALL BE FIELD-LOCATED BY CONTRACTOR.
8. STUB SPARE CONDUITS ABOVE GROUND NEAR TREATMENT CELL WALLS. CAP FOR FUTURE USE.
9. PROVIDE 20A 120V GFCI RECEPTACLE FOR CARBON FEED POWER. MOUNT TO S.S UNISTRUT SUPPORT ATTACHED TO TREATMENT CELL WALL. WET LOCATION IN-USE COVER. SEE SITE PLANS FOR LOCATIONS.



TRAINS NO.1 AND 2 - ELECTRICAL PLAN AND ELEVATION (TYP OF 2)

SCALE: 1" = 4' AT FULL SCALE

HORIZONTAL SCALE (FEET)



1 DO PROBE ELEVATION DETAIL

SCALE: NONE

Call 811 two business days before you dig

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY, WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
TRAINS NO.1 AND 2 – ELECTRICAL PLAN AND ELEVATION

DATE 01-24-2025
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CABLE LEGEND

AC CONDUIT AND WIRING

DC CONDUIT AND WIRING

KEY NOTES:

(M) DEVICE FURNISHED BY TREATMENT SYSTEM MANUFACTURER FOR CONTRACTOR INSTALLATION.

(C) DEVICE FURNISHED AND INSTALLED BY CONTRACTOR BASED ON TREATMENT SYSTEM MANUFACTURER REQUIREMENTS AND CONTRACT DOCUMENTS.

(E) EXISTING EQUIPMENT

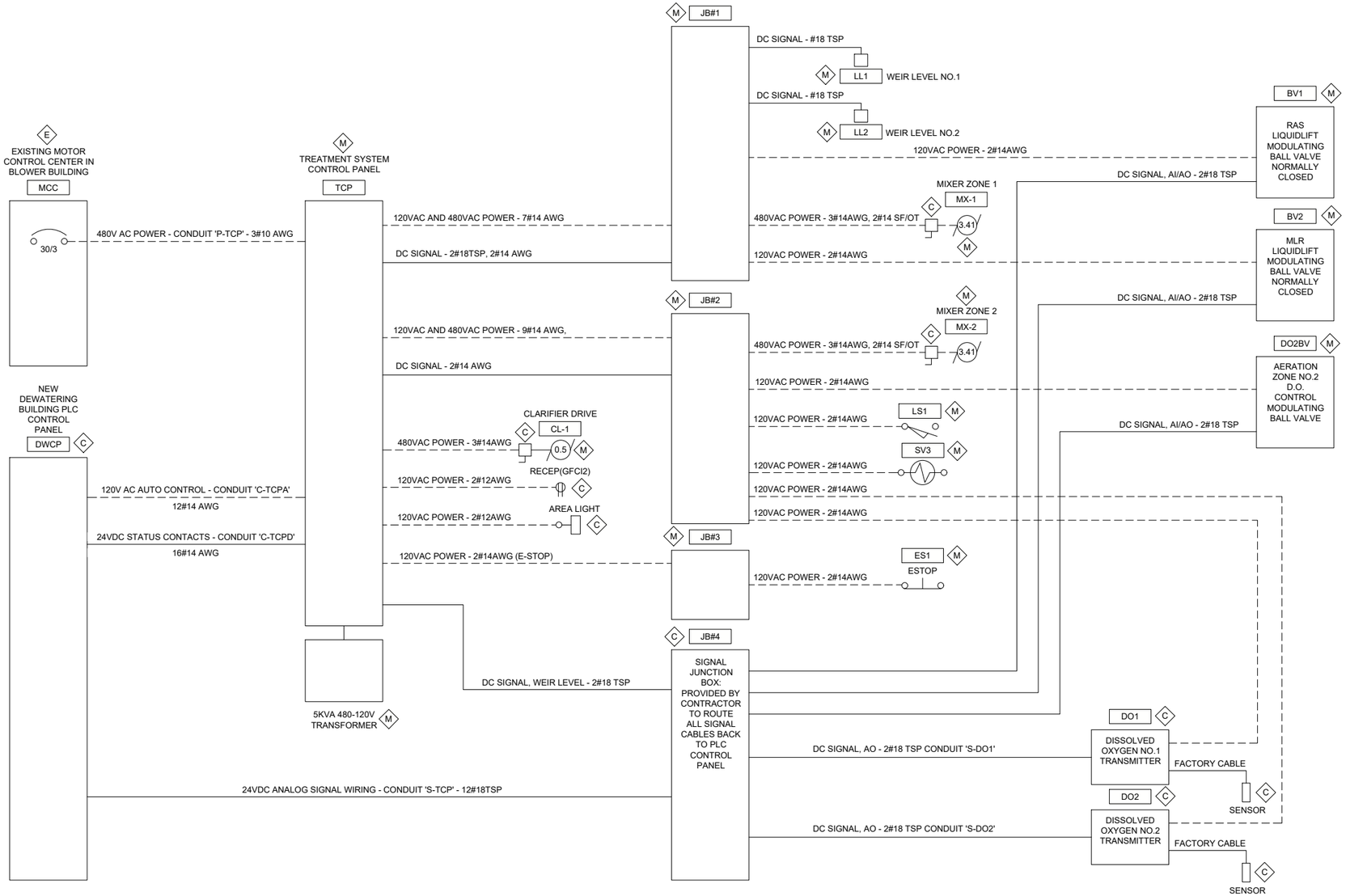
NOTE: ALL CONDUIT AND WIRING PROVIDED BY CONTRACTOR.

NOTE: PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN ALL RACEWAY, SIZE PER NEC.

GENERAL NOTES:

1. INSTALL NEW AND COMPLETE TREATMENT TRAIN ELECTRICAL AND CONTROL SYSTEM PER MANUFACTURER REQUIREMENTS. THIS INCLUDES CONTROL PANEL, JUNCTION BOXES MOTORS, SENSORS, SWITCHES AND ALL OTHER EQUIPMENT REQUIRED BY THE MANUFACTURER. PROVIDE MOTOR DISCONNECTS AS REQUIRED BY CODE. THE QUANTITY AND SIZE OF RACEWAY AND CONDUCTORS IS ESTIMATED. THE CONTRACTOR SHALL ADJUST AS NECESSARY BASED ON EQUIPMENT MANUFACTURER SUBMITTALS AND PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION.
2. THE INTERCONNECTION DIAGRAM ON THIS SHEET IS SCHEMATIC AND IS INTENDED TO SHOW LIMITED DETAILS FOR THE INTERCONNECTION OF THE TREATMENT SYSTEM COMPONENTS. CONTRACTOR SHALL CONFIRM ALL INSTALLATION REQUIREMENTS AND PROVIDE THE ELECTRICAL INSTALLATION FOR A COMPLETE AND OPERATIONAL SYSTEM AS REQUIRED BY THE EQUIPMENT MANUFACTURER AND THE CONTRACT DOCUMENTS.

NO.	REVISIONS	BY	DATE



TRAINS NO.1 AND 2 - INTERCONNECTION DIAGRAM (TYP OF 2)

SCALE: NONE

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REGISTERED PROFESSIONAL ENGINEER
BRIAN T. ZIEMER
STATE OF WASHINGTON
01/24/2025

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
TRAINS NO.1 AND 2 – INTERCONNECTION DIAGRAM

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UTILITY METER

OPALCO PAD MOUNT UTILITY TRANSFORMER 480Y/277V, 3-PHASE 225 kVA

P-SEC

CURRENT TRANSFORMER ENCLOSURE PER OPALCO REQUIREMENTS

P-ATS

ATS 400A SERVICE ENTRANCE AUTOMATIC TRANSFER SWITCH 4W, 3 POLE NEMA 12 PROGRAMMABLE OPEN TRANSITION

400/3 N G #1/0

P-MDP

MDP MAIN DISTRIBUTION PANEL - 480Y/277V, THREE PHASE - M.L.O

N G SPD SURGE PROTECTIVE DEVICE

400/3

BUSSED SPACE - SEE PANEL SCHEDULE

125/3

EXISTING OFFICE BUILDING

P-TSP

TS 75 kVA 480-208Y/120V

P-TSS

DISTRIBUTION PANEL - 400 AMP - SQUARE-D I-LINE - 208Y/120V - OFFICE BUILDING

200/3 200/3 100/3 100/3

SWITCHBOARD - SQUARE-D - 208Y/120V - OFFICE BUILDING

100/3 100/3 70/3 70/3

P-TPS

1 DEWATERING BUILDING 208Y/120V 3-PH,4W 200A

2 OFFICE PANEL 208Y/120V 3-PH,4W 125A SQ-D NQOB 30 CKT

PANEL SP 208Y/120V 3-PH,4W 70A

PANEL SH 208Y/120V 3-PH,4W 70A

1 E10.1 GROUNDING ELECTRODE SYSTEM PER NEC ART. 250

GEN P-GEN 250/3 GEN STANDBY DIESEL GENERATOR IN SOUND ATTENUATED OUTDOOR ENCLOSURE WITH SUB BASE DIESEL FUEL TANK 480Y/277V 3-PHASE 125kW / 156kVA

P-MCC

MCC MOTOR CONTROL CENTER - 480V, THREE PHASE, 4 WIRE - BLOWER BUILDING

POWER MONITOR

400/3 (3) 400:5 N G SPD SURGE PROTECTIVE DEVICE

100/3 4

30/3 30/3 30/3 30/3

20/3 20/3 15/3 15/3 15/3 L/R VFD

60/3 35/3 35/3 35/3 35/3 20/3 L/R VFD

70/2 T1 25 kVA 480-120/240V LOAD CENTER 120/240V LP1

P-HPDW P-TCP1 P-TCP2 P-TCP3 P-DW-1 P-2W-P1 P-2W-P2 P-WP1 P-WP2 P-SD1 P-ICP P-BL1 P-BL2 P-BL3 P-BL4 P-DB

CELL 1 CONTROL PANEL TCP-1 TRAIN NO. 1 3

CELL 2 CONTROL PANEL TCP-2 TRAIN NO. 2 3

CELL 3 CONTROL PANEL TCP-3 TRAIN NO.3

DEWATERING SKID CONTROL PANEL DW-1 DEWATERING SKID

5 2W-P1 2W WATER PUMP NO.1

5 2W-P2 2W WATER PUMP NO.2

3 WP-1 WAS PUMP NO.1

3 WP-2 WAS PUMP NO.2/SWING PUMP

3 SD-1 SLUDGE PUMP

J 20 BL-1 AERATION BLOWER NO.1

J 20 BL-2 AERATION BLOWER NO.2

J 20 BL-3 AERATION BLOWER NO.3

J 20 BL-4 AERATION BLOWER NO.4

J 5 DB DIGESTER BLOWER

5 HPDW DEWATERING BUILDING - 480V THREE PHASE, 3 WIRE, NEMA 4X T316SS

100/3 20/3 50/3 20/3 30/3

12.5 kW UH-1 UNIT HEATER NO.1

P-TDW T-DW 5 30 kVA 480-208Y/120V P-LPDW

DEWATERING BUILDING 208Y/120V 3-PH,4W 125A BUS 100A MCB

HPDW 5 1

P-DSP DSP O.L. DEWATERING SUMP CONTROL PANEL - 480V, NEMA 4X T316SS P-DWP 1.8 DWP DEWATERING SUMP PUMP

P-LLCP 6

LLCP LEVEL LODOR CONTROL PANEL - 480V, NEMA 4X T316SS

30/3 O.L. O.L. O.L. 120V CONTROL POWER

P-LLM P-C1 P-HSM

XP 3 LLM LEVEL LODOR MOTOR

3 C1M CONVEYOR MOTOR

3 HSM HOIST MOTOR

IPS INFLUENT PUMP STATION CONTROL PANEL - 480V, THREE PHASE, 3 WIRE, NEMA 4X SS

60/3 15/3 15/3 20/3 20/3 30/2 O.L. T2 10 kVA 480-120/240V LOAD CENTER 120/240V LP2

P-IP1 P-IP2 P-IP3 P-IP4

(TYP) 3

3 IP-1 INFLUENT PUMP NO.1

3 IP-2 INFLUENT PUMP NO.2

5 IP-3 INFLUENT PUMP NO.3

5 IP-4 INFLUENT PUMP NO.4

KEY NOTES:

1. DEMO EXISTING 208Y/120V TREATMENT PANEL AND REPLACE WITH NEW 208Y/120V PANEL 'HPDW' IN NEW DEWATERING BUILDING. SEE PANEL SCHEDULES.
2. ADD NEW CIRCUITS TO EXISTING OFFICE PANEL FOR NEW LAB CIRCUITS - SEE PANEL SCHEDULE. VERIFY RATING AND PANEL CAPACITY.
3. ROUTE NEW 480V 30 AMP TRAIN 1 AND 2 PANEL POWER FEEDERS TO EXISTING MCC BREAKERS.
4. PROVIDE NEW 480V 100 AMP CIRCUIT BREAKER BUCKET IN EXISTING MCC. PROVIDE NEW POWER FEEDER IN SPARE CONDUIT FROM MCC TO NEW 480V PANEL 'HPDW' IN DEWATERING BUILDING. PANEL AND MCC BREAKER TERMINALS RATED 75 DEG C.
5. PROVIDE NEW 480V THREE PHASE DISTRIBUTION PANEL 'HPDW', DRY TRANSFORMER 'T-DW' AND 208Y/120V THREE PHASE LIGHTING PANEL IN NEW DEWATERING BUILDING.
6. PROVIDE NEW 480V THREE PHASE POWER FEEDER TO NEW LEVEL LODER PANEL.

ELECTRICAL ONE LINE DIAGRAM

SCALE: NONE

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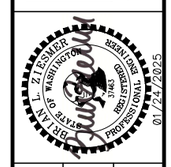

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
ELECTRICAL ONE LINE DIAGRAM

DATE 01-24-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

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ID	VOLTAGE	CONDUIT	WIRE QTY	SIZE	GND	FROM	TO	NOTES
P-UH1	480V	1"	3	#12 AWG	#12 AWG	POWER PANEL 'HPDW'	DEWATERING BUILDING UNIT HEATER	
P-DWP	480V	1"	3	#12 AWG	#12 AWG	DEWATERING SUMP STARTER PANEL	DEWATERING SUMP MOTOR - 1.8 HP	
P-DSP	480V	1"	3	#12 AWG	#12 AWG	480V POWER PANEL 'HPDW'	DEWATERING SUMP STARTER PANEL	
P-HPDW	480V	1"	3	#3 AWG	#8 AWG	NEW MCC BREAKER	DEWATERING BUILDING NEW PANEL 'HPDW'	
P-TCP1	480V	1"	3	#10 AWG	#10 AWG	EXISTING MCC BREAKER	TRAIN NO.1 CONTROL PANEL	480V 30AMP FEEDER
P-TCP2	480V	1"	3	#10 AWG	#10 AWG	EXISTING MCC BREAKER	TRAIN NO.2 CONTROL PANEL	480V 30AMP FEEDER
P-LLCP	480V	1"	3	#10 AWG	#10 AWG	480V POWER PANEL 'HPDW'	LEVEL LODOR CONTROL PANEL	480V 30AMP FEEDER
P-HSM	480V	1"	3	#12 AWG	#12 AWG	LEVEL LODOR CONTROL PANEL	HOIST MOTOR AND DISCONNECT	
P-C1M	480V	1"	3	#12 AWG	#12 AWG	LEVEL LODOR CONTROL PANEL	CONVEYOR MOTOR AND DISCONNECT	
P-LLM	480V	1"	3	#12 AWG	#12 AWG	LEVEL LODOR CONTROL PANEL	LEVEL LODOR MOTOR AND DISCONNECT	
P-TDW	480V	1"	3	#6 AWG	#10 AWG	480V POWER PANEL 'HPDW'	TRANSFORMER 'TDW'	480V-208Y/120V 30 KVA
P-LPDW	208/120V	1-1/2"	4	#1 AWG	#8 AWG	TRANSFORMER 'TDW'	LIGHTING PANEL 'LPDW'	100A PANEL FEED
P-VSP	208V	1"	3	#12 AWG	#12 AWG	LIGHTING PANEL 'LPDW'	EXISTING VERTICAL SCREW PRESS	EXISTING, REDUNDANT SPARE
P-PFP	120V	1"	2	#12 AWG	#12 AWG	LIGHTING PANEL 'LPDW'	POLYMER FEED PUMP RECEPTACLE	
P-VCP	120V	1"	2	#12 AWG	#12 AWG	LIGHTING PANEL 'LPDW'	VENTILATION CONTROL PANEL	
P-DWCP	120V	1"	2	#12 AWG	#12 AWG	LIGHTING PANEL 'LPDW'	DEWATERING BLDG PLC CONTROL PANEL	
P-EF1	120V	1"	2	#14 AWG	#14 AWG	VENTILATION CONTROL PANEL	EXHAUST FAN AND DISCONNECT	
P-2WS	120V	1"	2	#12 AWG	#12 AWG	MCC LIGHTING PANEL - GFEP	2W RECEPTACLE IN ENCLOSURE	FOR HEAT TRACE
P-CFS1	120V	1"	4	#12 AWG	#12 AWG	MCC LIGHTING PANEL	CARBON FEED STATION NO.1 RECEPTACLE	FEED PUMP
P-CFS2	120V	1"	2	#12 AWG	#12 AWG	MCC LIGHTING PANEL	CARBON FEED STATION NO.2 RECEPTACLE	FEED PUMP
P-ISMP	120V	1"	2	#12 AWG	#12 AWG	PANEL 'LPDW'	INFLUENT SAMPLER RECEPTACLE	INFLUENT SAMPLER POWER
P-AFS1	120V	1"	2	#12 AWG	#12 AWG	PANEL 'LPDW'	ALKALINITY FEED STATION RECEPTACLE	FEED PUMP
SPARE	AC	1"	---	---	PULL STRING	AS INDICATED	AS INDICATED	

POWER SCHEDULE

SCALE: NONE

ID	VOLTAGE	CONDUIT	WIRE QTY	SIZE	GND	FROM	TO	DESCRIPTION
C-AFS	120VAC	1"	2	#14 AWG	#14 AWG	AIR FLOW SWITCH	VENTILATION CONTROL PANEL	N.C. CONTACT FOR AIR FLOW STATUS
C-UH1	24VDC	1"	AS REQ'D	AS REQ'D	AS REQ'D	THERMOSTAT	UNIT HEATER	THERMOSTAT CONTROL WIRING
C-LBN	24VDC	1"	4	#14 AWG	#14 AWG	VENTILATION CONTROL PANEL	LIGHT BOX - DEWATER BLDG NORTH DOOR	INDICATOR LIGHTS
C-LBS	24VDC	1"	4	#14 AWG	#14 AWG	VENTILATION CONTROL PANEL	LIGHT BOX - DEWATER BLDG SOUTH DOOR	INDICATOR LIGHTS
C-DSP	24VDC	1"	10	#14 AWG	#14 AWG	DEWATERING BLDG PLC CONTROL PANEL	DEWATERING SUMP STARTER PANEL	STATUS AND CONTROL SIGNALS - CONFIRM QTY
C-INT	24VDC	1/2"	4	#14 AWG	#14 AWG	DEWATERING BLDG PLC CONTROL PANEL	DOOR INTRUSION SWITCHES	DOOR SWITCHES
C-SMK	24VDC	1/2"	4	#14 AWG	#14 AWG	DEWATERING BLDG PLC CONTROL PANEL	SMOKE DETECTOR	DETECTOR POWER AND SIGNAL
C-LL	120VAC	1"	AS REQD	PER MANUF	PER MANUF	MOTION, TORQUE, ESTOP AS REQ'D	LEVEL LODOR CONTROL PANEL	CONTROL WIRING AS REQ'D BY MANUFACTURER
C-TCP1A	120VAC	1"	12	#14 AWG	#14 AWG	DEWATERING BLDG PLC CONTROL PANEL	TRAIN NO.1 CONTROL PANEL	120V AC RELAY SIGNALS FOR AUTO CONTROL
C-DWP	120VAC	1"	6	#14 AWG	#14 AWG	DEWATERING SUMP FLOAT SWITCHES	DEWATERING SUMP STARTER PANEL	FLOAT SWITCHES
C-TCP1D	24VDC	1"	16	#14 AWG	#14 AWG	DEWATERING BLDG PLC CONTROL PANEL	TRAIN NO.1 CONTROL PANEL	S&L RELAYS - DC INPUT STATUS SIGNALS
C-TCP2A	120VAC	1"	12	#14 AWG	#14 AWG	DEWATERING BLDG PLC CONTROL PANEL	TRAIN NO.2 CONTROL PANEL	120V AC RELAY SIGNALS FOR AUTO CONTROL
C-TCP2D	24VDC	1"	16	#14 AWG	#14 AWG	DEWATERING BLDG PLC CONTROL PANEL	TRAIN NO.2 CONTROL PANEL	S&L RELAYS - DC INPUT STATUS SIGNALS
C-VCP	24VDC	1"	4	#14 AWG	#14 AWG	VENTILATION CONTROL PANEL	DEWATERING BLDG PLC CONTROL PANEL	VENTILATION PANEL STATUS TO PLC
	---	---	1	#18TSP	SHIELD	VENTILATION CONTROL PANEL	DEWATERING BLDG PLC CONTROL PANEL	VENTILATION MOTOR AMPS
S-AE1	24VDC	1"	4	#14 AWG	#14 AWG	DEWATERING BLDG PLC CONTROL PANEL	GAS DETECTORS	24VDC POWER TO SENSORS
	---	---	2	#18TSP	SHIELD	DEWATERING BLDG PLC CONTROL PANEL	GAS DETECTORS	GAS LEVEL 4-20 MA SIGNALS TO PLC
S-2WPT	24VDC	1"	1	#18TSP	SHIELD	2W SHELTER PRESSURE SENSOR	BLOWER BUILDING MAIN PLC CONTROL PANEL	RELOCATED SENSOR
S-LL	24VDC	1"	AS REQD	PER MANUF	PER MANUF	LEVEL SENSOR	LEVEL LODOR CONTROL PANEL	FM RATED FOR CLASS I, DIV2
S-DO1	24VDC	1"	4	#18TSP	SHIELD	DEWATERING BLDG PLC CONTROL PANEL	DO TRANSMITTERS -TRAIN 1	BASINS DO, SPARES FOR FUTURE Ph
S-TCP1	24VDC	1-1/2"	12	#18TSP	SHIELD	DEWATERING BLDG PLC CONTROL PANEL	ANALOG I/O TO TRAIN 1 DEVICES	2-DO, 2-BV1, 2-BV2, 2-DO2BV, 2-WEIR LEVEL, 2-SPARE
S-DO2	24VDC	1"	4	#18TSP	SHIELD	DEWATERING BLDG PLC CONTROL PANEL	DO TRANSMITTERS -TRAIN 2	BASINS DO, SPARES FOR FUTURE Ph
S-TCP2	24VDC	1-1/2"	12	#18TSP	SHIELD	DEWATERING BLDG PLC CONTROL PANEL	ANALOG I/O TO TRAIN 2 DEVICES	2-DO, 2-BV1, 2-BV2, 2-DO2BV, 2-WEIR LEVEL, 2-SPARE
E-DWCP	24VDC	1"	1	CAT6	SHIELD	DEWATERING BLDG PLC CONTROL PANEL	BLOWER BUILDING MAIN PLC CONTROL PANEL	NETWORK CONNECTION
E-LLCP	24VDC	1"	1	CAT6	SHIELD	DEWATERING BLDG PLC CONTROL PANEL	LEVEL LODOR CONTROL PANEL	NETWORK CONNECTION
SPARE	DC	1"	---	---	PULL STRING	AS INDICATED	AS INDICATED	

CONTROL AND SIGNAL SCHEDULE

SCALE: NONE

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
CONDUIT AND CONDUCTOR SCHEDULES

DATE	SCALE	JOB NUMBER
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KEY NOTES:

1. MCC AND PANEL HPDW 100A 480V BREAKER SHALL BE UL489 WITH 75 DEG C LUGS.
2. BLOWER VFDS SHALL BE PROGRAMMED TO OPERATE AT MAX 45 HZ ON GENERATOR POWER.
3. DEWATERING EQUIPMENT SHALL BE DISABLED FROM OPERATING ON GENERATOR POWER.
4. EQUIPMENT IS REDUNDANT AND WILL NOT OPERATE DURING NORMAL OPERATION.

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LOAD CALCULATIONS

EQUIPMENT NO.	EQUIPMENT DESCRIPTION	CONNECTED LOAD HP/kVA	CONNECTED LOAD AMPS @ 480V	DEMAND FACTOR	DEMAND LOAD AMPS	GENERATOR FACTOR	GENERATOR LOAD AMPS	
TCP-1	TRAIN 1 TREATMENT PANEL	13.3 KVA	16.0	1.00	16.0	1	16.0	
TCP-2	TRAIN 2 TREATMENT PANEL	13.3 KVA	16.0	1.00	16.0	1	16.0	
TCP-3	TRAIN 3 TREATMENT PANEL	13.3 KVA	16.0	1.00	16.0	1	16.0	
2W-P1	2W WATER PUMP 1	5 HP	7.6	1.00	7.6	1	7.6	
2W-P2	2W WATER PUMP 2	5 HP	7.6	1.00	7.6	0	0.0	
IP-1	INFLUENT PUMP 1	2.7 HP	3.2	1.00	3.2	1	3.2	
IP-2	INFLUENT PUMP 2	2.7 HP	3.2	1.00	3.2	0	0.0	
IP-3	INFLUENT PUMP 3	5 HP	6.7	1.00	6.7	0	0.0	
IP-4	INFLUENT PUMP 4	5 HP	6.7	1.00	6.7	0	0.0	
BL-1	AERATION BLOWER 1 - TRAIN 1	20 HP	23.0	1.00	23.0	0.75	17.3	
BL-2	AERATION BLOWER 2 - TRAIN 2	20 HP	23.0	1.00	23.0	0.75	17.3	2
BL-3	AERATION BLOWER 3 - TRAIN 3	20 HP	23.0	1.00	23.0	0.75	17.3	
BL-4	AERATION BLOWER 4 - BACKUP	20 HP	23.0	4 0.00	0.0	0.00	0.0	
DB	DIGESTER BLOWER	5 HP	5.9	1.00	5.9	1	5.9	
WP-1	WAS PUMP 1	3 HP	4.8	1.00	4.8	1	4.8	
WP-2	WAS PUMP 2 - SWING PUMP	3 HP	4.8	4 0.00	0.0	0	0.0	
SD-1	SLUDGE PUMP	3 HP	4.8	1.00	4.8	0	0.0	
3 DW-1	FKC DEWATERING SKID	9.4 KVA	11.3	1.00	11.3	0	0.0	
LP-LAB	EXISTING LAB PANEL	20 KVA	24.0	1.00	24.0	0.50	12.0	
LP-1	MCC LOAD CENTER LP1	15 KVA	18.0	1.00	18.0	1.00	18.0	
LP-2	INFLUENT CONTROL PANEL LP2	5 KVA	6.0	1.00	6.0	1.00	6.0	
HPDW	DEWATERING BUILDING 480V PANEL	39.1 KVA	47.0	1.00	47.0	0.50	23.5	3
TOTAL			301.6		273.8		180.8	

LOAD CALCULATION - 480V THREE PHASE
SCALE: NONE

PANEL: LP1 - BLOWER BUILDING MCC			PANEL SCHEDULE								PROJECT: EASTSOUND WWTP - PHASE 2	
120/240V, 1Ph, 3W.			100A Bus				100A M.C.B.				SURFACE MOUNTED	
CKT NO	DESCRIPTION / LOCATION	LOAD (VA)	LOAD TYPE	C.B. AMP	C.B. POLE	PHASE	C.B. POLE	C.B. AMP	LOAD TYPE	LOAD (VA)	DESCRIPTION / LOCATION	CKT NO
1	BLOWER ROOM RECEPTACLES	900	R	20	1	A	1	20	C	1,000	MAIN CONTROL PANEL	2
3	LOUVER AND HVAC CONTROL	500	M	20	1	B	1	20	L	239	BLOWER BUILDING LIGHTING	4
5	EXHAUST FAN EF-1 (BLOWER BUILDING)	1,127	M	20	1	A	1				SPARE	6
7	EXHAUST FAN EF-2 (BLOWER BUILDING)	1,127	M	20	1	B	1	20	H	1,300	GENERATOR - HEATER AND BATTERY CHGR	8
9	UV1 POWER	2,520	C	30	1	A	1	20	H	1,000	HOT BOX 1 - GFEP	10
11	UV2 POWER	2,520	C	30	1	B	1	20	H	1,000	HOT BOX 2 - GFEP	12
13	UV1 CONTROLLER	600	C	20	1	A	1	20	G	500	EFFLUENT SAMPLER	14
15	UV2 CONTROLLER	600	C	20	1	B	1	20	M	500	HYPOCHLORITE FEED PUMP	16
17	***CARBON FEED STATION TRAIN 1***	***500***	***R***	***20***	***1***	**A**	1	20			SPARE	18
19	***CARBON FEED STATION TRAIN 2***	***500***	***R***	***20***	***1***	**B**					SPACE	20
21	CARBON FEED STATION TRAIN 3	500	R	20	1	A					SPACE	22
23	***2W SHELTER RECEPTACLE***	***500***	***R***	***20***	***1***	**B**					SPACE	24

TOTAL CONNECTED LOAD:	PH A	8,647 VA	72.1 AMPS			DATE: JANUARY 22, 2025	
TOTAL CONNECTED LOAD:	PH B	8,786 VA	73.2 AMPS				
MAX PHASE CONNECTED LOAD:	PH B	8,786 VA		PANEL RATING:	10,000 AIC		
TOTAL CONNECTED LOAD (2 x MAX):		17.6 kVA	73.2 AMPS	TOTAL DEMAND LOAD:	19.3 kVA	80.4 AMPS	

BLOWER BUILDING - MCC 120V PANEL 'LP1' SCHEDULE(E)
SCALE: NONE

PANEL: LPDW			PANEL SCHEDULE								PROJECT: EASTSOUND WWTP - PHASE 2	
208Y/120V, 3Ph, 4W.			125A Bus				100A M.C.B.				SURFACE MOUNTED	
CKT NO	DESCRIPTION / LOCATION	LOAD (VA)	LOAD TYPE	C.B. AMP	C.B. POLE	PHASE	C.B. POLE	C.B. AMP	LOAD TYPE	LOAD (VA)	DESCRIPTION / LOCATION	CKT NO
1	RECEPTACLES - BUILDING INTERIOR 1	540	R	20	1	A	1	20	L	400	LIGHTING - BUILDING INTERIOR	2
3	RECEPTACLES - BUILDING INTERIOR 2	540	R	20	1	B	1	20	L	240	LIGHTING - BUILDING EXTERIOR	4
5	RECEPTACLES - BUILDING EXTERIOR 1	540	R	20	1	C	1	20			SPARE	6
7	RECEPTACLES - BUILDING EXTERIOR 2	540	R	20	1	A	3	20	N	1,441	VERTICAL PRESS CONTROL PANEL (BACKUP)	8
9	EXISTING POLYMER FEED RECEPTACLE	180	R	20	1	B	---	---	N	1,441	---	10
11	DEWATERING PLC CONTROL PANEL	1,000	C	20	1	C	---	---	N	1,441	---	12
13	INFLUENT SAMPER STATION	500	H	20	1	A	1	20			SPARE	14
15	ALKALINITY FEED STATION	1,000	H	20	1	B	1	20			SPARE	16
17	VENTILATION CONTROL PANEL (WITH EF-1)	1,500	C	20	1	C	1	20			SPARE	18
19	SPARE			20	1	A					SPACE	20
21	SPARE			20	1	B					SPACE	22
23	SPARE			20	1	C					SPACE	24
25	SPARE			20	1	A					SPACE	26
27	SPARE			20	1	B					SPACE	28
29	SPARE			20	1	C					SPACE	30

TOTAL CONNECTED LOAD:	PH A	3,421 VA	28.5 AMPS			DATE: JANUARY 22, 2025	
TOTAL CONNECTED LOAD:	PH B	3,401 VA	28.3 AMPS				
TOTAL CONNECTED LOAD:	PH C	4,481 VA	37.3 AMPS				
MAX PHASE CONNECTED LOAD:	PH C	3,421 VA		PANEL RATING:	10,000 AIC		
TOTAL CONNECTED LOAD (3 x MAX):		10.3 kVA	28.5 AMPS	TOTAL DEMAND LOAD:	7.8 kVA	21.6 AMPS	

DEWATERING BUILDING - 208/120V PANEL 'LPDW' SCHEDULE
SCALE: NONE

PANEL: HPDW			PANEL SCHEDULE								PROJECT: EASTSOUND WWTP - PHASE 2	
480V 3 PHASE 3 WIRE			125A Bus				100A M.C.B. 1				SURFACE MOUNTED	
CKT NO	DESCRIPTION / LOCATION	LOAD (VA)	LOAD TYPE	C.B. AMP	C.B. POLE	PHASE	C.B. POLE	C.B. AMP	LOAD TYPE	LOAD (VA)	DESCRIPTION / LOCATION	CKT NO
1	MAIN BREAKER	---	---	100	3	A	3	50	S	3,421	TRANSFORMER T-DW	2
3	---	---	---	---	---	B	---	---	S	3,401	480-208Y/120V 30 KVA	4
5	---	---	---	---	---	C	---	---	S	4,481		6
7	DEWATERING BUILDING UNIT HEATER UH-1	4,167	H	20	3	A	3	30	M	5,542	LEVEL LODOR CONTROL PANEL 3	8
9	---	4,167	H	---	---	B	---	---	M	5,542	---	10
11	---	4,167	H	---	---	C	---	---	M	5,542	---	12
13	DEWATERING SUMP PUMP (1.8 HP 2.6 FLA)	720	M	20	3	A					SPACE	14
15	---	720	M	---	---	B					---	16
17	---	720	M	---	---	C					---	18

TOTAL CONNECTED LOAD:	PH A	13,850 VA	50.0 AMPS			DATE: JANUARY 22, 2025	
TOTAL CONNECTED LOAD:	PH B	13,830 VA	49.9 AMPS				
TOTAL CONNECTED LOAD:	PH C	14,910 VA	53.8 AMPS				
MAX PHASE CONNECTED LOAD:	PH C	13,850 VA		PANEL RATING:	22,000 AIC		
TOTAL CONNECTED LOAD (3 x MAX):		41.6 kVA	50.0 AMPS	TOTAL DEMAND LOAD:	39.1 kVA	47.0 AMPS	

DEWATERING BUILDING - 480V PANEL 'HPDW' SCHEDULE
SCALE: NONE

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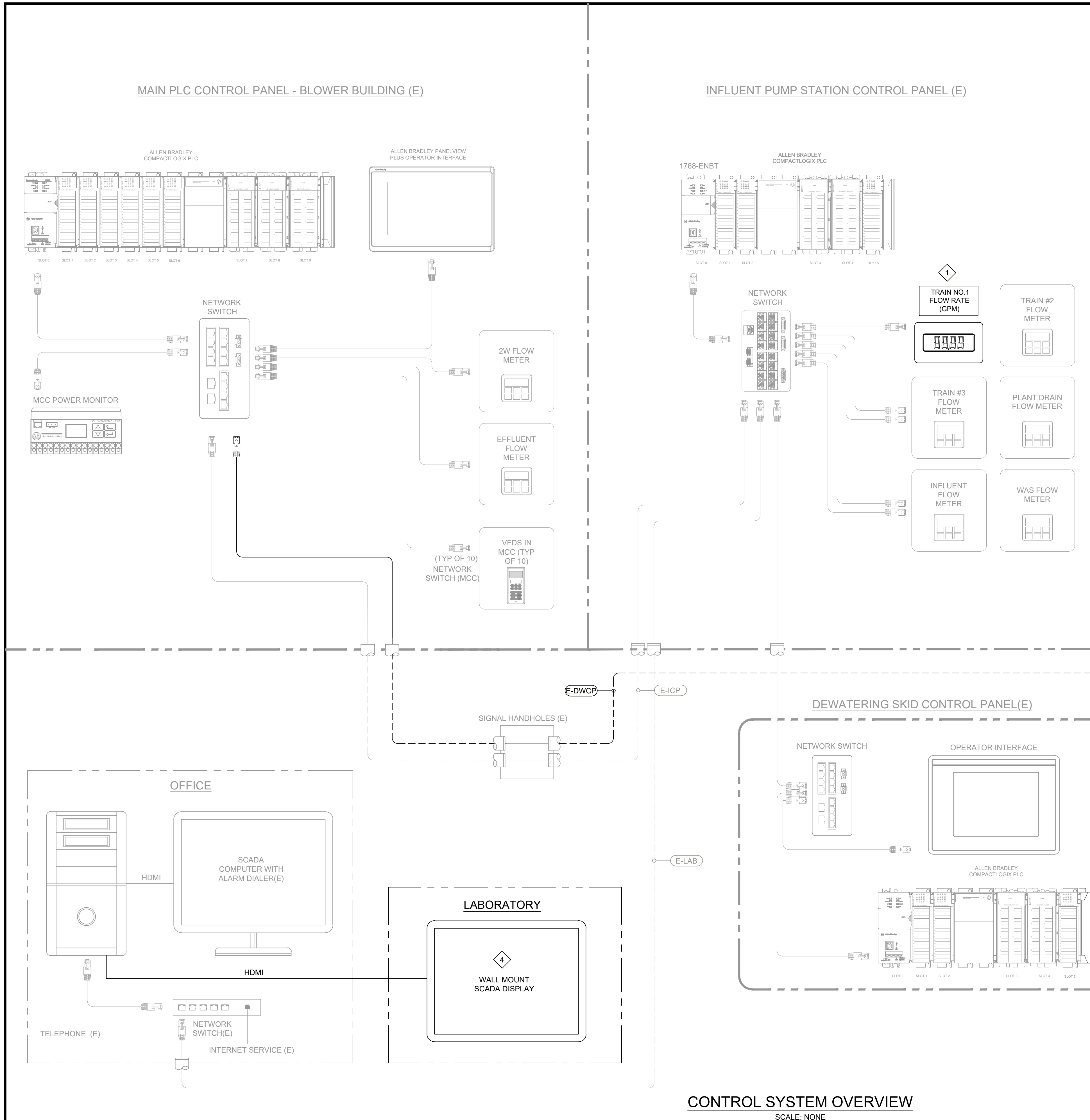
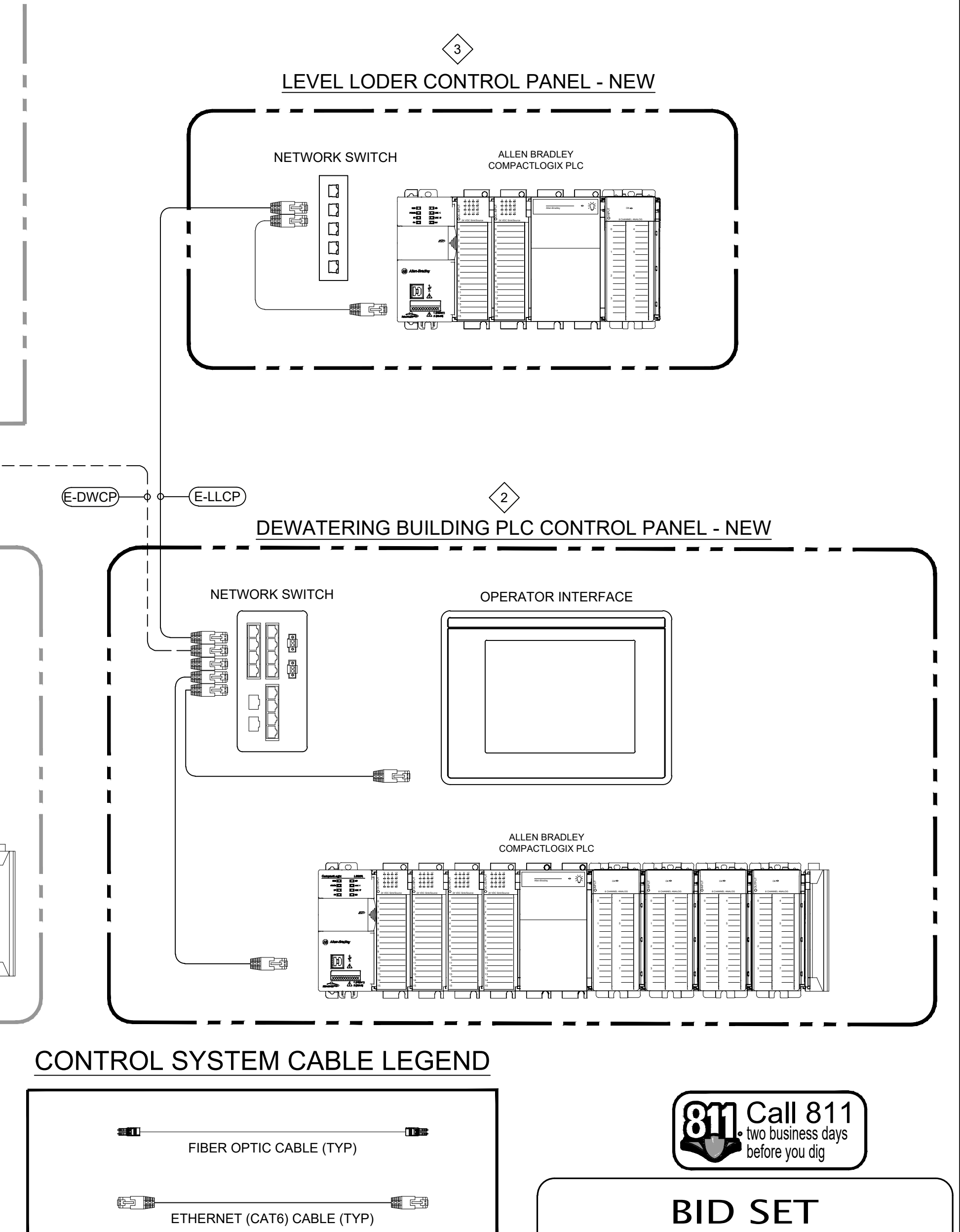
EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
ELECTRICAL PANEL SCHEDULES

DATE 01-24-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET E6.2 | PAGE 79 OF 91





CONTROL SYSTEM OVERVIEW

SCALE: NONE

GENERAL NOTES:

1. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM. ONLY MAJOR PANEL COMPONENTS ARE SPECIFIED.
2. ALL ETHERNET ENABLED EQUIPMENT SHALL BE CONNECTED TO CONTROL SYSTEM COMMUNICATION NETWORK. PROVIDE QUANITY OF PORTS AS REQUIRED.

KEY NOTES:

1. PROVIDE NEW LED PANEL METER IN INFLUENT CONTROL PANEL FOR CALCULATED TRAIN NO.1 FLOW. WIRE TO SPARE INFLUENT PLC ANALOG OUTPUT.
2. PROVIDE NEW DEWATERING BUILDING PLC CONTROL PANEL. WIRE TO NEW S&L LOCAL CONTROL PANELS FOR AUTOMATIC CONTROL FUNCTIONS AND REMOTE MONITORING. SIGNALS SHALL MATCH TRAIN NO.3 PANEL INSTALLED IN PHASE 1. WIRE CAT6 COMMUNICATIONS CABLE TO NETWORK SWITCH IN MAIN CONTROL PANEL IN BLOWER ROOM.
3. NEW LEVEL LODER CONTROL PANEL PROVIDED BY EQUIPMENT SUPPLIER TO MEET PROJECT SPECIFICATIONS AND EXISTING CONTROL SYSTEM STANDARDS. INSTALL PER MANUFACTURER REQUIREMENTS. WIRE CAT6 COMMUNICATIONS CABLE TO NETWORK SWITCH IN DEWATERING BUILDING PLC CONTROL PANEL FOR REMOTE SCADA MONITORING.
4. PROVIDE NEW SCADA MONITOR IN LABORATORY WITH WALL MOUNT ACCESSORIES.

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
CONTROL SYSTEM OVERVIEW

DATE 01-24-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

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SHEET E7.0
PAGE 80 OF 91

NO.	REVISIONS	BY	DATE

GENERAL NOTES:

1. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM. ONLY MAJOR PANEL COMPONENTS ARE SPECIFIED.

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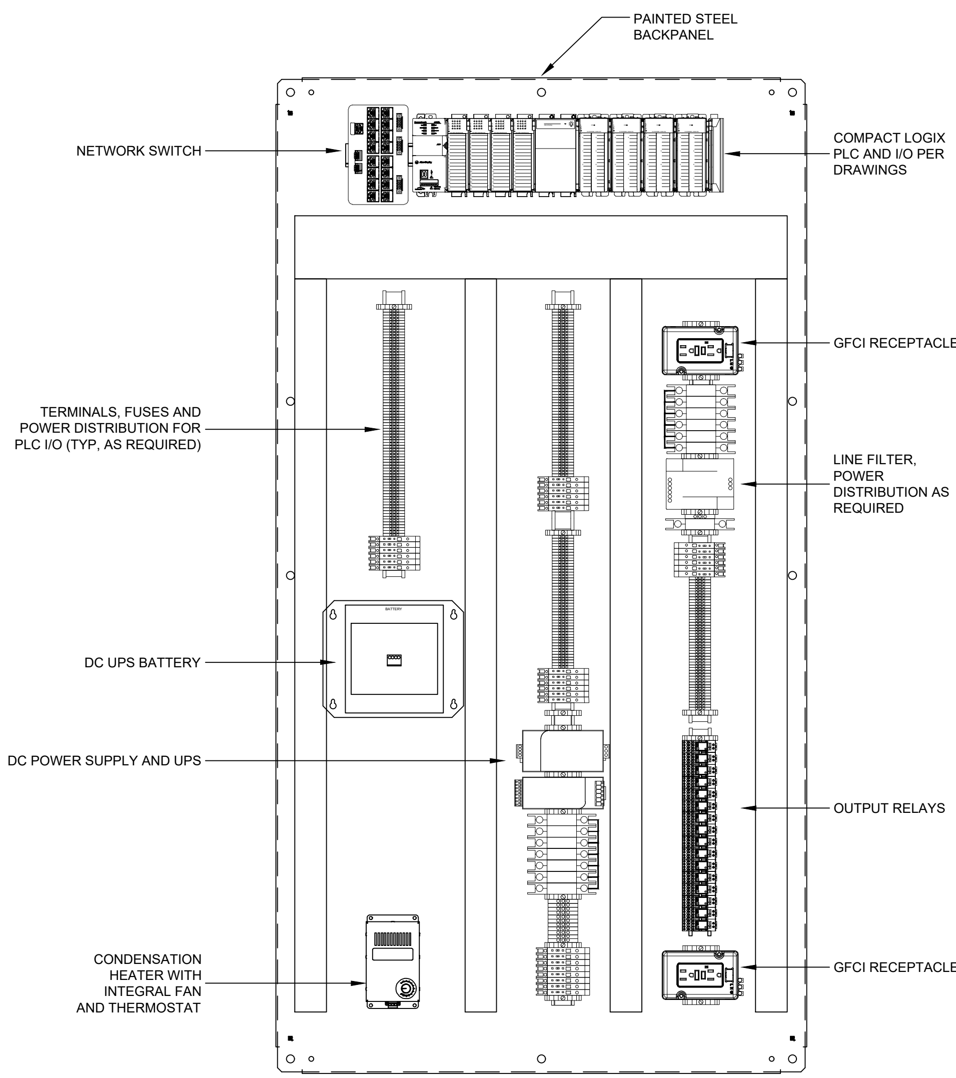

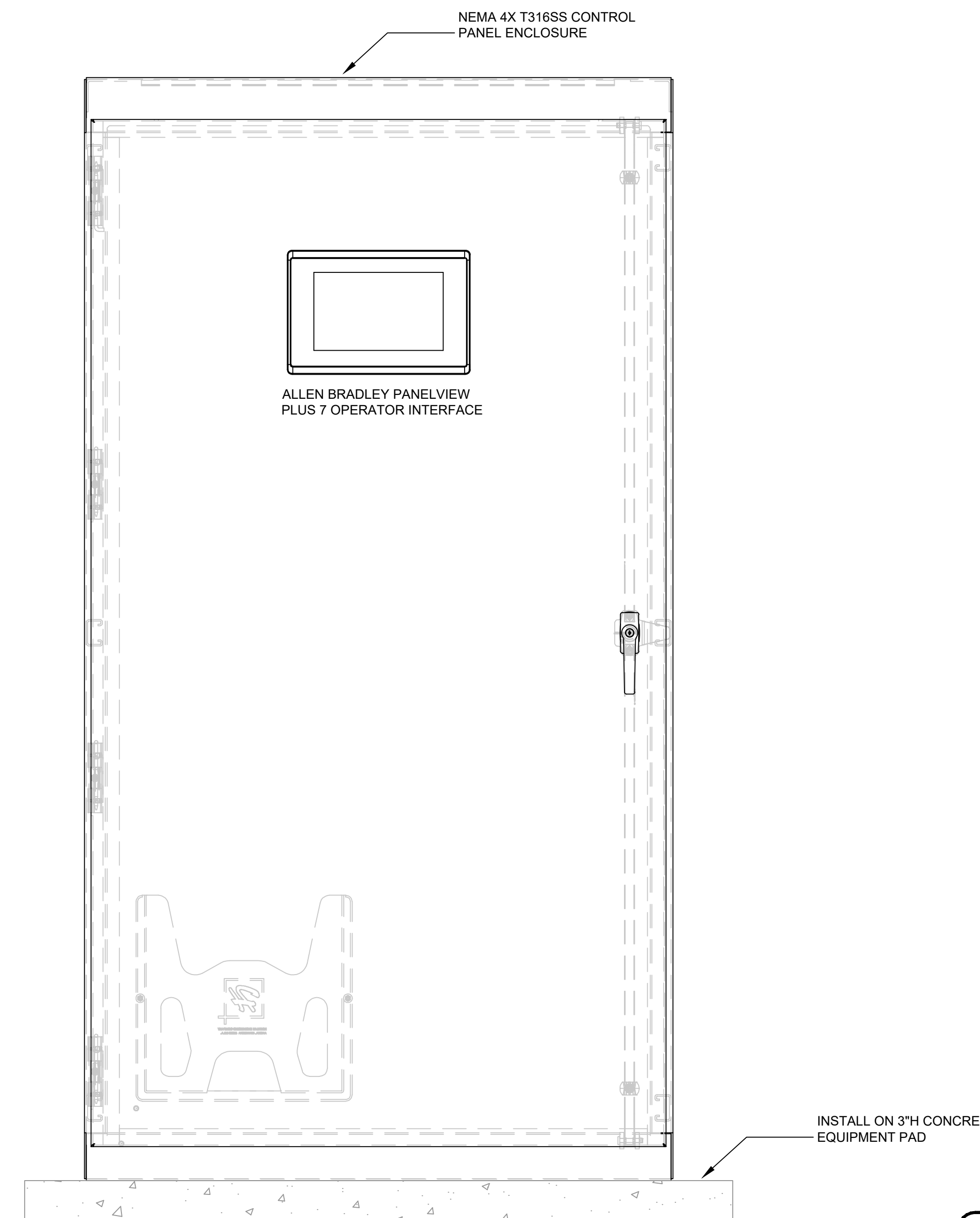

DEWATERING BUILDING PLC CONTROL PANEL ELEVATIONS

SCALE: NONE

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EASTSOUND SEWER AND WATER DISTRICT

SAN JUAN COUNTY WASHINGTON

WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2

DEWATERING BUILDING PLC CONTROL PANEL ELEVATION

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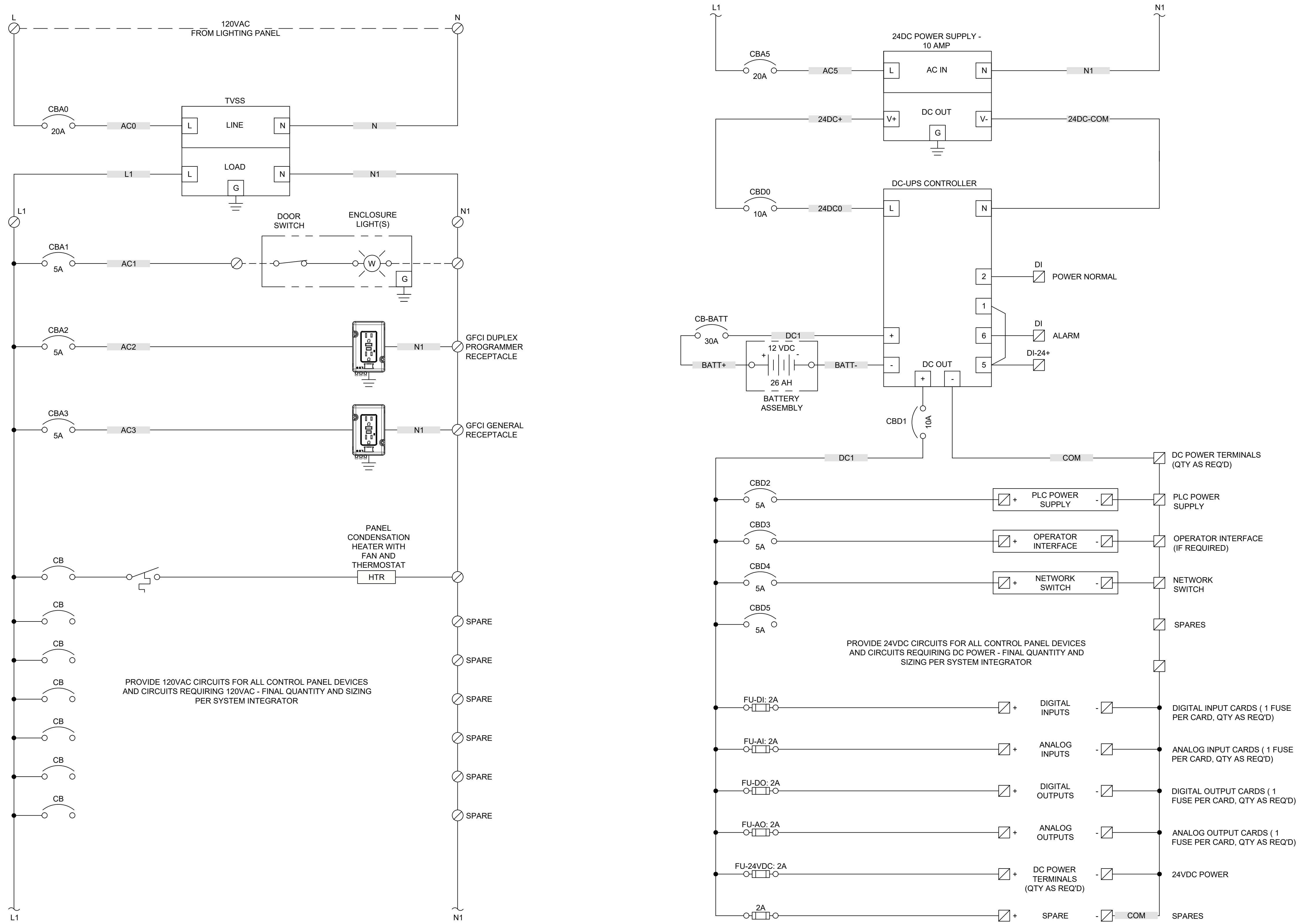
DATE	SCALE	JOB NUMBER
01-24-2025	AS SHOWN	2023-123

SHEET E7.1

GENERAL NOTES:

1. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM. ONLY MAJOR PANEL COMPONENTS ARE SPECIFIED.

NO.	REVISIONS	BY	DATE



DEWATERING BUILDING PLC CONTROL PANEL - POWER WIRING DIAGRAM

SCALE: NONE

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EASTSOUND SEWER AND WATER DISTRICT
SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING PLC CONTROL PANEL – POWER WIRING DIAGRAM

DATE 01-24-2025
SCALE AS SHOWN
JOB NUMBER 2023-123
SHEET E7.2
PAGE 82 OF 91

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GENERAL NOTES:

1. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM. ONLY MAJOR PANEL COMPONENTS ARE SPECIFIED.

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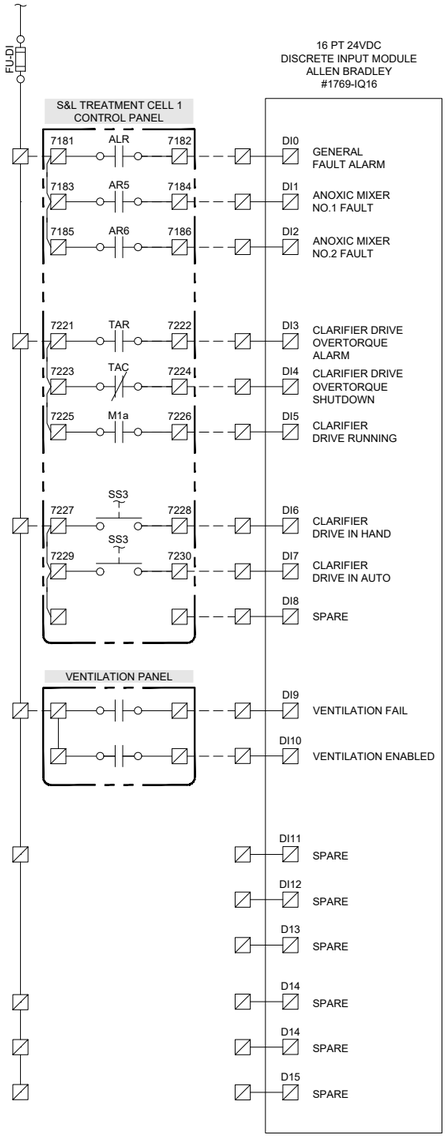

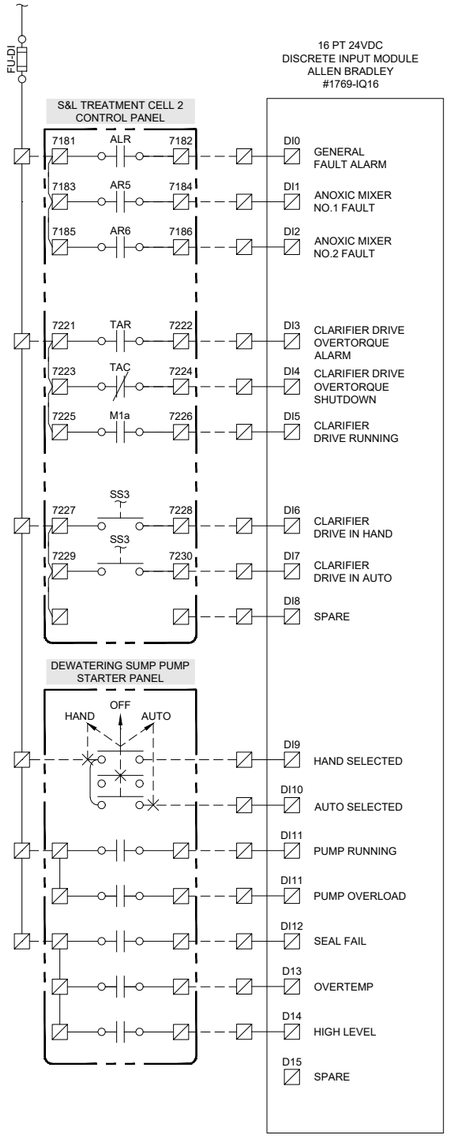

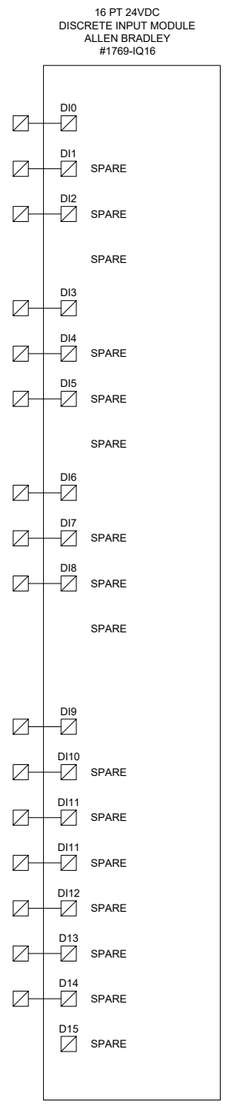

DEWATERING BUILDING PLC CONTROL PANEL - DIGITAL INPUTS
SCALE: NONE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING PLC CONTROL PANEL – DIGITAL INPUTS

DATE	SCALE	JOB NUMBER
01-24-2025	AS SHOWN	2023-123

SHEET	PAGE
E7.3	83 OF 91

NO.	REVISIONS	BY	DATE

GENERAL NOTES:

1. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM. ONLY MAJOR PANEL COMPONENTS ARE SPECIFIED.

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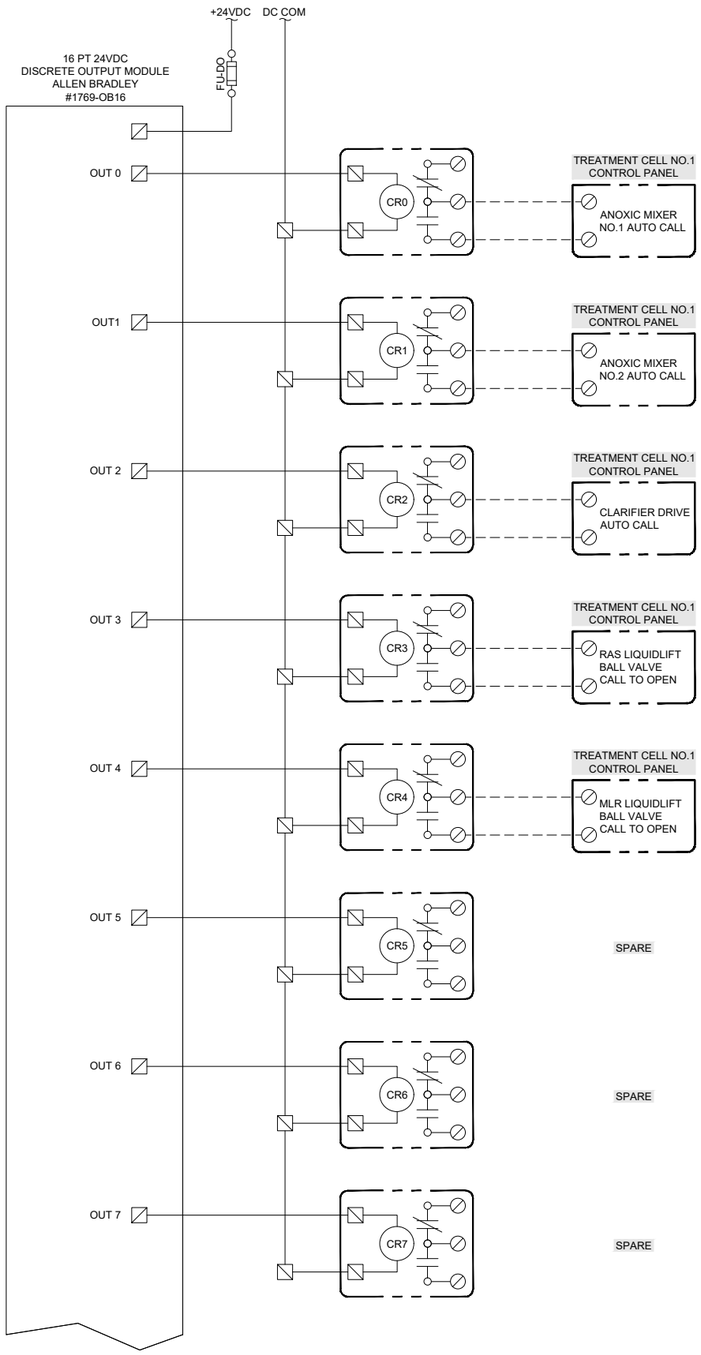

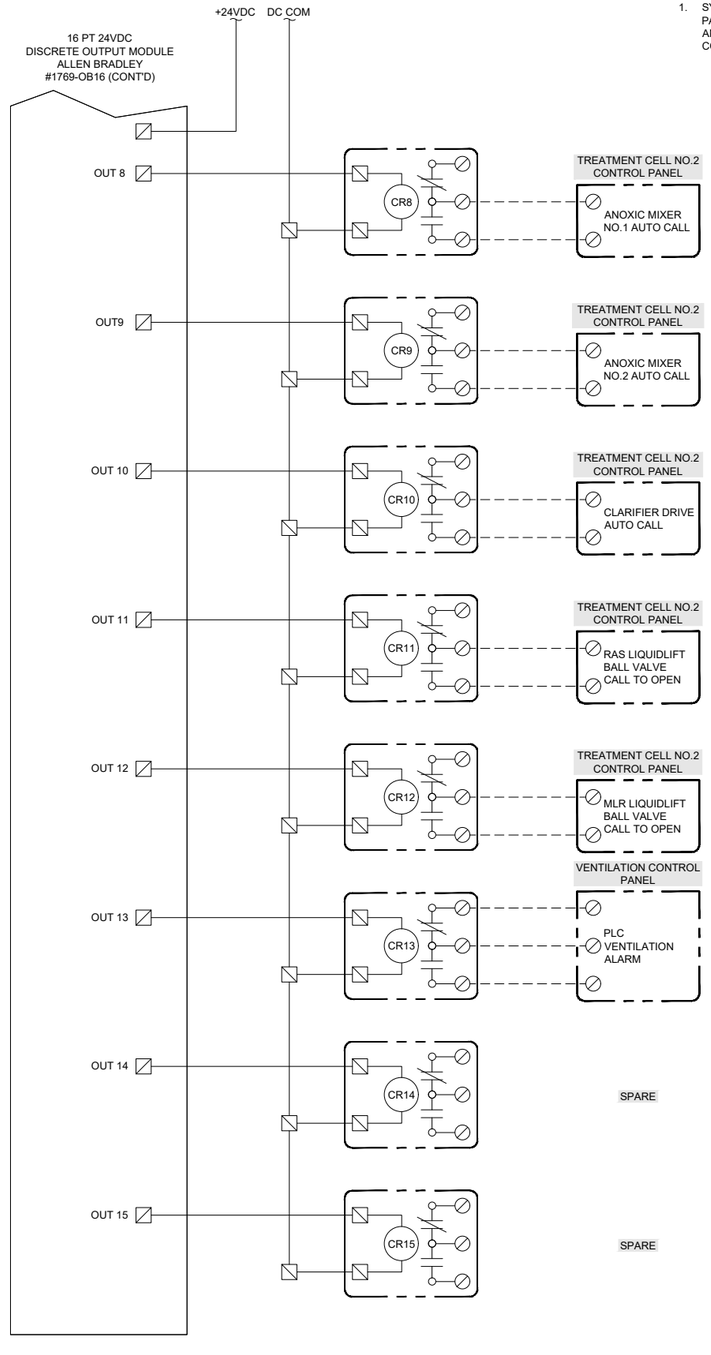

DEWATERING BUILDING PLC CONTROL PANEL - DIGITAL OUTPUTS
SCALE: NONE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING PLC CONTROL PANEL – DIGITAL OUTPUTS

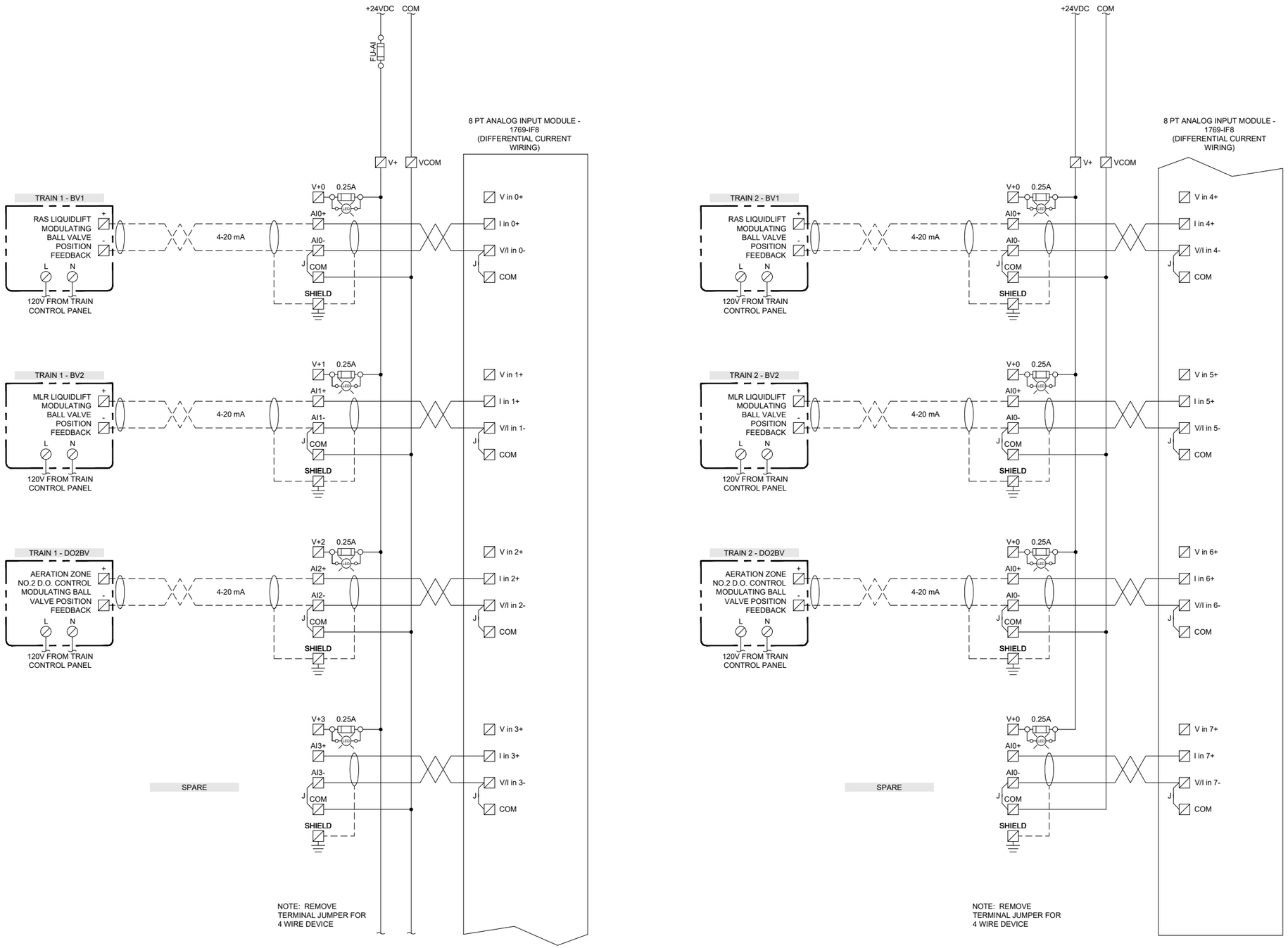
DATE	SCALE	JOB NUMBER
01-24-2025	AS SHOWN	2023-123

SHEET E7.4
PAGE 84 OF 91

NO.	REVISIONS	BY	DATE

GENERAL NOTES:

1. THESE SCHEMATICS SHOW FUNCTIONAL REQUIREMENTS OF THE PLC CONTROL PANEL. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM.



DEWATERING BUILDING PLC CONTROL PANEL - ANALOG INPUTS

SCALE: NONE

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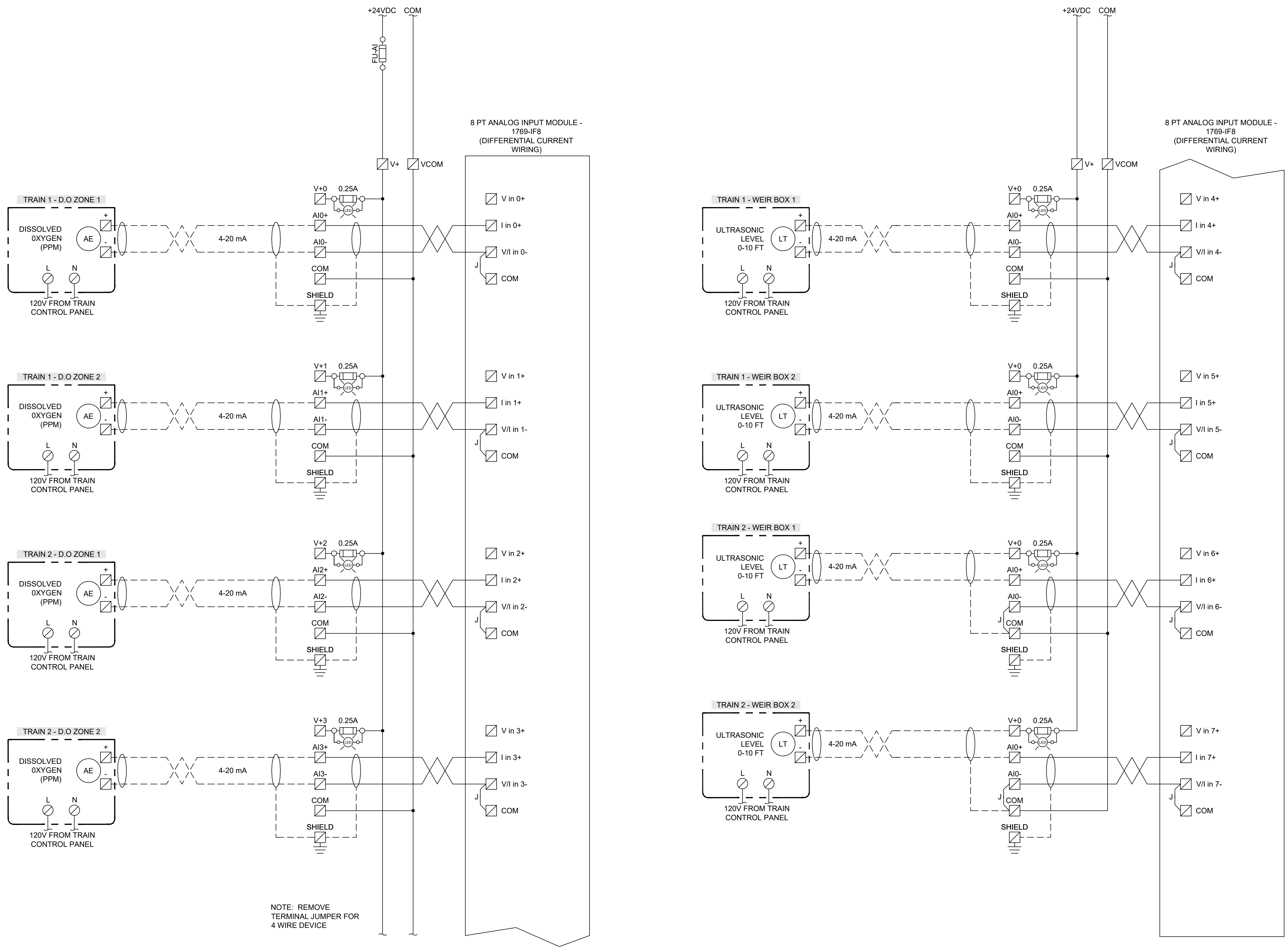
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING PLC CONTROL PANEL – ANALOG INPUTS – SHEET 1

DATE: 01-24-2025
SCALE: AS SHOWN
JOB NUMBER: 2023-123
SHEET: E7.5
PAGE: 85 OF 91

GENERAL NOTES:

1. THESE SCHEMATICS SHOW FUNCTIONAL REQUIREMENTS OF THE PLC CONTROL PANEL. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM.



DEWATERING BUILDING PLC CONTROL PANEL - ANALOG INPUTS

SCALE: NONE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING PLC CONTROL PANEL – ANALOG INPUTS – SHEET 2

DATE 01-24-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

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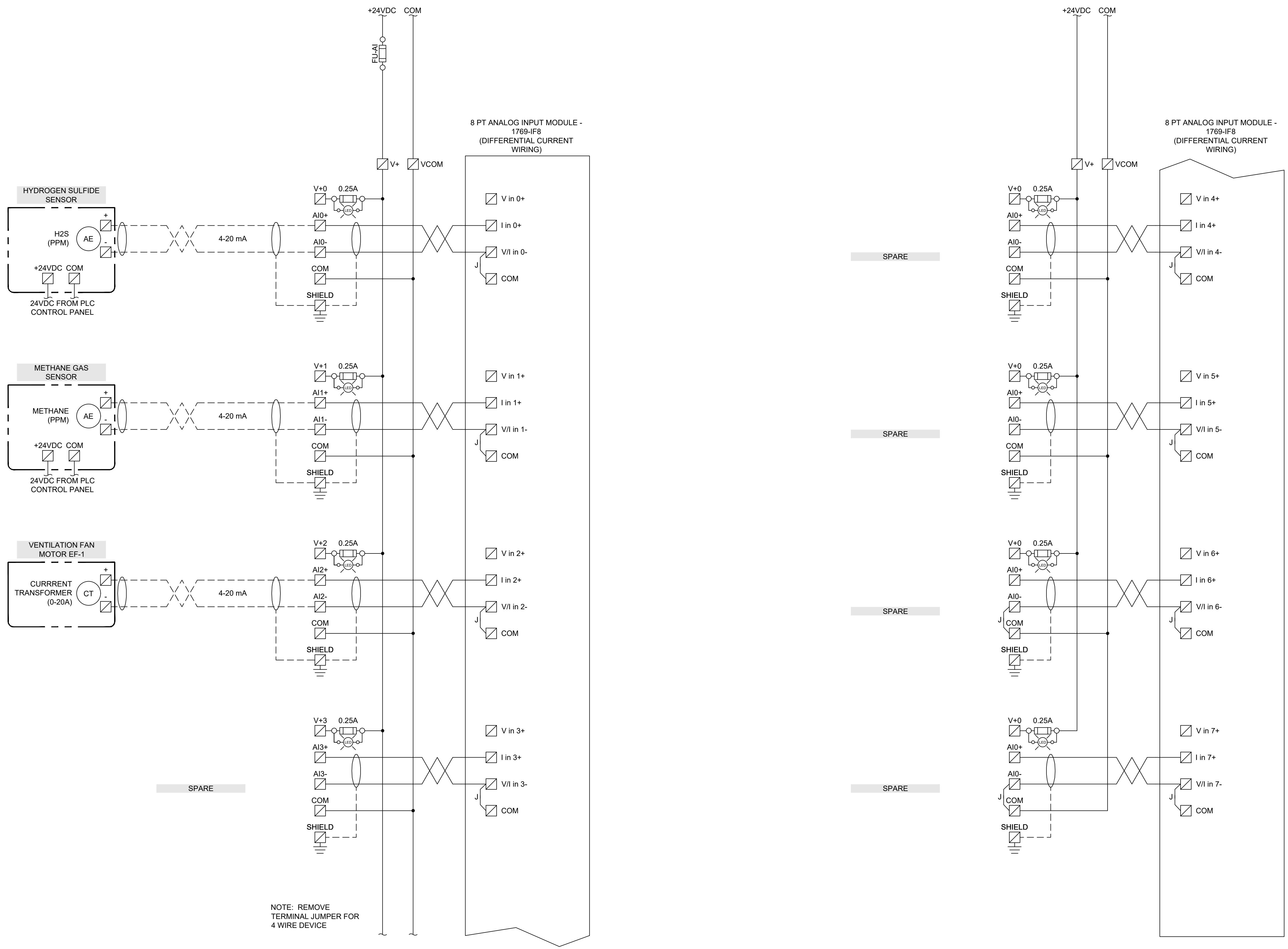
SHEET E7.6

GENERAL NOTES:

1. THESE SCHEMATICS SHOW FUNCTIONAL REQUIREMENTS OF THE PLC CONTROL PANEL. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM.



DEWATERING BUILDING PLC CONTROL PANEL - ANALOG INPUTS

SCALE: NONE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING PLC CONTROL PANEL – ANALOG INPUTS – SHEET 3

DATE 01-24-2025
SCALE AS SHOWN
JOB NUMBER 2023-123

SHEET E7.7

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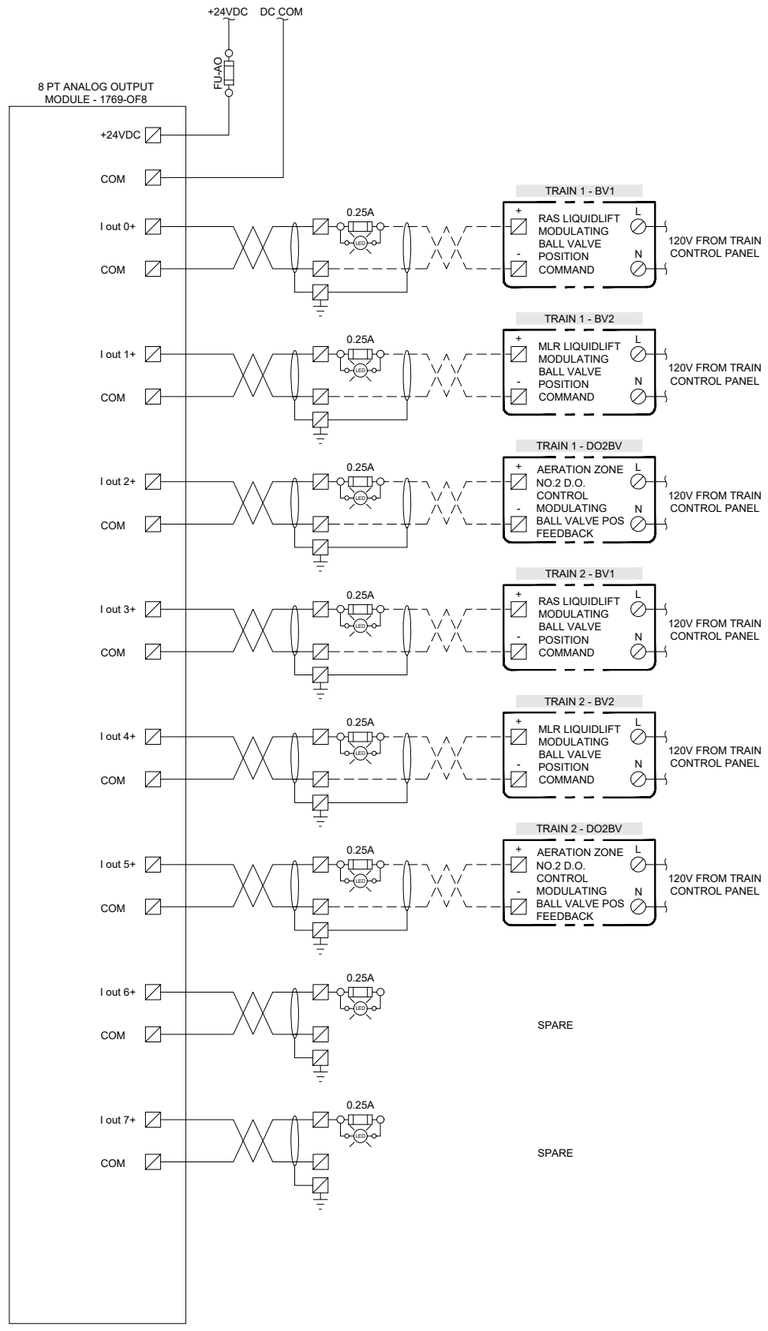
GENERAL NOTES:

1. THESE SCHEMATICS SHOW FUNCTIONAL REQUIREMENTS OF THE PLC CONTROL PANEL. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM.



DEWATERING BUILDING PLC CONTROL PANEL - ANALOG OUTPUTS
SCALE: NONE

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING PLC CONTROL PANEL – ANALOG OUTPUTS

DATE: 01-24-2025
SCALE: AS SHOWN
JOB NUMBER: 2023-123

SHEET: E7.8
PAGE: 88 OF 91

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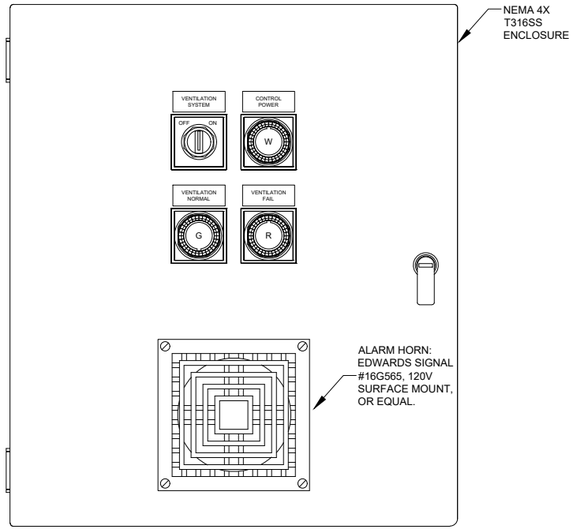
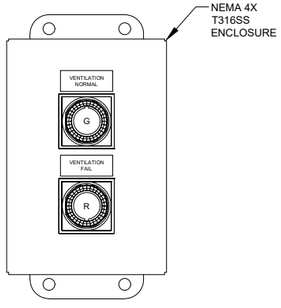
GENERAL NOTES:

1. THESE SCHEMATICS SHOW FUNCTIONAL REQUIREMENTS OF THE VENTILATION CONTROL PANEL. SYSTEM INTEGRATOR SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM.



DEWATERING BUILDING VENTILATION CONTROL PANEL ELEVATION
SCALE: NONE



VENTILATION WARNING LIGHT BOX -REMOTE PANELS (TYP OF 2)
SCALE: NONE

SEQUENCE OF OPERATION:

1. THERE IS ONE 120V 1/3 HP EXHAUST FAN TO PROVIDE CONSTANT 6 AIR EXCHANGES PER HOUR. THIS WILL DE-CLASSIFY THE BUILDING FROM CLASS I DIV 2 TO UNCLASSIFIED, PER NFPA 820 - 2024.
2. WHEN THE VENTILATION SYSTEM IS ENABLED, THE VENTILATION FAN WILL BE STARTED. THE INTAKE AND EXHAUST LOUVERS ARE NON-POWERED.
3. A CURRENT TRANSFORMER WILL MONITOR THE RUNNING STATUS OF THE FAN MOTOR, AND AN AIR FLOW SWITCH WILL MONITOR FOR AIR FLOW. IF THE VENTILATION SYSTEM FAILS, WARNING LIGHTS AND AN ALARM HORN WILL BE ACTIVATED FOR LOCAL ALARM INDICATION.
4. THE ALARM STATUS WILL BE REMOTELY MONITORED BY THE PLC AND SCADA SYSTEM AND WILL NOTIFY THE PLANT OPERATOR OF A VENTILATION SYSTEM FAILURE ALARM.

NO.	REVISIONS	BY	DATE

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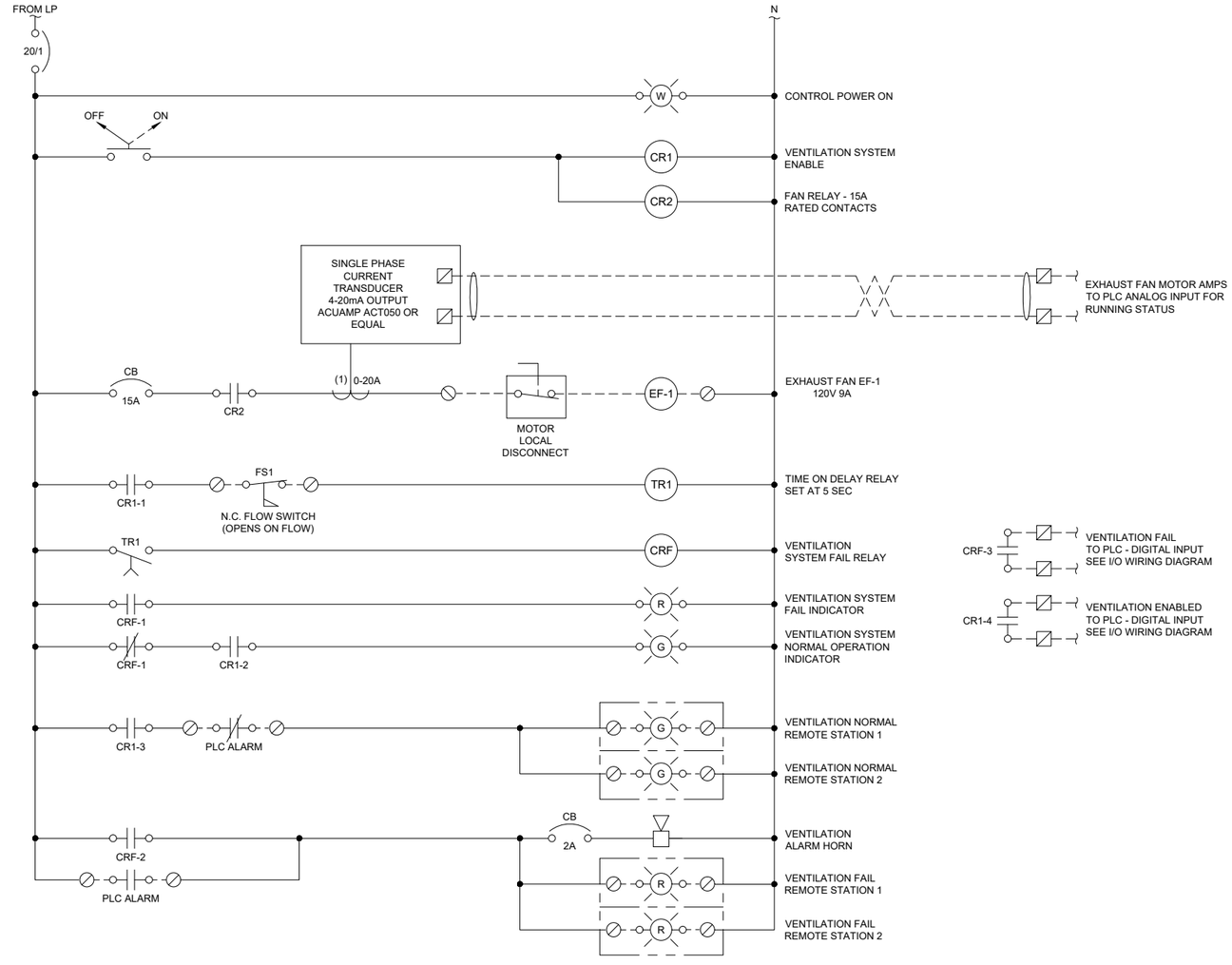

DEWATERING BUILDING - VENTILATION CONTROL PANEL ELEVATION AND WIRING DIAGRAM
SCALE: NONE

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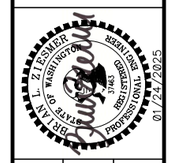

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WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING BUILDING – VENTILATION CONTROL PANEL

DATE 01-24-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET E8.1 | PAGE 89 OF 91

NO.	REVISIONS	BY	DATE

GENERAL NOTES:

1. THESE SCHEMATICS SHOW FUNCTIONAL REQUIREMENTS OF THE PUMP STARTER PANEL. SUPPLIER SHALL PROVIDE DETAILED CONTROL PANEL DESIGN AND DOCUMENTATION FOR A COMPLETE AND OPERATIONAL SYSTEM.

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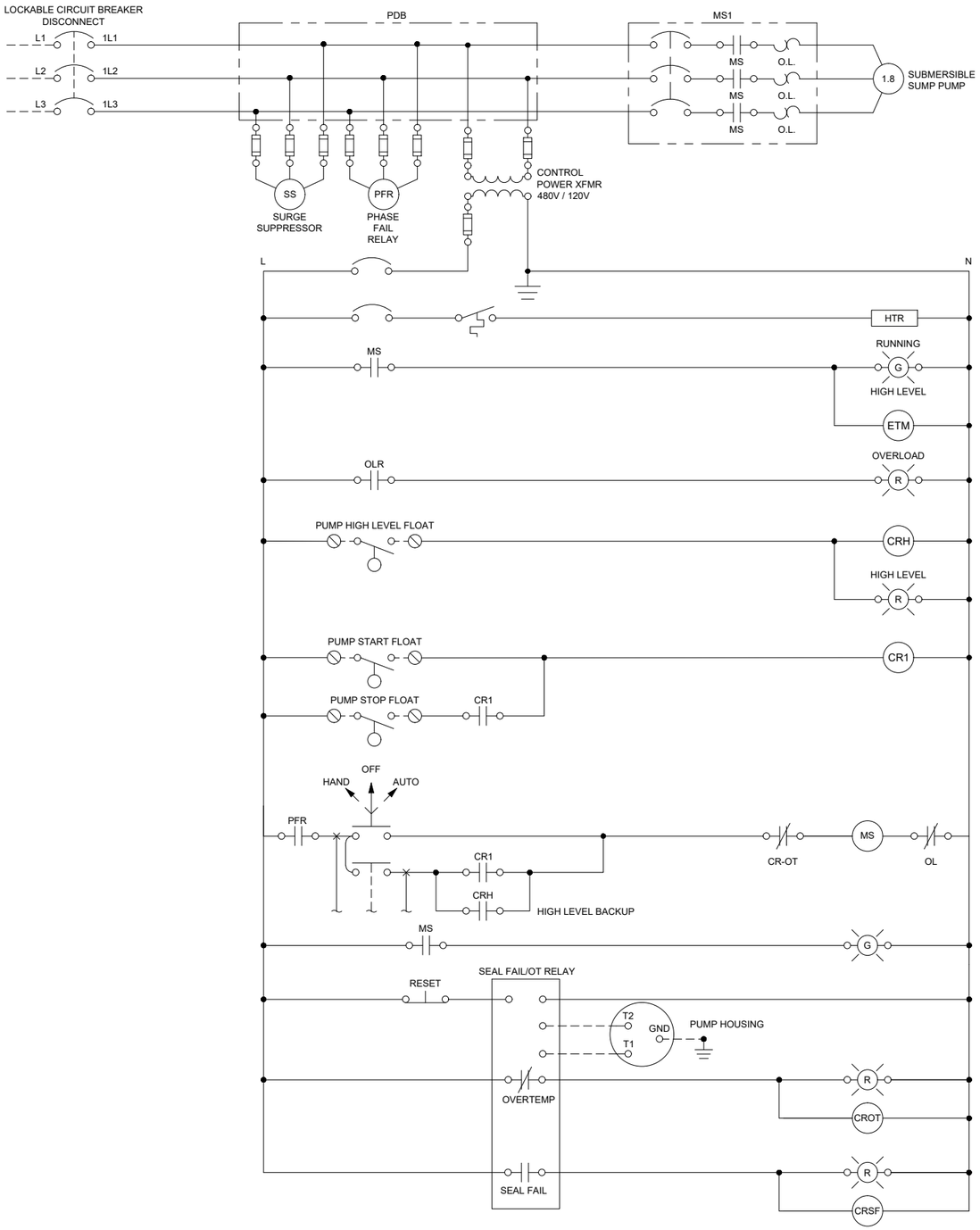

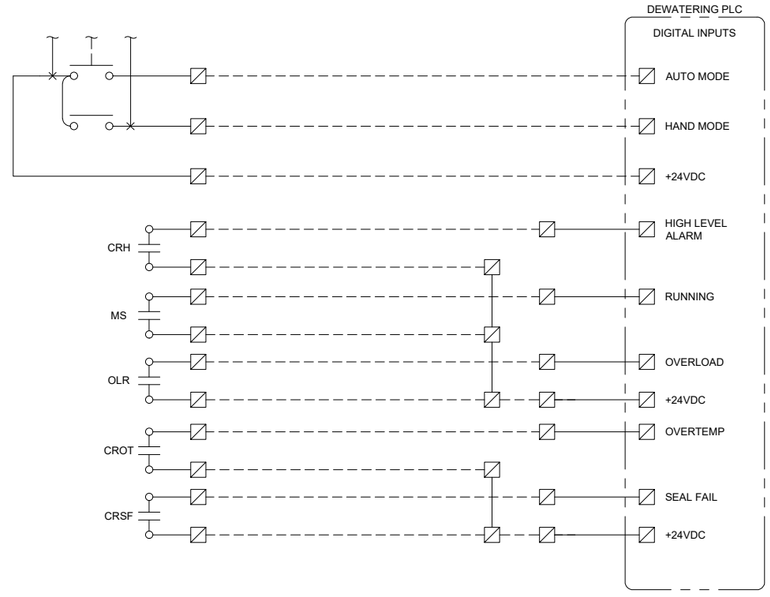

DEWATERING SUMP PUMP - STARTER WIRING DIAGRAM
SCALE: NONE

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SAN JUAN COUNTY WASHINGTON
WASTEWATER TREATMENT PLANT UPGRADE – PHASE 2
DEWATERING SUMP PUMP – STARTER WIRING DIAGRAM

DATE	SCALE	JOB NUMBER
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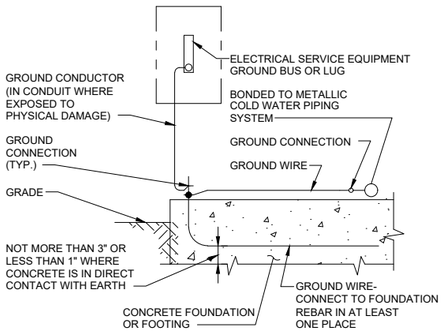
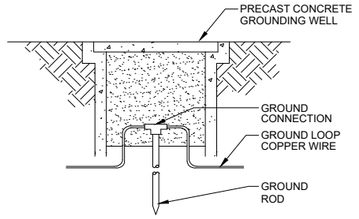


GENERAL NOTE: CONTRACTOR SHALL PROVIDE ALL REQUIRED GROUNDING AND BONDING TO MEET REQUIREMENTS OF NEC ARTICLE 250.

GROUNDING SYSTEM DETAIL

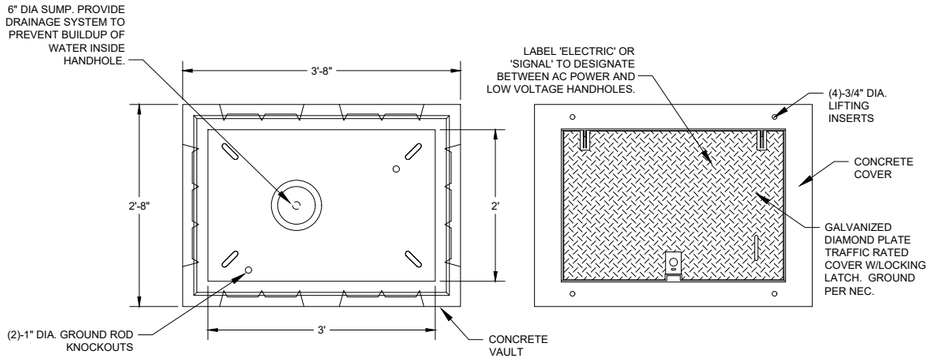
SCALE: NONE



GROUND ROD DETAIL

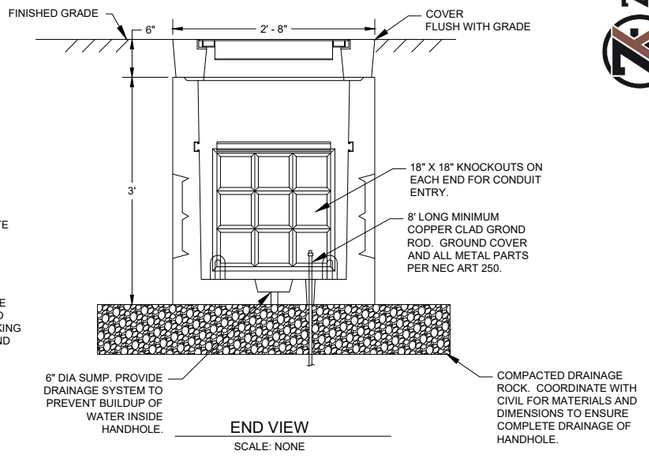
SCALE: NONE

NOTE: ELECTRIC HANDHOLE BASIS OF DESIGN: OLDCASTLE PRECAST #233-LA. VAULT: #233-BL. COVER #23-2436P OR ENGINEER APPROVED EQUAL. CONTRACTOR SHALL INCREASE SIZE WHERE REQUIRED TO MEET NEC SIZE REQUIREMENTS.



PLAN VIEW
SCALE: NONE

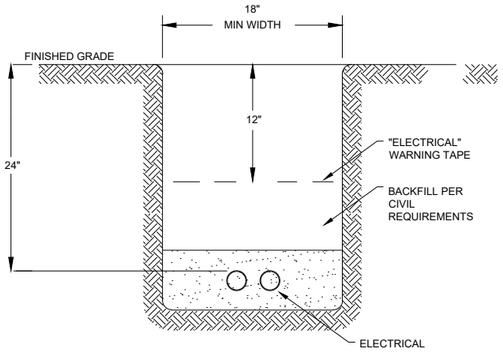
COVER PLAN
SCALE: NONE



END VIEW
SCALE: NONE

ELECTRICAL HANDHOLE DETAIL

SCALE: NONE

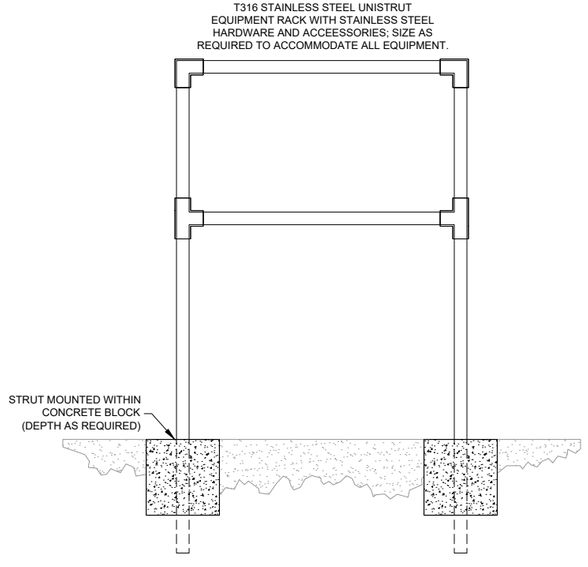


GENERAL NOTES:

1. MAINTAIN 12" MIN. SEPARATION BETWEEN WATER UTILITIES.
2. PROVIDE 2" SEPARATION BETWEEN MULTIPLE CONDUITS AND NEAREST SIDEWALL.
3. TRENCH WIDTH TO ACCOMMODATE ALL CONDUITS AND SERVICES. MINIMUM WIDTH 18".
4. BACKFILL IN ACCORDANCE WITH UTILITY AND CIVIL STANDARDS.
5. CONDUIT SHALL BE BEDDED W/SAND (3" BASE & 3" COVER MIN).

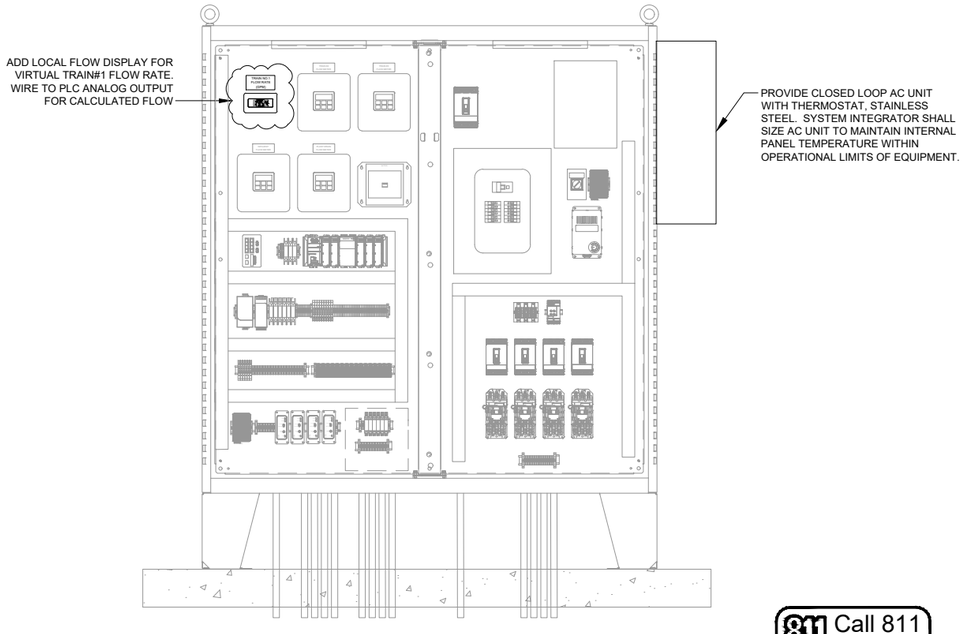
ELECTRICAL RACEWAY AND TRENCHING DETAILS

SCALE: NONE



EQUIPMENT RACK DETAIL

SCALE: NONE



INFLUENT PUMP STATION PANEL MODIFICATIONS

SCALE: NONE

811 Call 811 two business days before you dig

BID SET

DESIGNED BY BZ | DRAWN BY BZ | CHECKED BY BZ

DATE 01-24-2025 | SCALE AS SHOWN | JOB NUMBER 2023-123

SHEET E9.1 | PAGE 91 OF 91

SAN JUAN COUNTY
EASTSOUND SEWER AND WATER DISTRICT
WASTEWATER TREATMENT PLANT UPGRADE - PHASE 2
WASHINGTON
ELECTRICAL DETAILS