

VICINITY MAP
NOT TO SCALE

SNOQUALMIE PASS UTILITY DISTRICT


KITTITAS COUNTY

WASHINGTON

PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS

HLA PROJECT NO. 22072

FEBRUARY 2023

 **DATUM ELEVATION**
ELEVATIONS BASED ON WASHINGTON STATE
REFERENCE NETWORK (WSRN) NAVD88



Know what's below.
Call before you dig.

LOCATION OF ALL UNDERGROUND UTILITIES SHOWN
HEREON ARE APPROXIMATE AND ARE BASED ON FIELD
LOCATIONS OF ALL VISIBLE STRUCTURES SUCH AS:
CATCH BASINS, MANHOLES, WATER GATES, ETC. AND
COMPILING INFORMATION FROM PLANS SUPPLIED BY
VARIOUS UTILITY COMPANIES. ALL CONTRACTORS
SHOULD CALL 509-248-0202 OR 1-800-424-5555
PRIOR TO ANY EXCAVATION WORK.



2803 River Road
Yakima, WA 98902
509.966.7000
Fax 509.965.3800
www.hlacivil.com



PRELIMINARY
SUBJECT TO REVISION

		JOB NUMBER: 22072	DATE: 02/09/2023
		FILE NAMES:	
		DRAWING: Sheets-G-2A.dwg	
		PLAN: 21180.dwg	
		PROFILE:	
		DESIGNED BY: DPS/RJS	
		ENTERED BY: TWC/JWM	
REVISION	DATE		

SNOQUALMIE PASS UTILITY DISTRICT
PHASE 2A MEMBRANE BIOREACTOR WASTEWATER
TREATMENT PLANT IMPROVEMENTS

COVER SHEET

G-1

SHEET
1 OF 34

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	5	G-5	CONSTRUCTION SEQUENCE & GENERAL NOTES
	6	G-6	PLANT DESIGN CRITERIA
	7	G-7	HYDRAULIC PROFILE
	8	G-8	PIPING, PROCESS, & INSTRUMENTATION DIAGRAM - INFLUENT
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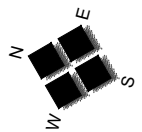
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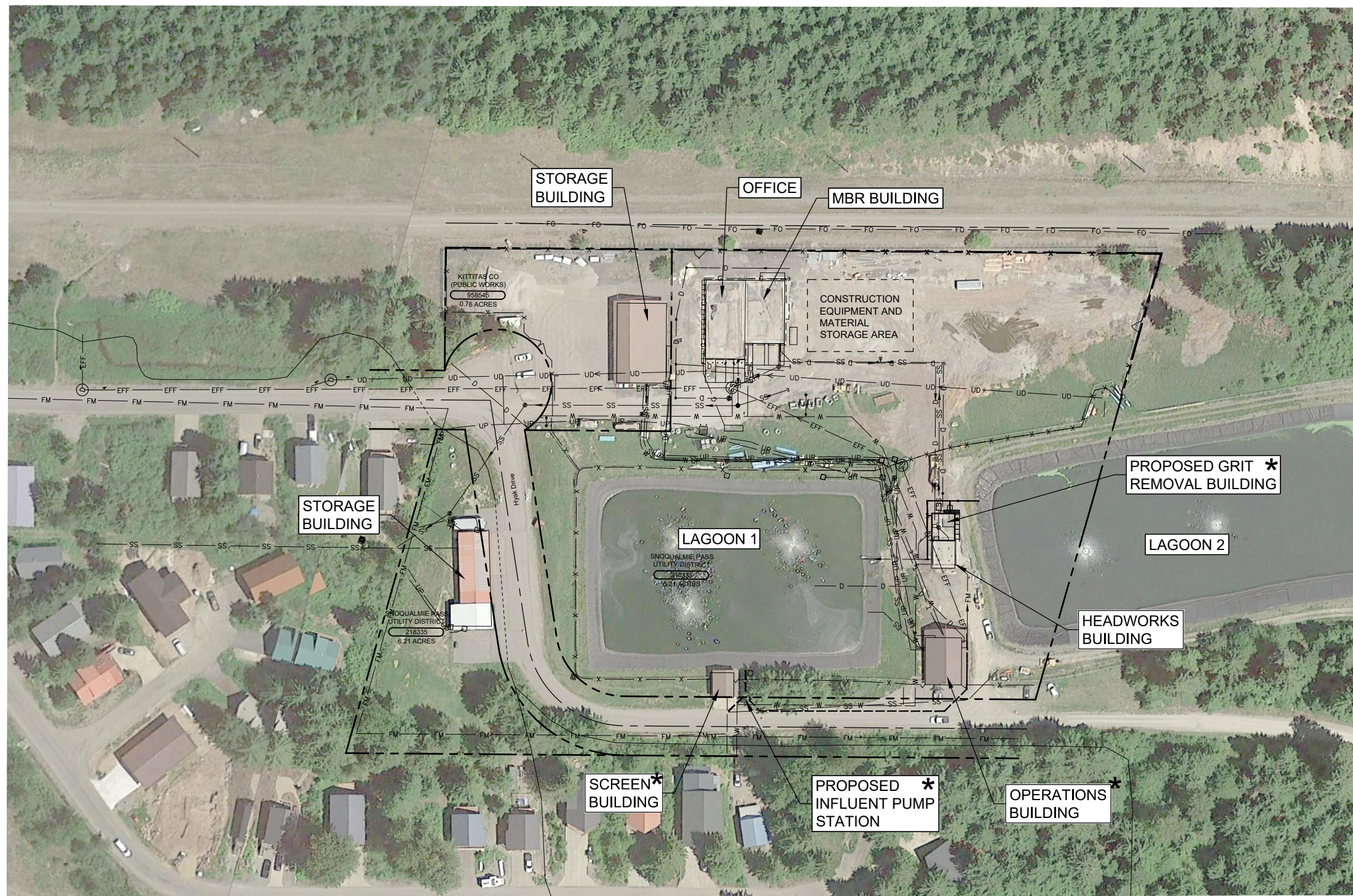
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G-2

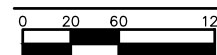
SHEET
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* PHASE 2A SCOPE AREA OF WORK.



SITE MAP



SITE ADDRESS:
932 EAST HYAK DRIVE
P.O. BOX 131
SNOQUALMIE PASS, WA 98068



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SITE MAP

G-3

SHEET

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PIPING, PROCESS, AND, INSTRUMENTATION DIAGRAM LEGEND

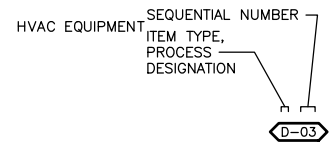
FIELD MOUNTED INSTRUMENT*	
ELECTRIC MOTOR	
SOLENOID VALVE	
MAGNETIC FLOW METER	
FLOAT SWITCH	
SUBMERSIBLE LEVEL TRANSDUCER	
PIPING REDUCER	
FLEXIBLE HOSE CONNECTION	
CHECK VALVE	
NORMALLY OPEN VALVE	
NORMALLY CLOSED VALVE	
PRESSURE GAUGE	
PRESSURE GAUGE WITH PROCESS SEAL	
ANALOG INPUT	
ANALOG OUTPUT	
DIGITAL INPUT	
DIGITAL OUTPUT	
MODULATED SIGNAL	
DISCRETE SIGNAL	
PROGRESSING CAVITY PUMP	
CHEMICAL METERING PUMP	
MIXER	
ROTARY LOBE PUMP	
ROTARY LOBE COMPRESSOR	
SUBMERSIBLE SUMP PUMP	
CENTRIFUGAL PUMP	

SCHEDULED ITEM LEGEND

DOOR		SEE SCHEDULE ON SHEET GA-1
ROOM NUMBER		
WINDOW TYPE		
WALL TYPE		

SCHEDULED ITEM EXAMPLE:

DOOR #3 WOULD BE CALLED OUT AS
(SEE SCHEDULE FOR COMPLETE LIST):



SCHEDULED ITEM NOTES:

1. SEE ADDITIONAL SCHEDULES ELSEWHERE IN THE PLAN SET.
2. NOT ALL SCHEDULED ITEMS ARE CALLED OUT ON THE SHEETS. REFER TO THE SCHEDULES AND PROJECT SPECIFICATIONS FOR A COMPLETE LIST OF REQUIRED ITEMS.

CIVIL SITE PLAN LEGEND

EXISTING FEATURES

FENCE	
POTABLE WATER	
IRRIGATION WATER	
STORM DRAIN	
UNDERGROUND POWER	
OVERHEAD POWER	
GAS	
CHLORINE SOLUTION	
CAUSTIC SOLUTION (SODIUM HYDROXIDE)	
POLYMER SOLUTION	
RAW SEWER	
SEWER FORCE MAIN	
SCUM/ HUMUS	
SLUDGE	
WASTE ACTIVATED SLUDGE	
DRAIN (STORM)	
EFFLUENT	
OVERHEAD TELEPHONE	

NEW FEATURES

TREE	
UTILITY POLE	
MANHOLE	
DRYWELL	
CATCH BASIN	
WATER VALVE	
SPLICE BOX	
CLEANOUT	
FIRE HYDRANT	
YARD HYDRANT	
IRRIGATION VALVE	
GAS METER	
BOLLARD	
ANCHOR	
LIGHT	
CONTOUR	
ASPHALT PAVEMENT	
GRAVEL SURFACING	
HYDROSEED	
STRAIGHT CURB	
INTEGRAL CURB	
CEMENT CONCRETE SIDEWALK/FLATWORK	
POTABLE WATER LINE	
PROCESS/SEWER LINE	
IRRIGATION WATER LINE	
DRAIN LINE	
AIR LINE	
NEW AND/OR RELOCATED CHAINLINK FENCE	
MANHOLE	
YARD HYDRANT	
BOLLARD	
FIRE HYDRANT	
CLEANOUT	
WATER VALVE	
SPOT ELEVATION	
CONTOUR	

VALVE SYMBOLS

DOUBLE LINE	SINGLE LINE	
		GATE
		BUTTERFLY
		BALL
		PLUG
		CHECK
		CONTROL VALVE
		BALL CHECK VALVE
		DIAPHRAGM VALVE
		PRESSURE REGULATING VALVE

PIPE AND FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		NEW PIPE
		FLANGED JOINT
		MECHANICAL JOINT
		FLANGE COUPLING ADAPTER
		RESTRAINED FLANGE COUPLING ADAPTER
		FLEXIBLE BOLTED SLEEVE COUPLING
		ELASTOMER BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		ELBOW, 90 DEGREE
		TEE
		ELBOW, 45 DEGREE
		HOSE BIBB

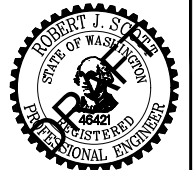
SYMBOL NOTES:

1. FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

GENERAL PIPING NOTES:

1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
2. SIZE OF FITTINGS SHOWN ON PLANS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. FINAL SUPPORT REQUIREMENTS SHALL BE DETERMINED IN THE FIELD AND REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION. MAXIMUM SPACING SHALL BE AS SPECIFIED.
4. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
5. ALL FLEXIBLE CONNECTORS OR FLANGED COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST TIES, BLOCKS, OR ANCHORS, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
6. ALL BURIED DUCTILE IRON PIPING SHALL BE MECHANICAL JOINT OR PUSH-ON JOINT PIPE. ALL JOINTS BENEATH STRUCTURES SHALL BE RESTRAINED JOINTS.
7. ALL FITTINGS IN BURIED PRESSURE PIPE SHALL BE RESTRAINED USING RESTRAINED JOINTS OR CONCRETE THRUST BLOCKING. WHEN RESTRAINED JOINTS ARE USED, RESTRAIN ADJOINING PIPE JOINTS THE MINIMUM DISTANCE SPECIFIED.
8. NUMBER AND LOCATION OF UNIONS SHOWN ON PLANS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
9. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER. THE USE OF UNI-FLANGE OR SIMILAR FLANGE ADAPTERS WILL NOT BE ALLOWED.
10. PIPE LOCATION DIMENSIONS ARE MEASURED TO NOMINAL FACE OF WALL OR FINISHED FLOOR UNLESS NOTED OTHERWISE.
11. EQUIPMENT SCHEDULES DO NOT LIST ALL REQUIRED PIPING. THE CONTRACTOR IS RESPONSIBLE FOR HIS OWN QUANTITY TAKE-OFF FOR PIPE, FITTINGS, AND VALVES.

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FILE NAMES: DRAWING: Sheets-G-2A.dwg			SHEET 4 OF 34
PLAN: PROFILE: DESIGNED BY: DPS/RJS ENTERED BY: TWC/JWM		LEGEND AND SYMBOL SCHEDULE	

GENERAL NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT), THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA) AND THE SPECIAL PROVISIONS OF THE SNOQUALMIE PASS UTILITY DISTRICT.
- THE CONTRACTOR IS ADVISED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN HEREON ARE BASED UPON UTILITY INFORMATION OF RECORD, INFORMATION PROVIDED TO HLA ENGINEERING AND LAND SURVEYING, INC. AND WHERE POSSIBLE MEASUREMENTS TAKEN IN THE FIELD. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS.
- THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION REQUEST CENTER NOT LESS THAN 72 HOURS NOR MORE THAN 10 BUSINESS DAYS BEFORE ANY EXCAVATION, TO REQUEST FIELD LOCATIONS OF UTILITIES. THE TELEPHONE NUMBER FOR THE ONE CALL CENTER FOR THIS PROJECT IS 1-800-424-5555. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT THE CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY WHERE EXISTING UTILITIES ARE FOUND TO CONFLICT WITH PROJECT IMPROVEMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR POTHOLING OR VERIFICATION OF EXISTING UTILITY LOCATIONS.
- ANY DAMAGE TO PUBLIC UTILITIES OR ADJACENT PROPERTIES AS A RESULT OF THE CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. REPAIRS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE IN A TIMELY MANNER TO THE SATISFACTION OF THE DAMAGED PARTY.
- EXCAVATION OF MATERIAL OF WHATEVER NATURE ENCOUNTERED AND DEWATERING FOR ALL UNDERGROUND ITEMS SHALL BE INCIDENTAL TO AND INCLUDED IN THE BID ITEMS. NO SEPARATE PAYMENT FOR ROCK EXCAVATION OR DEWATERING SHALL BE MADE. CONTRACTORS WHO ARE PROSPECTIVE BIDDERS ARE INSTRUCTED TO EXAMINE THE EXCAVATION AREAS TO DETERMINE THE LIKELIHOOD OF ENCOUNTERING ROCK OR WATER TO THEIR OWN SATISFACTION.
- THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE. NO BURNING WILL BE ALLOWED. THE CONTRACTOR SHALL BE REQUIRED TO SECURE AND OPERATE HIS OWN WASTE DISPOSAL SITE AT HIS OWN EXPENSE FOR THE DISPOSAL OF ALL UNSUITABLE MATERIAL, ASPHALT, CONCRETE, DEBRIS, WASTE MATERIAL, AND ANY OTHER OBJECTIONABLE MATERIAL WHICH IS DIRECTED TO WASTE. THE CONTRACTOR SHALL COMPLY WITH THE STATE OF WASHINGTON REGULATIONS REGARDING DISPOSAL OF WASTE MATERIAL AS OUTLINED IN WAC 173-304, SUBCHAPTER 461.
- AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING ON-SITE EROSION DUE TO WIND AND RUNOFF.
- A PRECONSTRUCTION MEETING WITH THE ENGINEER, THE CONTRACTOR, AND INTERESTED UTILITY COMPANIES SHALL BE HELD A MINIMUM OF ONE WEEK PRIOR TO BEGINNING CONSTRUCTION. PUD INSPECTOR SHALL BE GIVEN 48-HOURS MINIMUM NOTICE PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE APPROVED PLANS, ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS, AND A COPY OF ANY PERMITS AND EXTENSION AGREEMENTS NEEDED FOR THE JOB, ON-SITE AT ALL TIMES.
- IF WORKERS ENTER ANY TRENCH OR OTHER EXCAVATION FOUR FEET OR MORE IN DEPTH THAT DOES NOT MEET THE OPEN PIT REQUIREMENTS OF WSDOT/APWA SECTION 2-09.3(3)B, IT SHALL BE SHORED AND CRIBBED. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR WORKER SAFETY AND THE ENGINEER ASSUMES NO RESPONSIBILITY. ALL TRENCH SAFETY SYSTEMS SHALL MEET THE REQUIREMENTS OF THE WASHINGTON INDUSTRIAL SAFETY AND HEALTH ACT, CHAPTER 49.17 RCW.
- IF, DURING THE CONSTRUCTION PROCESS, CONDITIONS ARE ENCOUNTERED BY THE CONTRACTOR, HIS SUBCONTRACTORS, OR OTHER AFFECTED PARTIES, WHICH COULD INDICATE A SITUATION THAT IS NOT IDENTIFIED IN THE PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER ACTIONS NEEDED TO PROTECT THE LIFE, HEALTH, AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THIS CONTRACT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ANY AND ALL TRAFFIC CONTROL DEVICES AS MAY BE REQUIRED BY THE CONSTRUCTION ACTIVITIES. ALL SECTIONS OF THE WSDOT/APWA STANDARD SPECIFICATIONS SECTION 1-10, TEMPORARY TRAFFIC CONTROL, SHALL APPLY IF WORK WITHIN THE RIGHT OF WAY WILL INTERRUPT NORMAL TRAFFIC OPERATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ROADWAYS FREE AND CLEAR OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM THE SITE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT INFORMATION ON A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE, AND AVAILABLE TO THE PUD INSPECTOR AND ENGINEER AT ALL TIMES. THE CONTRACTOR SHALL DELIVER THESE DRAWINGS TO THE ENGINEER AT THE COMPLETION OF THE WORK.

GENERAL DEWATERING NOTES

- CONTRACTOR TO DETERMINE EXTENT OF FACILITIES NECESSARY TO ADEQUATELY CONTROL DEWATERING WATER. GROUNDWATER CONDITIONS AT THE PROJECT SITE ARE GENERALLY KNOWN. A GEOTECHNICAL REPORT WAS PREPARED FOR PHASE 1 OF THIS PROJECT. WITH PRIOR APPROVAL FROM THE SNOQUALMIE PASS UTILITY DISTRICT, THE CONTRACTOR MAY CONDUCT EXPLORATORY OPERATIONS NECESSARY TO DETERMINE THE EXTENT OF DEWATERING PRIOR TO BID. SOIL EXPLORATIONS MUST BE COORDINATED WITH THE PUD PRIOR TO EXCAVATION AT NO COST TO THE OWNER.
- CONTRACTOR SHALL DESIGN, FURNISH, INSTALL, TEST, OPERATE, MONITOR, AND MAINTAIN DEWATERING SYSTEM OF SUFFICIENT SCOPE, SIZE, AND CAPACITY TO CONTROL GROUND WATER FLOW INTO EXCAVATIONS AND PERMIT CONSTRUCTION TO PROCEED ON DRY, STABLE SUBGRADES INCLUDING ANY WELLS, WELL POINTS, OR SIMILAR METHODS COMPLETE WITH PUMP EQUIPMENT, STANDBY POWER AND PUMPS, FILTER MATERIAL, VALVES, APPURTENANCES, WATER DISPOSAL, AND SURFACE WATER CONTROLS. NO ADDITIONAL COMPENSATION WILL BE MADE.
- CONTRACTOR SHALL PROVIDE A PLAN SHOWING THE ARRANGEMENT, LOCATIONS, AND DETAILS OF DEWATERING DISCHARGE MEANS PRIOR TO IMPLEMENTATION TO ENSURE COMPLIANCE OF KNOWN AGREEMENTS WITH PROPERTY OWNERS AND SNOQUALMIE PASS UTILITY DISTRICT REQUIREMENTS.
- CONTRACTOR SHALL MAINTAIN DEWATERING OPERATIONS TO ENSURE EROSION CONTROL, STABILITY OF EXCAVATIONS AND CONSTRUCTED SLOPES, AND, THAT EXCAVATIONS DO NOT FLOOD OR SUSTAIN DAMAGE.
- CONTRACTOR SHALL PREVENT SURFACE WATER FROM ENTERING EXCAVATIONS BY GRADING, CREATING DIKES, AND ANY MEANS NECESSARY TO CONTROL THE MOVEMENT OF WATER.
- CONTRACTOR SHALL PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES FROM DAMAGE CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT, AND OTHER HAZARDS CREATED BY DEWATERING OPERATIONS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR DAMAGE DUE TO DEWATERING OPERATIONS.
- CONTRACTOR SHALL PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUBGRADES, AND FROM FLOODING THE SITE AND SURROUNDING AREAS.
- CONTRACTOR SHALL NOT CLOSE OR OBSTRUCT STREETS, WALKS, OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM THE OWNER. PROVIDE ALTERNATE ROUTES AROUND CLOSED OR OBSTRUCTED TRAFFIC WAYS OR ACCESS POINT IF REQUIRED BY THE SNOQUALMIE PASS UTILITY DISTRICT.
- BEFORE EXCAVATING BELOW GROUND WATER LEVEL, PLACE SYSTEM INTO OPERATION TO LOWER WATER TO SPECIFIED LEVELS. OPERATE SYSTEM CONTINUOUSLY UNTIL UTILITIES AND STRUCTURES HAVE BEEN CONSTRUCTED AND FILL MATERIALS HAVE BEEN PLACED, OR UNTIL DEWATERING IS NO LONGER REQUIRED.
- PROVIDE STANDBY EQUIPMENT ON-SITE, INSTALLED AND AVAILABLE FOR IMMEDIATE OPERATION, TO MAINTAIN DEWATERING ON A CONTINUOUS BASIS IF ANY PART OF SYSTEM BECOMES INADEQUATE OR FAILS. IF DEWATERING REQUIREMENTS ARE NOT SATISFIED DUE TO INADEQUACY OR FAILURE OF DEWATERING SYSTEM, RESTORE DAMAGED STRUCTURES AND FOUNDATION SOILS AT NO ADDITIONAL EXPENSE TO THE OWNER.
- REMOVE DEWATERING SYSTEM FROM PROJECT SITE UPON COMPLETION OF DEWATERING.
- ANY DAMAGES TO ADJACENT FACILITIES CAUSED BY DEWATERING OPERATIONS SHALL BE REPAIRED WITHIN 48 HOURS.
- CONTRACTOR SHALL DISPOSE OF ALL WATER IN A MANNER THAT MEETS THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS AND THE CONSTRUCTION STORMWATER GENERAL PERMIT. WATER MAY BE DISPOSED OF TO THE UNDERDRAIN MANHOLE LOCATED EAST OF THE LAGOONS.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ALL PERMITS.

GENERAL DEMOLITION NOTES

- ALL DEMOLITION WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND REQUIREMENTS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLIANCE WITH ALL REQUIREMENTS INCLUDING, BUT NOT LIMITED TO, HAZARDOUS MATERIALS, DISPOSAL, AND HOURS OF OPERATION.
- THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM ALL UTILITY COMPANIES AFFECTED, PRIOR TO ANY DEMOLITION WORK OR DISCONNECTION OF ANY SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL REQUIREMENTS OF THE RESPECTIVE UTILITY COMPANIES.
- THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES WHICH ARE TO REMAIN IN SERVICE, INCLUDING BUT NOT LIMITED TO, ELECTRIC, GAS, SEWER, WATER, STORM WATER, AND IRRIGATION.
- ANY DAMAGE TO PUBLIC OR PRIVATE UTILITIES OR ADJACENT PROPERTIES AS A RESULT OF DEMOLITION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL REPAIR COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MADE IN A TIMELY MANNER TO THE SATISFACTION OF THE DAMAGED PARTY.
- ALL UTILITIES THAT ARE TO BE VACATED, INCLUDING ELECTRICAL SERVICE CONDUIT, SHALL BE COMPLETELY REMOVED FROM THE GROUND AND DISPOSED OF OFF SITE, UNLESS OTHERWISE SPECIFIED.
- ANY UNFORESEEN CONDITIONS WHICH MAY BE UNCOVERED DURING DEMOLITION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER. ADDITIONAL EXPENSES INCURRED BY THESE CONDITIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO THE ADDITIONAL WORK BEING PERFORMED.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT THE PROPERTY FOR TYPE AND QUANTITY OF DEMOLITION REQUIRED, PRIOR TO SUBMISSION OF A BID.
- THE CONTRACTOR SHALL HAVE WATER ON SITE FOR DUST ABATEMENT AT ALL TIMES DURING DEMOLITION ACTIVITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE DISPOSAL OF ALL DEBRIS. BURNING ON SITE SHALL NOT BE PERMITTED. NO DEBRIS, INCLUDING CONCRETE OR ASPHALT, MAY BE PLACED IN ANY FILL AREAS UNLESS APPROVED BY THE ENGINEER.
- EXISTING EQUIPMENT AND MATERIALS THAT ARE SCHEDULED TO REMAIN OR BE REUSED SHALL BE PROTECTED AT ALL TIMES DURING DEMOLITION AND CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF DAMAGED EQUIPMENT AND MATERIALS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

IPS CONSTRUCTION SEQUENCE

- POTHOLE EXISTING WATER MAIN AND GRAVITY SEWER LINE TO VERIFY ALIGNMENT.
- CONSTRUCT NEW LIFT STATION STRUCTURES, INCLUDING WET WELL, VALVE VAULT, AND METER VAULT, WITH INFLUENT GRAVITY SEWER, INTERCONNECTED PIPING, POWER AND CONTROLS, AND DISCHARGE FORCE MAIN TO EXISTING MAINTENANCE BUILDING.
- TEST LIFT STATION OPERATION WITH CLEAN WATER AND TEMPORARY POWER CONNECTION. DISCHARGE CAN BE ROUTED INTO LAGOON 1.
- MAKE GRAVITY PIPING CONNECTION AT INFLUENT MANHOLE AND MAKE FORCE MAIN PIPING CONNECTION AT EXISTING MAINTENANCE BUILDING.
- MAKE MODIFICATIONS IN SCREEN BUILDING. FLOW INTO NEW LIFT STATION MAY OVERFLOW INTO LAGOON 1 UNTIL NEW PERMANENT ELECTRICAL CONNECTION IS COMPLETED.
- COMMISSION LIFT STATION.

GRIT BUILDING CONSTRUCTION SEQUENCE

- ESTABLISH SHORING AS REQUIRED TO EXCAVATE FOR PROPOSED BELOWGRADE STRUCTURES ADJACENT TO EXISTING HEADWORKS BUILDING.
- ESTABLISH BYPASS BETWEEN MECHANICAL FINE SCREEN AND MANHOLE DOWNSTREAM OF GRIT BUILDING LOCATION.
- DEMOLISH EXISTING MANHOLE LOCATED WITHIN GRIT BUILDING FOOTPRINT.
- CONSTRUCT NEW GRIT BASIN STRUCTURES, INCLUDING GRIT BASIN AND SCUM PUMP STATION WET WELL AND VALVE VAULT WITH INTERCONNECTED PIPING AND OVERFLOW PIPING TO LAGOON 1.
- PERFORM WATER TIGHTNESS TESTING OF NEW STRUCTURES.

GENERAL NOTES - CONSTRUCTION SEQUENCE

- THE SPECIFICS OF THE ORDER OF WORK SHALL BE AT THE CONTRACTOR'S OPTION, BUT WORK MUST COORDINATE WITH THE CONSTRUCTION SEQUENCE DESCRIBED HEREIN. ALL WORK SHALL BE SCHEDULED SO THE EXISTING WASTEWATER TREATMENT FACILITIES CAN REMAIN IN OPERATION AT ALL TIMES.
- THE CONTRACTOR SHALL MAKE ALL PIPING CHANGEOVERS, BUT ONLY AFTER REVIEW BY THE ENGINEER. ALL PIPING SHALL BE EXPOSED, AND ALL LABOR, TOOLS, MATERIALS, AND EQUIPMENT NECESSARY TO MAKE THE CONNECTION SHALL BE ON HAND PRIOR TO BEGINNING WORK. THE CONNECTION SHALL THEN BE MADE IN THE MINIMUM TIME POSSIBLE TO MINIMIZE THE IMPACTS TO THE TREATMENT PROCESS.
- IT IS ANTICIPATED THAT REQUIRED CONSTRUCTION OUTSIDE OF BUILDINGS WILL NOT BE FEASIBLE BETWEEN NOVEMBER 1 AND APRIL 30. THE CONTRACTOR'S PROPOSED SCHEDULE SHOULD REFLECT COMPLETION OF PROJECT PRIOR TO NOVEMBER 1, 2023; INCLUDING TIME ALLOTMENT FOR PUNCHLIST WORK.
- COORDINATE AND SCHEDULE POWER UTILITY WORK WITH OPERATIONS STAFF AND UTILITY COMPANY. PLANT OPERATIONS STAFF SHALL BE GIVEN A MINIMUM OF 3-DAY NOTICE PRIOR TO ANY POWER SERVICE SHUTDOWNS AND/OR INTERRUPTIONS THAT MAY TAKE PLACE THROUGHOUT THE CONSTRUCTION DURATION.
- COORDINATE AND SCHEDULE PROCESS REVISIONS WITH OPERATIONS STAFF. PLANT OPERATIONS STAFF SHALL BE GIVEN A MINIMUM OF 3-DAY NOTICE PRIOR TO ANY FLOW REALIGNMENT AND/OR BYPASS PUMPING PLAN BEING STARTED OR STOPPED TO ALLOW APPROPRIATE PLANT OPERATIONS TO BE MODIFIED.

OVERALL CONSTRUCTION SEQUENCE

- INSTALL REQUIRED TESC AND BMPS FOR STORMWATER RUNOFF CONTROL SYSTEMS. WORK NEAR STREAMS SHOULD BE SCHEDULED AFTER SPRING RUNOFF WHEN THE WATER IN THE STREAMS IS MINIMIZED.
- THE GENERAL CONSTRUCTION SEQUENCE FOR THE PROJECT SHALL BE AS FOLLOWS: CONSTRUCT GRIT TANK AND FLOW CONTROL VALVE, CONSTRUCT INFLUENT PUMP STATION, COMPLETE REMAINING WORK.



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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER
TREATMENT PLANT IMPROVEMENTS

CONSTRUCTION SEQUENCE AND GENERAL NOTES

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* PHASE 2A SCOPE ITEMS

MEMBRANE BIOREACTOR (MBR) DESIGN CRITERIA

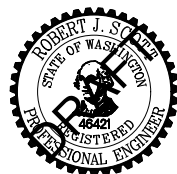
<u>MEMBRANE BIOREACTORS (MBRS)</u>	
NUMBER OF TANKS	2
NUMBER OF MEMBRANE ROWS PER TANK	1
NUMBER OF MEMBRANE UNITS PER TANK	1
MEMBRANE UNIT TYPE	FS200
NUMBER OF CARTRIDGES PER UNIT	
MEMBRANE TANK VOLUME	4,148 GAL/TANK
MEMBRANE SURFACE AREA (PER TANK)	1,722 SF
MEMBRANE AIR SCOUR RATE FOR SIZING	SCFM/UNIT
MLSS CONCENTRATION	5,000-15,000 MG/L
<u>MEMBRANE FLUX (1 TANK IN OPERATION)</u>	
AVERAGE ANNUAL	11.61 GAL/DAY/SF
MAXIMUM MONTH	11.61 GAL/DAY/SF
MAXIMUM DAY	23.23 GAL/DAY/SF
<u>MEMBRANE FLUX (2 TANKS IN OPERATION)</u>	
AVERAGE ANNUAL	5.81 GAL/DAY/SF
MAXIMUM MONTH	5.81 GAL/DAY/SF
MAXIMUM DAY	11.61 GAL/DAY/SF
PEAK HOUR	14.52 GAL/DAY/SF
<u>PRE-AERATION TANKS</u>	
NUMBER OF BASINS	1
BASIN VOLUME	1,638 GAL
MLSS CONCENTRATION	5,000-15,000 MG/L
<u>ANOXIC SELECTOR TANKS</u>	
NUMBER	1
VOLUME	5,730 GAL
ANOXIC MLSS	75,000 MG/L
<u>RECIRCULATION PUMPS</u>	
TYPE	SUBMERSIBLE
NUMBER (2 DUTY)	2
POWER	2 HP
CAPACITY	70 GPM
TDH	20 FT
<u>MBR BLOWERS</u>	
TYPE	POSITIVE DISPLACEMENT
NUMBER (2 DUTY, 1 STANDBY)	3
POWER	8.45 HP
MBR BLOWER CAPACITY	106 SCFM EACH
<u>PRE-AERATION BLOWERS</u>	
TYPE	POSITIVE DISPLACEMENT
NUMBER	1
POWER	1.7 HP
PRE-AERATION BLOWER CAPACITY	25 SCFM EACH
<u>PERMEATE PUMPS</u>	
TYPE	CENTRIFUGAL
NUMBER	3
POWER	0.75 HP
PERMEATE PUMP CAPACITY	20 GPM, 25' HEAD

PLANT DESIGN CRITERIA

<u>PLANT CAPACITY</u>	
MAXIMUM MONTH FLOW	0.5 MGD
MAXIMUM DAY FLOW	0.5 MGD
PEAK HOURLY FLOW	1.0 MGD
MAXIMUM MONTH BOD5	835 LBS/DAY
MAXIMUM MONTH TSS	835 LBS/DAY
<u>*INFLUENT PUMPS</u>	
TYPE	SUBMERSIBLE CENTRIFUGAL
NUMBER (1 DUTY, 1 STANDBY)	2
POWER	10 HP
CAPACITY	694 GPM
TDH	23 FT
<u>LAGOON TRANSFER PUMP</u>	
TYPE	DRY PIT CENTRIFUGAL
NUMBER (1 DUTY, 1 STANDBY)	2
POWER	7.5 HP
CAPACITY	346 GPM
TDH	43.4 FT
<u>HEADWORKS SCREEN</u>	
TYPE	2-MM FINE SCREEN
NUMBER	1
SIZE	31" CHANNEL (TANK)
PEAK FLOW RATE	1.07 MGD (EA)
TSS	350 MG/L
<u>SLUDGE WASTING</u>	
AVERAGE WASTING RATE TO LAGOON 1.	35 LBS SOLIDS/DAY
SLUDGE OVERCHARGE PUMP	2.0 GPM, 15 FT TDH
<u>*GRIT PUMP</u>	
TYPE	SELF-PRIMING CENTRIFUGAL
NUMBER	1
POWER	10 HP
CAPACITY	100 GPM
TDH	12 PSIG
<u>*GRIT CLASSIFIER</u>	
NUMBER	1
POWER	1 HP
CAPACITY	60 GPM
<u>*SCUM PUMP</u>	
TYPE	SUBMERSIBLE CENTRIFUGAL
NUMBER	1
POWER	3 HP
CAPACITY	100 GPM
TDH	3 PSI
<u>LAGOON 1</u>	
VOLUME	3,510,000 GAL
<u>LAGOON 2</u>	
VOLUME	13,500,000 GAL
<u>*UV DISINFECTION SYSTEM</u>	
PEAK DESIGN FLOW, EACH	125 GPM
UV TRANSMITTANCE	50%
TYPE	CLOSED VESSEL
UV LAMP TYPE	MEDIUM PRESSURE
NUMBER	2
UV LAMPS PER SYSTEM	2
POWER, EACH	5 KW



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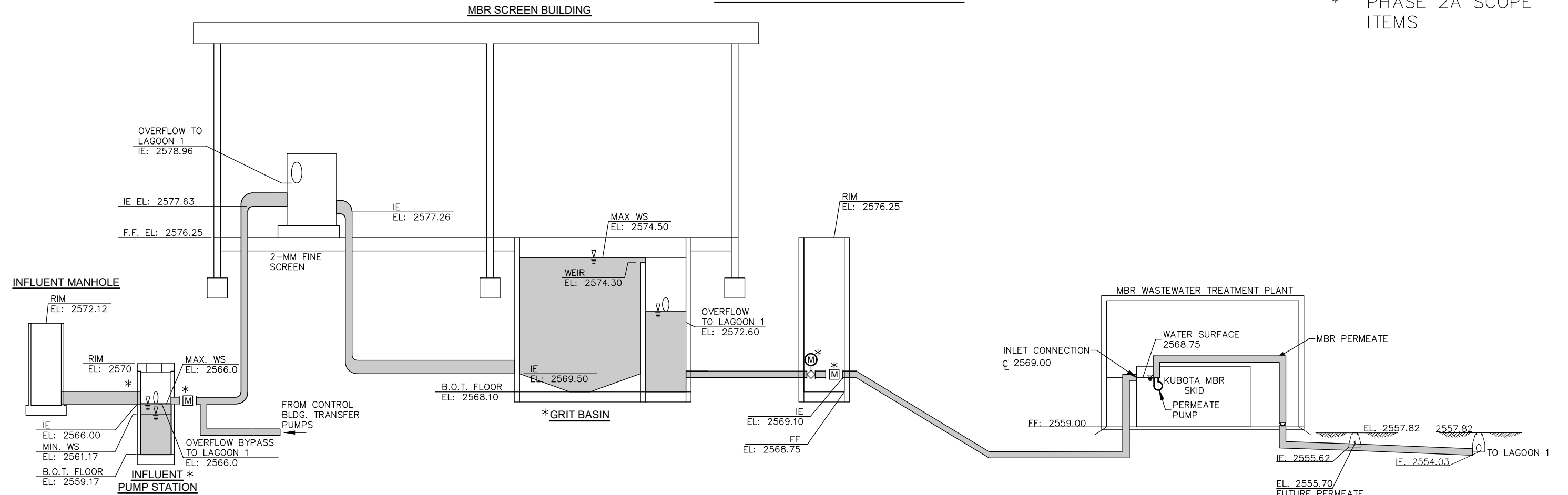
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS

PLANT DESIGN CRITERIA

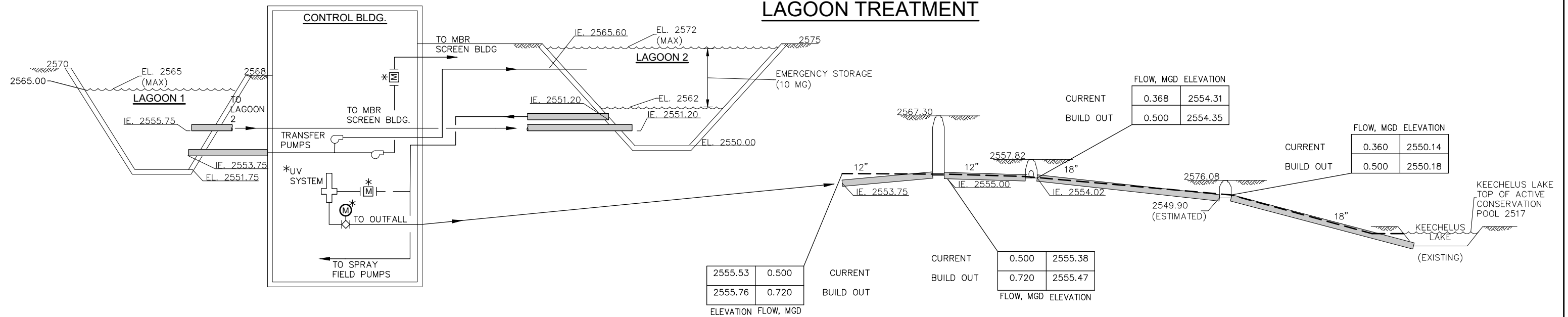
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MBR PILOT TREATMENT

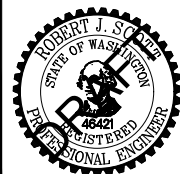
* PHASE 2A SCOPE ITEMS



LAGOON TREATMENT



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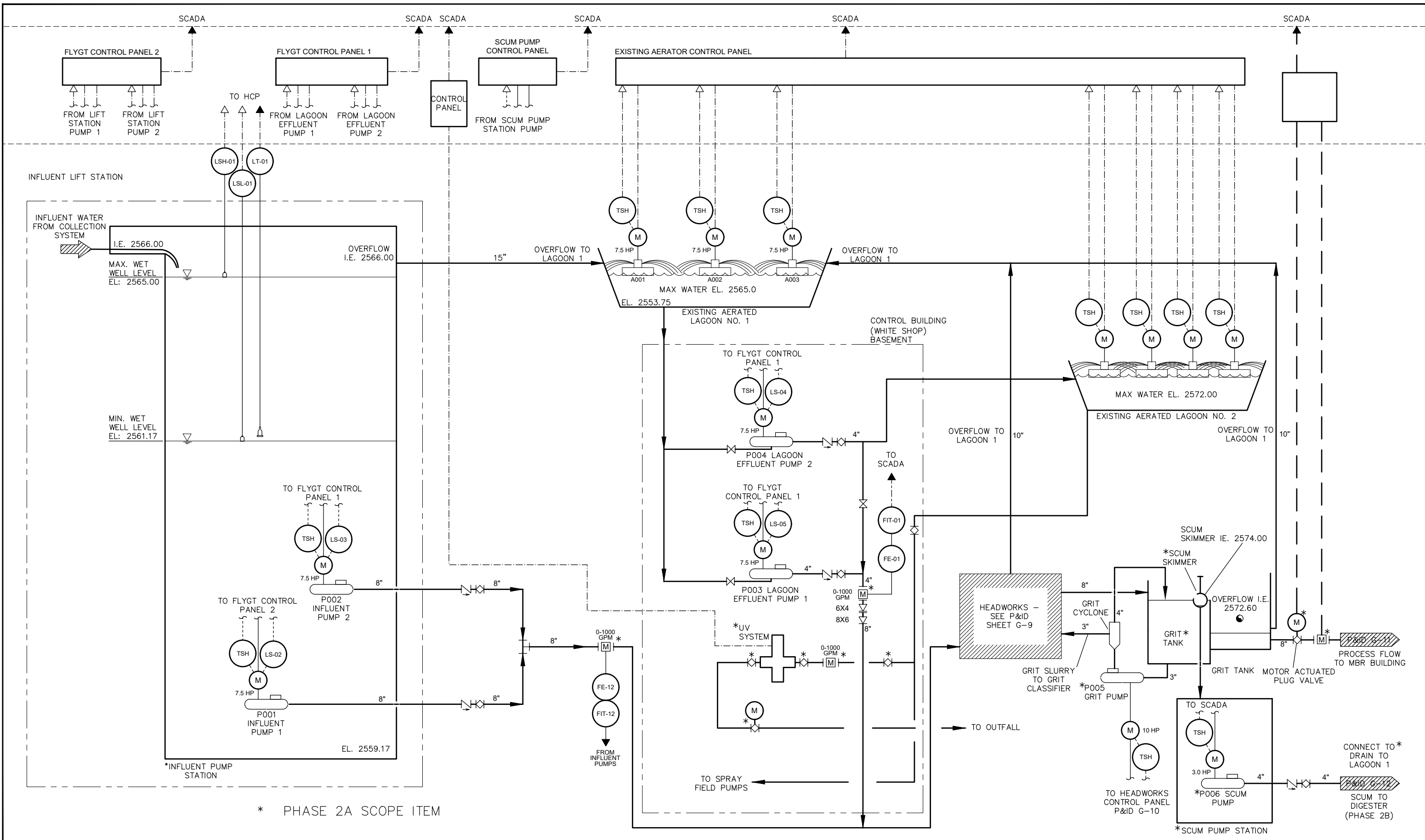
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HYDRAULIC PROFILE

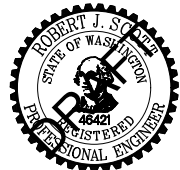
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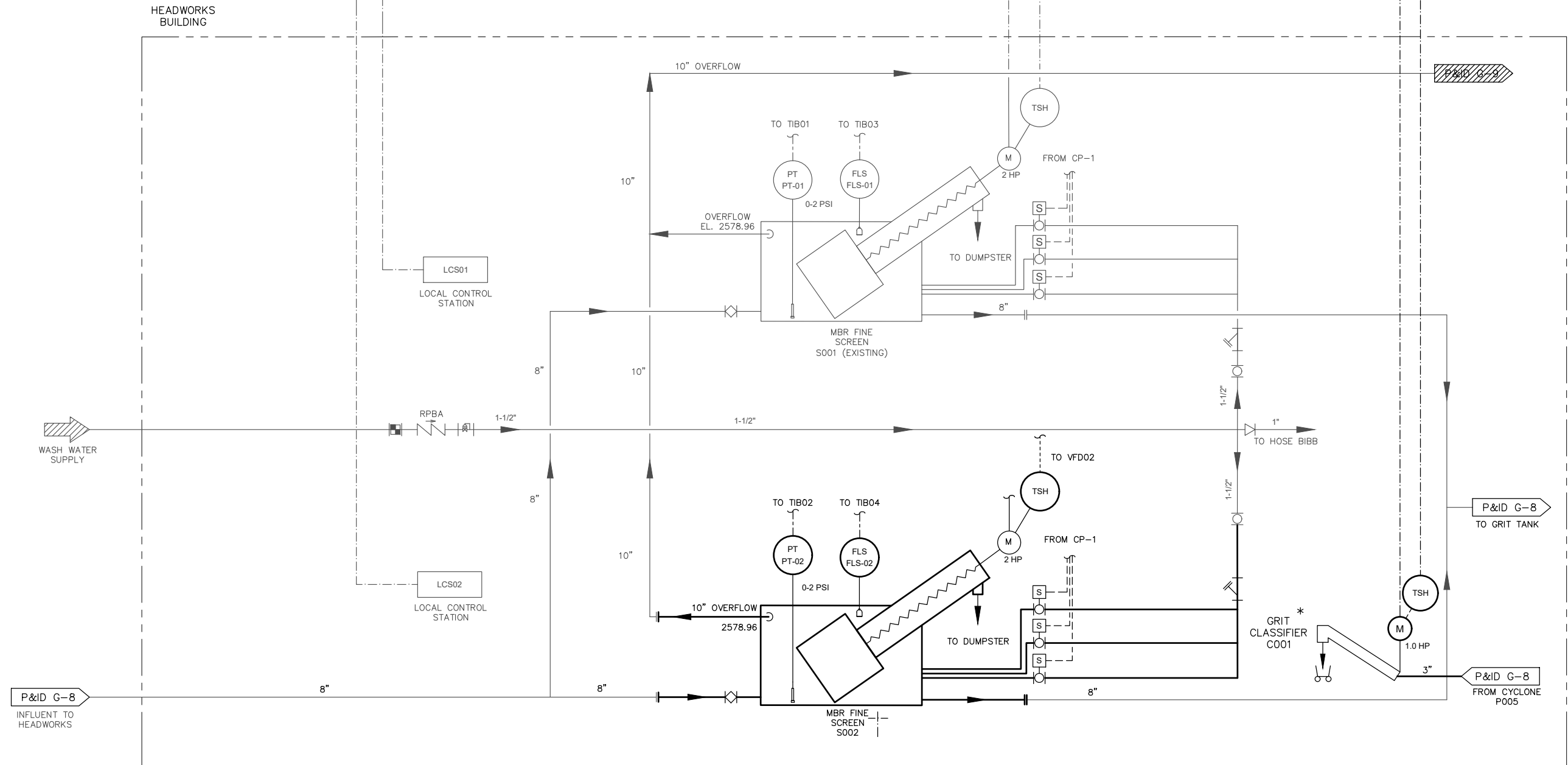
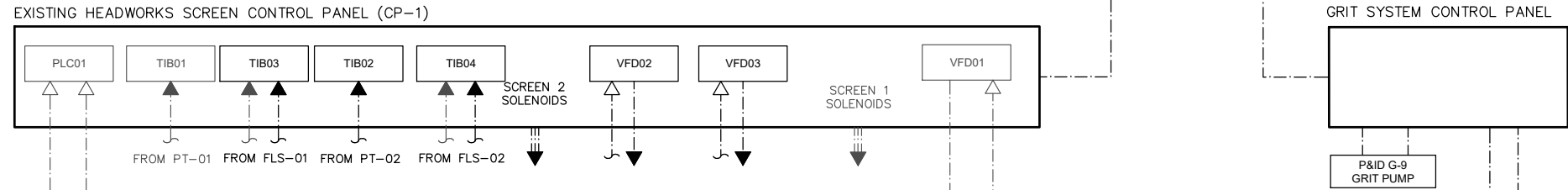
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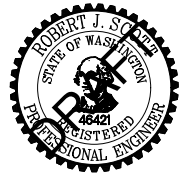
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS

PIPING, PROCESS, AND INSTRUMENTATION DIAGRAM - INFLUENT

* PHASE 2A SCOPE ITEM
 ┆ PHASE 2B SCOPE ITEM



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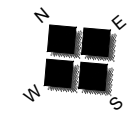
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
 PIPING, PROCESS, AND INSTRUMENTATION DIAGRAM - HEADWORKS

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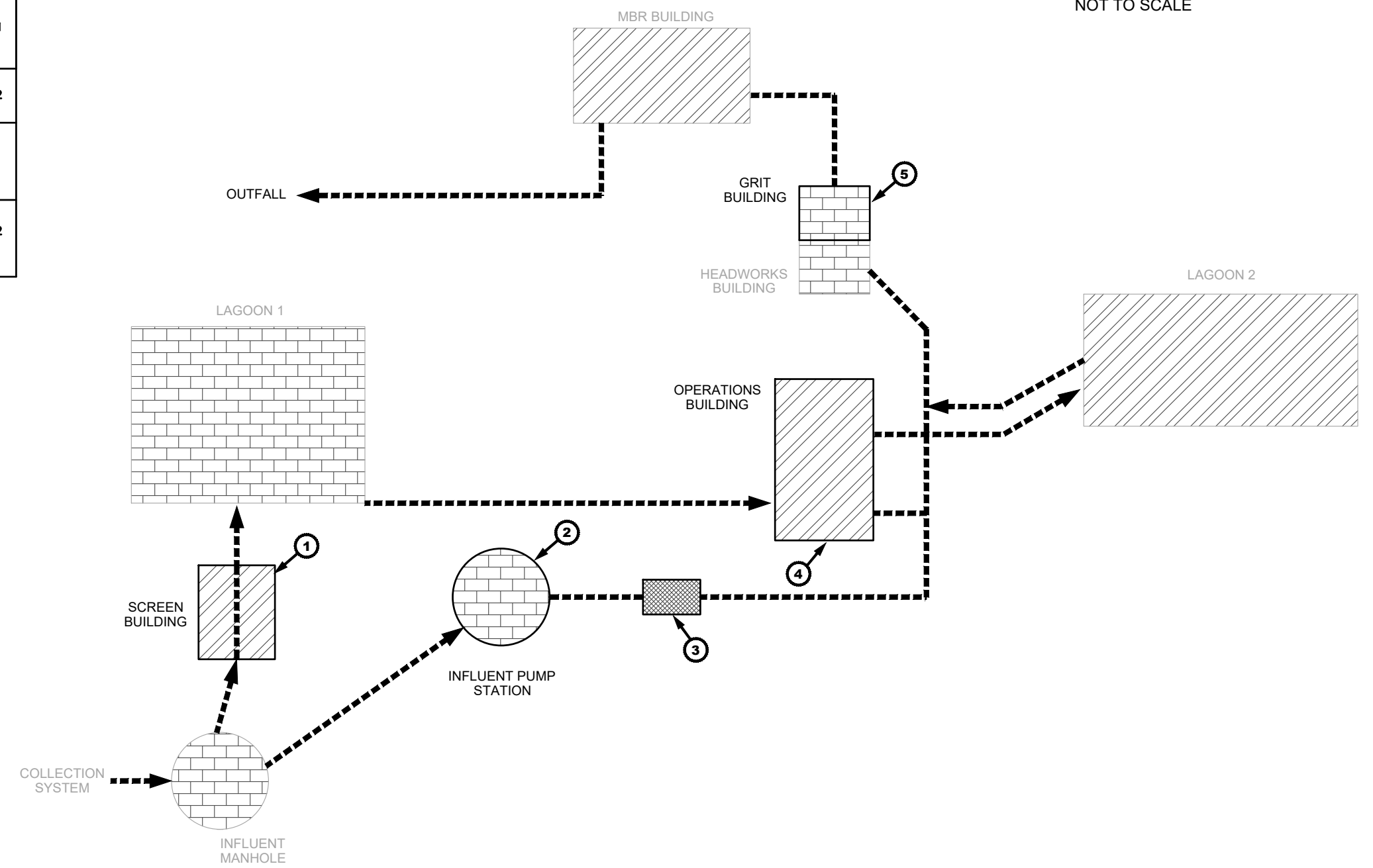
SUMMARY OF ELECTRICAL HAZARDOUS LOCATION CLASSIFICATIONS			
NUMBER	EXISTING/PLANNED INSTALLATION	EFFECTIVE LOCATION EXTENTS (FT)	CLASSIFICATION
①	SCREEN BUILDING	APPROX. 25' X 25'	UNCLASSIFIED
②	INFLUENT PUMP STATION	APPROX. 9' X 5'	CLASS 1, DIVISION 1
③	INFLUENT PUMP STATION METER VAULT	APPROX. 4' DIAMETER	CLASS 1, DIVISION 2
④	OPERATIONS BUILDING	APPROX. 40' X 50'	UNCLASSIFIED
⑤	GRIT BUILDING	APPROX. 28' X 24'	CLASS 1, DIVISION 2



SITE MAP
NOT TO SCALE

LEGEND

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



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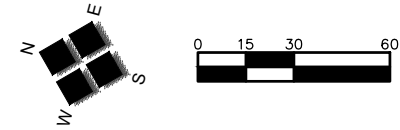


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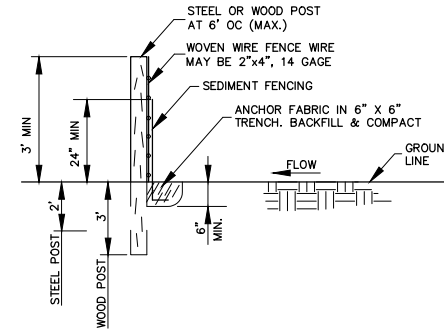
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
ELECTRICAL HAZARDOUS LOCATION CLASSIFICATIONS



DUST CONTROL BMP:

1. WATER APPLIED TO CONSTRUCTION SITES FOR DUST CONTROL MUST NOT LEAVE THE SITE AS SURFACE RUNOFF.
2. LIMIT DUST GENERATION BY CLEARING ONLY THOSE AREAS WHERE IMMEDIATE ACTIVITY WILL TAKE PLACE, LEAVING THE REMAINING AREAS IN THE ORIGINAL CONDITIONS, IF STABLE. MAINTAIN THE ORIGINAL GROUND COVER AS LONG AS PRACTICAL.
3. PROJECT MUST COMPLY WITH THE LOCAL CLEAN AIR AUTHORITY AND KITTITAS COUNTY REQUIREMENTS.



NOTES

1. INSTALLATION TO BE PER MANUFACTURER'S RECOMMENDATION.
2. TO BE USED FOR TERMINAL ENDS & PERIMETER SIDES.
3. THE TWO POST OPTIONS ARE (1) WOOD = 1" X 2" OR 3" MIN. DIA. AND (2) STEEL = 1.33 LBS/FT.MIN.

SEDIMENT BARRIER
NOT TO SCALE TESC-4.DWG

TESC NOTES:

- (T1) CONSTRUCT SILT BARRIER. SEE DETAIL THIS SHEET.

TOPSOIL STOCKPILES:

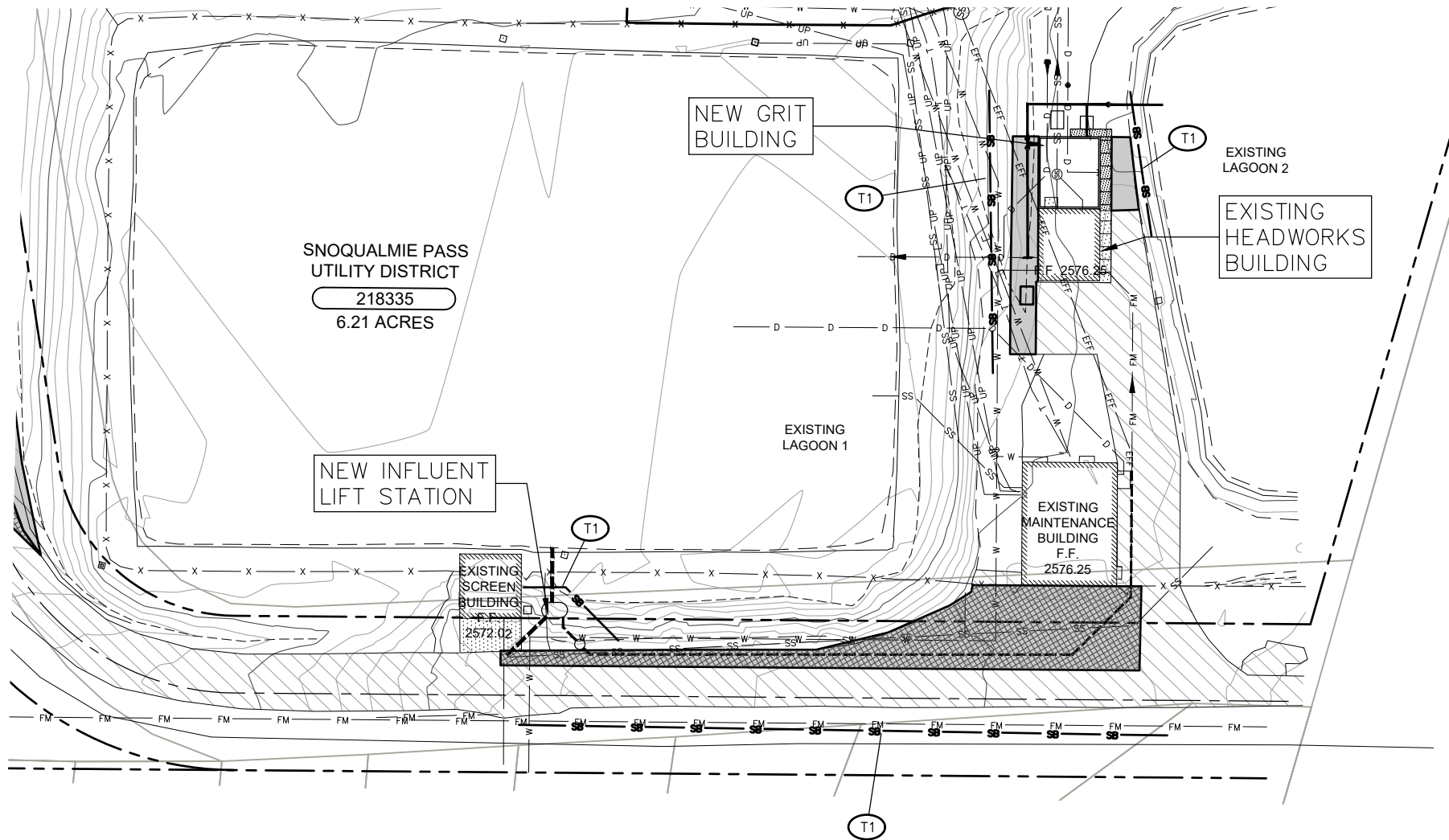
1. STOCKPILES SHALL BE STABILIZED (WITH PLASTIC COVERING OR OTHER APPROVED DEVICE) DAILY BETWEEN NOVEMBER 1 AND MARCH 31.
2. IN ANY SEASON, SEDIMENT LEACHING FROM STOCKPILES MUST BE POSITIVELY PREVENTED.
3. TOPSOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR WHEN CONDITIONS EXIST THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
4. PREVIOUSLY ESTABLISHED GRADES ON THE AREAS TO BE TOPSOILED SHALL BE MAINTAINED ACCORDING TO THE APPROVAL PLAN.

SILT FENCES:

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND SECURELY FASTENED AT BOTH ENDS TO POST.
2. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART AND DRIVEN SECURELY INTO THE GROUND. (MINIMUM OF 30 INCHES).
3. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 8 INCHES WIDE AND 12 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
4. WHEN STANDARD STRENGTH FILTER FABRIC IS USED, A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 4 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
5. THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE, AND 20 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
6. WHEN EXTRA-STRENGTH FILTER FABRIC AND CLOSER POST SPACING IS USED, THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED. IN SUCH A CASE, THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS WITH ALL OTHER PROVISIONS OF ABOVE NOTES APPLYING.
7. FILTER FABRIC FENCES SHALL NOT BE REMOVED BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
8. FILTER FABRIC FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

CONSTRUCTION ENTRANCES:

1. PUBLIC ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR PICKUP SWEEPING AND SHALL BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.



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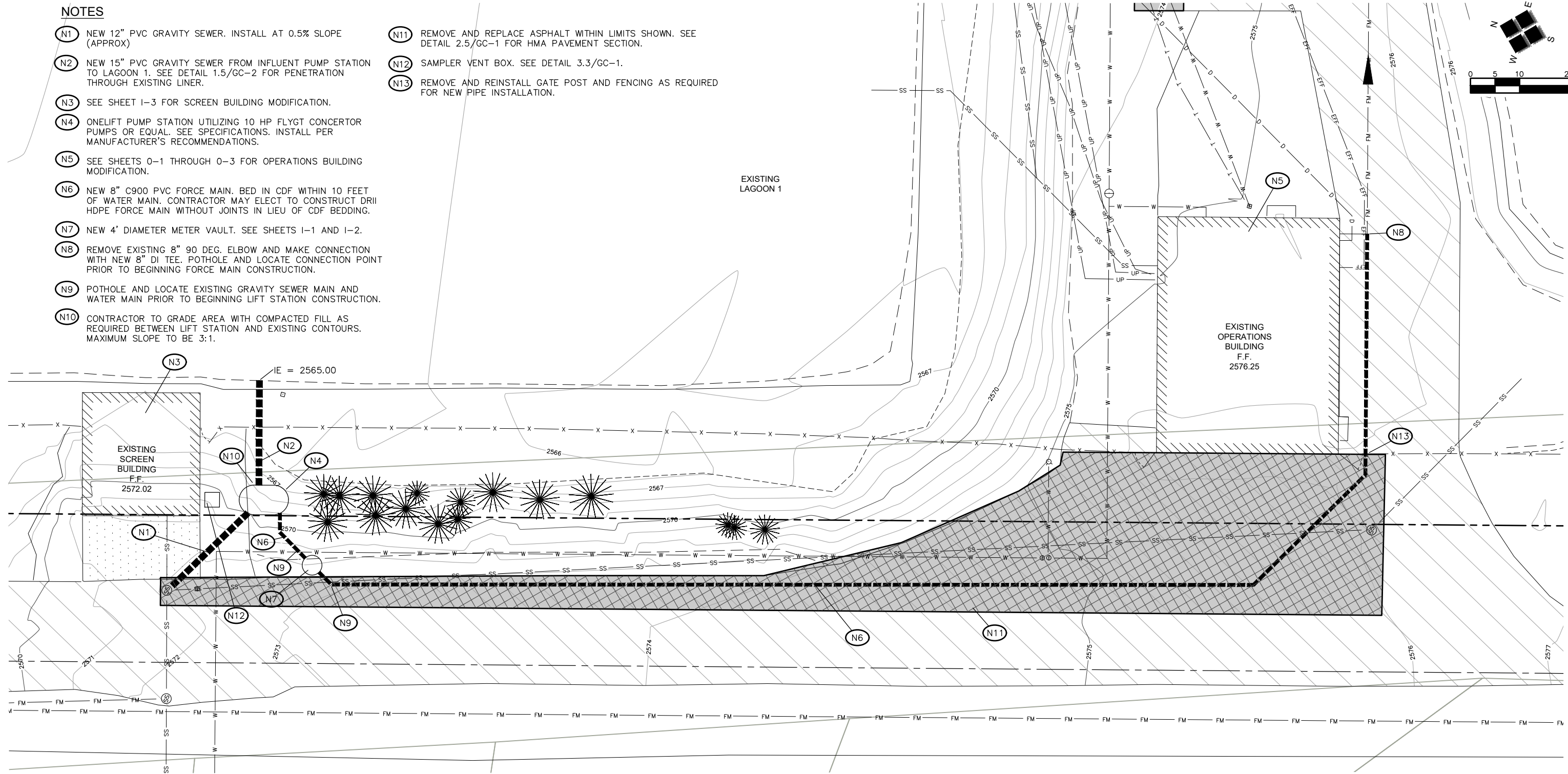
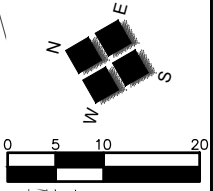
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TEMPORARY EROSION AND SEDIMENT CONTROL PLAN

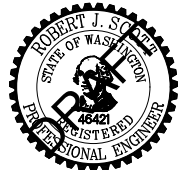
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NOTES

- (N1) NEW 12" PVC GRAVITY SEWER. INSTALL AT 0.5% SLOPE (APPROX)
- (N2) NEW 15" PVC GRAVITY SEWER FROM INFLUENT PUMP STATION TO LAGOON 1. SEE DETAIL 1.5/GC-2 FOR PENETRATION THROUGH EXISTING LINER.
- (N3) SEE SHEET I-3 FOR SCREEN BUILDING MODIFICATION.
- (N4) ONELIFT PUMP STATION UTILIZING 10 HP FLYGT CONCERTOR PUMPS OR EQUAL. SEE SPECIFICATIONS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- (N5) SEE SHEETS 0-1 THROUGH 0-3 FOR OPERATIONS BUILDING MODIFICATION.
- (N6) NEW 8" C900 PVC FORCE MAIN. BED IN CDF WITHIN 10 FEET OF WATER MAIN. CONTRACTOR MAY ELECT TO CONSTRUCT DR11 HDPE FORCE MAIN WITHOUT JOINTS IN LIEU OF CDF BEDDING.
- (N7) NEW 4' DIAMETER METER VAULT. SEE SHEETS I-1 AND I-2.
- (N8) REMOVE EXISTING 8" 90 DEG. ELBOW AND MAKE CONNECTION WITH NEW 8" DI TEE. POTHOLE AND LOCATE CONNECTION POINT PRIOR TO BEGINNING FORCE MAIN CONSTRUCTION.
- (N9) POTHOLE AND LOCATE EXISTING GRAVITY SEWER MAIN AND WATER MAIN PRIOR TO BEGINNING LIFT STATION CONSTRUCTION.
- (N10) CONTRACTOR TO GRADE AREA WITH COMPACTED FILL AS REQUIRED BETWEEN LIFT STATION AND EXISTING CONTOURS. MAXIMUM SLOPE TO BE 3:1.
- (N11) REMOVE AND REPLACE ASPHALT WITHIN LIMITS SHOWN. SEE DETAIL 2.5/GC-1 FOR HMA PAVEMENT SECTION.
- (N12) SAMPLER VENT BOX. SEE DETAIL 3.3/GC-1.
- (N13) REMOVE AND REINSTALL GATE POST AND FENCING AS REQUIRED FOR NEW PIPE INSTALLATION.



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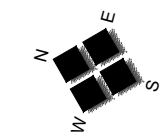
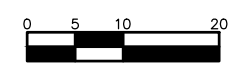
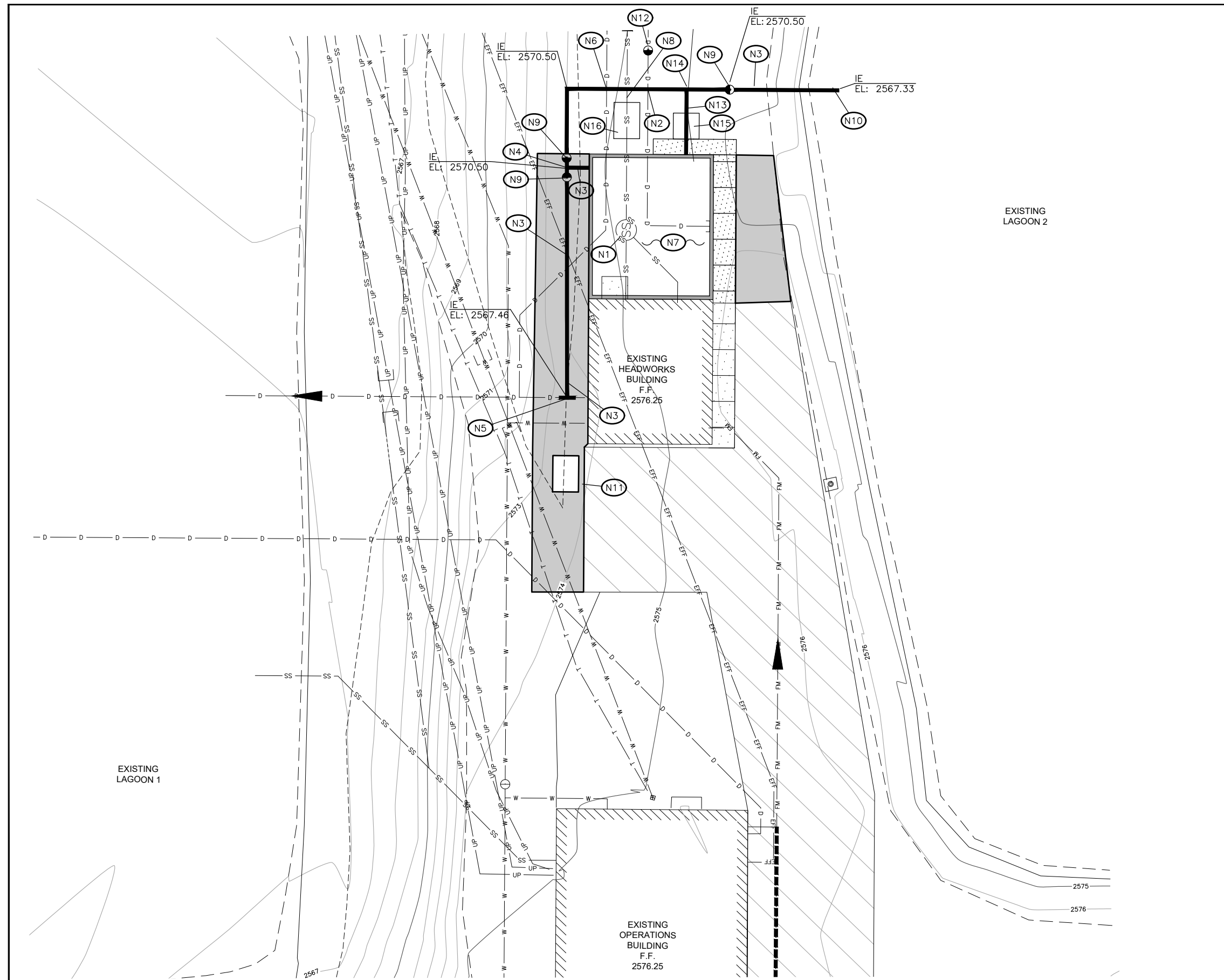
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
SITE PLAN-SW

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NOTES

- (N1) DEMOLISH EXISTING PRECAST CONCRETE MANHOLE AND CONNECT 8" PVC PIPES TO NEW BELOWGRADE GRIT BASIN STRUCTURE. SEE SHEET H-1.
- (N2) CONNECT 6" C900 PVC DRAIN PIPE TO NEW 8" C900 PVC OVERFLOW PIPE WITH FITTINGS AS NECESSARY AND REMOVE OR DEMOLISH PIPE WEST OF CONNECTION.
- (N3) NEW 8" C-900 PVC OVERFLOW PIPE.
- (N4) 8" X 8" DI TEE.
- (N5) 10" X 8" TEE AND LONG PATTERN SLEEVE.
- (N6) CONNECT 2" PEX PIPE TO NEW 8" OVERFLOW PIPE WITH 2" SADDLE AND REMOVE OR DEMOLISH PIPE WEST OF CONNECTION.
- (N7) GRIT BUILDING. SEE SHEET H-1 THROUGH H-6.
- (N8) CONNECT NEW 8" DI PIPE TO EXISTING 8" C900 PVC PIPE. REMOVE EXISTING PIPE WEST OF CONNECTION. SEE SHEET H-2.
- (N9) 8" MJ X MJ ECCENTRIC PLUG VALVE.
- (N10) NEW 8" C-900 PVC OVERFLOW PIPE DISCHARGE. SEE DETAIL 1.5/GC-2 FOR PENETRATION THROUGH EXISTING LINER.
- (N11) SAWCUT ASPHALT AND RE-GRADE TO CREATE A MINIMUM SLOPE TO EDGE OF ELECTRICAL VAULT OF 1.5% FOR NEW PAVING AROUND VAULT AND ON NORTH SIDE OF BUILDING.
- (N12) 6" MJ X MJ ECCENTRIC PLUG VALVE.
- (N13) 4" DI PIPE FROM SCUM PUMP. CONNECT TO NEW 8" PVC PIPE.
- (N14) 8" X 4" DI TEE.
- (N15) 4'L x 4'W x 6'H MINIMUM (INSIDE DIMENSIONS) PRECAST CONCRETE UTILITY VAULT.
- (N16) 6'L x 4'W x 7.5'H MINIMUM (INSIDE DIMENSIONS) PRECAST CONCRETE UTILITY VAULT.

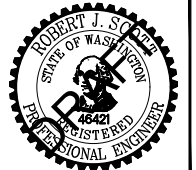
EXISTING LAGOON 1

EXISTING LAGOON 2

EXISTING OPERATIONS BUILDING
F.F. 2576.25



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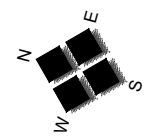
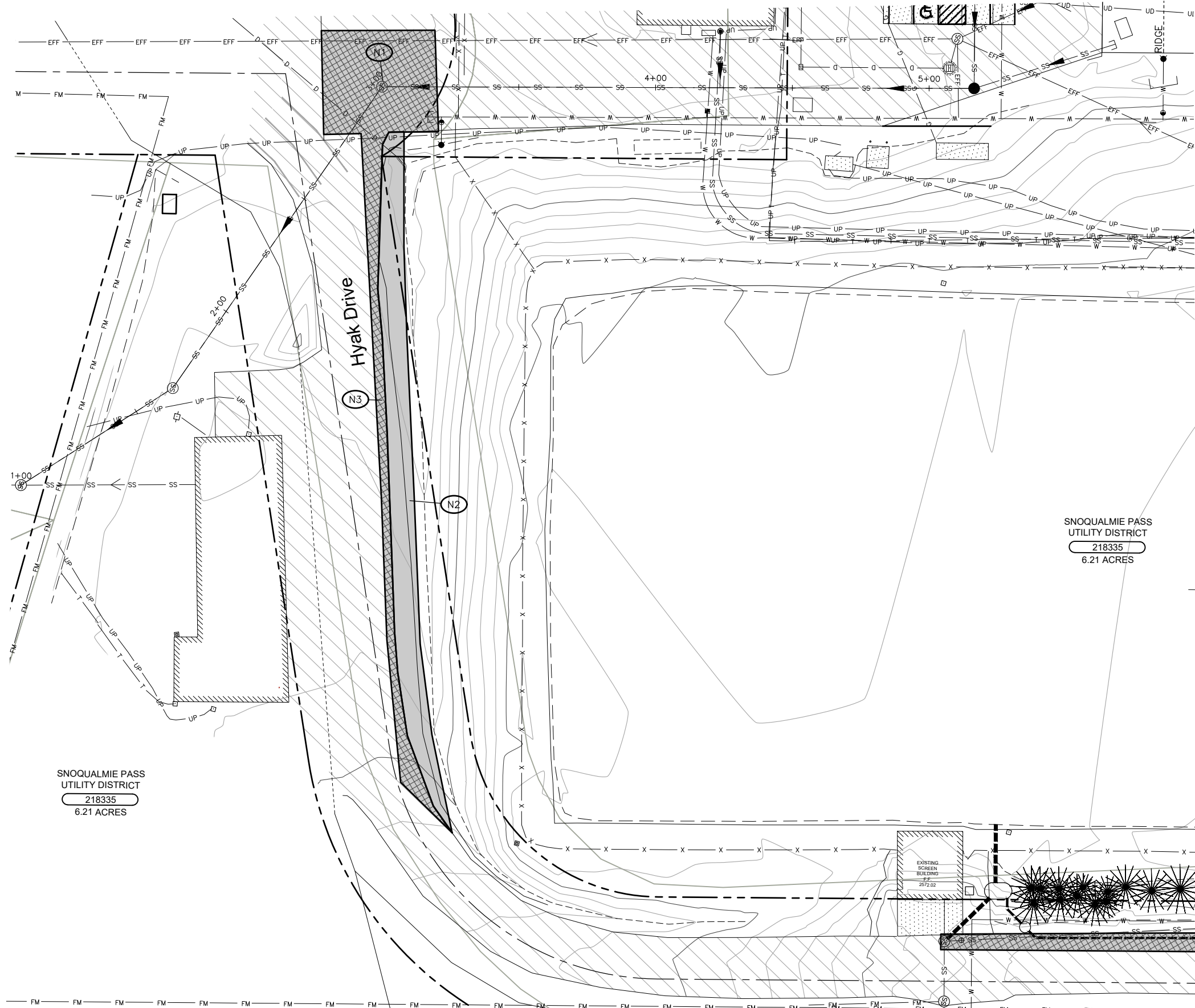
PRELIMINARY
SUBJECT TO REVISION

REVISION	DATE

JOB NUMBER: 22072	DATE: 02/09/2023
FILE NAMES: Sheets-C-2A.dwg	
PLAN: 21180.dwg	
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SNOQUALMIE PASS UTILITY DISTRICT
PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
SITE PLAN-SE

C-3
SHEET
13 OF 34



NOTES

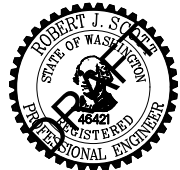
- (N1) REPLACE MANHOLE RING AND CONSTRUCT CONCRETE COLLAR AT LOCALIZED HIGH POINT AND GRADE AWAY AT 1.5%. SEE DETAIL 1.3/GC-1.
- (N2) NEW ASPHALT. SEE DETAIL 2.5/GC-1.
- (N3) SAWCUT, REMOVE, AND REPLACE APPROX. 3' OF ASPHALT WITHIN LIMITS SHOWN. SEE DETAIL 2.5/GC-1.

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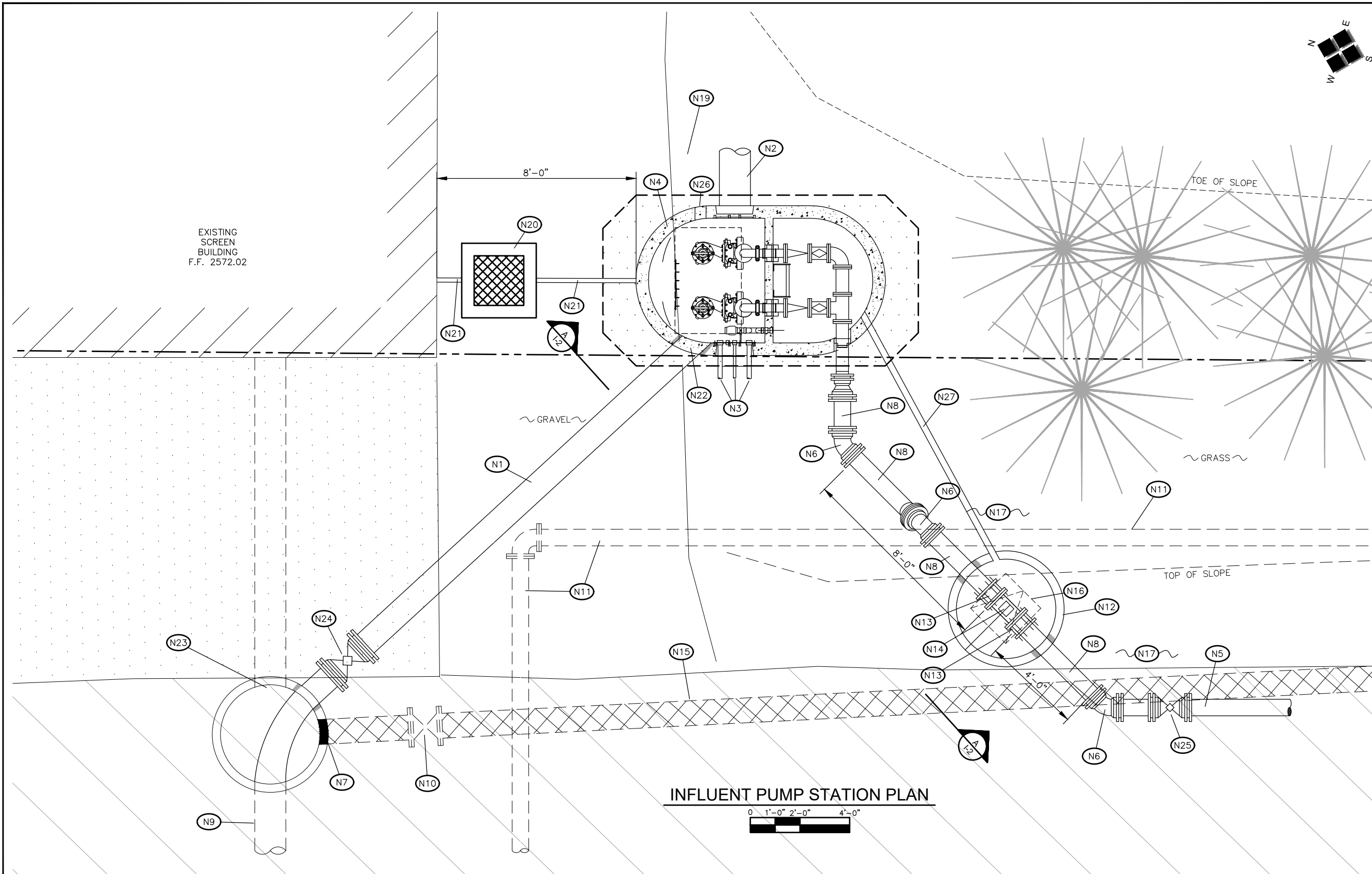
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS

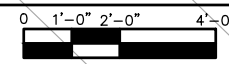
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C-4
SHEET
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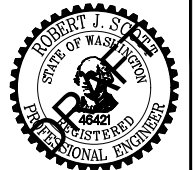


- CONSTRUCTION NOTES:**
- (N1) NEW 12" PVC GRAVITY SEWER. CONSTRUCT AT APPROXIMATELY 1.0% SLOPE.
 - (N2) NEW 15" PVC GRAVITY SEWER OVERFLOW TO LAGOON 1. SEE DETAIL 1.5/GC-2.
 - (N3) ELECTRICAL CONDUITS. SEE SHEET IE-1.
 - (N4) ONELIFT PUMP STATION UTILIZING 10 HP FLYGT CONCERTOR PUMPS OR EQUAL. SEE SPECIFICATIONS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
 - (N5) 8" C900 PVC PIPING TO HEADWORKS, SEE SHEET C-2 FOR CONTINUATION.
 - (N6) 8" MJ 45° ELBOW. ROTATE FITTING AS NEEDED.
 - (N7) PLUG EXISTING OUTLET WITH GROUT. SAWCUT NEW 15" OUTLET, RE-CHANNEL FLOOR, AND MAKE CONNECTION TO NEW PIPE. SAWCUT AND NEW PIPE ORIENTATION SHALL BE MADE TO ACCOMMODATE EXISTING SLIDE GATE.
 - (N8) 8" C900 PVC PIPE SPOOL.
 - (N9) EXISTING 15" PVC GRAVITY SEWER.
 - (N10) SALVAGE EXISTING GATE VALVE TO OWNER.
 - (N11) EXISTING 8" PVC OR DI WATER PIPE.
 - (N12) 4' DIAMETER (INSIDE DIMENSION) PRECAST CONCRETE MANHOLE WITH INTEGRAL FLOOR, HEIGHT AS SHOWN.
 - (N13) 8" FLG COUPLING ADAPTOR.
 - (N14) 8" x 8" FLG x FLG ELECTROMAGNETIC FLOW METER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. MOUNT TRANSMITTER IN EXISTING SCREEN BUILDING.
 - (N15) ABANDON GRAVITY SEWER IN PLACE. DEMOLISH WHERE REQUIRED.
 - (N16) 24"L X 24"W (CLEAR OPENING) ALUMINUM ACCESS HATCH CAST INTO TOP SLAB. CENTER DOOR AS SHOWN.
 - (N17) POT HOLE AND IDENTIFY WATER MAIN AND GRAVITY SEWER DEPTH PRIOR TO ESTABLISHING FORCE MAIN DEPTH. PROVIDE 12" MINIMUM SEPARATION.
 - (N19) CONTRACTOR TO GRADE AREA WITH COMPACTED FILL AS REQUIRED BETWEEN LIFT STATION AND EXISTING CONTOURS. MAXIMUM SLOPE TO BE 3:1.
 - (N20) SAMPLER VENT BOX. SEE DETAIL 3.3/GC-1.
 - (N21) 2" SCH 80 PVC SAMPLER TUBING CARRIER PIPE.
 - (N22) CONTRACTOR TO TERMINATE NEW PIPE AT LIMITS OF WET WELL.
 - (N23) MAINTAIN 15" GRAVITY SEWER AND SLIDE GATE DURING MANHOLE MODIFICATION.
 - (N24) 12" MJ X MJ PLUG VALVE.
 - (N25) 8" MJ X MJ PLUG VALVE.
 - (N26) ROUTE VENT DISCHARGE TO EAST SIDE OF LIFT STATION.
 - (N27) 3" DI DRAIN PIPING.

INFLUENT PUMP STATION PLAN



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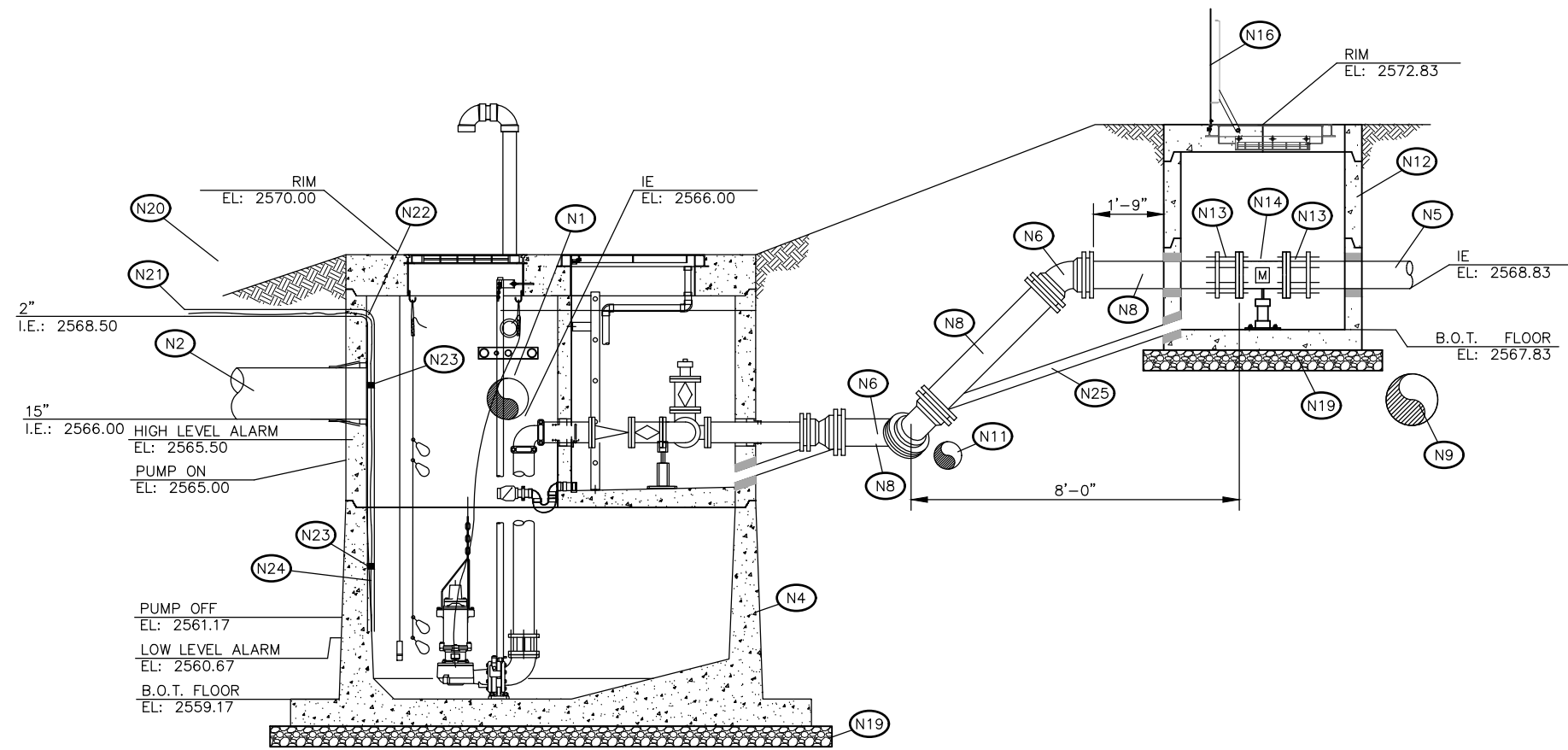


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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
 INFLUENT PUMP STATION PLAN



A
I-1
INFLUENT PUMP STATION SECTION
0 1'-0" 2'-0" 4'-0"

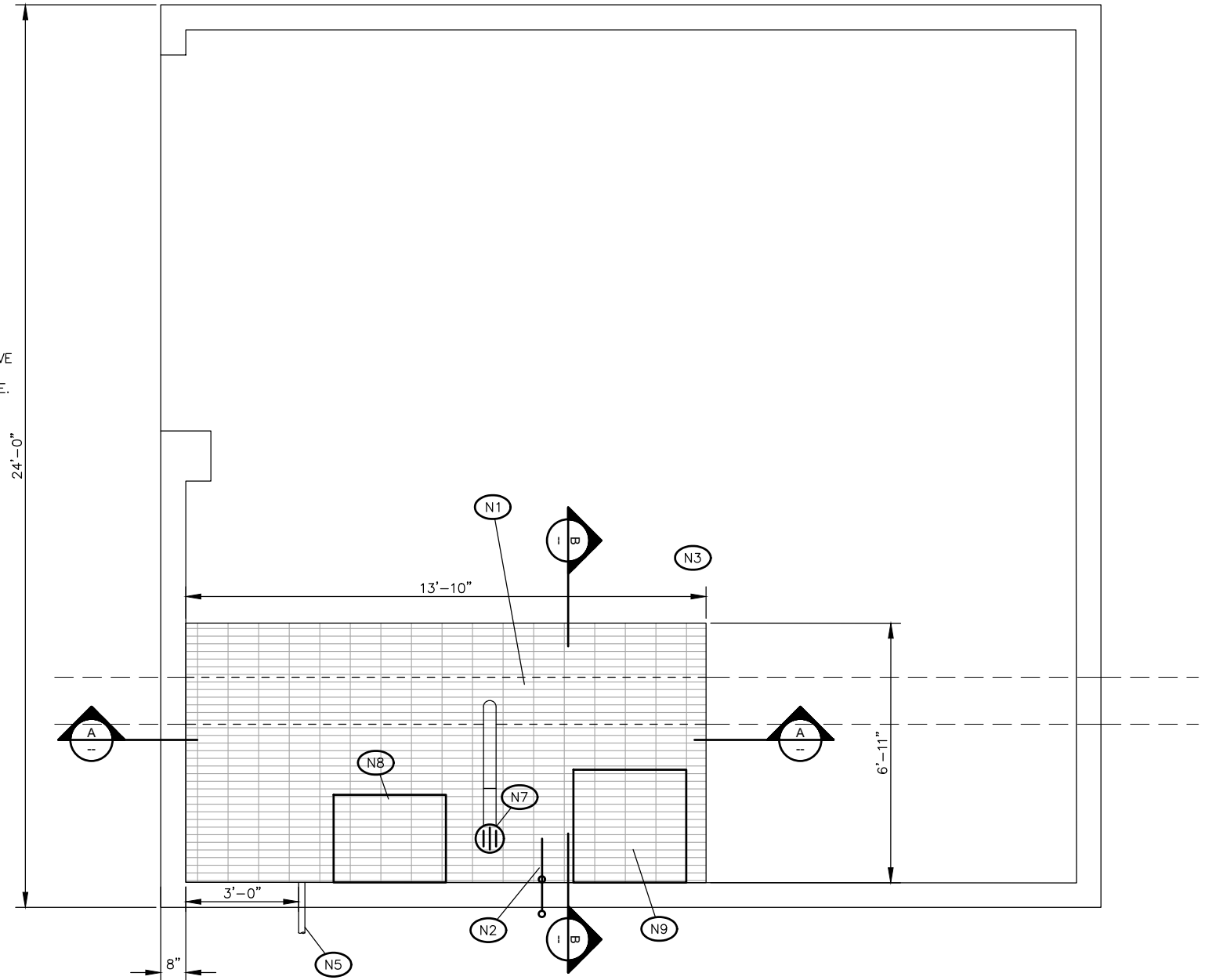
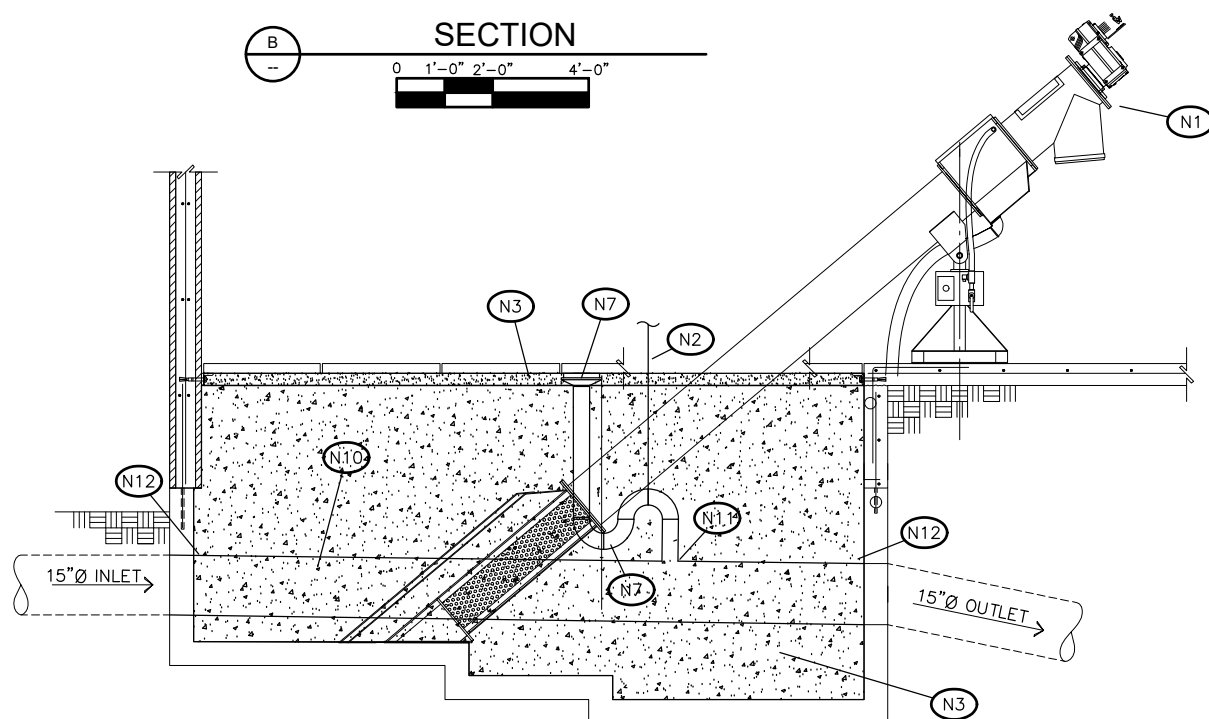
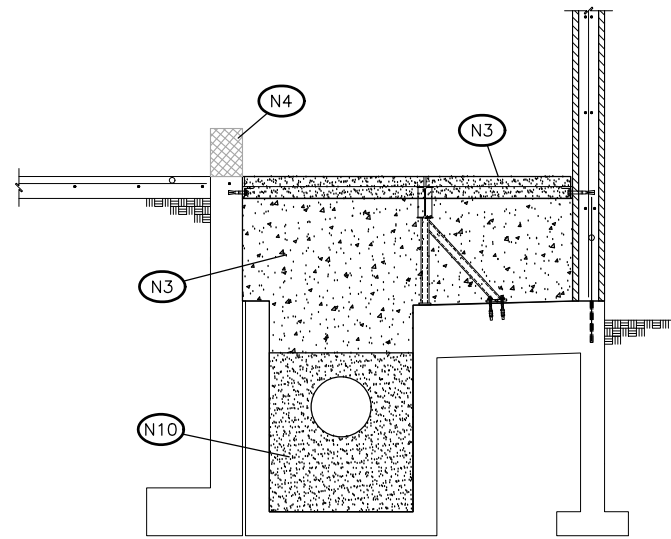
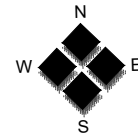
CONSTRUCTION NOTES:

- (N1) NEW 12" PVC GRAVITY SEWER.
- (N2) NEW 15" PVC GRAVITY SEWER OVERFLOW TO LAGOON 1. SEE SHEET C-2 FOR CONTINUATION.
- (N4) ONELIFT PUMP STATION UTILIZING 10 HP FLYGT CONCERTOR PUMPS OR EQUAL. SEE SPECIFICATIONS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- (N5) 8" C900 PVC PIPING TO HEADWORKS, SEE SHEET C-2 FOR CONTINUATION.
- (N6) 8" MJ 45° ELBOW. ROTATE FITTING AS NEEDED.
- (N8) 8" C900 PVC PIPE SPOOL.
- (N9) EXISTING 15" PVC GRAVITY SEWER. ABANDON IN PLACE. DEMOLISH WHERE REQUIRED.
- (N11) EXISTING 8" PVC WATER PIPE. ROUTE NEW PIPING TO NOT DISTURB.
- (N12) 4' DIAMETER (INSIDE DIMENSION) PRECAST CONCRETE MANHOLE WITH INTEGRAL FLOOR, HEIGHT AS SHOWN.
- (N13) 8" FLG COUPLING ADAPTOR.
- (N14) 8" x 8" FLG x FLG ELECTROMAGNETIC FLOW METER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- (N16) 24"L X 24"W (CLEAR OPENING) ALUMINUM ACCESS HATCH CAST INTO TOP SLAB. CENTER DOOR AS SHOWN. H20 RATING.
- (N19) 6" MIN COMPACTED DEPTH CRUSHED SURFACING BENEATH STRUCTURE, TYP.
- (N20) CONTRACTOR TO GRADE AREA WITH COMPACTED FILL AS REQUIRED BETWEEN LIFT STATION AND EXISTING CONTOURS. MAXIMUM SLOPE TO BE 3:1.
- (N21) 2" SCH 80 PVC SAMPLER TUBING CARRIER PIPE.
- (N22) SWEEP BEND.
- (N23) 316 STAINLESS STEEL SUPPORT STRAPS.
- (N24) 3/8" SAMPLER TUBING IN CARRIER PIPE.
- (N25) 3" DI DRAIN PIPE.

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CONSTRUCTION NOTES:

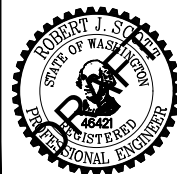
- (N1) REMOVE PIVOTS AND SALVAGE MECHANICAL FINE SCREEN AND GRATING TO OWNER. REMOVE FLUME AND GRATING AS REQUIRED IN CHANNEL TO INSTALL 15" BYPASS PIPE.
- (N2) 2" VENT. ROUTE TO ROOF HEIGHT, PENETRATE WALL, AND TERMINATE WITH GOOSENECK AND BIRD SCREEN.
- (N3) FILL CHANNEL WITH COMPACTED BASE COURSE TO 6" BELOW FINISHED FLOOR ELEVATION AND COVER WITH 10 MIL VAPOR BARRIER. PLACE CONCRETE SLAB WITH #4 @ 16" EACH WAY. MAINTAIN 3" BETWEEN BOTTOM OF BARS AND VAPOR BARRIER. SLOPE NEW SLAB TO DRAIN.
- (N4) DEMOLISH CONCRETE CURB ABOVE FINISHED GRADE AND GRIND TO SMOOTH FINISH.
- (N5) 2" SCH 80 SAMPLER TUBING CARRIER PIPE.
- (N6) 4" MJ DI 45° ELBOW. ROTATE FITTING AS NECESSARY.
- (N7) 9" CAST IRON FLOOR DRAIN WITH 4" OUTLET AND P-TRAP, ZURN MODEL Z-508 OR APPROVED EQUAL.
- (N8) RELOCATE AUTOMATIC SAMPLER TO LOCATION SHOWN. OWNER TO PROVIDE.
- (N9) PUMP CONTROL PANEL. VERIFY LOCATION WITH DISTRICT BEFORE INSTALLATION.
- (N10) NEW 15" PVC GRAVITY SEWER FROM EXISTING CHANNEL INLET TO OUTLET AFTER REMOVING SCREEN AND FLUME. ENCASE PIPE IN CDF TO 6" ABOVE ABOVE PIPE CROWN.
- (N11) 4" SADDLE AND DRAIN PIPE CONNECTION.
- (N12) PLACE PIPE SNUG FIT AGAINST EXISTING PIPE OPENING AND SEAL WITH PIPE PUTTY OR EQUIVALENT PRIOR TO BEGINNING CDF ENCASEMENT. CONTRACTOR SHALL REMOVE CDF FROM PIPE INTERIOR AS NEEDED AND CONFIRM CDF-FREE INSTALLATION PRIOR TO PROJECT ACCEPTANCE.



SCREEN BUILDING MODIFICATION PLAN



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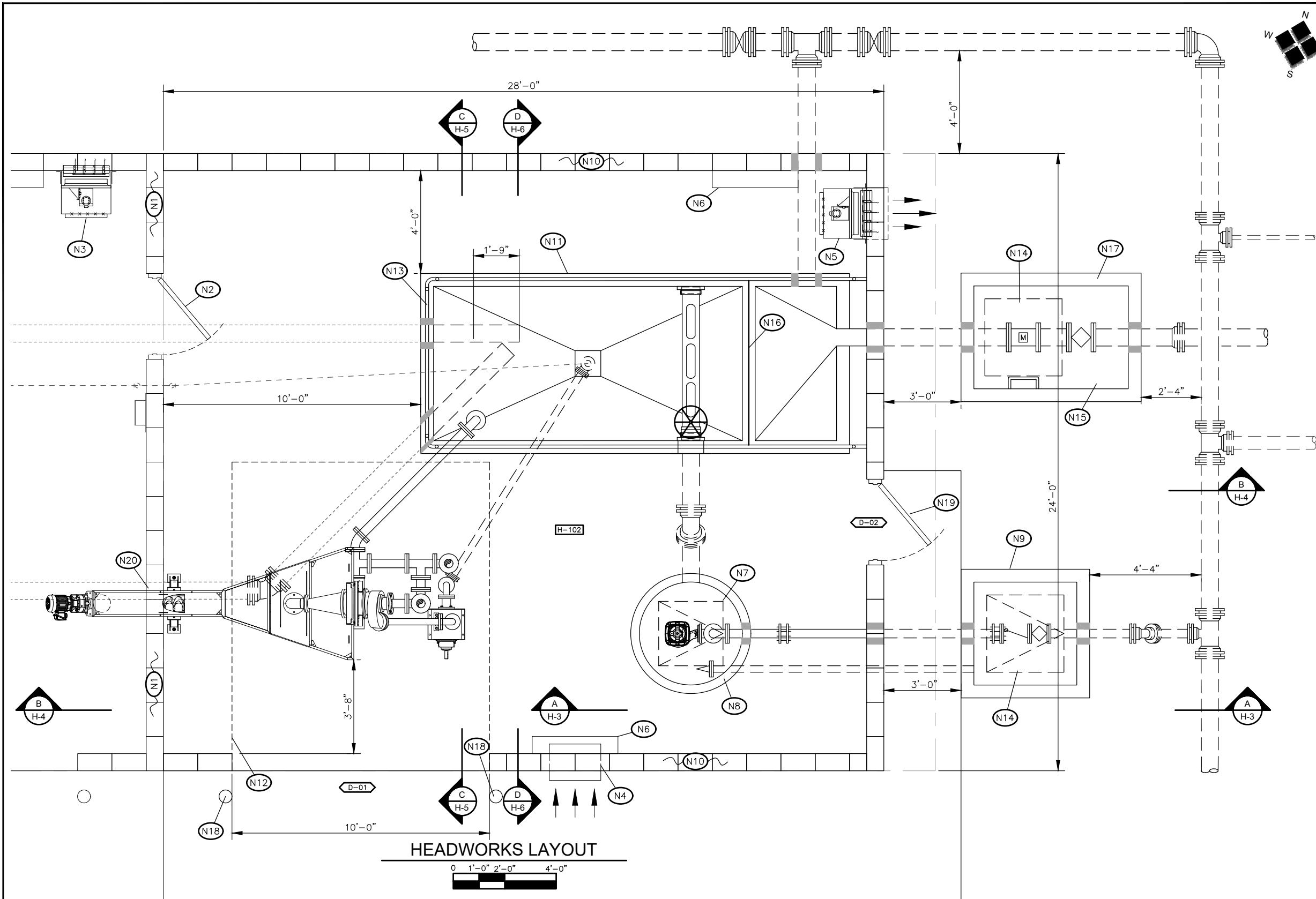
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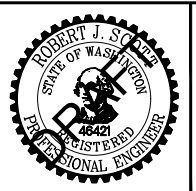
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
SCREEN BUILDING MODIFICATION

I-3
SHEET
17 OF 34



- CONSTRUCTION NOTES:**
- (N1) EXISTING CMU BLOCK WALL.
 - (N2) EXISTING HOLLOW METAL DOOR AND FRAME.
 - (N3) EXISTING HVAC EQUIPMENT.
 - (N4) 24" x 24" INTAKE LOUVER AND MOTORIZED DAMPER, GREENHECK MODEL ESD-435 WITH MODEL VCD-23 DAMPER AND 120 VAC EXPLOSION PROOF MOTOR. SEE DETAIL 1.1/GM-1.
 - (N5) EXHAUST FAN AND LOUVER, SEE DETAIL 1.2/GM-1. FAN RATED FOR 1,000 CFM @ 0.25 SP GREENHECK MODEL SDPE-12-3-A4 GRAVITY DAMPER AND FAN HOUSING, LOUVER OTHER ACCESSORIES.
 - (N6) ELECTRIC EXPLOSION PROOF CONVECTOR HEATER AS MANUFACTURED BY INDEECO, 4.4 KW CATALOG NUMBER 254-F0330442U-C2-B3 (CORROSIVE-RESISTANT STAINLESS STEEL CONSTRUCTION WITH OPTIONAL BUILT-IN T-STAT AND CONTROLS).
 - (N7) 30" x 30" CLEAR-OPENING SINGLE DOOR ALUMINUM ACCESS HATCH CAST INTO TOP SLAB.
 - (N8) 4' DIAMETER (INSIDE DIAMETER) PRECAST CONCRETE MANHOLE WITH INTEGRAL FLOOR, HEIGHT AS SHOWN.
 - (N9) 4'L x 4'W x 6'H MINIMUM (INSIDE DIMENSIONS) PRECAST CONCRETE UTILITY VAULT.
 - (N10) CMU BLOCK WALL. SEE SHEET _____.
 - (N11) GRIT TANK, SEE SHEET _____. CONTRACTOR MAY AT THEIR OPTION, INSTALL A PRECAST CONCRETE TANK WITH ENGINEER'S APPROVAL.
 - (N12) NEW OVERHEAD SECTIONAL DOOR OUTLINE.
 - (N13) GUARDRAIL, TYP. SEE DETAIL 3.5/GA-2.
 - (N14) 36" X 36" CLEAR-OPENING SINGLE DOOR ALUMINUM ACCESS HATCH CAST INTO TOP SLAB.
 - (N15) ACCESS LADDER.
 - (N16) CONSTRUCT WEIR PLATE. SEE DETAIL SHEET GP-3.
 - (N17) 6'L x 4'W x 7.5'H MINIMUM (INSIDE DIMENSIONS) PRECAST CONCRETE UTILITY VAULT.
 - (N18) PROTECTIVE BOLLARD TYPICAL, SEE DETAIL 1.5/GC-1.
 - (N19) NEW 3' X 7' INSULATED HOLLOW METAL DOOR AND FRAME. REFER TO GA-1 FOR DOOR SCHEDULE.
 - (N20) WALL PENETRATION FOR GRIT CLASSIFIER DISCHARGE. INSTALL FLASHING AROUND OPENING AND SEAL WEATHER TIGHT.

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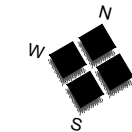
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
HEADWORKS BUILDING PLAN VIEW

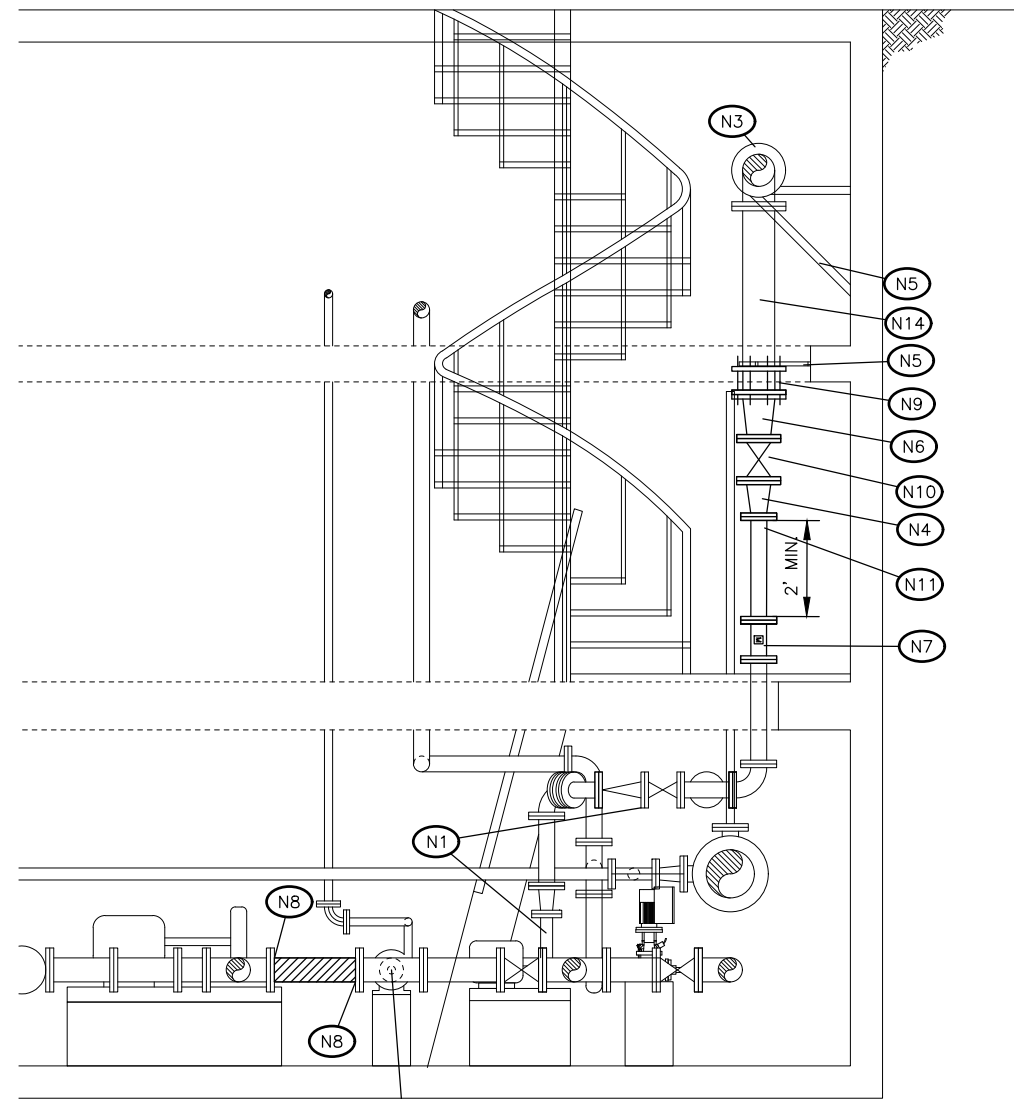
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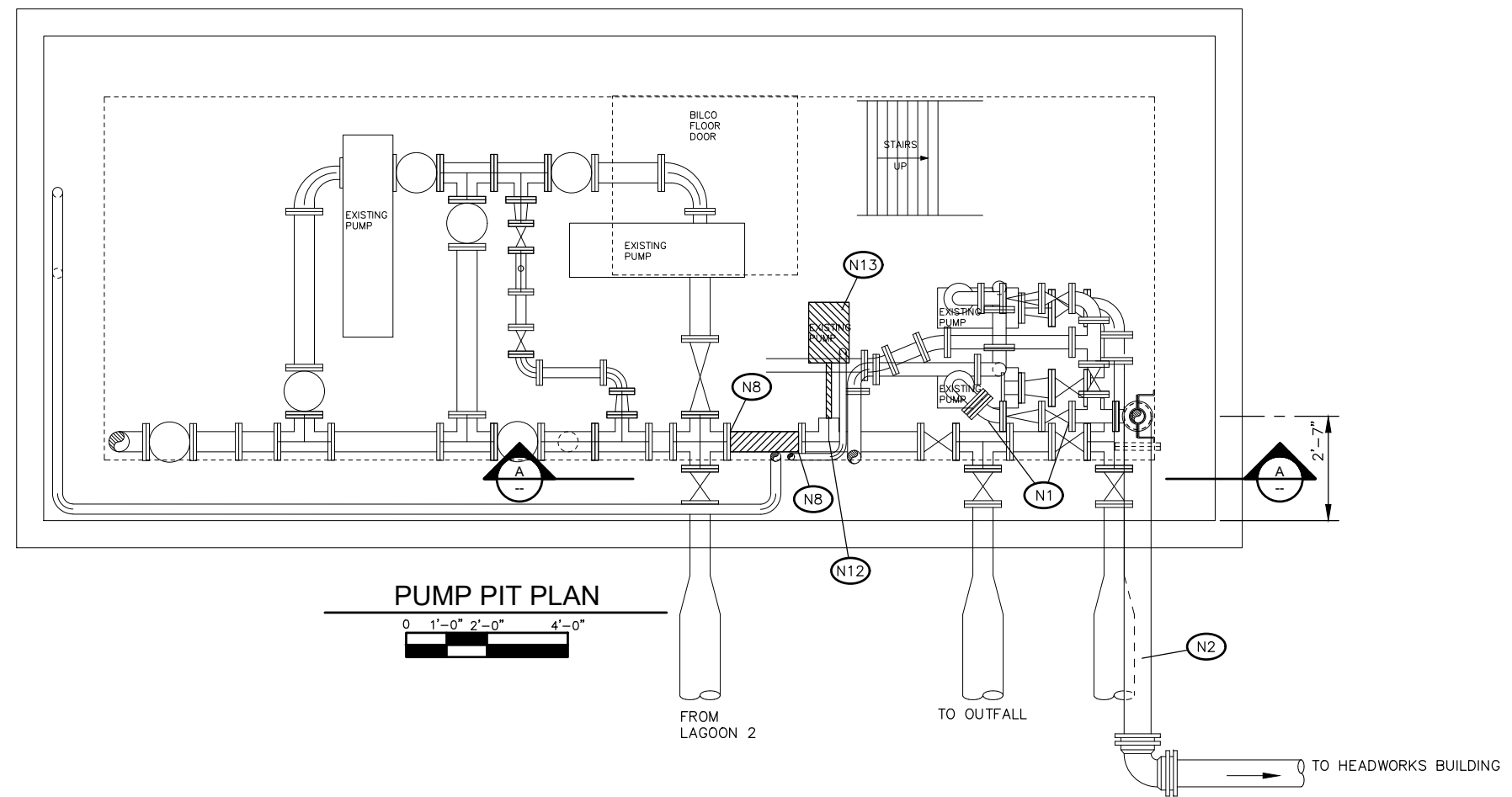


CONSTRUCTION NOTES:

- (N1) EXISTING TRANSFER PUMPS AND PIPING, TYPICAL.
- (N2) EXISTING D.I. 8" SUPPLY TO MBR SCREENS.
- (N3) EXISTING D.I. 8" FLANGED 90° ELBOW.
- (N4) RELOCATED D.I. 6" X 4" FLANGED REDUCER.
- (N5) EXISTING PIPE SUPPORTS.
- (N6) RELOCATED D.I. 8" X 6" FLANGED REDUCER.
- (N7) 4" FLG X FLG ELECTROMAGNETIC FLOW METER. INSTALL PER MANUFACTURER RECOMMENDATIONS TO EXISTING FLANGE.
- (N8) DISCONNECT AND REMOVE PIPE BETWEEN LIMITS SHOWN AND CONSTRUCT PIPING. SEE UV PIPE INSTALLATION, SHEETS O-2 AND O-3.
- (N9) 8" FLG COUPLING ADAPTOR.
- (N10) RELOCATED 6" PLUG VALVE.
- (N11) NEW 4" DI PIPE SPOOL (LENGTH AS REQUIRED PER FLOW METER MANUFACTURER REQUIREMENTS).
- (N12) ROTATE EXISTING TEE VERTICALLY AND REUSE. INSTALL BLIND FLANGE ON WESTERN BRANCH.
- (N13) REMOVE AND SALVAGE PUMP TO OWNER.
- (N14) EXISTING 8" DI PIPE CUT TO REQUIRED LENGTH TO INSTALL NEW FLOW METER.

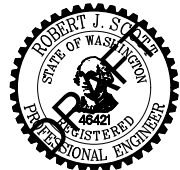


PUMP PIT SECTION
 A --- 0 1'-0" 2'-0" 4'-0"



PUMP PIT PLAN
 A --- 0 1'-0" 2'-0" 4'-0"

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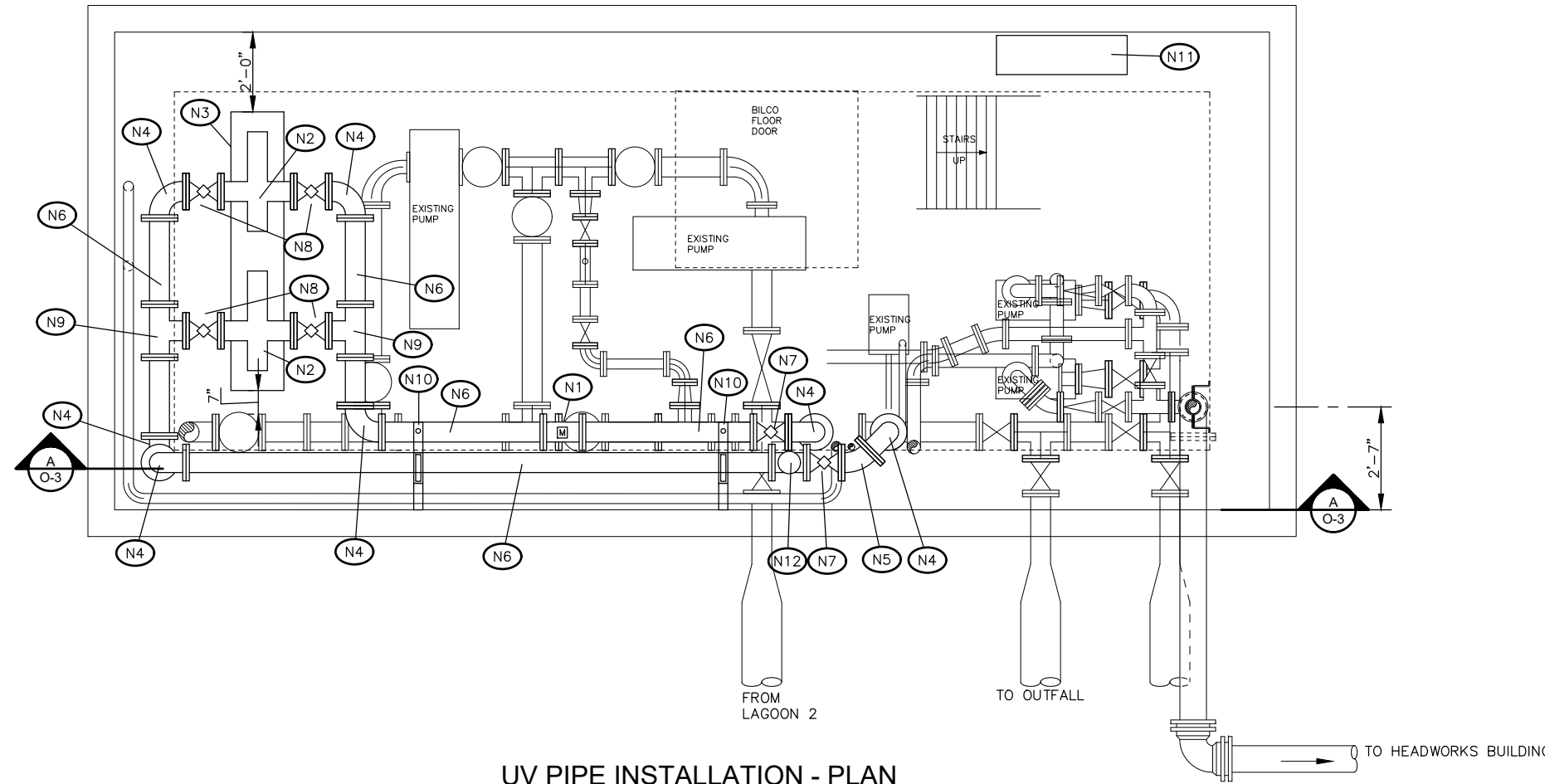
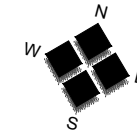


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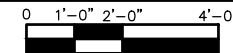
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
 OPERATIONS BUILDING MODIFICATION

O-1
 SHEET
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UV PIPE INSTALLATION - PLAN



CONSTRUCTION NOTES:

- (N1) 6" FLG ELECTROMAGNETIC FLOW METER. INSTALL PER MANUFACTURERS RECOMMENDATIONS. MOUNT TRANSMITTER ON UPPER FLOOR OF BUILDING.
- (N2) UV DISINFECTION SYSTEM. INSTALL PER MANUFACTURER RECOMMENDATIONS.
- (N3) CAST-IN-PLACE CONCRETE EQUIPMENT PIER. SEE DETAIL 2.3/GP-3.
- (N4) 6" DI FLG 90° ELBOW.
- (N5) 6" DI FLG 45° BEND.
- (N6) 6" DI PIPE SPOOL. FLG X FLG OR FLG X PE WITH FLANGED COUPLING ADAPTOR.
- (N7) 6" FLG MOTOR-ACTUATED PLUG VALVE. PROVIDE INSTALL AND SUPPORTS WITH BRACKETS ON EACH SIDE PER DETAIL 2.5/GP-1.
- (N8) 6" FLG PLUG VALVE.
- (N9) 6" FLG TEE.
- (N10) PIPES TO BE SUPPORTED WITH PIPE SUPPORT AND HANGER PER DETAILS 1.2/GP-1 AND 2.5/GP-1.
- (N11) INSTALL UV CONTROL CABINET.
- (N12) AIR RELEASE VALVE ASSEMBLY. PER DETAIL 2.2/GP-2.



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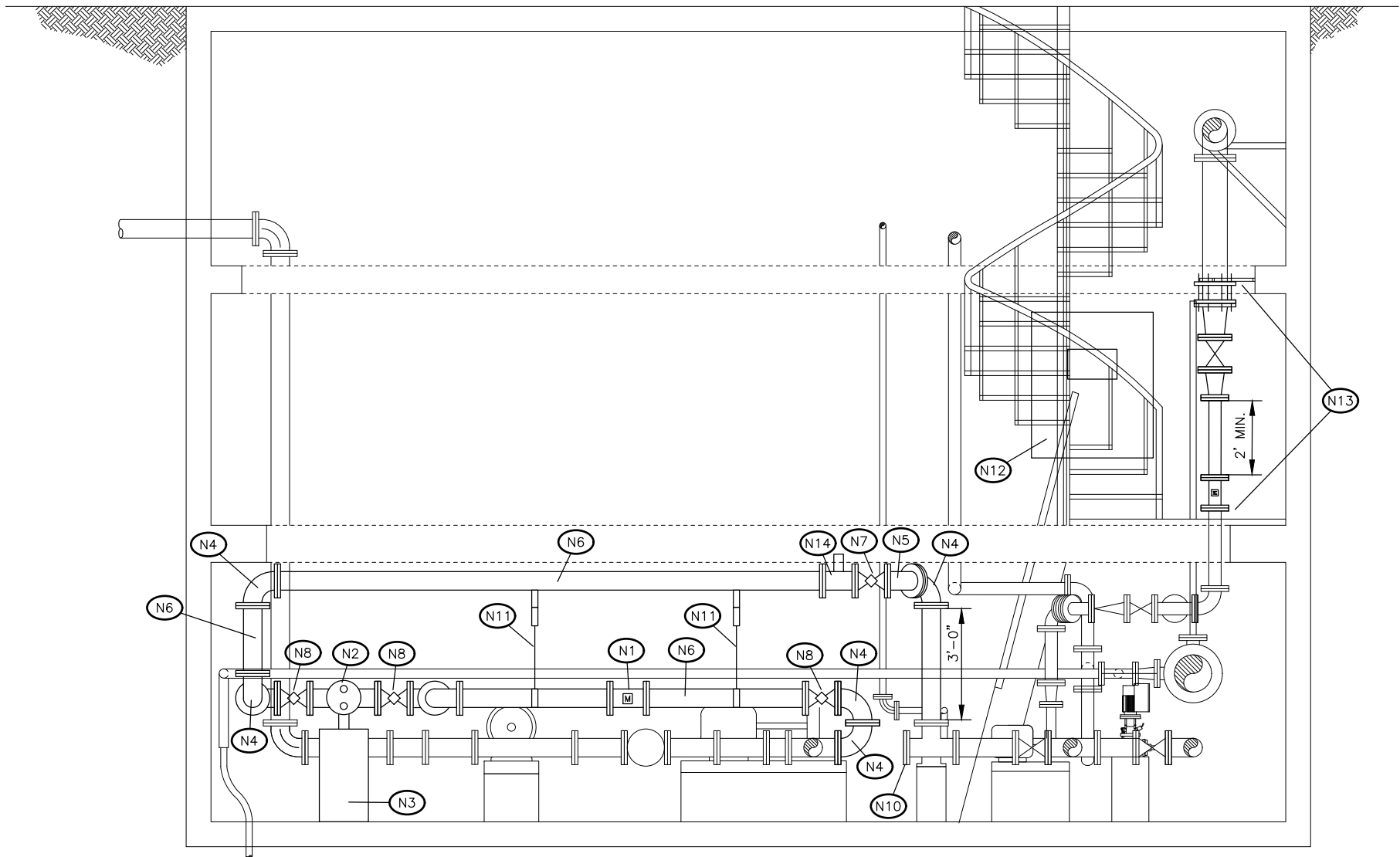
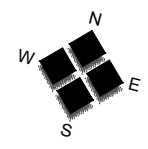
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OPERATIONS BUILDING - UV PIPE INSTALLATION

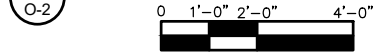
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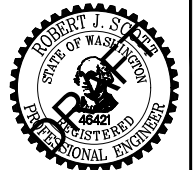
CONSTRUCTION NOTES:

- (N1) 6" FLG ELECTROMAGNETIC FLOW METER. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
- (N2) UV DISINFECTION SYSTEM. INSTALL PER MANUFACTURER RECOMMENDATIONS.
- (N3) CAST-IN-PLACE CONCRETE EQUIPMENT PIER. SEE DETAIL 2.3/GP-3 FOR PIER CONSTRUCTION.
- (N4) 6" DI FLG 90° ELBOW.
- (N5) 6" DI FLG 45° BEND.
- (N6) 6" DI PIPE SPOOL. FLG X FLG OR FLG X PE WITH FLANGED COUPLING ADAPTOR.
- (N7) 6" FLG MOTOR-ACTUATED PLUG VALVE. PROVIDE INSTALL AND SUPPORTS WITH BRACKETS ON EACH SIDE PER DETAIL 2.5/GP-1.
- (N8) 6" FLG PLUG VALVE.
- (N9) 6" FLG TEE.
- (N10) INSTALL NEW 6" BLIND FLANGE.
- (N11) PIPES TO BE SUPPORTED WITH PIPE SUPPORT AND HANGER PER DETAILS 1.2/GP-1 AND 2.5/GP-1.
- (N12) INSTALL UV CONTROL CABINET ON WALL.
- (N13) SEE SHEET 0-1 FOR CONSTRUCTION NOTES.
- (N14) AIR RELEASE VALVE ASSEMBLY PER DETAIL 2.2/GP-2.

A UV PIPE INSTALLATION -SECTION



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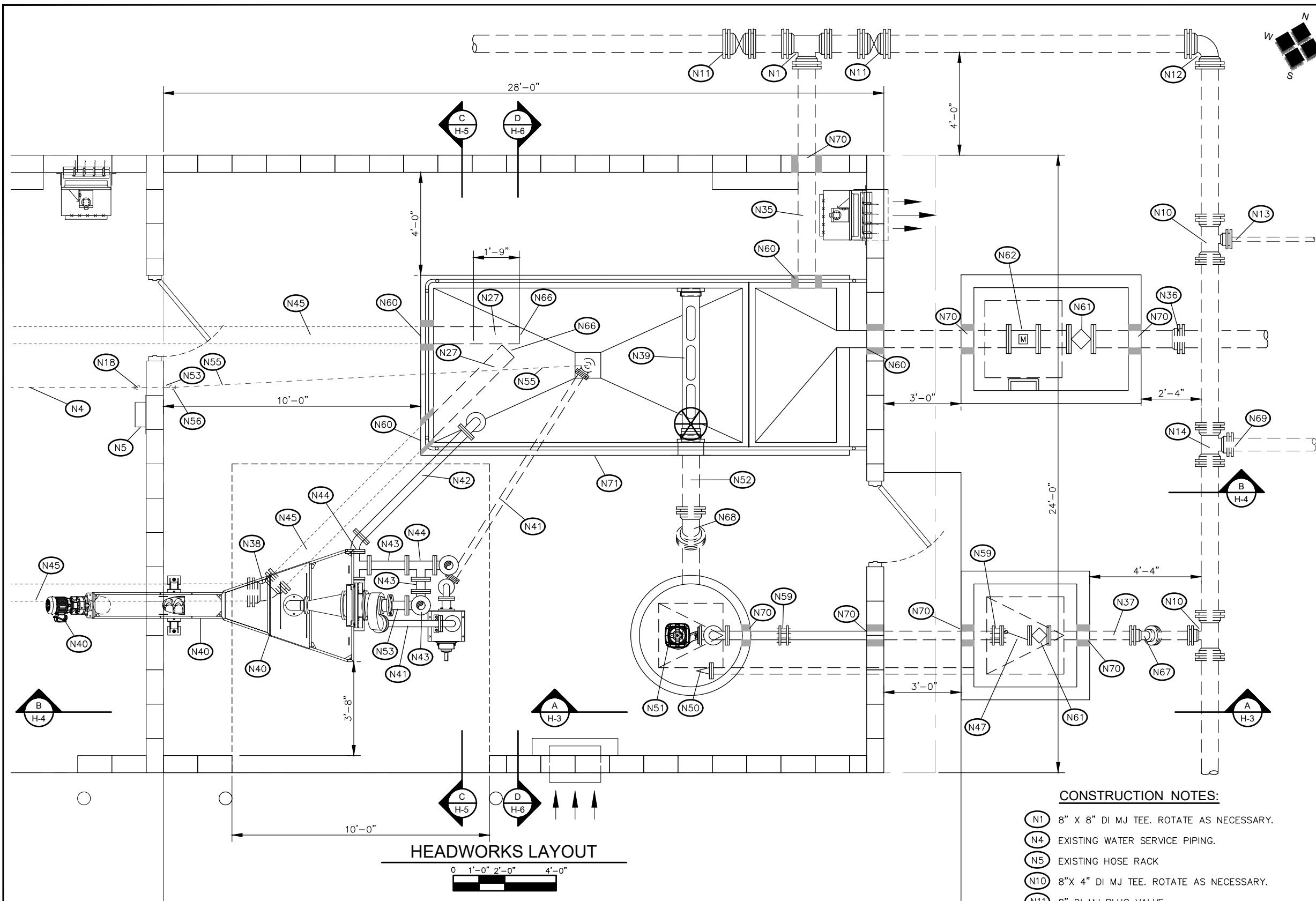


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SNOQUALMIE PASS UTILITY DISTRICT
PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
 OPERATIONS BUILDING - UV PIPE INSTALLATION

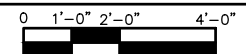


- (N14) 8" X 6" DI MJ TEE.
- (N18) EXISTING 1" HOSE BIB.
- (N27) 8" DI FLG X PE SPOOL.
- (N35) 8" DI OVERFLOW PIPING TO LAGOON 1. SEE SHEET C-4 FOR CONTINUATION.
- (N36) 8" DI PIPING TO MBR BUILDING. CONNECT TO EXISTING 8" C900 GRAVITY SEWER WITH ROMAC RESTRAINED ALPHA COUPLING.
- (N37) 4" DI PIPE FROM SCUM PUMP. CONNECT TO NEW 8" PVC PIPE. SEE SHEET C-3 FOR CONTINUATION.
- (N38) 8" DI MJ 45° ELBOW CONNECTION TO EXISTING PIPE. ABANDON PIPE EAST OF CONNECTION.
- (N39) FIBERGLASS ROTATING SCUM SKIMMER AND HANDWHEEL OPERATOR. SEE DETAIL 3.2/GP-2.
- (N40) GRIT CLASSIFIER. MOUNT PER MANUFACTURER'S RECOMMENDATIONS.
- (N41) 3" DI GRIT SLURRY PIPING TO GRIT CLASSIFIER.
- (N42) 4" DI OVERFLOW PIPING TO GRIT TANK, CONNECT TO EQUIPMENT FLANGE.
- (N43) 4" FLG SPOOL.
- (N44) 4" FLG TEE.
- (N45) EXISTING 8" DI PIPING TO GRIT TANK.
- (N47) 4" FLG X FLG SWING CHECK VALVE.
- (N50) 3" FLG DUCKBILL CHECK VALVE.
- (N51) 3 HP SUBMERSIBLE SCUM PUMP.
- (N52) 8" C900 PVC PIPING TO SCUM PUMP STATION.
- (N53) 4" DI FLG 11.25° ELBOW.
- (N55) 1" PEX WATER SERVICE PIPING.
- (N56) 1" HOSE BIBB, HOSE RACK, AND SOLENOID VALVE. SEE DETAIL 2.5/GP-2.
- (N59) 4" BOLTED SLEEVE TYPE COUPLING.
- (N60) DI PE X PE SPOOL WITH WALL COLLAR CAST INTO TANK WALL. SEE DETAIL 3.4/GP-1.
- (N61) 8" FLG X FLG MOTOR-ACTUATED PLUG VALVE.
- (N62) 8" FLG X FLG ELECTROMAGNETIC FLOW METER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- (N65) NEW 8" DI PIPING, MAKE CONNECTION TO EXISTING WITH RESTRAINED JOINT.
- (N66) CONTRACTOR TO TERMINATE NEW PIPE AT LIMITS OF GROUT.
- (N67) 4" DI MJ 45° ELBOW.
- (N68) 8" DI MJ 45° ELBOW.
- (N69) CONNECT 6" C900 PVC DRAIN PIPE TO NEW 8" C900 PVC OVERFLOW PIPE WITH FITTINGS AS NECESSARY AND REMOVE OR DEMOLISH PIPE WEST OF CONNECTION.
- (N70) DI PE X PE SPOOL W/ LINK SEALS PER DETAIL 3.3/GP-1.
- (N71) GRIT TANK. SEE SHEET XX. CONTRACTOR MAY, AT THEIR OPTION, INSTALL A PRECAST CONCRETE TANK WITH ENGINEER'S APPROVAL.

CONSTRUCTION NOTES:

- (N1) 8" X 8" DI MJ TEE. ROTATE AS NECESSARY.
- (N4) EXISTING WATER SERVICE PIPING.
- (N5) EXISTING HOSE RACK
- (N10) 8"X 4" DI MJ TEE. ROTATE AS NECESSARY.
- (N11) 8" DI MJ PLUG VALVE.
- (N12) 8" DI MJ 90° ELBOW.
- (N13) CONNECT 2" PEX PIPE TO NEW 8" OVERFLOW PIPE WITH 2" SADDLE AND REMOVE OR DEMOLISH PIPE WEST OF CONNECTION.

HEADWORKS LAYOUT



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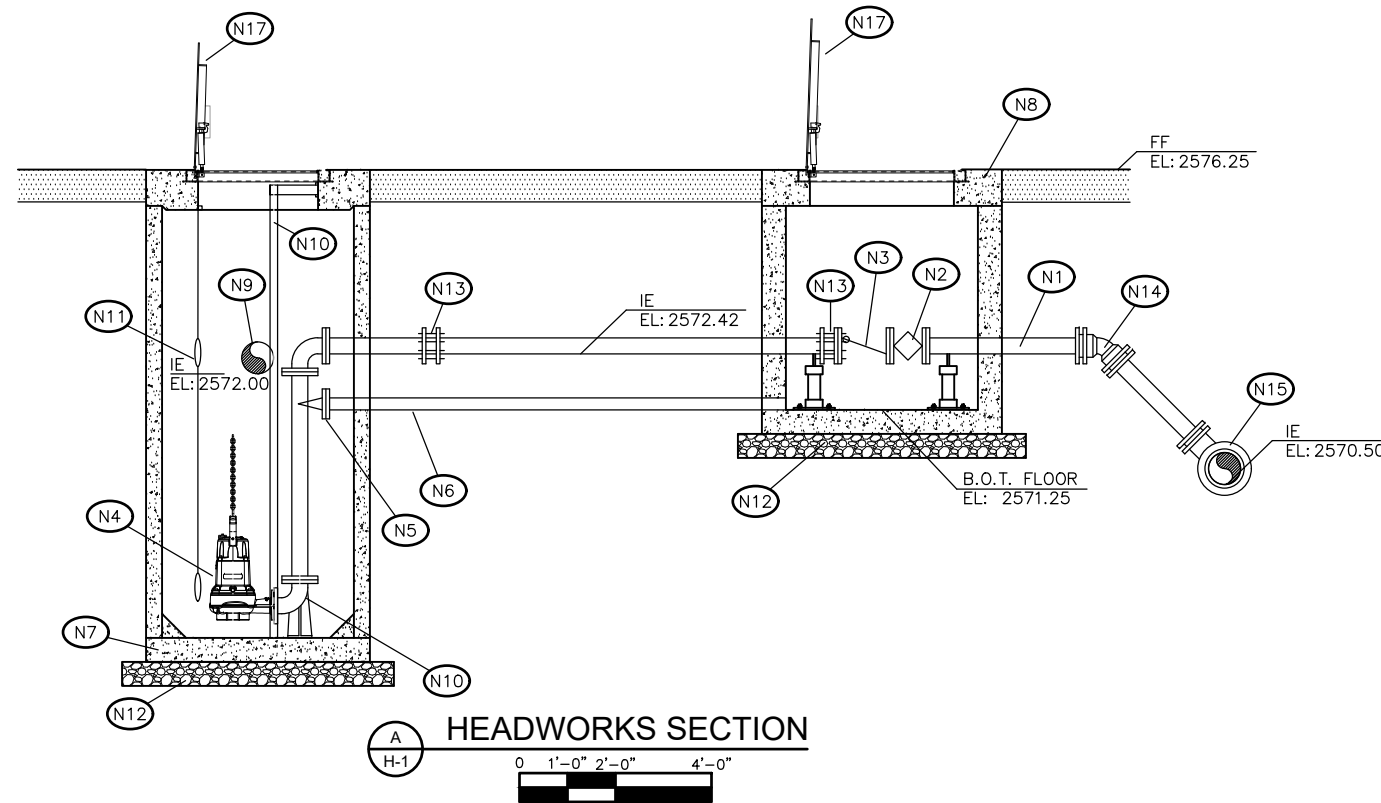


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SUBJECT TO REVISION

REVISION	DATE

JOB NUMBER: 22072 DATE: 02/09/2023
 FILE NAMES:
 DRAWING: Sheets-H-2A.dwg
 PLAN: 21180.dwg
 PROFILE:
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SNOQUALMIE PASS UTILITY DISTRICT
PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
 HEADWORKS PROCESS PLAN VIEW



CONSTRUCTION NOTES:

- (N1) 4" DI PIPING TO LAGOON 1. SEE SHEET C-5 FOR CONTINUATION.
- (N2) 4" FLG X FLG ECCENTRIC PLUG VALVE.
- (N3) 4" FLG X FLG SWING CHECK VALVE.
- (N4) 3 HP SUBMERSIBLE SCUM PUMP.
- (N5) 3" FLG DUCKBILL CHECK VALVE.
- (N6) 3" DI DRAIN PIPING.
- (N7) 4" DIAMETER (INSIDE DIAMETER) PRECAST CONCRETE MANHOLE WITH INTEGRAL FLOOR, HEIGHT AS SHOWN.
- (N8) 4'L x 4'W x 6'H MINIMUM (INSIDE DIAMETER) PRECAST CONCRETE UTILITY VAULT.
- (N9) 8" C900 PVC PIPING TO SCUM PUMP STATION.
- (N10) DISCHARGE ELBOW AND STAINLESS STEEL GUIDE RAIL SYSTEM BY PUMP MANUFACTURER. SEE SPECIFICATIONS. PROVIDE STAINLESS STEEL AIRCRAFT CABLE LIFTING LINE WITH SUPPORT BRACKET TO STORE LIFTING LINE INSIDE ACCESS COVER.
- (N11) PUMP FLOATS. SEE DETAIL 3.1/GP-3 AND ELECTRICAL PLANS.
- (N12) 6" MIN COMPACTED DEPTH CRUSHED SURFACING BENEATH STRUCTURE, TYP.
- (N13) 4" BOLTED SLEEVE TYPE COUPLING.
- (N14) 4" DI MJ 45° ELBOW.
- (N15) 8' X 4" DI MJ TEE.
- (N16) 36" X 36" CLEAR-OPENING SINGLE DOOR ALUMINUM ACCESS HATCH CAST INTO TOP SLAB.



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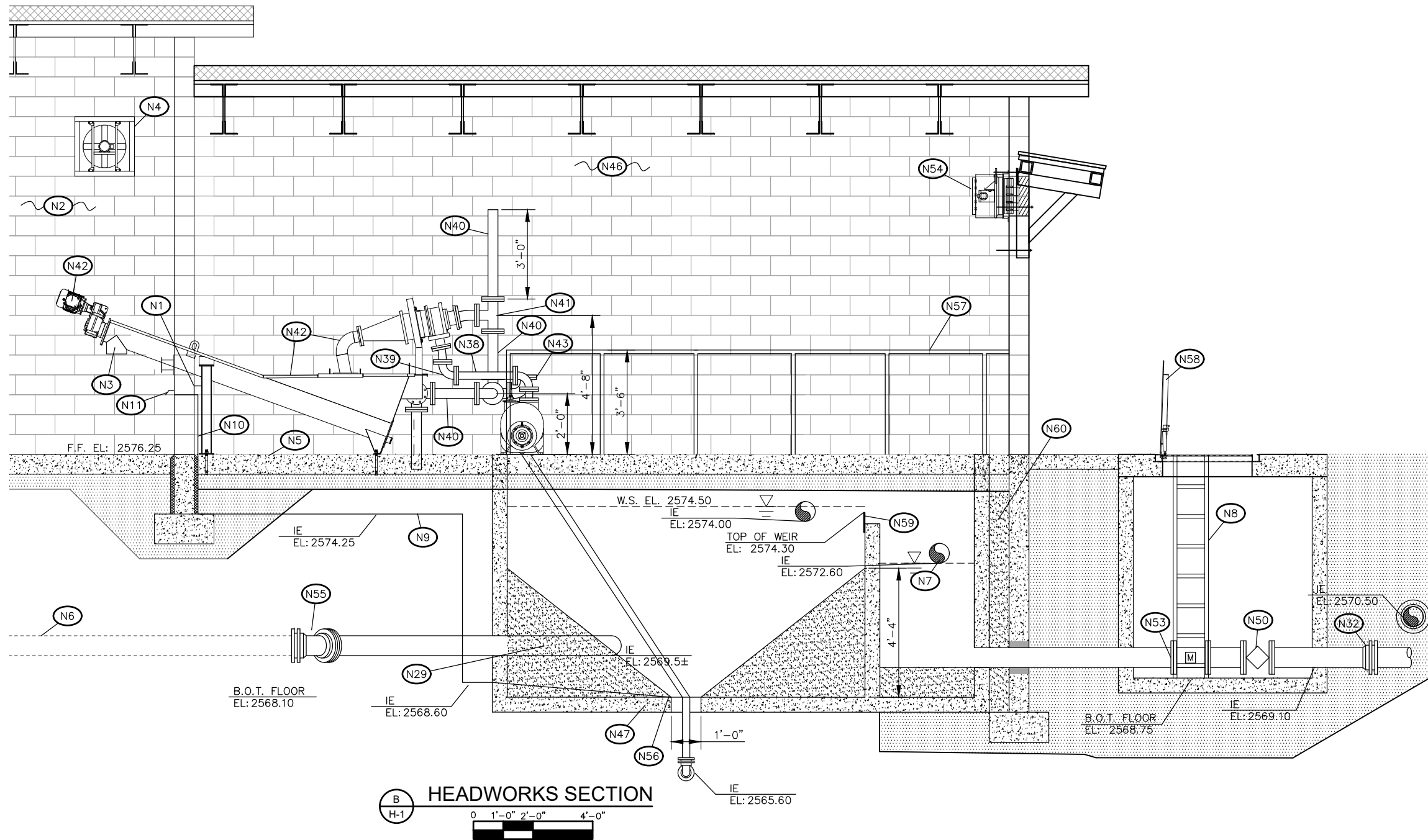
SNOQUALMIE PASS UTILITY DISTRICT
PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS

HEADWORKS SECTION VIEW A

H-3

SHEET

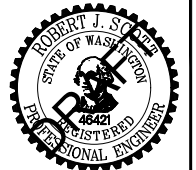
23 OF 34



B
H-1
HEADWORKS SECTION
0 1'-0" 2'-0" 4'-0"

- CONSTRUCTION NOTES:**
- (N1) NEW 1" HOSE BIBB AND HOSE RACK.
 - (N2) EXISTING CMU BLOCK WALL.
 - (N3) EXISTING HOSE RACK.
 - (N4) EXISTING EXHAUST FAN.
 - (N5) EXISTING CEMENT CONCRETE SIDEWALK. DEMOLISH AND REPLACE WITH NEW BUILDING SLAB. SEE SHEET HS-1.
 - (N6) EXISTING 8" DI PIPING.
 - (N7) 8" C900 PVC OVERFLOW PIPING TO LAGOON 1.
 - (N8) ACCESS LADDER.
 - (N9) 1" PEX WATER PIPING.
 - (N10) 1" SOLENOID VALVE (SUPPLIED BY GRIT SYSTEM MANUFACTURER).
 - (N11) EXISTING 1" HOSE BIBB.
 - (N29) 8" DI PVC PIPING TO GRIT TANK. MAKE CONNECTION TO EXISTING WITH RESTRAINED JOINT.
 - (N32) 8" DI PIPING TO MBR BUILDING. CONNECT TO EXISTING 8" C900 GRAVITY SEWER WITH ROMAC RESTRAINED ALPHA COUPLING. SEE SHEET C-3 FOR CONTINUATION.
 - (N38) 3" DI GRIT SLURRY PIPING.
 - (N39) 3" FLG 90° ELBOW.
 - (N40) 4" DI OVERFLOW PIPING.
 - (N41) 4" FLG TEE.
 - (N42) GRIT CLASSIFIER. MOUNT PER MANUFACTURER'S RECOMMENDATIONS.
 - (N43) 4" FLG 90° BEND CLEANOUT WITH BLIND FLANGE.
 - (N46) CMU BLOCK WALL. SEE SHEET _____.
 - (N47) GRIT TANK. SEE SHEET _____. CONTRACTOR MAY, AT THEIR OPTION INSTALL A PRECAST CONCRETE TANK WITH ENGINEER'S APPROVAL.
 - (N50) 8" X 8" FLG X FLG MOTOR-ACTUATED PLUG VALVE.
 - (N53) 8" x 8" FLG x FLG ELECTROMAGNETIC FLOW METER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
 - (N54) EXHAUST FAN.
 - (N55) 8" MJ 45° ELBOW.
 - (N56) CUT WATER SERVICE PIPE FLUSH WITH EDGE OF GROUT.
 - (N57) GUARDRAIL, TYP. SEE DETAIL 3.5/GA-2.
 - (N58) 36" X 36" CLEAR-OPENING SINGLE DOOR ALUMINUM ACCESS HATCH CAST INTO TOP SLAB.
 - (N59) CONSTRUCT WEIR PLATE. SEE DETAIL SHEET GP-3.
 - (N60) FILL SPACE BETWEEN GRIT TANK AND FOUNDATION WALL WITH CDF.

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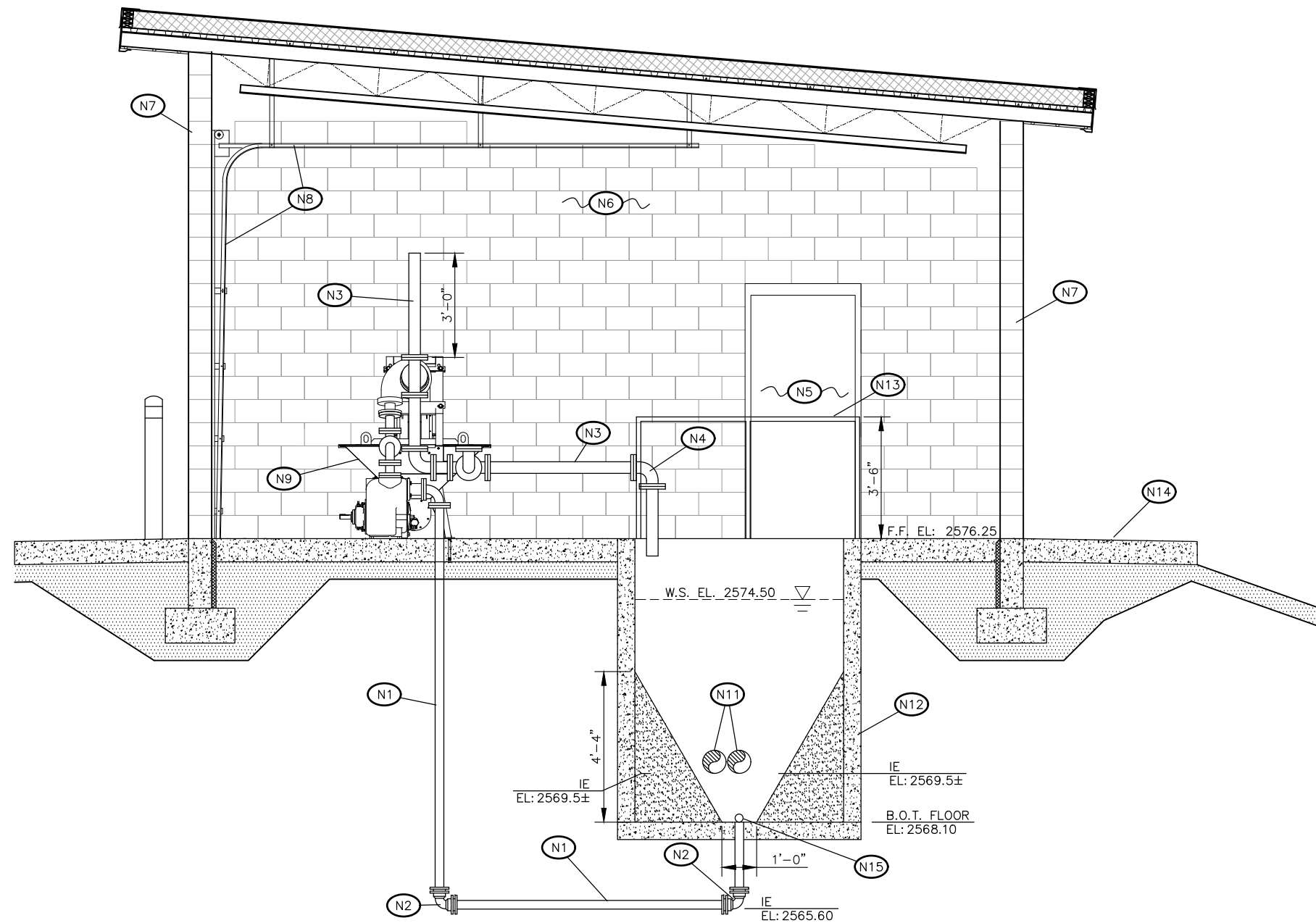


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 HEADWORKS SECTION VIEW B



- CONSTRUCTION NOTES:**
- (N1) 3" DI GRIT SLURRY PIPING TO GRIT CLASSIFIER.
 - (N2) 3" DI MJ 90° ELBOW.
 - (N3) 4" C900 PVC OVERFLOW PIPING TO GRIT TANK.
 - (N4) 4" DI FLG 90° ELBOW.
 - (N5) EXISTING HOLLOW METAL DOOR AND FRAME.
 - (N6) EXISTING CMU BLOCK WALL.
 - (N7) NEW CMU BLOCK WALL, SEE SHEET _____.
 - (N8) OVERHEAD SECTIONAL DOOR. SEE DETAIL 2.5/GA-1.
 - (N9) GRIT CLASSIFIER. MOUNT PER MANUFACTURER'S RECOMMENDATIONS.
 - (N11) 8" DI PIPING TO GRIT TANK.
 - (N12) GRIT TANK. SEE SHEET _____, CONTRACTOR MAY AT THEIR OPTION INSTALL A PRECAST CONCRETE TANK WITH ENGINEER'S APPROVAL.
 - (N13) GUARDRAIL, TYP. SEE DETAIL 3.5/GA-2.
 - (N14) ASPHALT PAVING.
 - (N15) 1" PEX WATER SERVICE PIPING.

C HEADWORKS SECTION
 0 1'-0" 2'-0" 4'-0"

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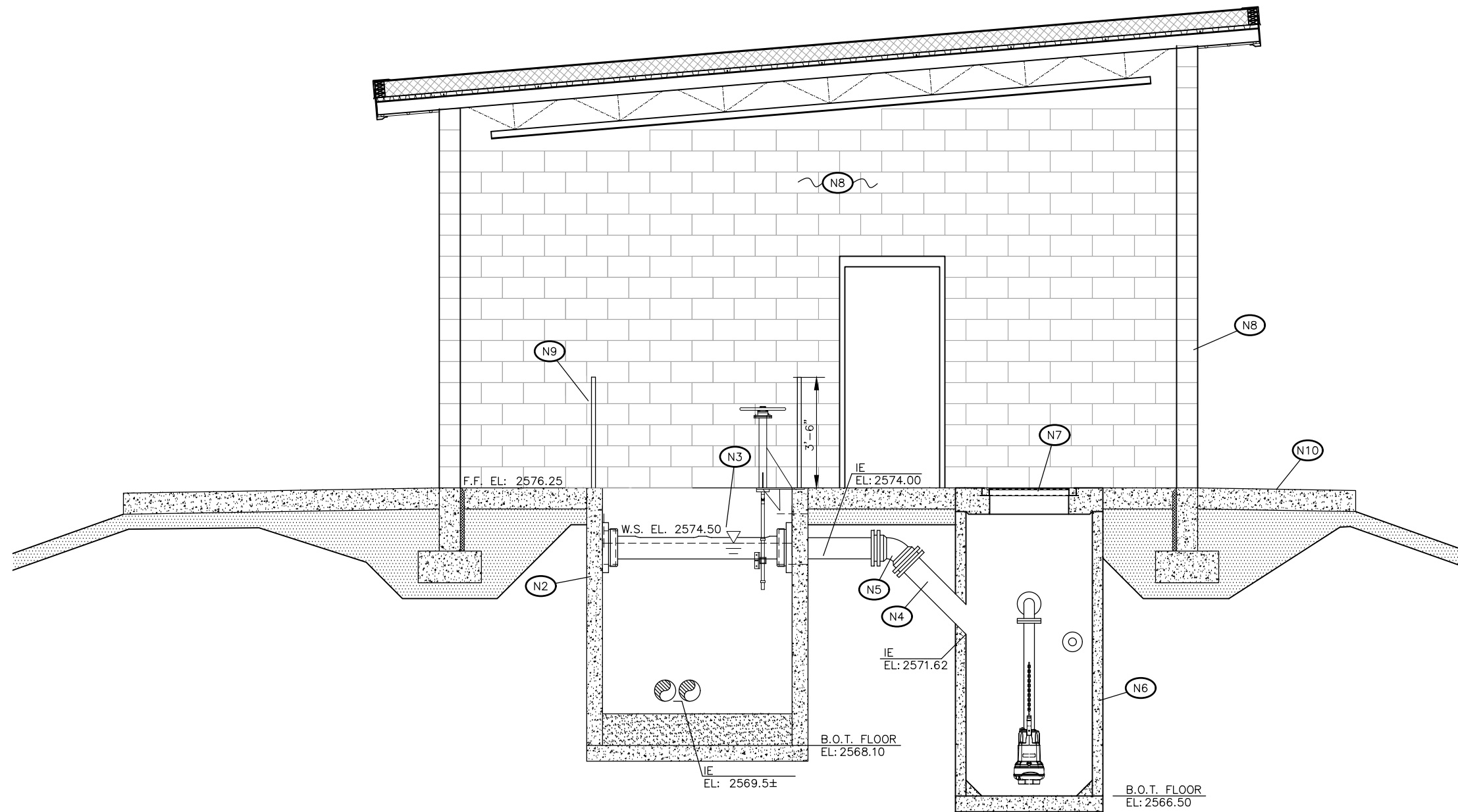


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 HEADWORKS SECTION VIEW C



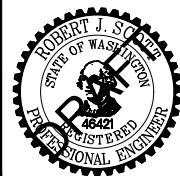
CONSTRUCTION NOTES:

- (N1) 8" C900 PVC OVERFLOW PIPING TO LAGOON 1. SEE SHEET C-3 FOR CONTINUATION.
- (N2) GRIT TANK. SEE SHEET _____. CONTRACTOR MAY, AT THEIR OPTION, INSTALL A PRECAST CONCRETE TANK WITH ENGINEER'S APPROVAL.
- (N3) FIBERGLASS ROTATING SCUM SKIMMER AND HANDWHELL OPERATOR. SEE DETAIL 3.2/GP-2.
- (N4) 8" C900 PVC PIPING TO SCUM PUMP STATION.
- (N5) 8" DI MJ 45° ELBOW.
- (N6) 4' DIAMETER (INSIDE DIAMETER) PRECAST CONCRETE MANHOLE WITH INTEGRAL FLOOR, HEIGHT AS SHOWN.
- (N7) 30" x 30" CLEAR-OPENING SINGLE DOOR ALUMINUM ACCESS HATCH CAST INTO TOP SLAB. CENTER DOOR OVER PUMP AS SHOWN.
- (N8) NEW CMU BLOCK WALL, SEE SHEET ____.
- (N9) GUARDRAIL, TYP. SEE DETAIL 3.5/GA-2.
- (N10) 8" CEMENT CONCRETE SIDEWALK.

D HEADWORKS SECTION
 0 1'-0" 2'-0" 4'-0"
 H-1



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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS

HEADWORKS SECTION VIEW D

H-6

SHEET
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ROOM SCHEDULE															
RM NO.	ROOM NAME	FLOOR		WALL MATERIAL				WALL FINISH				CEILING		NOTES	
		FINISH	BASE	NORTH	EAST	SOUTH	WEST	NORTH	EAST	SOUTH	WEST	TYPE	FIN.		HGT.
H102	GRIT	CONC	-	CMU	CMU	CMU	CMU	-	-	-	-	O.T.S.	-	O.T.S.	

LEGEND		NOTES
CONC	CONCRETE (SEALED)	1
CMU	CONCRETE MASONRY UNIT	2
O.T.S.	OPEN TO STRUCTURE	3

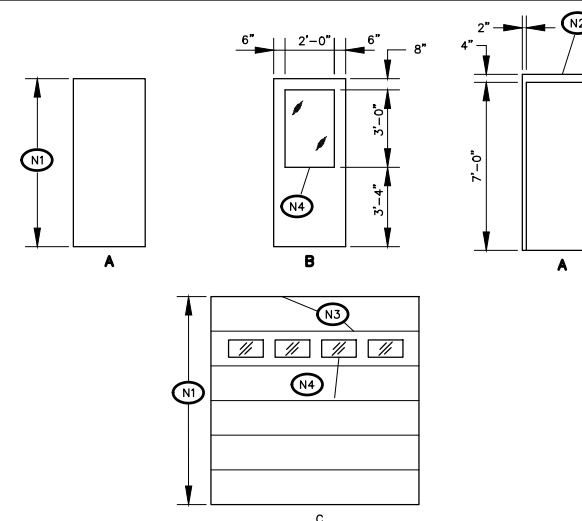
DOOR AND WINDOW SCHEDULE													
DOOR NUMBER	DOORS						FRAME				HARDWARE GROUP	REMARKS	
	SIZE			MATL.	TYPE	GLASS	SWING	DETAILS					
	WIDTH	HEIGHT	THICK.					JAMB	HEAD				
D-01	10'-0"	10'-0"	-	STL	C	-	-	STL	-	3.4/GA-1	3.4/GA-1	-	AUTOMATIC OPERATION, GLASS FOR SECTIONAL DOOR VISION LITES SHALL BE AS SPECIFIED IN SECTION 08 36 13.
D-02	3'-0"	7'-0"	1-3/4"	H.M.	B	GL-2	LHR	H.M.	A	3.5/GA-1	3.5/GA-1	HW-1	-----

NOTE: SCHEDULES ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE FROM THE PLANS, SECTIONS, ISOMETRICS, DETAILS, AND SPECIFICATIONS, THE REQUIRED QUANTITY AND QUALITY OF EQUIPMENT AND MATERIALS TO COMPLETE THE PROJECT.

1.5 DOOR & WINDOW SCHEDULE
NOT TO SCALE

NOTES

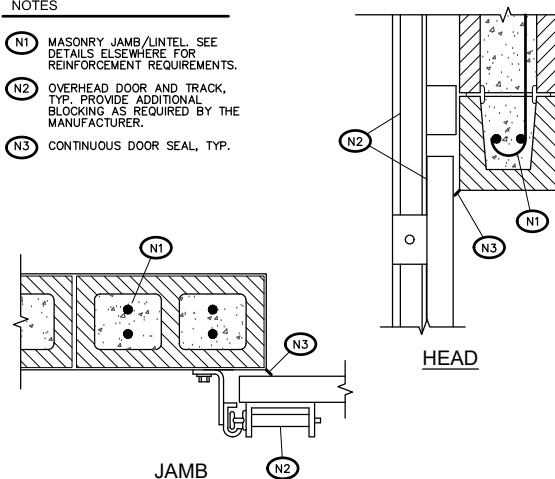
- (N1) SEE DOOR SCHEDULE FOR HEIGHT AND WIDTH OF DOOR/WINDOW.
- (N2) HOLLOW METAL FRAME, SEE DOOR SCHEDULE FOR HEIGHT AND WIDTH.
- (N3) SECTION PANELS.
- (N4) VISION LITE.



2.5 DOOR & FRAME TYPES
NOT TO SCALE

NOTES

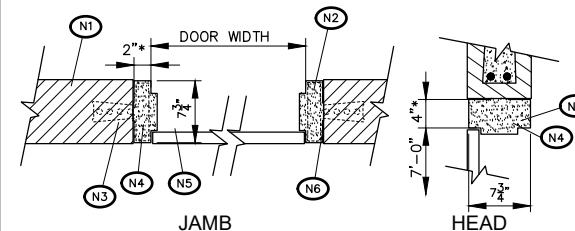
- (N1) MASONRY JAMB/LINTEL, SEE DETAILS ELSEWHERE FOR REINFORCEMENT REQUIREMENTS.
- (N2) OVERHEAD DOOR AND TRACK, TYP. PROVIDE ADDITIONAL BLOCKING AS REQUIRED BY THE MANUFACTURER.
- (N3) CONTINUOUS DOOR SEAL, TYP.



3.4 OVERHEAD DOOR HEAD & JAMB, MASONRY WALLS
NOT TO SCALE

NOTES

- (N1) 8" CMU WALL, TYP. SEE DETAILS ELSEWHERE FOR REINFORCEMENT REQUIREMENTS.
- (N2) HOLLOW METAL DOOR FRAME.
- (N3) MASONRY DOOR FRAME ANCHOR, SEE SPECIFICATIONS.
- (N4) GROUT DOOR FRAME SOLID, TYP.
- (N5) HOLLOW METAL DOOR, TYP.
- (N6) SEALANT, TYP.



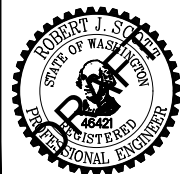
NOTE: CONTRACTOR TO VERIFY REQUIRED MASONRY OPENINGS FOR DOORS SUPPLIED FOR THIS PROJECT PRIOR TO START OF WORK.

* TYPICAL DOOR FRAME DIMENSIONS, SEE DOOR AND FRAME TYPE DETAIL THIS SHEET FOR HEAD AND JAMB DIMENSIONS OF EACH DOOR FRAME TYPE.

3.5 HEAD & JAMB, MASONRY WALLS
NOT TO SCALE



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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS

ARCHITECTURAL DETAILS

GA-1

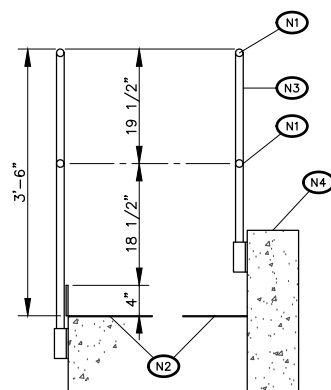
SHEET

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NOTES

- (N1) PIPE RAILINGS.
- (N2) WALKING SURFACE.
- (N3) UPRIGHTS. SEE OTHER DETAILS FOR MAXIMUM SPACING.
- (N4) TOP OF CONCRETE WALL AT TANK OR OTHER CHANGE OF ELEVATION OF 30" OR MORE.

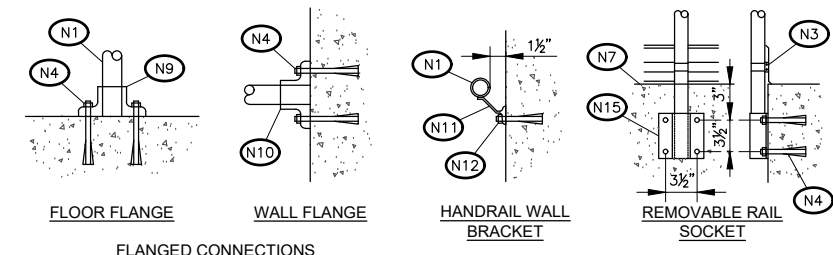
NOTE:
USE PROFILE TYPE B UNLESS NOTED OTHERWISE. USE PROFILE TYPE C WHERE THE CONCRETE WALL FORMS THE "TOEBOARD" AND THE WALKING SURFACE IS LOWER THAN THE TOP OF THE WALL OF THE TANK OR OTHER CHANGE IN ELEVATION.



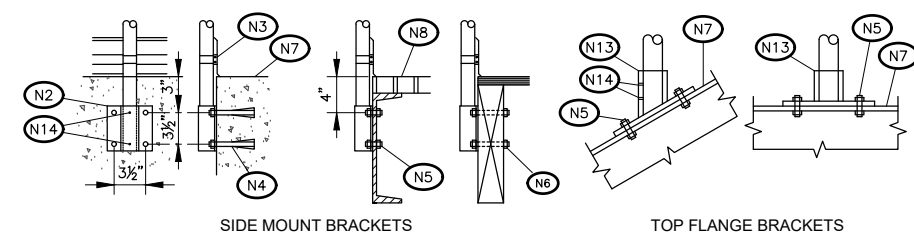
1.3 TYPICAL GUARDRAIL PROFILES
NOT TO SCALE

NOTES

- (N1) 1 1/2" ALUMINUM PIPE RAIL TYPICAL.
- (N2) SIDE MOUNT FLANGE.
- (N3) TOE BOARD WITH CLAMPING ASSEMBLY.
- (N4) CONCRETE: 3/8" x 5" EXPANSION OR EPOXY GROUTED ANCHORS.
- (N5) METAL: 3/8" MACHINE BOLTS.
- (N6) WOOD: 3/8" MACHINE BOLTS WITH LARGE FLAT WASHERS ON THE WOOD SIDE.
- (N7) TOP FLANGE OF STEEL CHANNEL OR TOP OF CONCRETE.
- (N8) TOP OF GRATING.
- (N9) HEAVY DUTY FLOOR FLANGE.
- (N10) WALL END FITTING.
- (N11) MANUFACTURED WALL BRACKET.
- (N12) 3/8" x 5" SLEEVE ANCHOR.
- (N13) STAIR STRINGER BASE.
- (N14) SET SCREW, TYPICAL.
- (N15) SIDE MOUNT FLANGE WITHOUT SET SCREWS AND ALUMINUM FIXED BOTTOM PLUG WITH WEEP HOLE, FIELD LOCATED AND DRILL THROUGH BOLT HOLE IN VERTICAL RAIL POST. RAIL SHALL FIT SNUG IN REMOVABLE BRACKET IN ORDER TO MINIMIZE RAIL MOVEMENT WHEN IN PLACE.



FLANGED CONNECTIONS



SIDE MOUNT BRACKETS

TOP FLANGE BRACKETS

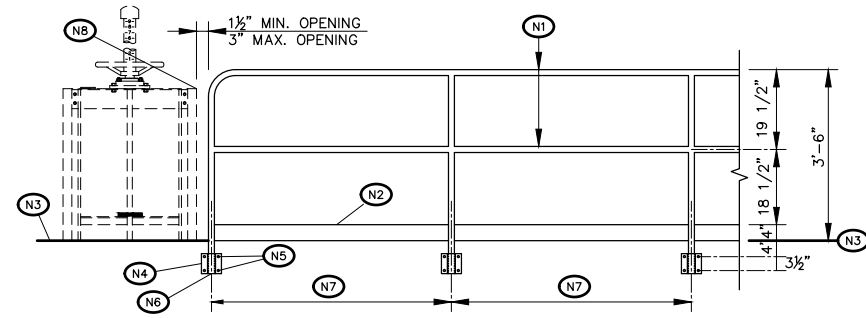
2.5 TYPICAL ALUMINUM HANDRAIL & GUARDRAIL SUPPORT CONNECTIONS
NOT TO SCALE

NOTES

- (N1) GUARDRAIL FROM 1 1/2" ALUMINUM TUBING (1.90" O.D.).
- (N2) 4" KICK PLATE WITH CLAMPING ASSEMBLY. EXTRUDED STIFFENED SHAPE OR REINFORCED TO MAINTAIN STRAIGHT LINE.
- (N3) FINISHED FLOOR OR WALKING SURFACE.
- (N4) ALUMINUM SIDE MOUNT FLANGE WITH SET SCREWS, TYPICAL.
- (N5) 3/8" MACHINE BOLTS AT METAL, 3/8" x 5" EXPANSION OR EPOXY GROUTED ANCHORS AT CONCRETE. (4) EACH MOUNTING BRACKET.
- (N6) PROVIDE ALUMINUM END CAP AT BOTTOM OF RAIL POSTS.
- (N7) MAXIMUM SPACING 5'-0" BETWEEN VERTICAL SUPPORTS.
- (N8) EDGE OF WALL, RAIL OR EQUIPMENT.

GENERAL NOTES

1. ALL HANDRAILS, GUARDRAILS AND POSTS ARE TO BE ALUMINUM.
2. GUARDRAILS REQUIRED BY THE INTERNATIONAL BUILDING CODE, OR BY OSHA ARE TO BE PROVIDED AND INSTALLED, WHETHER SHOWN ON THE DRAWINGS OR NOT.
3. PROVIDE SUP JOINTS IN RAILINGS AT INTERVALS NOT TO EXCEED 50 FEET.
4. BENDS AND CORNERS IN RAILINGS ARE TO BE BENT ON A CURVE, NOT MITERED.
5. RAILS ARE TO BE FREE FROM SHARP CORNERS OR BURRS. GRIND ALL WELDS SMOOTH. RIVETS SHALL NOT HAVE ANY PROTRUDING SHARP EDGES.



3.5 TYPICAL GUARDRAIL ELEVATION
NOT TO SCALE



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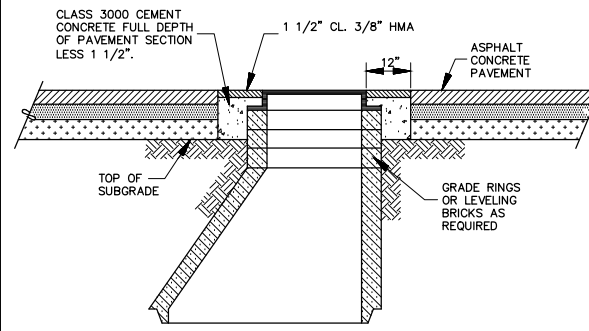
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PHASE 2A MEMBRANE BIOREACTOR WASTEWATER TREATMENT PLANT IMPROVEMENTS
ARCHITECTURAL DETAILS

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SHEET
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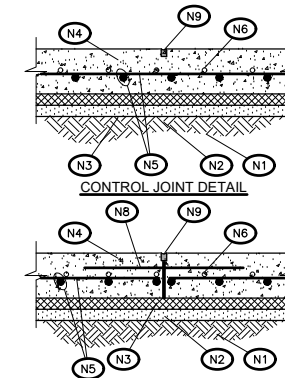
NOTES:

1. MANHOLES SHALL BE ADJUSTED TO FINISHED GRADE AFTER PLACEMENT OF ASPHALT CONCRETE PAVEMENT.
2. GRADE RINGS AND/OR LEVELING BRICKS SHALL BE GROUTED IN PLACE AND BE WATER TIGHT.
3. IN UNPAVED AREAS, PROVIDE 12" THICK, 4' DIA. CEMENT CONCRETE RING AROUND TOP OF MANHOLE. SET MANHOLE FRAME FLUSH W/ FINISHED GRADE AND SLOPE CONCRETE OUTWARD AT 1/4"/FT.

1.3 MANHOLE ADJUSTMENT DETAIL
NOT TO SCALE

CONSTRUCTION NOTES:

- (N1) COMPACTED SUBGRADE
- (N2) 2" MIN. COMPACTED DEPTH CSTC LEVELING COURSE
- (N3) R-10 RIGID INSULATION
- (N4) 8" DEPTH CLASS 4000 CONCRETE
- (N5) #5 AT 12" O.C. EACH WAY. REINFORCING TO CONTINUE THROUGH CONTROL JOINTS. TERMINATE REINFORCING 3" CLR OF CONSTRUCTION JOINTS AND PROVIDE CONTINUOUS #5 ON EACH SIDE OF JOINT.
- (N6) HYDRONIC TUBING ATTACHED TO REINFORCEMENT, TYPICAL. SLEEVE TUBING THROUGH ALL JOINTS PER MECHANICAL.
- (N7) 1/4" WIDE X 1" DEEP SAWED JOINT. FILL ALL JOINTS WITH SELF-LEVELING SEALANT, MASTERSEAL SL2 OR EQUIVALENT.
- (N8) 5/8" DIA. X 30" LONG SMOOTH DOWEL AT 24" O.C. GREASE EXIT SIDE TO PREVENT BOND. CENTER DOWELS IN SLAB.
- (N9) 1/2" X FULL DEPTH JOINT FILLER MATERIAL. COAT JOINT WITH BOND BREAKER PRIOR TO PLACING ADJACENT CONCRETE. SEAL TOP OF JOINT WITH SELF-LEVELING JOINT SEALANT, MASTERSEAL SL2 OR EQUIVALENT, 1/2" MINIMUM DEPTH. SEPARATE JOINT FILLER MATERIAL FROM SEALANT WITH POLYETHYLENE TAPE AS RECOMMENDED BY MANUFACTURER.

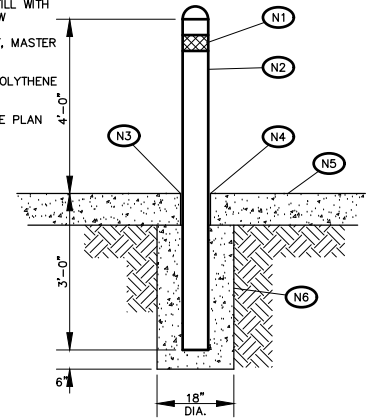


CONSTRUCTION JOINT DETAIL

1.4 CONCRETE PAVEMENT JOINTING
NOT TO SCALE

CONSTRUCTION NOTES:

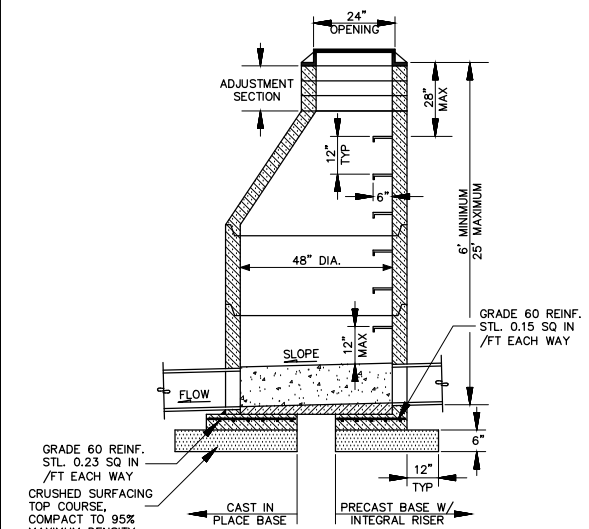
- (N1) 4" WIDE REFLECTIVE TAPE
- (N2) 6" DIA. STANDARD STEEL PIPE. FILL WITH CONCRETE PAINT OUTSIDE YELLOW
- (N3) SELF-LEVELING POLYTHENE JOINT, MASTER SEAL SL2 OR EQUAL
- (N4) WRAP WITH 1/2" CLOSED CELL POLYTHENE FOAM
- (N5) PAVEMENT THICKNESS VARIES SEE PLAN
- (N6) 18" DIA. CONCRETE



NOTE:

ALLOW 2' CLEARANCE FROM FIRE HYDRANT TO GUARD POST OR GREATER IF REQUIRED BY FIRE DEPARTMENT

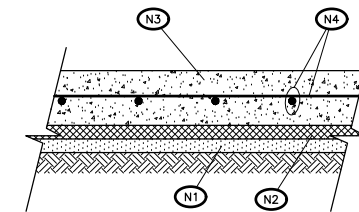
1.5 PROTECTIVE BOLLARD (IN CONCRETE PAVEMENT)
NOT TO SCALE



2.3 TYPICAL MANHOLE DETAIL
NOT TO SCALE

CONSTRUCTION NOTES:

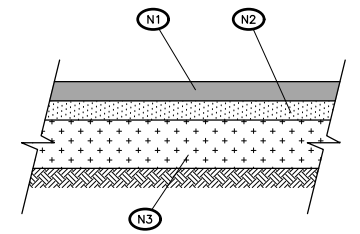
- (N1) 2" MIN. COMPACTED DEPTH CSTC LEVELING COURSE
- (N2) R-10 RIGID INSULATION
- (N3) 8" DEPTH CLASS 4000 CONCRETE
- (N4) #5 AT 12" O.C. EACH WAY



2.4 CONCRETE PAVEMENT SECTION
NOT TO SCALE

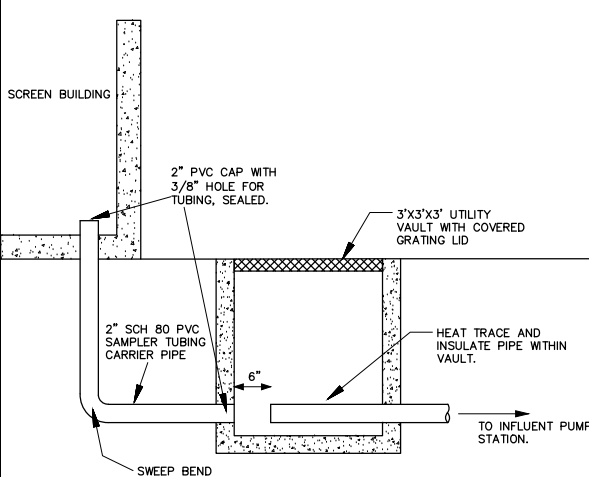
CONSTRUCTION NOTES:

- (N1) 3" DEPTH HMA CL 3/8"
- (N2) 3" DEPTH CRUSHED SURFACING TOP COURSE
- (N3) 6" DEPTH CRUSHED SURFACING BASE COURSE

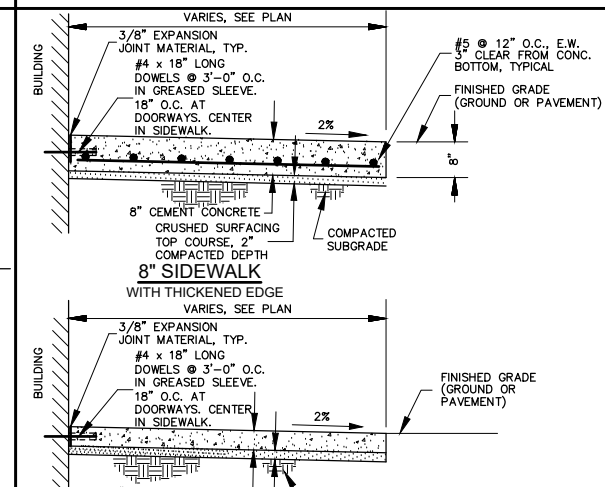


NOTE:
ALL DEPTHS SHOWN ARE COMPACTED.

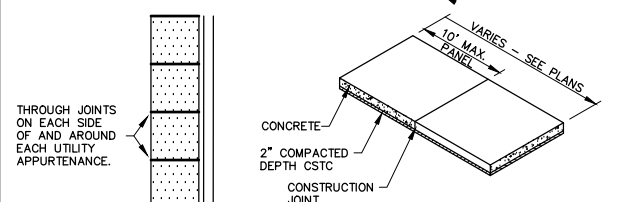
2.5 HMA PAVEMENT SECTION
NOT TO SCALE



3.3 SAMPLER VENT BOX DETAIL
NOT TO SCALE



3.4 SIDEWALK DETAILS AT BUILDING
NOT TO SCALE



NOTES:

1. THROUGH JOINTS WITH 3/8" JOINT MATERIAL SHALL BE PLACED AT 20' INTERVALS.
2. 1 1/2" DEEP DUMMY JOINTS SHALL BE SCORED INTO THE CONCRETE AT ALTERNATING 10' INTERVALS.
3. "V" GROOVES SHALL BE PLACED AT 5' INTERVALS.
4. ALL JOINTS, "V" GROOVES, AND EDGES SHALL BE FINISHED WITH AN EDGER HAVING A 1/4" RADIUS.
5. SEE PLANS FOR WIDTH AND POSITION OF SIDEWALK.

CONC. SLAB JOINTING

3.5 TYPICAL SIDEWALK JOINTING
NOT TO SCALE

- 4" THICK CONCRETE SLAB SECTION AT SIDEWALKS AND OTHER AREAS AS DIRECTED BY THE ENGINEER
- 6" THICK CONCRETE SLAB SECTION AT DRIVEWAYS AND OTHER AREAS AS DIRECTED BY THE ENGINEER.

CONC. SLAB SECTIONS
NOT TO SCALE



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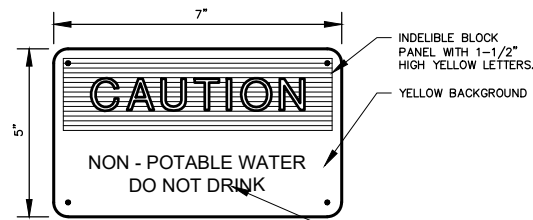
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		PLAN: 21180.dwg	
		PROFILE:	
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CIVIL DETAILS

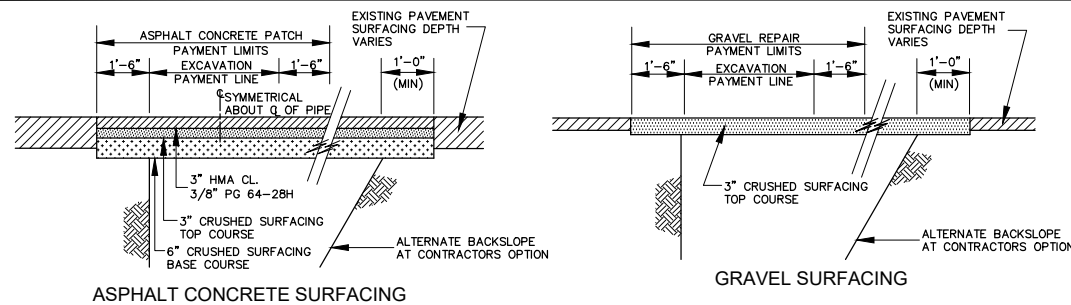
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NOTES:

1. MATERIAL TO BE FIBERGLASS PER PROJECT SPECIFICATIONS.
2. COLORS AND SIZES TO BE PER OSHA STANDARDS FOR CAUTION SIGNS.
3. PROVIDE THE SIGN AT ALL HOSE BIBBS OR POST HYDRANT LOCATIONS WHERE WATER IS NON-POTABLE (UTILITY WATER).
4. MOUNT TO YARD HYDRANT RISER WITH U-BOLTS OR WALL WITH FASTENERS AS APPLICABLE.

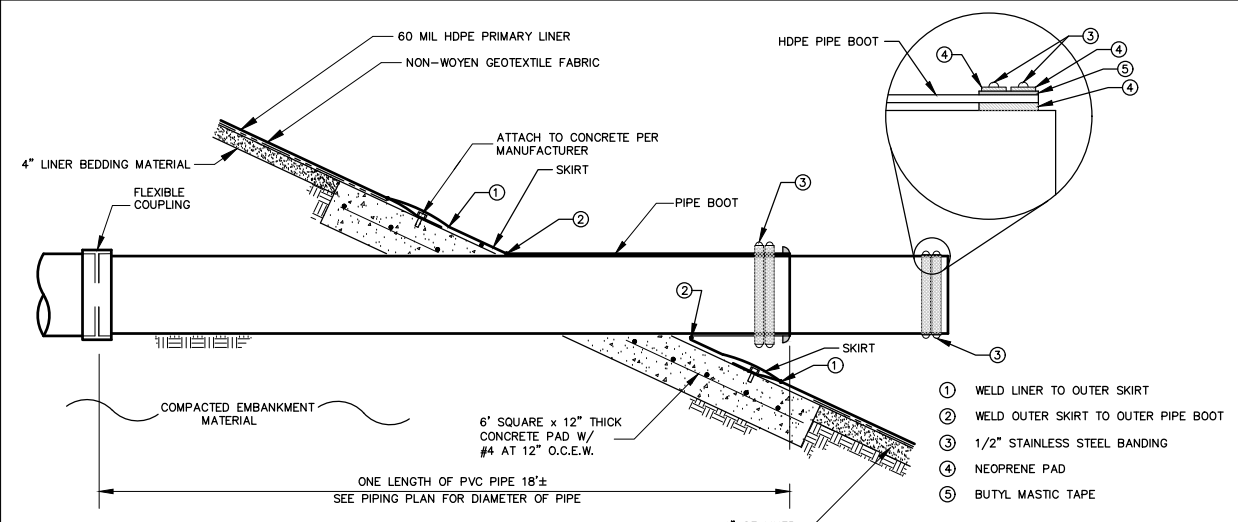
1.1 NON-POTABLE WATER WARNING SIGN
NOT TO SCALE



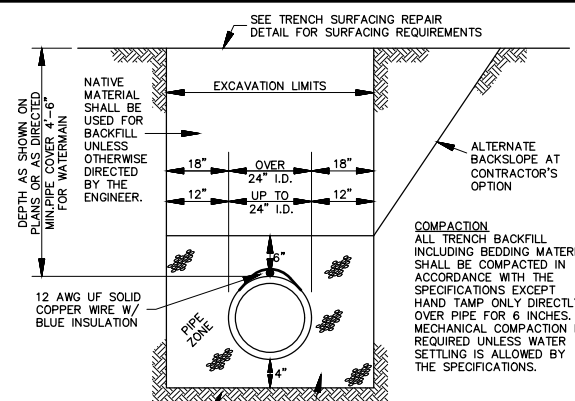
NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRENCH SURFACE RESTORATION BEYOND THE PAYMENT LIMITS SHOWN, INCLUDING WIDER TRENCH SECTIONS RESULTING FROM LAYING BACK TRENCH SIDES AT THE CONTRACTORS OPTION. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR SURFACE REPAIR BEYOND THE PAYMENT LIMITS.
2. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR TRENCH SURFACING REPAIR IN UNSURFACED AREAS.
3. ALL THICKNESSES ARE COMPACTED DEPTHS.

1.3 TRENCH SURFACING REPAIR
NOT TO SCALE



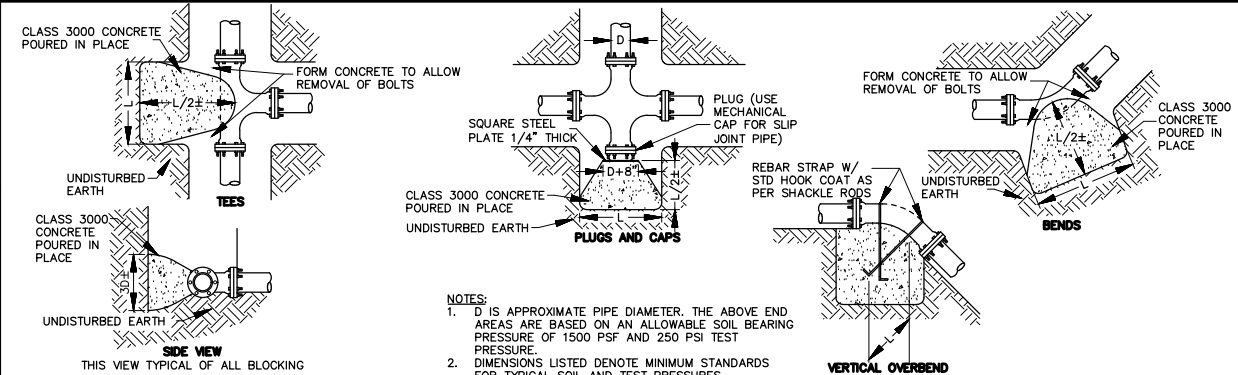
1.5 PIPE BOOT SEALING SYSTEM
NOT TO SCALE



NOTES:

1. FOR 4" AND 6" SIDE SEWERS, INSTALL IMPORTED PIPE BEDDING A MINIMUM OF 3" THICK ON ALL SIDES OF PIPE.
 2. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE O.S.H.A. AND W.I.S.H.A. SAFETY AND HEALTH REGULATIONS.
- PIPE BEDDING BEDDING MATERIAL SHALL BE AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE ENGINEER:
SANITARY SEWER & STORM DRAIN: CRUSHED SURFACING TOP COURSE PER SECTION 9-03.9(3) OF THE STANDARD SPECIFICATIONS.
DOMESTIC WATERMAIN: BEDDING MATERIAL SHALL MEET THE REQUIREMENTS OF SECTION 7-10.2 OF THE SPECIFICATIONS.

2.3 TYPICAL TRENCH DETAIL
NOT TO SCALE



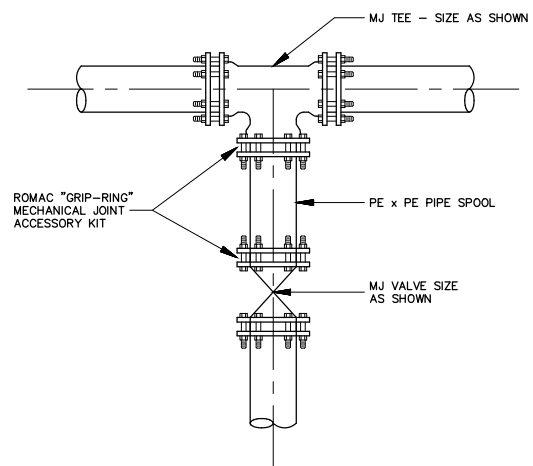
NOTES:

1. D IS APPROXIMATE PIPE DIAMETER. THE ABOVE END AREAS ARE BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 1500 PSF AND 250 PSI TEST PRESSURE. DIMENSIONS LISTED DENOTE MINIMUM STANDARDS FOR TYPICAL SOIL AND TEST PRESSURES.
2. ALL FITTINGS AND/OR PIPE MAKING DIRECT CONTACT WITH CONCRETE SHALL BE WRAPPED WITH 4 MIL POLYETHYLENE SHEETING PRIOR TO PLACEMENT OF CONCRETE.
3. FORM CONCRETE TO ALLOW REMOVAL OF BOLTS.
4. ALL CONCRETE TO BE CLASS 'B' CONCRETE AND IS TO BE POURED IN PLACE.
5. MECHANICAL RESTRAINT OF FITTINGS AND PIPE WITH ROMAC 'GRIP-RING' AND FIELD-LOCK GASKETS ALLOWED IN LIEU OF THRUST BLOCK AS APPROVED BY ENGINEER.

PIPE SIZE (D)	MINIMUM END AREAS			
	TEES & PLUGS	90° BENDS	45° BENDS	11 1/2° AND 22 1/2° BENDS
6"	5.1 SQ FT	7.2 SQ FT	3.9 SQ FT	2.0 SQ FT
8"	8.8 SQ FT	12.4 SQ FT	6.7 SQ FT	3.4 SQ FT
10"	14.3 SQ FT	20.2 SQ FT	11.0 SQ FT	5.6 SQ FT
12"	20.4 SQ FT	28.9 SQ FT	15.7 SQ FT	7.9 SQ FT
14"	27.7 SQ FT	39.2 SQ FT	21.2 SQ FT	10.7 SQ FT
16"	35.8 SQ FT	51.2 SQ FT	27.5 SQ FT	13.9 SQ FT

PIPE SIZE (D)	VERTICAL OVERBEND			
	22 1/2° BEND	45° BEND	REBAR SIZE	L
6"	20 CU FT	39 CU FT	#5	2.0 FT
8"	34 CU FT	67 CU FT	#5	2.0 FT
10"	56 CU FT	110 CU FT	#5	2.0 FT
12"	79 CU FT	157 CU FT	#6	2.5 FT
14"	107 CU FT	212 CU FT	#7	3.0 FT
16"	139 CU FT	275 CU FT	#9	4.0 FT

2.5 TYPICAL THRUST BLOCKING
NOT TO SCALE



3.1 THRUST TIE DETAIL (TYPICAL)
NOT TO SCALE



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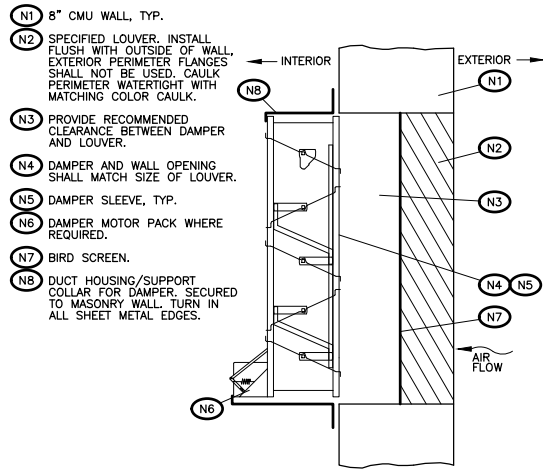
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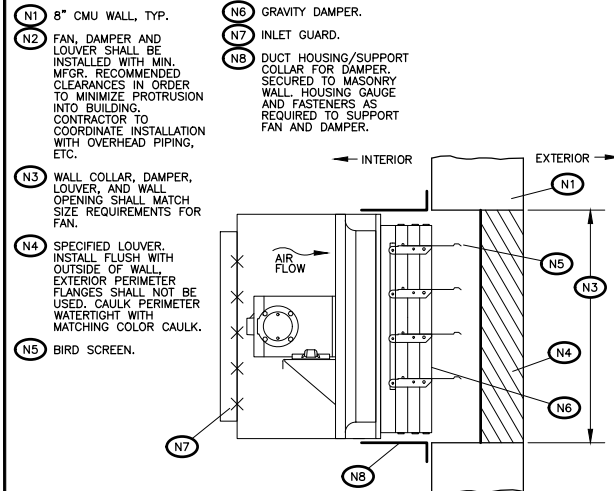
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NOTES



1.1 INTAKE LOUVER AND DAMPER
NOT TO SCALE

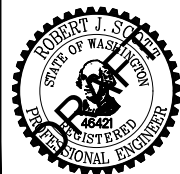
NOTES



1.2 FAN LOUVER DETAIL
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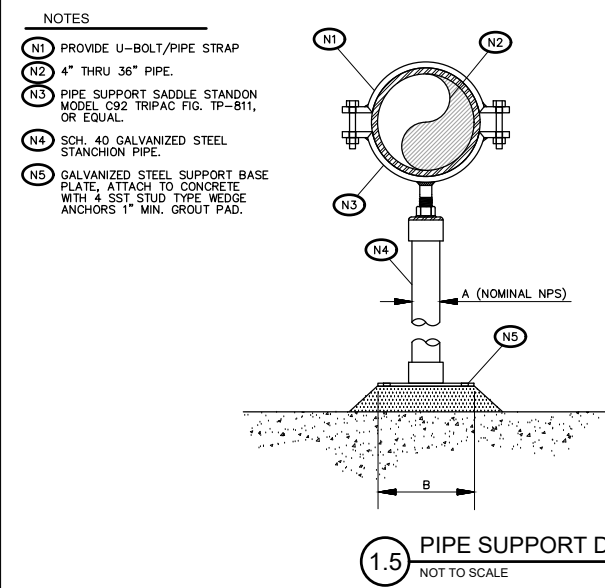
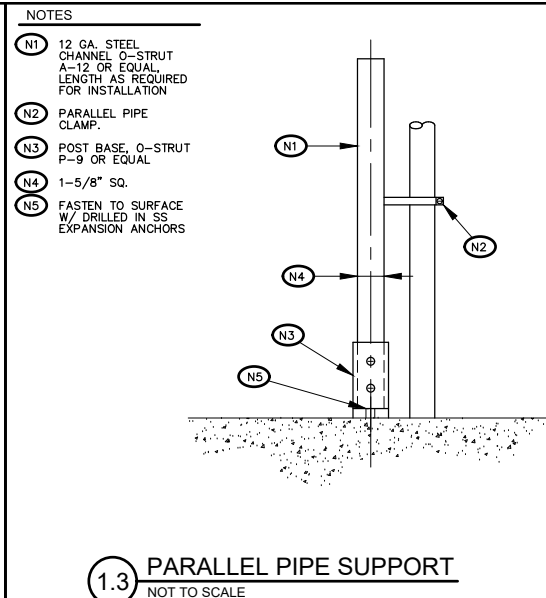
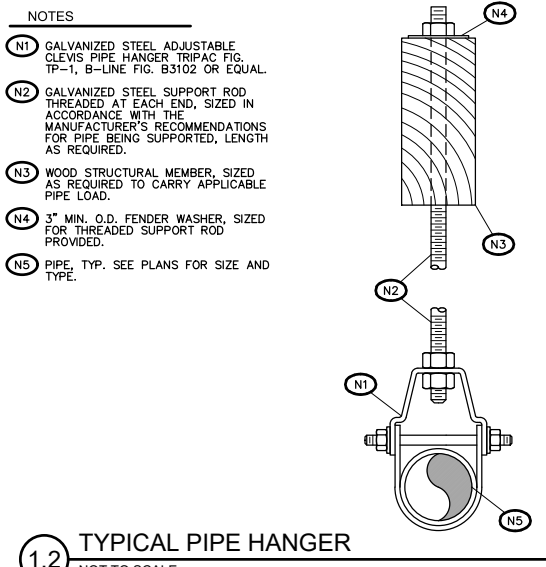
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MECHANICAL DETAILS

GM-1

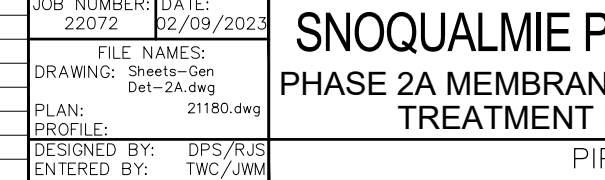
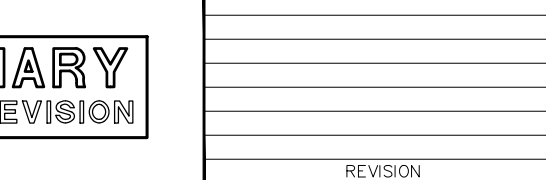
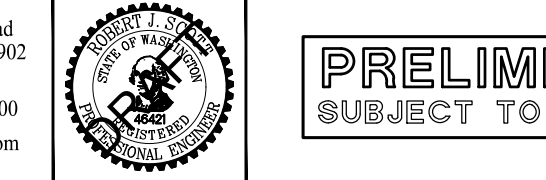
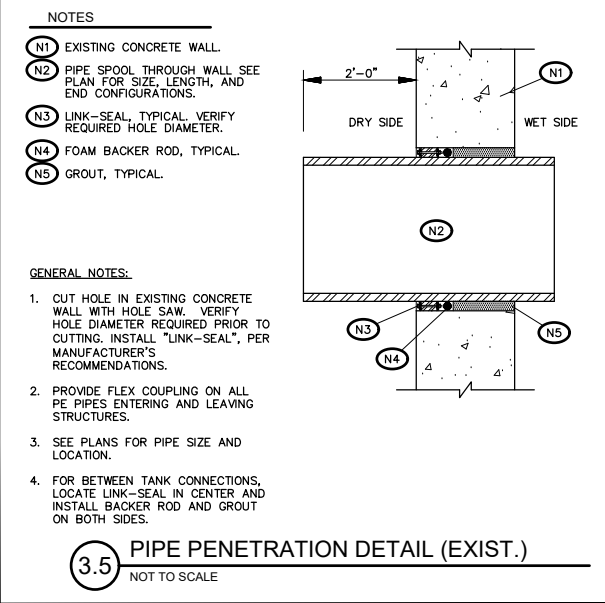
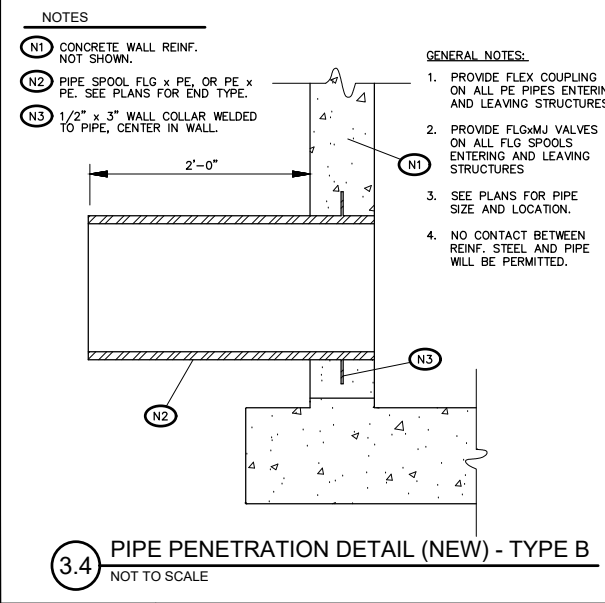
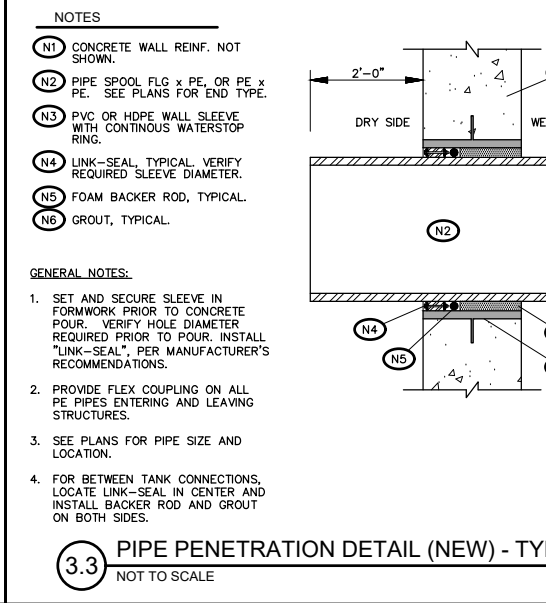
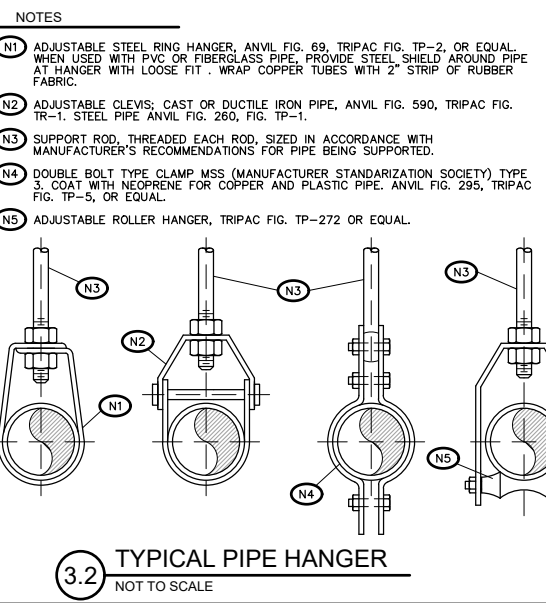
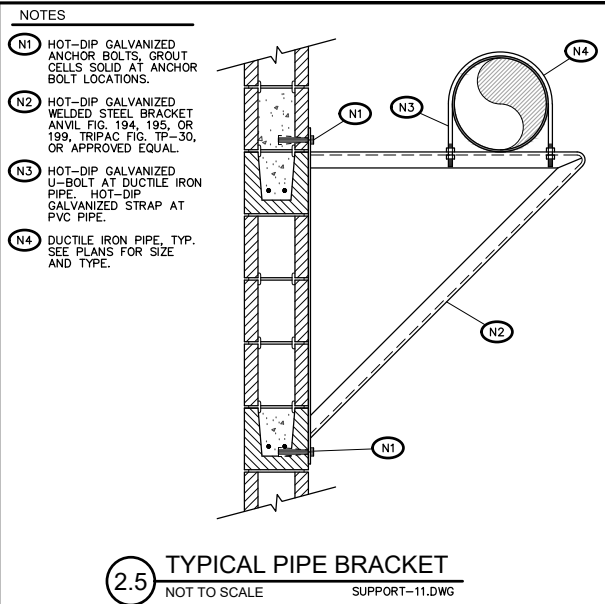
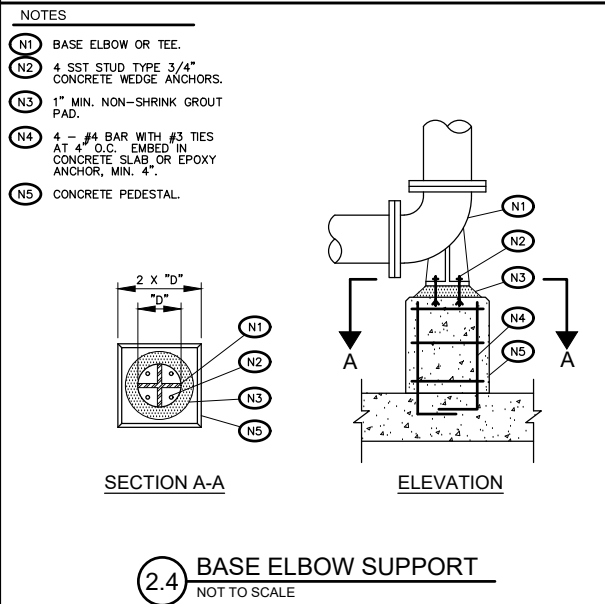
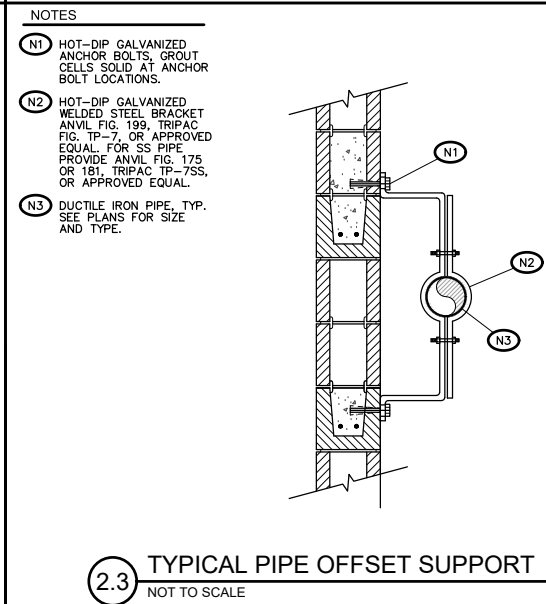
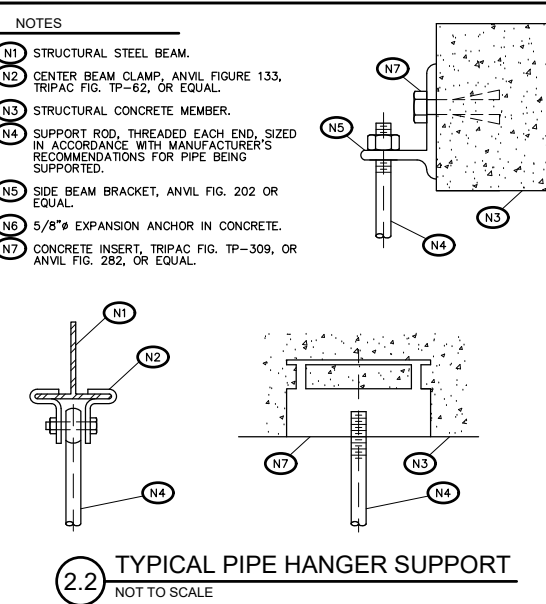
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DIMENSION TABLE

PIPE SIZE	A	B
4"	3"	9"
5"	3"	9"
6"	3"	9"
8"	3"	9"
10"	3"	9"
12"	3"	9"
14"	4"	11"
16"	4"	11"
18"	4"	11"
20"	6"	13-1/2"
24"	6"	13-1/2"
26"	6"	13-1/2"
30"	6"	13-1/2"
32"	6"	13-1/2"
36"	8"	16"



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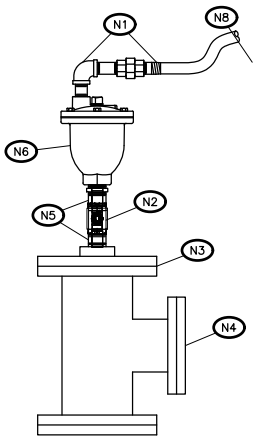
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PIPING DETAILS

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NOTES

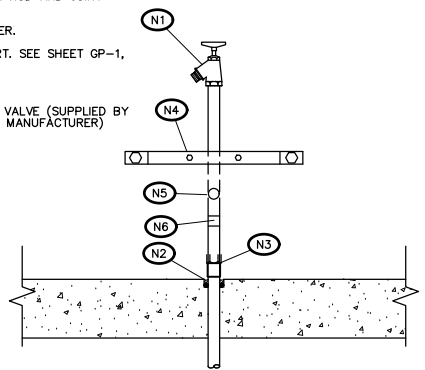
- (N1) G.I. THREADED PIPE AND FITTINGS. PROVIDE UNION FOR DISCONNECTION OF OUTLET PIPING. PIPE AIR RELEASE VALVE OUTLET TO 6" ABOVE FLOOR DRAIN AND INSTALL OVERSIZED BUG SCREEN ON END OF OUTLET.
- (N2) NPT BRONZE BALL VALVE, TYP.
- (N3) BLIND FLG WITH 2" THREADED TAP. PROVIDE BRASS BUSHING AS REQUIRED FOR AIR VALVE SIZE. SEE PLAN FOR SIZE AND LOCATION.
- (N4) D.I. FITTING. SEE PLAN FOR SIZE AND ORIENTATION.
- (N5) BRASS NPT NIPPLES, TYP.
- (N6) AIR RELEASE VALVE, APCO SERIES 50, VAL-MATIC SERIES 22, OR APPROVED EQUAL.
- (NB) 1" BRAIDED PVC FLEXIBLE TUBING TO ISOLATION VALVE. SEE PLAN FOR LOCATION.



2.2 AIR RELEASE VALVE ASSEMBLY
NOT TO SCALE

NOTES

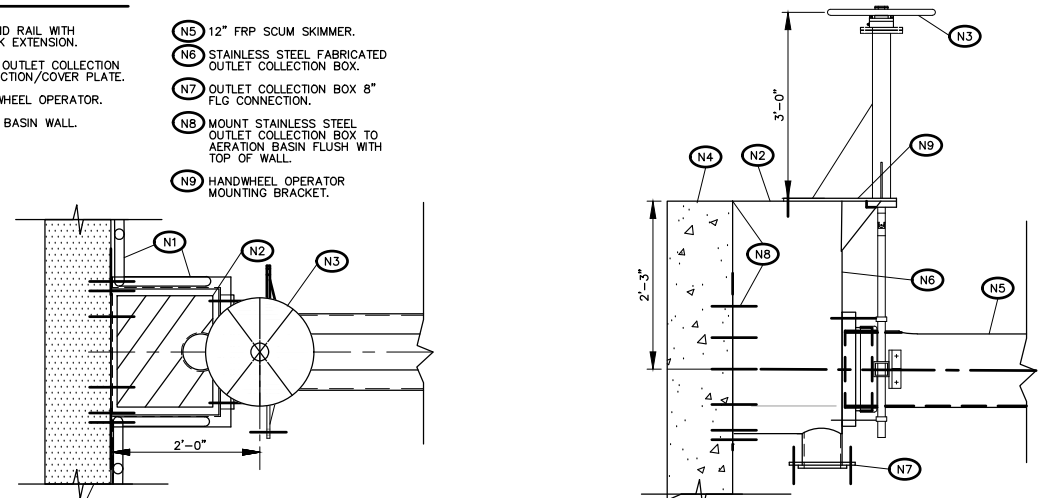
- (N1) 1" x 3/4" HOSE BIB.
- (N2) HOLD BACK CONCRETE 3/4". SEAL WITH BACKER ROD AND JOINT SEALANT.
- (N3) PEX ADAPTER.
- (N4) PIPE SUPPORT. SEE SHEET GP-1, DETAIL 2.3.
- (N5) 1" TEE.
- (N6) 1" SOLENOID VALVE (SUPPLIED BY GRIT SYSTEM MANUFACTURER)



2.5 GRIT SYSTEM WATER SERVICE
NOT TO SCALE

NOTES

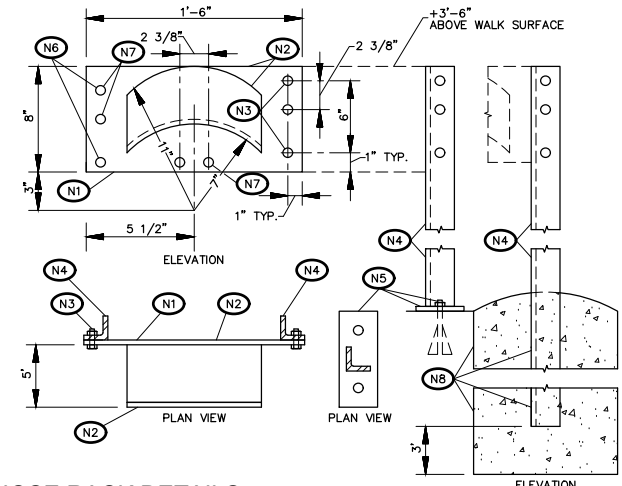
- (N1) BASIN HAND RAIL WITH WING-BACK EXTENSION.
- (N2) NON-SLIP OUTLET COLLECTION BOX INSPECTION/COVER PLATE.
- (N3) 18" HANDWHEEL OPERATOR.
- (N4) CONCRETE BASIN WALL.
- (N5) 12" FRP SCUM SKIMMER.
- (N6) STAINLESS STEEL FABRICATED OUTLET COLLECTION BOX.
- (N7) OUTLET COLLECTION BOX 8" FLG CONNECTION.
- (N8) MOUNT STAINLESS STEEL OUTLET COLLECTION BOX TO AERATION BASIN FLUSH WITH TOP OF WALL.
- (N9) HANDWHEEL OPERATOR MOUNTING BRACKET.



3.2 12 INCH SKIMMER DETAIL
NOT TO SCALE

NOTES

- (N1) TYPICAL HOSE RACK. HOT DIP GALVANIZE AFTER FABRICATION. ALL WELDS 3/16" FILLETS. BREAK ALL SHARP EDGES.
- (N2) BACK, FRONT, AND RADIUS PLATE FROM 1/4" STEEL PLATE.
- (N3) ALL HOLES 7/16"Ø, BOLTS 3/8"Ø, HOT DIP GALVANIZED.
- (N4) (2) ANGLE 2 X 2 X 1/4 HOT DIP GALVANIZED AFTER FABRICATION.
- (N5) FOR CONCRETE WALK OR FLOOR MOUNTING, ANGLE LEGS WITH BASE PLATE 8 X 4 X 3/8 EACH LEG. FASTEN TO CONCRETE WITH (2) 1/2" X 4" EXPANSION ANCHORS PER BASE PLATE.
- (N6) FOR CONCRETE WALL MOUNTING, FASTEN IN (4) HOLES AT CORNERS OF PLATE WITH 3/8" X 4" EXPANSION ANCHORS.
- (N7) FOR GUARDRAIL MOUNTING, FASTEN TO GUARDRAIL WITH (3) 3/8" X 2" HOT DIP GALVANIZED "U" BOLTS. FASTEN TO TOP RAIL USING TOP (2) HOLES EACH SIDE, AND STANCHION USING HOLES AT BOTTOM CENTER.
- (N8) WHERE NO CONCRETE IS AVAILABLE, CAST ANGLE LEGS 1'-6" INTO 12" CONCRETE ENCASEMENT.



3.5 TYPICAL HOSE RACK DETAILS
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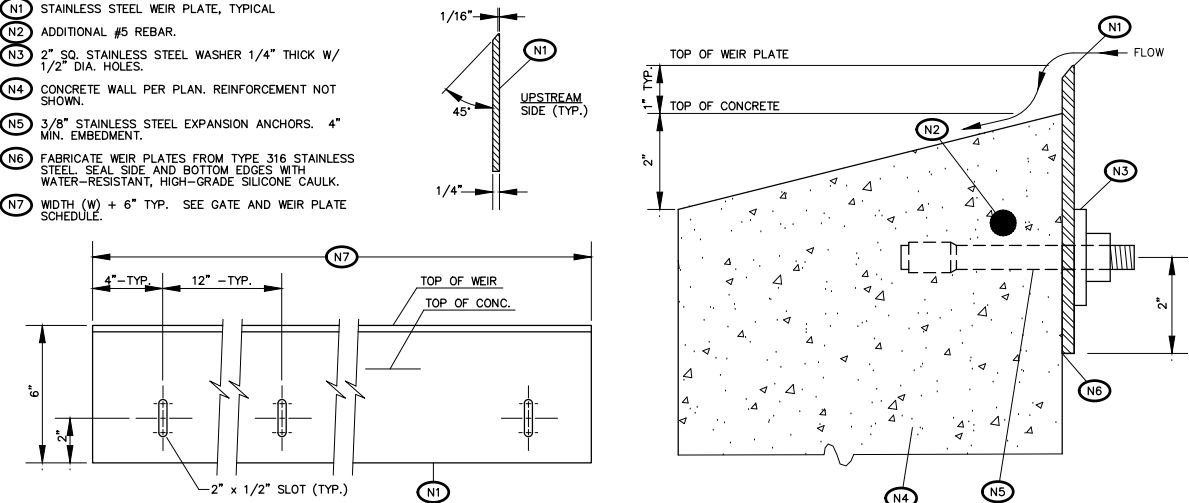
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WEIR SCHEDULE										
GATE NO.	GATE TYPE	"H"	"W"	"D"	"D1"	SEATING HEAD	UNSEATING HEAD	QTY.	LOCATION	DESCRIPTION
W1	TYPE 1	--	6'-0"	--	--	--	--	1	GRIT TANK	316 STAINLESS STEEL WEIR PLATE. FABRICATE AND INSTALL PER DETAIL.

1.3 GATE AND WEIR PLATE SCHEDULE
NOT TO SCALE

NOTES

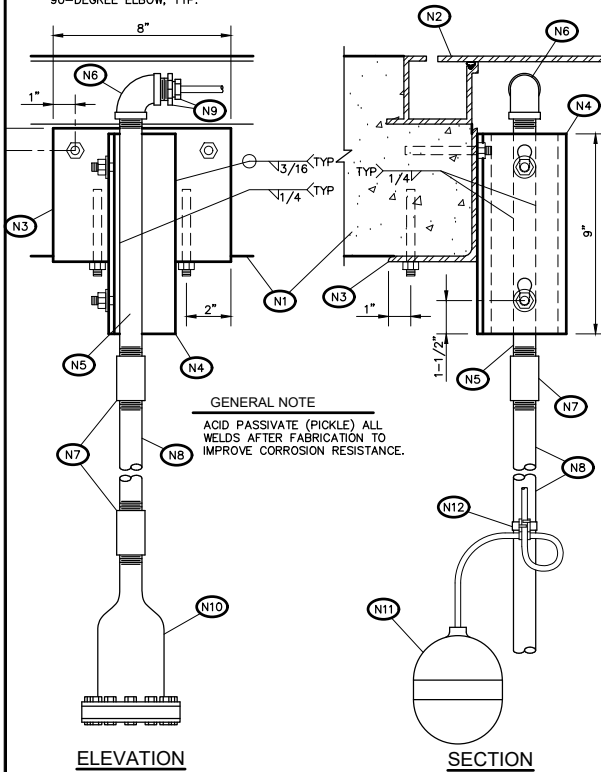
- (N1) STAINLESS STEEL WEIR PLATE, TYPICAL
- (N2) ADDITIONAL #5 REBAR.
- (N3) 2" SQ. STAINLESS STEEL WASHER 1/4" THICK W/ 1/2" DIA. HOLES.
- (N4) CONCRETE WALL PER PLAN. REINFORCEMENT NOT SHOWN.
- (N5) 3/8" STAINLESS STEEL EXPANSION ANCHORS. 4" MIN. EMBEDMENT.
- (N6) FABRICATE WEIR PLATES FROM TYPE 316 STAINLESS STEEL. SEAL SIDE AND BOTTOM EDGES WITH WATER-RESISTANT, HIGH-GRADE SILICONE CAULK.
- (N7) WIDTH (W) + 6" TYP. SEE GATE AND WEIR PLATE SCHEDULE.



1.5 WEIR PLATE - TYPE 1
NOT TO SCALE

NOTES

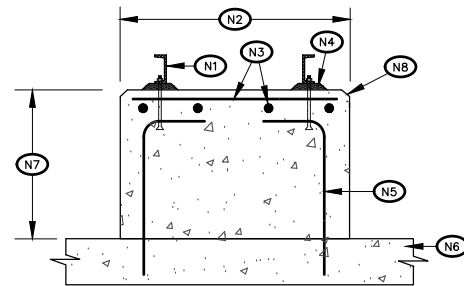
- (N1) CEMENT CONCRETE WETWELL SLAB, TYP.
- (N2) ALUMINUM ACCESS DOOR CAST INTO SLAB, TYP.
- (N3) 6X4X1/4 TYPE 304 STAINLESS STEEL ANGLE OR BENT PLATE WITH (4) 3/8" TYPE 316 STAINLESS STEEL ADHESIVE ANCHORS, 3" MIN EMBED.
- (N4) 4X3X1/4 TYPE 304 STAINLESS STEEL ANGLE OR BENT PLATE WITH (2) 7/16" KEYHOLE SLOTS FOR EASE OF INSTRUMENT SUPPORT REMOVAL.
- (N5) 1" X 12" TYPE 316 STAINLESS STEEL NPT NIPPLE WELDED TO 1/4X3 TYPE 316 STAINLESS STEEL FLAT BAR WITH (2) 3/8X1 TYPE 316 STAINLESS STEEL WELDED STUDS AND 3/8" WASHERS AND NYLON LOCK NUTS.
- (N6) 1" TYPE 316 STAINLESS STEEL 90-DEGREE ELBOW, TYP.
- (N7) 1" NPT TYPE 316 STAINLESS STEEL COUPLING, TYP.
- (N8) 1" NPT TYPE 316 STAINLESS STEEL PIPE, TYP. SEE PLAN FOR REQUIRED LENGTH.
- (N9) 1" NPT REDUCING BUSHING AND CORDGRIP/STRAIN RELIEF BUSHING, TYP. SIZE AS REQUIRED TO FIT MANUFACTURER'S CABLE.
- (N10) SUBMERSIBLE LEVEL TRANSMITTER, TYP. SEE SPECIFICATIONS.
- (N11) FLOAT SWITCH AND CABLE, TYP. SEE SPECIFICATIONS.
- (N12) STAINLESS STEEL COMBINATION CABLE CLAMP AND STRAIN RELIEF, TYP. SJE RHOMBUS OR APPROVED EQUAL. INSTALL AT 2'-0" MAX. SPACING ALONG LENGTH OF SUPPORT PIPE.



3.1 SUBMERSIBLE TRANSDUCER/FLOAT SUPPORT
NOT TO SCALE

NOTES

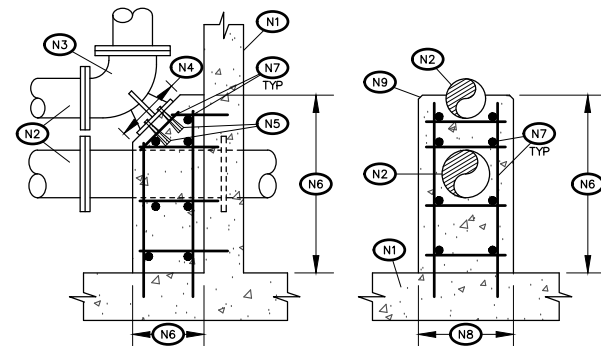
- (N1) EQUIPMENT RAIL FOR INFORMATION ONLY. COORDINATE WITH MFGS. APPROVED SHOP DRAWINGS.
- (N2) WIDTH OF EQUIPMENT MOUNTING RAIL +4", EACH SIDE.
- (N3) #5 HORIZONTALS @ 12" O.C., EACH WAY 2" CLR. OF TOP OF CONCRETE.
- (N4) 1" NON-SHRINK LEVELING GROUT UNDER EQUIPMENT RAIL OR AS REQUIRED BY EQUIPMENT MANUFACTURER.
- (N5) #5 DOWELS EPOXY GROUTED INTO SLAB, 2" CLR. FROM CONCRETE FACE, MAX SPACING 2'-0" O.C.
- (N6) CONCRETE FLOOR SLAB. REINFORCING NOT SHOWN.
- (N7) HEIGHT AS REQUIRED PER PIPING AND EQUIPMENT. COORDINATE.
- (N8) 1" CHAMFER, TYPICAL.



2.3 HOUSEKEEPING PAD
NOT TO SCALE

NOTES

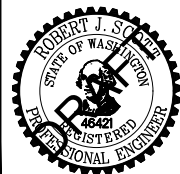
- (N1) CONCRETE WALL/FLOOR, TYPICAL.
- (N2) PIPING, TYPICAL. SEE PLANS FOR SIZE AND TYPE.
- (N3) PIPE ELBOW WITH FABRICATED SUPPORT BASE.
- (N4) WIDTH OF PIPE BASE +4".
- (N5) STAINLESS STEEL ANCHORS, 6" MIN. EMBED.
- (N6) AS REQUIRED, SEE PLAN FOR PIPE LAYOUT AND ELEVATIONS.
- (N7) #5 @ 12" O.C. EACH WAY, 2" CLR. OF CONCRETE EDGES, 5" MIN. EMBEDMENT INTO CONCRETE WALLS/FLOOR. BARS MAY BE EPOXY GROUTED INTO CONCRETE.
- (N8) PIPE O.D. +6" EACH SIDE, MIN.
- (N9) 1" CHAMFER, TYPICAL.



3.3 TYPICAL SUPPORT AT PIPING ELBOW
NOT TO SCALE



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PRELIMINARY
SUBJECT TO REVISION

REVISION	DATE

JOB NUMBER: 22072	DATE: 02/09/2023
FILE NAMES: Sheets-Gen Det-2A.dwg	21180.dwg
PLAN: 21180.dwg	
PROFILE:	
DESIGNED BY: DPS/RJS	
ENTERED BY: TWC/JWM	

SNOQUALMIE PASS UTILITY DISTRICT
PHASE 2A MEMBRANE BIOREACTOR WASTEWATER
TREATMENT PLANT IMPROVEMENTS

PIPING DETAILS

GP-3

SHEET

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