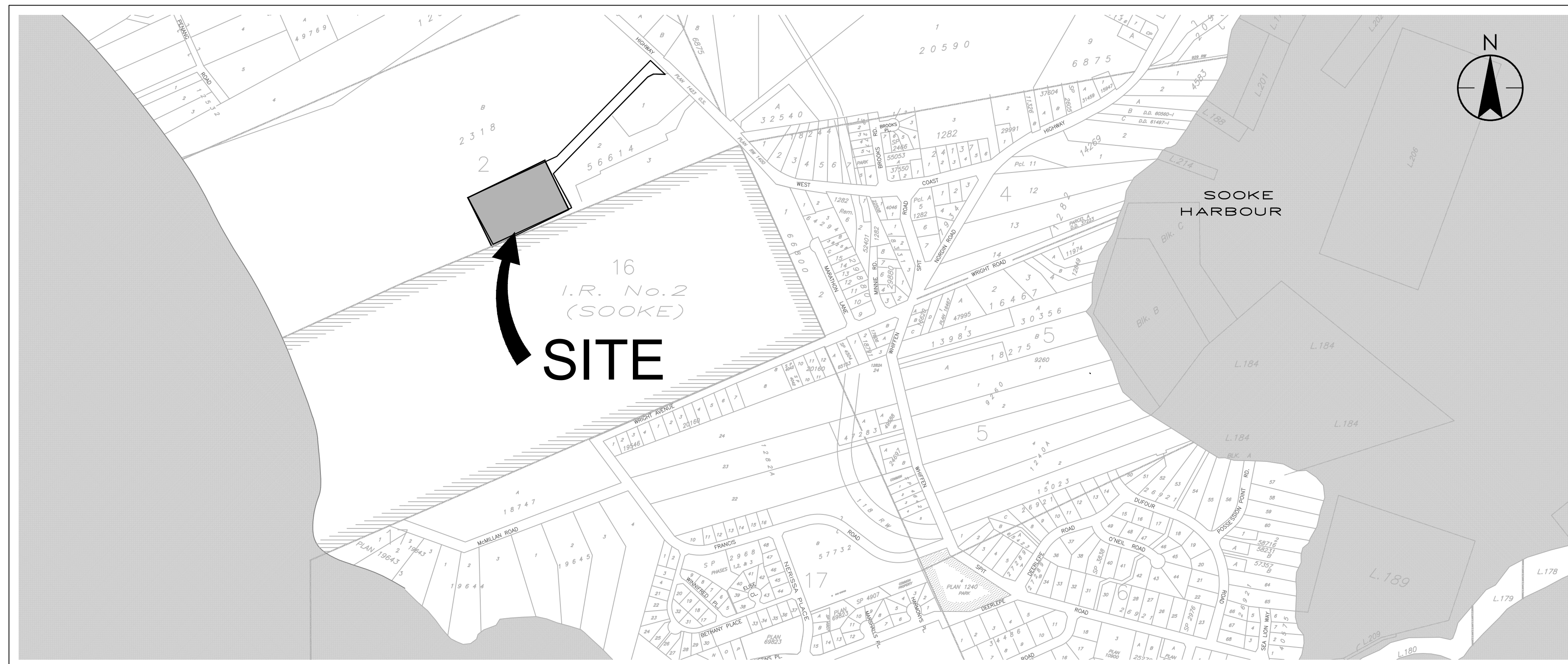


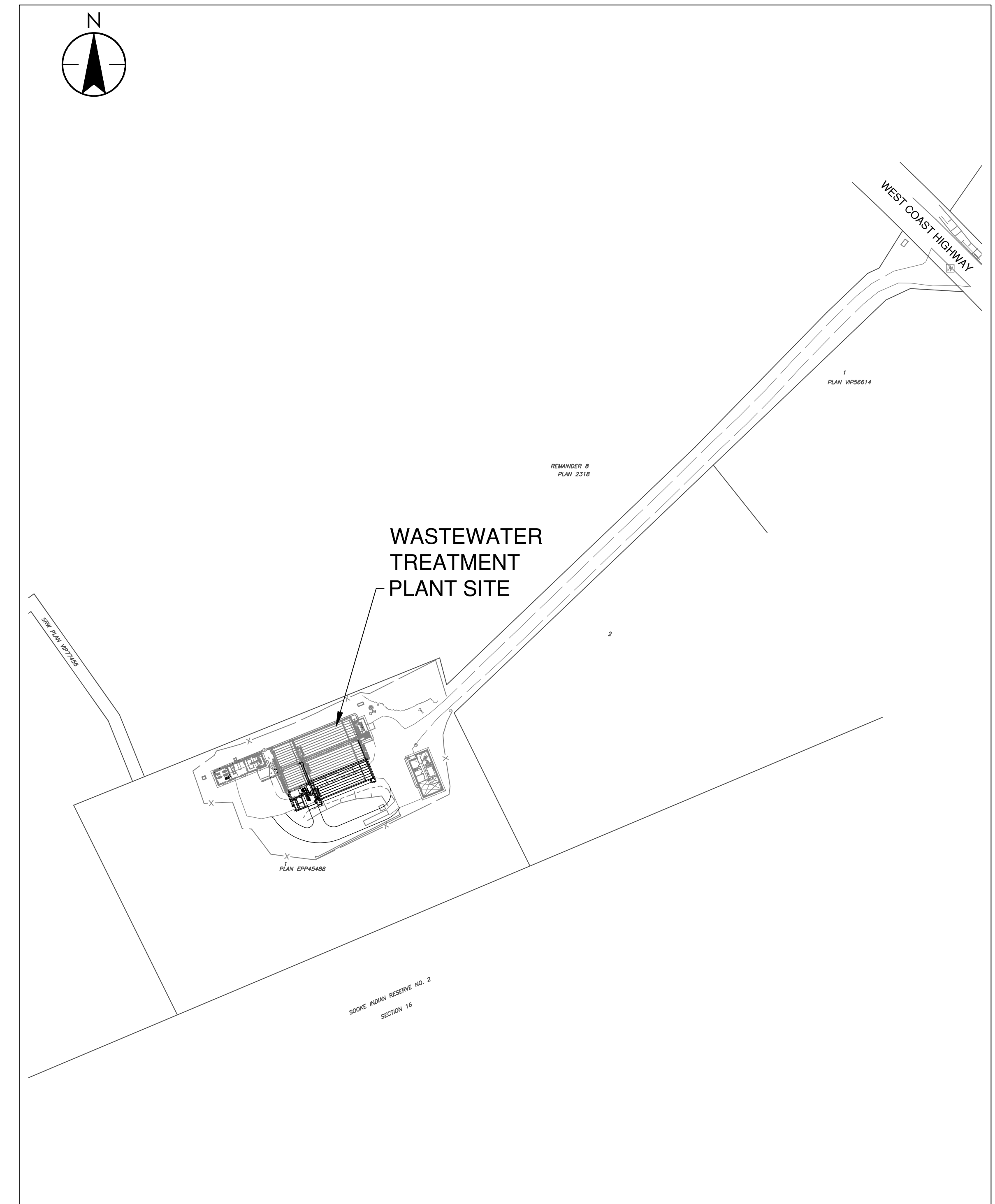


SOOKE WASTEWATER TREATMENT PLANT EXPANSION PROJECT

ISSUED FOR TENDER



KEY PLAN
SCALE: NTS



LOCATION PLAN
SCALE: NTS

2022.07.25

PROJECT NUMBER: 111720131

DRAWING LIST

GENERAL

G001 COVER
G002 DRAWING LIST

CIVIL

C001 SITE PLAN
C002 SITE GRADING AND DRAINAGE
C003 SITE UTILITIES

STRUCTURAL

S001 GENERAL NOTES
S010 CONSTRUCTION STANDARDS - SHEET 1
S011 CONSTRUCTION STANDARDS - SHEET 2
S012 CONSTRUCTION STANDARDS - SHEET 3
S013 CONSTRUCTION STANDARDS - SHEET 4
S101 DISC FILTER, UV CHANNEL AND SLUDGE THICKENER
CONCRETE OUTLINE - PLANS
S301 CONCRETE OUTLINE SECTIONS - SHEET 1
S302 CONCRETE OUTLINE SECTIONS - SHEET 2
S601 REINFORCEMENT - PLANS
S602 REINFORCEMENT - SECTIONS - SHEET 1
S603 REINFORCEMENT - SECTIONS - SHEET 2

PROCESS

P001 FLOW DIAGRAM
P002 HYDRAULIC PROFILE
P003 MISCELLANEOUS DETAILS
P300 SBR - PLAN
P301 SBR - SECTION
P500 DISC FILTER, EQUALIZATION TANK AND
SLUDGE THICKENER - PLAN
P501 DISC FILTER AND EQUALIZATION TANK
SECTIONS - SHEET 1
P502 DISC FILTER AND EQUALIZATION TANK
SECTIONS - SHEET 2
P600 BLOWER ROOM
P800 BILL OF MATERIALS

MECHANICAL

M500 STORAGE ROOM PLUMBING AND HVAC

INSTRUMENTATION

I001 PROCESS & INSTRUMENTATION LEGEND
I002 PROCESS & INSTRUMENTATION DIAGRAM
I003 PROCESS & INSTRUMENTATION DIAGRAM
I004 PROCESS & INSTRUMENTATION DIAGRAM
I005 PROCESS & INSTRUMENTATION DIAGRAM
I006 PROCESS & INSTRUMENTATION DIAGRAM
I007 PROCESS & INSTRUMENTATION DIAGRAM
I008 PROCESS & INSTRUMENTATION DIAGRAM
I009 PROCESS & INSTRUMENTATION DIAGRAM

ELECTRICAL

E001 LEGENDS AND SYMBOLS
E002 STANDARD DETAILS
E003 NOT USED
E004 STANDARD DETAILS
E100 SITE PLAN
E300 SBR - PLAN
E500 DISC FILTER, UV CHANNEL AND SLUDGE THICKENER - PLAN
E600 BLOWER ROOM AND GENERATOR / ELECTRICAL ROOM
E610 EXISTING SINGLE LINE DIAGRAM
E611 SINGLE LINE DIAGRAM
E612 MCC LAYOUT
E613 SCHEDULES
E614 VFD WIRING SCHEMATICS

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Client/Project



SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

Title

GENERAL
DRAWING LIST

Project No.

111720131

Scale

NOT TO SCALE

Drawing No.

G002

Sheet

2 of 49

Revision

0

File Name: 20131_g002.dwg

AF

Dwn.

SS

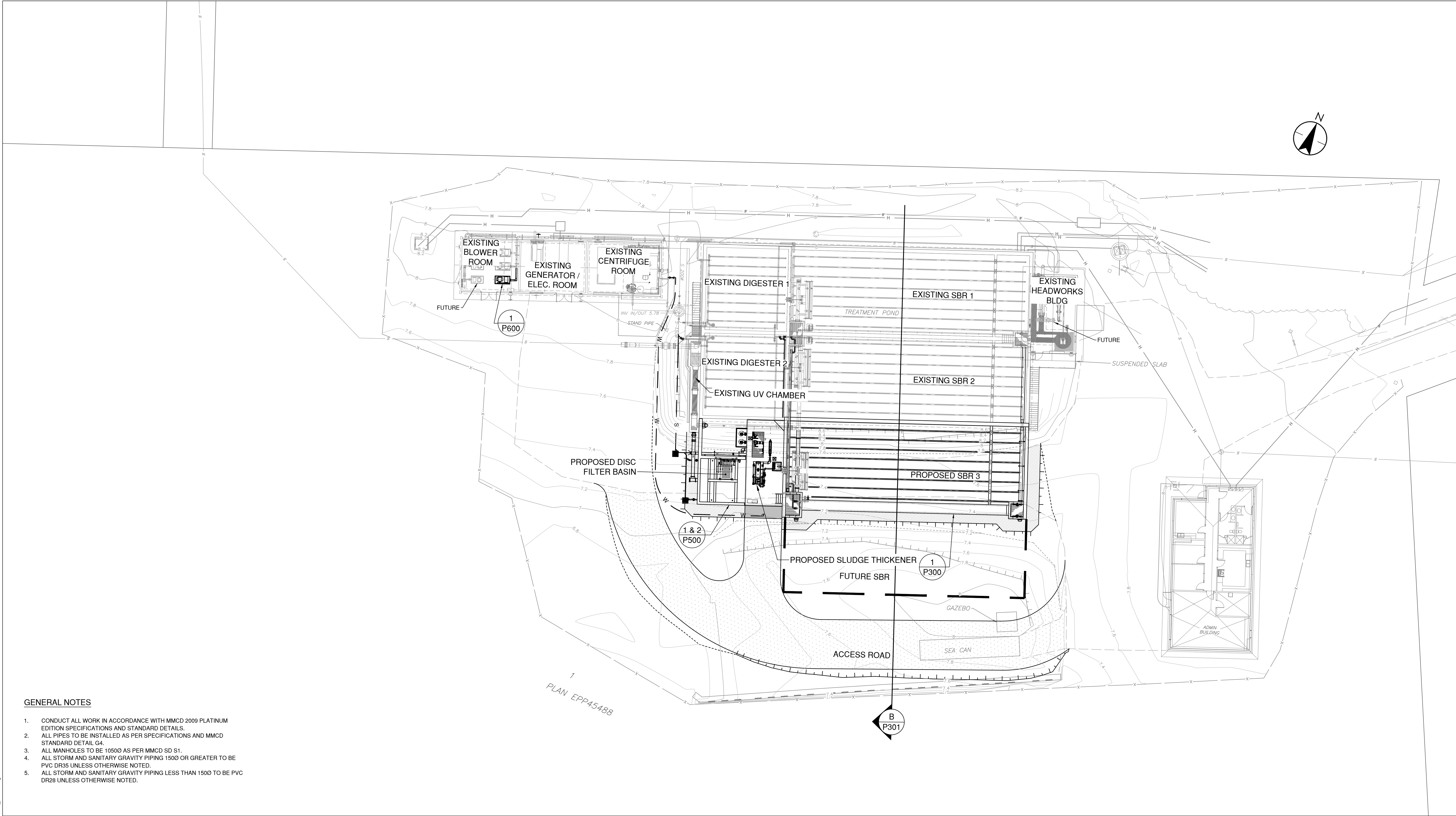
Chkd.

BP

Dsgn.

7/20/2022

YY.MM.DD



GENERAL NOTES

- 1. CONDUCT ALL WORK IN ACCORDANCE WITH MMCD 2009 PLATINUM EDITION SPECIFICATIONS AND STANDARD DETAILS.
- 2. ALL PIPES TO BE INSTALLED AS PER SPECIFICATIONS AND MMCD STANDARD DETAIL G4.
- 3. ALL MANHOLES TO BE 1050Ø AS PER MMCD SD S1.
- 4. ALL STORM AND SANITARY GRAVITY PIPING 1500 OR GREATER TO BE PVC DR35 UNLESS OTHERWISE NOTED.
- 5. ALL STORM AND SANITARY GRAVITY PIPING LESS THAN 1500 TO BE PVC DR28 UNLESS OTHERWISE NOTED.

Revision	By	Appd.	YY.MM.DD
5 ISSUED FOR TENDER	SS	BP	22.07.20
4 ISSUED FOR BUILDING PERMIT	SS	BP	22.07.20
3 ISSUED FOR 90% SUBMISSION	SS	BP	22.06.03
2 ISSUED FOR TENDER IFT 2022-004	SS	BP	22.04.12
1 ISSUED FOR 50% REVIEW	SS	BP	22.02.09
Issued	By	Appd.	YY.MM.DD

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Client/Project



SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_c001.dwg

AF SS BP 7/11/2022
Dwn. Chkd. Dgn. YY.MM.DD

Title
CIVIL
SITE PLAN

Project No.
111720131

Drawing No.

C001

Scale 0 2 6 10m
1:200

Sheet

3 of 49

Revision

0



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District of Sooke

File Name: 20131_c002.dwg

AF	SS	BP	7/25/2022
Dwn.	Chkd.	Dsgn.	YY.MM.DD

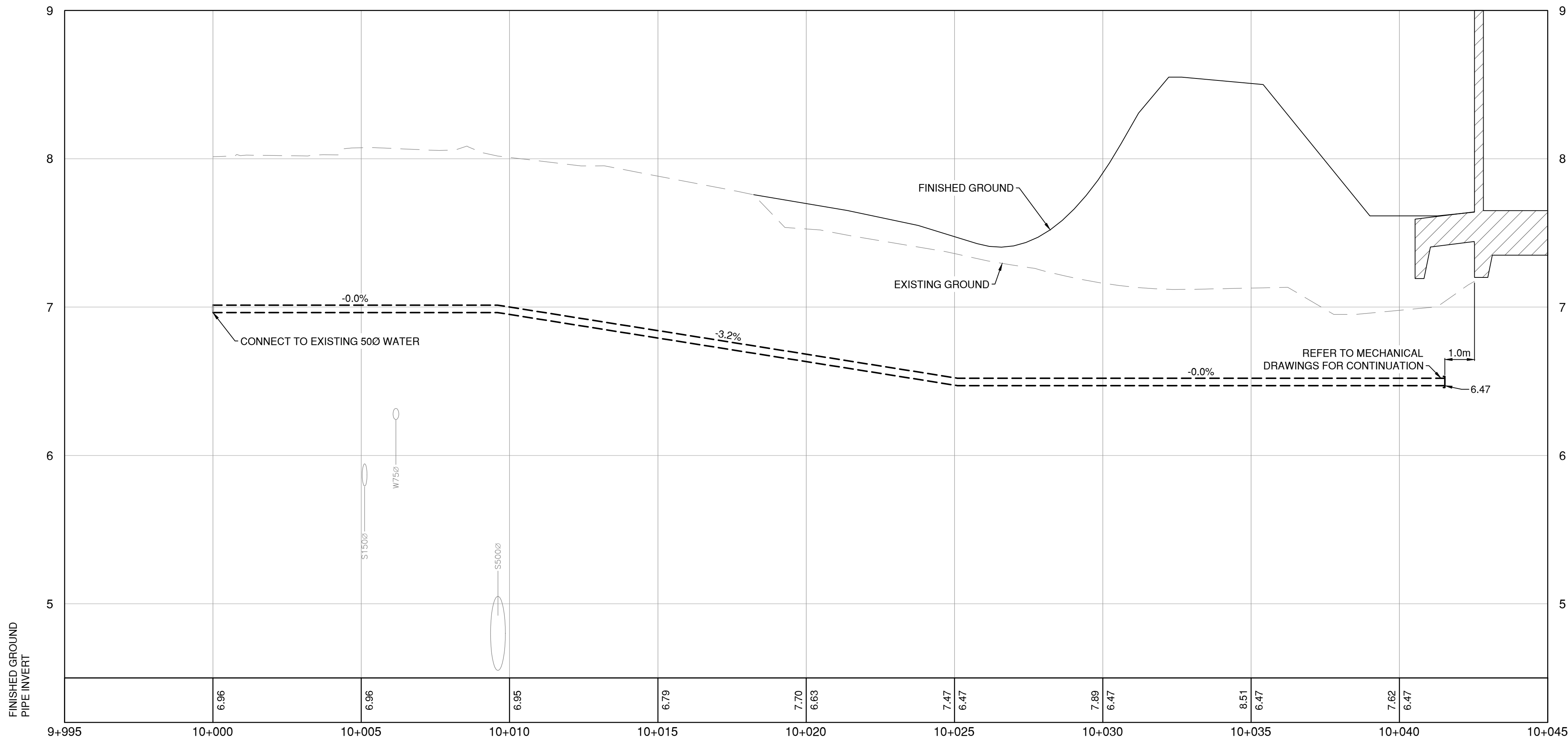
C002

4 of 49

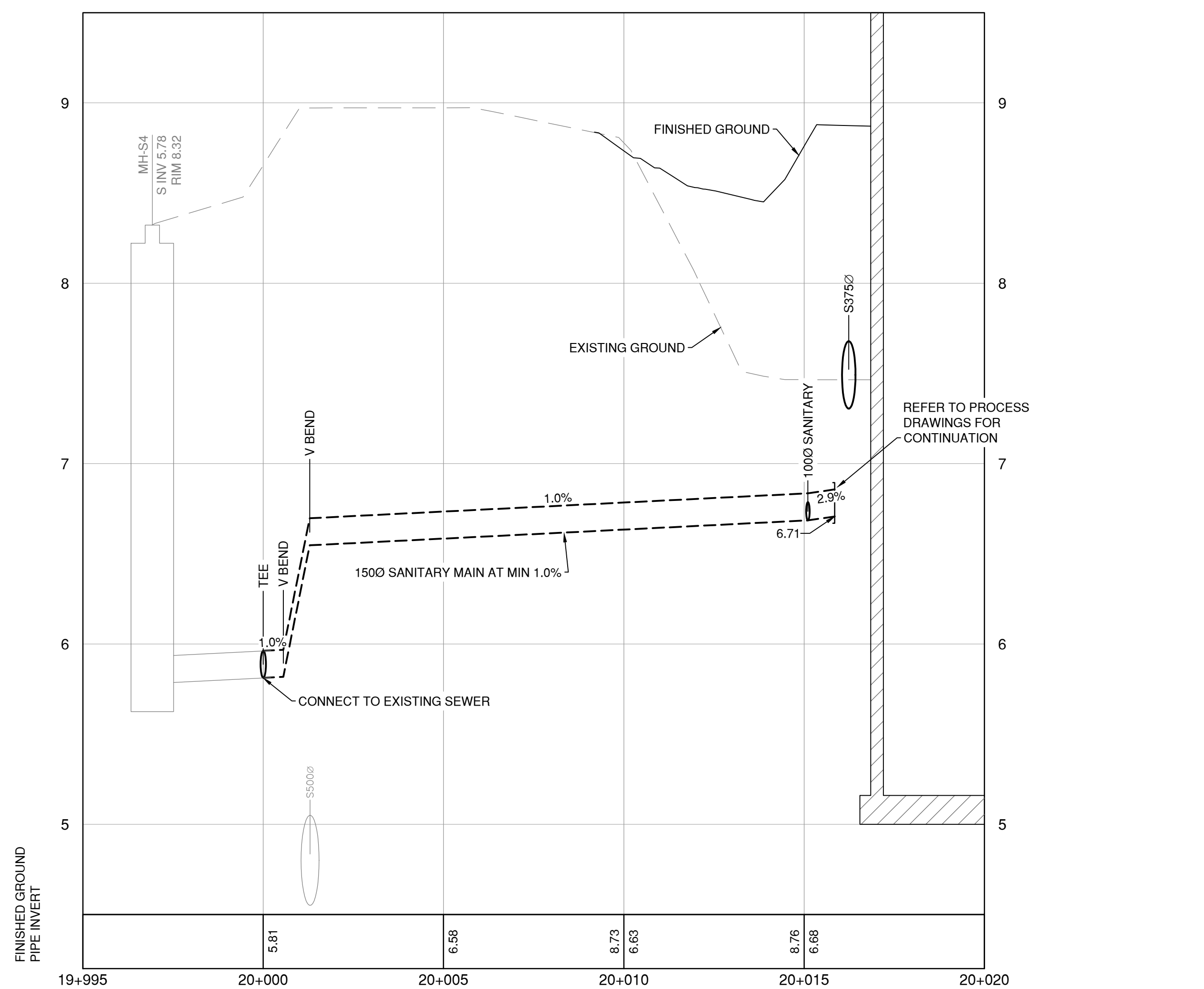
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Issued	By	Appd.	YY.MM.DD
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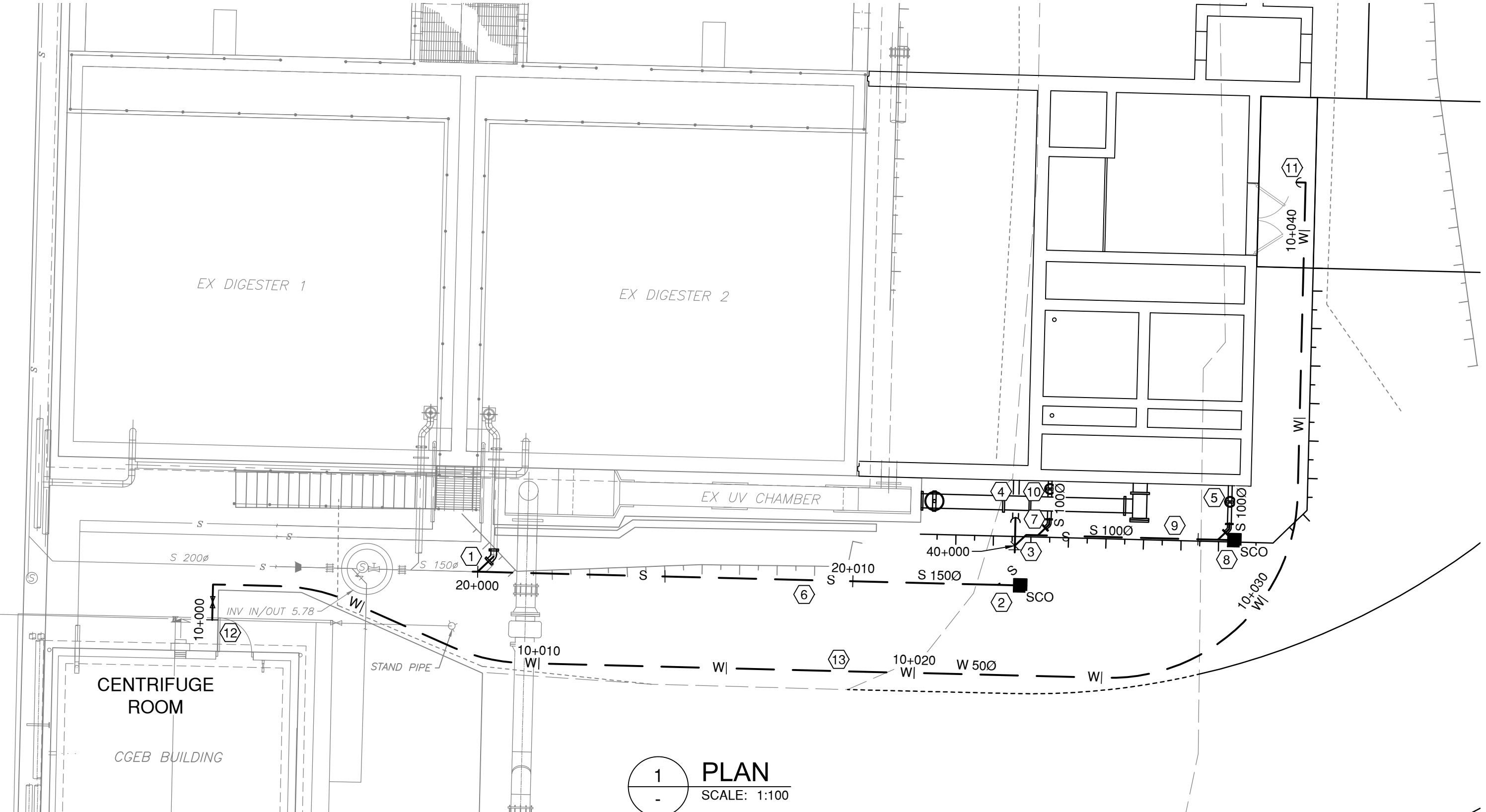
Permit-Seal



2 500 WATER SERVICE PROFILE
SCALE: H 1:100 V 1:20

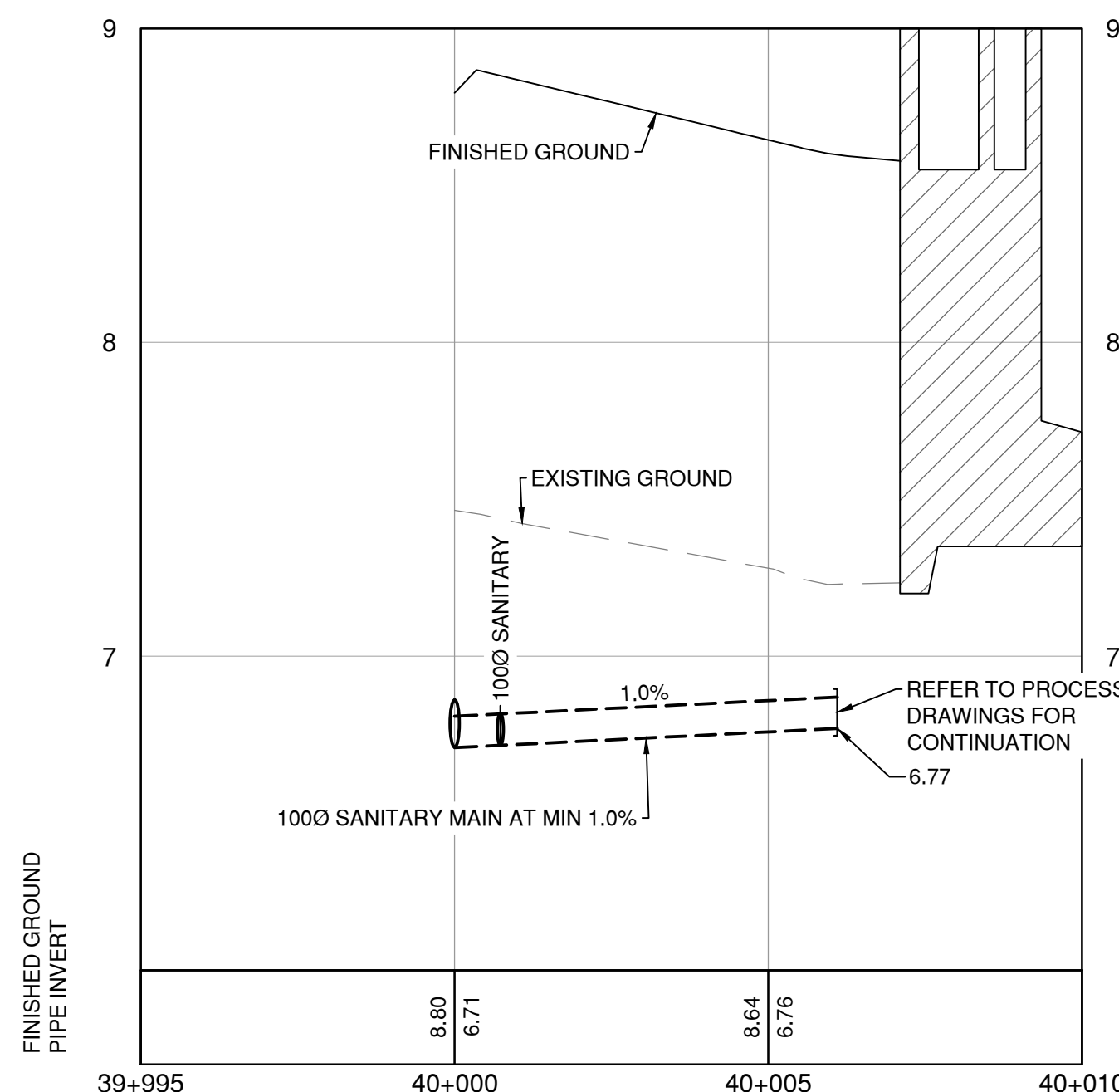
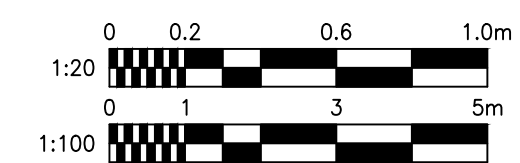


3 1500 SANITARY SERVICE PROFILE
SCALE: H 1:100 V 1:20



1 PLAN
SCALE: 1:100

- CONSTRUCTION NOTES:
- CONNECT TO EXISTING SEWER USING 150x200 WYE FITTING WITH FLEXIBLE COUPLINGS AND 3-1500 45° BENDS
 - 1-1500 WYE C/W 1-45° BEND AND CLEANOUT AS PER MMCD DETAIL S6
 - 150x150x100 WYE C/W 1000 45° BEND AND 1500 STUB TO 1m FROM BUILDING
 - 1500 SANITARY SERVICE INVERT AT 1m FROM BUILDING = 6.71m. REFER TO PROCESS DRAWINGS
 - 1000 SANITARY SERVICE INVERT AT BUILDING = 6.77m. REFER TO PROCESS DRAWINGS
 - REFER TO PROFILE 3
 - 1000 WYE C/W 45° BEND
 - 1000 WYE C/W 45° BEND AND CLEANOUT AS PER MMCD DETAIL S6
 - REFER TO PROFILE 4
 - 1000 SANITARY SERVICE INVERT AT BUILDING = 6.74m. REFER TO PROCESS DRAWINGS
 - 500 WATER SERVICE INVERT AT BUILDING = 6.47m. REFER TO MECHANICAL DRAWINGS
 - CONNECT TO EXISTING 500 USING 1-ISOLATION VALVE 1-TEE
 - REFER TO PROFILE 2
 - EXPOSE ALL EXISTING UTILITIES AT CROSSINGS AND CONNECTION POINTS PRIOR TO CONSTRUCTION



4 1000 SANITARY SERVICE PROFILE
SCALE: H 1:100 V 1:20

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Client/Project

District of Sooke

SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_c003.dwg

AF Dwn. SS Chkd. BP Dign. 7/25/2022 YY.MM.DD

Title

CIVIL
SITE UTILITIES

Project No.
111720131

Scale
AS SHOWN

Drawing No.
C003

Sheet
5 of 49

Revision
0

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DESIGN NOTES

- GENERAL
- ALL CODES REFERENCED TO BE THE LATEST VERSION AT THE DATE OF ISSUE.
 - DO NOT USE DRAWINGS FOR CONSTRUCTION UNLESS MARKED ISSUED FOR CONSTRUCTION AND SEALED BY AN ENGINEER.
 - DESIGN AND CONSTRUCTION BASED ON THE FOLLOWING BUILDING CODES. ALL CODES ARE TO GOVERN EXCEPT WHERE APPLICABLE CODES OR CONTRACT PROVISIONS ARE MORE RESTRICTIVE.
 - NATIONAL BUILDING CODE 2015
 - BRITISH COLUMBIA BUILDING CODE 2018
 - READ THESE DESIGN NOTES IN CONJUNCTION WITH DRAWINGS COMPLETED BY OTHER DISCIPLINES AND CONTRACT SPECIFICATIONS. REPORT ANY DEFICIENCIES TO ENGINEER FOR CLARIFICATION. CONFLICTS BETWEEN PROJECT SPECIFICATIONS AND STRUCTURAL DRAWINGS, INCLUDING STRUCTURAL NOTES, CONTACT THE STRUCTURAL ENGINEER OF RECORD FOR CLARIFICATION.
 - SPECIFIC NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
 - ALL DIMENSIONS ARE IN MILLIMETRES AND ELEVATIONS ARE IN METRES UNLESS OTHERWISE NOTED. THE CONTRACTOR IS TO VERIFY DIMENSION BEFORE CONSTRUCTION AND REPORT DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DRAWINGS ARE NOT TO BE SCALED.
 - DIMENSIONS MARKED REF. HAVE BEEN TAKEN FROM EXISTING DRAWINGS AND ARE TO ONLY BE USED FOR REFERENCE PURPOSES.
 - INDUSTRY ACCEPTABLE STRUCTURAL DETAILS ARE TO BE USED WHERE SPECIFIC DETAILS ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
 - DESIGN LOADS, AS INDICATED, ARE NOT TO BE EXCEEDED DURING CONSTRUCTION.
 - GENERAL NOTES ARE FOR REFERENCE ONLY AND DO NOT REPLACE CONTRACT SPECIFICATIONS.
 - URBAN ENGINEERS APPROVAL BEFORE CUTTING, BORING, OR SLEEVING LOAD-BEARING MEMBERS UNLESS OTHERWISE NOTED.
 - THE STRUCTURAL DRAWINGS ARE FOR THE COMPLETED PROJECT. CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACING AND SHORING REQUIRED TO SAFEGUARD NEW AND EXISTING STRUCTURES. SERVICES AND UTILITIES AND FOR THE LOADS AND INSTABILITY OCCURRING DURING CONSTRUCTION. CONTRACTOR IS TO ASSUME FULL RESPONSIBILITY AND COSTS ASSOCIATED WITH THESE TEMPORARY WORKS.
 - CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING OR BRACING ARE TO BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE CONTRACTOR IS TO RETAIN A PERFORM AND TAKE RESPONSIBILITY OF ANY SHORING WITH OTHER DESIGNS REQUIRED TO COMPLETE THE CONSTRUCTION.
 - IF ANY UNSOUND STRUCTURAL CONDITIONS ARE OBSERVED OR CREATED DURING CONSTRUCTION, REPORT THEM IMMEDIATELY TO THE ENGINEER.
 - REFER TO MECHANICAL, ELECTRICAL AND PROCESS DRAWINGS FOR LOCATIONS AND SIZE OF SMALL OPENINGS, HVAC SUPPORTS, ELECTRICAL SUPPORTS, ANCHORAGES, SLEEVES, RECESSES, DEPRESSIONS, SUMPS, TRENCHES, CURBS, HOUSEKEEPING PADS, EQUIPMENT BASES AND SLOPES NOT INDICATED ON THE STRUCTURAL DRAWINGS.
 - OPENINGS AND SLEEVES SHOWN ON THE STRUCTURAL DRAWINGS ARE FOR REFERENCE ONLY. COORDINATE ALL OPENING LOCATIONS AND DIMENSIONS WITH THE APPROPRIATE DISCIPLINE OR SUBCONTRACTOR PRIOR TO CONSTRUCTION.
 - REVIEW ALL DRAWINGS AND CHECK DIMENSIONS PRIOR TO IMPLEMENTING THE WORK. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
 - COORDINATE PLACEMENT AND LOCATION OF ITEMS FOR SUBSEQUENT TRADES.
 - THE CONTRACTOR IS TO VERIFY LOCATION OF UNDERGROUND SERVICES AND BE RESPONSIBLE FOR DISRUPTIONS OF UTILITIES. CONTRACT IS TO TAKE IMMEDIATE CORRECTIVE ACTION FOLLOWING DAMAGE TO EXISTING UTILITIES, AT THEIR OWN COST.
 - PROVIDE ADEQUATE WEATHER PROTECTION DURING CONSTRUCTION PERIOD TO PREVENT DAMAGE TO THE STRUCTURE.
 - CONSTRUCTION IS TO CONFORM TO THE OCCUPATIONAL HEALTH AND SAFETY REGULATIONS OF WORKSAFE BC AND THE CITY OF SOOKE SAFETY STANDARDS.
 - NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS PRIOR TO ANY REQUESTED SITE REVIEWS.

DESIGN CRITERIA

- DESIGN AND CONSTRUCTION BASED ON THE FOLLOWING BUILDING CODES. ALL CODES ARE TO GOVERN EXCEPT WHERE APPLICABLE CODES OR CONTRACT PROVISIONS ARE MORE RESTRICTIVE.
 - NATIONAL BUILDING CODE 2015
 - BRITISH COLUMBIA BUILDING 2018
- DESIGN LOADS VARY THROUGHOUT PROJECT AREA. SEE STRUCTURAL NOTES ON DRAWINGS FOR FURTHER LOAD INFORMATION. PROJECT DESIGN INFORMATION HAS BEEN COMPLETED TO THE FOLLOWING TABLES:

DESIGN LOADS

- UNLESS NOTED OTHERWISE, THE LOADS NOTED IN TABLES AND ON DRAWINGS ARE UNFACTORED:
 - CLIMATIC INFORMATION: REFER TO CLIMATIC INFORMATION TABLE
 - SITE INFORMATION: REFER TO SITE INFORMATION TABLE
 - DESIGN LOADS: REFER TO DESIGN LOADS TABLE
- CONSTRUCTION LOADS SHALL NOT EXCEED THE LOADS NOTED ON THE DRAWINGS.

CLIMATIC INFORMATION		
READ IN CONJUNCTION WITH THE DESIGN NOTES SECTION IN THE DESIGN NOTES		
SNOW LOAD (1/50) Ss		1.3 kPa
SNOW LOAD (1/50) Sr		0.3 kPa
HOURLY WIND PRESSURE (1/50)		0.48 kPa
SEISMIC RESPONSE, Sa (0.2)		1.35
SEISMIC RESPONSE, Sa (0.5)		1.24
SEISMIC RESPONSE, Sa (1.0)		0.76
SEISMIC RESPONSE, Sa (2.0)		0.42
SEISMIC RESPONSE, PGA		0.61

SITE INFORMATION		
READ IN CONJUNCTION WITH THE DESIGN LOADS SECTION IN THE DESIGN NOTES		
IMPORTANCE CATEGORY		POST-DISASTER
FOUNDATION SITE CLASS		C

DESIGN LOADS		
READ IN CONJUNCTION WITH THE DESIGN LOADS SECTION IN THE DESIGN NOTES		
STAIRS , CATWALKS, GRATINGS AND COVERS		
SUPERIMPOSED DEAD LOAD		1.0 kPa
LIVE LOAD		4.8 kPa
BASIC SNOW LOAD		1.68 kPa
LIQUID RETAINING STRUCTURES		
LIQUID UNIT WEIGHT		10 kN/m³

EXISTING STRUCTURES

- THE STRUCTURAL DESIGN IS BASED ON INFORMATION GATHERED FROM THE RECORD DRAWINGS / EXISTING STRUCTURAL DRAWINGS / EXISTING BASE BUILDING DRAWINGS AND LIMITED VISUAL OBSERVATIONS ON THE SITE.
- VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS ON SITE PRIOR TO COMMENCING WORK.
- NOTIFY THE ENGINEER OF ANY SITE CONDITIONS THAT DIFFER FROM THE CONTRACT DOCUMENTS OR THE RECORD DRAWINGS.
- SHORE AND UNDERPIN EXCAVATIONS AS REQUIRED TO PREVENT DISTURBANCE TO ADJACENT STRUCTURES, STREETS, SIDEWALKS AND UTILITIES.

FOUNDATION, EXCAVATION AND BACKFILL

- FOUNDATION DESIGN, EXCAVATION, BACKFILL AND COMPACTION ARE BASED ON THE GEOTECHNICAL REPORT [Sooke WASTEWATER TREATMENT PLANT EXPANSION] PREPARED BY STANTEC CONSULTING LTD. DATED MAY 5, 2022. ENSURE THAT THE REQUIREMENTS OUTLINED IN THIS DOCUMENT ARE READ AND UNDERSTOOD PRIOR TO COMMENCING FOUNDATION WORK. FOUNDATION NOTES
 - ULS (ULTIMATE LIMIT STATE) = 300 kPa, SLS (SERVICABILITY LIMIT STATE) = 100 kPa
 - BEARING SURFACES FOR FOUNDATION SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO CASTING OF CONCRETE.
- NOTIFY THE GEOTECHNICAL ENGINEER A MINIMUM OF 48 HOURS PRIOR TO COMMENCEMENT OF EXCAVATION. SOIL CONDITIONS ARE TO BE INSPECTED BY THE GEOTECHNICAL ENGINEER.
- THE BEARING SURFACE MUST BE INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF ANY FILL MATERIAL. FOUNDATION FORMWORK, ETC. ANY SOFT OR LOOSE SOILS DETECTED WITHIN THE EXPOSED SUBGRADE, INCLUDING THOSE DISTURBED BY CONSTRUCTION OR OTHER SITE ACTIVITIES, IS TO BE SUB-EXCAVATED AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER.
- REMOVE ALL EXPOSED ORGANIC MATTER FROM THE EXCAVATION AREA AT THE DISCRETION OF THE GEOTECHNICAL ENGINEER.
- CENTRELINE FOOTINGS UNDER COLUMNS AND WALLS UNLESS OTHERWISE NOTED.
- FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION WITCH DIFFER FROM THOSE INDICATED IN THE [GEOTECHNICAL REPORT / PROJECT DOCUMENTS] IS TO BE IMMEDIATELY REPORTED TO THE ENGINEER.
- ALL FOUNDATIONS ARE TO BE FOUNDED AT ELEVATIONS AND LOCATIONS SHOWN ON THE DRAWINGS. FOUNDATION FILL IS TO BE LOCATED ON COMPACTED FILL AS PER THE GEOTECHNICAL REPORT AND DESIGN DRAWINGS.
- CONSTRUCTION METHODS REQUIRING TEMPORARY SHORING OR BRACING ARE TO BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE CONTRACTOR IS TO RETAIN A PERFORM AND TAKE RESPONSIBILITY OF ANY SHORING WITH OTHER DESIGNS REQUIRED TO COMPLETE THE CONSTRUCTION.
- EXCAVATIONS ARE TO BE GRADED TO DIRECT WATER TO FLOW TO THE SUMPS AND TO PREVENT PONDING WATER ON THE FOUNDATION SUBGRADE. THE SUMPS ARE TO BE POSITIONED AWAY FROM THE FOOTPRINTS OF THE STRUCTURES OR FOUNDATIONS.
- PROTECT EXCAVATIONS FOR FOOTINGS FROM RAIN, SNOW, FREEZING TEMPERATURES, STANDING WATER, LOSS OF MOISTURE AND DEGRADATION BY APPROVED METHODS.
- PROVIDE ALL NECESSARY SHORING, BRACING, OR UNDERPINNING TO EXISTING STRUCTURES, SERVICE UTILITIES AND SOIL CUTS TO ENSURE SAFETY AND STRUCTURAL INTEGRITY DURING EXCAVATION.
- BACKFILLING AGAINST STRUCTURE IS NOT PERMITTED UNTIL THE STRUCTURAL SUPPORT SYSTEM IS IN PLACE AND CONCRETE HAS ATTAINED ITS 28-DAY STRENGTH.
- NO PORTION OF BACKFILL IS TO BE PLACED MORE THAN 600mm ABOVE ANY OTHER PORTION OF THE FILL.

CONCRETE

- CONCRETE MATERIALS, QUALITY, MIXING, PLACING, FORMWORK AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CSA-A23.1, CSA-A23.2, CSA-A23.3.
- CONCRETE DESIGN FOR LIQUID CONTAINMENT STRUCTURES IS TO COMPLY WITH: AC3080-18: CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES AC3080-18: SEISMIC DESIGN OF LIQUID CONTAINING CONCRETE STRUCTURES AND CSA S900.2.21 STRUCTURAL DESIGN OF WASTEWATER TREATMENT PLANTS.
- SUPPLY CONTROLLED CONCRETE IN ACCORDANCE WITH CSA-A23.1 WITH PROPERTIES AS OUTLINED IN THE PROJECT SPECIFICATIONS AND THE CONTROLLED CONCRETE TABLE BELOW.

CONTROLLED CONCRETE						
READ IN CONJUNCTION WITH THE CAST IN PLACE CONCRETE SECTION OF THE DESIGN NOTES						
CONCRETE ELEMENT	CLASS OF EXPOSURE	MIN COMPRESSIVE STRENGTH AT 28 DAYS - MPa	MAX AGGREGATE SIZE (mm)	% AIR CONTENT	MAX. WC RATIO	CEMENT TYPE
EXTERIOR CONCRETE						
UNDERSIDE DUCT ENCLOSURE / FILL CONC	N	10	20	-	-	GU
SIDEWALKS AND LANDINGS	C2	32	20	5 TO 8	-	MS
LIQUID RETAINING STRUCTURES						
FOUNDATIONS, WALLS, SLABS, BEAMS, COLUMNS	A-1	35	20	5 TO 8	0.40	HS
TOPPING SLABS AND BENCHING	A-1	35	14/20	5 TO 8	0.40	HS

- SUBMIT CONCRETE MIX DESIGNS AS OUTLINED IN PROJECT DOCUMENTS.
- SUMPS SPECIFIED ABOVE AR PRIOR TO THE ADDITION OF ANY PLASTICIZING ADMIXTURE WHEN CONCRETE IS PLACED BY PUMPING. THE LISTED VALUE IS TO BE AT THE DISCHARGE POINT.
- CONCRETE MIXES ARE TO ONLY CONTAIN FLY ASH CONTENT WHERE INDICATED IN THE PROJECT SPECIFICATIONS / THE PROJECT DOCUMENTS. CLASS C FLY ASH IS NOT PERMITTED IN LIQUID CONTAINMENT STRUCTURE.
- CALCIUM CHLORIDE ADMIXTURE IS NOT PERMITTED.
- ALL CONCRETE IS TO BE NORMAL WEIGHT (2400kg/m³) UNLESS OTHERWISE NOTED.
- WATERSTOP IS REQUIRED IN ALL BASE SLAB AND EXTERIOR WALL JOINTS OF LIQUID CONTAINMENT STRUCTURES (FULL HEIGHT OF WALLS). IN NON-LIQUID CONTAINING STRUCTURE WATERSTOPS ARE REQUIRED AT SLABS AND WALL JOINTS EXPOSED TO GROUNDWATER ON ONE SIDE.
- CONSTRUCTION JOINTS ARE TO BE KEYED AND DOWELED AS DIRECTED BY THE ENGINEER UNLESS DETAILED ON THE DRAWINGS. DO NOT PROVIDE HORIZONTAL CONSTRUCTION JOINTS IN BEAMS UNLESS APPROVED BY THE ENGINEER. SUBMIT PROPOSED DETAIL AND LOCATION OF ALL CONSTRUCTION JOINTS NOT SHOWN ON DRAWINGS. CLEAN OUT AND FILL WITH SEALANT.
- ALL DOWELS AND ANCHOR BOLTS ARE TO BE LOCATED AND SECURED IN PLACE PRIOR TO PLACING CONCRETE. USE TEMPLATE TO ENSURE CORRECT PLACEMENT.
- PROVIDE RECESSES IN THE TOP OF FOUNDATION WALLS AND GRADE BEAMS AT ALL DOOR OPENINGS TO ALLOW SLAB-ON-GRADE TO CONTINUE OVER.
- PROVIDE [25mm] CHAMFER ON ALL EXPOSED CONCRETE EDGES AND CORNERS, INCLUDING HOUSEKEEPING PADS.
- REFER SPECIFICATIONS FOR EXPOSED CONCRETE FINISHES.
- VERIFY SIZE AND LOCATION OF ALL [MECHANICAL OPENINGS, CURBS, EQUIPMENT PADS, MECHANICAL CONNECTIONS] WITH DRAWINGS COMPLETED BY OTHERS AND THE SUBCONTRACTOR. MAJOR OPENINGS NOT SHOWN ON THE DRAWINGS ARE TO BE VERIFIED BY THE ENGINEER.
- DO NOT PLACE SLEEVES OR OPENING THROUGH STRUCTURAL ELEMENTS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
- WHERE NEW CONCRETE IS TO BE PLACED AGAINST EXISTING CONCRETE, EXISTING CONCRETE IS TO BE ROUGHED TO AN AMPLITUDE OF [6mm] AND CLEANED TO THE SATISFACTION OF THE ENGINEER.
- CLEAN SURFACES OF ALL CONSTRUCTION JOINTS THOROUGHLY AND REMOVE LAITANCE.
- BEFORE PLACING CONCRETE, ENSURE THE REINFORCING STEEL AND FORMS ARE CLEAN OF ALL LOOSE SCALE, DIRT, CORROSION, OR OTHER FOREIGN MATERIAL WHICH COULD REDUCE THE BOND BETWEEN REINFORCING AND CONCRETE.
- DOWELS ARE TO BE SECURED TO MATCH VERTICAL BAR SPACING PRIOR TO CASTING CONCRETE.
- PROVIDE STANDARD HOOK IN BARS WHICH TERMINATE AT WALL OR SLAB EDGES, OR AT INTERSECTIONS WHICH PROVIDE LESS THAN THE SPECIFIED DEVELOPMENT LENGTH.
- MAINTAIN SLAB THICKNESS AT SLOPES, DEPRESSIONS AND CHANGES IN ELEVATION.
- SLABS WITH SLOPING SURFACES ARE TO HAVE THE INDICATED SLAB THICKNESS MAINTAINED AS A MINIMUM. SLAB-ON-GRADES BOTTOMS MAY EITHER SLOPE WITH THE TOP SURFACE OR BE LEVEL.
- PROVIDE ADEQUATE CLEARANCE FOR REINFORCEMENT AS OUTLINED IN PROJECT DOCUMENTS.
- CONCRETE IS TO BE CURED FOR A MINIMUM OF 7 DAYS AT A TEMPERATURE GREATER THAN 10 DEGREES CELSIUS AND FOR THE NECESSARY TIME FOR THE CONCRETE TO ACHIEVE 70% OF ITS DESIGN STRENGTH.
OR
CONCRETE IS TO BE CURED AS OUTLINED IN THE PROJECT DOCUMENTS.
- ALL HOT AND COLD WEATHER CONCRETE WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH CSA-A23.1.
- CONTRACTOR IS RESPONSIBLE TO HIRE AN AGENCY TO COLLECT AND TEST CONCRETE SAMPLES FOR STRENGTH, SLUMP AND AIR CONTENT IN ACCORDANCE WITH CSA-A23.1. TEST RESULTS ARE TO BE SUBMITTED TO THE ENGINEER.
- NOTIFY THE ENGINEER A MINIMUM OF 48 HOURS PRIOR TO ANY CONCRETE POURS TO ALLOW FOR REVIEW OF REINFORCEMENT.

JOINTS

- CONSTRUCTION JOINTS (CJ):
 - PROVIDE CONSTRUCTION JOINTS WHERE SHOWN ON DRAWINGS OR AS APPROVED IN WRITING BY THE ENGINEER AFTER COMPLETE SUBMISSION OF DETAILS AND LOCATIONS.
 - CJ OR CJ100 MEANS 100% REINFORCEMENT EXTENDS THROUGH THE CONSTRUCTION JOINT.
 - CJ50 MEANS 50% REINFORCEMENT EXTENDS THROUGH THE CONSTRUCTION JOINT.
 - INSTALL CONTINUOUS WATERSTOP WHERE SHOWN.
 - ROUGHEN CONCRETE SURFACE TO EXPOSE SOUND COARSE AGGREGATE BY WATER SPRAY AND BRUSHING BEFORE CONCRETE HARDENS OR BY SANDBLASTING.
 - DAMPEN SURFACE PRIOR TO SECOND PLACEMENT OF CONCRETE.
 - APPLY EPOXY BONDING AGENT WHERE NOTED IN PROJECT DOCUMENTS OR AS RECOMMENDED BY PRODUCT MANUFACTURER.

CONCRETE REINFORCEMENT

- REINFORCING WORK IS TO BE COMPLETED IN ACCORDANCE WITH CSA-A23.1 AND CSA-A23.3 AND IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI DETAILING MANUAL OR THE REINFORCING STEEL INSTITUTE OF CANADA DETAILING MANUAL.
- REINFORCEMENT STEEL FOR STRAIGHT BARS IS TO CONFORM TO CSA-G30.18 GRADE 400. REINFORCEMENT STEEL FOR WELDED AND BENT REINFORCING BARS IS TO CONFORM TO CSA-G30.18 GRADE 400W.
- REINFORCEMENT SPACING SHOWN ON ALL DRAWINGS IS CENTER TO CENTER OF BAR. PLACE REINFORCING BAR SYMMETRICALLY OVER SUPPORTS AND SYMMETRICALLY IN SPANS UNLESS OTHERWISE NOTED.
- BARS SHOWN THUS "—————" TO BE PLACED AT TOP OF BEAMS AND SLABS OR IN NEAR FACE OF WALL. BARS SHOWN THUS "-----" TO BE PLACED AT BOTTOM OF BEAMS AND SLABS OR AT FAR FACE OF WALL.
- REINFORCING TO BE CONTINUOUS UNLESS OTHERWISE NOTED. LAP TOP BARS AT MIDSPAN, BOTTOM BARS AT SUPPORTS.

FOR DEFORMED REINFORCING BARS WITH Fy=400MPa REBAR SPLICE LENGTHS (mm) UNLESS OTHERWISE NOTED:

REINFORCEMENT SPLICES			
READ IN CONJUNCTION WITH THE CONCRETE REINFORCEMENT SECTION IN THE DESIGN NOTES			
BAR SIZE	COMPRESSION SPLICE (mm)	TENSION SPLICE	
		VERTICAL OR BOTTOM HORIZONTAL BARS	TOP HORIZONTAL BARS *
		UNCOATED BARS	UNCOATED BARS
10M	300	400	500
15M	450	550	750
20M	600	700	900
25M	750	1100	1400

NOTE 1 THIS TABLE IS BASED ON NORMAL WEIGHT CONCRETE f_c = 35 MPa AND ON REINFORCING STEEL fy = 400 MPa

NOTE 2 * TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT PLACED SUCH THAT MORE THAN 300mm OF CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.

NOTE 3 FOR STANDARD EMBEDMENT DEPTH INTO CONCRETE, DIVIDE BASIC TENSION LAP SPLICE NUMBER BY 1.3.

- REBAR EMBEDMENT LENGTHS (mm) UNLESS OTHERWISE NOTED.
- WELDED WIRE MESH IS TO CONFORM TO CSA-G30.5 AND ASTM A497/A497M. PROVIDE WELDED WIRE MESH IN FLAT SHEETS. LAPS TO BE 200mm MINIMUM.
- DO NOT WELD REINFORCEMENT WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. WELDING MAY ONLY BE CARRIED OUT BY AN ORGANIZATION CERTIFIED TO CSA-W186.
- DO NOT CUT REINFORCEMENT AT OPENINGS WHERE IT CAN BE SPREAD CONTINUOUS AROUND OPENING.
- SUBMIT SHOP DRAWINGS AND DETAILS FOR ALL REINFORCEMENT FOR REVIEW PRIOR TO FABRICATION.
- CLEAR CONCRETE COVER TO ALL REINFORCEMENT TO BE AS OUTLINED IN THE FOLLOWING TABLE:

CLEAR CONCRETE COVER TO REINFORCEMENT	
READ IN CONJUNCTION WITH THE CONCRETE REINFORCEMENT SECTION OF THE DESIGN NOTES	
LOCATION	COVER
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	75mm
FACES IN CONTACT WITH SEWAGE AND SEWAGE VAPOUR	60mm
EXPOSED TO WEATHER	50mm
NOT EXPOSED TO WEATHER	50mm
NOTE: THE GREATEST COVER REQUIRED FOR ANY ELEMENT SHALL GOVERN	

- PROVIDE SUFFICIENT CHAIRS AND SUPPORT BARS TO MAINTAIN CONCRETE COVER AS SPECIFIED. CONCRETE BLOCKS OR DOBIES SUPPORTING BARS ON THE SUBGRADE ARE TO BE IN SUFFICIENT NUMBERS TO SUPPORT THE BARS WITHOUT SETTLEMENT, BUT IN NO CASE ARE TO BE CONTINUOUS.
- UNLESS OTHERWISE NOTED, CONCRETE STRUCTURES SHOWN WITH SINGLE REINFORCING BARS ARE TO HAVE THE REINFORCEMENT CENTERED.
- SIDEWALKS AND NON-LOAD BEARING SLABS TO BE REINFORCED WITH 10M@300 O.C. UNLESS OTHERWISE NOTED.
- PROVIDE DOWELS TO WALLS AND COLUMNS OF SAME SIZE, NUMBER AND SPACING AS WALL AND COLUMN BARS UNLESS OTHERWISE NOTED. DOWELS ARE TO BE WIRED OR OTHERWISE HELD IN POSITION AND MAY NOT BE PLACED IN FRESHLY CAST CONCRETE.
- MINIMUM REINFORCING AROUND OPENINGS LARGER THAN 300mm IS TO BE 2-15M BARS EACH SIDE OF OPENING, EXTENDED 600mm PAST CORNERS UNLESS OTHERWISE NOTED.
- REINFORCING BARS AND ACCESSORIES ARE NOT TO BE IN CONTACT WITH ANY PIE, PIPE, FLANGE, OR METAL PARTS EMBEDDED IN THE CONCRETE. A MINIMUM CLEARANCE OF [50mm] IS TO BE PROVIDED AT ALL TIMES.

CONCRETE ACCESSORIES:

- INSTALL ALL ACCESSORIES IN STRICT CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
- CONCRETE JOINT SEALANT, WHERE INDICATED IN THE PROJECT DOCUMENTS, TO BE [SIKA/FLEX TYPE 2C BY SIKA CONSTRUCTION] OR APPROVED ALTERNATIVE.
- HYDROPHILIC WATERSTOPS, WHERE INDICATED IN THE PROJECT DOCUMENTS, TO BE [SIKA HYDROTITE CJ-1020 BY SIKA CONSTRUCTION] OR APPROVED ALTERNATIVE.
- BONDING AGENT, WHERE INDICATED IN THE PROJECT DOCUMENTS, TO BE [TARGET POLYMER BONDING AGENT] OR APPROVED ALTERNATIVE. APPLY TO EXISTING CONCRETE SURFACE PRIOR TO CASTING NEW CONCRETE AS RECOMMENDED BY MANUFACTURER.
- WATERPROOF MEMBRANE TO BE INSTALLED ON [OUTSIDE FACE OF EXTERIOR WALLS / ROOF SLABS / CONCRETE SURFACES BELOW GRADE] AS OUTLINED IN SPECIFICATIONS.
- NON-SHRINK CEMENTIOUS GROUT, WHERE INDICATED IN THE PROJECT DOCUMENTS, TO BE [MASTERFLOW 928 BY MASTER BUILDING CO. LTD.] OR APPROVED ALTERNATIVE.
- ANCHOR BOLT MATERIAL IS TO BE STAINLESS STEEL TYPE 316 UNLESS OTHERWISE NOTED.
- PROVIDE ANCHORAGE INSERTS INTO CONCRETE TO SUPPORT ELEMENTS OUTLINED IN [ELECTRICAL / MECHANICAL / ARCHITECTURAL / PROCESS] DRAWINGS. USE UNISTRUT P3200 SERIES HOT DIP GALVANIZED OR APPROVED ALTERNATIVE UNLESS OTHERWISE NOTED.
- CURING COMPOUNDS AND OTHER SURFACE TREATMENTS, CONCRETE ADMIXTURES AND BELOW-GRADE DRAINAGE ARE TO BE REVIEWED BY THE CONTRACTOR AND CERTIFIED COMPATIBLE WITH FINISHES TO BE APPLIED LATER IN THE CONSTRUCTION SEQUENCE.

CONCRETE FORMWORK

- DESIGN, FABRICATION, ERECTION, AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CAN/CSA-S269.3.
- PROVIDE VOID FORM BELOW ALL STRUCTURAL SLABS AT GRADE, WALLS, GRADE BEAMS, PILE CAP, AND WHERE SHOWN ON THE DRAWINGS PRIOR TO INSTALLATION OF REINFORCEMENT.
- LEAVE FORMS IN PLACE OR PROVIDE SHORING FOR ALL SLABS, BEAMS, AND GIRDERS UNTIL CONCRETE HAS REACHED SUFFICIENT STRENGTH TO SUPPORT SAFELY ALL SUPERIMPOSED LOADS TO WHICH IT MAY BE SUBJECTED. SEE CONCRETE FORMS SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- REFER TO SPECIFICATIONS AND DRAWINGS FOR CHAMFERS ON CORNERS FOR BEAMS, COLUMNS, AND WALLS.

STRUCTURAL STEEL

- DESIGN, FABRICATION, ERECTION AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CSA-S16 AND THE CISC CODE OF STANDARD PRACTICES FOR STRUCTURAL STEEL.
- STEEL TO BE FABRICATED AND ERECTED BY A SHOP CERTIFIED BY THE CANADIAN WELDING BUREAU TO THE REQUIREMENT OF CSA-W47.1, DIVISION 1 OR 2.1 ONLY.
- PROVIDE STRUCTURAL STEEL TO CSA-G40.21-M WITH THE FOLLOWING GRADES:

STEEL GRADES	
READ IN CONJUNCTION WITH THE STRUCTURAL STEEL SECTION IN THE DESIGN NOTES	
MEMBER TYPE	GRADE
ROLLED W-SHAPES, TEES	CAN/CSA G40.21 350W OR ASTM A992 GRADE 50
WELDED WIDE FLANGE	CAN/CSA G40.21 350W
HOLLOW STRUCTURAL SECTIONS	CAN/CSA G40.21 350W CLASS C
OTHER STRUCTURAL SECTIONS AND PLATES	CAN/CSA G40.21 300W
BOLTS	ASTM A325
ANCHOR RODS	ASTM F1554 GRADE 55
HEADED STUD ANCHORS	ASTM A108
THREADED ROD	ASTM A36

- MATERIALS TO BE NEW AND FREE FROM DEFECTS IMPAIRING STRENGTH, DURABILITY OR PERFORMANCE.
- SUBMIT SHOP DRAWINGS SHOWING ALL STRUCTURAL STEEL MEMBERS FOR REVIEW PRIOR TO FABRICATION.
- DIMENSIONS SHOWN ARE TO CENTRE LINES OF SECTIONS AND BACK OF CHANNELS OR ANGLES. ELEVATIONS SHOWN ARE TO TOP OF STEEL UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- TEMPORARY BRACING DURING CONSTRUCTION TO BE DESIGNED BY CONTRACTOR. ERECTION BRACING IS TO BE REMOVED ONLY AFTER PERMANENT FLOOR DIAPHRAGM, ROOF DIAPHRAGM, SHEAR WALLS, OR PERMANENT BRACING ARE COMPLETED.
- WELDINGS TO CONFORM TO CSA-W59. ALL EXPOSED WELDS TO BE CONTINUOUS UNLESS OTHERWISE NOTED. GRIND ALL EXPOSED WELDS SMOOTH, INCLUDING PAINTED STEEL.
- SHOP GALVANIZING TO CONFORM TO CSA-G164.
- SHEAR STUD CONNECTORS TO CONFORM TO ASTM-A108 AND ARE TO BE APPLIED BY ELECTRICAL RESISTANCE WELDING ONLY.
- CONNECTIONS NOT DETAILED ON THE STRUCTURAL DRAWINGS ARE TO BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER REGISTERED TO PRACTICE IN THE PROVINCE OF BC AT THE EXPENSE OF THE CONTRACTOR.
 - LATERAL LOAD RESISTING SYSTEM CONNECTIONS TO BE DESIGNED TO MEET SEISMIC DESIGN REQUIREMENTS OF CSA-S16, CLAUSE 27.
 - DESIGN BOLTED CONNECTIONS TO ASTM A324 FOR THREADS EXCLUDED FROM SHEAR PLANE.
 - UNLESS OTHERWISE NOTED, DESIGN CONNECTIONS FOR NON-COMPOSITE BEAMS FOR A FACTORED SHEAR FORCE EQUAL TO 50% OF THE TOTAL BEAM LOAD TABULATED IN THE CISC HANDBOOK FOR STEEL CONSTRUCTION.
 - UNLESS OTHERWISE NOTED, DESIGN MOMENT CONNECTIONS FOR NON-COMPOSITE BEAMS FOR A FACTORED MOMENT EQUAL TO THE FULL MOMENT CAPACITY OF THE SMALLER MEMBER JOINED.
 - DESIGN BRACE CONNECTIONS FOR THE LOADS SHOWN ON THE DRAWINGS / 50% OF MEMBER TENSILE STRENGTH. CONNECT BRACING TO MAIN MEMBERS WITH A [10mm] GUSSET PLATE WELDED TO THE MAIN MEMBER UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- DO NOT SPlice MATERIAL WITHOUT WRITTEN APPROVAL OF THE ENGINEER. WHEN GRATED, A COMPLETE NON-DESTRUCTIVE EXAMINATION WILL BE MANDATORY AND PAID FOR BY THE CONTRACTOR.
- REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL ROOF DIAPHRAGM REQUIREMENTS.
- PROVIDE A MINIMUM OF [2 / 2-M20] BOLTS IN BOLTED CONNECTIONS. ALL BOLTED CONNECTIONS TO USE SNUG-TIGHTENED ASTM A325 HIGH-STRENGTH BOLTS UNLESS OTHERWISE NOTED ON THE DRAWINGS. BOLTS TO BE GALVANIZED / STEEL / STAINLESS STEEL.
- ALL BOLT HOLES ARE TO BE DRILLED OR PUNCHED IN ACCORDANCE WITH CISC STANDARD PRACTICES. ALL HOLES ARE TO BE [2mm] LARGER THAN THE NORMAL DIAMETER OF THE BOLT. OVERSIZED OR SLOTTED HOLES ARE NOT PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
- CONNECTIONS TO BE DOUBLE ANGLE OR END PLATES UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- PROVIDE [10mm] PLATE STIFFENERS EACH SIDE OF BEAM AT ALL BEARING CONNECTIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- PROVIDE STIFFENER/BEARING PLATES ON BOTH SIDES OF A W-SHAPE AND ON ONE SIDE OF C-SHAPED BEAMS AT ALL LOCATIONS WHERE CONCENTRATED LOADS OCCUR (EXCLUDING OPEN WEB STEEL JOIST SEATS) AND AT BEARING SUPPORTS. EACH STIFFENER IS TO BE HALF THE BEAM WIDTH, BE FULL HEIGHT BETWEEN THE FLANGES AND HAVE A MINIMUM THICKNESS OF [10mm].
- BEAMS CANTILEVERED OR CONTINUOUS OVER A COLUMN OR SUPPORT ARE TO HAVE [10mm] STIFFENERS EACH SIDE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- PROVIDE [10mm] WEEP HOLES AT TOP AND BOTTOM OF ALL HSS COLUMNS.
- ALL GROUT UNDER BEARING PLATES AND BASE PLATES IS TO BE NON-METALLIC, NON-SHRINK TYPE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF [30MPa / 50MPa], INSTALLED IN ACCORDANCE WITH THE PROJECT DOCUMENTS AND MANUFACTURER'S RECOMMENDATIONS. [PROVIDE GROUT WEEP HOLES IN COLUMN BASE PLATES WHERE SHOWN].
- SQUARE CUT OR FILL STRENGTH WELD ALL COLUMNS AT BASE PLATES AND AT TOP WHERE BEARING UNDER CONTINUOUS BEAMS.
- REFER TO [SPECIFICATIONS / ARCHITECTURAL DRAWINGS / DRAWINGS] FOR FINISHING REQUIREMENTS OF STEEL MEMBERS. OR PRIMER IS TO CONFORM TO CISC STANDARD 1-73A OR 2-75. STEEL IS TO BE TREATED WITH ONE SHOP COAT AND FIELD TOUCH-UP OF PRIMER EXCEPT STEEL TO BE HOT DIP GALVANIZED. [PAINT AS OUTLINED IN PROJECT SPECIFICATIONS].
- EXTERIOR STEEL IS TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH CSA-G164.
- TOUCH-UP FIELD WELDS, CONNECTIONS AND ABRASIONS TO MATCH THE SHOP PRIMER.
- SHOP AND FIELD INSPECTION OF STEEL FABRICATION AND ERECTION TO BE COMPLETED BY A THIRD PARTY TESTING AGENCY, WHO IS CERTIFIED TO CSA-W176. TESTING TO BE PAID FOR BY THE OWNER.
- CONTACT SURFACES OF CONNECTIONS WHEN ASSEMBLED IN FIELD ARE TO BE FREE FROM OIL, LOOSE SCALE AND ANY FOREIGN MATERIAL WHICH COULD PREVENT FIRM CONTACT OF THE PARTS.

WATERSTOPS

- INSTALL WATERSTOPS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE MANUFACTURER IS TO REVIEW AND APPROVE ALL INSTALLATION PROCEDURES AND ENSURE CORRECT INSTALLATION.
- INSTALL CONTINUOUS WATERSTOP ENSURING COMPLETELY SEALED, CLOSED LOOPS WHERE REQUIRED.
- PROVIDE PREFABRICATED JUNCTIONS SUPPLIED BY THE MANUFACTURER AT ALL JOINTS EXCEPT STRAIGHT BUTT JOINTS. USE APPROVED BUTT WELDS TO COMPLETELY SEAL JOINTS.
- SECURELY FASTEN IN PLACE. TIE ONLY AT EDGES ENSURING INTERIOR PORTIONS OF WATERSTOP ARE NOT DAMAGED OR PUNCTURED. ENSURE 50 mm MINIMUM CLEARANCE AROUND ALL WATERSTOPS.
- INSTALL WATERSTOP WHERE SHOWN ON DRAWINGS AND TYPICALLY IN THE FOLLOWING CONDITIONS:
 - AT CONSTRUCTION JOINTS (CJ).
 - ALL BASE SLABS INCLUDING SUMPS AND TRENCHES.
 - ALL STRUCTURAL SLABS-ON-GRADE.
 - ALL BASE SLABS TO WALLS OF DRY AREAS (PUMP HOUSES, TUNNELS, BASEMENTS, SUMPS AND TRENCHES).
 - ALL WALLS OF DRY AREAS WITH HIGH GROUNDWATER BEHIND, EXTEND 1000 mm ABOVE HIGH WATER LEVEL.
 - ALL WALLS OF LIQUID RETAINING STRUCTURES AS INDICATED ON THE DRAWINGS. EXTEND 1000 mm ABOVE HIGH LIQUID LEVEL.
 - ALL SUSPENDED SLABS OF DRY AREAS WITH LIQUID RETAINING STRUCTURES OVER.
- ALL WATERSTOPS TO BE INSTALLED IN SUCH A MANNER TO MAKE CONSTRUCTION JOINT OR EXPANSION JOINT MEET LEAKAGE REQUIREMENTS AND AS PER MANUFACTURERS RECOMMENDATIONS.

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Revision	By	Appd.	YY.MM.DD
_____	_____	_____	_____
_____	_____	_____	_____
4 ISSUE DFOR TENDER	KB	VS	22.07.25
3 ISSUED FOR BUILDING PERMIT	KB	VS	22.07.20
2 ISSUED FOR 90% SUBMISSION	KB	VS	22.06.03
1 ISSUED FOR 50% REVIEW	VS	BG	22.02.09
Issued	By	Appd.	YY.MM.DD

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Client/Project



SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

Title

GENERAL NOTES

Project No.

111720131

Scale

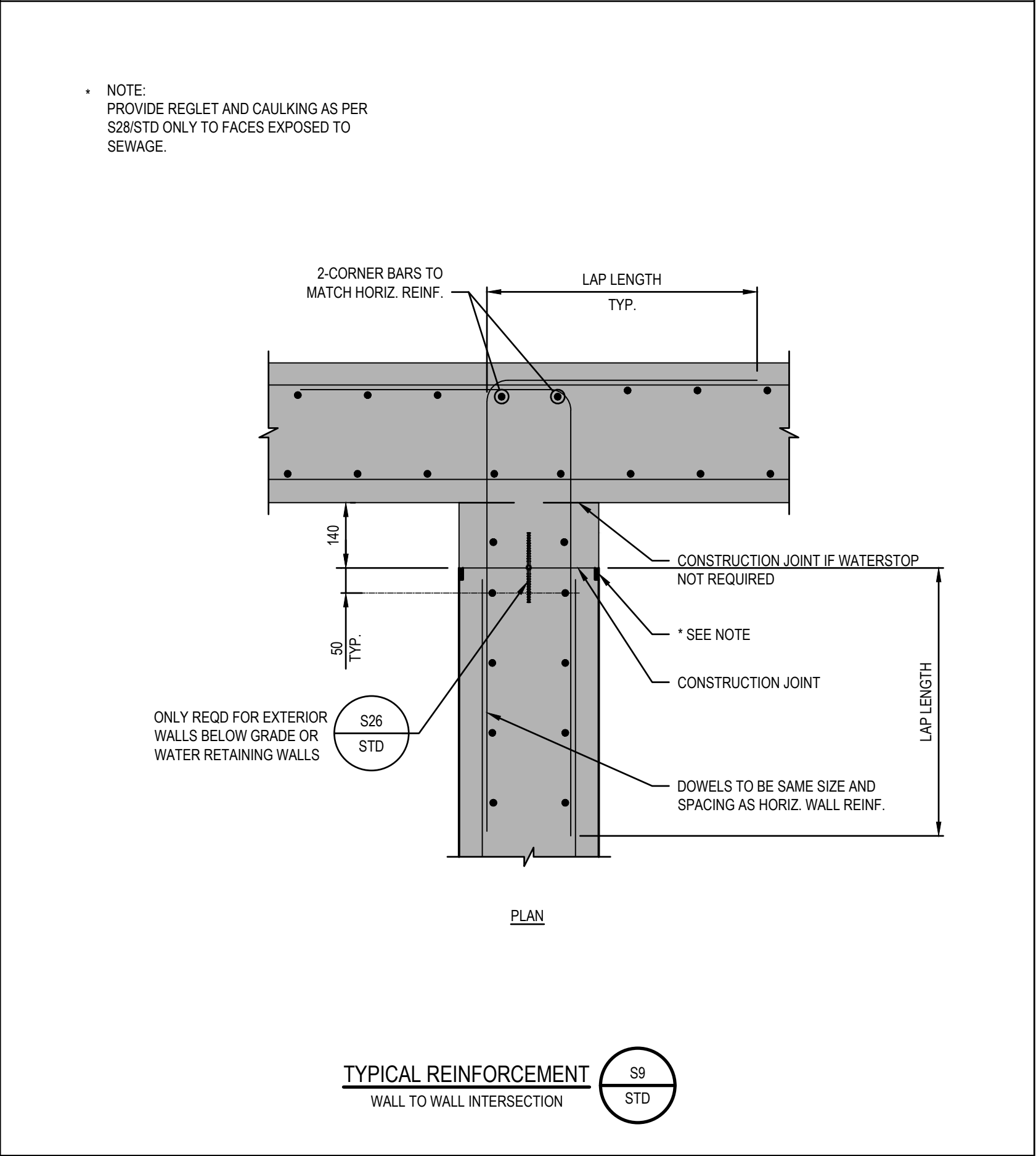
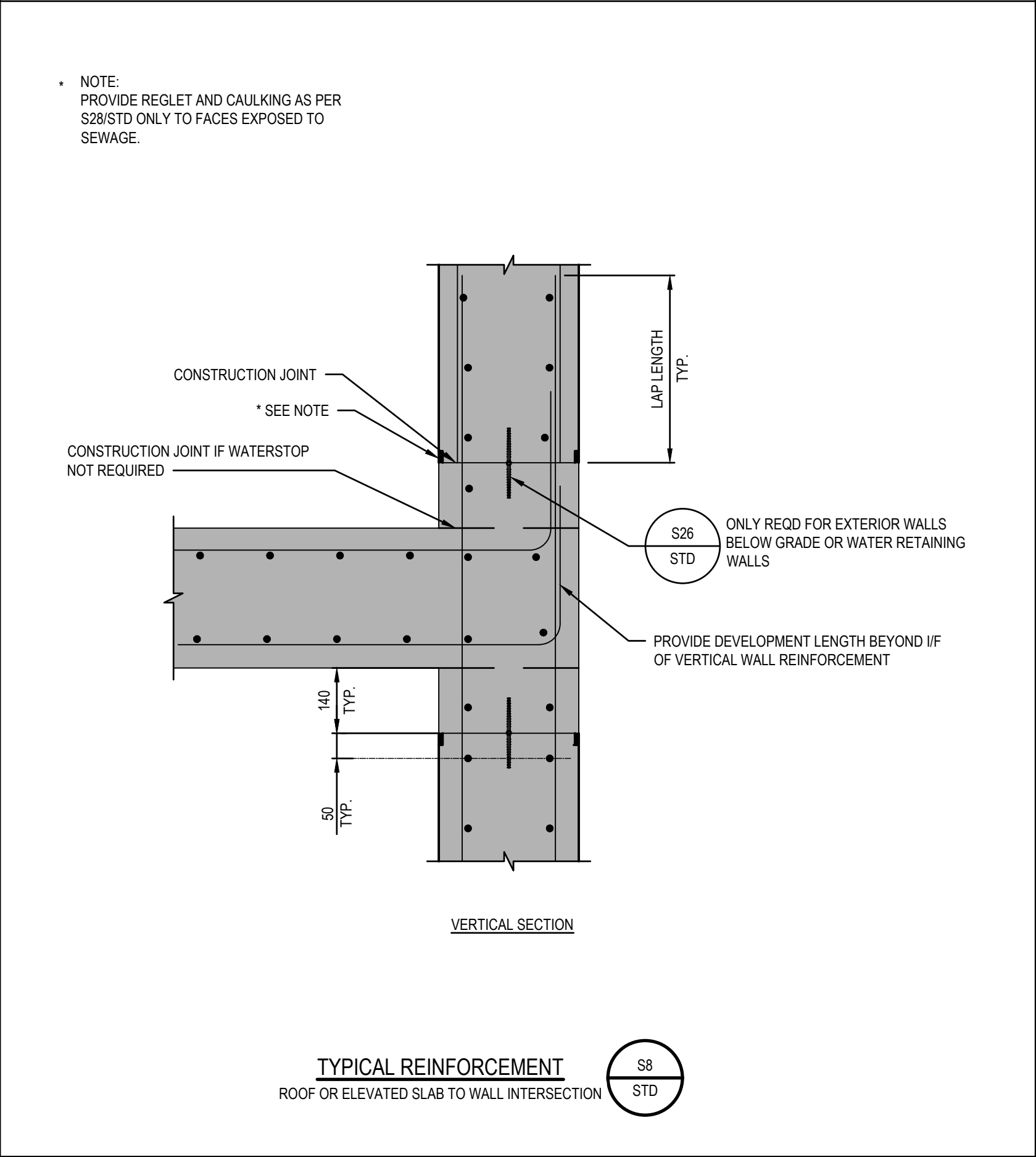
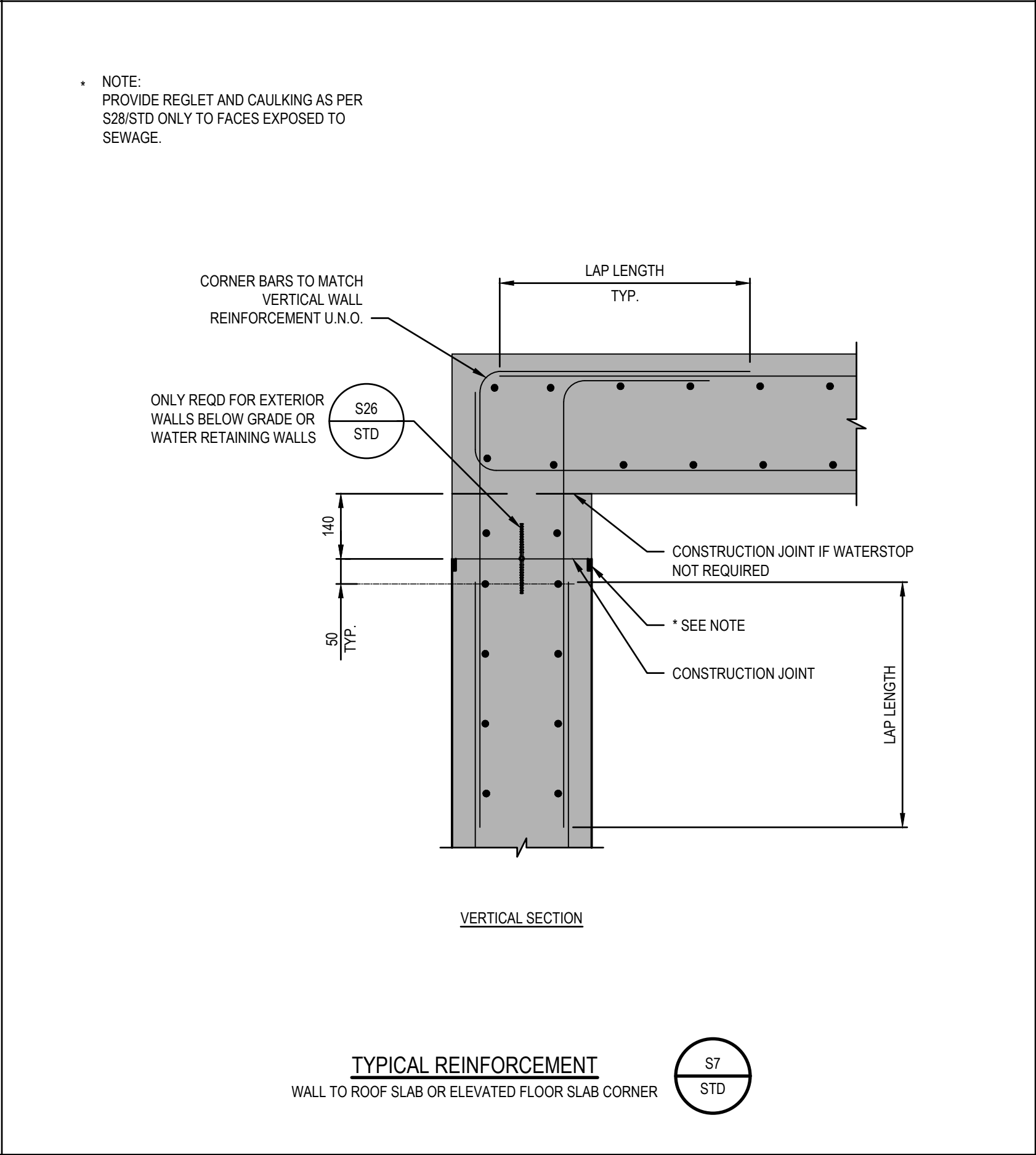
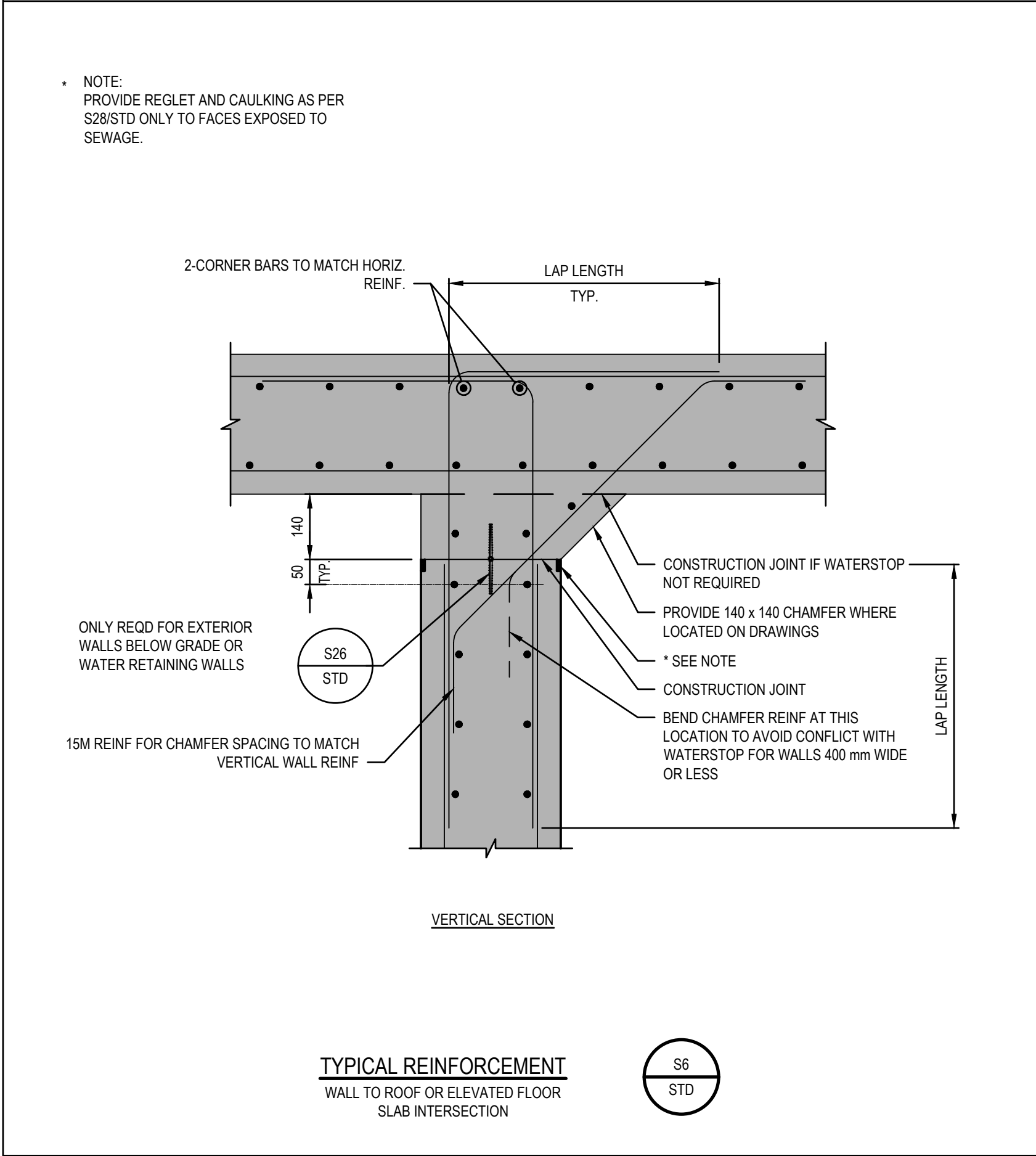
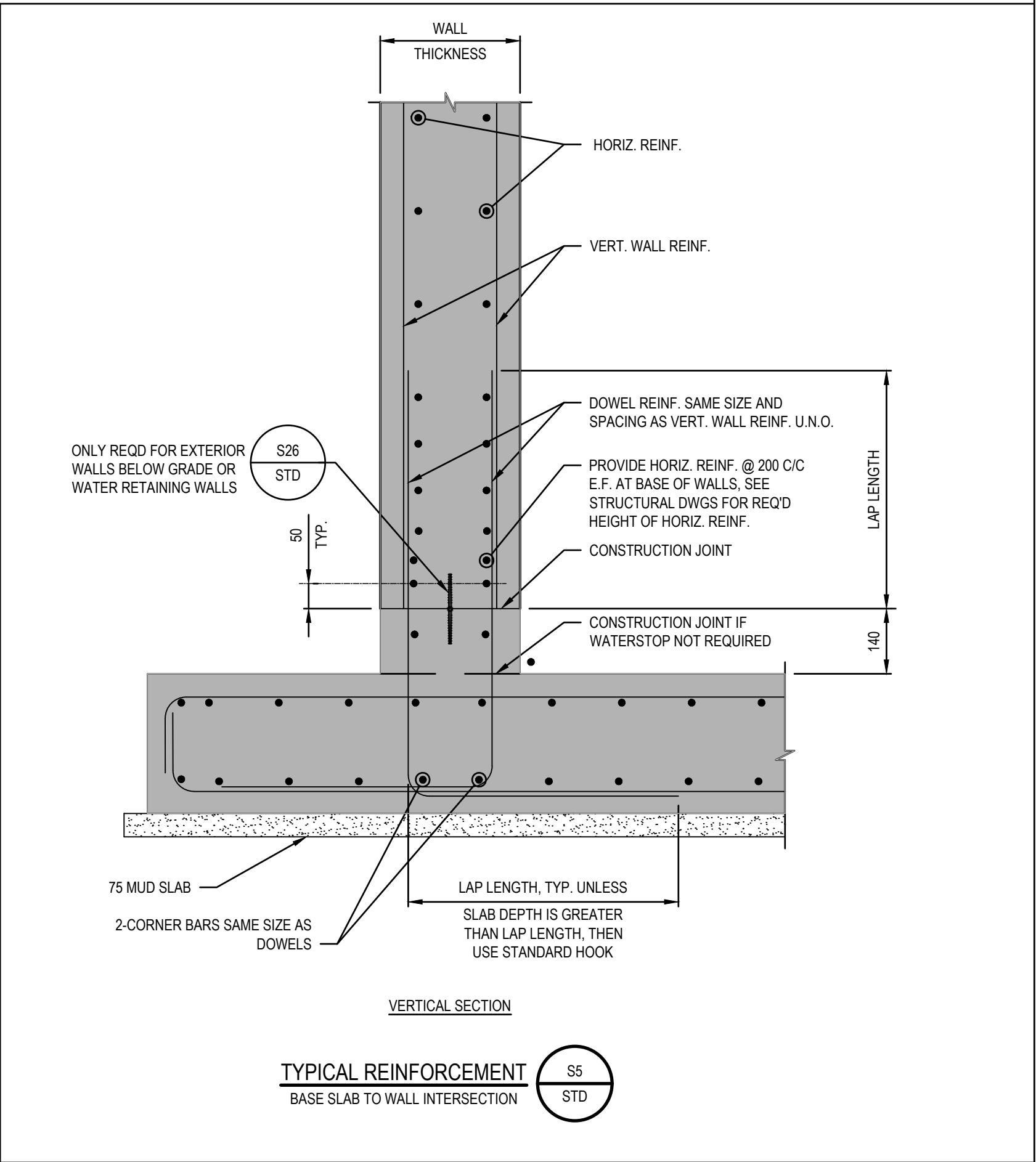
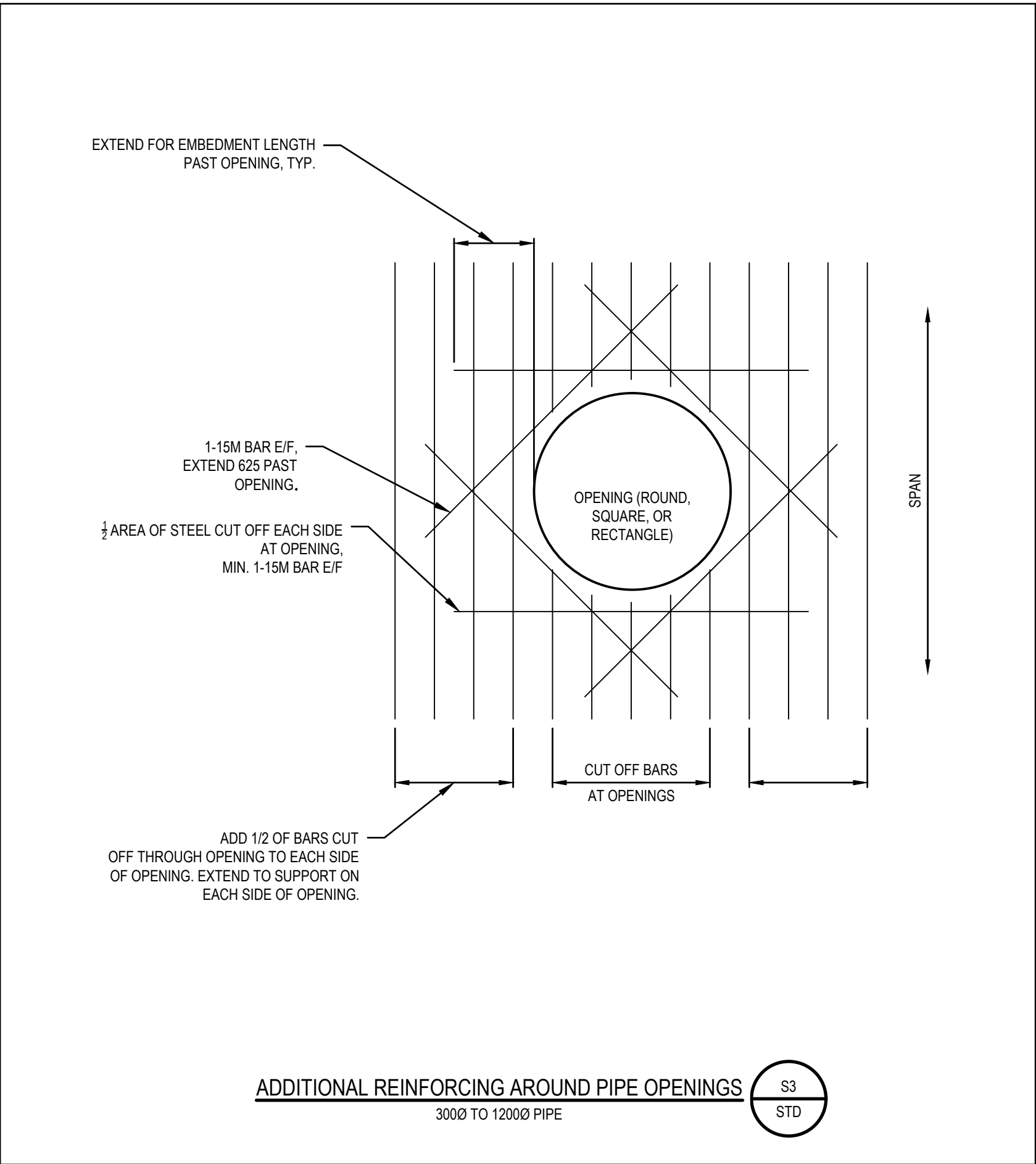
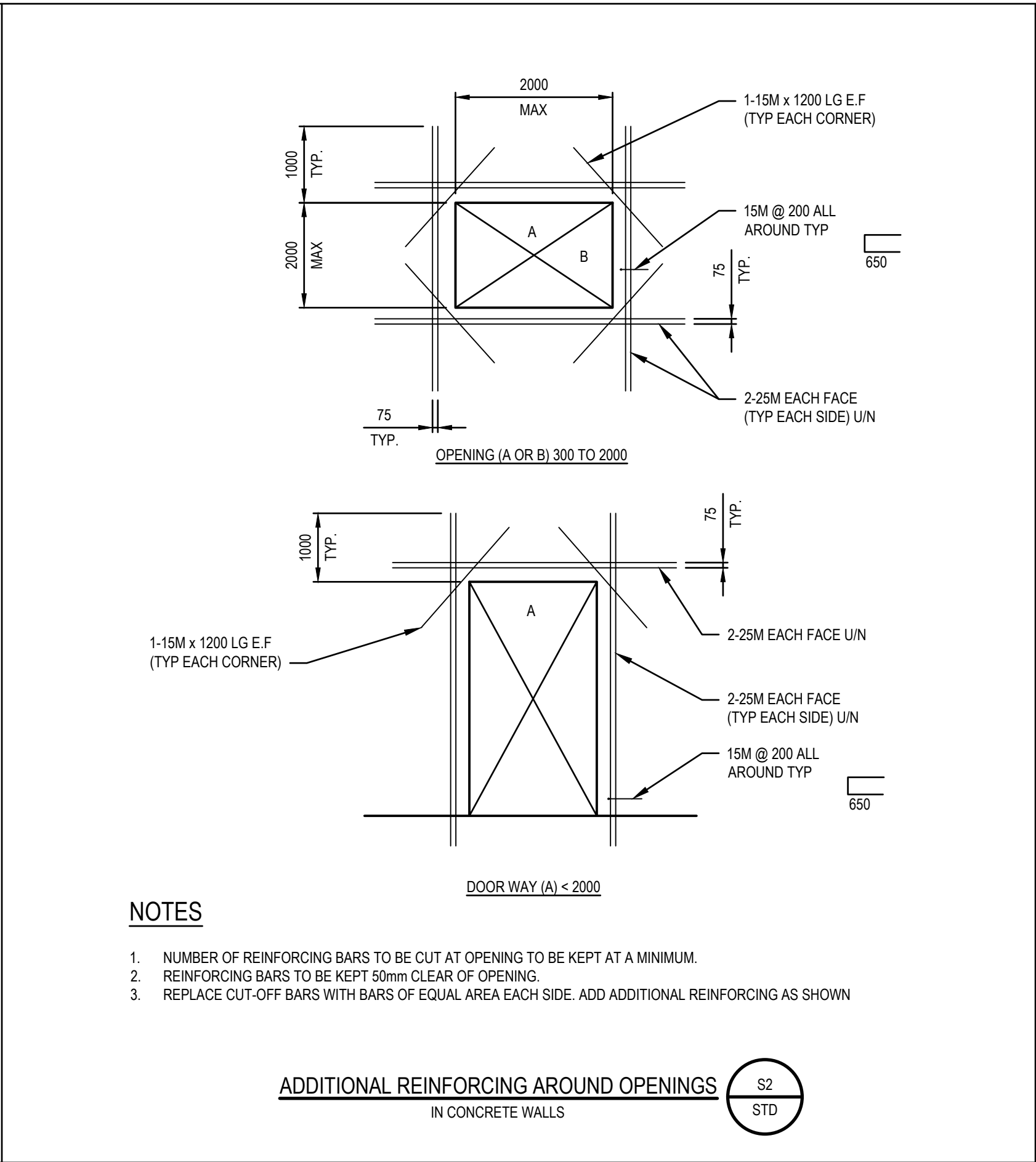
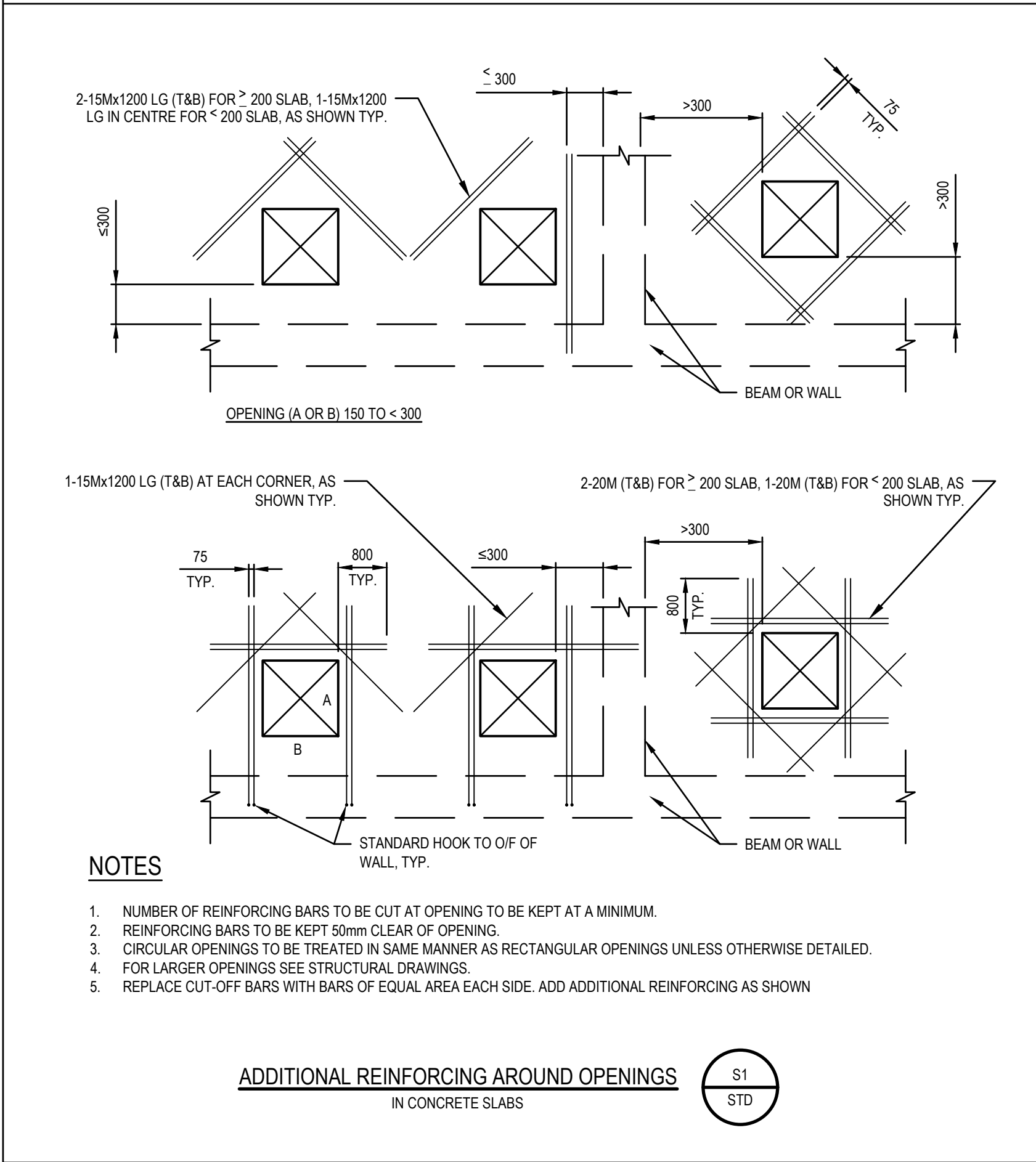
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Revision	By	Appd.	YY.MM.DD
4	ISSUED FOR TENDER	KB	VS 22.07.25
3	ISSUED FOR BUILDING PERMIT	KB	VS 22.07.20
2	ISSUED FOR 90% SUBMISSION	KB	VS 22.06.03
1	ISSUED FOR 50% REVIEW	VS	BG 22.02.09
Issued	By	Appd.	YY.MM.DD

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Client/Project



SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_S010.dwg

KB Dwn. BG Chkd. VS Dgn. 22.06.01 YY.MM.DD

Title

STRUCTURAL
CONSTRUCTION STANDARDS
SHEET 1

Project No.
111720131

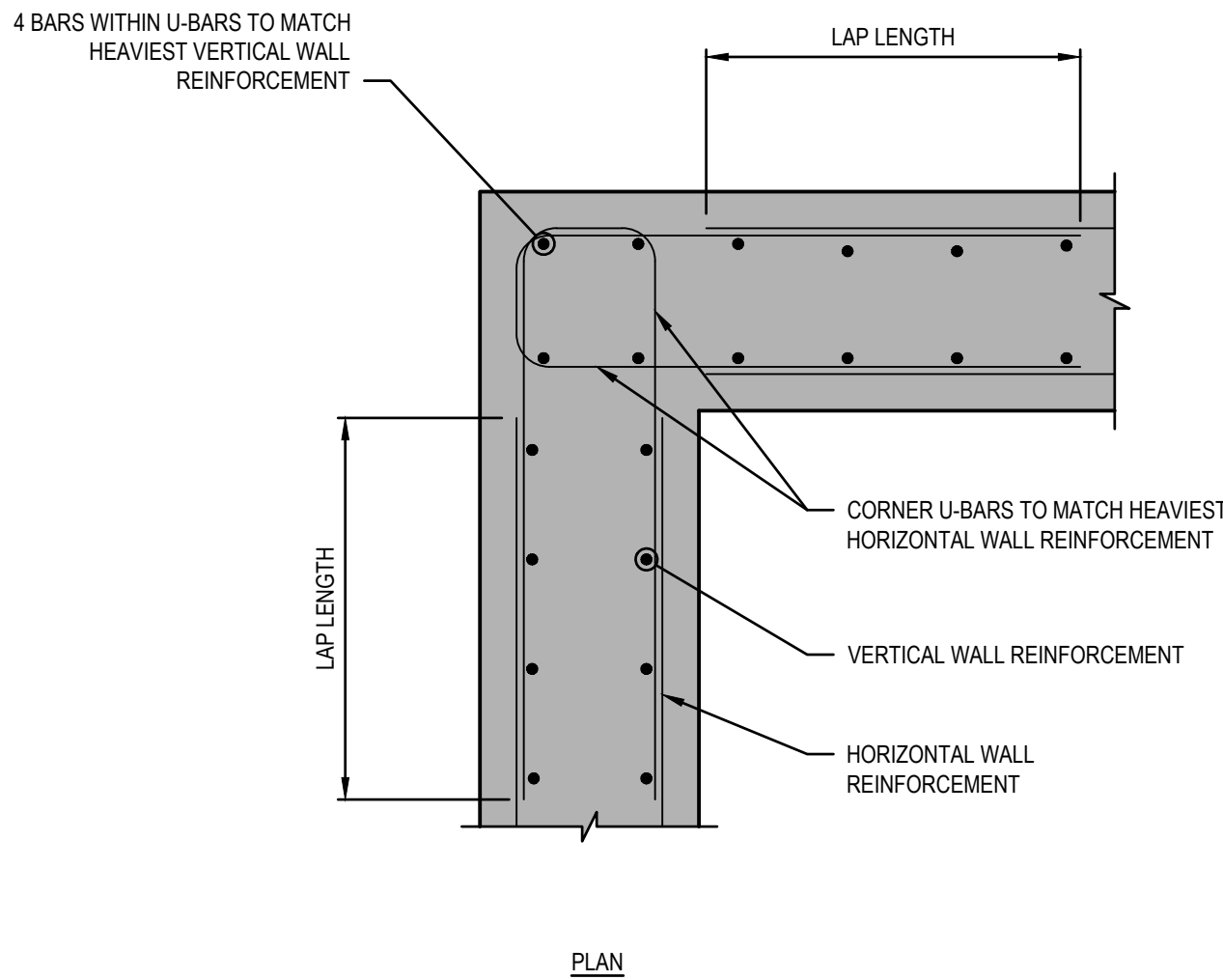
Drawing No.
S010

Scale
1:50

Sheet
7 of 49

Revision
0

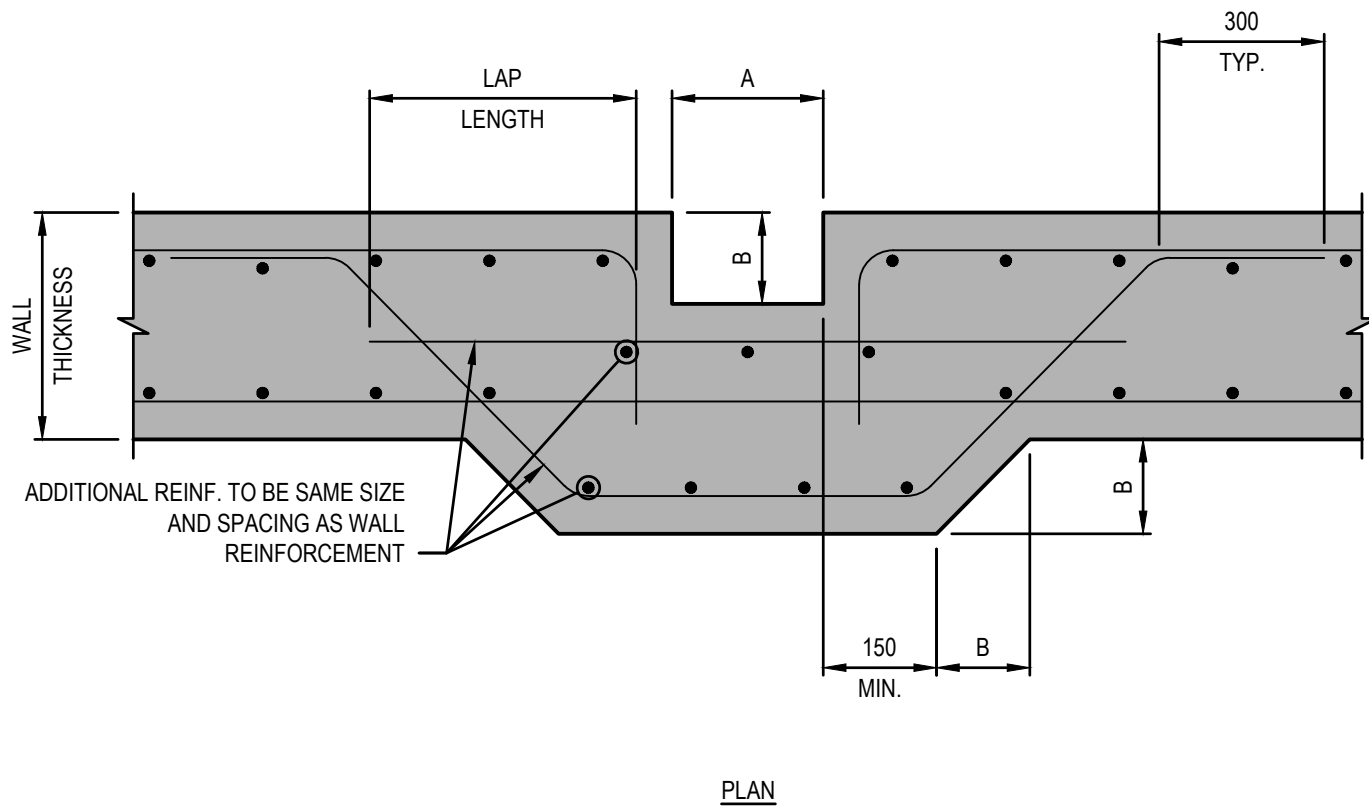
NOTE:
WHEN VERTICAL WALL REINFORCEMENT IS PLACED OUTSIDE OF THE HORIZONTAL WALL REINFORCEMENT THE 4 CORNER VERTICAL BARS WITHIN THE U-BARS ARE TO REMAIN INSIDE THE U-BARS AS SHOWN.



TYPICAL REINFORCEMENT
WALL TO WALL CORNER

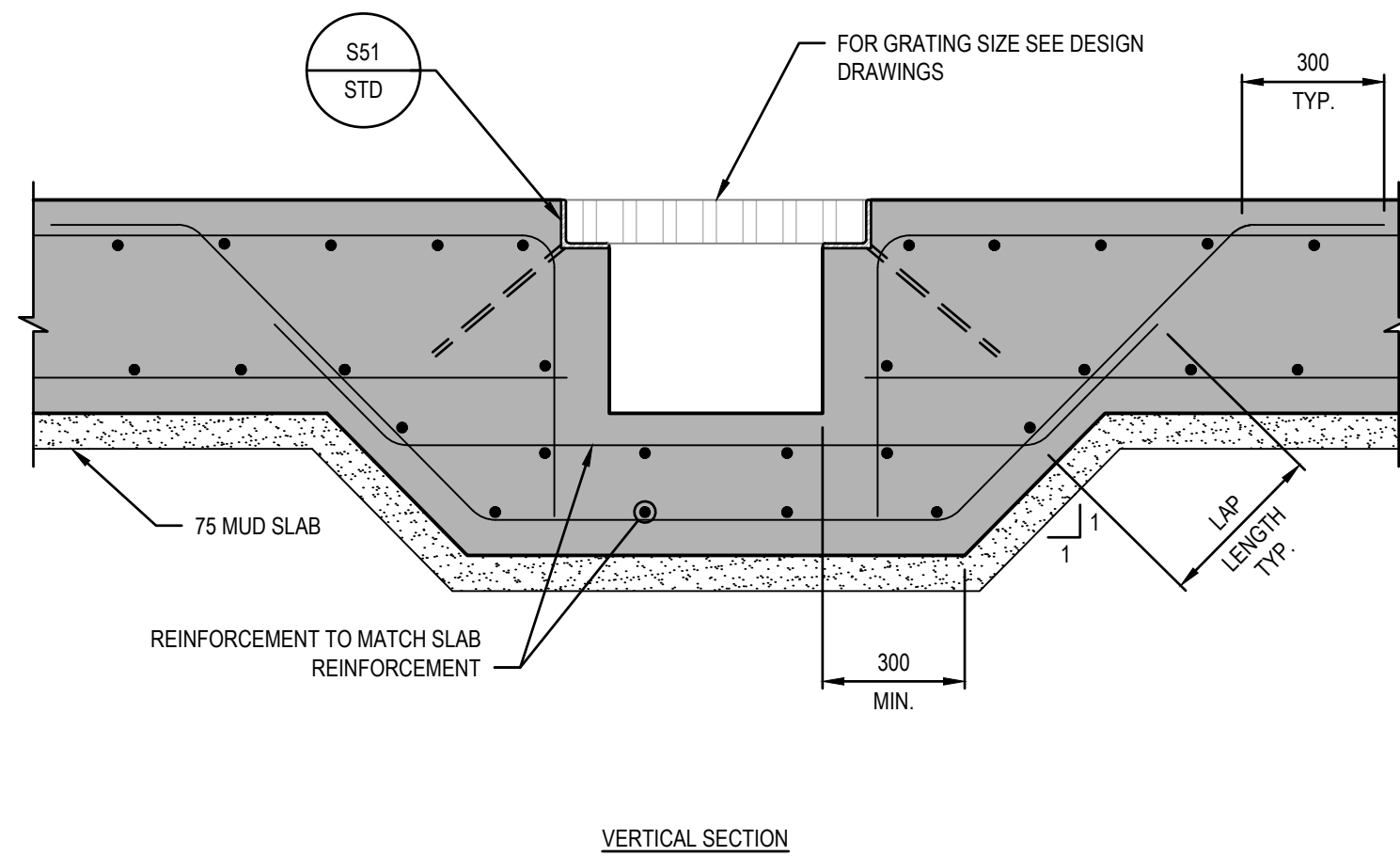
S10
STD

- NOTES:
- ONLY THICKEN WALL WHERE SHOWN ON DESIGN DRAWINGS.
 - DIMENSIONS DENOTED AS "A" OR "B" ARE AS SHOWN ON DESIGN DRAWINGS AND ARE TO BE VERIFIED WITH GATE SUPPLIED.



TYPICAL REINFORCEMENT
GATE BLOCKOUTS AT WALLS (SLABS SIMILAR)

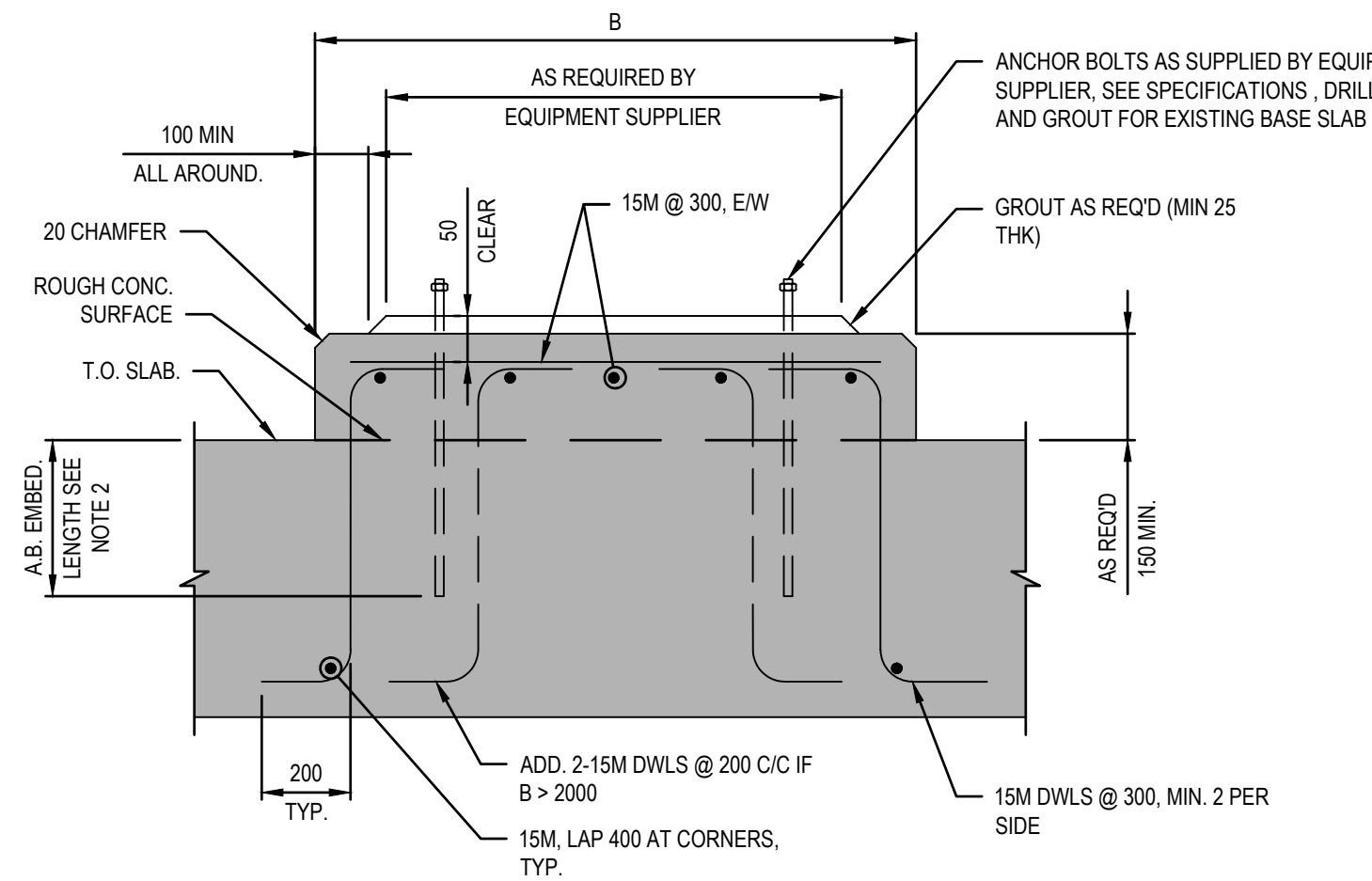
S11
STD



TYPICAL REINFORCEMENT
SUMPS AND TRENCHES

S12
STD

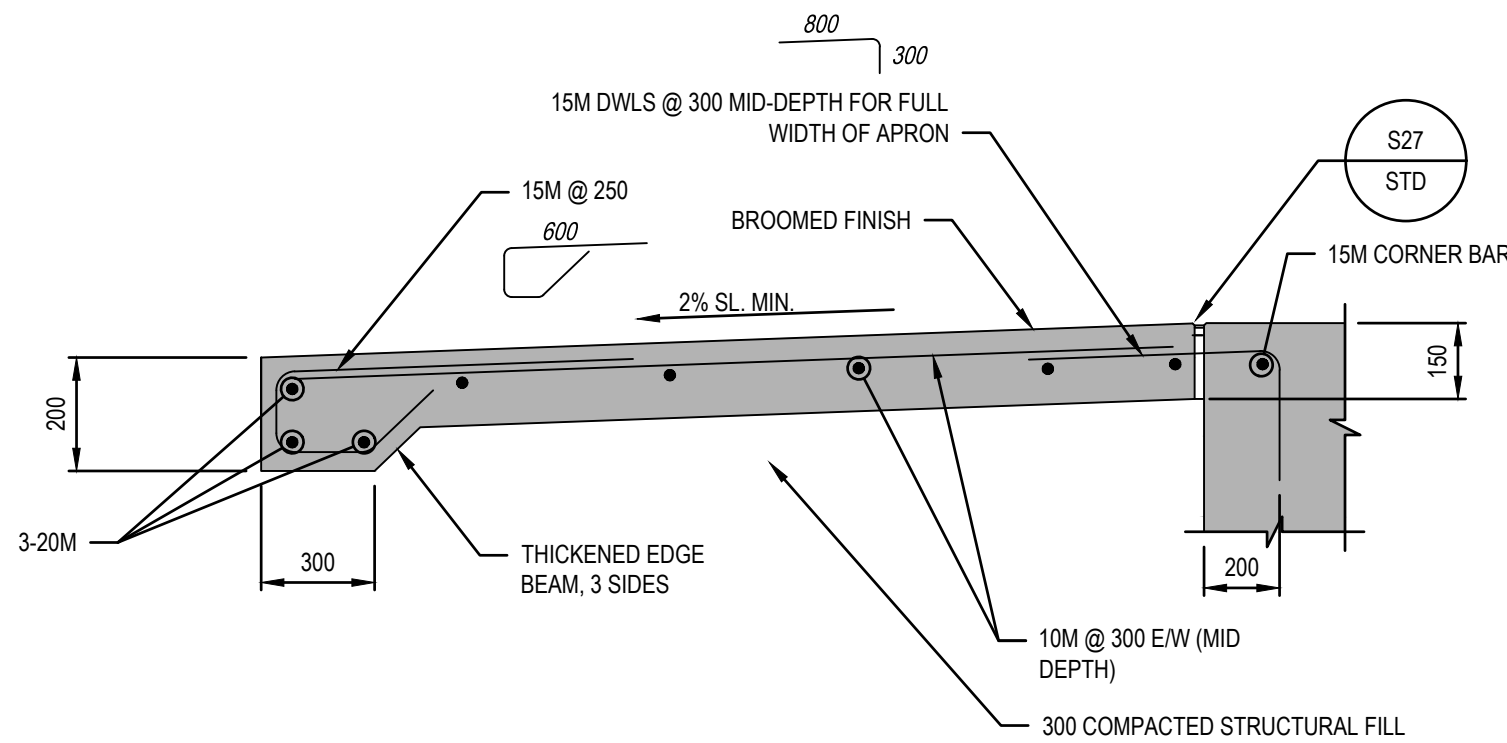
- NOTES:
- PAD SIZE SHALL BE MINIMUM INDICATED ON THE PLANS OR AS DETERMINED BY THE EQUIPMENT MANUFACTURER.
 - THE SIZE, NUMBER, TYPE, LOCATION, EMBEDMENT AND THREAD PROJECTION OF THE ANCHOR BOLTS IS TO BE DETERMINED BY THE EQUIPMENT MANUFACTURER.
 - ANCHOR BOLTS SHALL BE HELD IN POSITION WITH A TEMPLATE WHILE SLAB IS BEING POURED. EQUIPMENT BASES SHALL BE INSTALLED LEVEL UNLESS SPECIFIED OTHERWISE.
 - SHIMS SHALL BE USED TO SUPPORT THE BASE WHILE GROUT IS PLACED. TEMPORARY LEVELLING NUTS SHALL BE BACKED OFF. IF LEFT IN, SHIMS SHALL NOT BE EXPOSED TO VIEW.
 - SLAB REINFORCEMENT STEEL NOT SHOWN FOR CLARITY.
 - CLEAN AND PREPARE EXISTING FLOOR SURFACE BELOW PAD. SEE SPEC SECTION XXXXXX PAD DESIGN IS FOR EQUIPMENT ANCHORED INTO SLAB.
 - CONTRACTOR IS TO SIZE AND LOCATE PAD REINFORCEMENT TO SUIT ANY ALTERNATIVE ANCHOR BOLT ARRANGEMENTS.



TYPICAL REINFORCEMENT
EQUIPMENT PAD, WHERE DETAIL NOT REFERENCED IN MECHANICAL EQUIPMENT SPECIFICATIONS

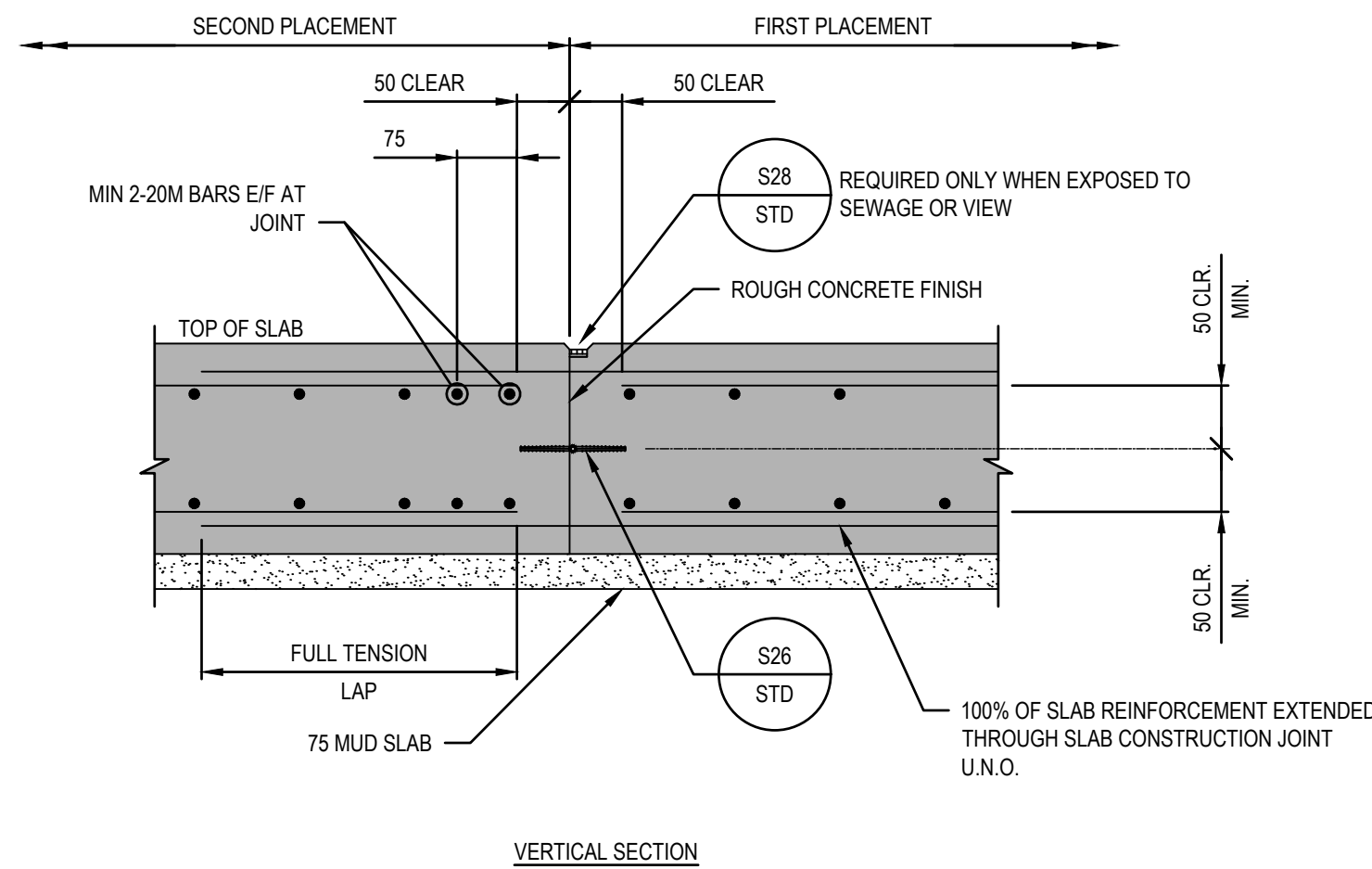
S18
STD

NOTE:
APRON WIDTH TO BE 300 PAST EACH SIDE OF DOOR OPENING



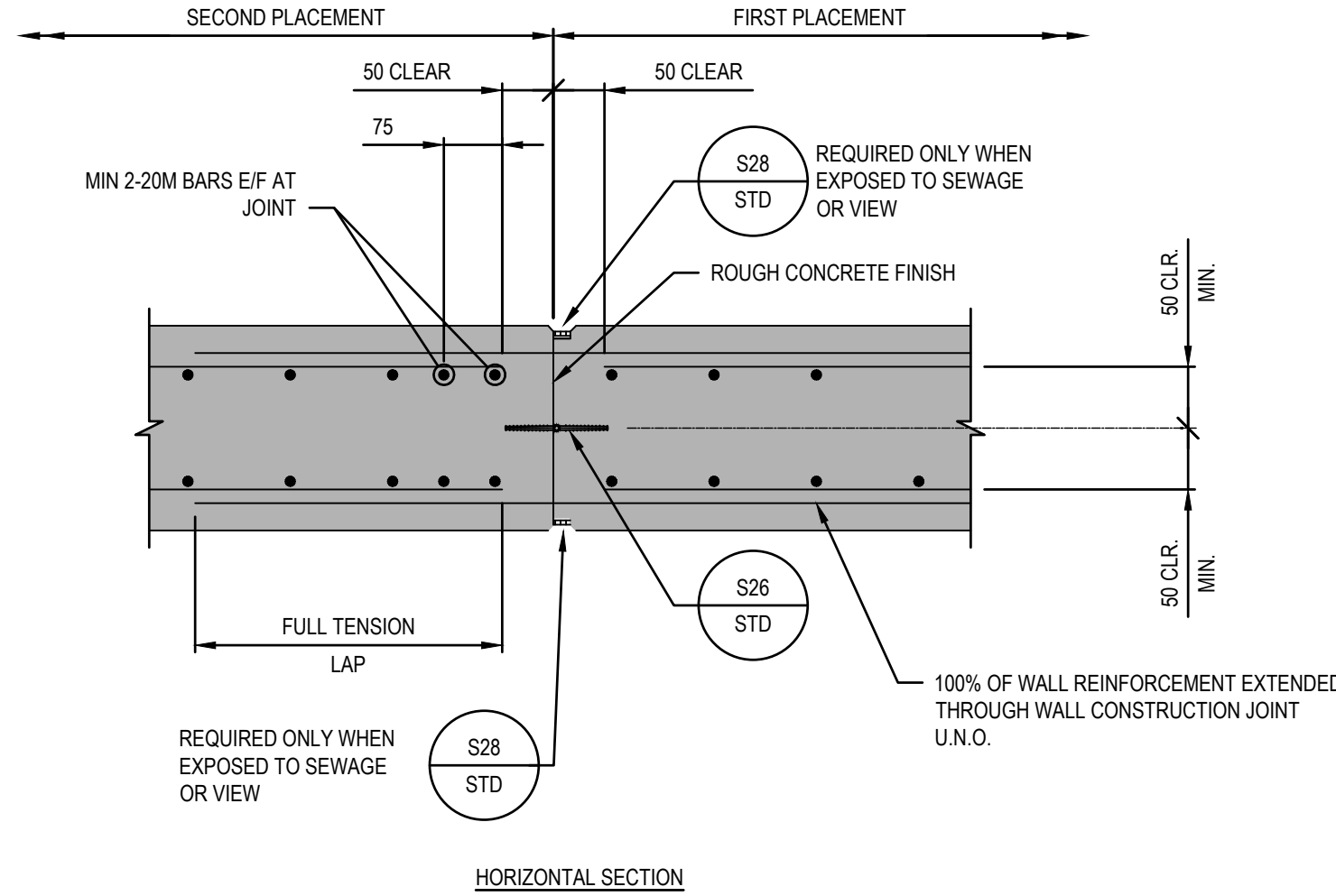
TYPICAL REINFORCEMENT
CONCRETE APRON AT EXTERIOR MAN DOOR

S20
STD



JOINT DETAIL
BASE SLAB CONSTRUCTION JOINT

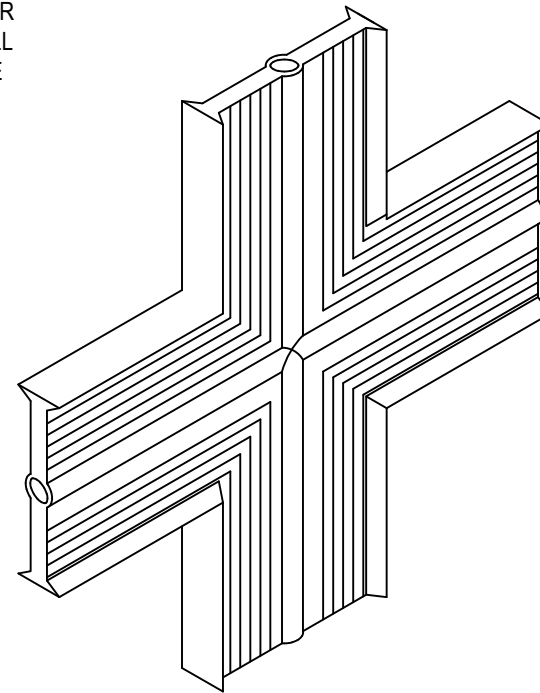
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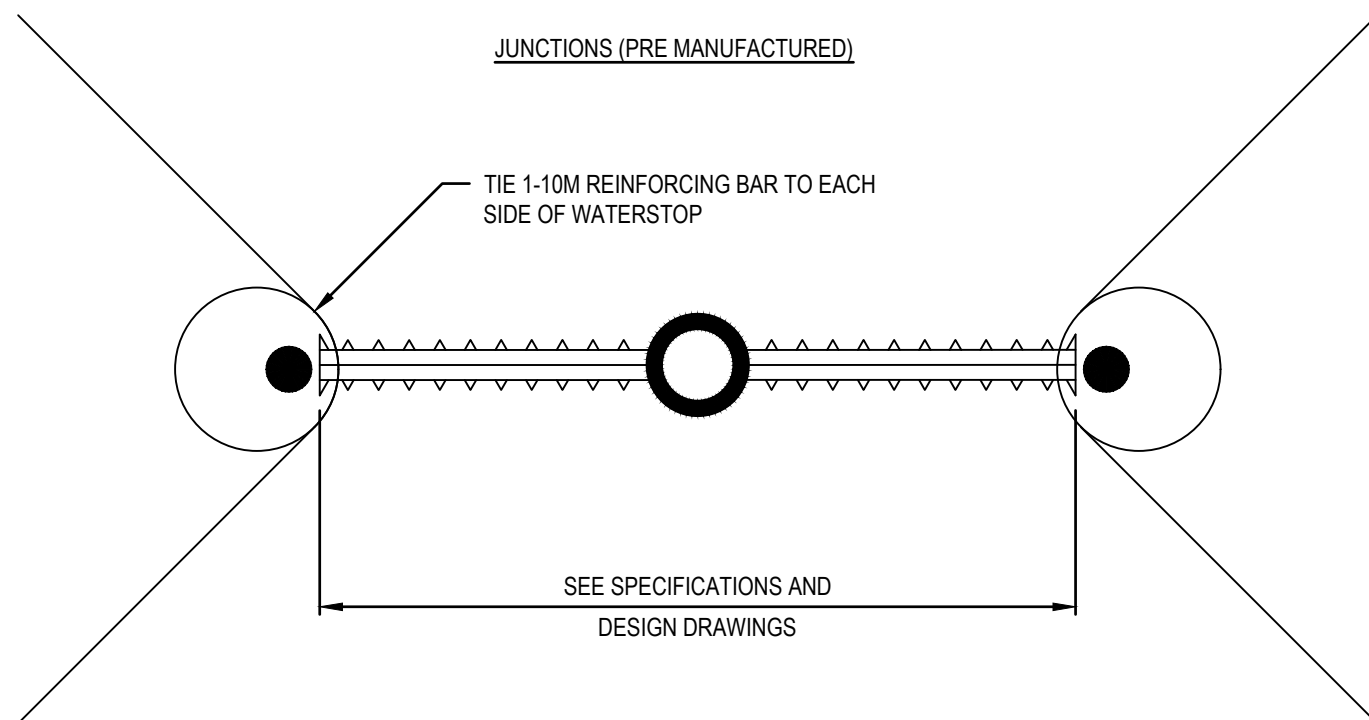
JOINT DETAIL
WALL CONSTRUCTION JOINT

S24
STD

- NOTES:
- WATERSTOP IS REQUIRED IN ALL JOINTS OF WATER RETAINING STRUCTURES AND IN ALL JOINTS OF ALL BASE SLABS AND EXTERIOR WALLS BELOW GRADE.
 - ALL WATERSTOPS ARE TO BE ACCURATELY AND RIGIDLY SECURED IN PLACE.



JUNCTIONS (PRE MANUFACTURED)



TYPICAL WATERSTOP

S26
STD

Revision	By	Appd.	YY.MM.DD
4 ISSUED FOR TENDER	KB	VS	22.07.25
3 ISSUED FOR BUILDING PERMIT	KB	VS	22.07.20
2 ISSUED FOR 90% SUBMISSION	KB	VS	22.06.03
1 ISSUED FOR 50% REVIEW	VS	BG	22.02.09
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_S010.dwg

KB BG VS
Dwn. Chkd. Dgn. YY.MM.DD

Title

STRUCTURAL
CONSTRUCTION STANDARDS
SHEET 2

Project No.
111720131

Scale
1:50
0 0.5 1.5 2.5m

Drawing No.

S011

Sheet

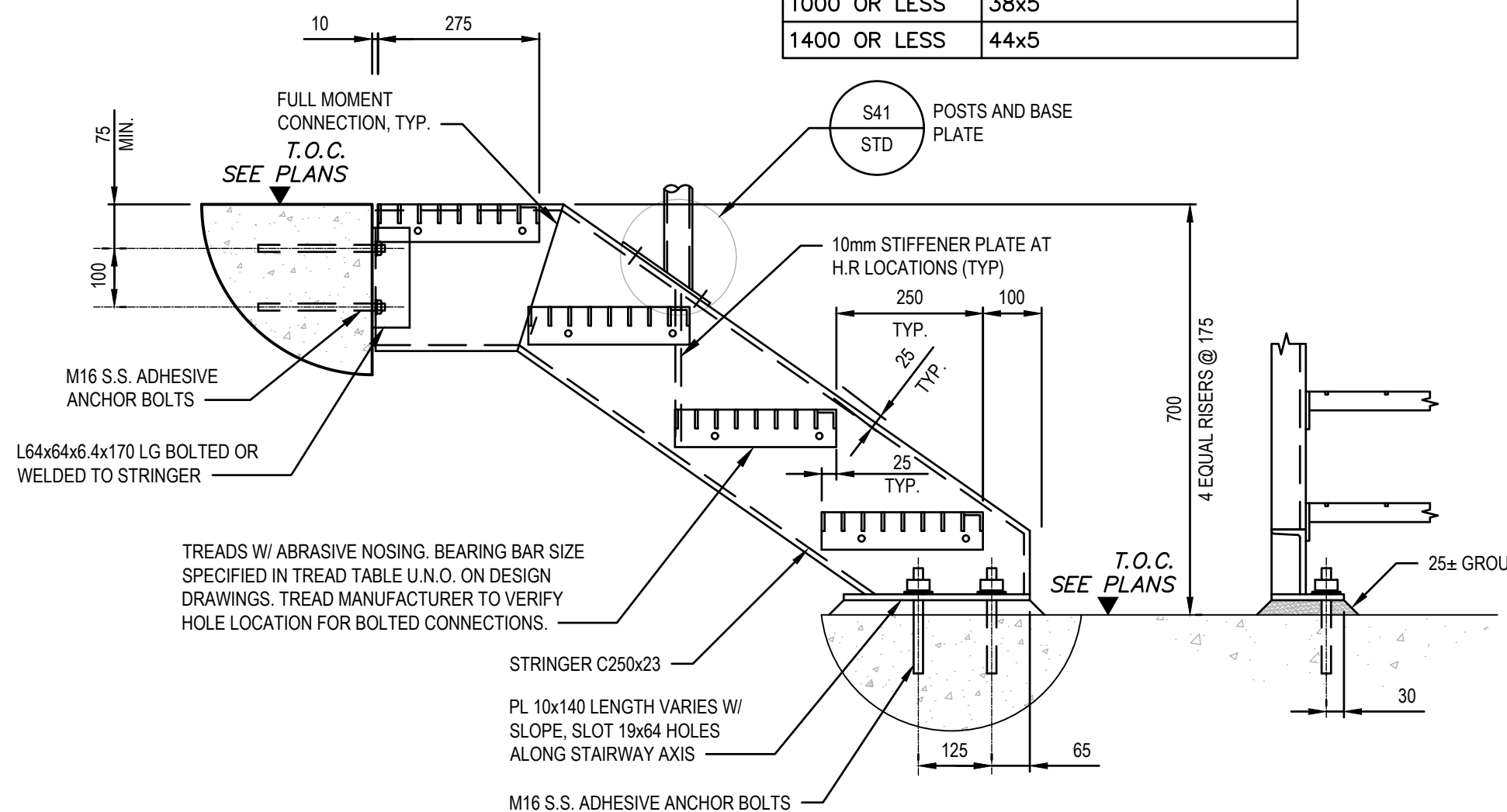
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Revision

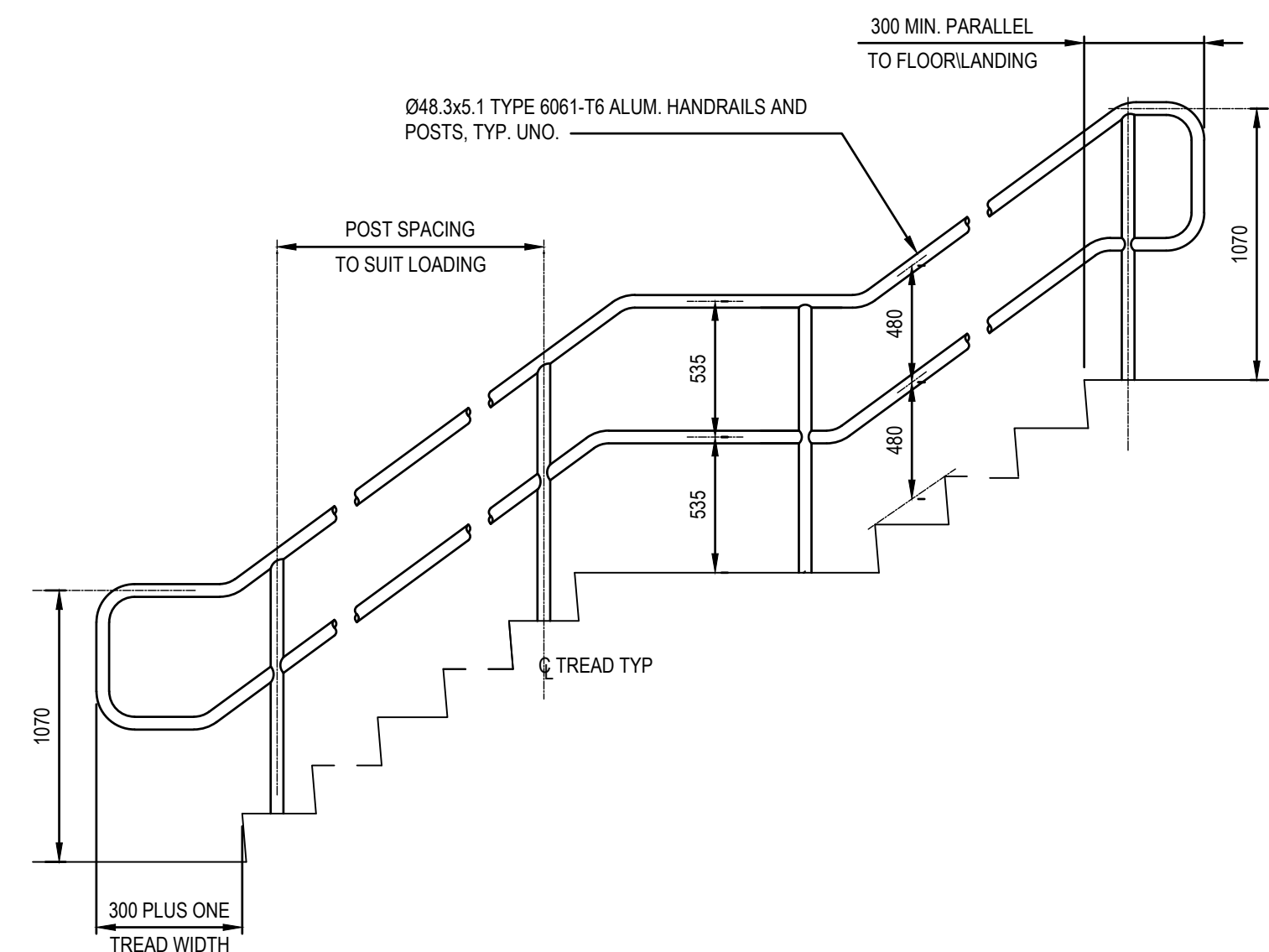
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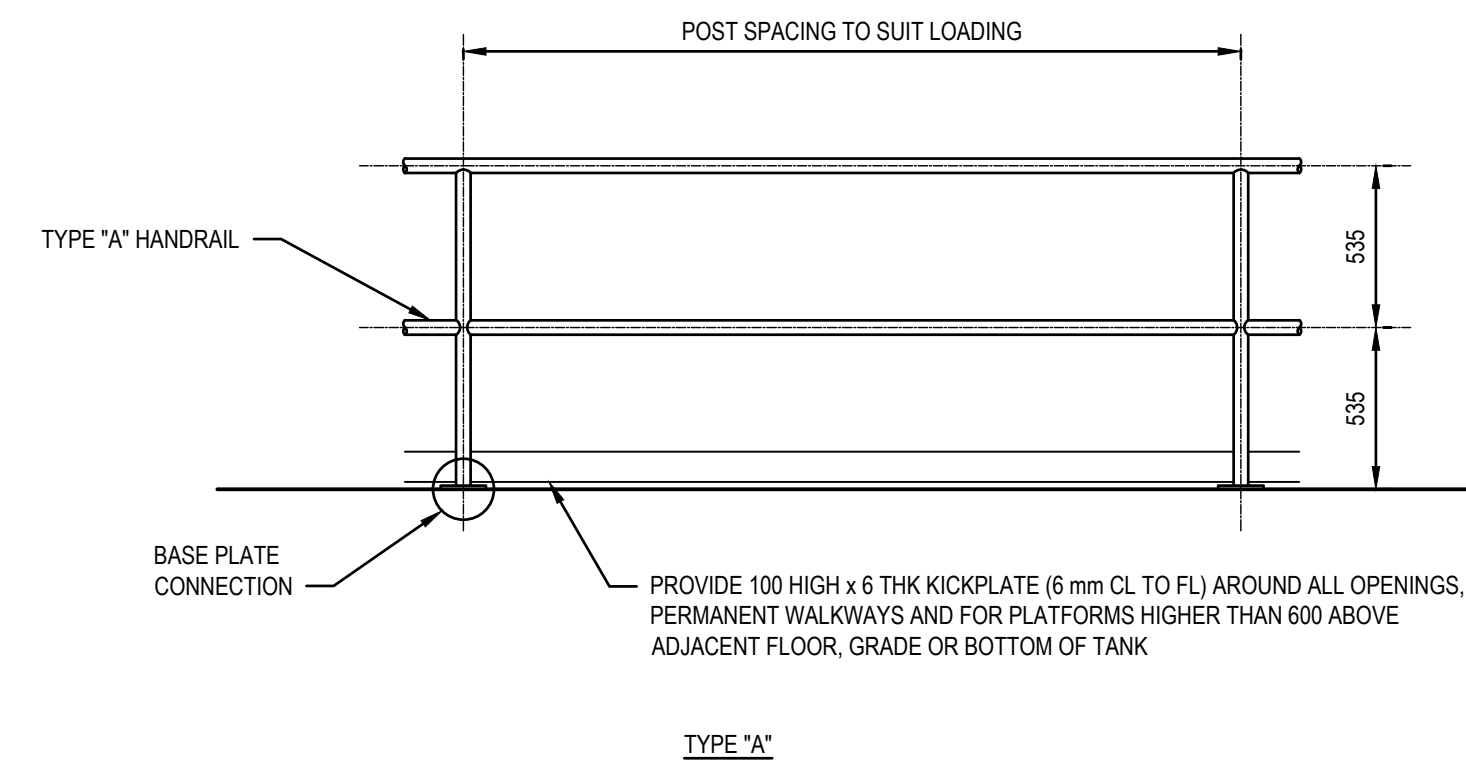
TREAD TABLE	
STAIRWAY WIDTH	SERRATED BEARING BARS
	ALUMINUM TREAD
685 OR LESS	25x5
840 OR LESS	32x5
1000 OR LESS	38x5
1400 OR LESS	44x5



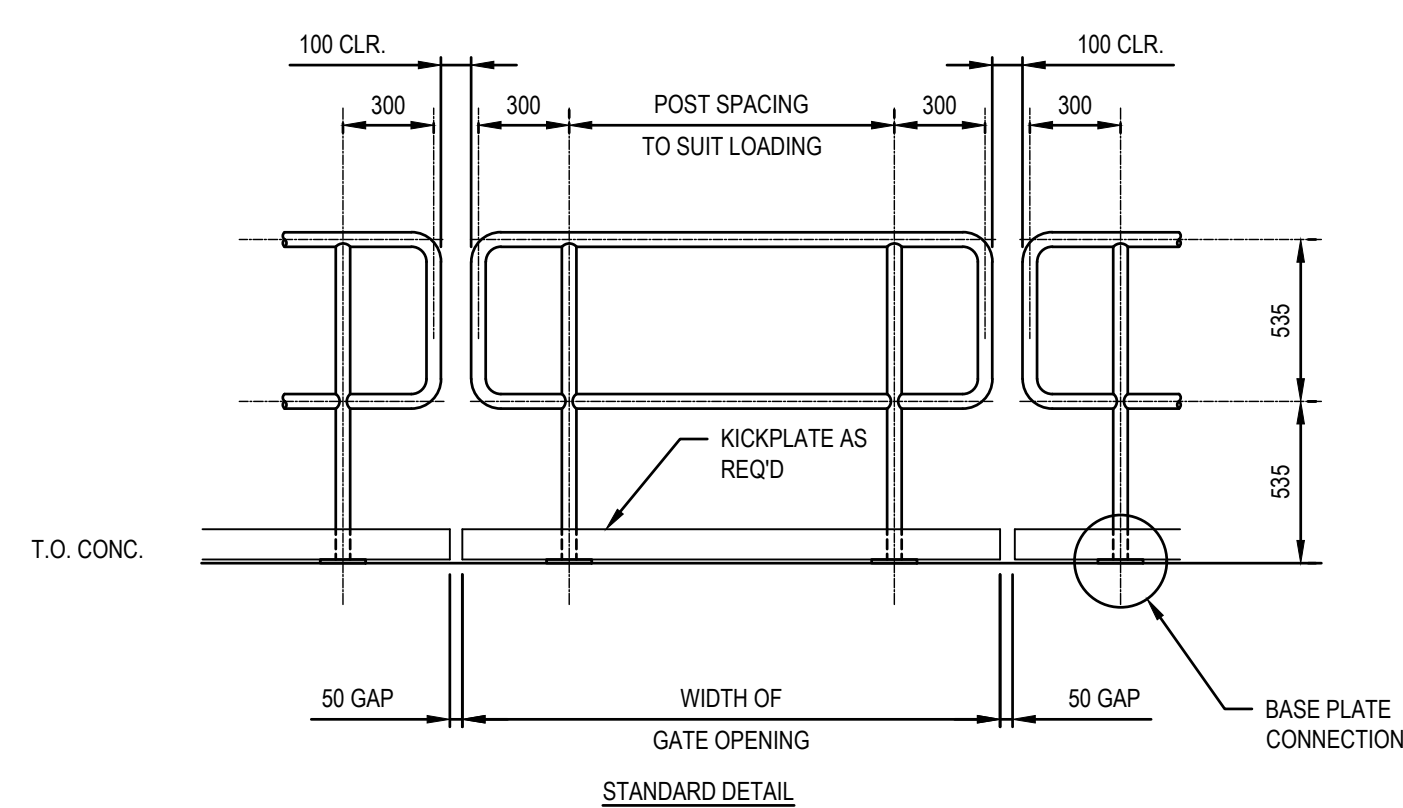
ALUMINUM STAIR 



ALUMINUM GUARDRAILING S35
STD

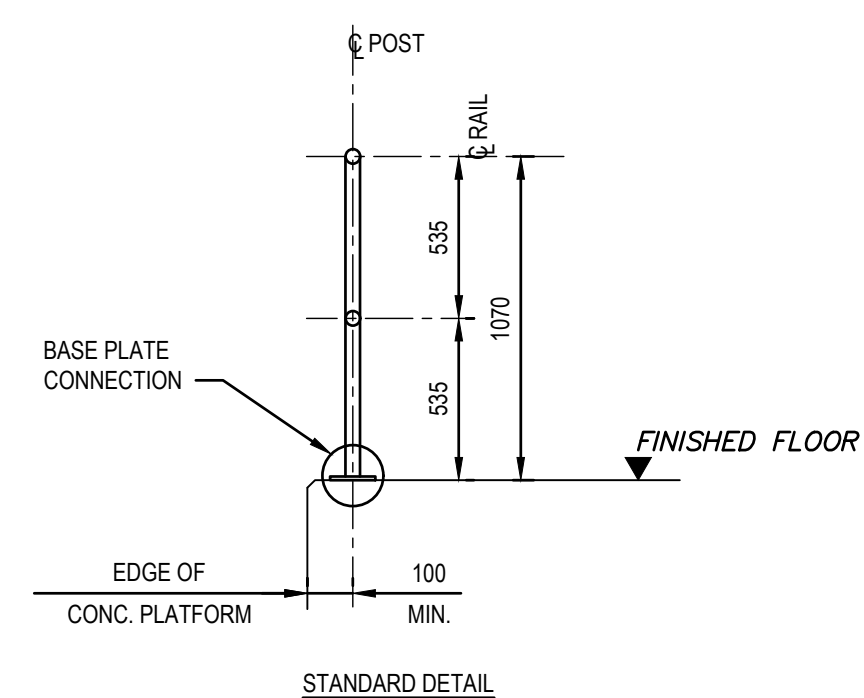


ALUMINUM GUARDRAILING S36
STD



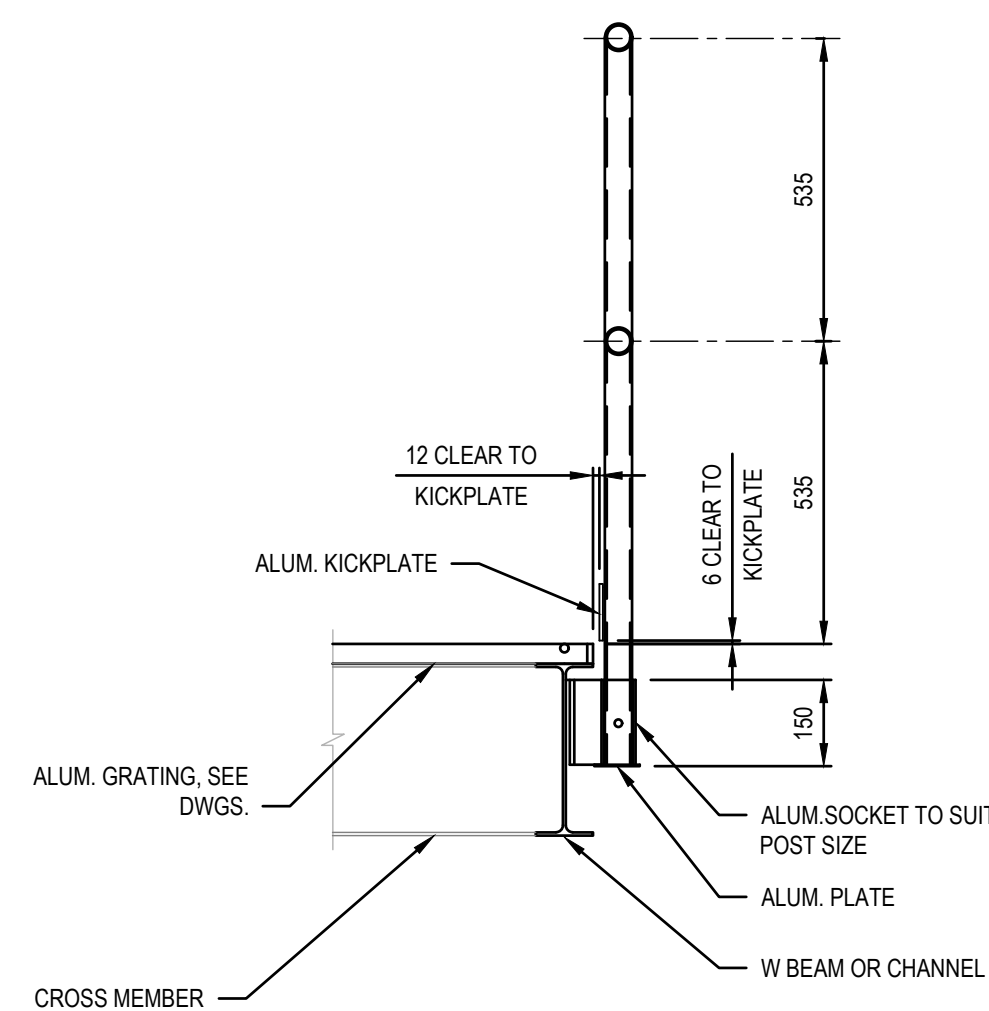
DETAIL ON WALL

ALUMINUM GUARDRAILING
REMOVABLE HANDRAIL

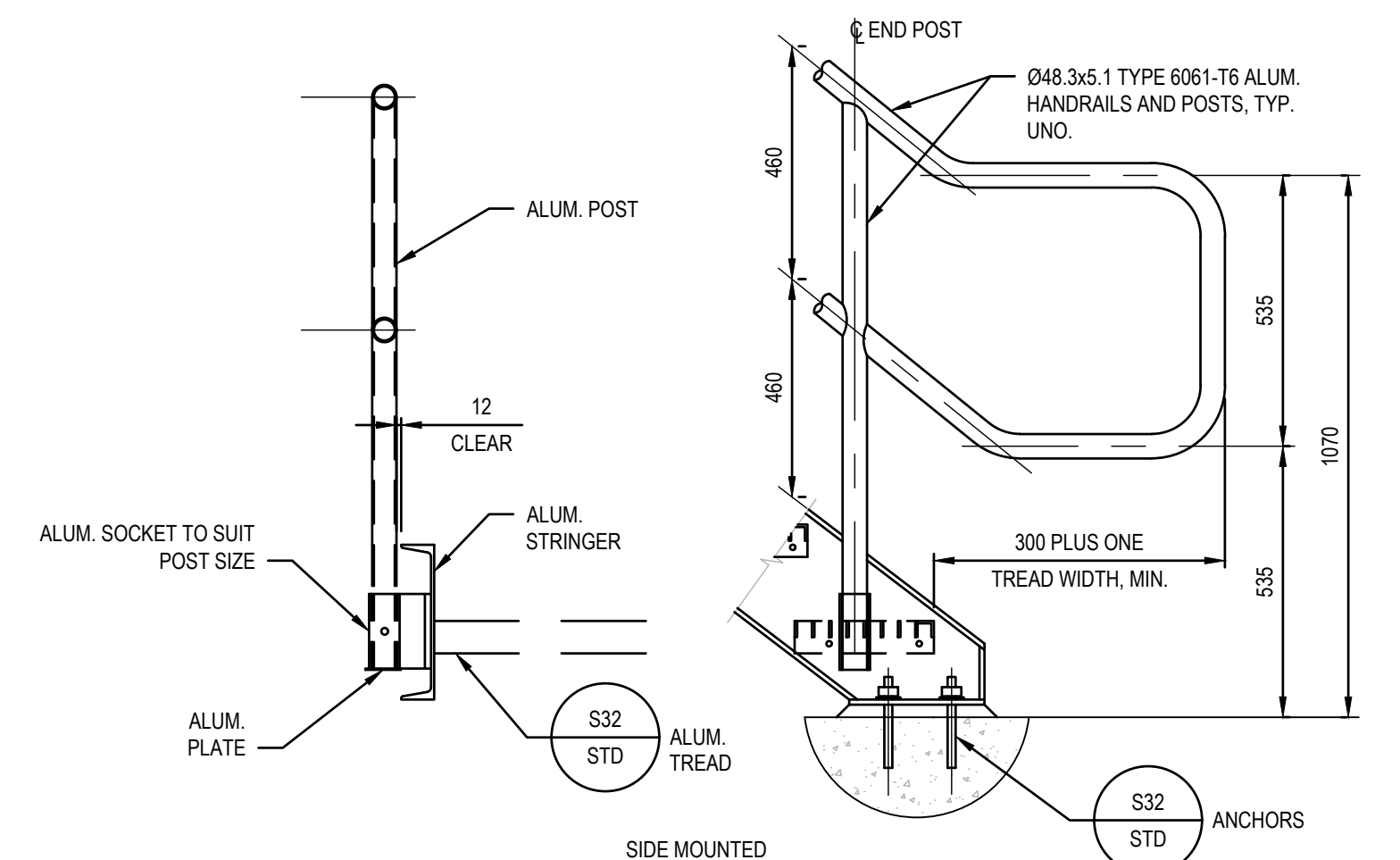


ON CURE

ALUMINUM GUARDRAILING
ON CONCRETE PLATFORM



ALUMINUM GUARDRAILING S40
ON PLATFORM STD



TOP MOUNTED

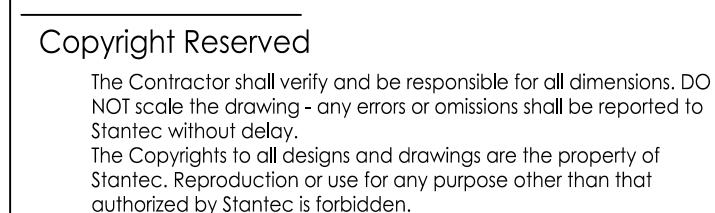
ALUMINUM HANDRAILING
HANDRAILING TO ALUM. STRAIR

[illegible]

Consultants

Permit-Seal

Stantec Permit to Practice# 1002862



Client/Project



Sooke, BC Canada

Title

STRUCTURAL
CONSTRUCTION STANDARDS
SHEET 3

Project No.
11172013

Scale

Drawing No.

Sheet

Revision

S012

9 of 49

0

BASE PLATE:
PL. 16x150x150 (ALUM.)

2 HOLES SIZED FOR
ANCHORS

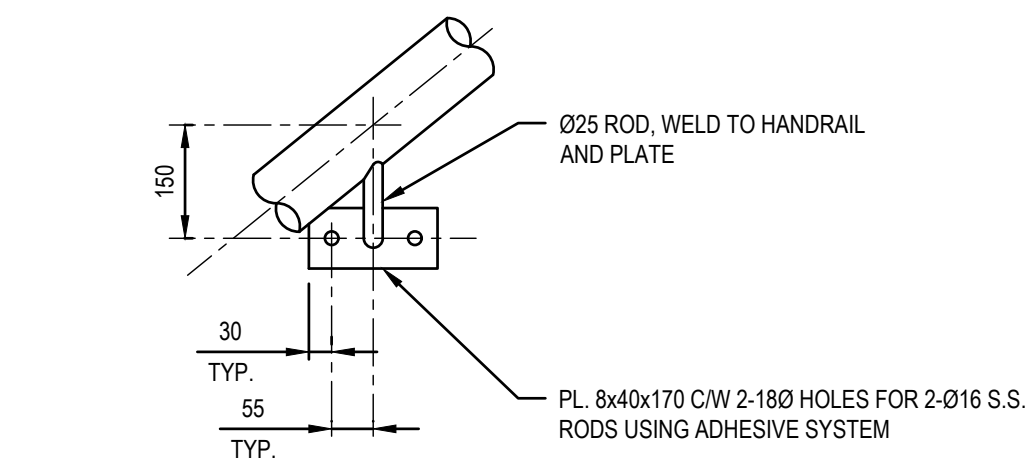
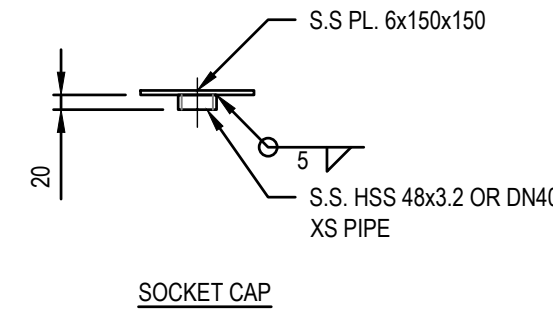
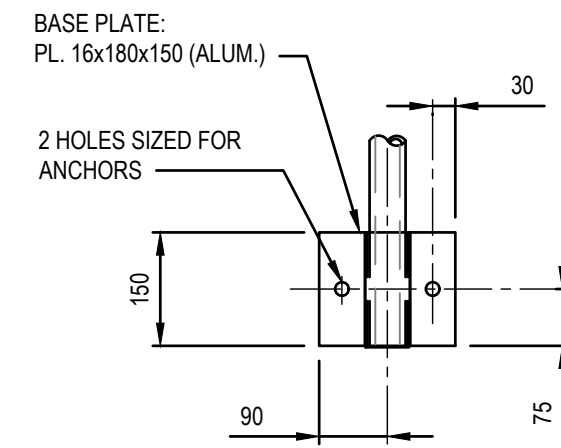
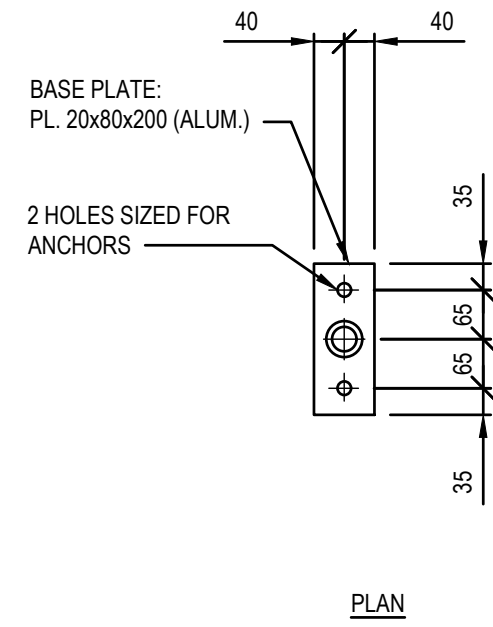
150

75

75

30 TYP.

6 TYP.



SS SADDLE CLIPS ON BEARING ENDS WHERE REQUIRED. (SEE NOTE 4)

ENDS BANDED

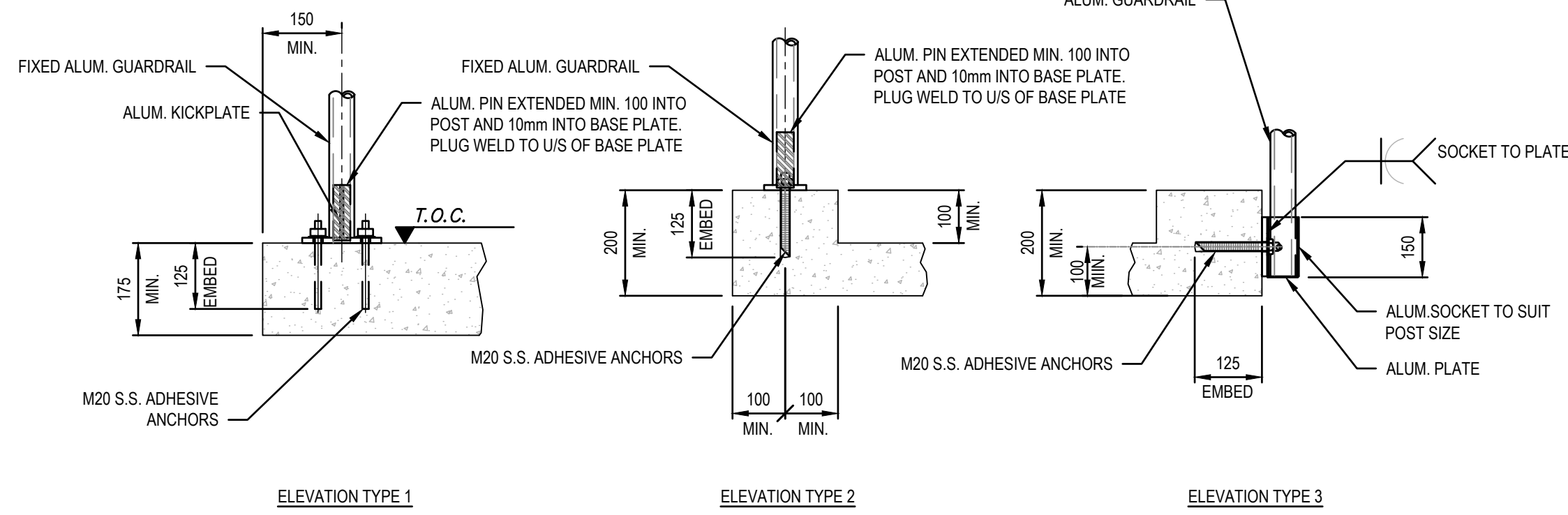
30

100

SPAN

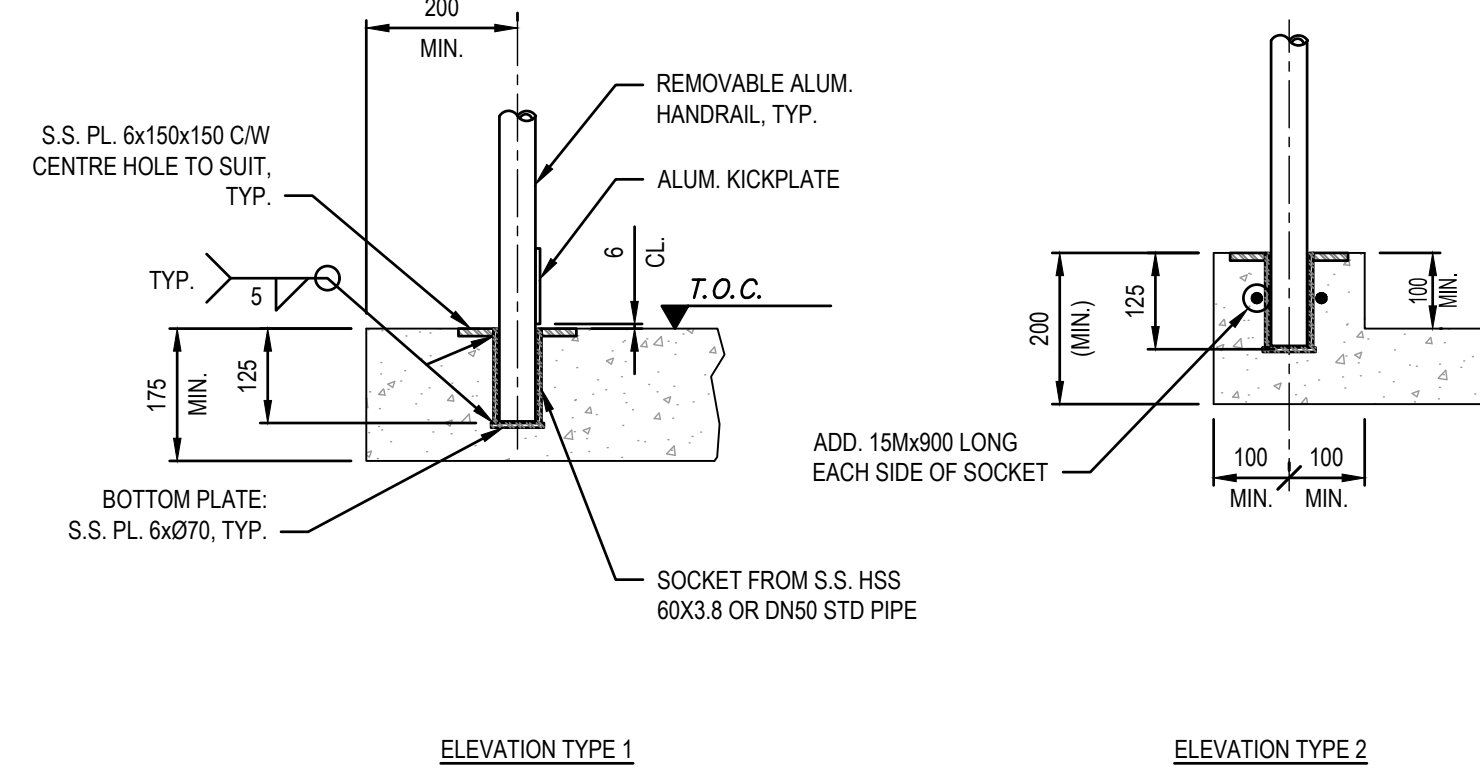
CROSS BARS

BAND OPENINGS IN GRATING. OPENINGS AS REQUIRED, SEE NOTE 5.

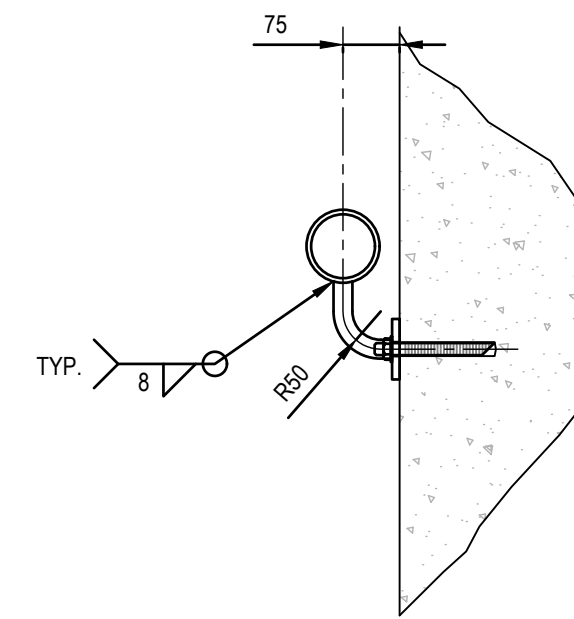


ALUMINUM GUARDRAILING

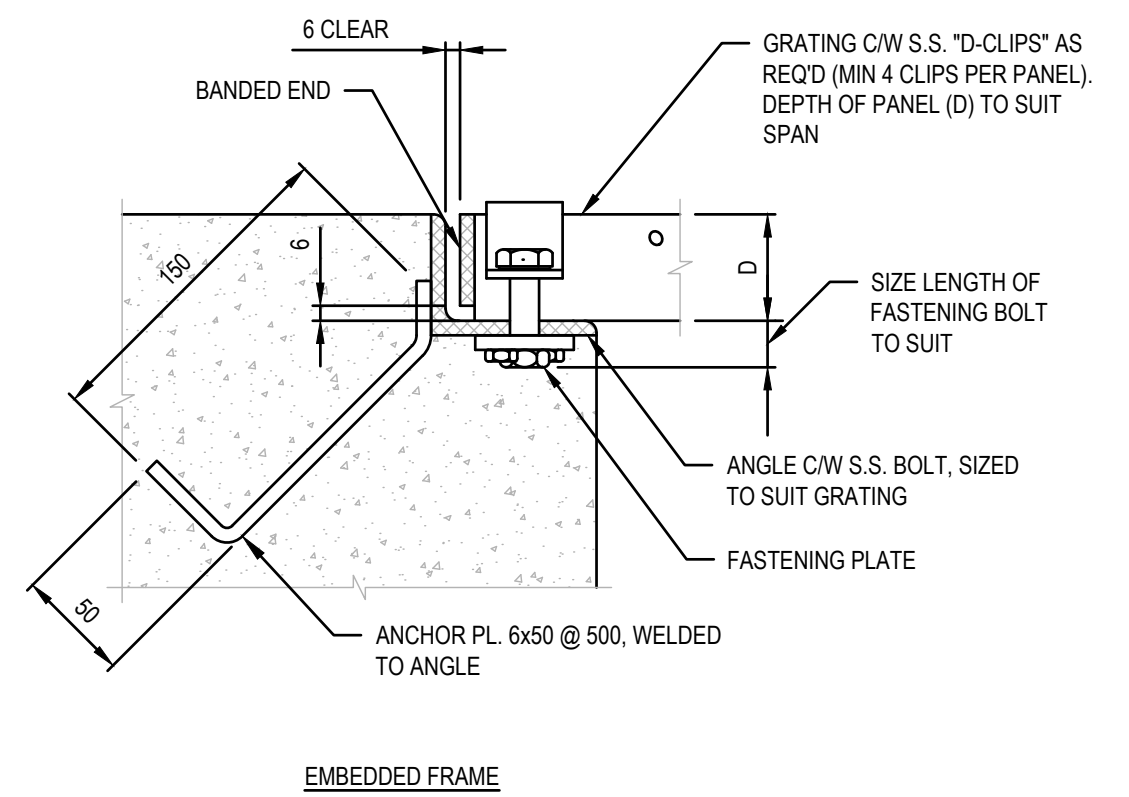
FIXED CONNECTIONS



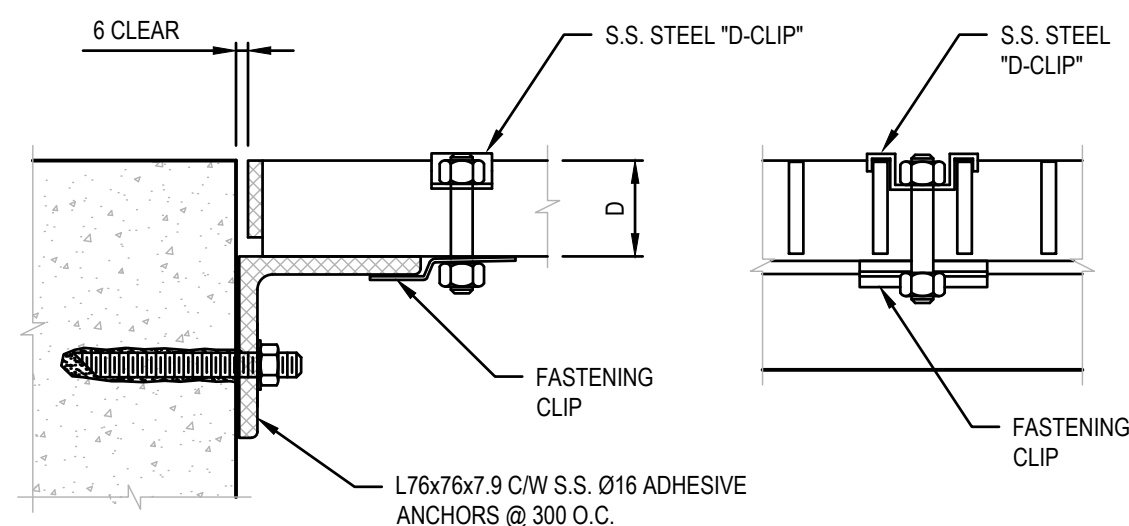
ALUMINUM GUARDRAILING



ALUMINUM HANDRAILING



Technical drawing of a fastening plate. The drawing shows a rectangular plate with three hexagonal bolt holes. The top hole is labeled "M6x1 S.S. CAP SCREWS (2 REQUIRED) TYP." with a dimension line indicating the distance between the top edge and the center of the hole. The middle hole is labeled "S.S. NUT SIZED TO SUIT BOLT FASTENING" with a dimension line indicating the distance between the top and middle holes. The bottom hole is labeled "FASTENING PLATE: S.S. PL. 5x35x60" with a dimension line indicating the distance between the middle and bottom holes. A note at the bottom states "* VARY TO SUIT SIZE OF BOLT". The drawing is labeled "FASTENING PLATE" at the bottom.

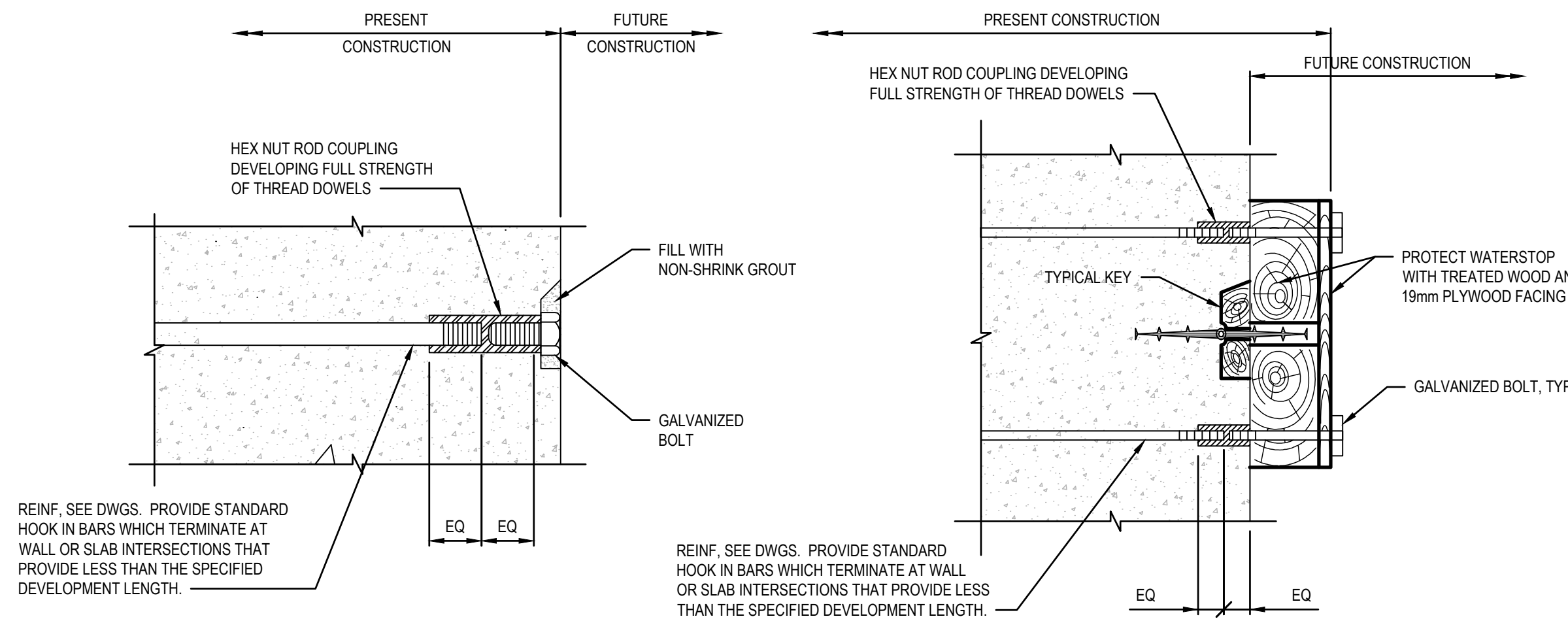


BOLTED FRAME

ALUMINIUM GRATING

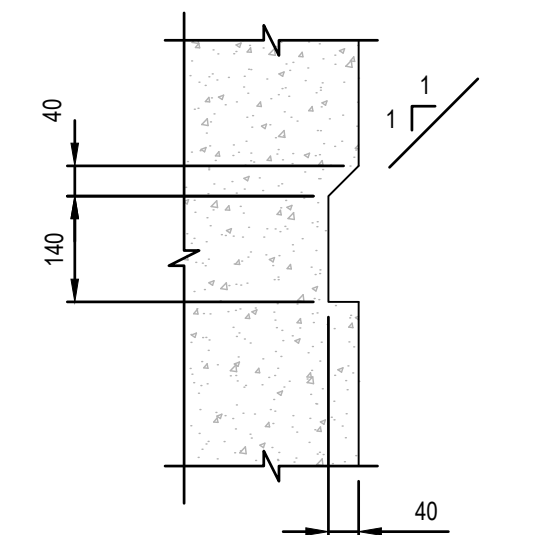
SUPPORT DETAILS

S51
STD

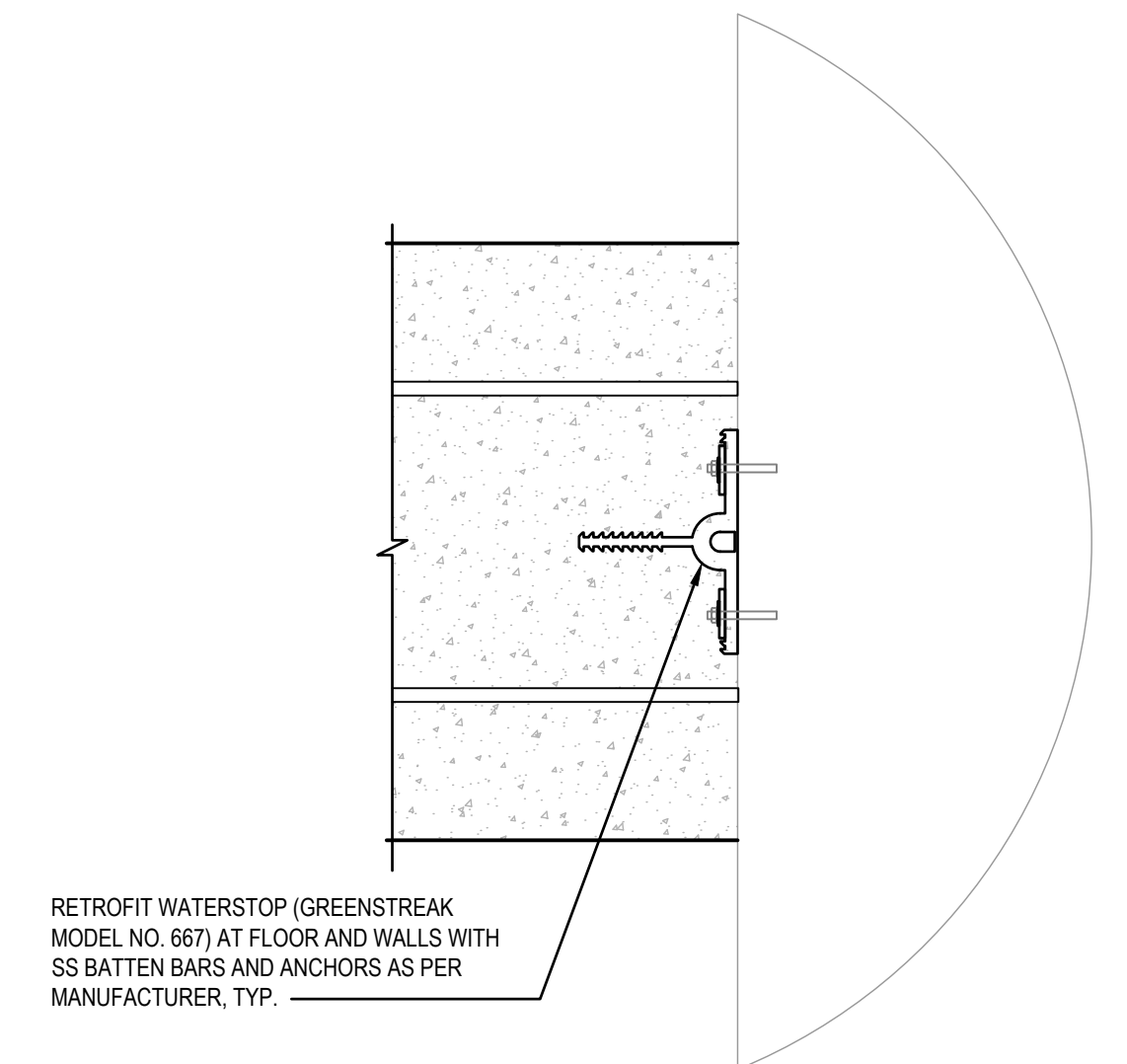


METHOD 1 - (ABOVE GRADE WITHOUT WATERSTOP)

METHOD 2 - (WHERE WATERSTOP IS REQUIRED FOR FUTURE EXPANSION)



TYPICAL KEY
(REQUIRED AT ALL LOCATIONS,
WITH AND WITHOUT WATERSTOP)



RETROFIT WATERSTOP 

Revision	By	Appd.	YY.MM.DD
4 ISSUED FOR TENDER	K8	VS	22.07.25
3 ISSUED FOR BUILDING PERMIT	K8	VS	22.07.20
2 ISSUED FOR 90% SUBMISSION	K8	VS	22.06.03
1 ISSUED FOR 50% REVIEW	V5	BG	22.02.09
Issued	By	Appd.	YY.MM.DD

Stantec Permit to Practice# 1002862



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District of Sooke

Sooke, BC Canada

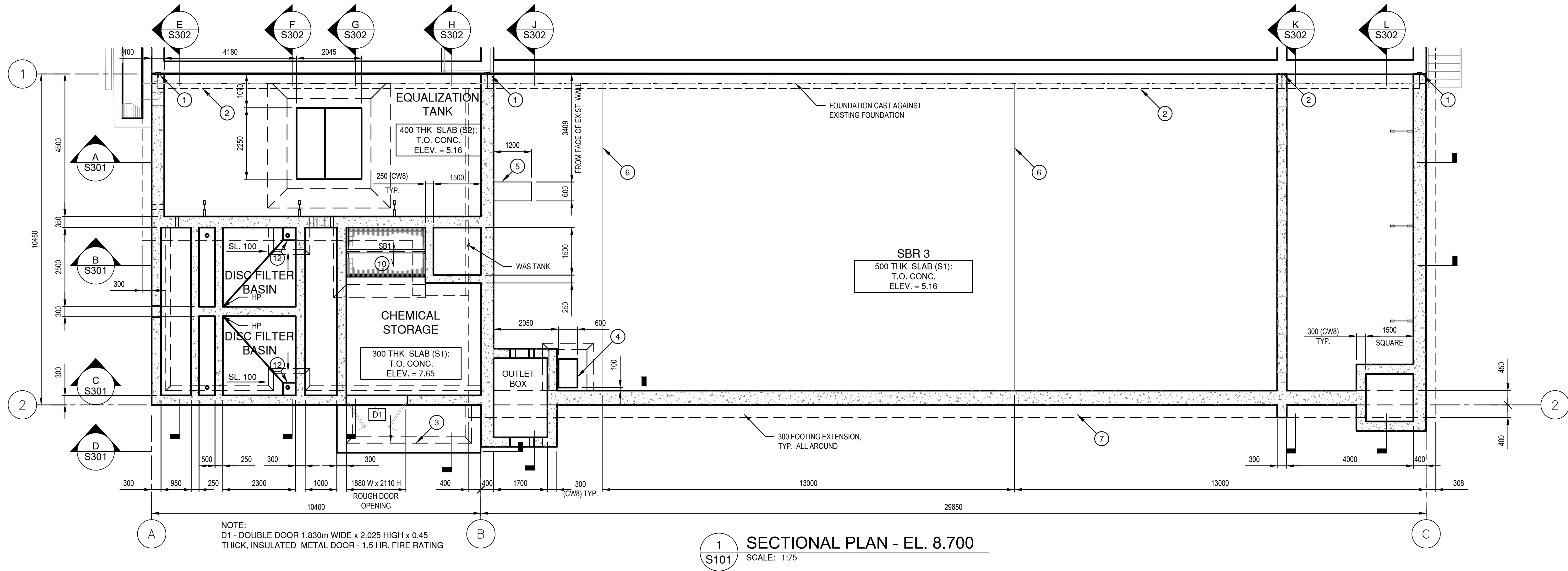
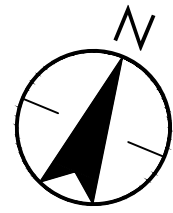
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	Dwn.	Chkd.	Dsgn.	YY.MM.DD

STRUCTURAL
CONSTRUCTION STANDARDS
SHEET 4

Project No.	Scale
111720131	

Drawing No.	Sheet	Revision
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S013 10 of 49 0

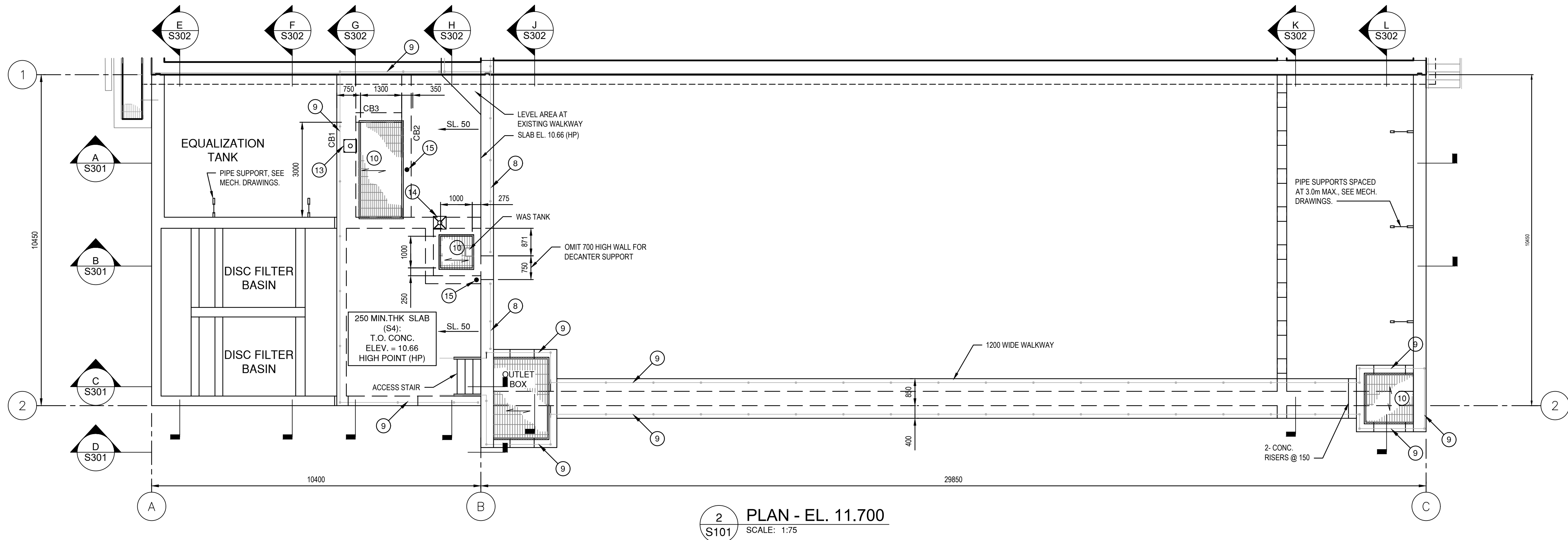


KEYNOTES:

- FILL EXISTING KEYWAY ALONG FACE OF EXISTING WALLS WITH SIKACRETE 08SCC CONCRETE REPAIR TO CSP6 SURFACE PROFILE. INSTALL VERTICAL SIKA GREENSTREAK GSK 667 (6" FLANGE) PVC RETROFIT WATERSTOP, SEE DETAIL 53/STD.
- INSTALL VERTICAL SIKA GREENSTREAK GSK 667 (6" FLANGE) PVC RETROFIT WATERSTOP ALONG FACE OF FOUNDATION AND WALL, SEE DETAIL 53/STD.
- MANDOOR ACCESS RAMP, SEE DETAIL S20/STD.
- 600x900x300 DEEP SUMP WITH 38 DEEP ALUM. GRATING.
- CONCRETE SUPPORT FOR DECANTER, SEE SECTION A/S301.
- FOUNDATION SLAB AND WALL CONSTRUCTION JOINT.
- KEYWAY AND WATERSTOP FOR FUTURE EXPANSION ALONG SOUTH FACE OF SBR TANK ONLY, SEE DETAIL 52/STD
- MODIFIED HANDRAIL AT TOP OF WALL, SEE S38/STD "DETAIL ON WALL".
- STANDARD GUARDRAIL, SEE S38/STD "STANDARD DETAIL".
- 38 DEEP ALUM. GRATING, SEE 51/STD.
- 400x400x175 DEEP SUMP, SLOPE SLAB 100 FROM SLAB HIGH POINT (HP) TO SUMP EDGE.
- SLAB FLUSH MOUNTED DAVIT BASE, LIFTING DAVIT RATED FOR 431 kg [4.2 kN]
- SLEEVE MOUNTED DAVIT BASE, LIFTING DAVIT RATED FOR 431 kg [4.2 kN]
- PERMANENT FALL ARREST ANCHOR, CONTRACTOR SUPPLIER TO DESIGN THE FALL ARREST INCLUDING ANCHORAGES IN ACCORDANCE TO WORKSAFE BC REQUIREMENTS FOR A LOAD RATING OF AT LEAST 22 kN (5 000 lbs).

LEGEND:

- CB1 - 600x600 DP. CONCRETE BEAM
CB2 - 300x600 DP. CONCRETE BEAM
CB3 - 300x500 DP. CONCRETE BEAM
SB1 - W200x22 (SEE DETAIL 1/302)



2
S101
PLAN - EL. 11.700
SCALE: 1:75

V:\117\active\117201314_drawing\current\Structural\20131_S101.dwg 7/26/2022 11:45 AM JSK/ERVEN

Revision	By	Appd.	YY.MM.DD
4	ISSUED FOR TENDER	KB	VS 22.07.25
3	ISSUED FOR BUILDING PERMIT	KB	VS 22.07.20
2	ISSUED FOR 90% SUBMISSION	KB	VS 22.06.03
1	ISSUED FOR 50% REVIEW	VS	BG 22.02.09
Issued		By	Appd. YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_S101.dwg

KB BG VS
Dwn. Chkd. Dgn. YY.MM.DD

Title

DISC FILTER, UV CHANNEL AND
SLUDGE THICKENER
CONCRETE OUTLINE - PLANS

Project No.
111720131

Drawing No.

S101

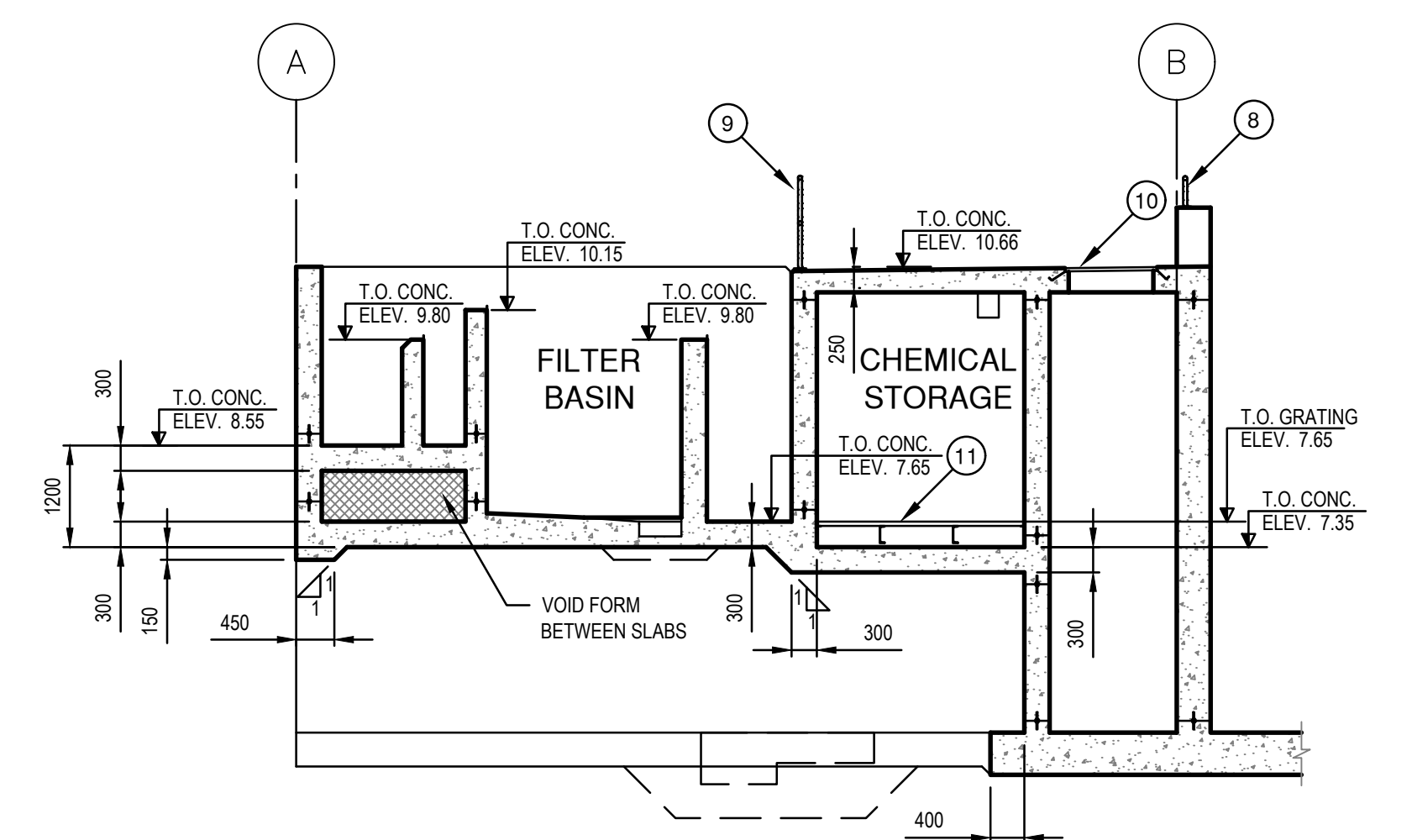
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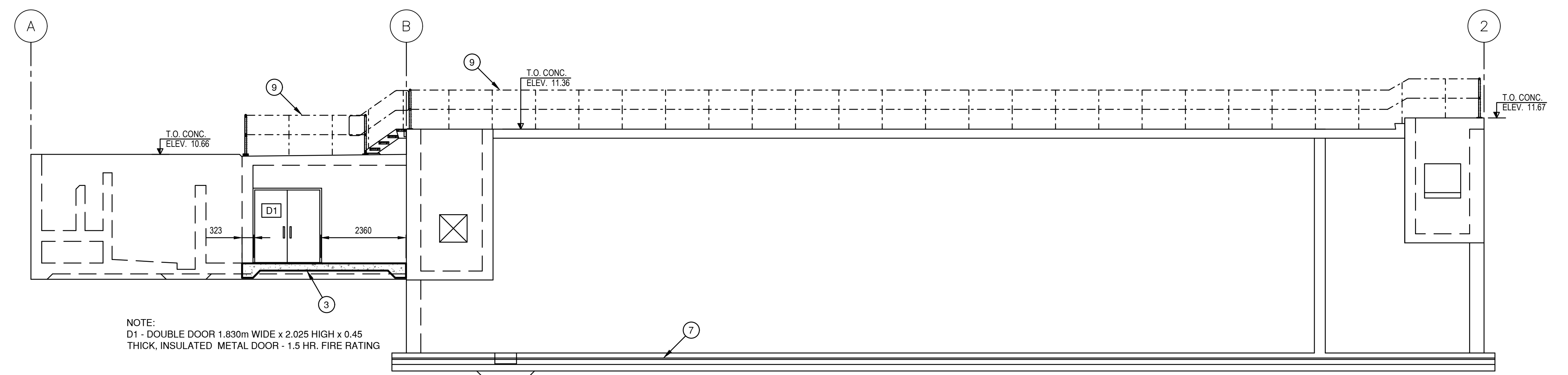
11 of 49

Revision

0



B
S101



D
S101

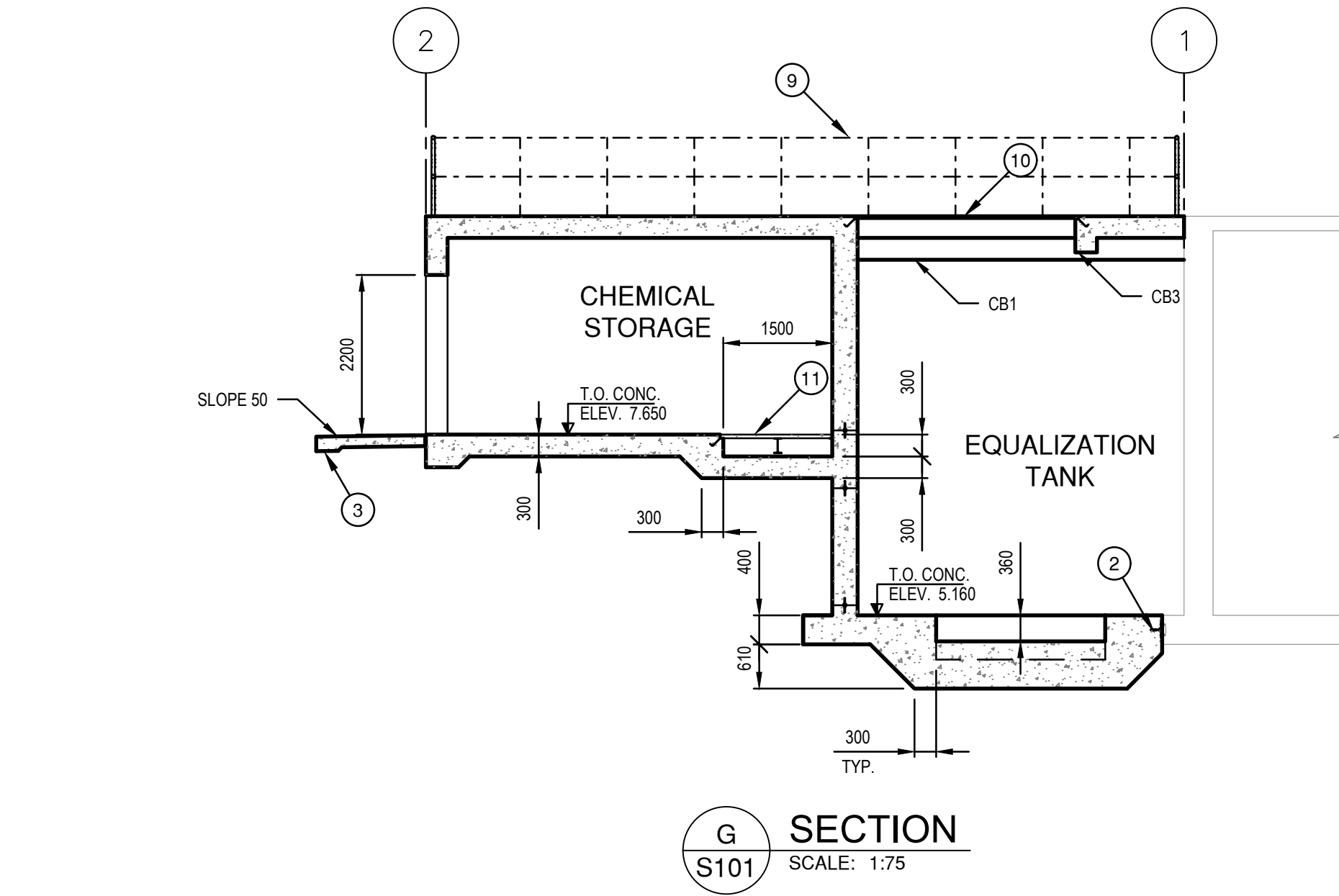
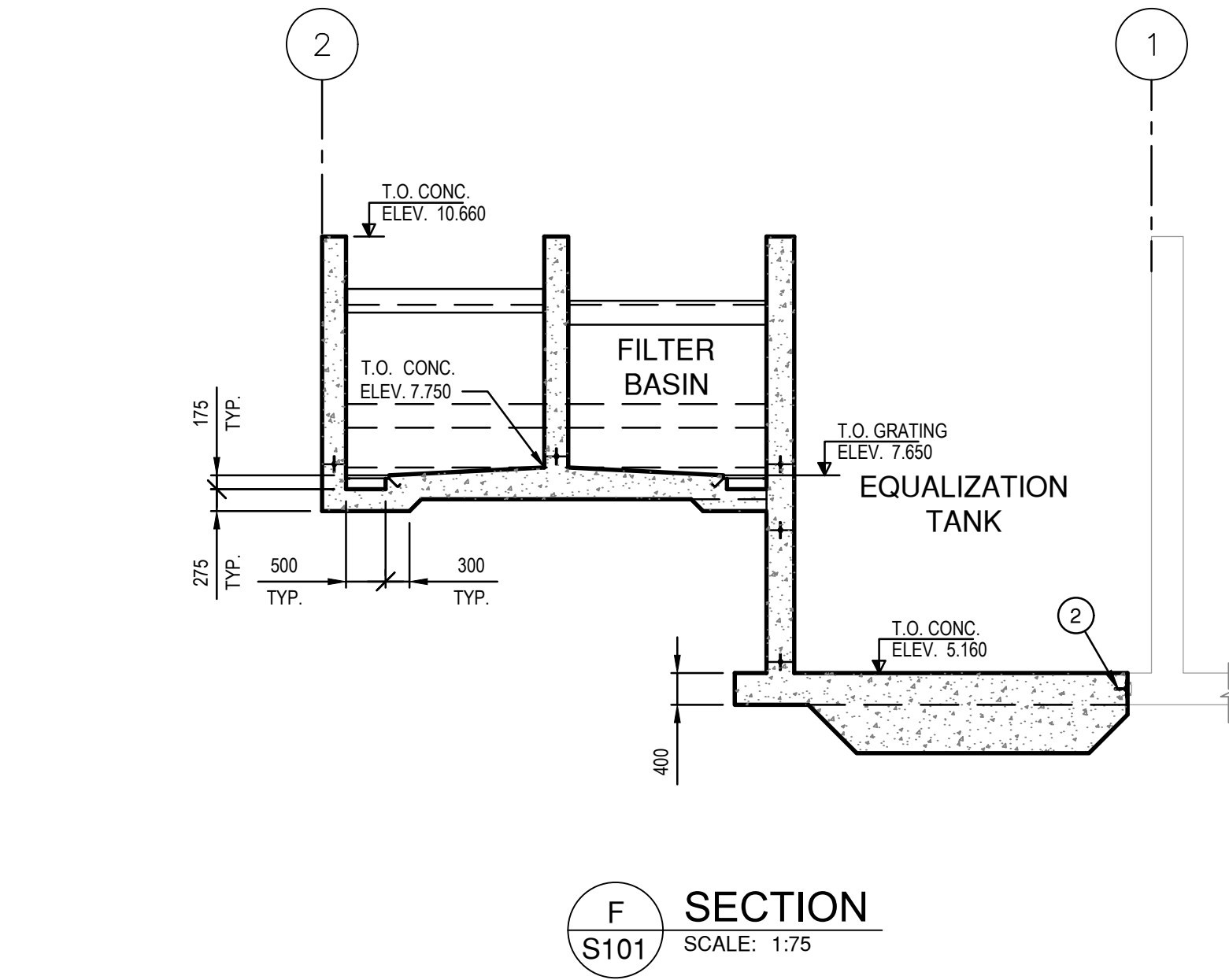
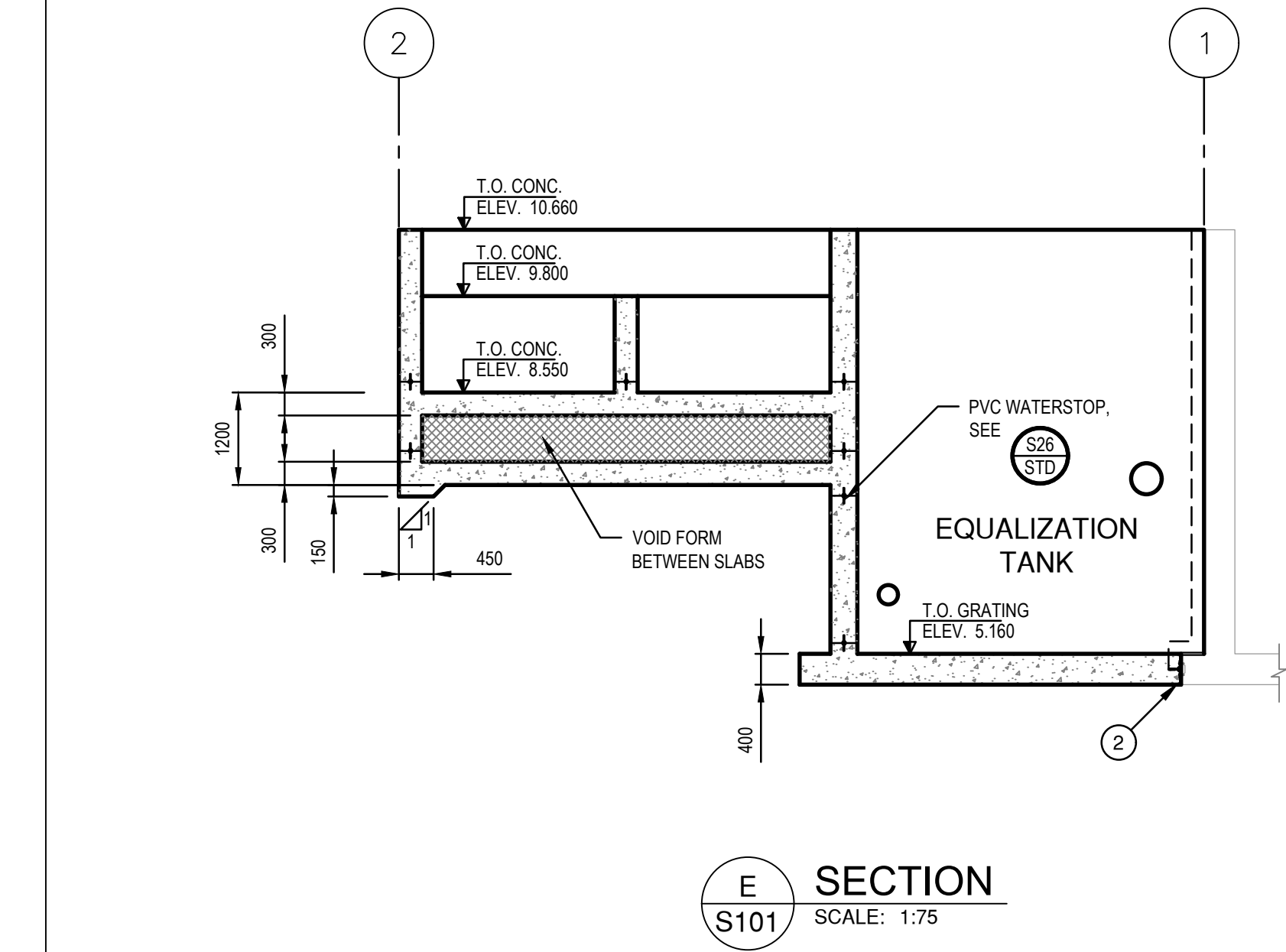
- 1 FILL EXISTING KEYWAY ALONG FACE OF EXISTING WALLS WITH SIKACRETE 08SC CONCRETE REPAIR TO SPS6 SURFACE PROFILE. INSTALL VERTICAL SAKA GREENSTEEL GRK 667 (6" FLANGE) PI PETROFIT WATERSTOP. SEE DETAIL 53/ST.
- 2 INSTALL VERTICAL SAKA GREENSTEEL GRK 667 (6" FLANGE) PI PETROFIT WATERSTOP ALONG FACE OF FOUNDATION AND WALL. SEE DETAIL 53/ST.
- 3 MANDOOR ACCESS RAMP. SEE DETAIL S20/STD.
- 4 600x900x200 DEEP SLUMP WITH 36 DEEP ALLUM. GRATING.
- 5 CONCRETE SUPPORT FOR DECANTER, SEE SECTION A-3301.
- 6 FOUNDATION SLAB AND WALL CONSTRUCTION JOINT.
- 7 KEYWAY AND WATERSTOP FOR FUTURE EXPANSION ALONG SOUTH FACE OF SBR TANK ONLY. SEE DETAIL S2/STD
- 8 MODIFIED HANDRAIL AT TOP OF WALL. SEE S38/STD "DETAIL ON WALL".
- 9 STANDARD GUARDRAIL. SEE S38/STD "STANDARD DETAIL".
- 10 36 DEEP ALLUM. GRATING. SEE 51/STD.
- 12 400x400x175 DEEP SLUMP. SLOPE SLAB 100 FROM SLAB HIGH POINT (HP) TO SLUMP EDGE.
- 10 SLAB FLUSH MOUNTED DAVIT BASE, LIFTING DAVIT RATED FOR 431 kg [4.2 kN]
- 14 SLEEVE MOUNTED DAVIT BASE, LIFTING DAVIT RATED FOR 431 kg [4.2 kN]
- 15 PERMANENT FAL ARREST ANCHOR. CONTRACTOR SUPPLIER TO DESIGN THE FAL ARREST INCLUDING ANCHORAGES IN ACCORDANCE TO WORKSAFE BC REQUIREMENTS FOR A LOAD RATINGS OF AT LEAST 22 kN (5,000 lbs).

CB1 - 600x600 DP. CONCRETE BEAM
CB2 - 300x600 DP. CONCRETE BEAM
CB3 - 300x500 DP. CONCRETE BEAM
SB1 - W200x22 (SEE DETAIL 1/302)

0

V:\117\active\117201314_drawing\current\Structural\20131_S302.dwg 7/26/2023 11:45 AM AFERRIS

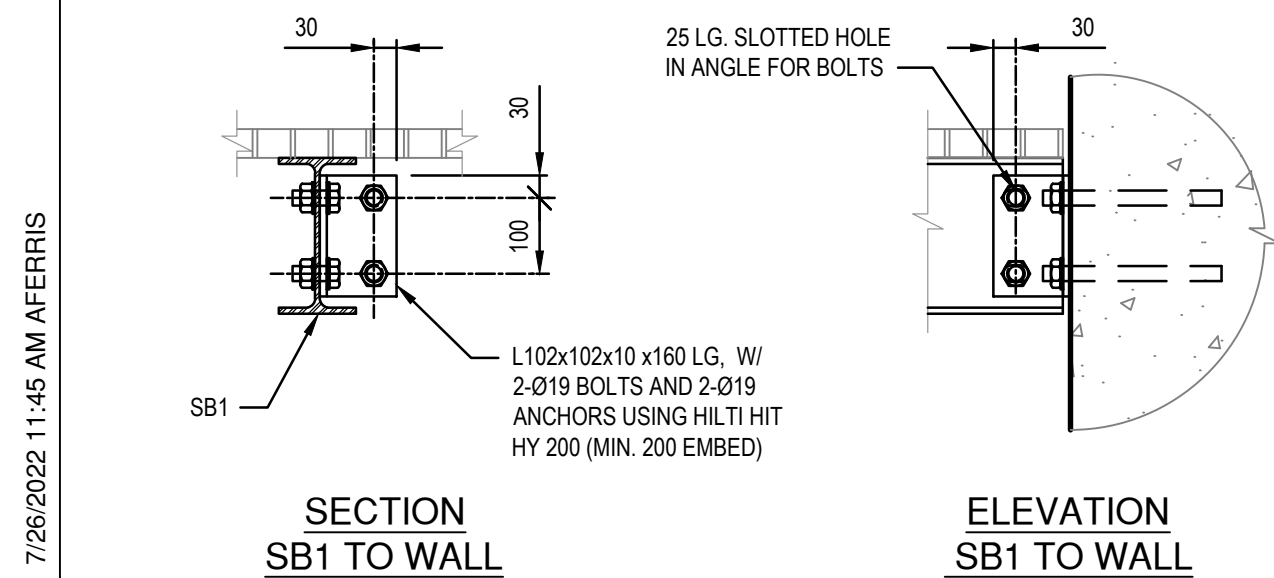
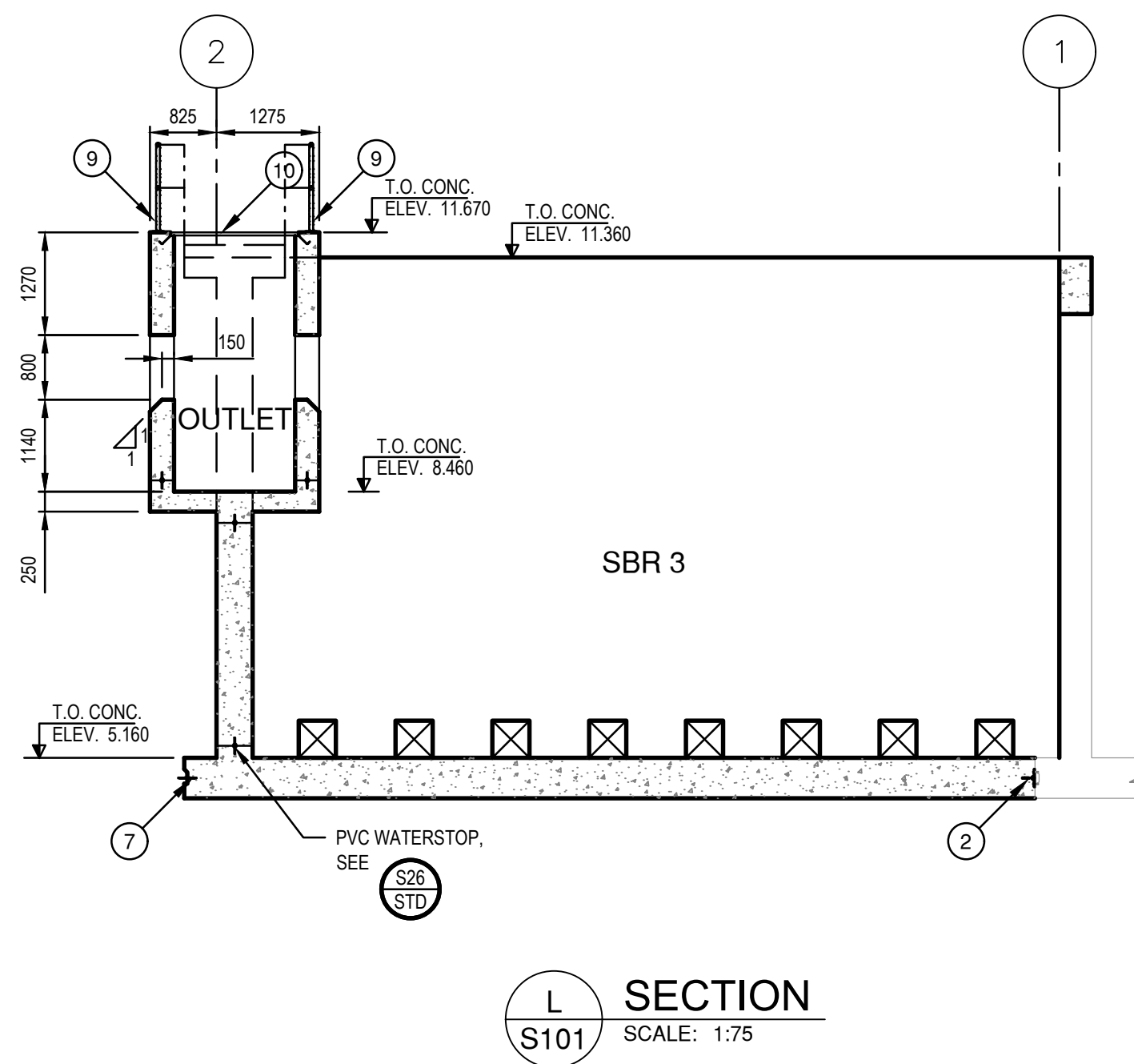
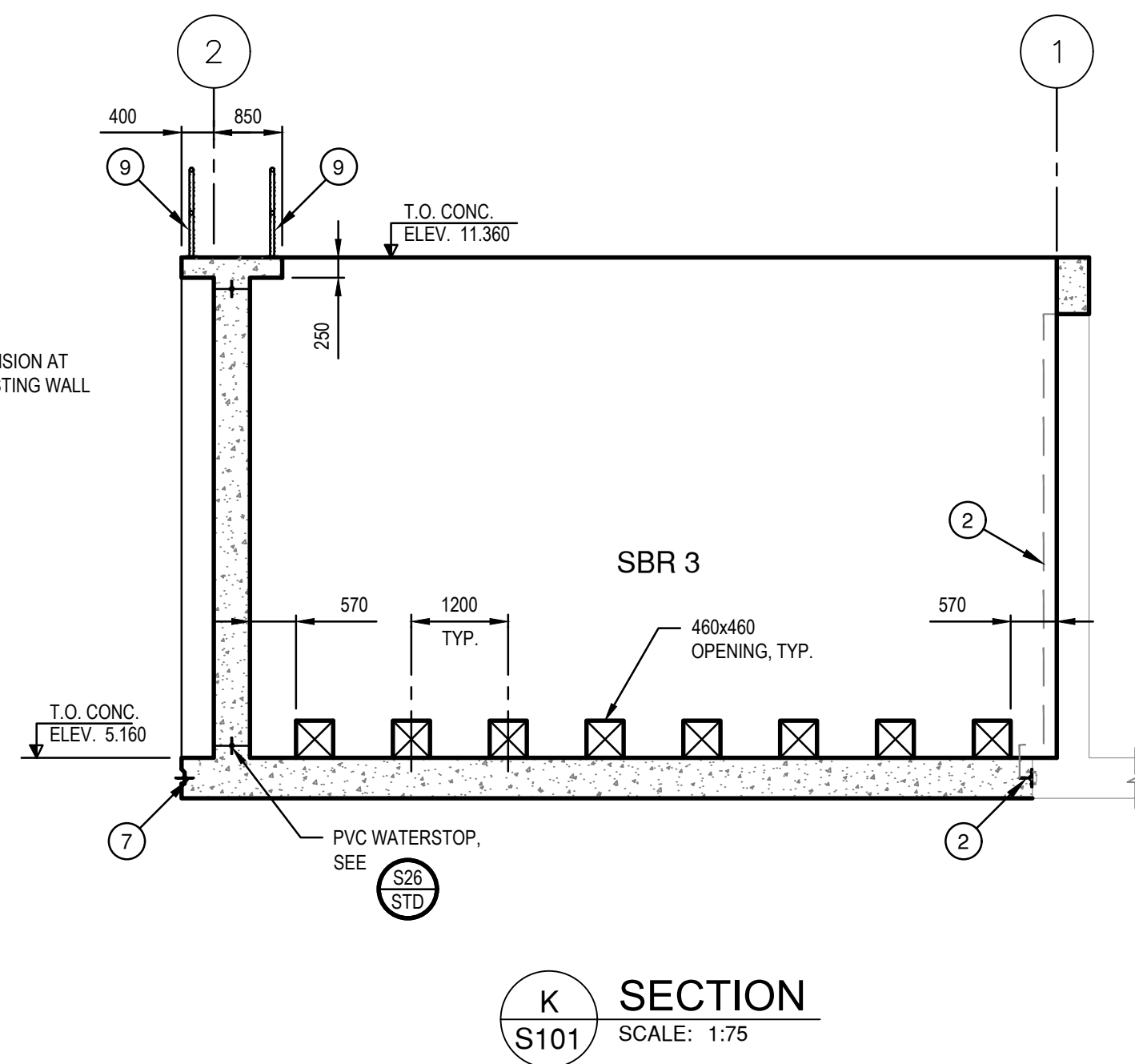
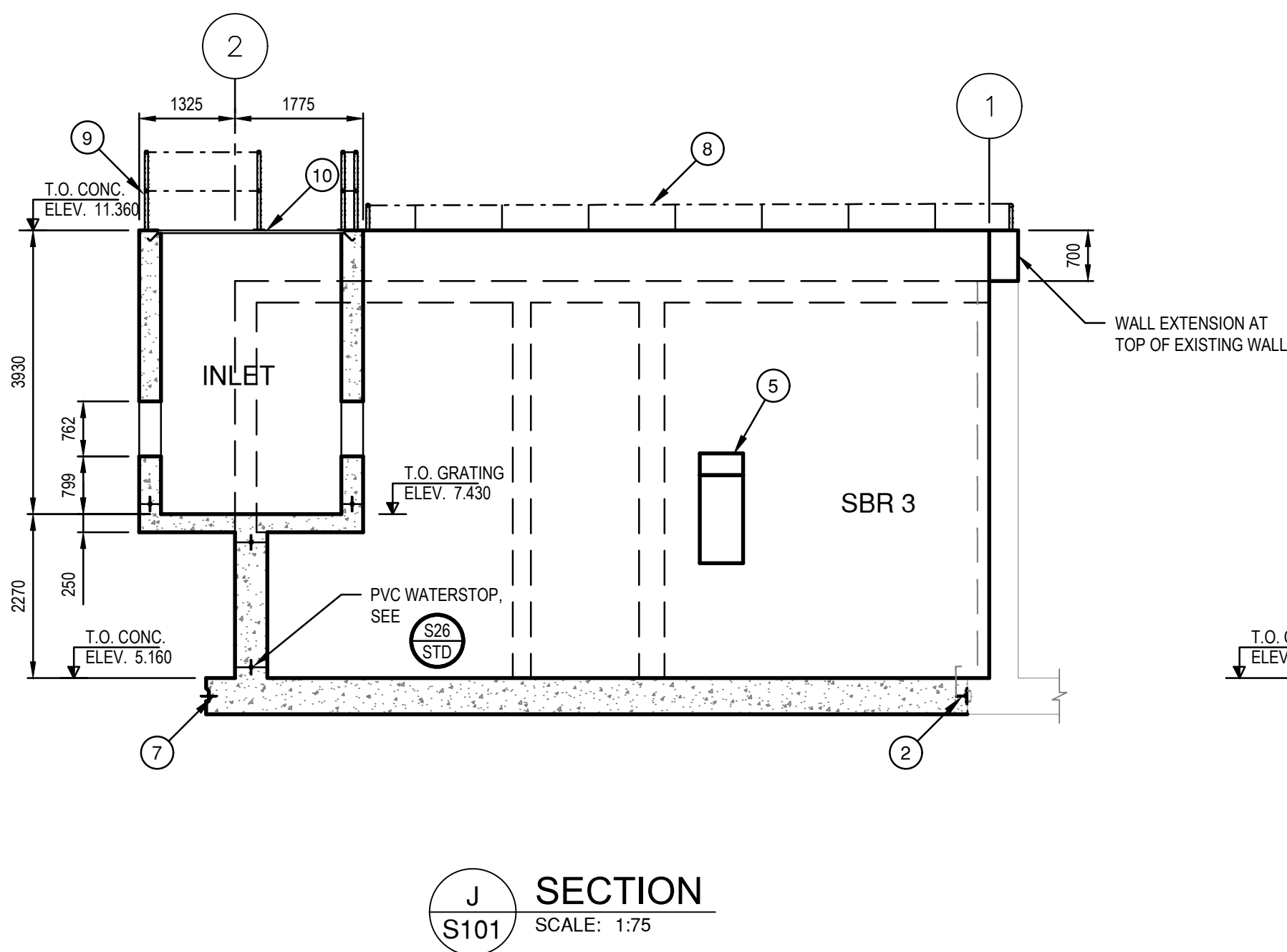
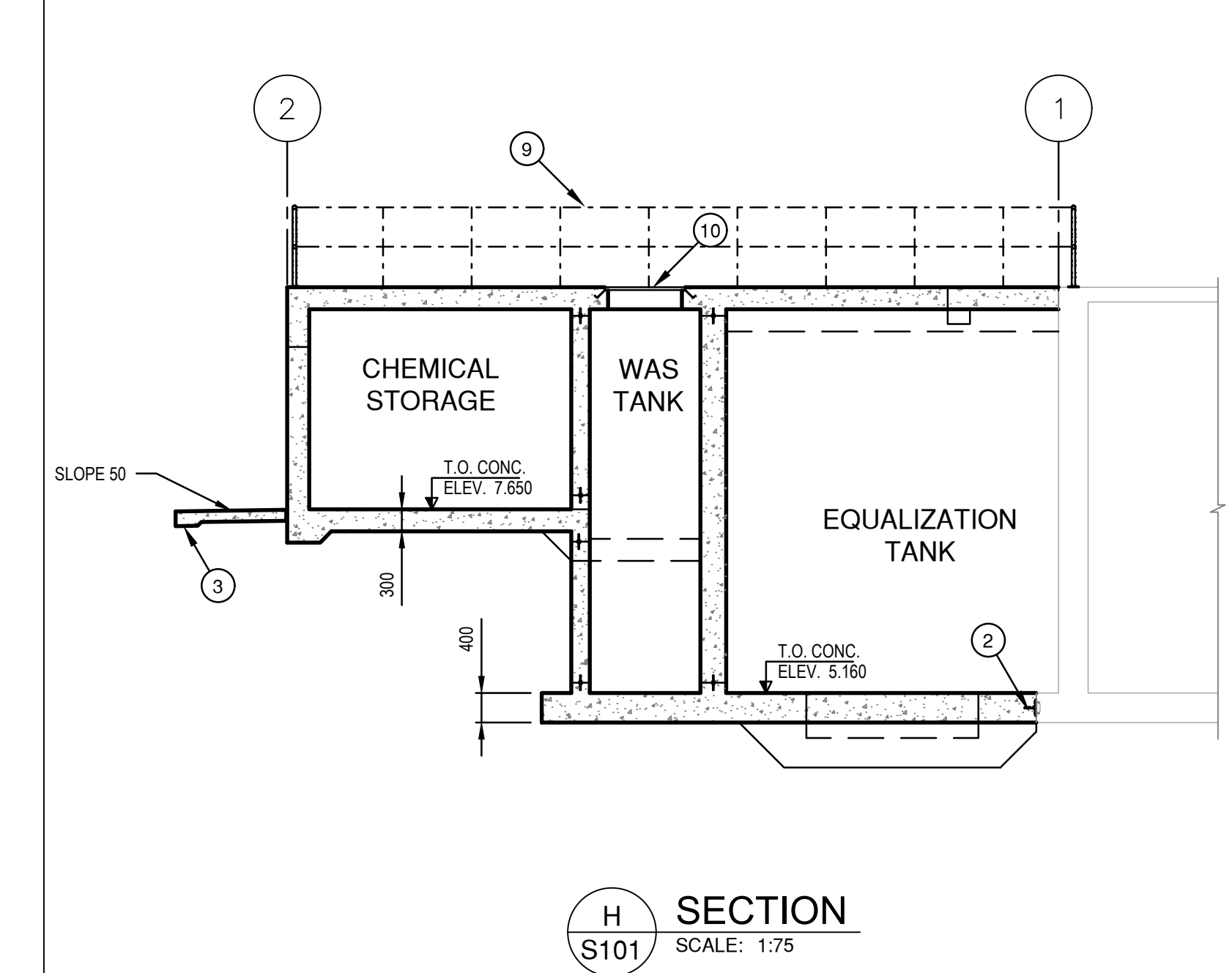
ORIGINAL SHEET - ISO A1



- KEYNOTES:**
- FILL EXISTING KEYWAY ALONG FACE OF EXISTING WALLS WITH SIKACRETE (BSJC) CONCRETE REPAIR TO CSP6 SURFACE PROFILE. INSTALL VERTICAL SIKA GREENSTREAK GSK 667 (6" FLANGE) PVC RETROFIT WATERSTOP. SEE DETAIL 53/STD.
 - INSTALL VERTICAL SIKA GREENSTREAK GSK 667 (6" FLANGE) PVC RETROFIT WATERSTOP ALONG FACE OF FOUNDATION AND WALL. SEE DETAIL 53/STD.
 - MANDOOR ACCESS RAMP. SEE DETAIL S20/STD.
 - 600x900x300 DEEP SUMP WITH 38 DEEP ALUM. GRATING.
 - CONCRETE SUPPORT FOR DECANTER. SEE SECTION A/S301.
 - FOUNDATION SLAB AND WALL CONSTRUCTION JOINT.
 - KEYWAY AND WATERSTOP FOR FUTURE EXPANSION ALONG SOUTH FACE OF SBR TANK ONLY. SEE DETAIL 52/STD.
 - MODIFIED HANDRAIL AT TOP OF WALL. SEE S38/STD "DETAIL ON WALL".
 - STANDARD GUARDRAIL. SEE S38/STD "STANDARD DETAIL".
 - 38 DEEP ALUM. GRATING. SEE 51/STD.
 - 400x400x175 DEEP SUMP. SLOPE SLAB 100 FROM SLAB HIGH POINT (HP) TO SUMP EDGE.
 - SLAB FLUSH MOUNTED DAVIT BASE. LIFTING DAVIT RATED FOR 431 kg (4.2 kN)
 - SLEEVE MOUNTED DAVIT BASE. LIFTING DAVIT RATED FOR 431 kg (4.2 kN)
 - PERMANENT FALL ARREST ANCHOR. CONTRACTOR SUPPLIER TO DESIGN THE FALL ARREST INCLUDING ANCHORAGES IN ACCORDANCE TO WORKSAFE BC REQUIREMENTS FOR A LOAD RATING OF AT LEAST 22 kN (5 000 lbs).

LEGEND:

CB1 - 600x600 DP. CONCRETE BEAM
CB2 - 300x600 DP. CONCRETE BEAM
CB3 - 300x600 DP. CONCRETE BEAM
SB1 - W200x22 (SEE DETAIL 1/302)



NOTE:
ALL STEEL WORKS TO BE GALVANIZED

V:\117\active\11172013\14_drawings\current\Sheet1.dwg

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_S302.dwg

KB BG VS 22.06.01
Dwn. Chkd. Dgn. YY.MM.DD

Title

STRUCTURAL
CONCRETE OUTLINE
SECTIONS - SHEET 2

Project No.

111720131

Drawing No.

S302

Scale

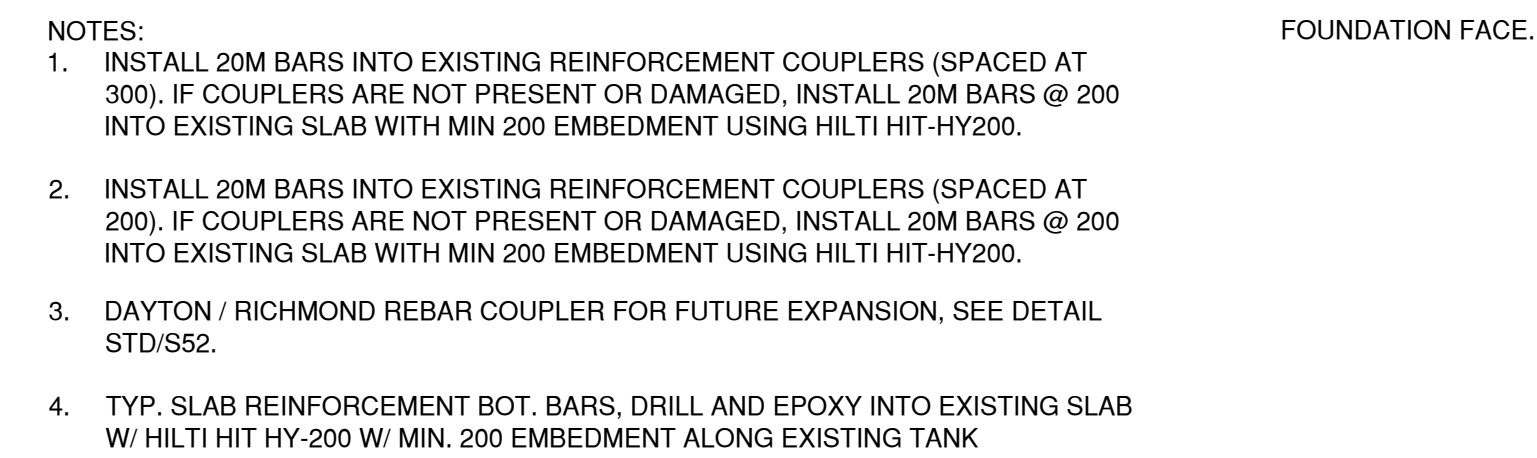
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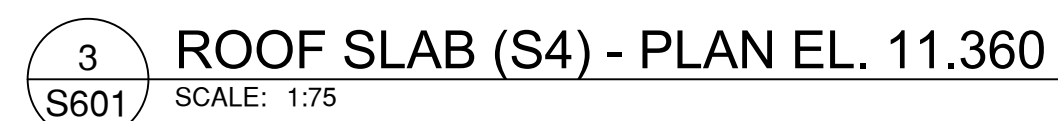
13 of 49

Revision

0



WALL REINFORCEMENT SCHEDULE					
MARK	WIDTH	INSIDE FACE (I.F.)		OUTSIDE FACE (O.F.)	
		VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL
CW1	450	25M DWLS @ 100 + 20M VERTS @ 200	20M @ 200	25M DWLS @ 100 + 20M VERTS @ 200	20M @ 200
CW2	400	20M DWLS + 20M VERTS @ 200	20M @ 200 + 20M DWLS + 1500 LG. @ 300 INTO REBAR COUPLERS AT FACE OF EXISTING WALL	20M DWLS + 20M VERTS @ 200	20M @ 200 + 20M DWLS + 1500 LG. @ 300 INTO REBAR COUPLERS AT FACE OF EXISTING WALL
CW3	400	25M DWLS @ 100 + 20M VERTS @ 200	20M @ 200 + 20M DWLS + 1500 LG. @ 300 INTO REBAR COUPLERS AT FACE OF EXISTING WALL	20M DWLS + 20M VERTS @ 200	20M @ 200 + 20M DWLS + 1500 LG. @ 300 INTO REBAR COUPLERS AT FACE OF EXISTING WALL
CW4	300	15M DWLS + 15M VERTS @ 200	15M @ 200 + DRILL AND EPOXY 15M x1000 LG. DWLS INTO EXISTING WALL W MIN. 150 DEPTH W HILTI HIT HY200, MATCH EXISTING COUPLER SPACING	15M DWLS + 15M VERTS @ 200	15M @ 200 + DRILL AND EPOXY 15M x1000 LG. DWLS INTO EXISTING WALL W MIN. 150 DEPTH W HILTI HIT HY200, MATCH EXISTING COUPLER SPACING
CW5	350	20M DWLS + 20M VERTS @ 200	15M @ 200	20M DWLS + 20M VERTS @ 200	15M @ 200
CW6	400	20M DWLS + 20M VERTS @ 200	20M @ 200 + 20M DWLS + 1500 LG. @ 300 INTO REBAR COUPLERS AT FACE OF EXISTING WALL	20M DWLS + 20M VERTS @ 200	20M @ 200 + 20M DWLS + 1500 LG. @ 300 INTO REBAR COUPLERS AT FACE OF EXISTING WALL
CW7	300	15M DWLS + 15M VERTS @ 200	15M @ 200	15M DWLS + 15M VERTS @ 200	15M @ 200
CC1	600	8-20M	15M TIES @ 300	SEE DETAIL A/S601	



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District of Sooke

SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_S601.dwg

AF

Dwn.

SS

Chkd

BP

Dsgn

Title

STRUCTURAL REINFORCEMENT PLANS

Project No.

111720131

Drawing No.

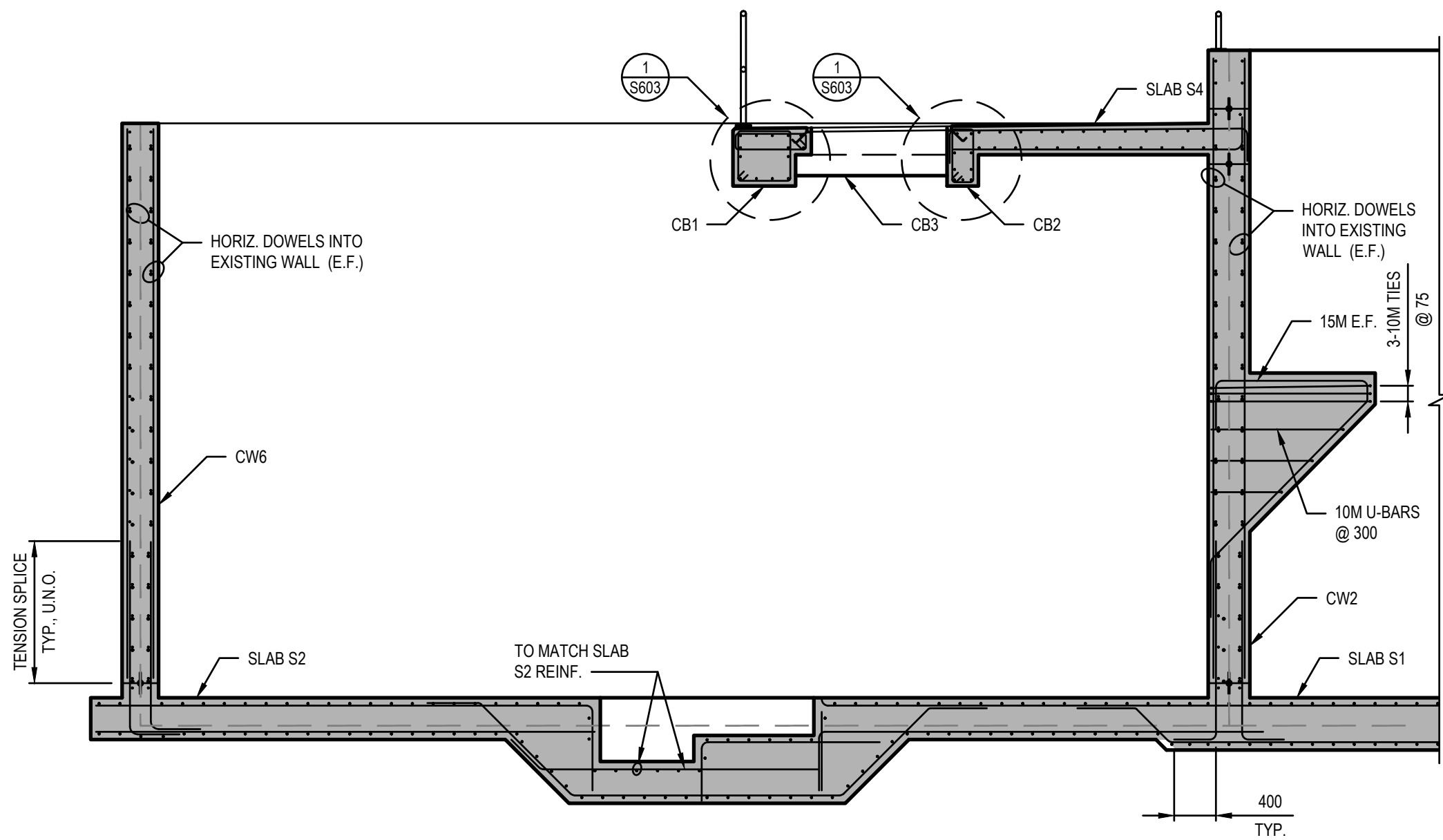
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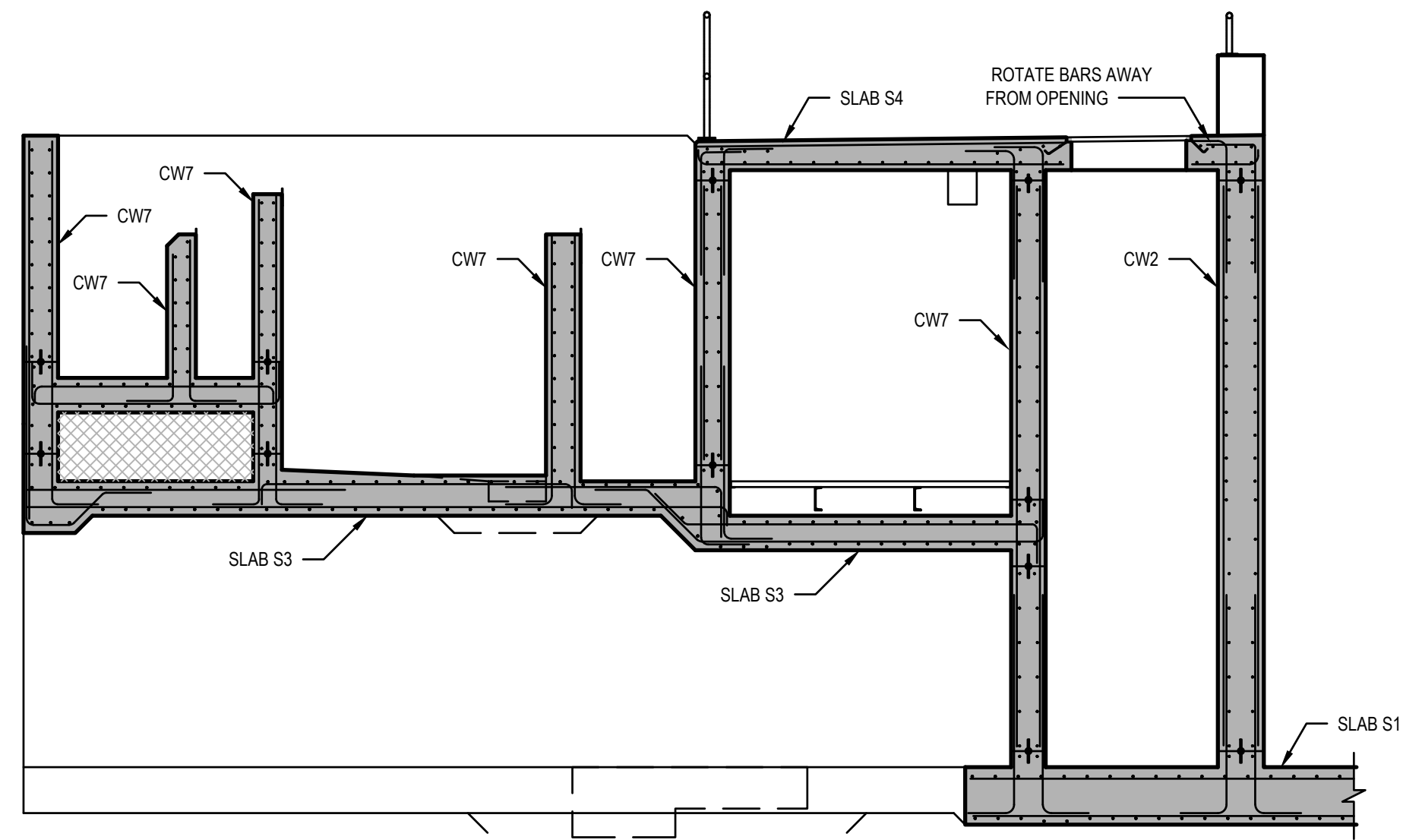
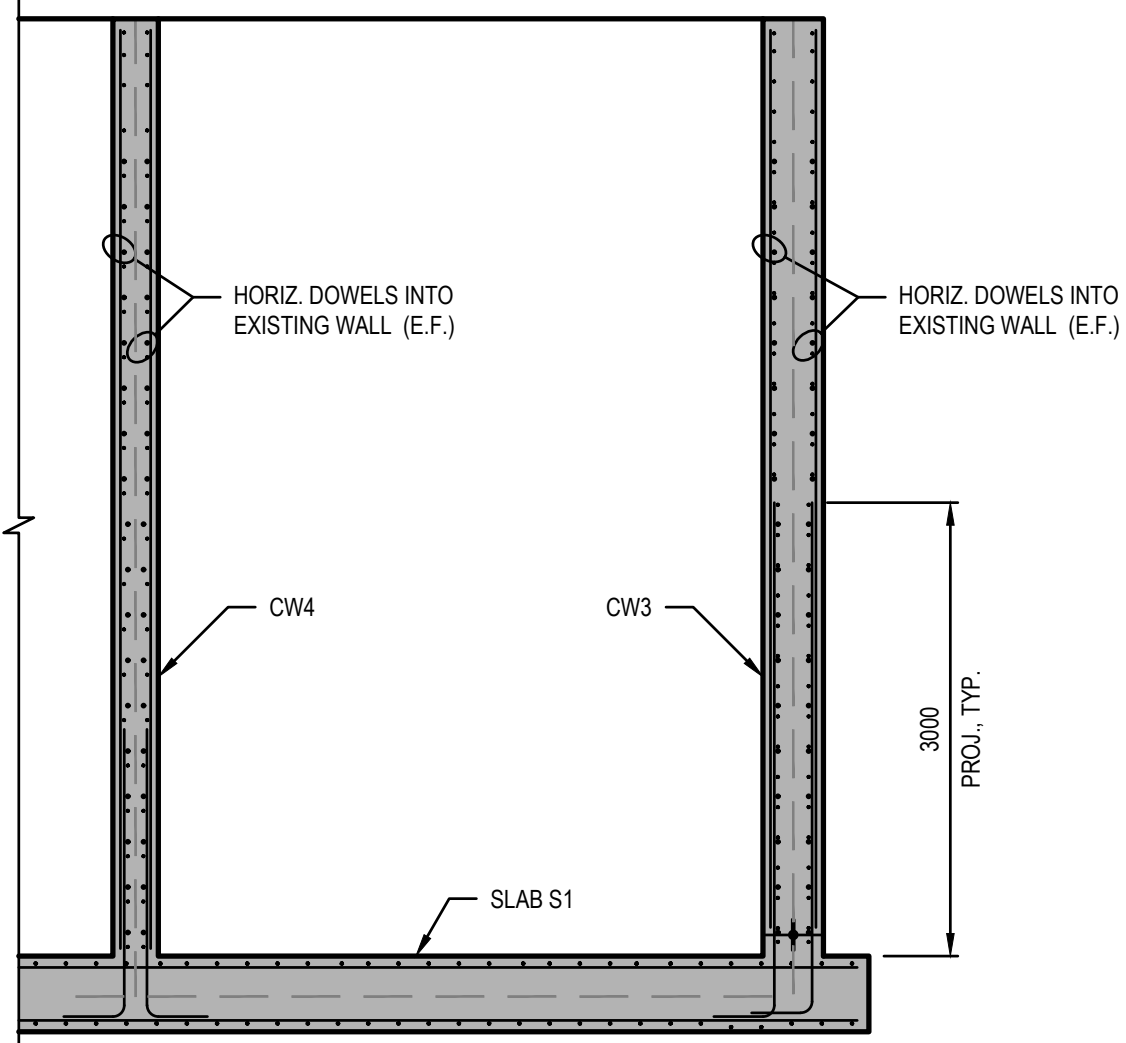
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Revision

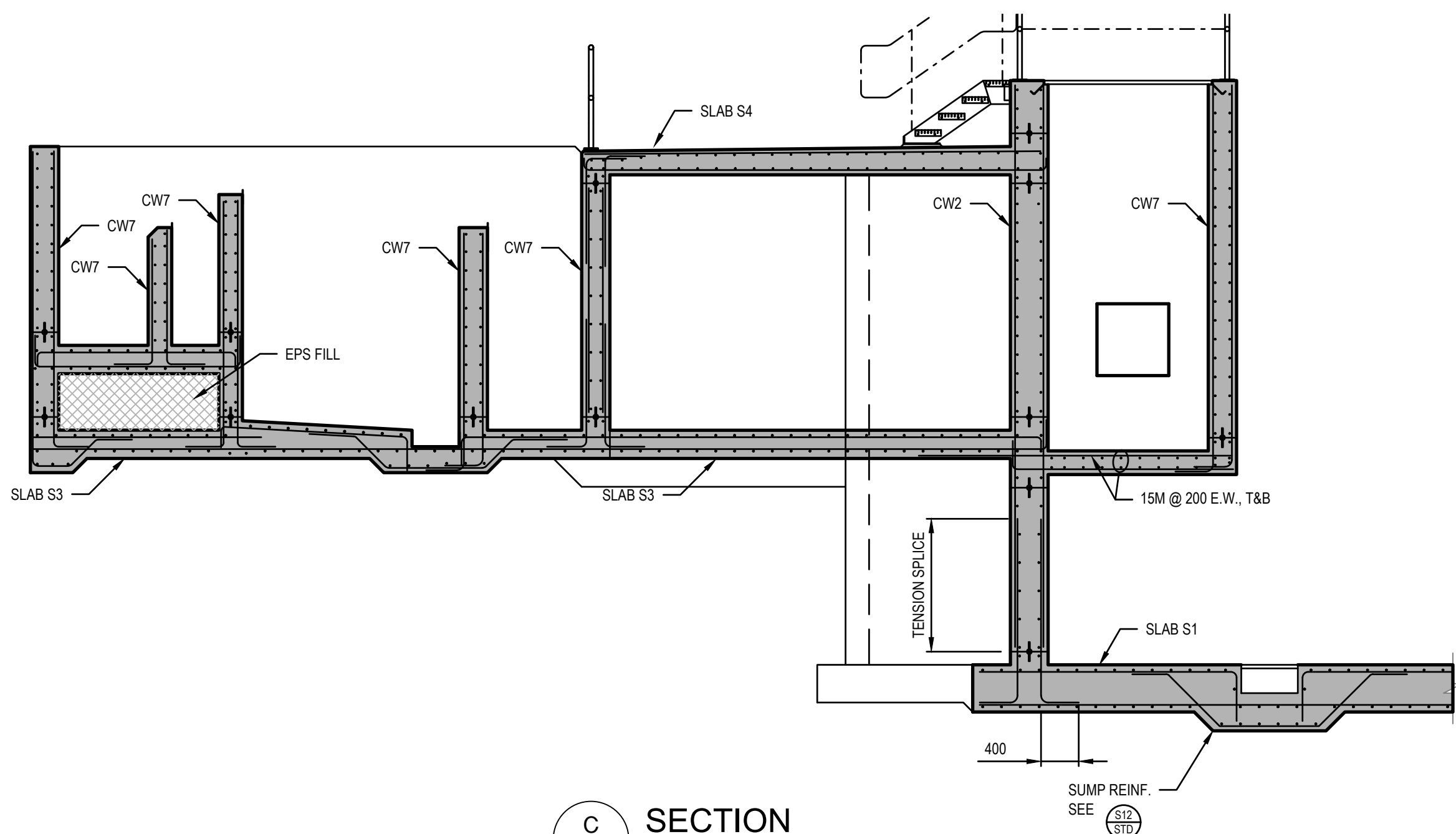
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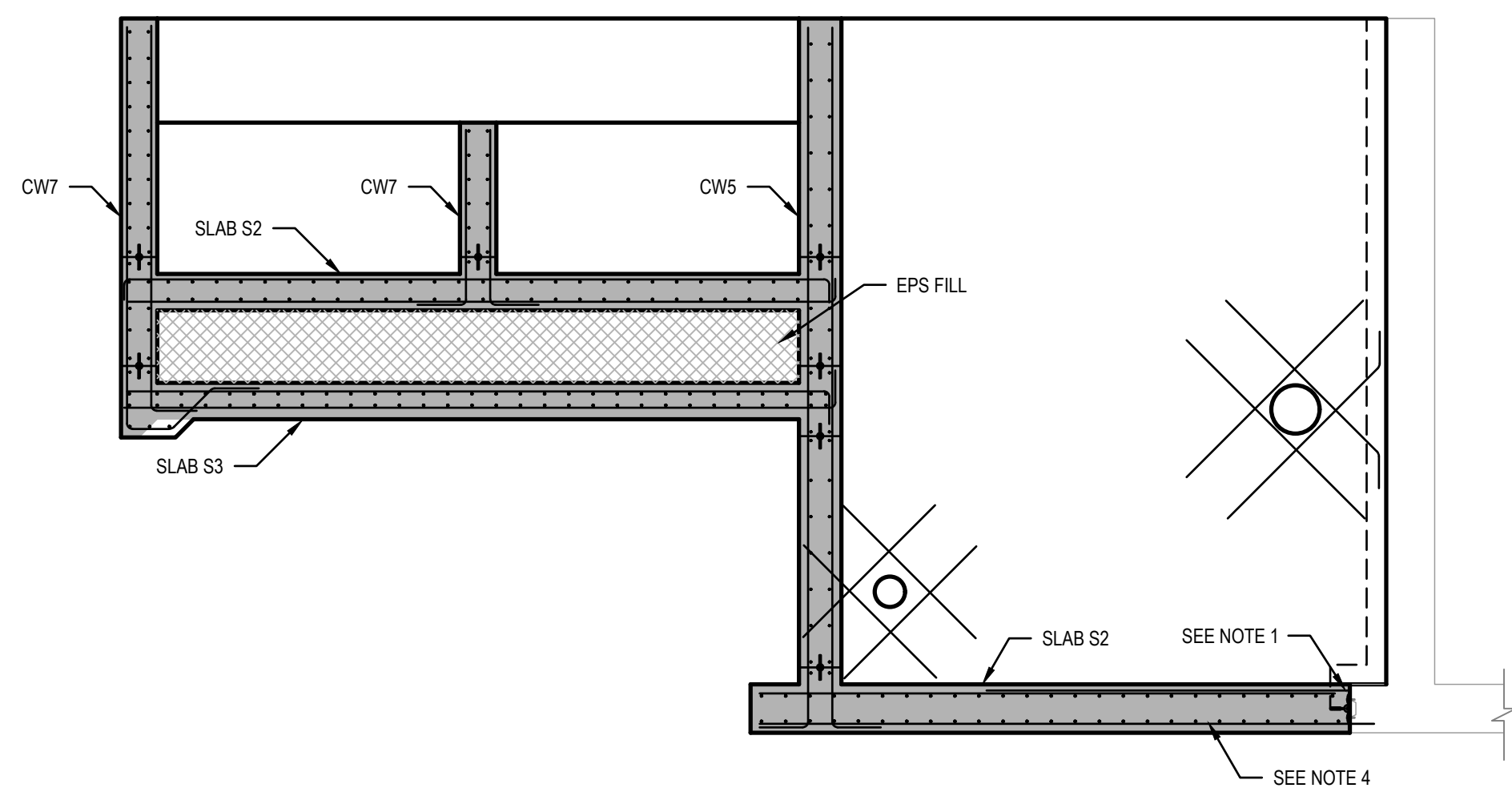
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S601 SCALE: 1:50



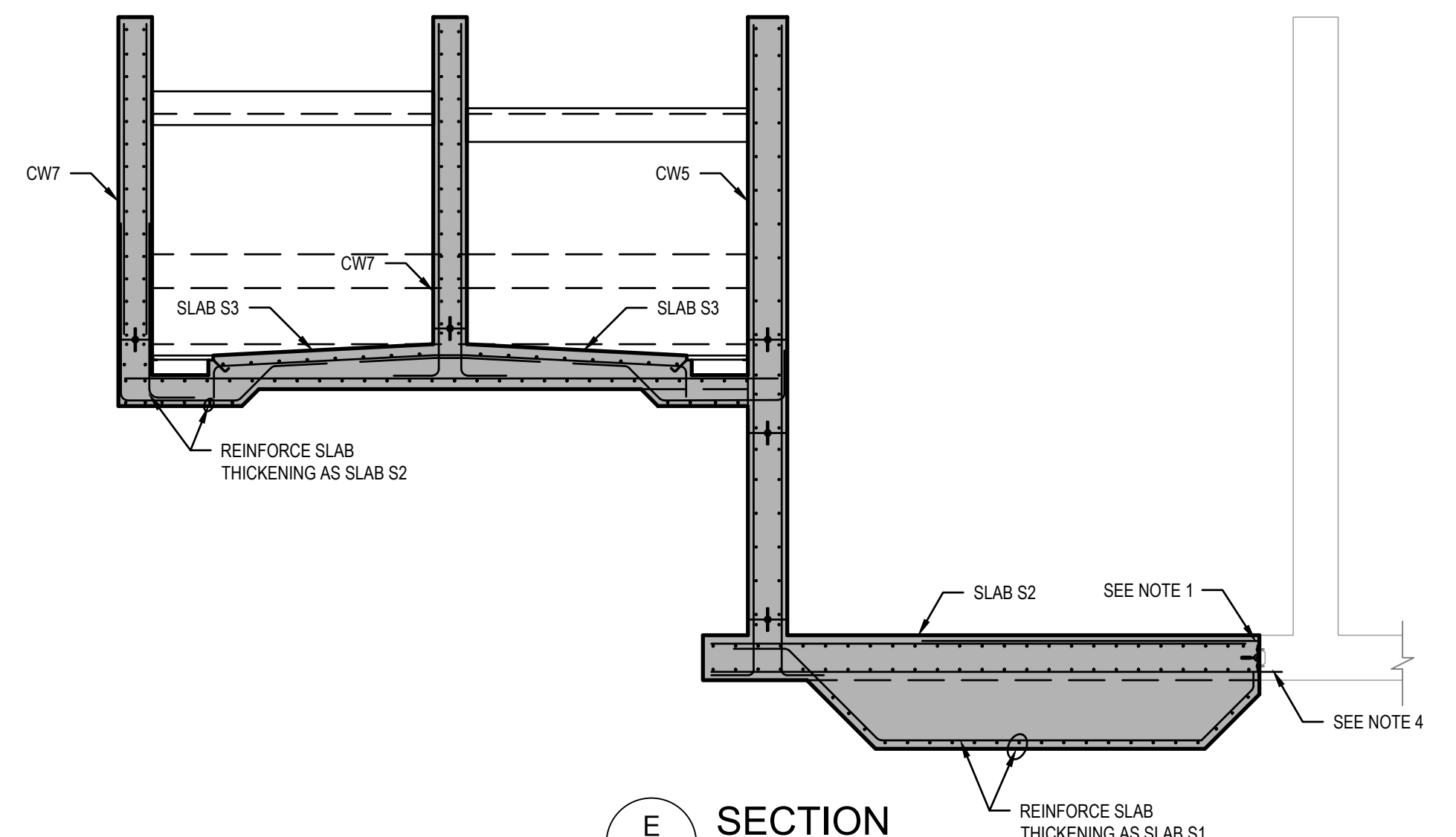
B SECTION
S601 SCALE: 1:50



C SECTION
S601 SCALE: 1:50



D SECTION
S601 SCALE: 1:50



E SECTION
S601 SCALE: 1:50

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Revision	By	Appd.	YY.MM.DD
4 ISSUED FOR TENDER	KB	VS	22.07.25
3 ISSUED FOR BUILDING PERMIT	KB	VS	22.07.20
2 ISSUED FOR 90% SUBMISSION	KB	VS	22.06.03
1 ISSUED FOR 50% REVIEW	VS	BG	22.02.09
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_S601.dwg

AF SS BP 7/12/2022
Dwn. Chkd. Dgn. YY.MM.DD

Title

STRUCTURAL
REINFORCEMENT
SECTIONS - SHEET 1

Project No.
111720131

Drawing No.

S602

Scale 0 0.75 2.25 3.75m
1:75

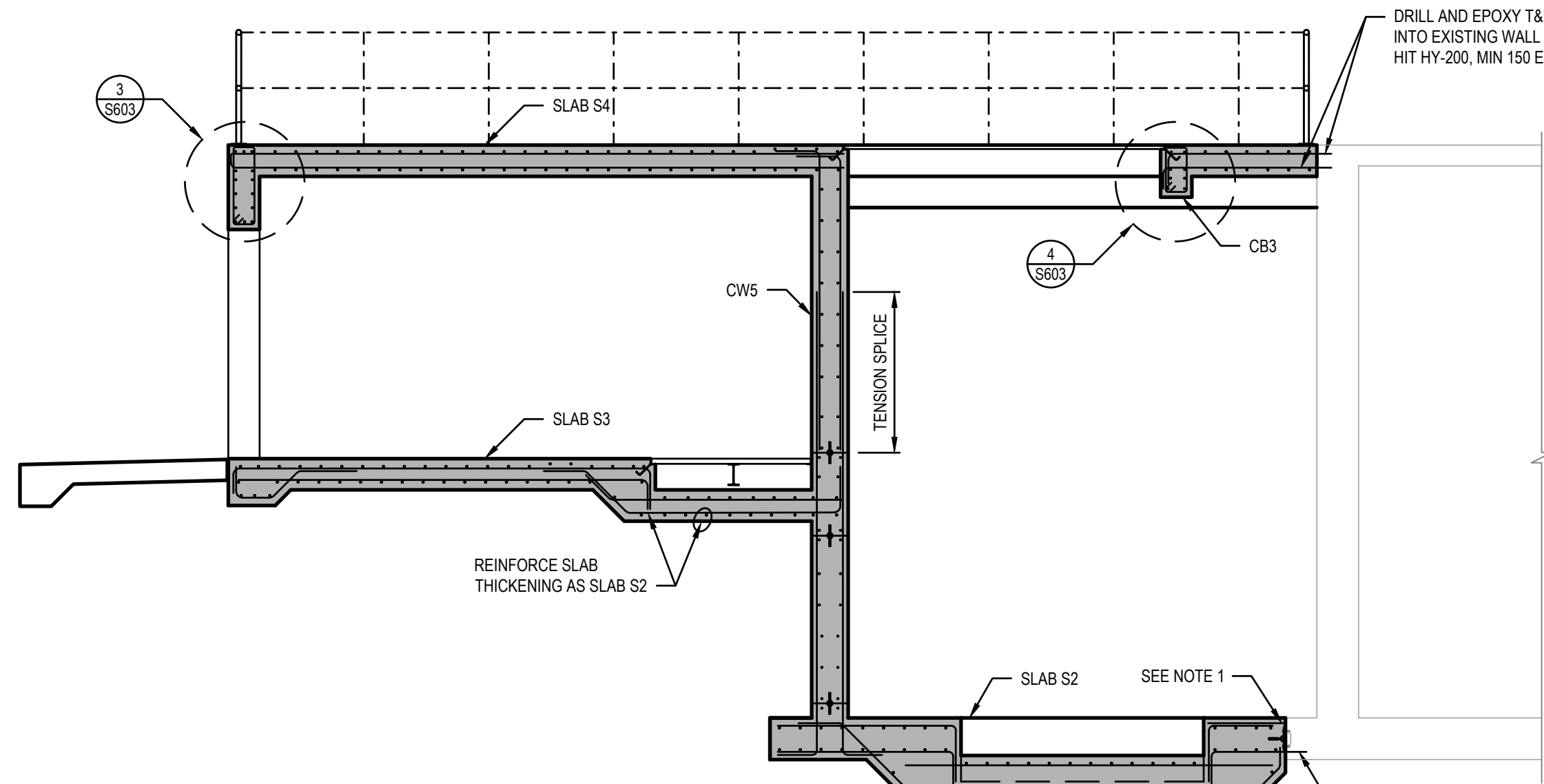
Sheet Revision

15 of 49

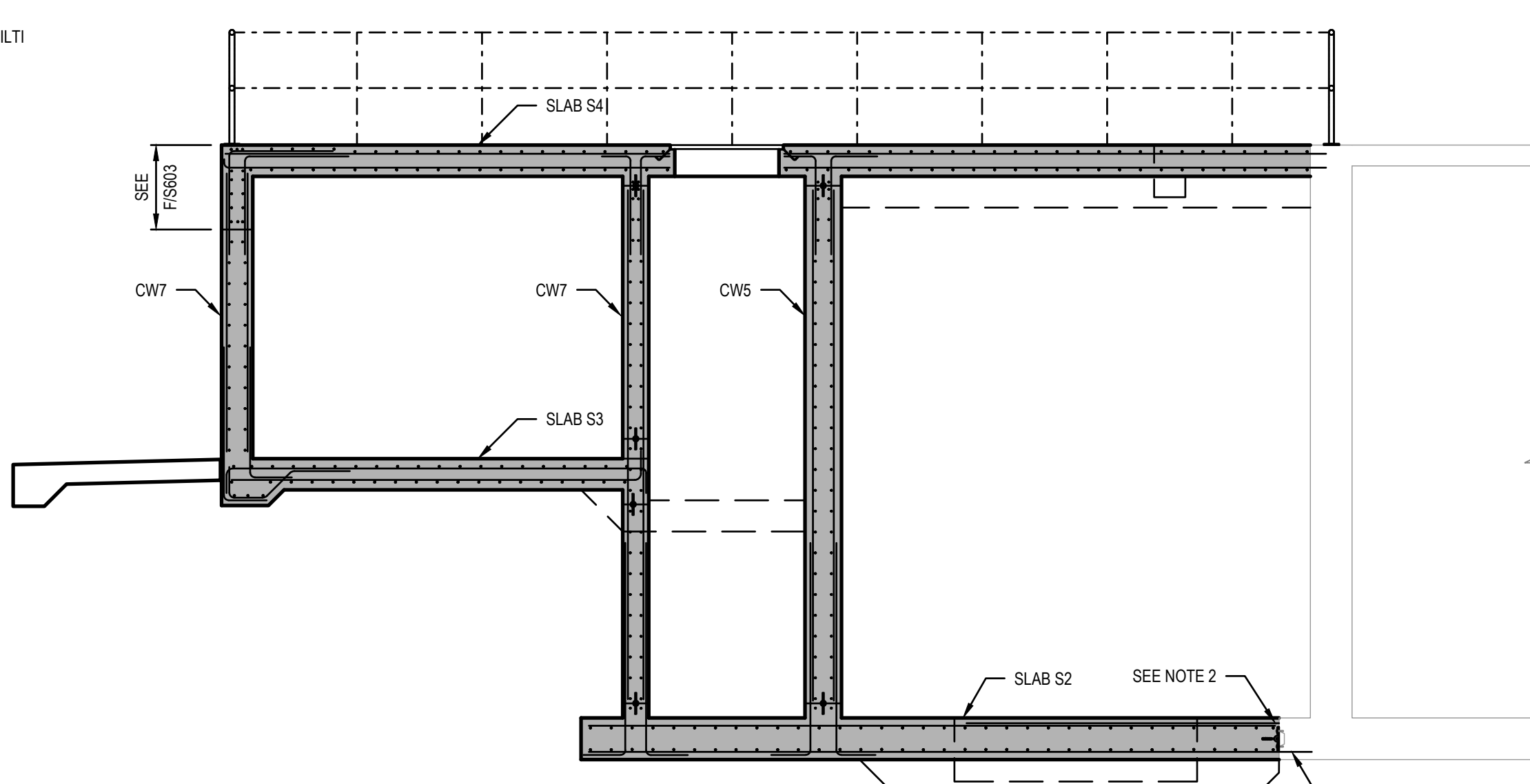
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V:\117\active\117201314_drawing\current\Structural\20131_S601.dwg 7/26/2022 10:49 AM JSKJRVEN

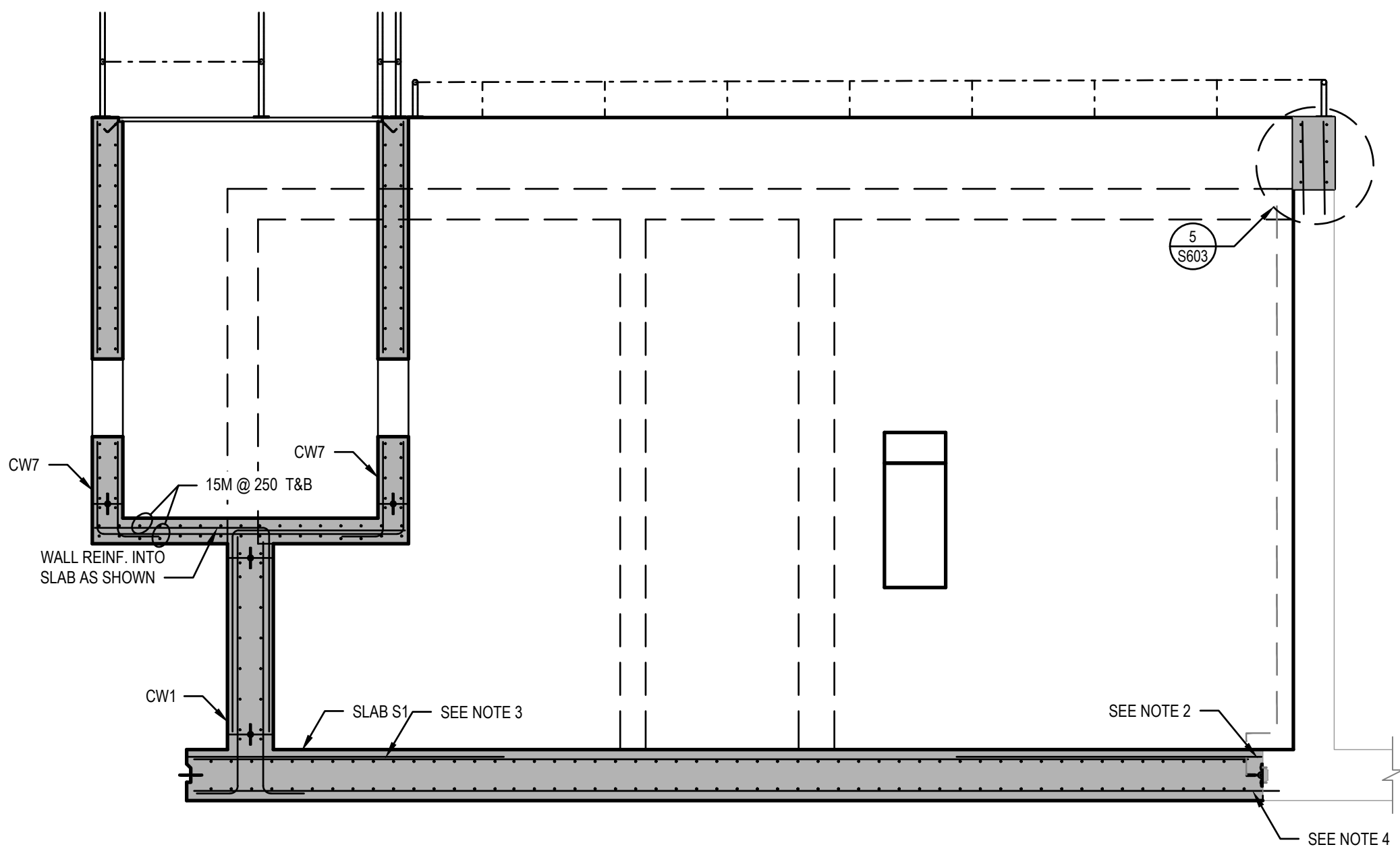
ORIGINAL SHEET - ISO A1



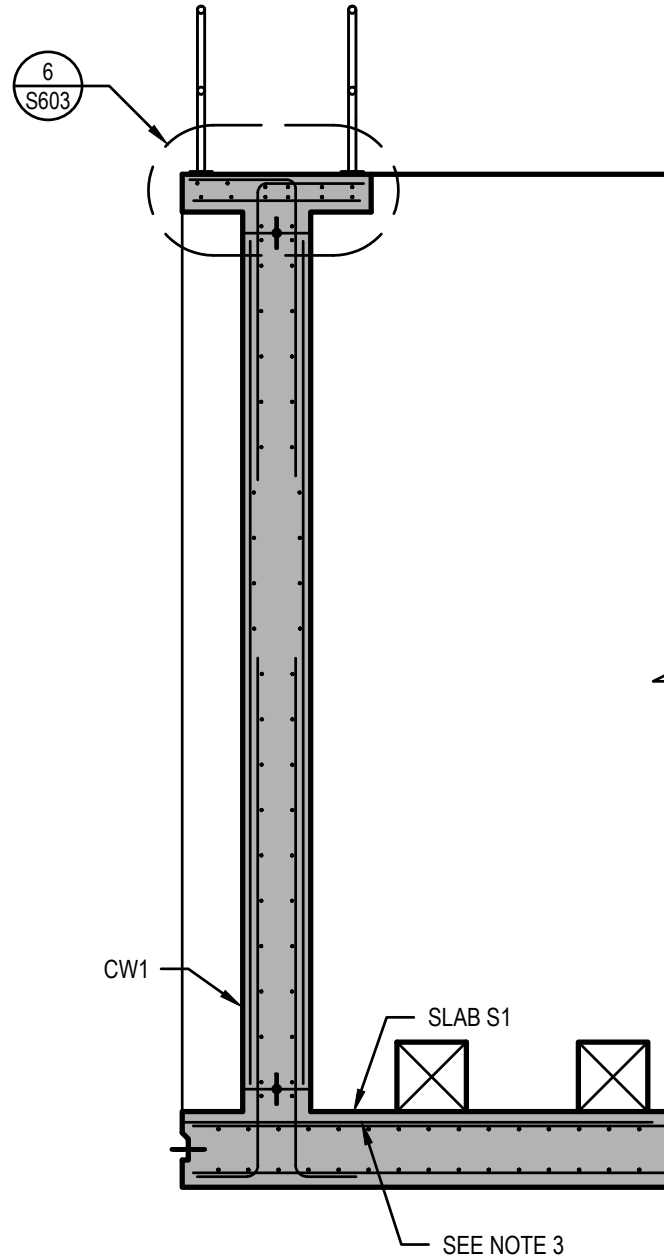
F SECTION
S601 SCALE: 1:50



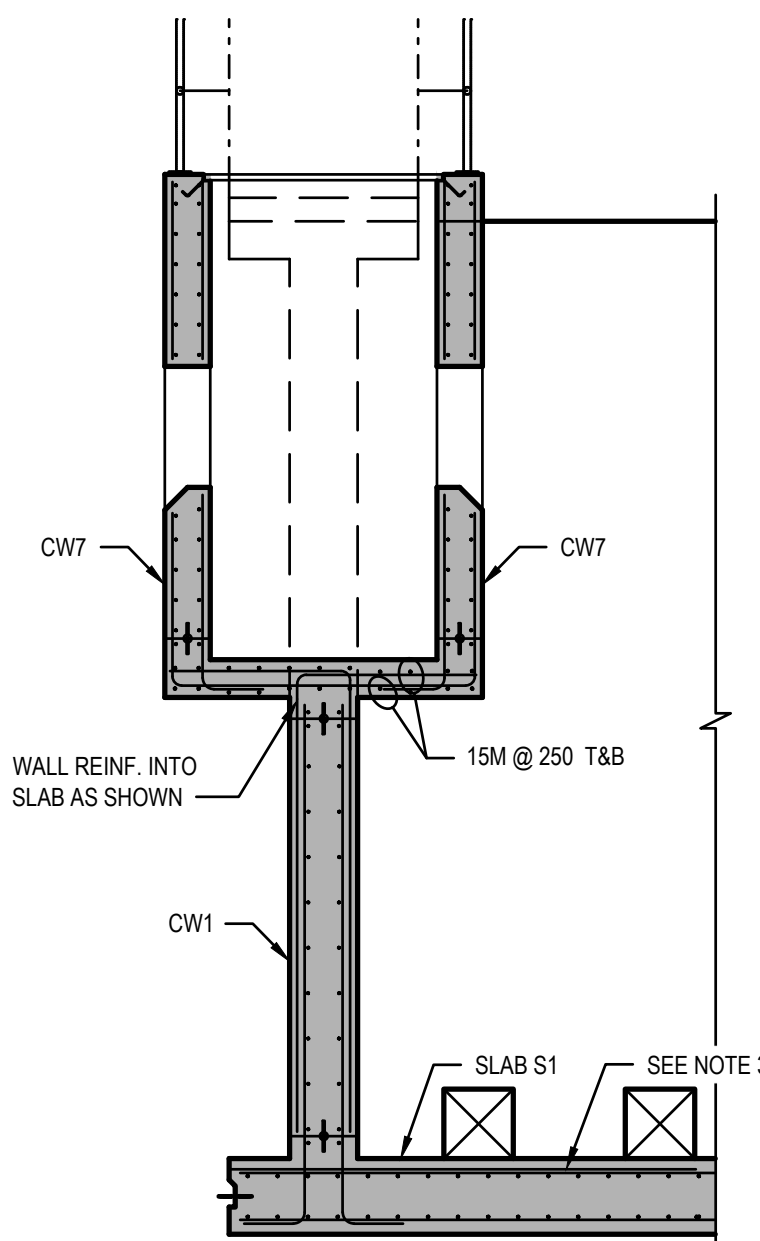
G SECTION
S601 SCALE: 1:50



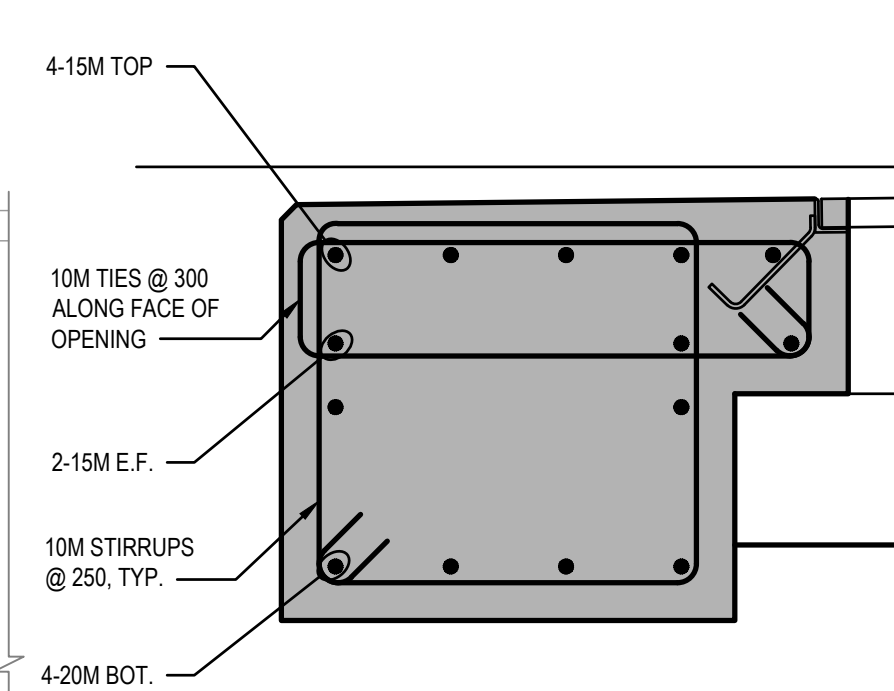
H SECTION
S601 SCALE: 1:50



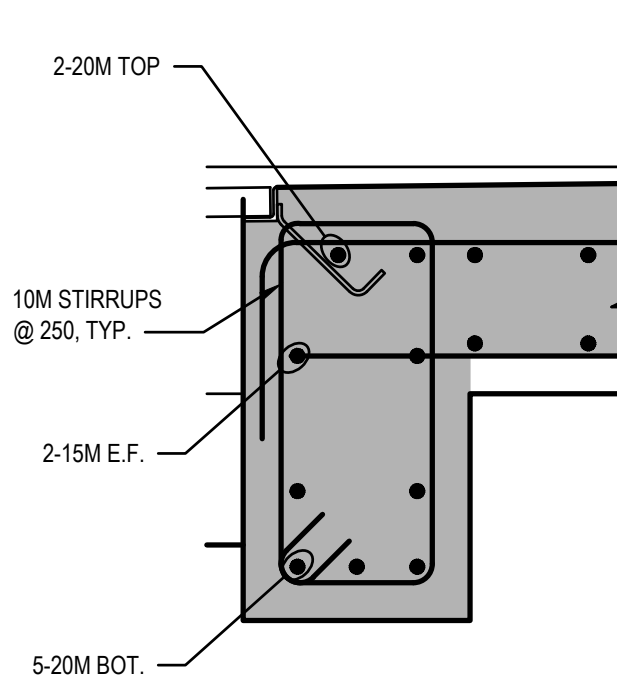
J SECTION
S601 SCALE: 1:50



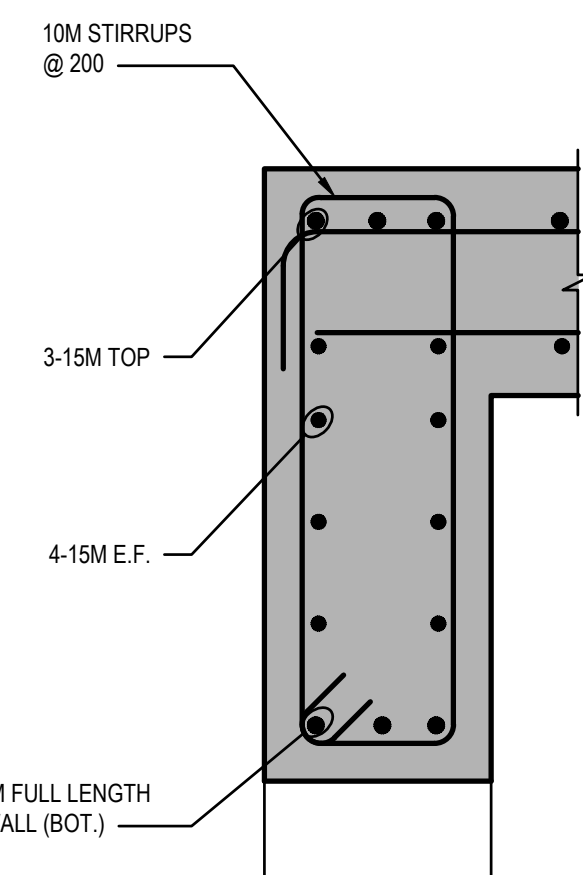
K SECTION
S601 SCALE: 1:50



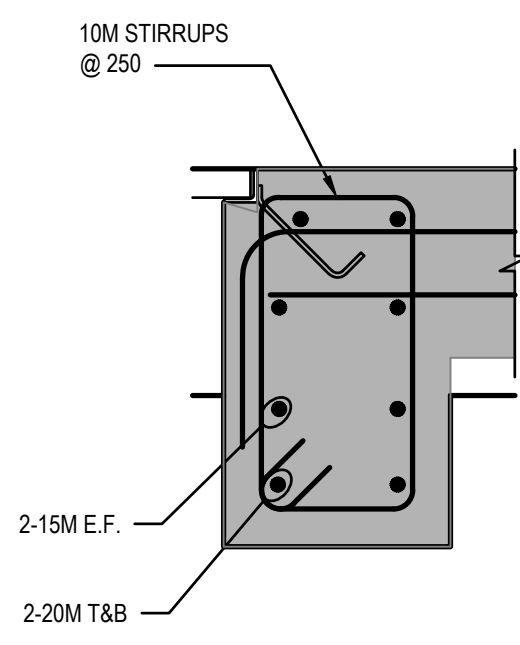
1 DETAIL
S602 SCALE: 1:10



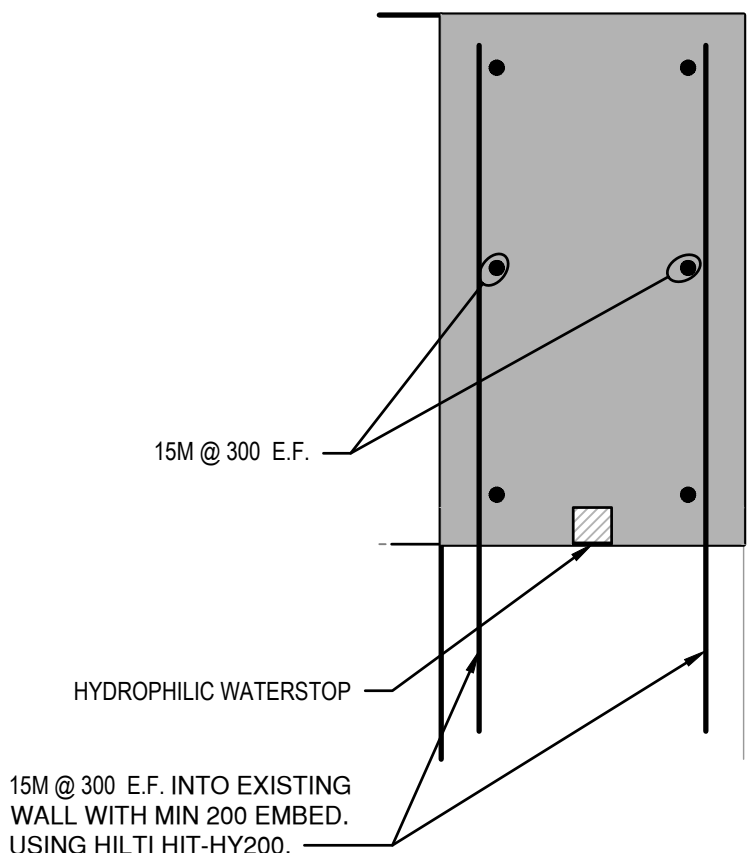
2 DETAIL
S602 SCALE: 1:10



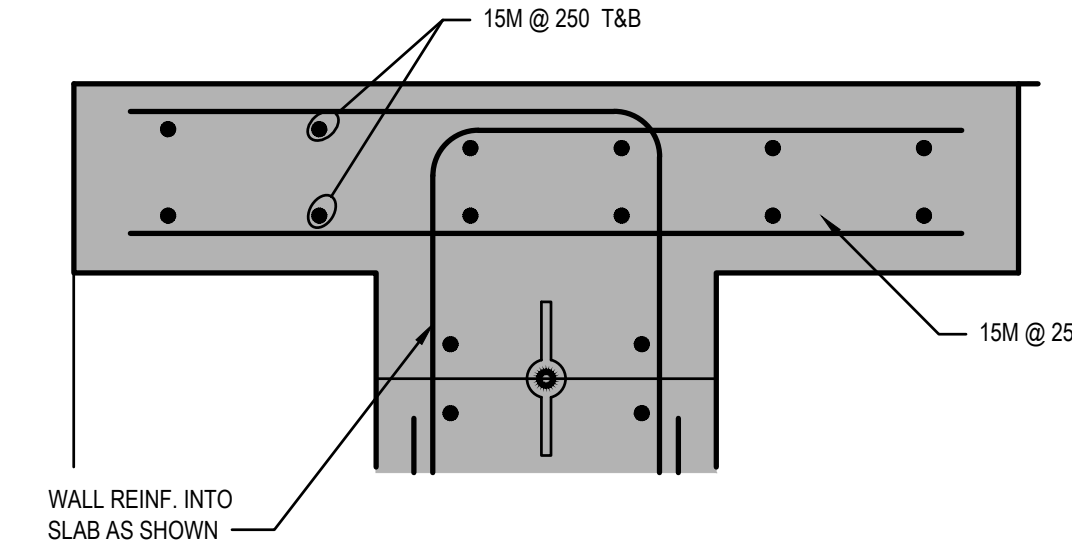
3 DETAIL
S603 SCALE: 1:10



4 DETAIL
S603 SCALE: 1:10



5 DETAIL
S603 SCALE: 1:10



6 DETAIL
S603 SCALE: 1:10

Revision	By	Appd.	YY.MM.DD
4 ISSUED FOR TENDER	KB	VS	22.07.25
3 ISSUED FOR BUILDING PERMIT	KB	VS	22.07.20
2 ISSUED FOR 90% SUBMISSION	KB	VS	22.06.03
1 ISSUED FOR 50% REVIEW	VS	BG	22.02.09
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_S601.dwg

AF

Dwn.

SS

Chkd.

BP

Dign.

7/12/2022

YY.MM.DD

Title

STRUCTURAL
REINFORCEMENT
SECTIONS - SHEET 2

Project No.

111720131

Drawing No.

S603

Scale

1:75

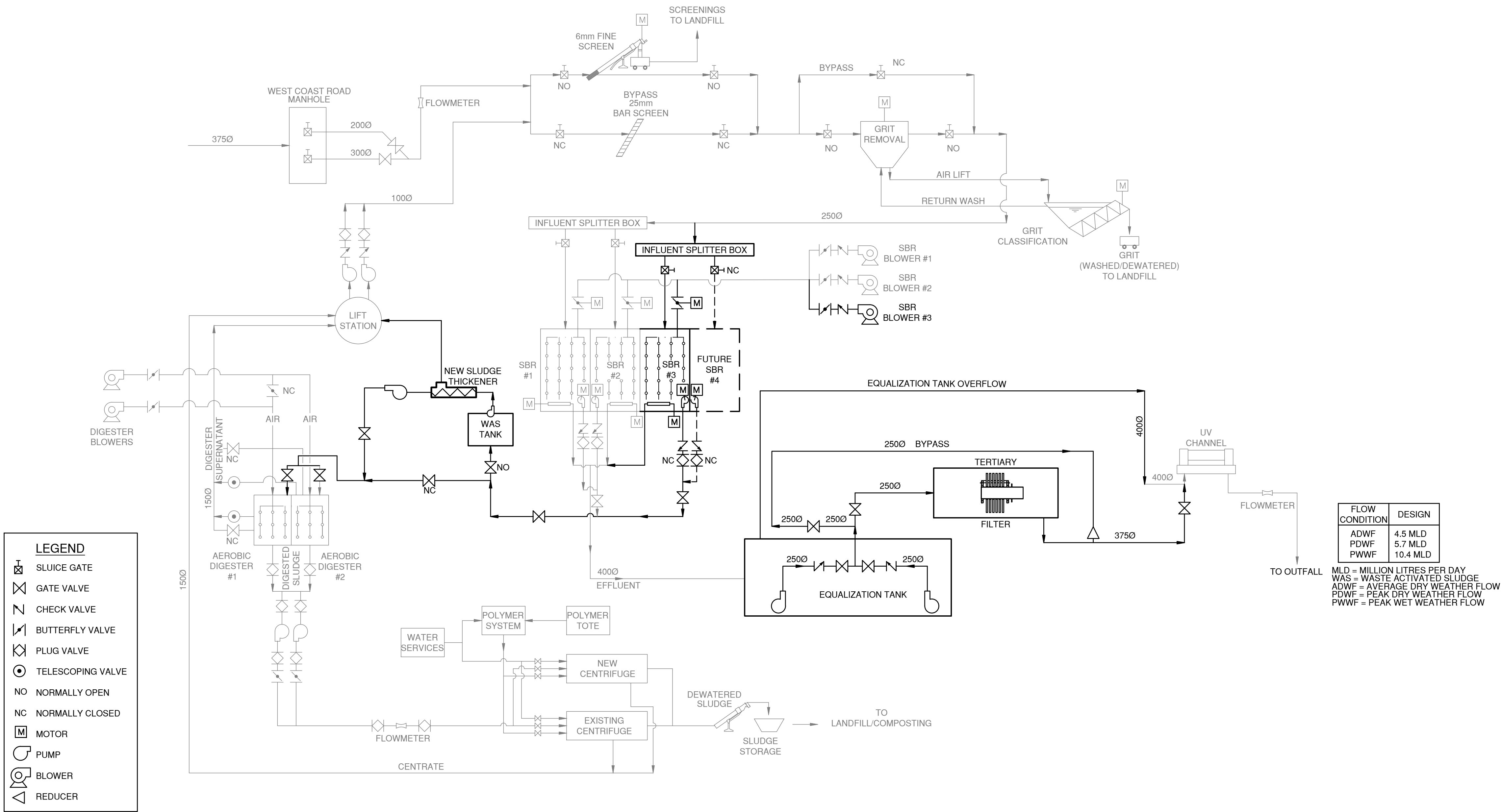
Sheet

16 of 49

Revision

0

V:\117\active\117201314_drawings_current\process\20131_p001.dwg 7/26/2022 8:21 AM JSK/ERVEN



Revision	By	Appd.	YY.MM.DD
4	ISSUED FOR TENDER	SS	BP 22.07.25
3	ISSUED FOR 90% SUBMISSION	SS	BP 22.06.03
2	ISSUED FOR TENDER IFT 2022-004	SS	BP 22.04.12
1	ISSUED FOR 50% REVIEW	SS	BP 22.02.09
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

Title

PROCESS
FLOW DIAGRAM

Project No.

111720131

Drawing No.

P001

Scale

NOT TO SCALE

Sheet

17 of 49

Revision

0

File Name: 20131_p001.dwg

AF

Dwn.

SS

Chkd.

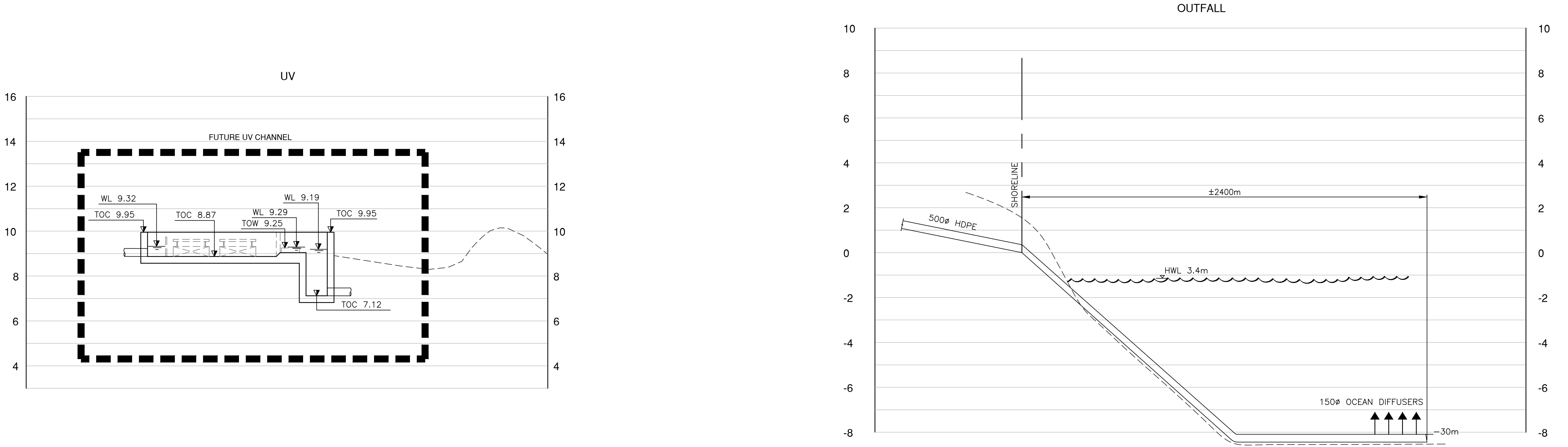
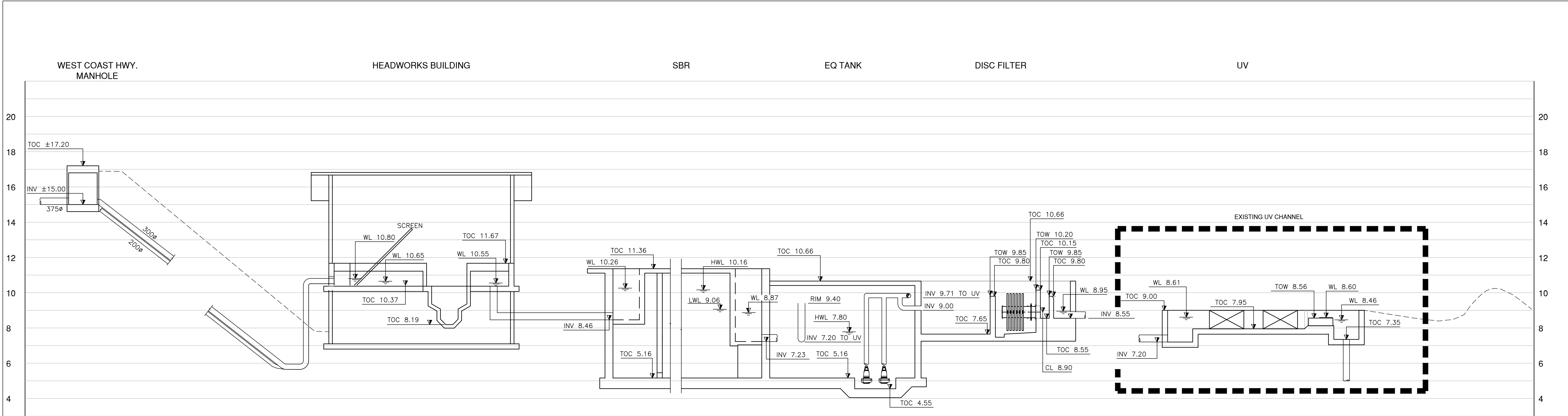
BP

Dgn.

7/25/2022

YY.MM.DD

V:\117\active\117201314_drawing\current\process\20131_p002.dwg 7/26/2022 8:21 AM JSK/ERVEN



Revision	By	Appd.	YY.MM.DD
4	ISSUED FOR TENDER	SS	BP 22.07.25
3	ISSUED FOR 90% SUBMISSION	SS	BP 22.06.03
2	ISSUED FOR TENDER IFT 2022-004	SS	BP 22.04.12
1	ISSUED FOR 50% REVIEW	SS	BP 22.02.09
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

Title

PROCESS
HYDRAULIC PROFILE

Project No.

111720131

Scale

NOT TO SCALE

Drawing No.

P002

Sheet

19 of 49

Revision

0

File Name: 20131_p002.dwg

AF

Dwn.

SS

Chkd.

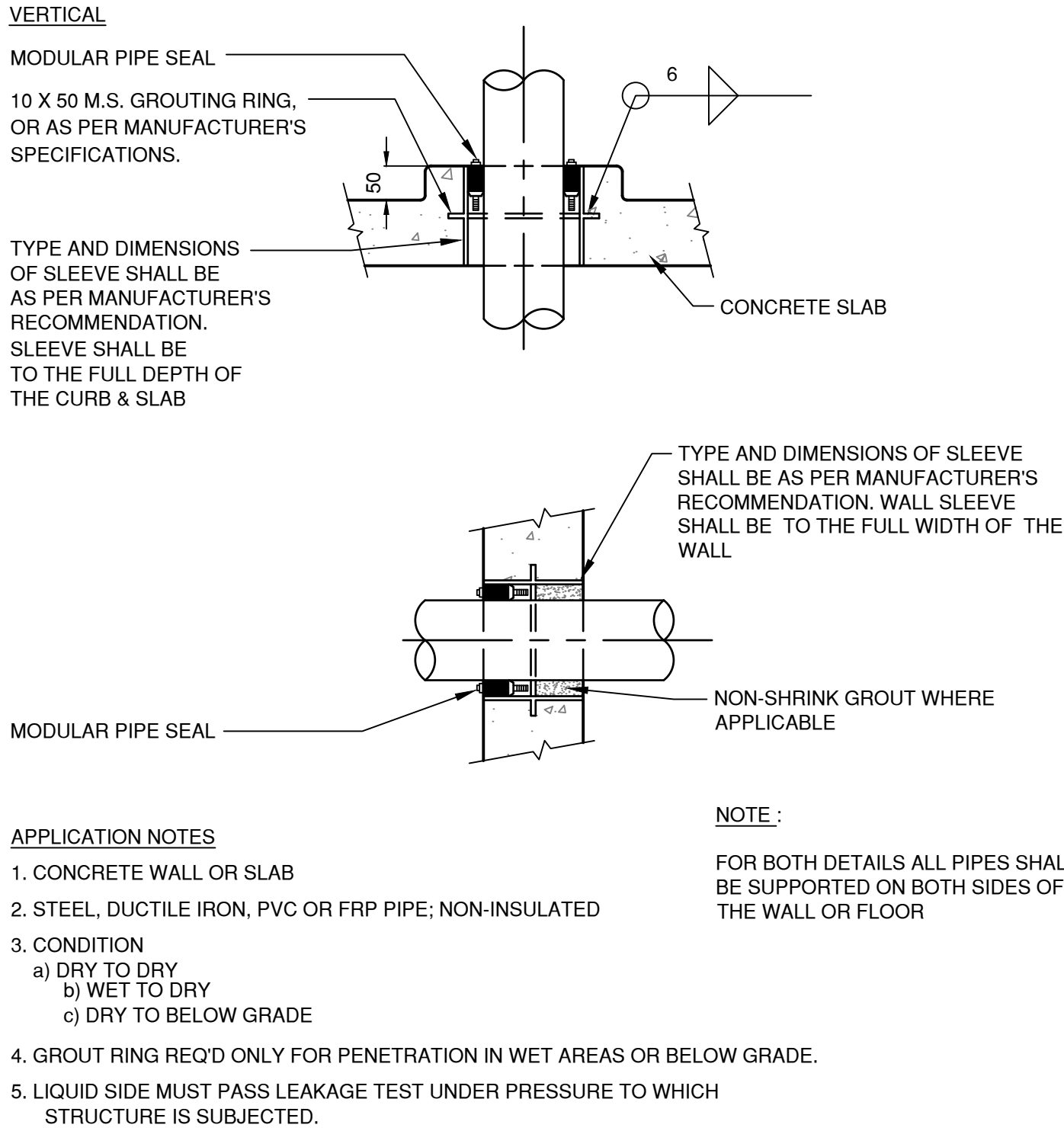
BP

Dgn.

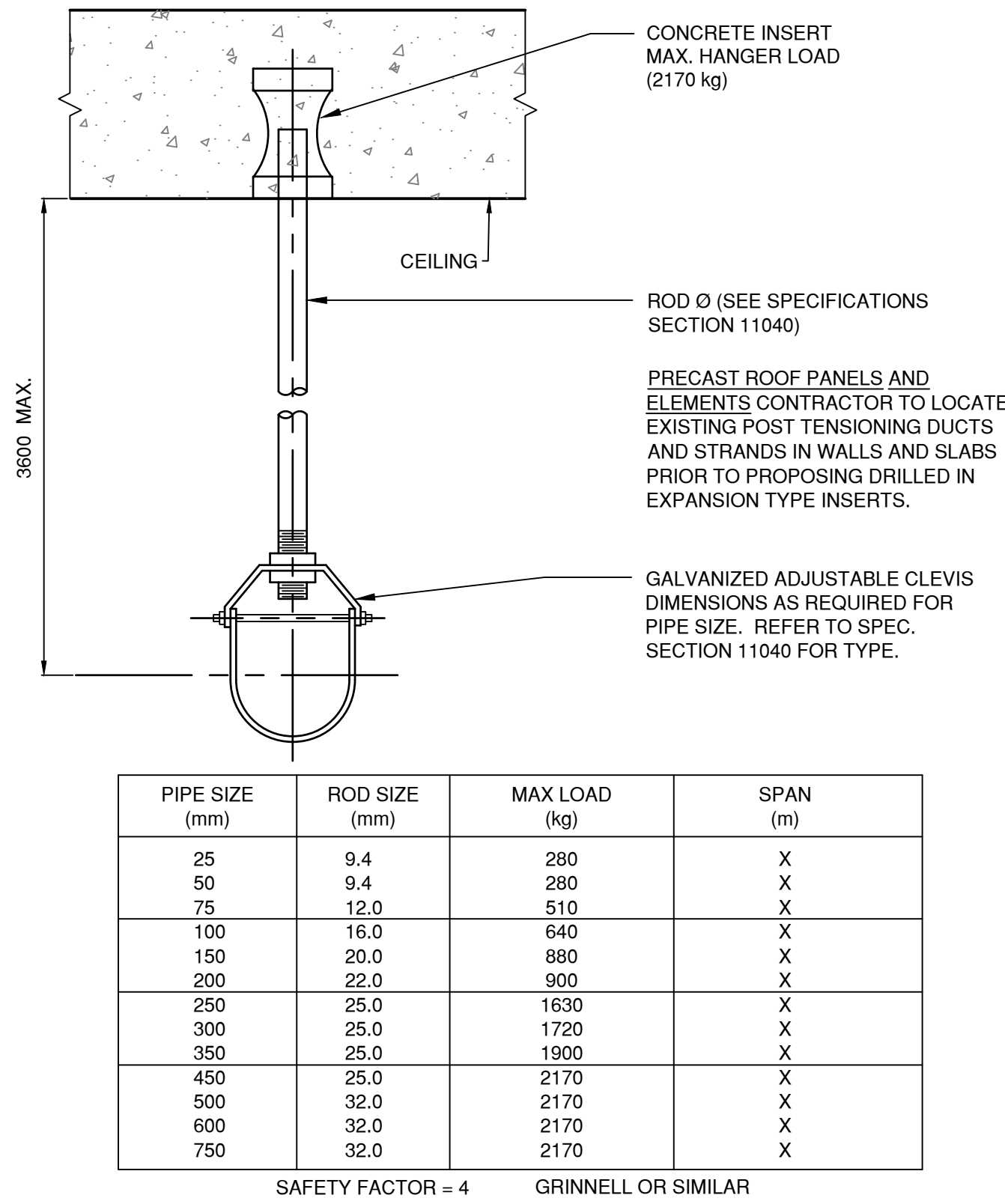
5/30/2022

YY.MM.DD

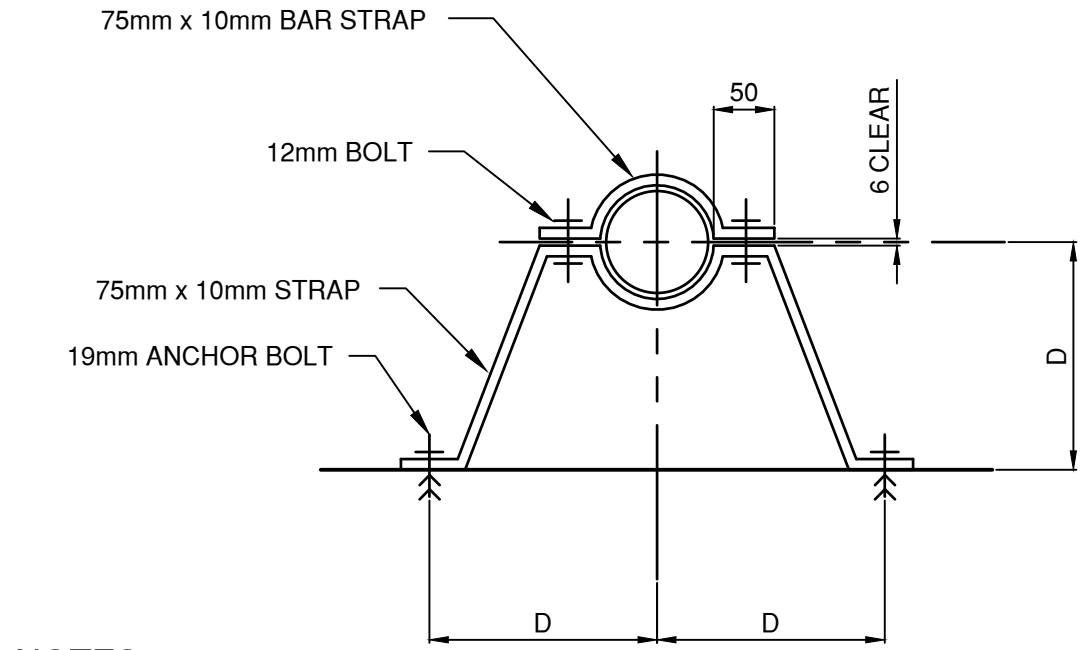
V:\117\active\1117201314_drawing\current\process\20131_p003.dwg 7/26/2022 8:21 AM JSK/JRVEN



STD P1 **WALL AND FLOOR PENETRATION**
SCALE: NTS

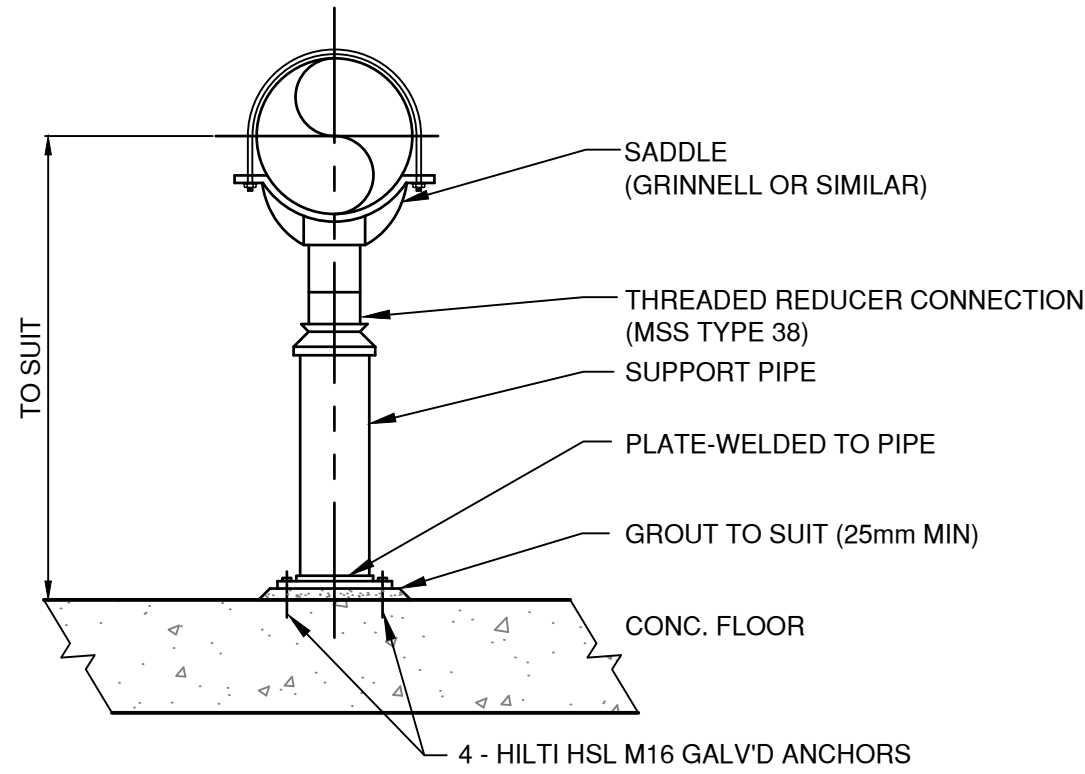


STD P2 **SINGLE PIPE HANGER**
SCALE: NTS



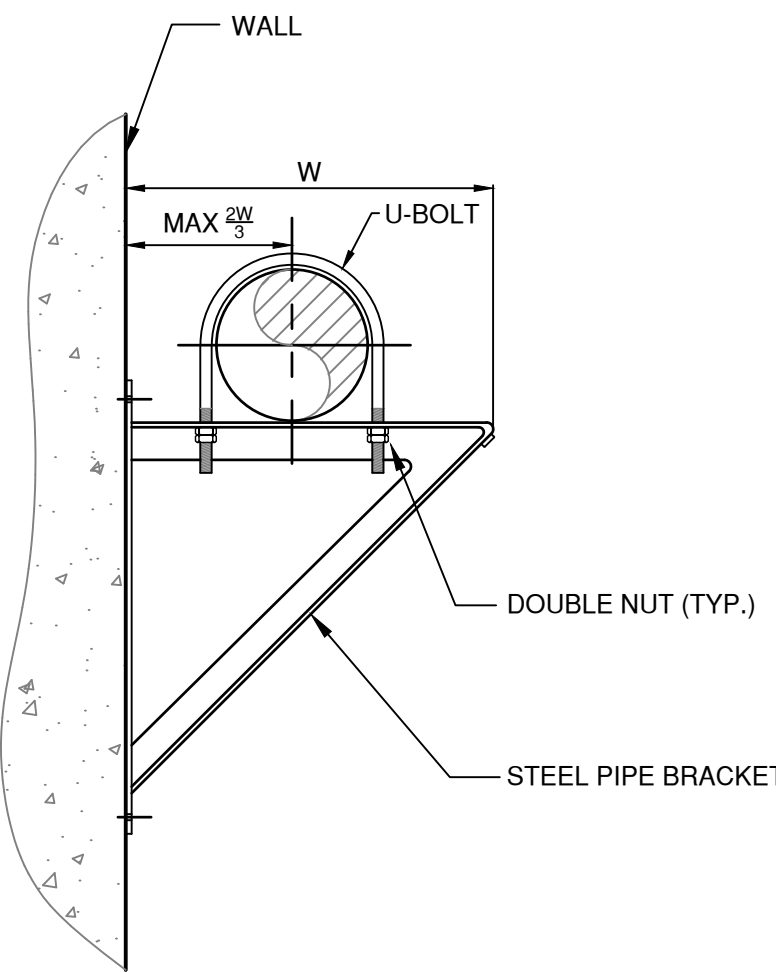
- NOTES:**
1. PROVIDE SHIELD BETWEEN CLAMP AND PIPE
 2. D = DISTANCE AS SHOWN ON PLANS OR SECTIONS

STD P4 **VERTICAL PIPE SUPPORT DETAIL**
SCALE: NTS



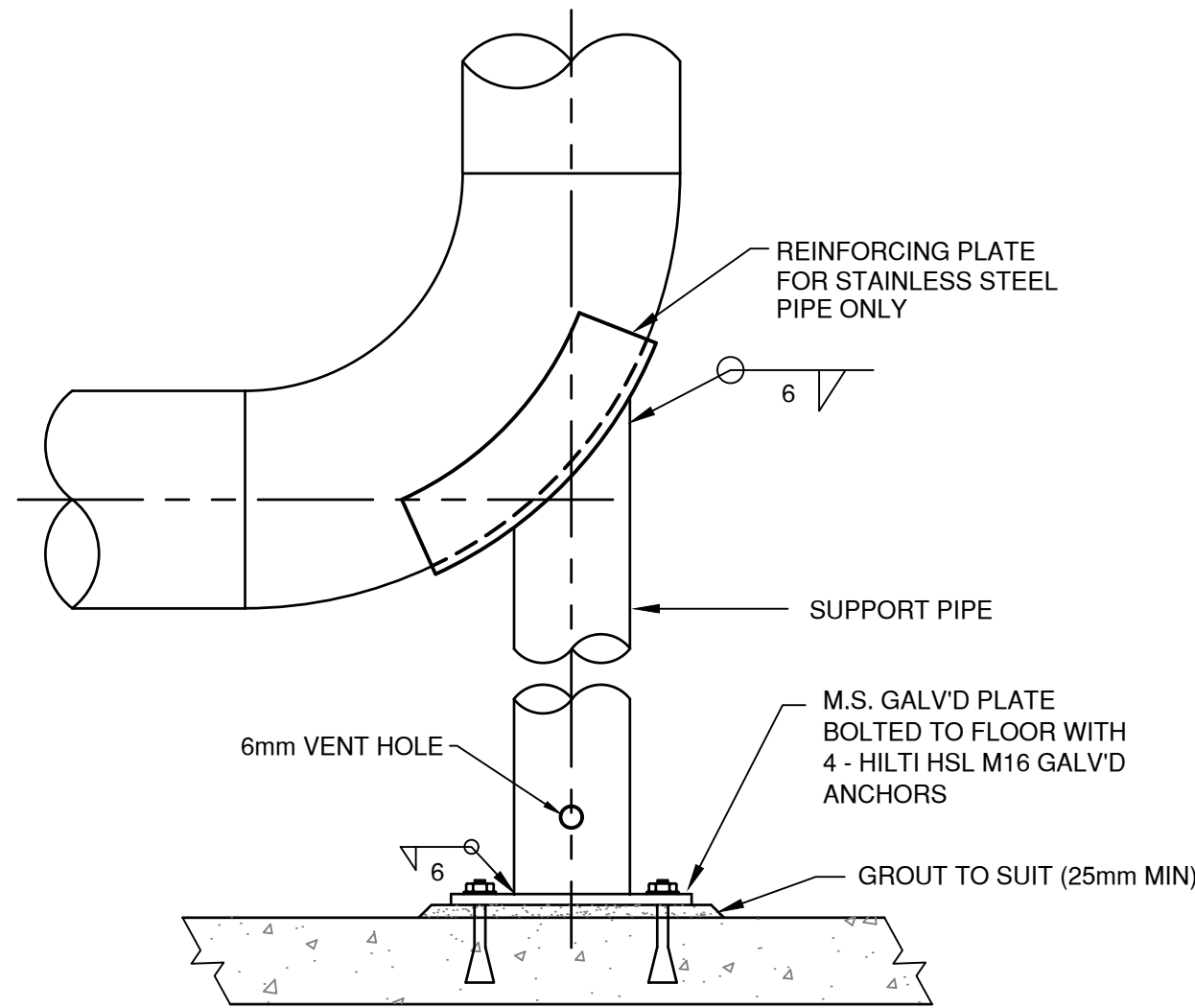
PIPE SIZE (mm)	SUPPORT PIPE (mm)	PLATE SIZE (mm)
50	38	150 X 150 X 9.5
75	50	250 X 250 X 9.5
100	75	250 X 250 X 9.5
150	100	250 X 250 X 9.5
200	150	250 X 250 X 9.5
250	200	300 X 300 X 9.5

STD P5 **ADJUSTABLE PIPE SADDLE SUPPORT**
SCALE: NTS



- NOTES:**
1. BRACKET DIMENSIONS SHALL BE SIZED ADEQUATELY TO SUPPORT CARRIER PIPE
 2. PIPE SUPPORTS TO BE LOCATED AT MAXIMUM 3.00m o/c

STD P6 **PIPE SUPPORT DETAIL**
SCALE: NTS



PIPE SIZE (mm)	SUPPORT PIPE (mm)	PLATE SIZE (mm)	MAXIMUM SUPPORT PIPE LENGTH (mm)
100	50 SCH 40	200 X 200 X 6	1525
150	50 SCH 40	200 X 200 X 6	1525
200	100 SCH 40	250 X 250 X 6	1625
250	100 SCH 40	250 X 250 X 6	1625
300	150 SCH 40	300 X 300 X 10	1830
350	200 SCH 40	350 X 350 X 10	1830
400	200 SCH 40	350 X 350 X 10	1830
500	250 SCH 40	400 X 400 X 10	1830
600	250 SCH 40	400 X 400 X 10	1830
750	300 SCH 40	450 X 450 X 10	1830
900	300 SCH 40	450 X 450 X 10	1830

STD P7 **SUPPORT FOR BASE ELBOW (STL PIPE) TYPE 1**
SCALE: NTS

Revision	By	Appd.	YY.MM.DD
2	ISSUED FOR TENDER	SS	BP 22.07.25
1	ISSUED FOR 90% SUBMISSION	SS	BP 22.06.03
Issued	By	Appd.	YY.MM.DD

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Client/Project


SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_p003.dwg

AF Dwn. SS Chkd. BP Dign. 6/1/2022

Title

PROCESS
MISCELLANEOUS DETAILS

Project No.
111720131

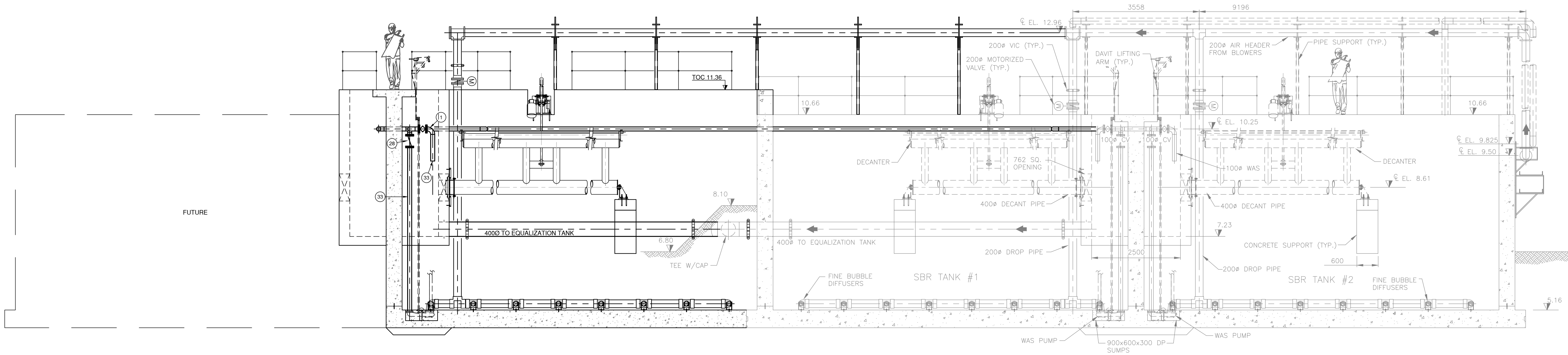
Scale
NOT TO SCALE

Drawing No.
P003

Sheet
18 of 49

Revision
0

V:\117\active\117201314_drawing\current\process\20131_p301.dwg 7/26/2022 8:22 AM JSK/VERVEN



B
C001 SECTION
SCALE: 1:50

Revision	By	Appd.	YY.MM.DD
4 ISSUED FOR TENDER	SS	BP	22.07.25
3 ISSUED FOR 90% SUBMISSION	SS	BP	22.06.03
2 ISSUED FOR TENDER IFT 2022-004	SS	BP	22.04.12
1 ISSUED FOR 50% REVIEW	SS	BP	22.02.09
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_p301.dwg

AF SS BP 6/28/2022
Dwn. Chkd. Dgn. YY.MM.DD

Title

PROCESS
SBR - SECTION

Project No.
111720131

Drawing No.

P301

Scale 0 0.5 1.5 2.5m
1:50

Sheet

21 of 49

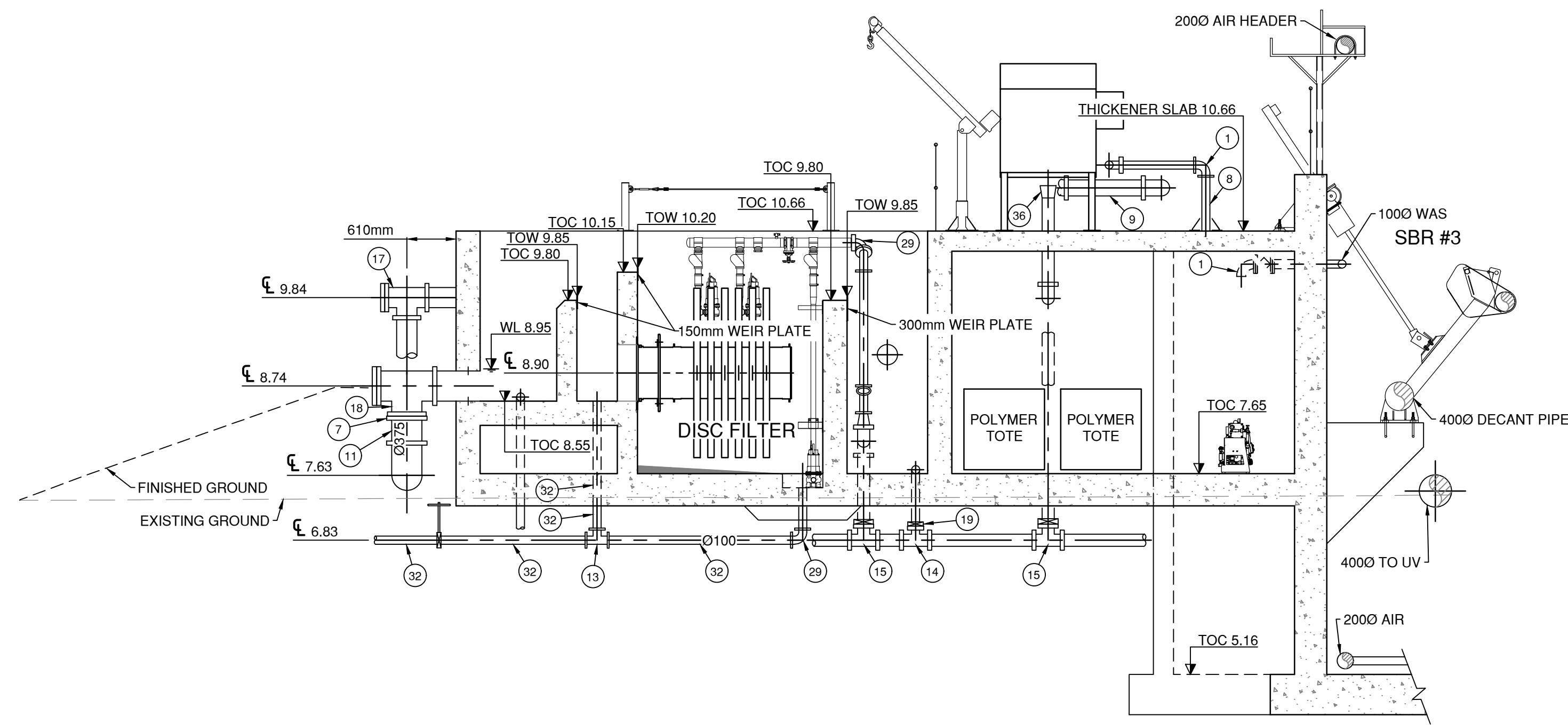
Revision

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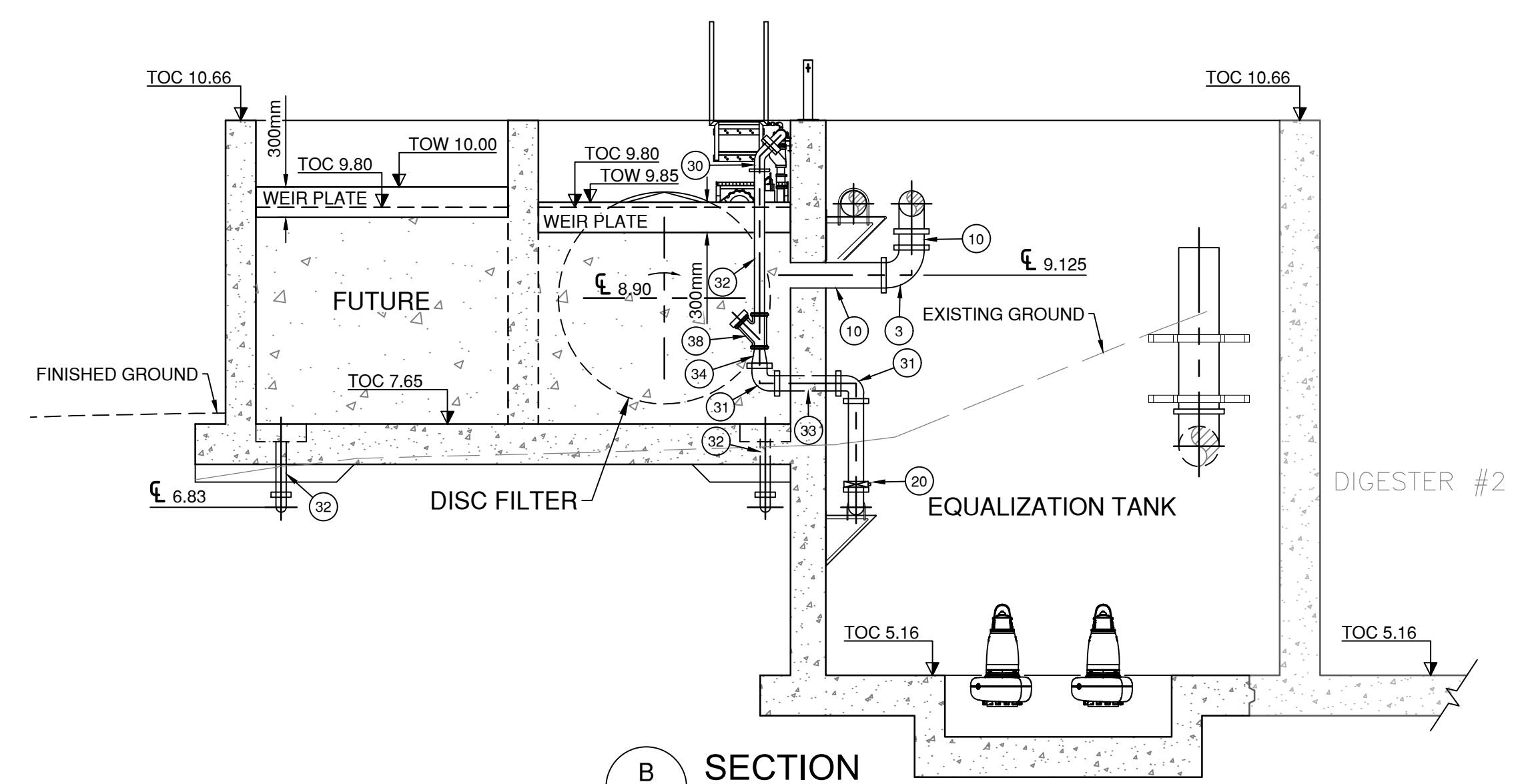


Title PROCESS DISC FILTER, EQUALIZATION TANK AND SLUDGE THICKENER - PLAN	Project No. 111720131 Scale  Drawing No. P500 Sheet 22 of 49 Revision 0
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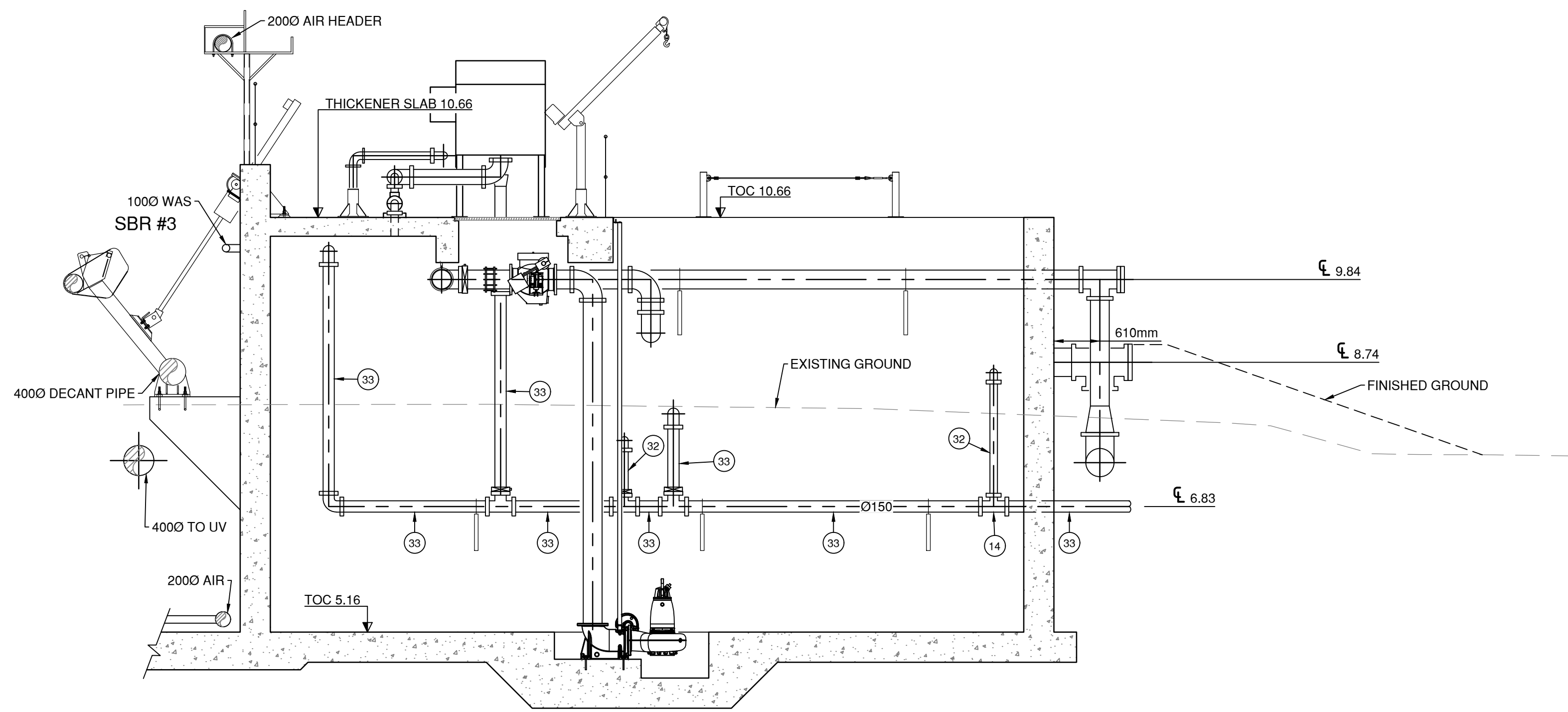
V:\117\active\117201314_drawing\current\process\20131_p501.dwg 7/26/2022 10:02 AM AFERRIS



A SECTION
P500 SCALE: 1:50



B SECTION
P500 SCALE: 1:50



C SECTION
P500 SCALE: 1:50

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 **District of Sooke**

SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_p501.dwg

AF SS BP 7/25/2022
Dwn. Chkd. Dgn. YY.MM.DD

Title

PROCESS
DISC FILTER AND
EQUALIZATION TANK SECTIONS
- SHEET 1

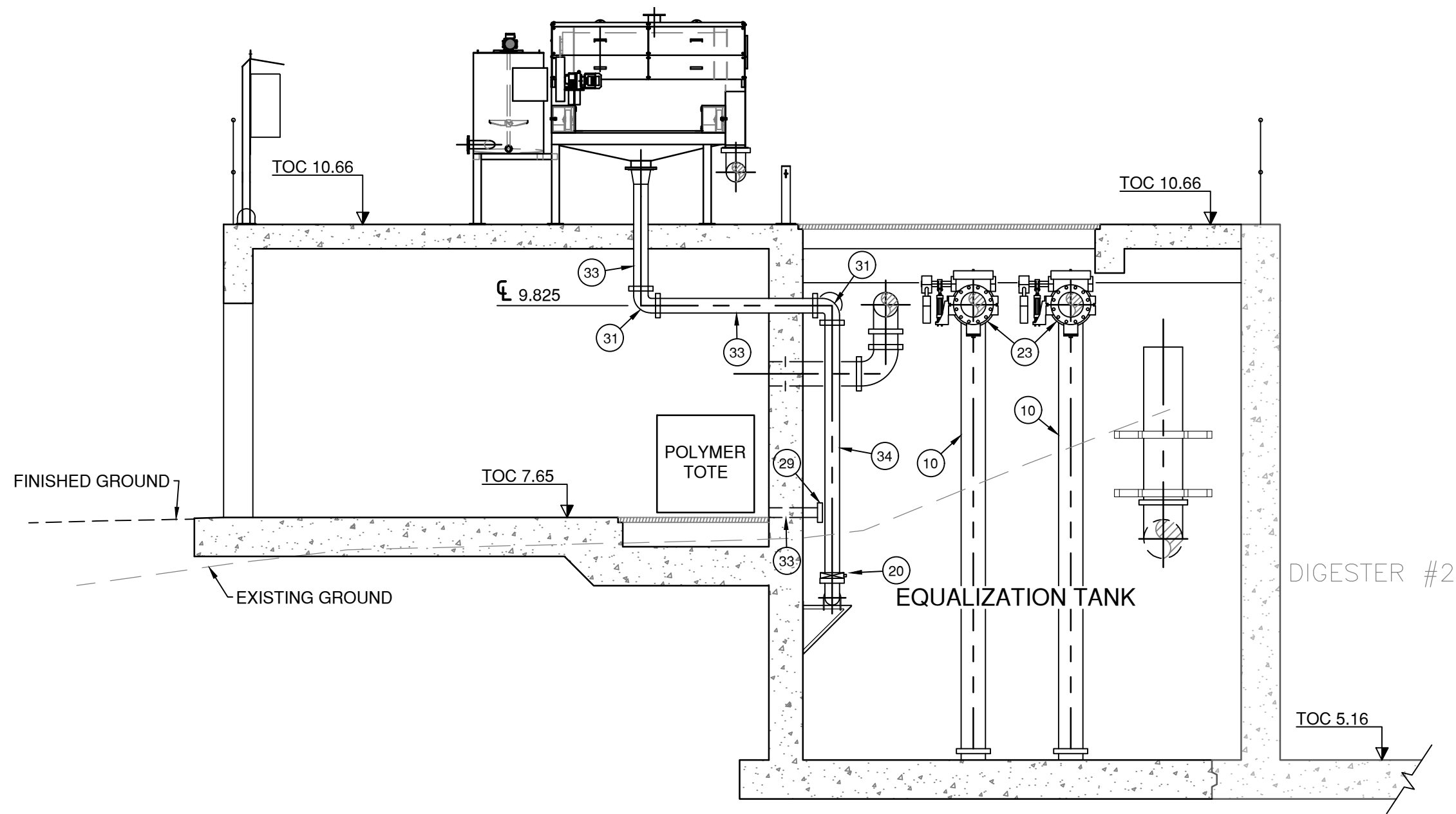
Project No.
111720131

Drawing No.
P501

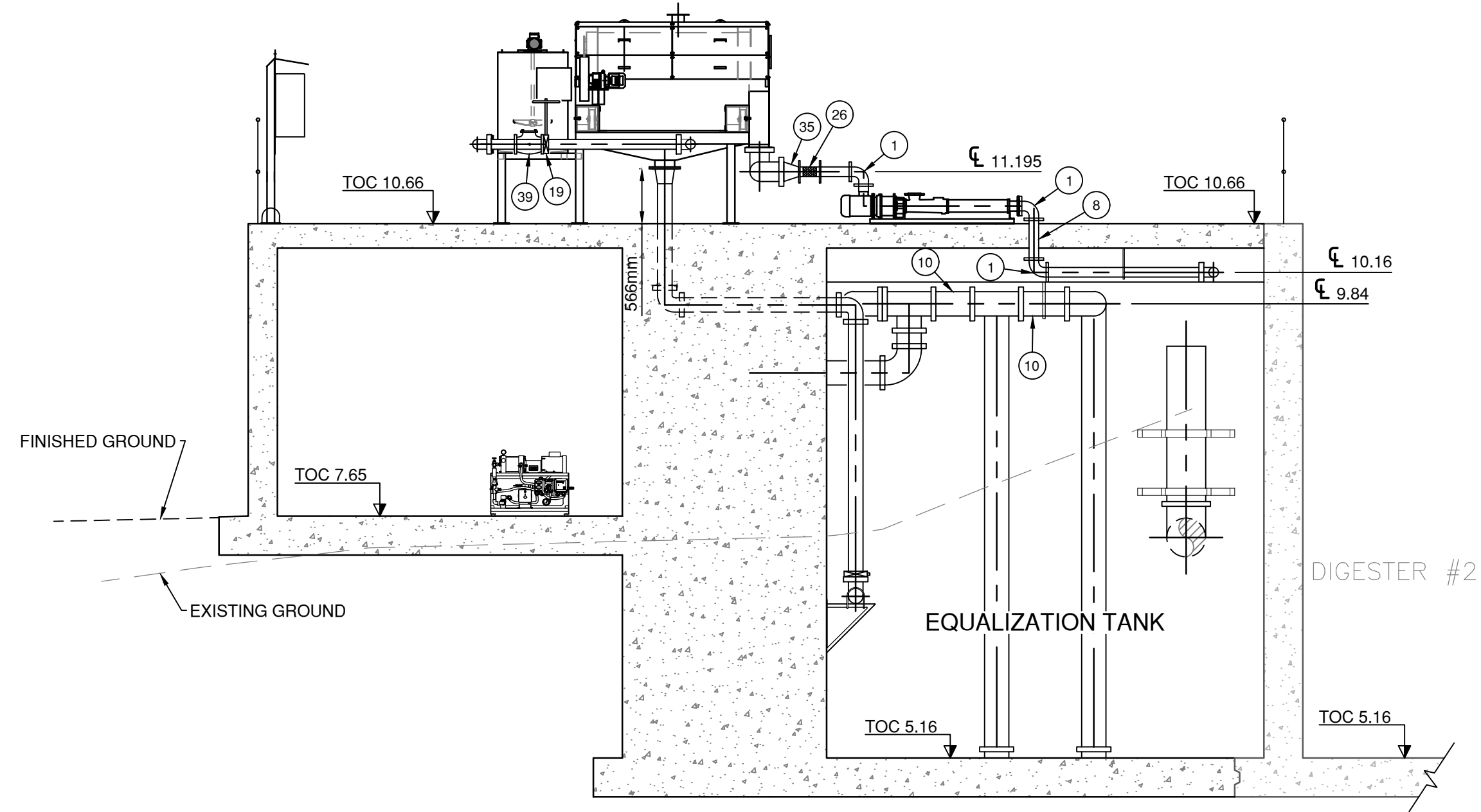
Scale
0 0.5 1.5 2.5m
1:50

Sheet
23 of 49

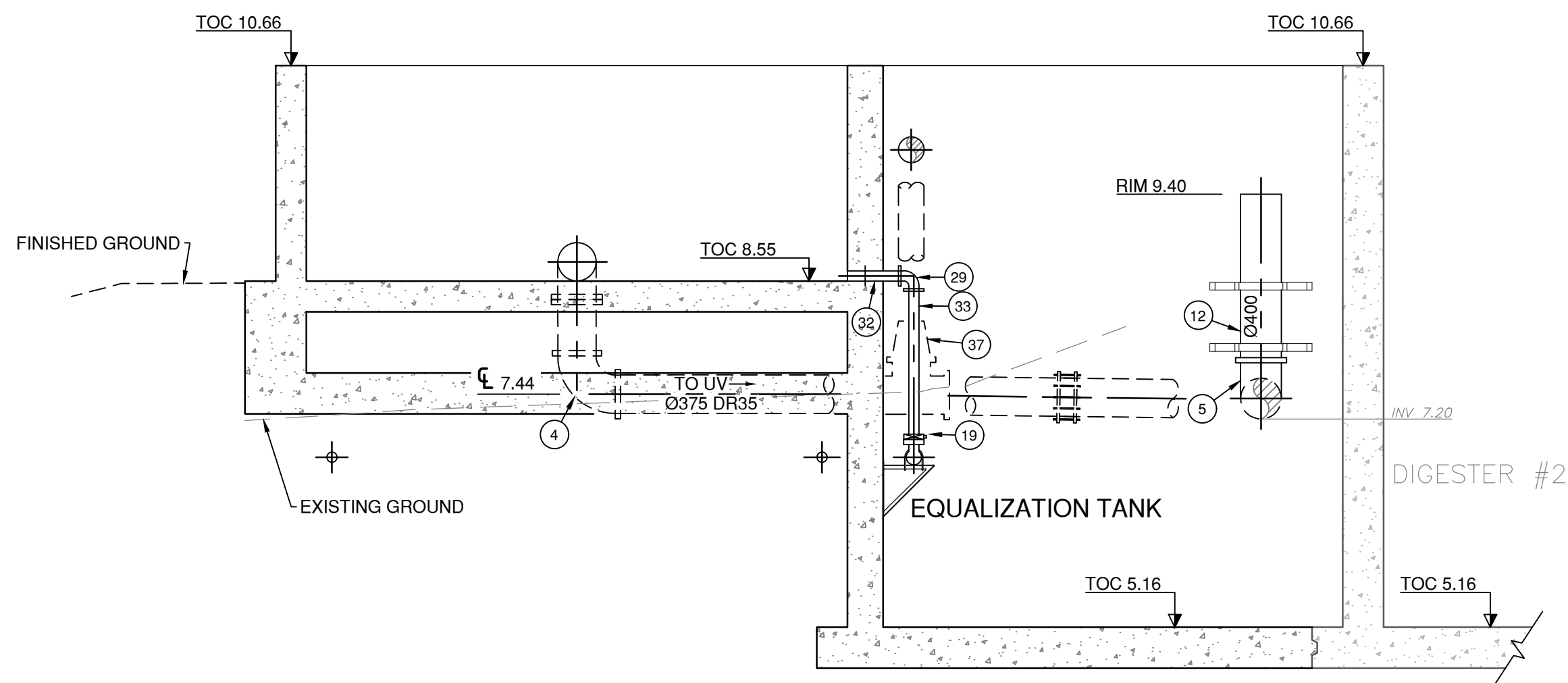
Revision
0



D SECTION
P500 SCALE: 1:50



F SECTION
P500 SCALE: 1:50



E SECTION
P500 SCALE: 1:50

V:\117\active\117201314_drawing\current\process\20131_p501.dwg 7/26/2022 10:53 AM AFERRIS

Revision	By	Appd.	YY.MM.DD
3 ISSUED FOR TENDER	SS	BP	22.07.25
2 ISSUED FOR 90% SUBMISSION	SS	BP	22.06.03
1 ISSUED FOR TENDER IFT 2022-004	SS	BP	22.04.12
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_p501.dwg

AF SS BP 7/25/2022
Dwn. Chkd. Dign. YY.MM.DD

Title

PROCESS
DISC FILTER AND
EQUALIZATION TANK SECTIONS
- SHEET 2

Project No.
111720131

Drawing No.

P502

Scale 0 0.5 1.5 2.5m
1:50

Sheet

24 of 49

Revision

0



0

V:\117\active\1117201314_drawings_current\process\20131_p800.dwg 7/26/2022 9:20 AM A.FERRIS

							Yard Piping			SBR WAS Pump Discharge Piping				WAS Equalization Pumping			Thickener Piping			Disk Filter to UV Piping			Disc Filter to Equalization Tank		Equalization Tank Internal Piping		
BILL OF MATERIALS							P500	P501	P502	P300	P301	P500	P501	P500	P501	P502	P500	P501	P502	P500	P501	P502	P501	P502	P500	P501	P502
ID	MATERIAL	SCHEDULE / CLASS	NOMINAL DIAMETER (mm)	DESCRIPTION	UNITS	QUANTITY																					
1	PVC	Schedule 40	100	90° SR Elbow	each	21				8	1		1	3	1		4		3								
2	PVC	Schedule 40	200	90° SR Elbow	each	1											1										
3	PVC	Schedule 40	250	90° SR Elbow	each	6																			5	1	
4	PVC	Schedule 40	375	90° SR Elbow	each	1																					
5	PVC	Schedule 40	400	90° SR Elbow	each	1																1					1
6	PVC	Schedule 40	250	Flange	each	1														1							
7	PVC	Schedule 40	375	Flange	each	3													2	1							
8	PVC	Schedule 40	100	Pipe	m	50.2				22.5m	5.3m			2.7m	5.8m		13.5m		0.4m								
9	PVC	Schedule 40	200	Pipe	m	0.9												0.9m									
10	PVC	Schedule 40	250	Pipe	m	23.7															1.7m				11.7m	1.0m	9.3m
11	PVC	Schedule 80	375	Pipe	m	5.3															5.1m	0.3m					1.6m
12	PVC	Schedule 40	400	Pipe	m	1.6																					
13	PVC	DR35	100 X 100 X 100	Tee	each	2	1	1																			
14	PVC	DR35	150 x 150 x 100	Tee	each	2																				2	
15	PVC	DR35	150 X 150 X 150	Tee	each	2																				2	
16	PVC	Schedule 40	100 X 100 X 100	Tee	each	5				4		1															
17	PVC	Schedule 40	250 X 250 X 250	Tee	each	3		1																	2		
18	PVC	Schedule 40	375 X 375 X 375	Tee	each	1															1						
19		RSV	100	Knife Gate Valve	each	5													1							1	1
20		RSV	150	Knife Gate Valve	each	2																				1	1
21		RSV	250	Knife Gate Valve	each	4																			4		
22		RSV	375	Knife Gate Valve	each	1															1						
23		APCO CVS-6000	250	Swing Check Valve	each	2																					2
24			250	Robar Coupling	each	3																			3		
25			375	Robar Coupling	each	1														1							
26			100	Flexible Coupling	each	1													1								
27		Chemline Type 24	100	True Union Ball Valve	each	5				5																	
28			100	WAS Check Valve	each	1					1																
29	PVC	DR35	100	90° SR Elbow	each	5		2														1			2		
30	PVC	DR35	100	45° SR Elbow	each	1																1					
31	PVC	DR35	150	90° SR Elbow	each	6																					
32	PVC	DR35	100	Pipe	m	17.6														1					3	1	
33	PVC	DR35	150	Pipe	m	18.7		0.5m	1.6m																	2.0m	0.5m
34	PVC	DR35	150 X 100	Reducer	each	1																					
35	PVC	Schedule 40	200 X 100	Reducer	each	1																1					
36	PVC	DR35	150 X 200	Reducer	each	1														1							
37	PVC	Schedule 40	375 x 250	Reducer	each	1																1					
38	PVC	DR35	100 X 100 X 100	Wye	each	1																	1				
39	PVC	Schedule 40	100	Check Valve	each	1										1											

Revision	By	Appd.	YY.MM.DD
3	ISSUED FOR TENDER	SS	BP 22.07.25
2	ISSUED FOR 90% SUBMISSION	SS	BP 22.06.03
1	ISSUED FOR TENDER IFT 2022-004	SS	BP 22.04.12
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_p800.dwg

AF

Dwn.

SS

Chkd.

BP

Dgn.

7/25/2022
YY.MM.DD

Title

PROCESS
BILL OF MATERIALS

Project No.

111720131

Drawing No.

P800

Scale

NOT TO SCALE

Sheet

26 of 49

Revision

0

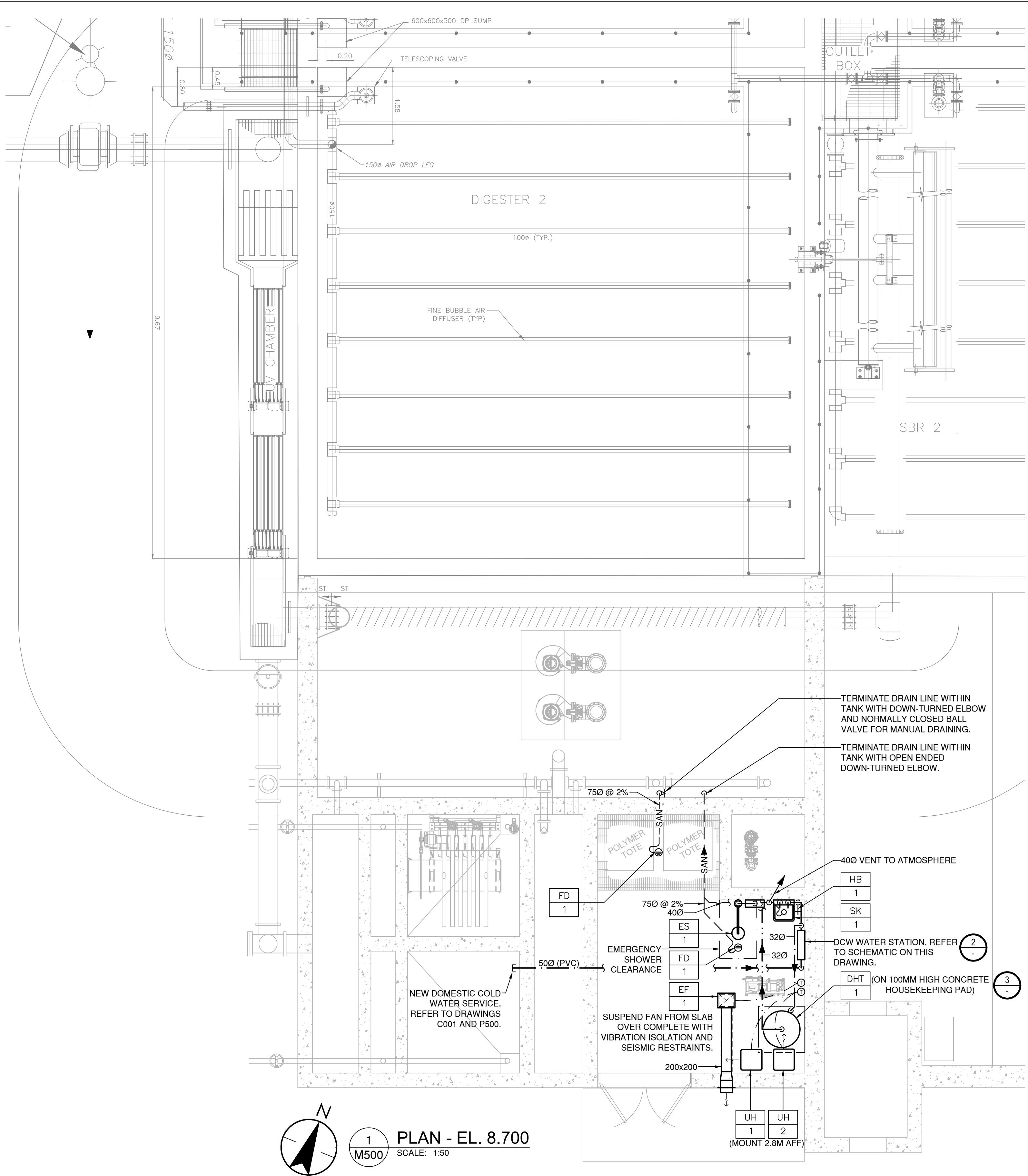
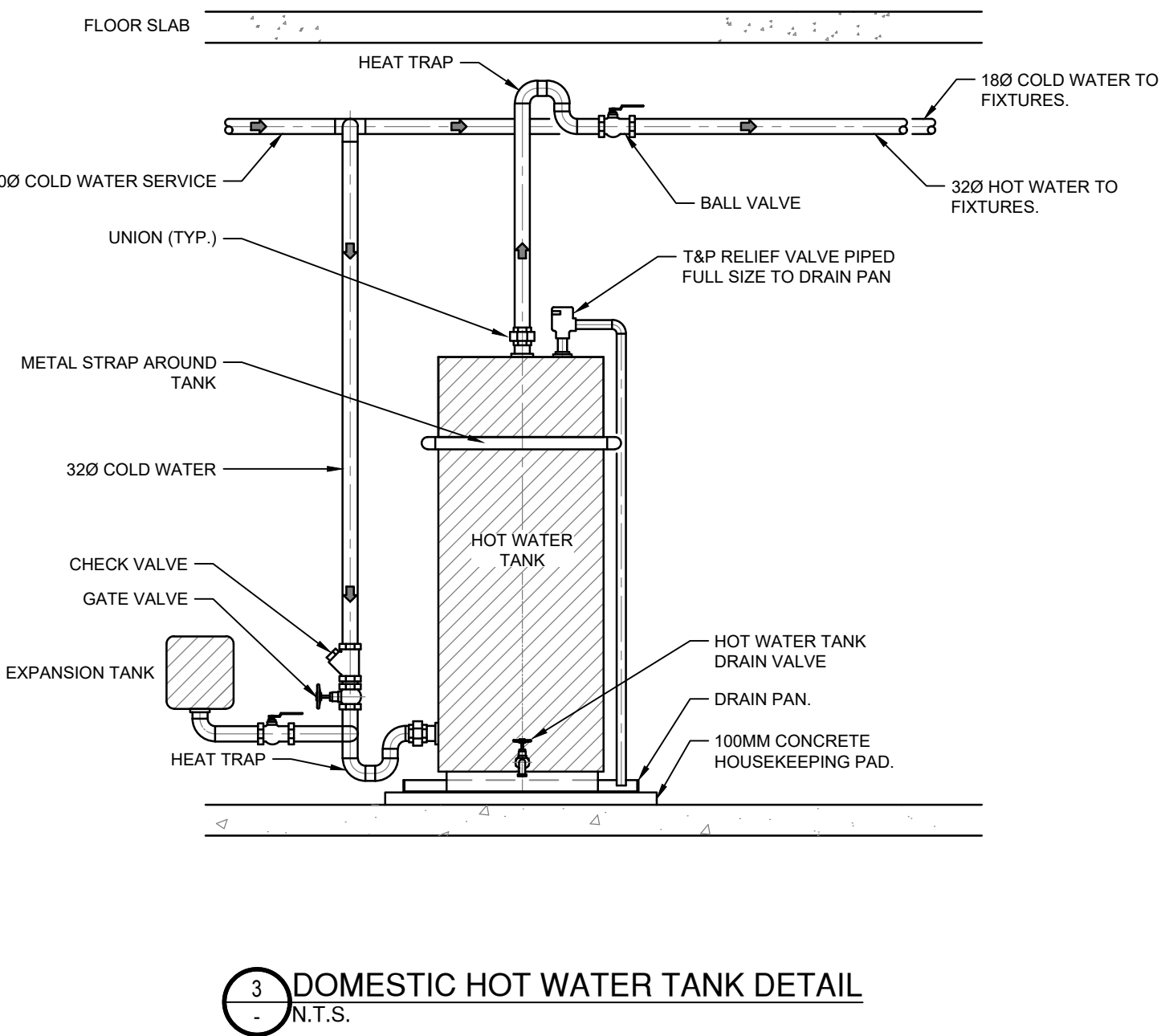
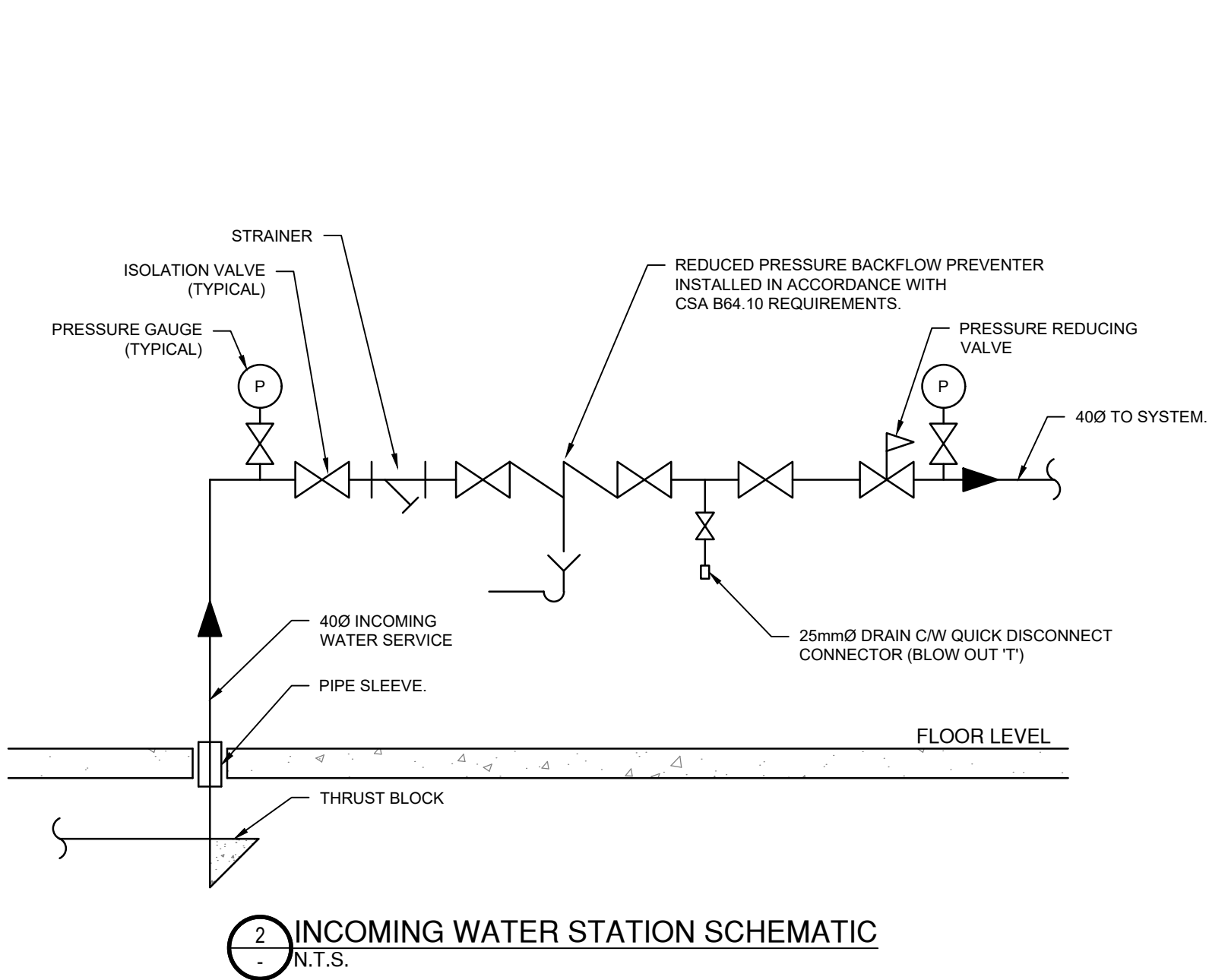
PLUMBING FIXTURES & DRAINS SCHEDULE	
ES-1	EMERGENCY SHOWER WITH EYE/FACE WASH: GUARDIAN MODEL G1966 ALL-STAINLESS STEEL CONSTRUCTION, 250MM DIA. STAINLESS STEEL SHOWER HEAD, TYPE 316 STAINLESS STEEL SHOWER VALVE WITH STAINLESS STEEL ACTUATING ARM AND PULL ROD, 282MM DIA. STAINLESS STEEL EYE/FACE WASH BOWL WITH TYPE 316 STAINLESS STEEL BALL VALVE, SPRAY HEAD ASSEMBLY WITH FLIP TOP DUST COVERS. SCHEDULE 40 TYPE 304 BRUSHED STAINLESS STEEL PIPE AND FITTINGS WITH ORANGE POLYETHYLENE PIPE COVERS. G6040 THERMOSTATIC MIXING VALVE IN STAINLESS STEEL SURFACE MOUNTED CABINET.
HB-1	HOSE BIBB: ZURN MODEL 195XL, 3/4" NPT, LOW LEAD CAST BRONZE BODY WITH BFP-9 HOSE CONNECTION VACUUM BREAKER. REFER TO SPECIFICATION SECTION 22 11 00 FOR ADDITIONAL REQUIREMENTS.
SK-1	WALL HUNG STAINLESS STEEL SINK: FRANKE MODEL WHB1617-7 WALL HUNG BASIN, CENTRE BACK WASTE, 3 FAUCET HOLES, 100MM CENTRESET, 18 GAUGE TYPE 304 STAINLESS STEEL WITH #4 SATIN FINISH COMPLETE WITH ONE PIECE WALL HANGER, FRANKE 1140 3-1/2" (89MM) T304 STAINLESS STEEL WASTE FITTING WITH BASKET STRAINER AND 1-1/2" (38MM) BRASS TAIL PIECE. FAUCET: ZURN MODEL Z812B4-XL 100MM CENTRESET GOOSENECK FAUCET, POLISHED CHROME-PLATED CAST BRASS BODY, 2.2 GPM (8.3 LPM) AERATOR, COLOUR CODED WRIST HANDLES. REFER TO SPECIFICATION SECTION 22 40 00 FOR ADDITIONAL REQUIREMENTS.
FD-1	FLOOR DRAIN: ZURN MODEL ZXN-211-A FLOOR DRAIN, DURA-COATED CAST IRON BODY, 5" (127MM) DIA. ADJUSTABLE HEAVY-DUTY NICKEL BRONZE STRAINER, 8" (203MM) WIDE FLANGE, TRAP PRIMER CONNECTION. REFER TO SPECIFICATION SECTION 22 13 00 FOR ADDITIONAL REQUIREMENTS.

LEGEND	
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	SANITARY (BELOW SLAB/GRADE)
	PIPE DROP / ELBOW DOWN
	FLOOR DRAIN AND TRAP (PROVIDE TRAP PRIMER)
	SANITARY VENT TO ATMOSPHERE
	DUCTWORK (C/W 25MM INSULATION)
	THERMOSTAT
	EQUIPMENT TAG (REFER TO SCHEDULES)

DOMESTIC WATER HEATER SCHEDULE										
EQUIP. TAG	LOCATION	MANUFACTURER	MODEL	RECOVERY @ 56°C ΔT (L/Hr)	VOLUME (L)	DIAMETER (mm)	HEIGHT (mm)	INPUT (kW)	POWER (V/PH/Hz)	NOTES
DHT-1	CHEMICAL STORAGE ROOM	A.O. SMITH	DRE-120-36	556	426	750	1580	36	600/3/60	1, 2, 3
NOTES: 1. COMPLETE WITH SEISMIC RESTRAINTS. 2. REFER TO SPECIFICATION SECTION 22 11 10 FOR EXPANSION TANK REQUIREMENTS. 3. TANK TEMPERATURE SETPOINT = 60°C.										

ELECTRIC UNIT HEATER SCHEDULE						
EQUIP. TAG	LOCATION	MANUFACTURER	MODEL	CAPACITY (kW)	POWER (V/PH/Hz)	NOTES
UH-1	CHEMICAL STORAGE ROOM	OUELLET	OAS03000	3.0	240/1/60	1, 2, 3
UH-2	CHEMICAL STORAGE ROOM	OUELLET	OAS03000	3.0	240/1/60	1, 2, 3
NOTES: 1. COMPLETE WITH FACTORY SUPPLIED WALL BRACKET. 2. COMPLETE WITH FACTORY SUPPLIED DISCONNECT. 3. COMPLETE WITH FACTORY SUPPLIED THERMOSTAT MODEL OTL101C. SET TO MAINTAIN 10°C.						

EXHAUST FAN SCHEDULE												
EQUIP. TAG	LOCATION	MANUFACTURER	MODEL	TYPE	AIRFLOW (L/s)	ESP (Pa)	FAN (RPM)	DRIVE (TYPE)	MOTOR (W)	POWER (V/PH/Hz)	SOUND (SONES)	NOTES
EF-1	CHEMICAL STORAGE ROOM	GREENHECK	SP-A200	INLINE CABINET	93	63	900	DIRECT	48	115/1/60	2.5	1, 2, 3
NOTES: 1. COMPLETE WITH GRAVITY BACKDRAFT DAMPER, INSULATED HOUSING, ALUMINUM FACE GRILLE, VIBRATION ISOLATION KIT. 2. COMPLETE WITH MANUFACTURER ACCESSORY MODEL WC-10X3 ENAMELED STEEL HOODED WALL CAP WITH BUILT-IN BIRDSCREEN AND DAMPER. 3. PROVIDE TIMECLOCK AND REVERSE ACTING THERMOSTAT FOR FAN CONTROL. SET TIMECLOCK TO ENERGIZE FAN FOR 30 MINUTES EVERY 24 HOURS. SET REVERSE ACTING THERMOSTAT SETPOINT TO 25°C.												



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Revision	By	Appd.	YY.MM.DD
3	ISSUED FOR TENDER	LI	TA 22.07.25
2	ISSUED FOR BUILDING PERMIT	LI	TA 22.07.20
1	ISSUED FOR TENDER	LI	TA 22.07.08
Issued	By	Appd.	YY.MM.DD

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Client/Project

SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_m500.dwg

Li. TA 22.07.19
Dwn. Chkd. Dign. YY.MM.DD

Title

MECHANICAL
STORAGE ROOM PLUMBING
AND HVAC

Project No.
111720131

Drawing No.
M500

Scale
0 0.5 1.5 2.5m
1:50

Sheet
27 of 49

Revision
0

RELAY FUNCTION DESIGNATORS

	ADD
	SUBTRACT
	BIAS
	GAIN OR ATTENUATE
	EXTRACT SQUARE ROOT
	DIVIDE
	MULTIPLY
	BOOST
	HIGH SELECT
	LOW SELECT
	ANALOG TO DIGITAL CONVERTER
REV	REVERSE
E/P	POTENTIAL TO PNEUMATIC
I/P	CURRENT TP PNEUMATIC
E/I	POTENTIAL TO CURRENT

INSTRUMENT SYMBOLS

	CONTROL ROOM PANEL	FIELD MOUNTED	LOCAL PANEL
DISCRETE INSTRUMENTS			
SHARED DISPLAY SHARED CONTROL eg. DCS - DISTRIBUTED CONTROL SYSTEM			
COMPUTER FUNCTION			
PROGRAMMABLE LOGIC CONTROL (PLC) (RTU)			

FIELD MOUNTED INSTRUMENTS MAY BE POST OR WALL MOUNTED

DASHED LINE INDICATES INSTRUMENT LOCATION BEHIND THE PANEL (TYP)

- STATUS LIGHT SHOW COLOUR INSIDE SYMBOL
- SYSTEM LOGIC
- MANUAL RESET
- EMERGENCY SHUTDOWN LOGIC
- PURGE OR FLUSHING DEVICE

INSTRUMENT SUBSCRIPT ABBREVIATIONS

ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
ACK	ACKNOWLEDGE	I/P	CURRENT TO PNEUMATIC
ACP	AREA CONTROL PANEL	LCP	LOCAL CONTROL PANEL
A/S	AIR SUPPLY	LEL	LOWER EXPLOSIVE LIMIT
BRG	BEARING	LOR	LOCAL/OFF/REMOTE
CT	CURRENT TRANSFORMER	M/A	MANUAL/AUTO
CL2	CHLORINE	O2	OXYGEN
COMB	COMBUSTIBLE	OBD	OUTBOARD
DIFF	DIFFERENTIAL	O/C	OPEN/CLOSE
DISCH	DISCHARGE	O/L	OVERLOAD
DO	DISSOLVED OXYGEN	O/O	ON/OFF
D/P	DIFFERENTIAL PRESSURE	ORP	OXYGEN REDUCTION POTENTIAL
ESO	EMERGENCY SHUTDOWN	PAR	PROCESS ALARM RELAY
ETM	ELAPSED TIME METER	PLC	PROGRAMMABLE LOGIC CONTROL
FC	FAIL CLOSED	RESET	RESET
FO	FAIL OPEN	RIO	REMOTE INPUT/OUTPUT
H	HIGH	SO2	SULPHUR DIOXIDE
HH	HIGH HIGH	SP	SET POINT
HMI	HUMAN MACHINE INTERFACE	SW	SELECTOR SWITCH
HOA	HAND/OFF/AUTO	S/S	STOP/START
HORN	ANNUNCIATOR HORN	TURB	TURBIDITY
HOR	HAND/OFF/REMOTE	UPS	UNINTERRUPTABLE POWER SUPPLY
H2S	HYDROGEN SULPHIDE	VCP	VENDOR CONTROL PANEL
IBD	INBOARD	VIB	VIBRATION
I/I	CURRENT/CURRENT ISOLATION	WDG	WINDING

IDENTIFICATION LETTERS

FIRST-LETTER			SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CIRCUIT		CONTROL	CONTROL	CLOSED
D	DISCONNECT	DIFFERENTIAL			
E	VOLTAGE / EMERGENCY		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	GENERAL / COMMENT		GLASS, VIEWING DEVICE		
H	HAND OPERATED				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	USER'S CHOICE	MOMENTARILY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	ON / OFF				OPEN
P	PRESSURE, VACUUM				
Q	QUANTITY, STATE	INTEGRATE, TOTALIZE			
R	RADIATION				
S	SPEED, FREQUENCY	SAFETY	STATUS	SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

MISCELLANEOUS SYMBOLS

	EXPANSION JOINT
	FLOAT LEVEL SENSOR
	MOTOR
	PUMP
	REDUCER
	ULTRASONIC LEVEL SENSOR
	BLOWER
	SUBMERSIBLE PUMP
	POLYMER FEED

INSTRUMENT SYMBOLS

	ORIFICE PLATE C/W ORIFICE FLANGES
	FLOW INDICATOR ROTAMETER TYPE
	TURBINE OR PROPELLER TYPE PRIMARY ELEMENT
	ANNUBAR OR PITOT TUBE
	VENTURI TUBE OR FLOW NOZZLE
	FLOWMETER
	V-CONE DIFFERENTIAL
	PAN, TILT & ZOOM CAMERA
	FIXED CAMERA

INSTRUMENT LINE SYMBOLS

	ELECTRICAL SIGNAL
	PNEUMATIC SIGNAL
	CAPILLARY TUBING
	HYDRAULIC SIGNAL
	CONTROL SYSTEM DATA LINK
	ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED AND NON GUIDED)
	INTERLOCK
	PRIMARY PROCESS
	SECONDARY PROCESS
	BY-PASS PROCESS
	TYPICAL PLANT OR FACILITY BOUNDARY

NOTES:

- FINAL INTERCONNECTION IS SUBJECT TO PRE-PACKAGED PROCESS EQUIPMENT VENDOR. CONTRACTOR TO PROVIDE ALL POWER, CONTROLS AND SIGNALS REQUIRED TO MEET THE REQUIREMENTS.
- PANEL MOUNTED EQUIPMENT SHOWN FOR FUTURE FIELD DEVICES SHALL BE PROVIDED.

NOTES: APPLICABLE TO ALL P&ID DRAWINGS

	FIELDBUS INTERFACE INCLUDED IN MCC PACKAGE
	INSTRUMENTS AND/OR CONTROLS INCLUDED IN EQUIPMENT PACKAGE
VCP	LOCAL CONTROL PANEL INCLUDED IN VENDOR PACKAGE
ACP	AREA CONTROL PANEL
	CONTINUATION SYMBOLS TO ANOTHER SHEET
	FROM ANOTHER SHEET
	DIGITAL INPUT
	DIGITAL OUTPUT
	ANALOG INPUT
	ANALOG OUTPUT
	PULSE INPUT
	MODULATING DIGITAL OUTPUT

CONTROL VALVES

	FC - FAIL CLOSED		BALL VALVE
	FO - FAIL OPEN		BUTTERFLY VALVE
	HAND OPERATED CONTROL VALVE		CHECK VALVE
	MOTOR A - AIR		GATE VALVE
	E - ELECTRIC		GATE VALVE (KNIFE)
	H - HYDRAULIC		MODULATING VALVE
	E/H - ELECTROHYDRAULIC		PLUG VALVE
	HYDR/PNEUMATIC PISTON OPERATED		PRESSURE RELIEF VALVE
	DIAPHRAGM OPERATOR w/HAND WHEEL		PRESSURE REDUCING VALVE
	THREE WAY DIAPHRAGM CONTROL VALVE		TELESCOPING VALVE
	SOLENOID VALVE		SLUICE/STOP GATE
	BACK PRESSURE REGULATOR, SELF-CONTAINED (BPV)		CHOKE VALVE
	PRESSURE REDUCING REGULATOR, SELF-CONTAINED (PCV)		
	PRESSURE RELIEF/SAFETY VALVE (PSV)		
	PRESSURE VACUUM RELIEF VALVE (PVSV)		

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Revision	By	Appd.	YY.MM.DD
4	ISSUED FOR TENDER	SS	BP 22.07.25
3	ISSUED FOR 90% SUBMISSION	SS	BP 22.06.03
2	ISSUED FOR TENDER IFT 2022-004	SS	BP 22.04.12
1	ISSUED FOR 50% REVIEW	SS	BP 22.02.09
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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

Title

PROCESS & INSTRUMENTATION
LEGEND

Project No.
111720131

Scale
NOT TO SCALE

Drawing No.

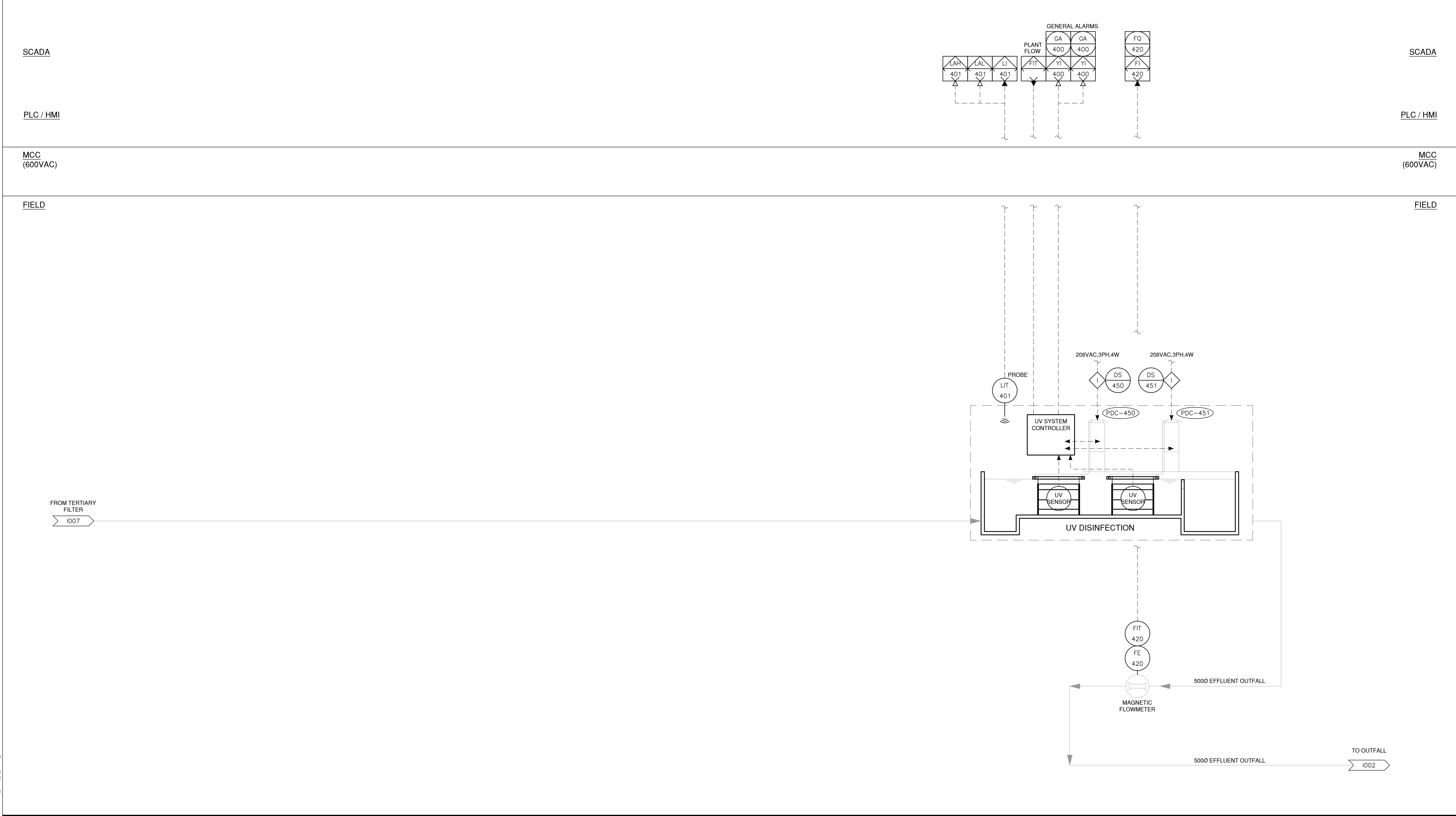
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Revision

I001

28 of 49

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Revision

By

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ISSUED FOR TENDER

SS

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22.07.25

1

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Sooke, BC Canada

File Name:

20131_001_7_9.dwg

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Title

PROCESS & INSTRUMENTATION
DIAGRAM

Project No.

111720131

Scale

NOT TO SCALE

Drawing No.

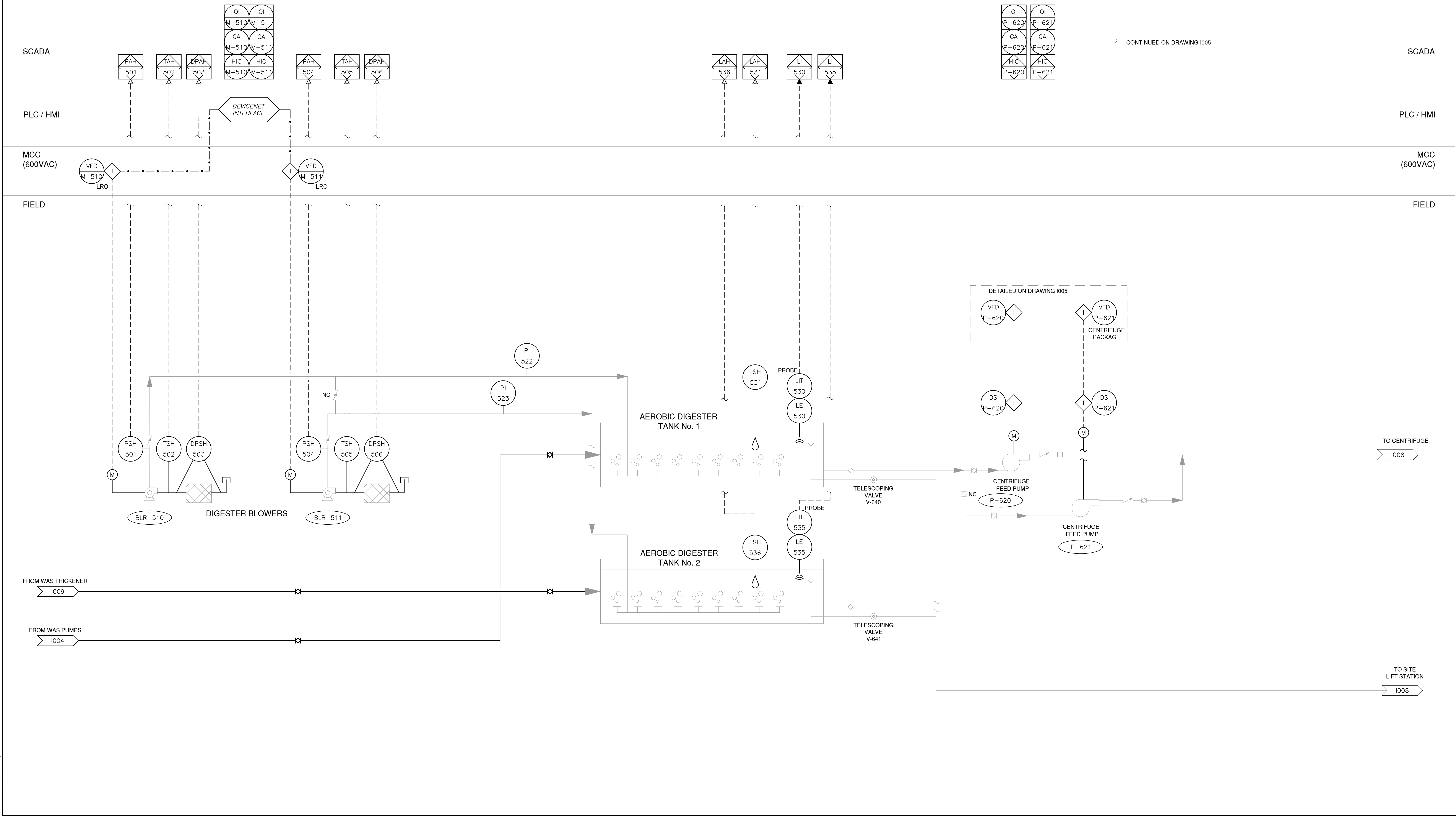
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Revision

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Revision	By	Appd.	YY.MM.DD
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3	ISSUED FOR 90% SUBMISSION	SS	BP 22.06.03
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Sooke, BC Canada

Title

PROCESS & INSTRUMENTATION
DIAGRAM

Project No.
111720131

Scale
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Drawing No.

I006

Sheet

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Revision

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File Name: 20131_001_7_9.dwg

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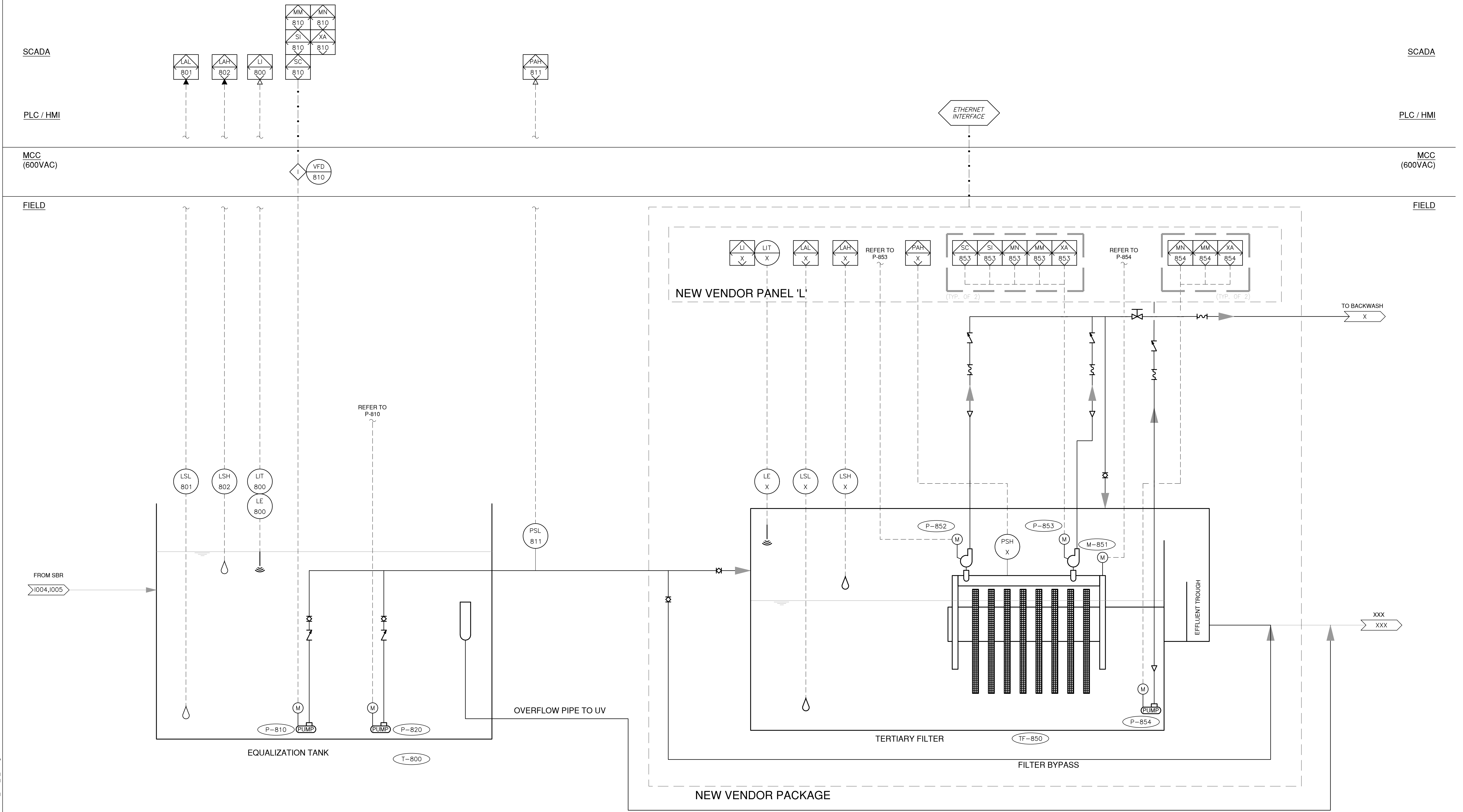
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ORIGINAL SHEET - ISO A1



Revision	By	Appd.	YY.MM.DD
4	ISSUED FOR TENDER	SS	BP 22.07.25
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2	ISSUED FOR TENDER IFT 2022-004	SS	BP 22.04.12
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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

Title

PROCESS & INSTRUMENTATION
DIAGRAM

Project No.
111720131

Scale
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Drawing No.

I007

Sheet

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Revision

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File Name: 20131_001_7_9.dwg

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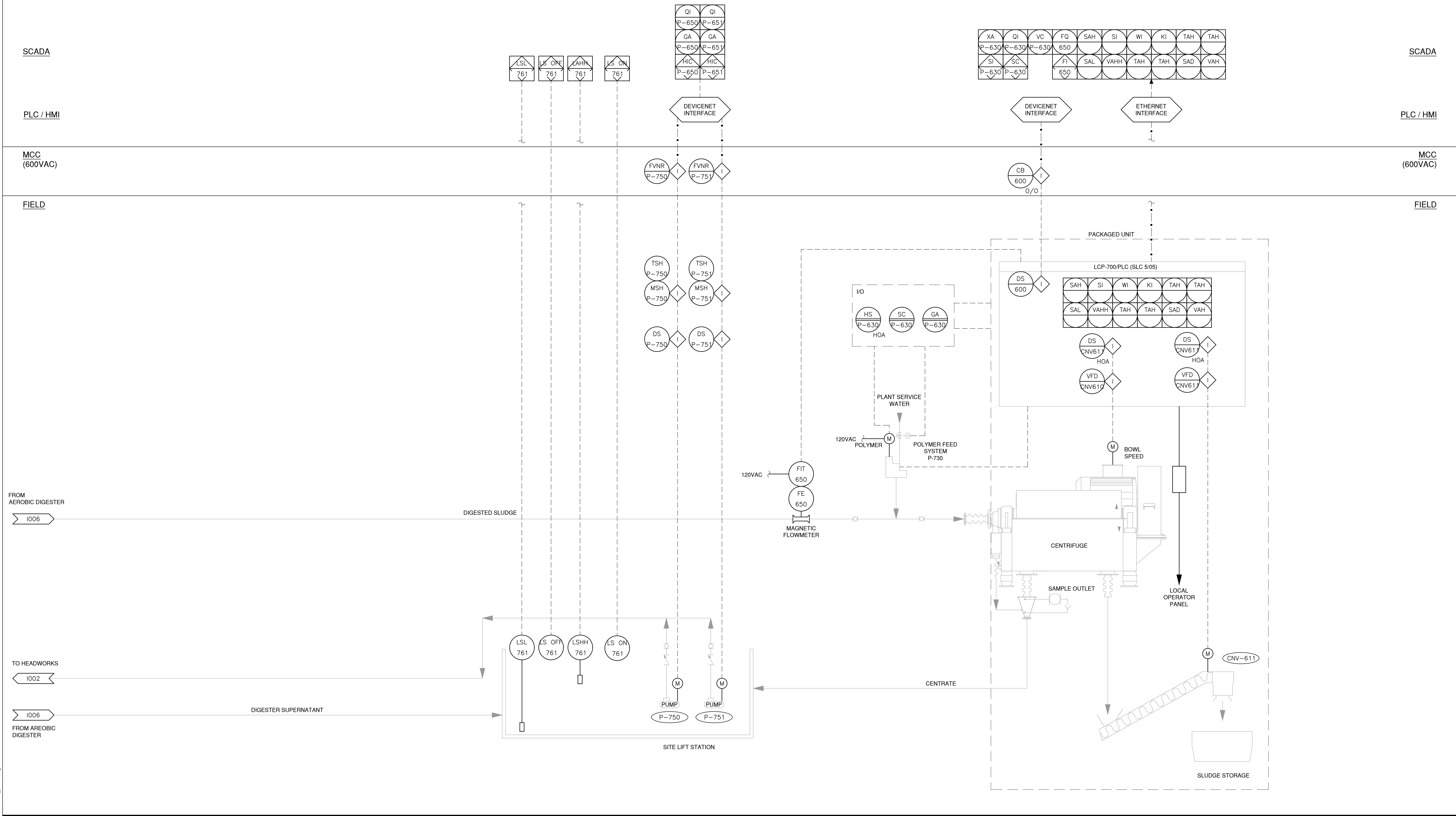
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ORIGINAL SHEET - ISO A1



Revision	By	Appd.	YY.MM.DD	
3	ISSUED FOR TENDER	SS	BP	22.07.25
2	ISSUED FOR TENDER IFT 2022-004	SS	BP	22.04.12
1	ISSUED FOR 50% REVIEW	SS	BP	22.02.09
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Sooke, BC Canada

File Name: 20131_008.dwg

AF Dwn.

SS Chkd.

BP Dign.

6/20/2022 YY.MM.DD

Title

PROCESS & INSTRUMENTATION
DIAGRAM

Project No.

111720131

Drawing No.

1008

Scale

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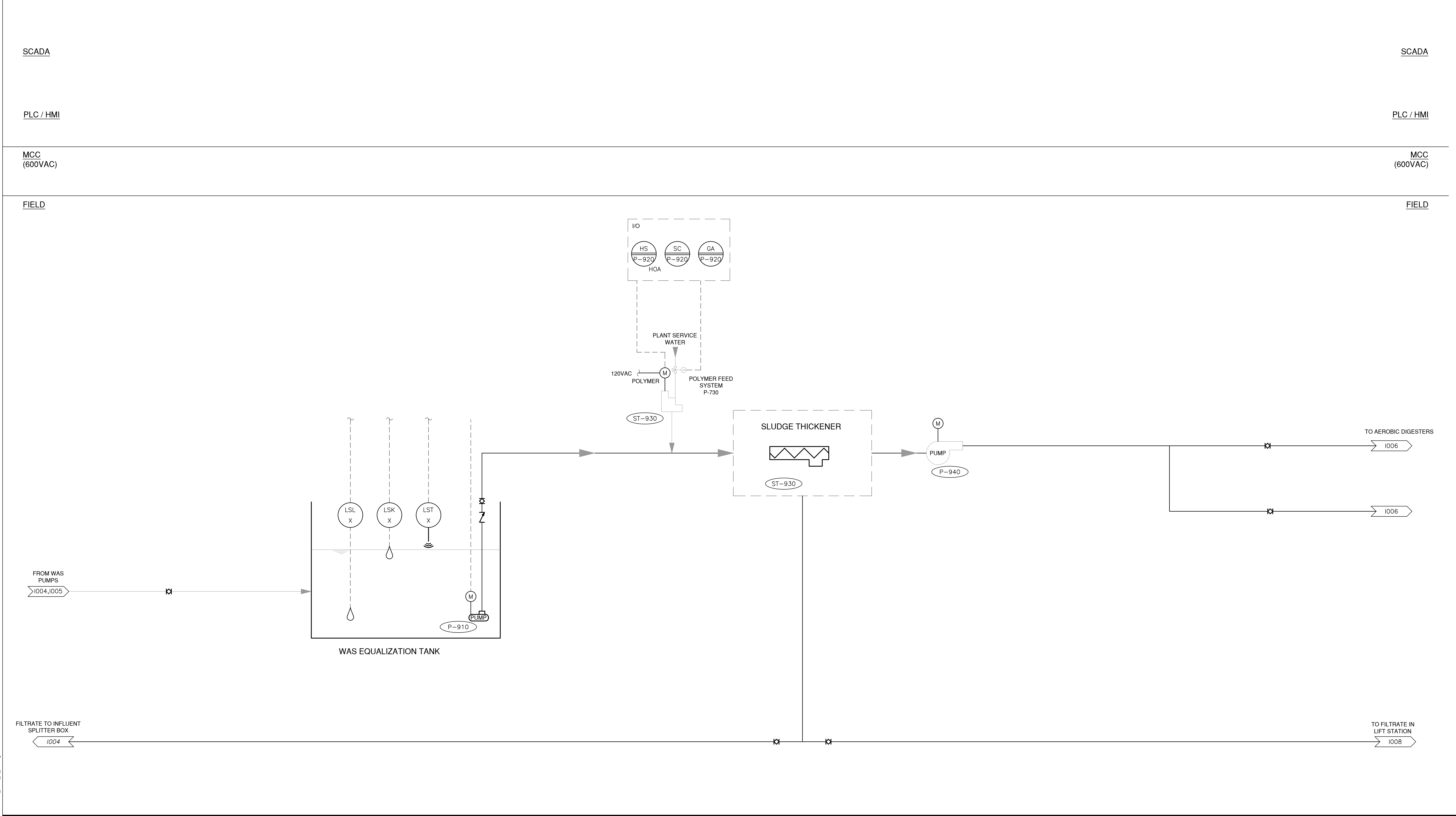
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Revision

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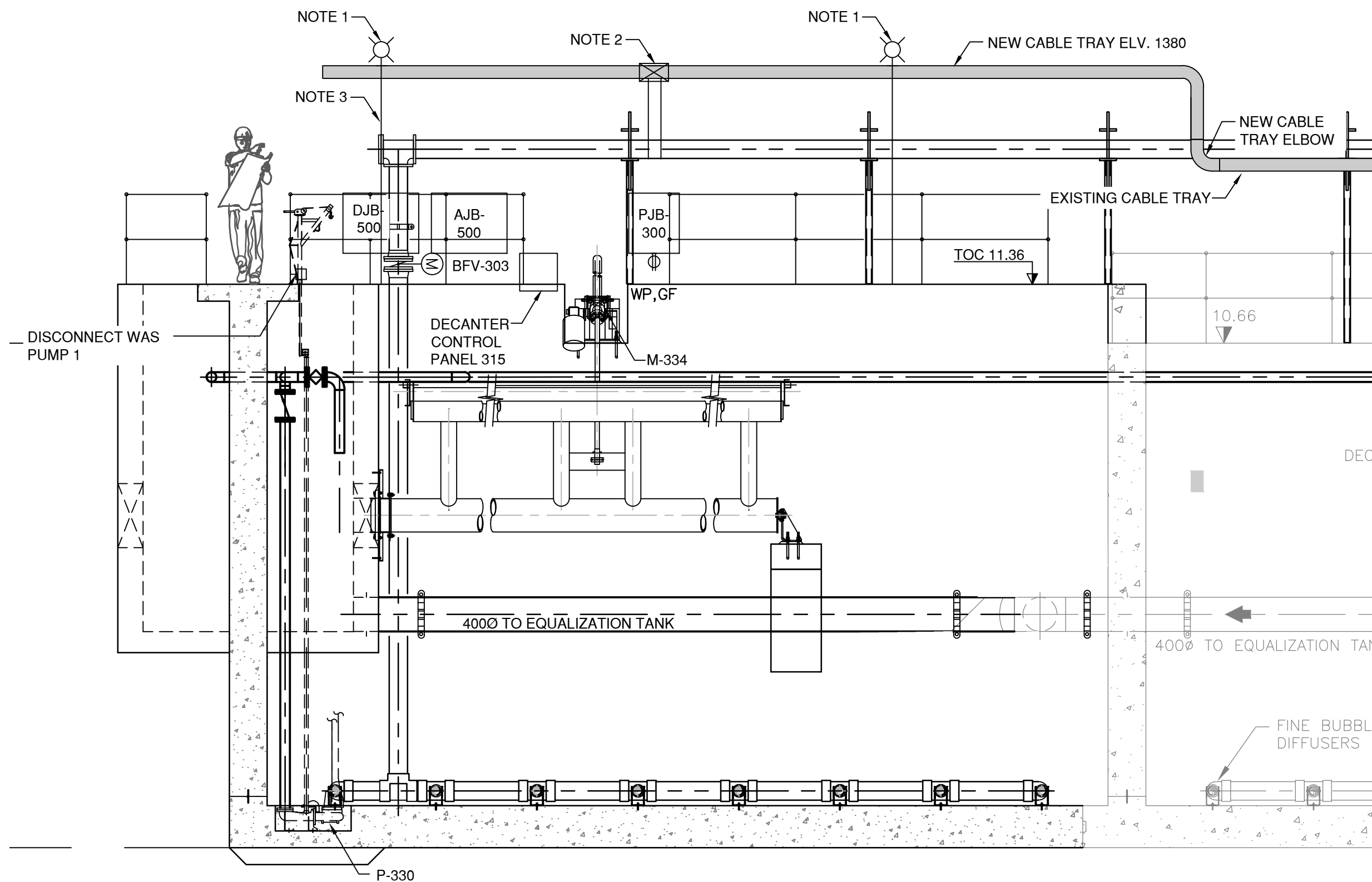


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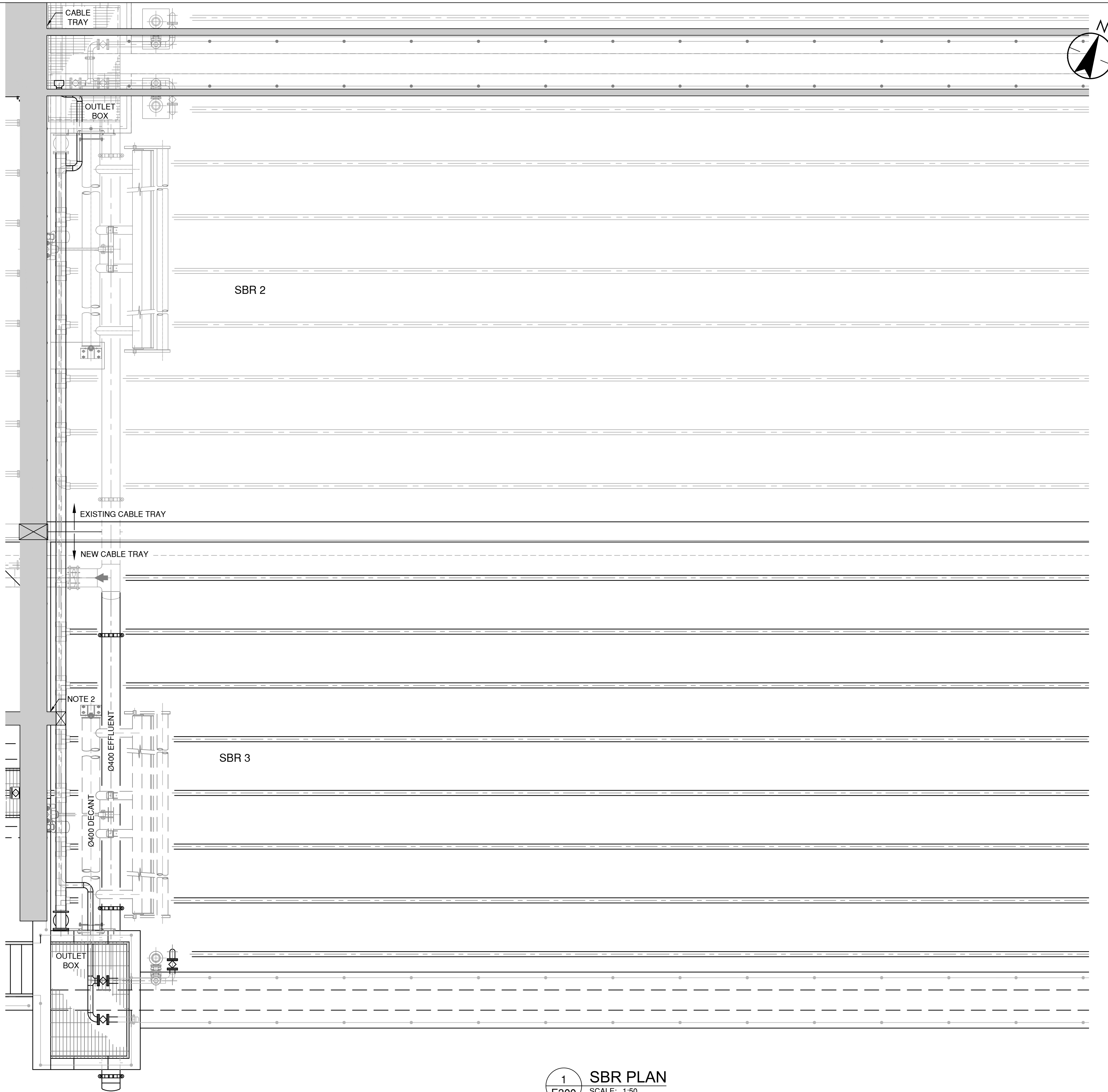
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ORIGINAL SHEET - ISO A1

- NOTES:**
1. INSTALL NEW OUTDOOR LIGHTING AS INDICATED ON DRAWING E001. THE FACE OF THE NEW LUMINAIRE TO BE MOUNTED AT THE SAME ELEVATION AS THE BOTTOM OF THE NEW CABLE TRAY.
 2. PROVIDE NEW CABLE TRAY MOUNTED AS SHOWN. PROVIDE REQUIRED SUPPORT STRUCTURE FOR NEW TRAY SYSTEM.
 3. SWIVELPOLE LIGHTING STANCHIONS TO BE MOUNTED TO NEW HANDRAILINGS AT LOCATIONS SHOWN.



1 SECTION
E300 SCALE: 1:50



1 SBR PLAN
E300 SCALE: 1:50

Revision	By	Appd.	YY.MM.DD
3	ISSUED FOR TENDER	TY	TDC 22.07.25
2	ISSUED FOR BUILDING PERMIT	TY	TDC 22.07.20
1	ISSUED FOR 90% SUBMISSION	TY	IB 22.06.03
Issued	By	Appd.	YY.MM.DD

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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_e300.dwg

AF

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BP

Dgn.

7/26/2022

YY.MM.DD

Title

ELECTRICAL
SBR - PLAN

Project No.
111720131

Drawing No.

E300

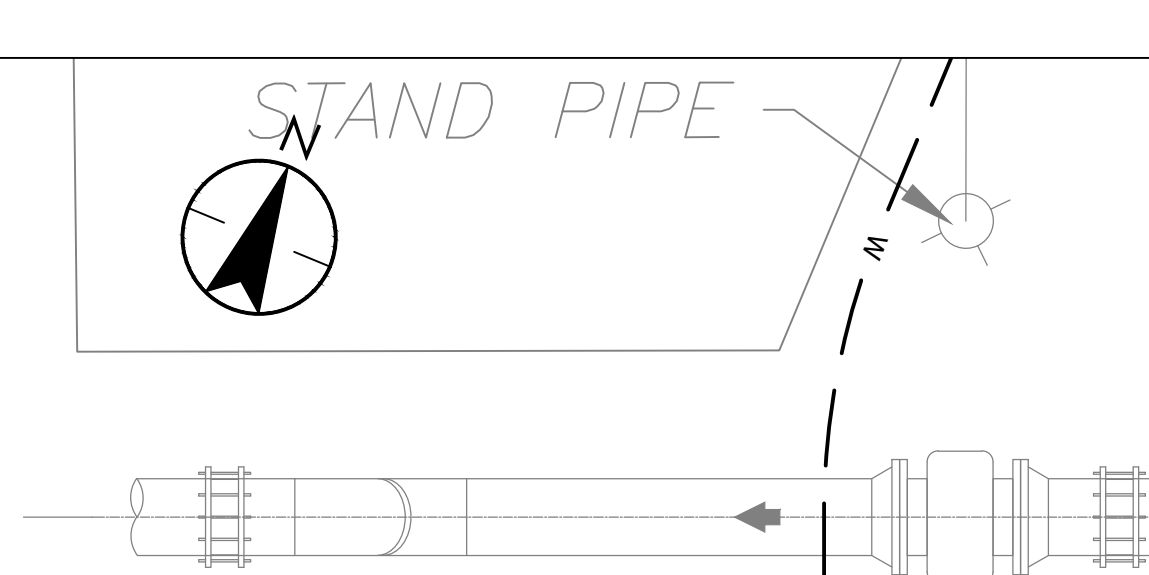
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Sheet

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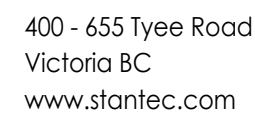
Revision

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Sooke, BC Canada

File Name: 20131_e500.dwg

AF

SS

BP

YY.MM.DD

Title

ELECTRICAL
DISC FILTER, UV CHANNEL AND
SLUDGE THICKENER - PLAN

Project No.
111720131

Drawing No.

E500

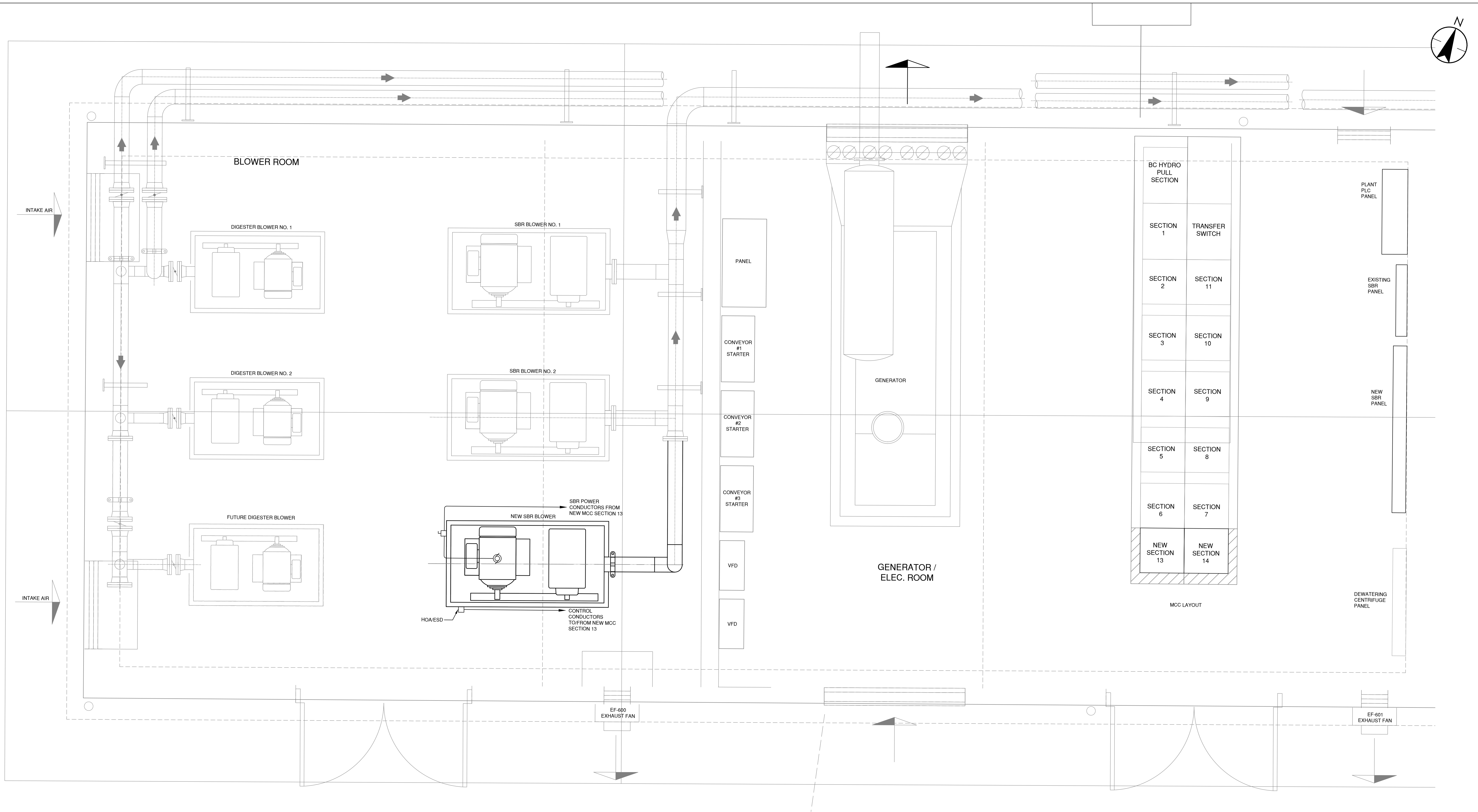
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Sheet

Revision

0

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1 BLOWER ROOM AND GENERATOR/ELECTRICAL ROOM
E600 SCALE: 1:20

Revision	By	Appd.	YY.MM.DD
3	ISSUED FOR TENDER	TY	TDC 22.07.25
2	ISSUED FOR BUILDING PERMIT	TY	TDC 22.07.20
1	ISSUED FOR 90% SUBMISSION	TY	IB 22.06.03
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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_e600.dwg

AF SS BP 7/25/2022
Dwn. Chkd. Dgn. YY.MM.DD

Title

ELECTRICAL
BLOWER ROOM AND
GENERATOR/ELECTRICAL ROOM

Project No.
111720131

Drawing No.

E600

Scale
1:20 0 0.2 0.6 1.0m

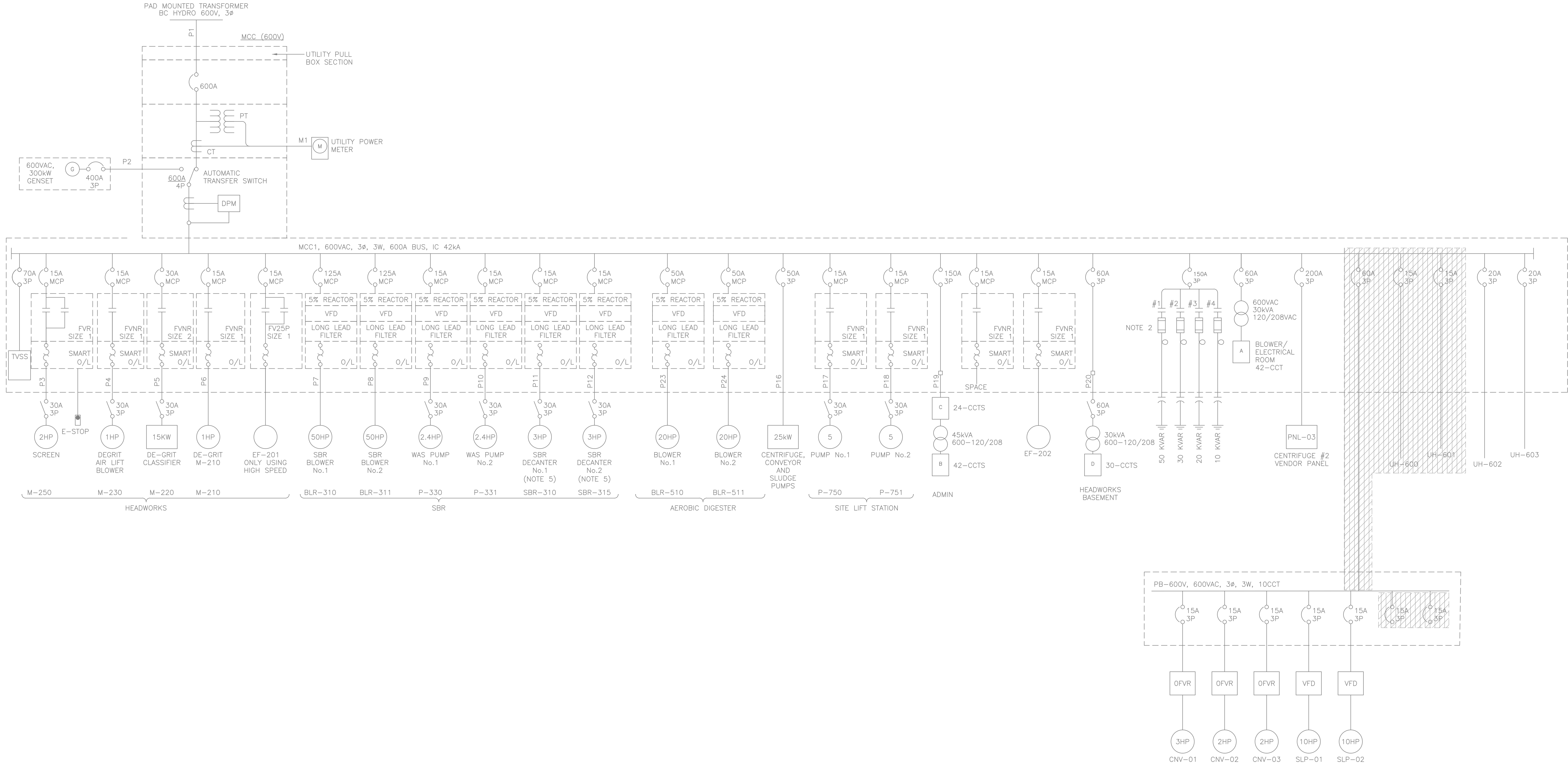
Sheet

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Revision

0

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LEGEND:
HATCH PATTERN
DENOTES ITEM(S)
TO BE REMOVED.

Revision	By	Appd.	YY.MM.DD
3	ISSUED FOR TENDER	TY	TDC 22.07.25
2	ISSUED FOR BUILDING PERMIT	TY	TDC 22.07.20
1	ISSUED FOR 90% SUBMISSION	TY	TC 22.06.03
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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

Title

ELECTRICAL
EXISTING SINGLE LINE DIAGRAM

Project No.
111720131

Scale
AS NOTED

Drawing No.

Sheet

Revision

E610

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0

File Name: 20131_e610.dwg

AF

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SS

Chkd.

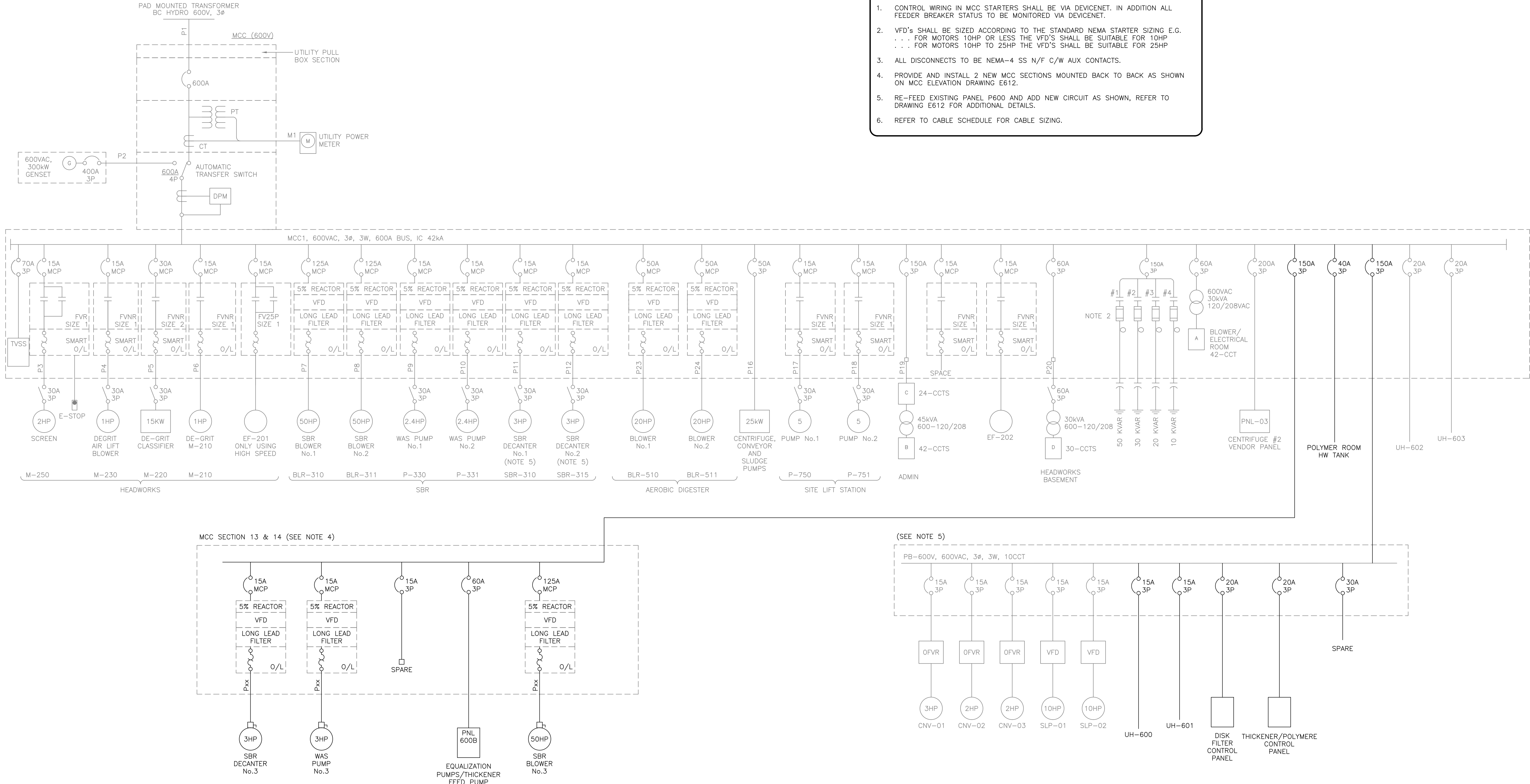
BP

Dgn.

7/20/2022

YY.MM.DD

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NOTES:

- CONTROL WIRING IN MCC STARTERS SHALL BE VIA DEVICENET. IN ADDITION ALL FEEDER BREAKER STATUS TO BE MONITORED VIA DEVICENET.
- VFD's SHALL BE SIZED ACCORDING TO THE STANDARD NEMA STARTER SIZING E.G.
... FOR MOTORS 10HP OR LESS THE VFD'S SHALL BE SUITABLE FOR 10HP
... FOR MOTORS 10HP TO 25HP THE VFD'S SHALL BE SUITABLE FOR 25HP
- ALL DISCONNECTS TO BE NEMA-4 SS N/F C/W AUX CONTACTS.
- PROVIDE AND INSTALL 2 NEW MCC SECTIONS MOUNTED BACK TO BACK AS SHOWN ON MCC ELEVATION DRAWING E612.
- RE-FEED EXISTING PANEL P600 AND ADD NEW CIRCUIT AS SHOWN, REFER TO DRAWING E612 FOR ADDITIONAL DETAILS.
- REFER TO CABLE SCHEDULE FOR CABLE SIZING.

Revision	By	Appd.	YY.MM.DD
3	ISSUED FOR TENDER	TY	TDC 22.07.25
2	ISSUED FOR BUILDING PERMIT	TY	TDC 22.07.20
1	ISSUED FOR 90% SUBMISSION	TY	TC 22.06.03
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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

Title

ELECTRICAL
SINGLE LINE DIAGRAM

Project No.
111720131

Scale
AS NOTED

Drawing No.

Sheet

Revision

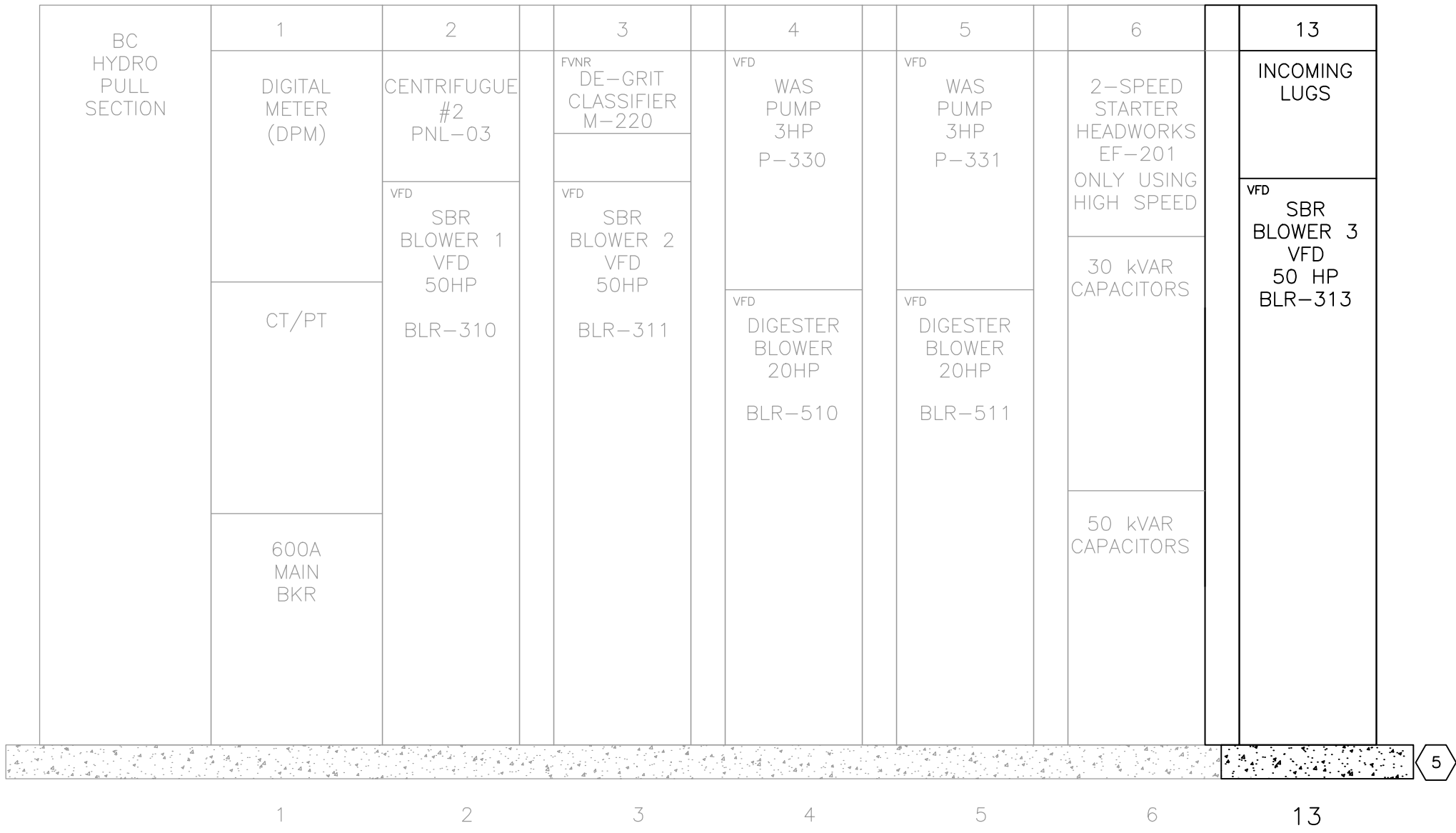
E611

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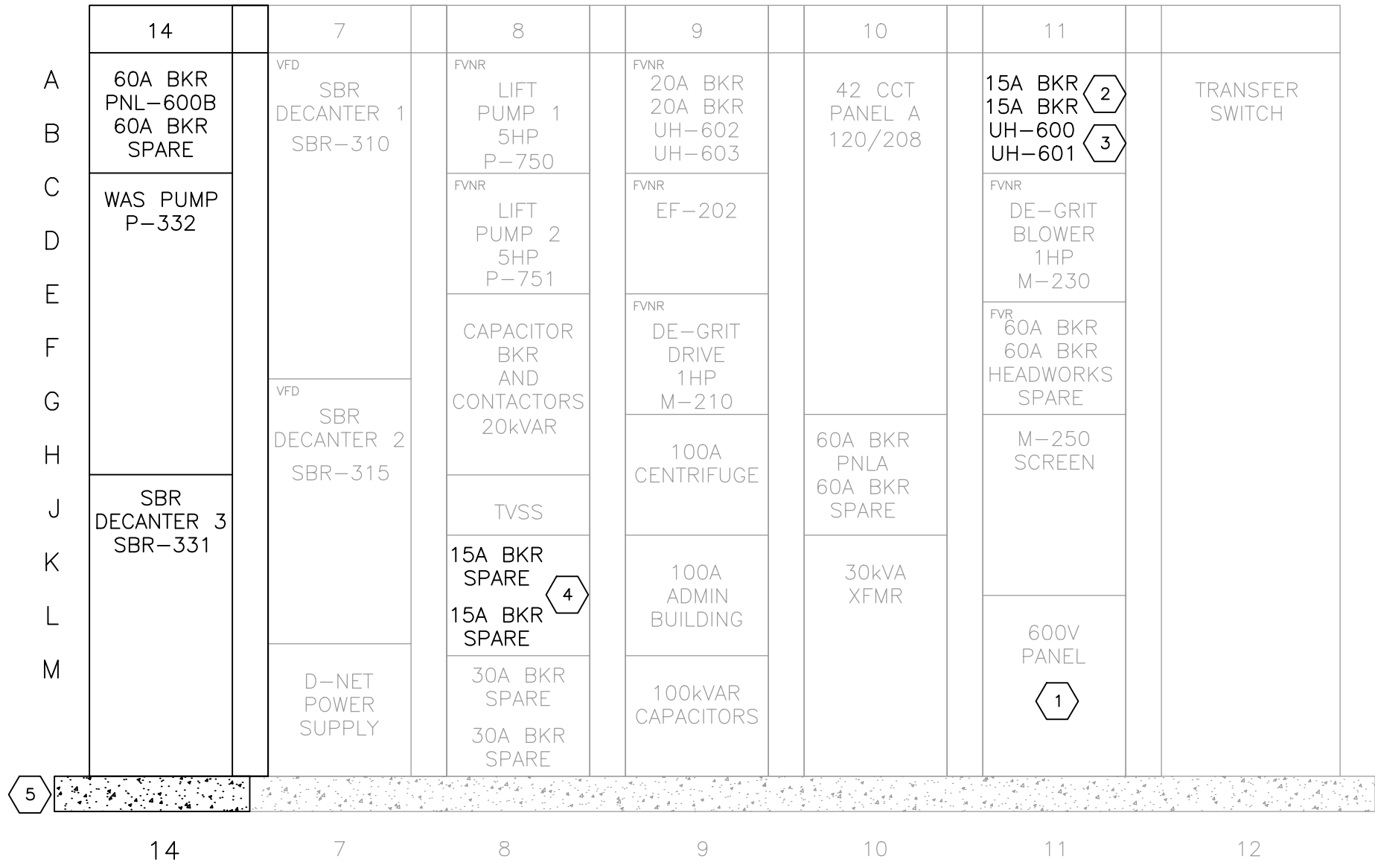
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File Name: 20131_e611.dwg

AF SS BP 7/25/2022
Dwn. Chkd. Dgn. YY.MM.DD



MCC1 SECTION LAYOUT (FRONT)
N.T.S.



MCC1 SECTION LAYOUT (BACK)
N.T.S.

- NOTES:**
- 1 EXISTING FEED TO PANEL P-600 BREAKER AND CONDUCTORS TO BE REMOVED. PANEL P-600 IS TO BE RE-FED FROM A NEW 150A 3P BREAKER INSTALLED IN THE SAME SPACE. PANEL FEED CONDUCTORS TO BE REPLACED WITH NEW CONDUCTORS AS SHOWN ON THE SINGLE LINE DIAGRAM.
 - 2 EXISTING FEED TO UNIT HEATERS UH-600 AND UH-601 BREAKERS AND CONDUCTORS TO BE REMOVED. UH-600 UH-601 ARE TO BE RE-FED FROM NEW 15A 3P BREAKERS INSTALLED IN PANEL P-600. CONDUCTORS TO THE TWO UNIT HEATERS MAY BE EXTENDED AS REQUIRED VIA A NEW JUNCTION BOX IN THE ELECTRICAL ROOM CEILING SPACE.
 - 3 PROVIDE AND INSTALL A NEW 150A 3P BREAKER IN MCC SECTION 11 (SPACE A/B/C) TO FEED THE TWO NEW MCC SECTION 13 AND 14. PROVIDE NEW FEED CONDUCTORS FROM NEW BREAKERS TO INCOMING LUGS IN SECTION 13 OF NEW MCC.
 - 4 REPLACE EXISTING SPARE 15A 3P BREAKER IN SECTION 8 (SPACE J/K/L) WITH A NEW 40A 3P BREAKER TO FEED THE NEW HOT WATER TANK LOCATED IN THE NEW POLYMER ROOM.
 - 5 EXTEND EXISTING HOUSE KEEPING PAD AT THE SAME HEIGHT TO ACCOMMODATE THE NEW MCC SECTIONS 13 AND 14.

Revision	By	Appd.	YY.MM.DD
3	ISSUED FOR TENDER	TY	TDC 22.07.25
2	ISSUED FOR BUILDING PERMIT	TY	TDC 22.07.20
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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_e612.dwg

AF SS BP 7/20/2022
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Title

ELECTRICAL
MCC LAYOUT

Project No.
111720131

Drawing No.
E612

Scale
AS NOTED

Sheet
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Revision
0

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CABLE SCHEDULE									
ID	SHORT TAG	TAG	SOURCE	DESTINATION	TYPE	INSTANCE	CABLE DETAILS	ROUTING DETAILS	REV
50	P50	MCC1/MCC1.13-P1	MCC1	MCC1.13	P	1	3C #1/0 TECK	RANDOM SPACING TRAY	A
51	P51	MCC1/PB-600V-P1	MCC1	PB-600V	P	1	3C #2 TECK	RANDOM SPACING TRAY	A
52	P52	MCC1/HWTANK-01-P1	MCC1	HWTANK-01	P	1	3C #10 TECK	RANDOM SPACING TRAY	A
53	P53	MCC1-14/SBRDEC-03-P1	MCC1-14	SBRDEC-03	P	1	3C #12 VFD CABLE	RANDOM SPACING TRAY	A
54	P54	MCC1.14/WAS-03-P1	MCC1.14	WAS-03	P	1	3C #12 VFD CABLE	RANDOM SPACING TRAY	A
55	P55	MCC1.14/PNL-600B-P1	MCC1.14	PNL-600B	P	1	3C #8 TECK	RANDOM SPACING TRAY	A
56	P56	MCC1.13/SBRBLO-03-P1	MCC1.13	SBRBLO-03	P	1	3C#10 VFD CABLE	RANDOM SPACING TRAY	A
57	P57	PB-600V/UH-600-P1	PB-600V	UH-600	P	1	3C #12 TECK	RANDOM SPACING TRAY	A
58	P58	PB-600V/UH-601-P1	PB-600V	UH-601	P	1	3C #12 TECK	RANDOM SPACING TRAY	A
59	P59	PB-600V/DISKFILTCP-01-P1	PB-600V	DISKFILTCP-01	P	1	3C #12 TECK	RANDOM SPACING TRAY	A
60	P60	PB-600V/THKPLYCP-01-P1	PB-600V	THKPLYCP-01	P	1	3C #12 TECK	RANDOM SPACING TRAY	A
61	P61	PNL-600B/THKFDPUMP-01-P1	PNL-600B	THKFDPUMP-01	P	1	3C #12 TECK	RANDOM SPACING TRAY	A
62	P62	PNL-600B/EQUPUMP-01-P1	PNL-600B	EQUPUMP-01	P	1	3C #12 TECK	RANDOM SPACING TRAY	A
63	P63	PNL-600B/EQUPUMP-02-P1	PNL-600B	EQUPUMP-02	P	1	3C #12 TECK	RANDOM SPACING TRAY	A
64	P64	PNL-A/PLYEXFAN-01-P1	PNL-A	PLYEXFAN-01	P	1	2C #12TECK	RANDOM SPACING TRAY	A
65	P65	PNL-A/PLYRLIGHTS-P1	PNL-A	PLYRLIGHTS	P	1	2C #12TECK	RANDOM SPACING TRAY	A
66	P66	PNL-A/SBR3LIGHTS-P1	PNL-A	SBR3LIGHTS	P	1	2C #12TECK	RANDOM SPACING TRAY	A
67	P67	PNL-A/UH-1-P1	PNL-A	UH-1	P	1	2C #2 TECK	RANDOM SPACING TRAY	A
68	P68	PNL-A/UH-2-P1	PNL-A	UH-2	P	1	2C #2 TECK	RANDOM SPACING TRAY	A
69	P69	PNL-A/SBRCP-02-P1	PNL-A	SBRCP-02	P	1	2C #12TECK	RANDOM SPACING TRAY	A
50	C50	MCC1.14/SBRDEC-03-C1	MCC1.14	SBRDEC-03	C	1	12C #14 TECK	RANDOM SPACING TRAY	A
51	C51	MCC1.13/SBRBLO-03-C1	MCC1.13	SBRBLO-03	C	1	12C #14 TECK	RANDOM SPACING TRAY	A
52	C52	MCC1.13/WAS-03-C1	MCC1.13	WAS-03	C	1	12C #14 TECK	RANDOM SPACING TRAY	A

PANEL – A			VOLTS – 120/208V, 3ø, 4W			
MOUNTING –			MAIN BUS – 225A			
LOCATION – MCC ROOM			MAIN BREAKER – 125A			
LOAD	DESCRIPTION	BKR	CIRCUIT	BKR	DESCRIPTION	LOAD
	BATTERY CHARGER	15	1	2	15	LTG – CENTRIFUGE
	OUTSIDE LIGHTING	15	3	4	15	REC – CENTRIFUGE
	EMERG. LTG. CENTRIFUGE	15	5	6	15	SPARE
	LCP POWER – CENTRIFUGE	15	7	8	15	EXHAUST FAN EF–600
	SPARE	15	9	10	15	EXHAUST FAN EF–601
	SPARE	15	11	12	15	EXHAUST FAN EF–602
	NEW SBR CONTROL PANEL	20	13	14	15	REC
	POLYMER RM. EXHAUST FAN	15	15	16	15	BLOWER RM LIGHTING
	SBR CONTROL PANEL	15	17	18	15	POLYMERE RM. LIGHTING
	UV PDC PWR	15	19	20	15	REC
	UV PDC PWR	15	21	22	15	GEN RM LIGHTING
	UV PDC PWR	15	23	24	20	UNIT HEATER UH–1
	UV PDC PWR	15	25	26	2P	
	UV PDC PWR	15	27	28	20	UNIT HEATER UH–2
	UV PDC PWR	15	29	30	2P	
	PLC PWR	15	31	32	15	SPARE
	PLC PWR	15	33	34	15	SPARE
	PLC PWR	15	35	36	15	ENG HEATER
	SPARE	15	37	38	15	PJB – 300
	REC LIFT STATION	15	39	40	15	PJB – 300
	SBR 3 EXTERIOR LIGHTING	15	41	42	15	PJB – 300

DISTRIBUTION PANEL LAYOUT
SCALE NTS

Revision	By	Appd.	YY.MM.DD
2	ISSUED FOR TENDER	TY	TC 22.07.25
1	ISSUED FOR 90% SUBMISSION	TY	TC 22.06.03
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SOOKE WWTP EXPANSION PROJECT

Sooke, BC Canada

File Name: 20131_e613.dwg

AF SS BP 7/26/2022
Dwn. Chkd. Dgn. YY.MM.DD

Title

ELECTRICAL
SCHEDULES

Project No.

111720131

Drawing No.

E613

Scale

AS NOTED

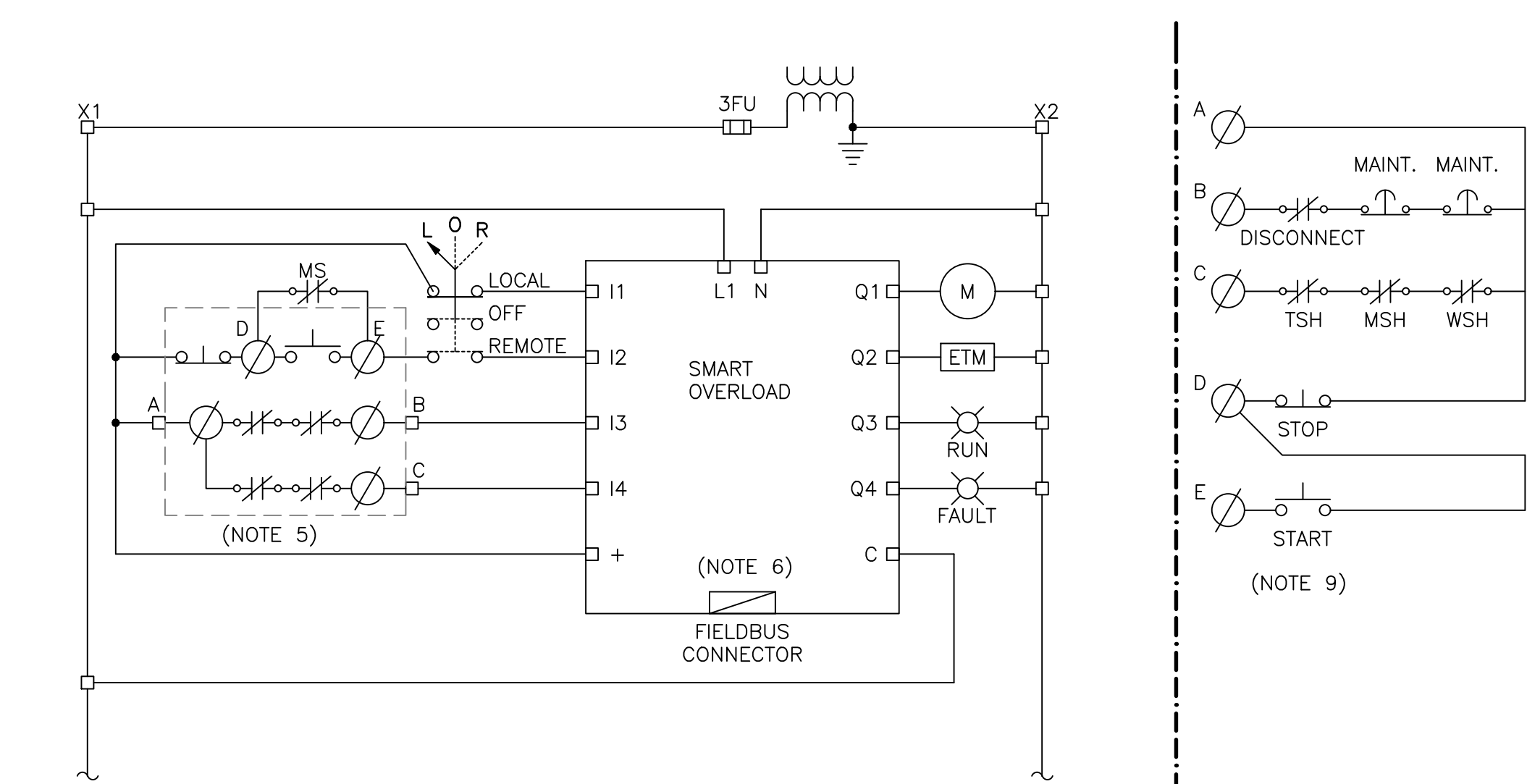
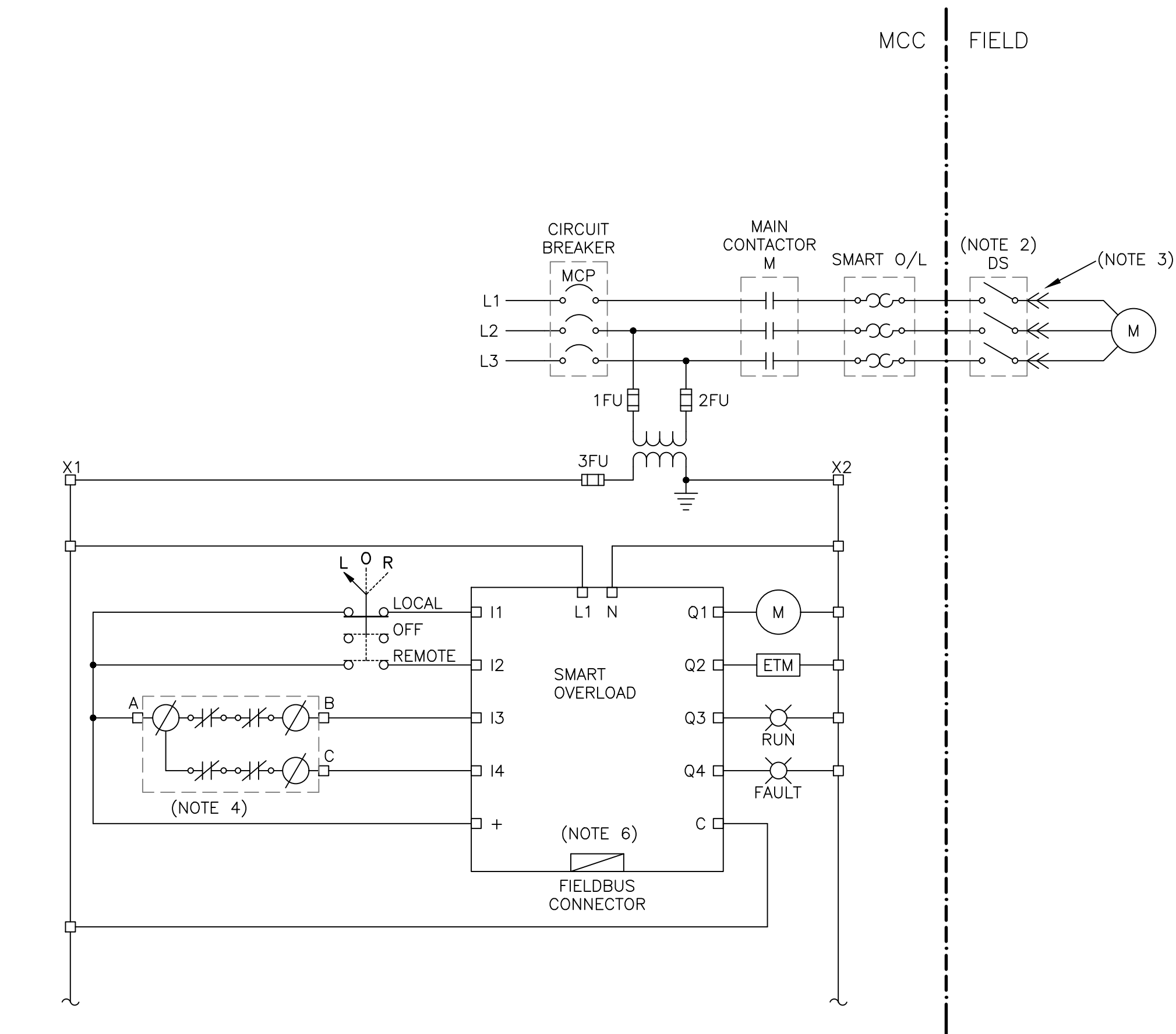
Sheet

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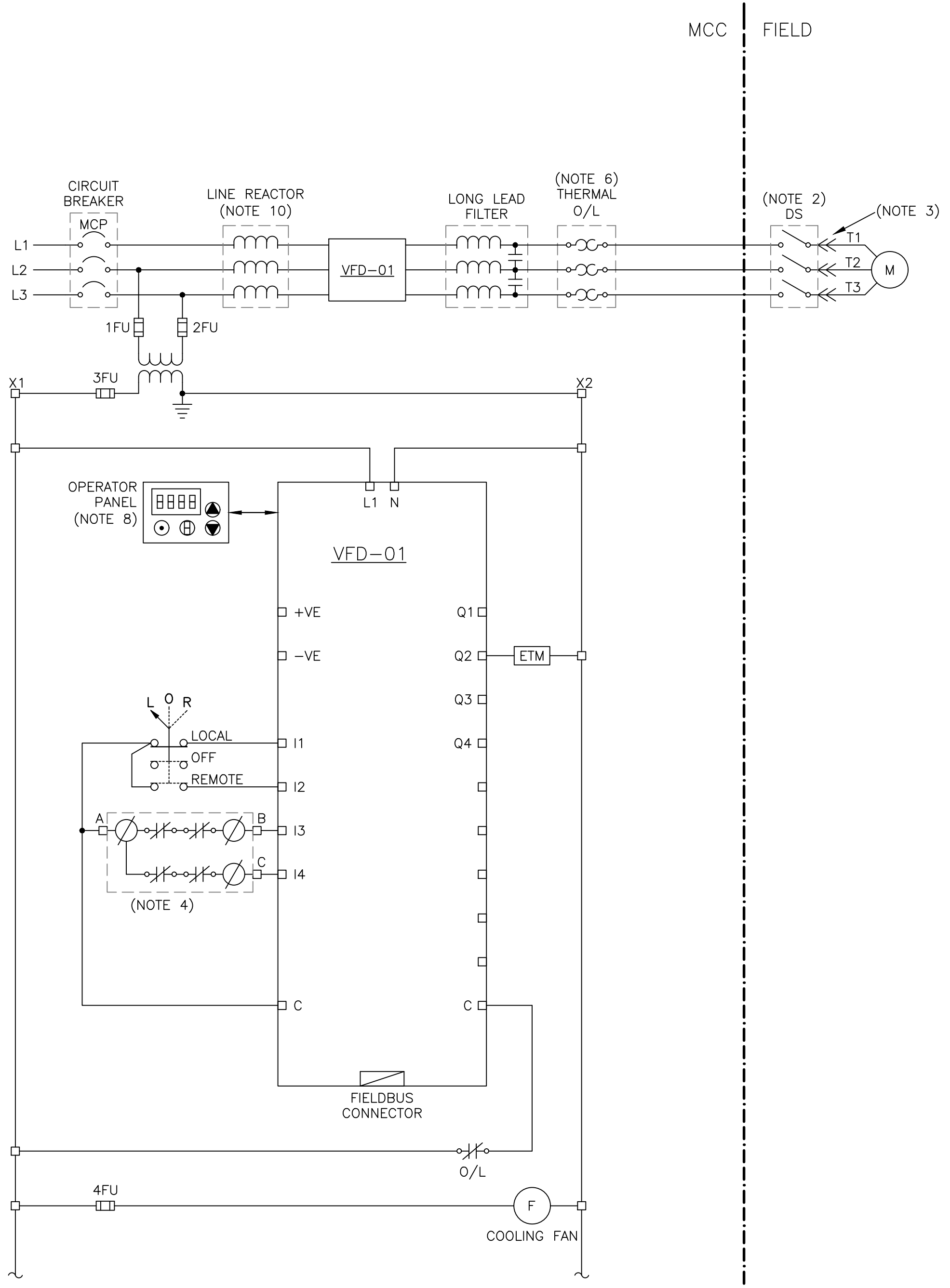
Revision

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**TYPE "A" STARTER
FVNR**



**TYPE "B" STARTER
(VARIABLE SPEED DRIVE)**

NOTES:

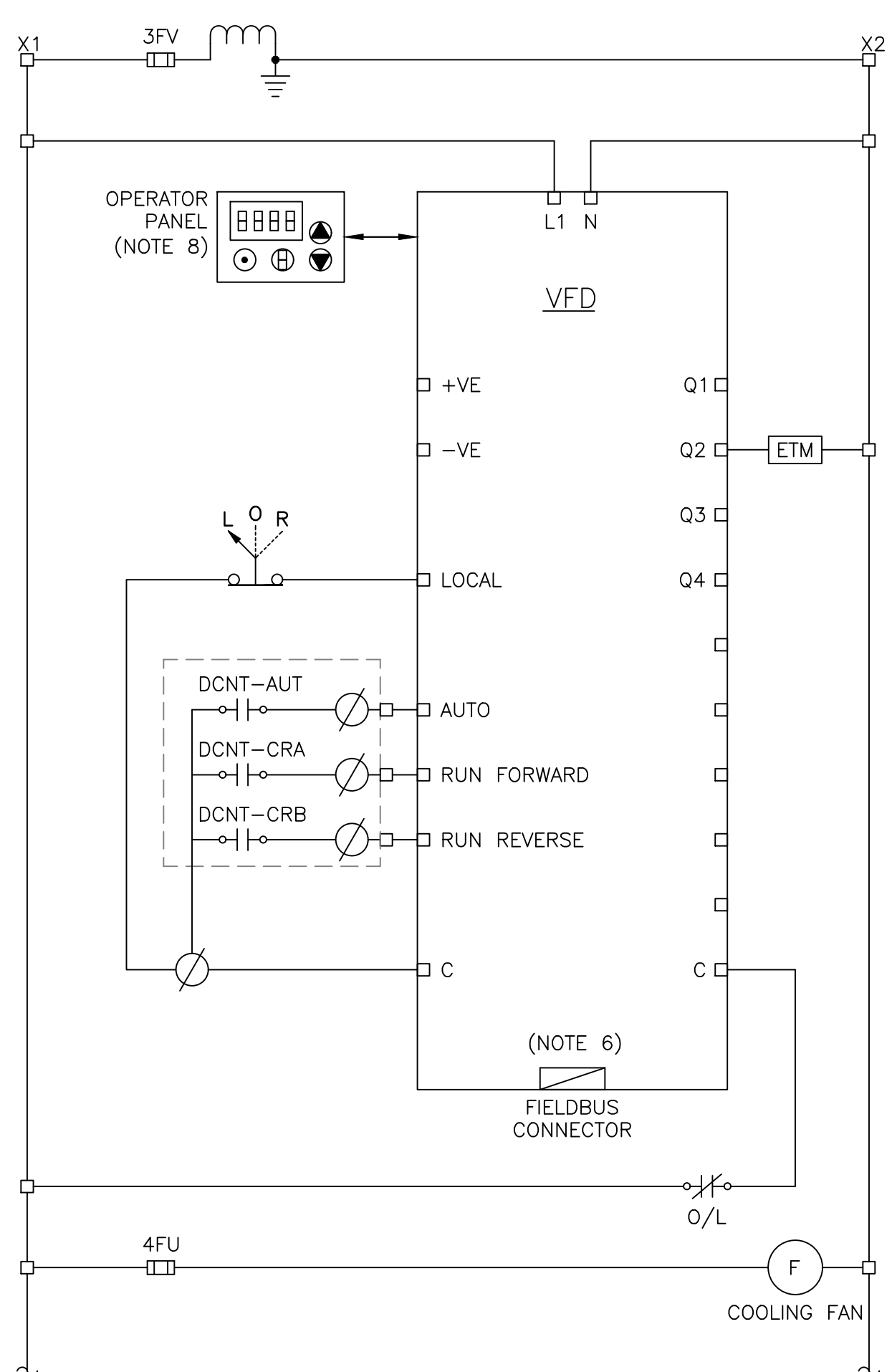
FINAL CONTROL SCHEME AND CONNECTIONS ARE SUBJECT TO SELECTION OF VFD VENDOR. CONTRACTOR TO PROVIDE ALL POWER, CONTROLS AND SIGNALS REQUIRED TO COMPLETE THE INSTALLATION FOR FULL OPERATION UPON RECEIPT OF FINAL SHOP DRAWINGS FROM THE VFD VENDOR.

WHERE APPLICABLE, NON FUSED, LOCKABLE DISCONNECT SWITCH, NEMA-4X STAINLESS STEEL ENCLOSURE, RATED AS PER SINGLE LINE DRAWINGS, FIELD MOUNT AS PER DETAIL. INCLUDES AUX CONTACT WIRED BACK TO STARTER USING COMPOSITE CABLE.

SUITABLY RATED PLUG & SOCKET DISCONNECT SHALL BE PROVIDED FOR ALL SUBMERSIBLE EQUIPMENT (METRIC DECONTACTOR SERIES)

REMOTE FIELD INTERLOCKS (E-STOP, LOCAL DISCONNECT, TORQUE LIMITS, HIGH TEMP SWITCH, HIGH MOISTURE SWITCH)

WHERE APPLICABLE, REMOTE FIELD INTERLOCKS AS PER ITEM 4 INCLUDING FIELD MOUNTED STOP/START CONTROLS.



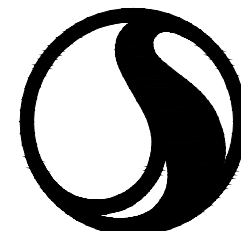
**WIRING DETAIL SPECIFIC FOR
DECANTER VFD'S**

(NOT ALL TERMINALS SHOWN - REFER TO TYPICAL VFD LAYOUT)

Revision	By	Appd.	YY.MM.DD
2	ISSUED FOR TENDER	TY	TC 22.07.25
1	ISSUED FOR 90% SUBMISSION	TY	TC 22.06.03
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SOOKE WWTP EXPANSION PROJECT
Sooke, BC Canada

Title
ELECTRICAL
VFD WIRING SCHEMATICS

Project No. 111720131	Scale AS NOTED	
Drawing No. E614	Sheet 49 of 49	Revision 0