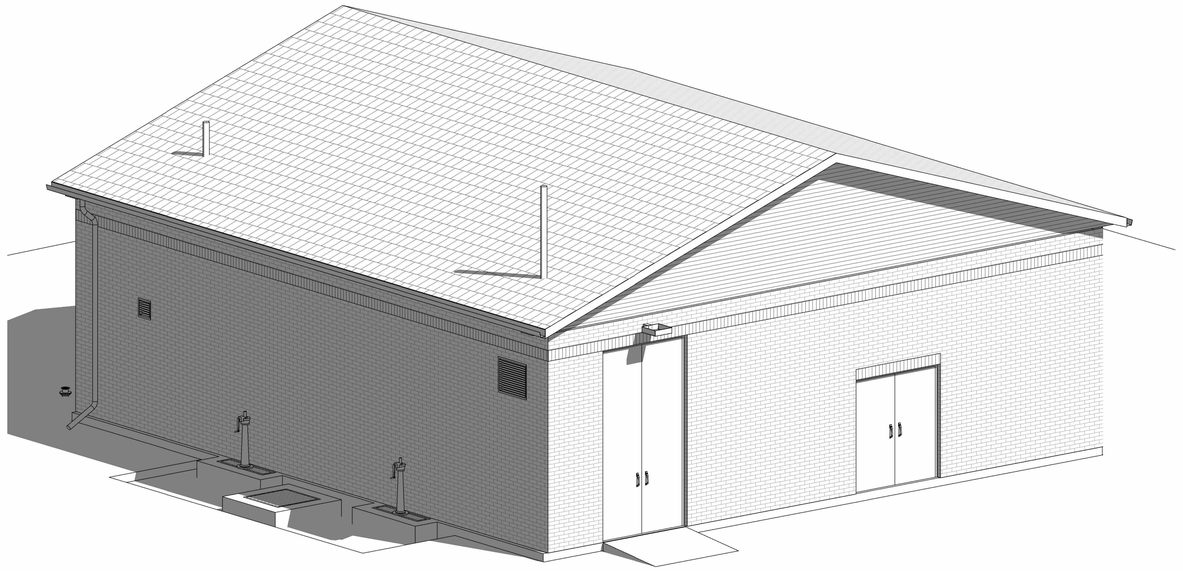
TITLEBLOCK 24x36 COVER SHEET ENG

BLIND RIVER INTAKE AND LLPS

ISSUED FOR TENDER JAN 2026
T001592B



CIVIL

SHEET #	SET #	SET TOTAL	SHEET NAME
C-001	1	84	LEGENDS AND GENERAL NOTES
C-101	2	84	REMOVALS PLAN
C-102	3	84	PLAN & PROFILE 9+951.2 TO 9+900
C-103	4	84	PLAN & PROFILE 9+900 TO 10+070
C-104	5	84	PLAN & PROFILE 10+070 TO 10+240
C-105	6	84	PLAN & PROFILE 10+240 TO 10+400

STRUCTURAL

SHEET #	SET #	SET TOTAL	SHEET NAME
S-001	7	84	GENERAL NOTES
S-002	8	84	GENERAL NOTES & ABBREVIATIONS
S-050	9	84	INTAKE PIPE CRIB SUPPORT 3D VIEW AND PLANS
S-051	10	84	INTAKE PIPE CRIB SUPPORT SECTIONS AND DETAILS
S-101	11	84	STRUCTURAL PLANS - 01
S-102	12	84	STRUCTURAL PLANS - 02
S-103	13	84	ENLARGED STRUCTURAL PLANS
S-301	14	84	STRUCTURAL SECTIONS - 01
S-302	15	84	STRUCTURAL SECTIONS - 02
S-303	16	84	STRUCTURAL SECTIONS - 03
S-304	17	84	STRUCTURAL SECTIONS - 04
S-501	18	84	STRUCTURAL DETAILS
S-701	19	84	STRUCTURAL TYPICAL DETAILS
S-702	20	84	STRUCTURAL TYPICAL DETAILS
S-703	21	84	STRUCTURAL TYPICAL DETAILS
S-704	22	84	STRUCTURAL TYPICAL DETAILS
S-705	23	84	STRUCTURAL TYPICAL DETAILS

ARCHITECTURAL

SHEET #	SET #	SET TOTAL	SHEET NAME
A-001	24	84	GENERAL INFORMATION
A-002	25	84	OBC COMPLIANCE
A-003	26	84	LIFE SAFETY
A-004	27	84	CONSTRUCTION ASSEMBLIES
A-101	28	84	LOWER WELLS (SERVICE LEVEL) PLAN
A-102	29	84	GROUND FLOOR PLAN
A-103	30	84	ROOF PLAN
A-151	31	84	GROUND FLOOR REFLECTED CEILING PLAN
A-201	32	84	NORTH AND EAST ELEVATIONS
A-202	33	84	SOUTH AND WEST ELEVATIONS
A-301	34	84	SECTIONS
A-302	35	84	SECTIONS
A-303	36	84	WALL SECTIONS
A-501	37	84	DETAILS
A-502	38	84	DETAILS
A-601	39	84	INTERIOR SCHEDULES
A-901	40	84	PERSPECTIVES

PLUMBING

SHEET #	SET #	SET TOTAL	SHEET NAME
P-001	41	84	PLUMBING LEGEND AND GENERAL NOTES
P-101	42	84	PLUMBING - FLOOR PLANS
P-501	43	84	SCHEDULES AND DETAILS

MECHANICAL

SHEET #	SET #	SET TOTAL	SHEET NAME
M-001	53	84	MECHANICAL LEGEND AND GENERAL NOTES
M-101	54	84	MECHANICAL GROUND FLOOR PLAN
M-501	55	84	MECHANICAL SCHEDULES AND DETAILS
M-502	56	84	MECHANICAL DETAILS

PROCESS

SHEET #	SET #	SET TOTAL	SHEET NAME
D-021	44	84	P&ID LEGEND
D-022	45	84	INTAKE & LLPS P&ID
D-023	46	84	SODIUM HYPOCHLORITE DOSING SYSTEM & MISCELLANEOUS EQUIPMENT P&ID
D-101	47	84	LLPS GROUND FLOOR
D-102	48	84	LLPS LOWER LEVEL
D-301	49	84	LLPS SECTION A
D-302	50	84	LLPS SECTION B
D-501	51	84	INTAKE DETAILS
D-901	52	84	LLPS 3D VIEWS

ELECTRICAL

SHEET #	SET #	SET TOTAL	SHEET NAME
E-001	57	84	LEGEND AND GENERAL NOTES
E-102A	58	84	PROPOSED ELECTRICAL SITE PLAN
E-102B	59	84	FIBER OPTIC CABLE INSTALLATION SITE PLAN
E-103	60	84	SITE PLAN DETAILS - SHEET 1
E-104	61	84	SITE PLAN DETAILS - SHEET 2
E-108A	62	84	ELECTRICAL POWER & SYSTEMS LAYOUTS
E-108B	63	84	ELECTRICAL CABLE TRAY & CONDUIT LAYOUT
E-109	64	84	ELECTRICAL LIGHTING LAYOUT
E-501	65	84	GROUNDING & BONDING DETAILS - SHEET 1
E-502	66	84	GROUNDING & BONDING DETAILS - SHEET 2
E-503	67	84	ELECTRICAL DETAILS - SHEET 1
E-504	68	84	ELECTRICAL DETAILS - SHEET 2
E-505	69	84	ELECTRICAL DETAILS - SHEET 3
E-506	70	84	ELECTRICAL DETAILS - SHEET 4
E-601	71	84	SINGLE LINE DIAGRAM
E-602	72	84	ELECTRICAL PANEL SCHEDULES
E-603	73	84	VFD CONTROL SCHEMATIC

INSTRUMENTATION

SHEET #	SET #	SET TOTAL	SHEET NAME
I-001	74	84	INSTRUMENTATION LEGEND & GENERAL NOTES (1)
I-002	75	84	INSTRUMENTATION LEGEND & GENERAL NOTES (2)
I-501	76	84	INSTRUMENT CONTROL PANEL BILL OF MATERIAL
I-502	77	84	INSTRUMENT CONTROL PANEL LAYOUT
I-503	78	84	INSTRUMENT CONTROL PANEL POWER DISTRIBUTION (1)
I-504	79	84	INSTRUMENT CONTROL PANEL POWER DISTRIBUTION (2)
I-505	80	84	TYPICAL IO WIRING DETAILS
I-506	81	84	INSTRUMENTATION DETAILS SHEET 1
I-507	82	84	INSTRUMENTATION DETAILS SHEET 2
I-508	83	84	INSTRUMENTATION DETAILS SHEET 3
I-603	84	84	NETWORK ARCHITECTURE

PRINT DATE: 2026-01-16 5:04:02 PM
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt

LEGEND – EXISTING	
INDEX CONTOUR (0.5m INTERVAL)	143
INTERMEDIATE CONTOUR (0.1m INTERVAL)	
PROPERTY LINE	
SURVEY MONUMENT	SIB
EDGE OF ASPHALT	
EDGE OF GRAVEL	
RAIL LINE	
FENCE LINE	
DITCH LINE	
EDGE OF WATER	
WOOD OUTLINE	
AERIAL HYDRO	HCA
AERIAL BELL	BCA
AERIAL BELL & HYDRO	B&H
UNDERGROUND GAS	G
UNDERGROUND BELL	BCU
UTILITY POLE	B&H
UTILITY ANCHOR	AN
MAINTENANCE HOLE	MH
CATCH BASIN	CB
TERMINAL BOX	TB
FIRE HYDRANT	
WATER VALVE	WV
WATERMAIN	W
SANITARY SEWER	SAN
STORM SEWER	ST
BOREHOLE	BH-23-04
MONITORING WELL	MW

LEGEND – PROPOSED	
ASPHALT APRON/DRIVEWAY	
DITCH LINE	
WATER SERVICE	
RAW WATER LINE	
CURB STOP	
SANITARY SEVICE	
GRADING LIMITS	
SILT FENCE	
SUBDRAIN	
SLOPE ARROW	4.7%
SPOT ELEVATION	180.20

LEGEND – PROFILE & SECTIONS
EXISTING GRADE
INFERRED ROCK
PROPOSED GRADE
GRANULARS
WATER SERVICE
RAW WATER LINE
SANITARY SERVICE

GENERAL NOTES:

1. ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND ONTARIO PROVINCIAL STANDARD DRAWINGS TO APPLY UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL QUALITY CONTROL TESTING REQUIRED PER APPLICABLE OPSS.MUNI SPECIFICATION AND SHALL SUPPLY THE OWNER'S REPRESENTATIVE WILL COPIES OF ALL TEST RESULTS. THE OWNER MAY CARRY OUT QUALITY ASSURANCE TESTING AT THE OWNER'S COST.
3. CONSTRUCTION WORKS SHALL BE COMPLETED IN ACCORDANCE WITH GEOTECHNICAL MEMORANDUM, TITLED "OFFSHORE GEOTECHNICAL INVESTIGATION FOR THE NEW RAW WATER INTAKE PIPE, BLIND RIVER, ONTARIO", PREPARED BY TULLOCH, OCTOBER 20, 2025.
4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO PERFORMING ANY WORK AND MAKE THEMSELVES FULLY AWARE OF ALL EXISTING SITE CONDITIONS.
5. DRAWINGS ARE NOT TO BE SCALED.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
7. ALL MATERIAL THAT DOES NOT MEET SPECIFICATIONS, AS DETERMINED BY THE ENGINEER WILL BE REJECTED AND MUST BE REMOVED AND REPLACED. THIS SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
8. ALL EROSION AND SEDIMENT CONTROLS SHALL FOLLOW AND BE IN ACCORDANCE WITH GENERAL BEST MANAGEMENT PRACTICES PRIOR TO UNDERTAKING WORKS.
9. NOTIFY ALL UTILITY DEPARTMENTS 72 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. UTILITY PERSONNEL TO BE ON SITE WHEN EXCAVATING ADJACENT TO UNDERGROUND UTILITIES.
10. SUPPORT UTILITIES IN ACCORDANCE WITH THE DIRECTIONS AND GUIDELINES OF THE IMPACTED UTILITY.
11. THE LOCATION OF UTILITIES SHOWN ON DRAWINGS IS APPROXIMATE AND MAY BE INCOMPLETE. CONFIRM EXACT LOCATION OF UTILITIES WITH MINISTRY, MUNICIPALITY OR UTILITIES. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION AND WILL BE RESPONSIBLE FOR PROTECTING AGAINST DAMAGE. THE CONTRACTOR ASSUMES ALL LIABILITY FOR DAMAGE TO UTILITY AND ROAD WORKS.
12. COMPLETE ALL TRENCHING IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH & SAFETY ACT.
13. COMPLY WITH THE REQUIREMENTS OF THE TOWN OF BLIND RIVER IN REGARDS TO TRAFFIC FLOW ON MUNICIPAL STREETS. MAINTAIN PEDESTRIAN ACCESS AT ALL TIMES.
14. ALL INSTALLATIONS ARE TO BE COMPLETED TO THE SATISFACTION OF THE ENGINEER AND THE TOWN OF BLIND RIVER IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
15. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT INCLUDING ALL LINES AND GRADES FROM PLANS.
16. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING, AS MAY BE REQUIRED TO FACILITATE THE WORKS.
17. THE CONTRACTOR SHALL DISPOSE OF EXCESS MATERIAL OFF SITE AS PER OPSS.MUNI 180. EARTHEN MATERIALS SHALL BE DELIVERED TO THE TOWN OF BLIND RIVER LANDFILL. ROCK MATERIALS SHALL BE DELIVERED OT THE TOWN OF BLIND RIVER BOOM CAMP ROAD PIT.
18. THE CONTRACTOR IS RESPONSIBLE TO VERIFY THE EXISTING SERVICING LOCATIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES MUST BE CONFIRMED BY THE ENGINEER PRIOR TO CONSTRUCTION.
19. THE CONTRACTOR SHALL NOT OPERATE ANY WATER VALVES. OPERATION OF THE WATER DISTRIBUTION SYSTEM WILL BE COMPLETED BY THE TOWN OF BLIND RIVER OR THEIR AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE MINIMUM 48 HRS NOTICE FOR OPERATION OF ANY WATER VALVES.
20. CIVIL GRADING AND DRAWINGS CEASE AT THE EXTERIOR OF THE BUILDING FOOTPRINT. ALL CONNECTIONS TO AND DESIGN OF WORKS WITHIN OR BELOW THE BUILDING FOOTPRINT ARE THE RESPONSIBILITY OF OTHERS. SEE ASSOCIATED DRAWINGS FOR DETAILS.
21. CONSTRUCTION SHALL ADHERE TO THE ASSOCIATE WORK WINDOWS FOR WORKS IN OR NEAR WATER BODIES AND WETLANDS.
22. COMPLETE ALL WORKS NEAR ENBRIDGE GAS LINE IN ACCORDANCE WITH ENBRIDGE THIRD-PARTY REQUIREMENTS IN THE VICINITY OF NATURAL GAS FACILITIES STANDARD, 2024.01.31.

EROSION & SEDIMENT CONTROL NOTES:

1. ALL REQUIRED SILTATION AND EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO CONSTRUCTION TO PREVENT EROSION AND THE MIGRATION OF SEDIMENT DURING CONSTRUCTION. ALL SILTATION AND EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL GROUND COVER IS RE-ESTABLISHED TO THE ORIGINAL CONDITION OR BETTER AS DETERMINED BY THE ENGINEER OR THE ENGINEER'S REPRESENTATIVE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND INSTALLING ALL REQUIRED EROSION & SEDIMENT CONTROL MEASURES BASED ON THEIR CONSTRUCTION ACTIVITIES. THE MEASURES LISTED ON THESE DRAWINGS ARE THE MINIMUM REQUIRED, HOWEVER ADDITIONAL MEASURES MAY BE NECESSARY.
3. ALL SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED WEEKLY AND AFTER EACH SIGNIFICATION PRECIPITATION EVENT AND MAINTAINED, REPAIRED OR REPLACED AS NECESSARY. THE CONTRACTOR OR CONTRACTOR'S REPRESENTATIVE SHALL MAINTAIN A WEEKLY REPORT ON SEDIMENT CONTROL MEASURES INCLUDING ALL CORRECTIVE ACTION TAKEN DURING THE REPORTING PERIOD TO ENSURE CONTROL MEASURES ARE WORKING EFFECTIVELY. IF THE SEDIMENT AND EROSION CONTROL MEASURES ARE NOT FUNCTIONING PROPERLY, THE CONTRACTOR WILL SUSPEND CONSTRUCTION UNTIL THE ISSUES ARE ADDRESSED.
4. SILT FENCING TO BE INSTALLED AT THE BOTTOM OF ALL FILL SLOPES AND DOWN GRADIENT OF ANY STOCKPILED MATERIAL WHEN THERE IS THE POSSIBILITY OF SEDIMENT MIGRATING TO ADJACENT PROPERTIES.
5. THE SITE SUPERVISOR WILL HOLD A MEETING OF ALL EQUIPMENT OPERATORS WORKING AT THE SITE TO MAKE THEM AWARE FOR MEASURES TO CONTROL SEDIMENT.
6. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A SPILL RESPONSE PLAN AND HAVE AN EMERGENCY SPILL KIT ONSITE.
7. SOILS PRONE TO EROSION WILL BE RESTORED AS SOON AS POSSIBLE BY SEEDING AND IF NECESSARY SEEDING AND MULCHING OR INSTALLING EROSION CONTROL BLANKET.
8. WHEN WORK IS COMPLETED AND AREAS STABILIZED AS DEEMED ACCEPTABLE BY THE ENGINEER, TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED FROM THE WORK SITE.
9. LIGHT DUTY SILT FENCE BARRIER TO BE INSTALLED IN ACCORDANCE WITH OPSS 805 AND OPSD 219.110.
10. STRAW BALE CHECK DAMS TO BE INSTALLED IN ACCORDANCE WITH OPSS 805 AND OPSD 219.180.
11. STREET SWEEPING, CATCH BASIN CLEANING AND DUST CONTROL ARE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE KEPT UNDER CONTROL OF ALL ROADWAYS TO THE SATISFACTION OF THE ENGINEER AND THE TOWN OF BLIND RIVER.
12. WHEN POSSIBLE, THE CONTRACTOR SHALL MINIMIZE EARTHWORKS DURING WET WEATHER CONDITIONS.
13. THE CONTRACTOR SHALL KEEP DUST TO A MINIMUM BY USE OF DUST SUPPRESSANT AS PER OPSS 506.

STREET RECONSTRUCTION NOTES:

1. INSTALL EROSION AND SEDIMENT CONTROL MEASURES AS SPECIFIED. ADDITIONAL MEASURES MAY BE REQUIRED DURING CONSTRUCTION BASED ON SITE CONDITIONS.
2. ALL REMOVALS TO BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 510. LIMITS TO BE SAWCUT.
3. ROADWAY ASPHALT AND SIDEWALK SURFACES TO BE REMOVED SEPARATELY FROM GRANULARS.
4. EXCAVATION TO BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 206. EXCAVATIONS TO ALLOW FOR RECONSTRUCTION OF STREET TO EXISTING GRADES AND ELEVATIONS.
5. PLACE & COMPACT GRANULAR "B" AND GRANULAR "A" - OPSS.MUNI 314 & OPSS.MUNI 501.
6. PLACE 50MM HL3 SURFACE ASPHALT.
7. INSTALL TOPSOIL AND SOD TO ALL DISTURBED AREAS AND REINSTATE TO EXISTING CONDITIONS OR BETTER.
8. CONTRACTOR TO PREPARE TRAFFIC PLAN FOR REVIEW BY THE CONSULTANT AND TOWN OF BLIND RIVER IN ADVANCE OF CONSTRUCTION. SINGLE LANE CLOSURES DURING DAYTIME HOURS PERMITTED WITH MAXIMUM FIVE MINUTE WAIT TIME.

WATERMAIN INSTALLATION NOTES:

1. RAW WATER LINES SHALL BE INSTALLED ACCORDING TO OPSS.MUNI 441.
2. THE CONTRACTOR SHALL LOCATE THE EXISTING WATERMAIN AND SUPPLY THE NECESSARY MANUFACTURER APPROVED COUPLERS TO MAKE THE CONNECTIONS.
3. THE 300MMØ TWIN RAW WATER LINES SHALL BE INSTALLED WITH A MINIMUM OF 2.1M OF COVER.
4. PROVIDE INSULATION PROTECTION IN AREAS <2.1M COVER, AT THE DIRECTION OF THE ENGINEER. INSTALL 25MM THICKNESS OF DOW HI LOAD-60 ABOVE WATERMAIN OR WATER SERVICE FOR EACH 300MM OF COVER REQUIRED (OR PART THEREOF) TO ACHIEVE MINIMUM 2.1M EQUIVALENT COVER.
5. MAINTAIN MINIMUM CLEAR SEPARATION OF 2.5M HORIZONTAL BETWEEN SEWERS AND WATERMAIN. WHERE WATERMAIN SEPARATION TO SANITARY SEWER IS LESS THAN 2.5M HORIZONTALLY, INVERT OF WATERMAIN SHALL BE LOCATED A MINIMUM OF 0.5M ABOVE THE CROWN OF THE SANITARY SEWER. SUCH SEPARATION SHALL BE IN-SITU MATERIAL OR COMPACTED BACKFILL. WHERE VERTICAL SEPARATION CANNOT BE OBTAINED, THE SEWER SHALL BE CONSTRUCTED OF MATERIALS AND JOINTS THAT ARE EQUIVALENT TO WATERMAIN STANDARDS OF CONSTRUCTION WITH THE LENGTH OF WATER PIPE TO BE CENTERED ON THE CROSSING.
6. WATERMAIN PIPE SHALL BE AWWA C900 PVC CLASS 235 DR18 AND BE CERTIFIED TO CSA 137.3. FITTINGS SHALL BE PVC CONFORMING TO AWWA C907.
7. A CONTINUOUS RWU NO. 12 SOLID COPPER HMWPE TRACING WIRE SHALL BE INSTALLED WITH PVC WATERMAIN, WATER SERVICE AND VALVES. TRACER WIRE SHALL EXTEND INSIDE THE BUILDING AND CONNECTED TO THE NEAREST FITTING, WITH TERMINATION VIA STRAPPING TO THE CAP OF THE RAW WATER LINE, OR BRINGING TO SURFACE AT THE CURB STOP FOR THE WATER SERVICE.
8. ALL JOINTS INCLUDING CONNECTIONS, CAPS, VALVES, TEES AND BENDS SHALL BE RESTRAINED BY MECHANICAL JOINTS.
9. INSTALL JOINT RESTRAINTS SHALL BE IN ACCORDANCE WITH THE RESTRAINED LENGTH TABLES. JOINT RESTRAINTS ON NEW PVC SHALL BE UNI-FLANGE SERIES 1390 OR APPROVED EQUIVALENT. ON EXISTING CAST IRON CLASS 250 PIPE USE NSF CERTIFIED CLAMP.
10. GATE VALVES SHALL BE MUELLER EQUIPPED WITH VALVE OPERATOR TO OPSD 1101.020. VALVE BOXES SHALL BE MUELLER FOR PVC PIPES.
11. ANODES SHALL BE ZINC ANODES Z-24-48. ANODES SHALL BE CADWELDED TO ALL IRON FITTINGS ACCORDING TO OPSD 1109.011.
12. EMBEDMENT AND COVER OF WATERMAIN AND SERVICE LINE ACCORDING TO OPSS 441 & OPSD 802.010. EMBEDMENT MATERIAL TO BE GRANULAR "A" OR 19MM CLEAR STONE TO SPRING LINE OF PIPE. COVER MATERIAL TO BE GRANULAR 'A' OR 19MMØ CLEAR STONE. BACKFILL TO SUBGRADE WITH SUITABLE NATIVE MATERIAL.
13. NO CONNECTION TO THE MUNICIPAL DISTRIBUTION SYSTEM SHALL BE MADE UNTIL THE NEW WATERMAIN AND SERVICE HAS PASSED REQUIRED TESTING. THE PVC WATER SERVICE WILL ALSO REQUIRE PRESSURE TESTING. CONNECTION OF NEW WATERMAIN TO EXISTING WATERMAIN SHALL BE COMPLETED BY THE CONTRACTOR AND APPROVED BY THE ALGOMA PUBLIC HEALTH UNIT AND THE TOWN OF BLIND RIVER.

SANITARY SERVICE NOTES:

1. SEWER SERVICE SHALL BE MINIMUM 150MMØ, DR35 PVC PIPE MATERIAL, INSTALLED IN ACCORDANCE WITH OPSD 1006.010, OPSS.MUNI 401, OPSS.MUNI 402 AND OPSS.MUNI 410.
2. MAINTAIN MINIMUM CLEAR SEPARATION OF 2.5M HORIZONTAL AND 0.5M VERTICAL BETWEEN SANITARY SERVICE AND WATER SERVICE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
3. SANITARY SEWER BEDDING FOR FLEXIBLE PIPE SHALL BE AS PER OPSD 802.010 & 802.013. GRANULAR 'A' OR 19MM CLEAR STONE BEDDING AND EMBEDMENT TO SPRINGLINE OF PIPE. COVER MATERIAL TO BE GRANULAR 'A' OR 19MMØ CLEARSTONE. BACKFILL IS TO BE SUITABLE APPROVED NATIVE MATERIAL TO SUBGRADE ELEVATION. BEDDING AND BACKFILL TO BE COMPACTED TO MINIMUM 98% STANDARD PROCTOR DENSITY.
4. THE CONTRACTOR SHALL LOCATE THE EXISTING SANITARY SEWERS AND SUPPLY NECESSARY MANUFACTURER APPROVED COUPLERS TO MAKE THE CONNECTIONS.
5. PROVIDE INSULATION PROTECTION IN AREAS <2.1M COVER, AT THE DIRECTION OF THE ENGINEER. INSTALL 25MM THICKNESS OF DOW HI LOAD-60 ABOVE SANITARY SEWER SERVICE FOR EACH 300MM OF COVER REQUIRED (OR PART THEREOF) TO ACHIEVE MINIMUM 2.1M EQUIVALENT COVER.

SITE GRADING:

1. ALL REMOVALS SHALL BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 510, ASPHALT LIMITS SHALL BE SAWCUT. ALL REMOVED ITEMS AND MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR DISPOSAL OFFSITE. THE TOWN OF BLIND RIVER MAY ACCEPT CLEAN EARTH MATERIALS AT THE LANDFILL AND ROCK MATERIALS AT THE BOOM CAMP ROAD PIT.
2. ALL SITE GRADING IDENTIFIED ON THE DRAWINGS ARE TO TOP OF THE FINISHED SURFACE.
3. ALL EXCAVATIONS TO BE COMPLETED IN ACCORDANCE WITH OPSS.MUNI 180 AND OPSS.MUNI 206. EXCAVATIONS TO ALLOW FOR RECONSTRUCTION OF SITE TO DESIGN GRADES AND ELEVATIONS. ALL EXCESS SOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR FOR DISPOSAL OFFSITE.
4. EXCAVATIONS ADJOINING MARTIN STREET SHALL BE COMPLETED WITH MAXIMUM 5:1 SUBGRADE TAPERS.
5. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE IN ALL SUBGRADES, DITCHES AND SWALES.
6. INSTALL HDPE CULVERT IN ACCORDANCE WITH OPSS.MUNI 314, OPSS.MUNI 401, OPSS.MUNI 410, OPSS.MUNI 501, OPSS.MUNI 1840, OPSD 802.010 AND OPSD 803.030. GRANULAR A BEDDING, EMBEDMENT AND COVER REQUIRED.
7. PROOF ROLL SUBGRADE PRIOR TO PLACING GEOTEXTILE. SUBGRADE SHALL BE APPROVED IN ACCORDANCE WITH GEOTECHNICAL RECOMMENDATIONS PRIOR TO PLACING GEOTEXTILE. UNSUITABLE MATERIALS SHALL BE EXCAVATED IN ACCORDANCE WITH OPSS.MUNI 206 AND REPLACED WITH APPROVED MATERIALS, ENSURING NO PONDING OF WATER IN THE SUBGRADE.
8. INSTALL 150MMØ SOCKED SUBDRAIN IN ACCORDANCE WITH OPSS.MUNI 401, OPSS.MUNI 405, OPSS.MUNI 410, OPSS.MUNI 501, OPSS.MUNI 1840 AND OPSD 206.050, COMPLETE WITH HDPE OUTLET PIPE AND RODENT GRATE. SUBDRAIN BOX TO BE WRAPPED IN NON-WOVEN GEOTEXTILE PER OPSS.MUNI 1860 COMPLETE WITH 19MMØ CLEARSTONE PER OPSS.MUNI 1004.
9. PLACE GEOTEXTILE AND GEOGRID PER OPSS.MUNI 1860. ADJACENT SECTIONS OF GEOTEXTILE OR GEOGRID SHALL BE OVERLAPPED A MINIMUM OF 1.0M.
10. PLACE AND COMPACT GRANULAR "B" AND GRANULAR "A" PER OPSS.MUNI 314, OPSS.MUNI 501 AND OPSS.MUNI 1010. MAXIMUM LIFT THICKNESS OF 200MM.
11. GRANULARS SHALL BE PLACED IN 200MM LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY.
12. PLACE HL3 SURFACE COURSE ASPHALT, COMPLETE WITH TACK COATING AT ALL CONCRETE FACES, PER OPSS.MUNI 308, OPSS.MUNI 310, OPSS.MUNI 710, OPSS.MUNI 1101, OPSS.MUNI 1103 AND OPSS.MUNI 1150. MIX DESIGN SHALL BE CONTRACTOR MIX DESIGN PER OPSS.MUNI 150.04.01.02. ASPHALT CEMENT SHALL BE PGAC 58-34.
13. ASPHALT SHALL BE PLACED TO THE DESIGN GRADES AND ELEVATIONS SPECIFIED, ENSURING POSITIVE DRAINAGE WITH NO PONDING OF WATER ACCEPTED.

INTAKE LINE & STRUCTURE

1. THE INTAKE LINE AND CARRIER LINES CONDUIT SHALL BE INSTALLED TO THE LINES AND GRADES SHOWN ON THE PLANS. THE MAJORITY OF THE WORK WILL BE INSTALLED VIA HORIZONTAL DIRECTIONAL DRILLING, IN ACCORDANCE WITH OPSS.MUNI 450, WITH THE SHORELINE WORK COMPLETED BY OPEN TRENCHING IN ACCORDANCE WITH OPSS.MUNI 441. INTAKE LINE SHALL BE INSTALLED COMPLETE WITH A CONTINUOUS RWU No. 12 SOLID COPPER HMWPE TRACING WIRE.
2. THE WORKS SHALL BE COMPLETED IN ACCORDANCE WITH THE REGULATORY AGENCY PERMITS, AS SECURED BY THE OWNER.
3. ISOLATION OF THE CONVENTIONAL INSTALLATION WORK AREAS SHALL BE COMPLETED VIA TURBIDITY CURTAINS OR OTHER APPROVED METHODS.
4. DEWATERING MAY BE REQUIRED FOR SHORELINE WORKS AND ROCK TRENCHING DEPENDING ON CONTRACTOR'S CONSTRUCTION METHODS.
5. BLASTING NEAR THE SHORELINE SHALL BE COMPLETED IN ACCORDANCE WITH REGULATORY AGENCY REQUIREMENTS.
6. THE INTAKE LINE SHALL BE 400mmØ HIGH DENSITY POLYETHYLENE WATERMAIN PER OPSS.MUNI 441.
7. THE CARRIER LINES CONDUIT SHALL BE HIGH DENSITY POLYETHYLENE.
8. THE INTAKE LINE SHALL BE CONNECTED TO THE BUILDING, AS WELL AS THE INTAKE STRUCTURE PER DETAILS SHOWN ON CIMA+ DRAWINGS.
9. THE INTAKE STRUCTURE SHALL BE COMPLETED PER CIMA+ DRAWINGS.
10. CLAY SEAL TRECH PLUG SHALL BE INSTALLED IN ACCORDANCE WITH OPSS.MUNI 1205 AND OPSD 802.095 TO ELEVATION 177.50m.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
JAN. 15/26
C.L. KIRBY
100111792
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
26/01/15	0	Issued For Tender	DAS	CLK

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

LEGENDS AND GENERAL NOTES

DRAWN	DESIGNED	CHECKED	APPROVED
DAS	DAS	CLK	CLK

SCALE	DATE
-	JAN. 15, 2026

PROJECT NO.	REVISION	DRAWING
250809	0	C-001

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CAUTION

UNDER GROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. UTILITIES ARE TO BE LOCATED PRIOR TO CONSTRUCTION.

TOWN OF BLIND RIVER
SEWAGE TREATMENT PLANT

BH 700

BH-23-01

BH-23-02

MW

CLOSE CUT CLEARING & GRUBBING

REMOVE ASPHALT AS NECESSARY TO ACCOMMODATE SERVICE CONNECTIONS

SAMH Z9-1

177.57

MARTIN STREET

BM Nail & Washers Set in Pole

UM GAS

AN

BH

Horizontal Datum:
GPS Observations Using The Precise Point Positioning (PPP) Service, UTM Zone 17, NAD83 (CSRS) (2010)

Vertical Datum:
GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations

N

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
JAN. 15/26
C.L. KIRBY
100111792
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
26/01/15	0	Issued For Tender	DAS	CLK

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

REMOVALS PLAN

DRAWN	DESIGNED	CHECKED	APPROVED
DAS	DAS	CLK	CLK

SCALE	DATE
1:200	JAN. 15, 2026

PROJECT NO.	REVISION	DRAWING
250809	0	C-002

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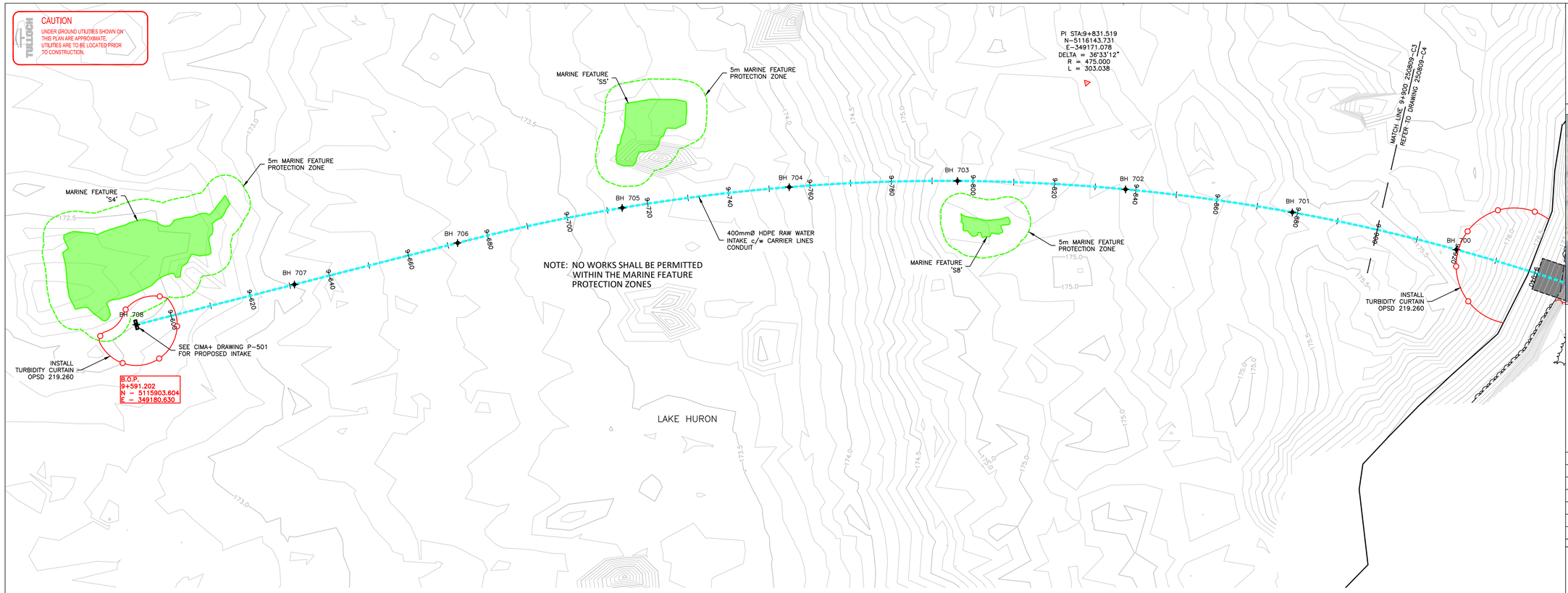
CAUTION

UNDER GROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE. UTILITIES ARE TO BE LOCATED PRIOR TO CONSTRUCTION.



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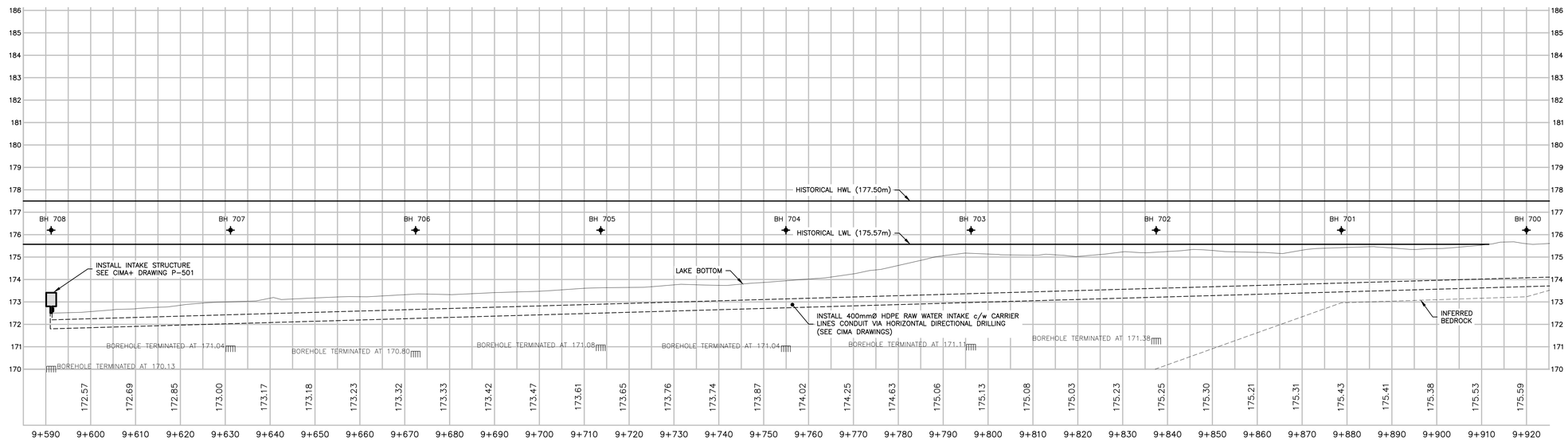
Vertical Datum:
GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations



KEY PLAN

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JAN. 15/26
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PROVINCE OF ONTARIO

26/01/15	0	Issued For Tender	DAS	CLK
DATE	REV.	REVISION	BY	APP'D

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

PLAN & PROFILE 9+591.2 to 9+900

DRAWN	DESIGNED	CHECKED	APPROVED
DAS	DAS	CLK	CLK

SCALE	DATE
HOR. 1:500 VER. 1:100	JAN. 15, 2026

PROJECT NO.	REVISION	DRAWING
250809	0	C-003

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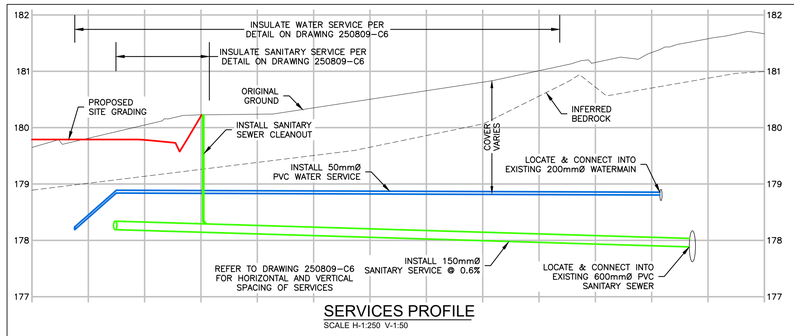
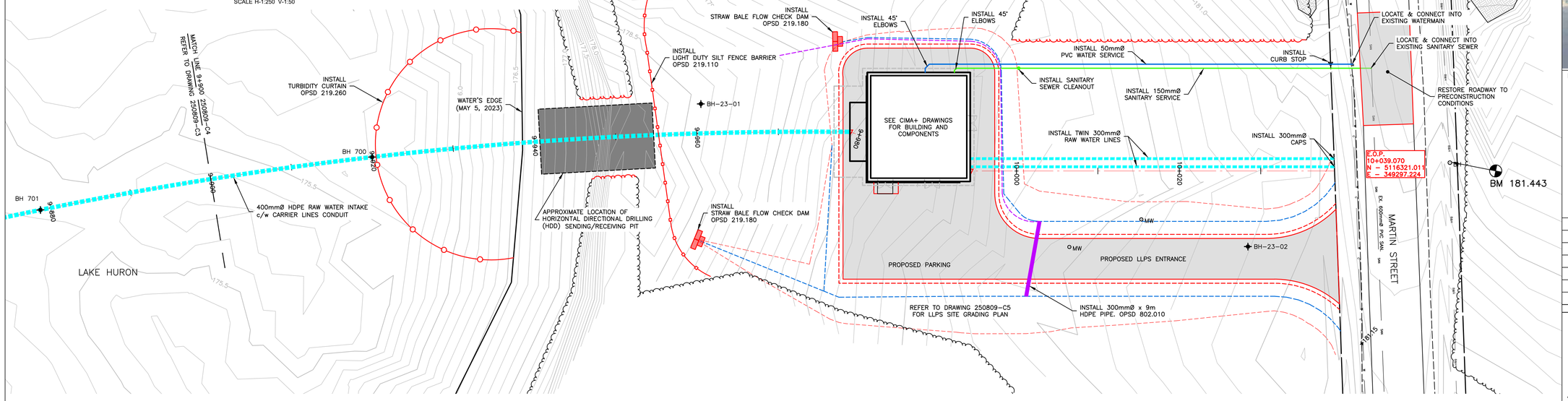
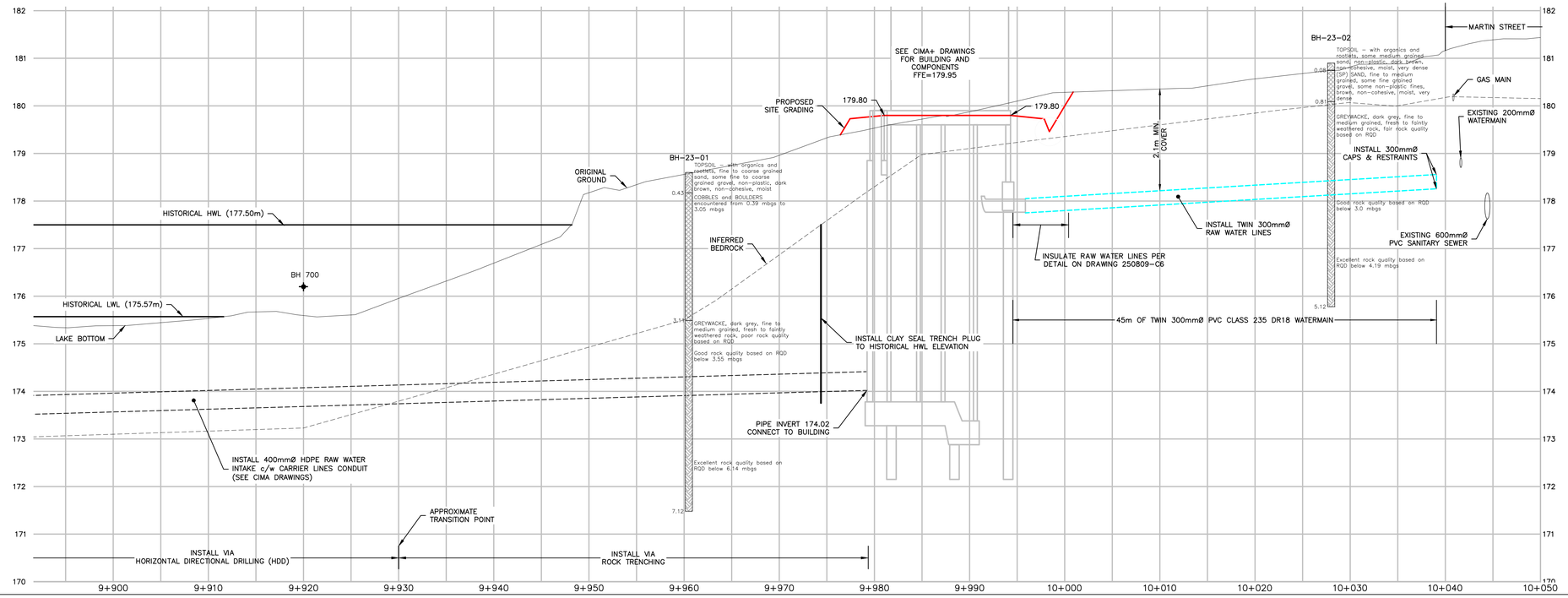


SERVICES PROFILE

SCALE H-1:250 V-1:50





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CAUTION

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Horizontal Datum:
GPS Observations Using The Precise Point Positioning (PPP) Service, UTM Zone 17, NAD83 (CSRS) (2010)

Vertical Datum:
GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
JAN. 15/26
C.L. KIRBY
100111792
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
26/01/15	0	Issued For Tender	DAS	CLK

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

PLAN & PROFILE 9+900 to 10+070

DRAWN	DESIGNED	CHECKED	APPROVED
DAS	DAS	CLK	CLK

SCALE	DATE
HOR. 1:500 VER. 1:100	JAN. 15, 2026

PROJECT NO.	REVISION	DRAWING
250809	0	C-004

Horizontal Datum:
GPS Observations Using The Precise Point Positioning (PPP) Service, UTM Zone 17, NAD83 (CSRS) (2010)

Vertical Datum:
GPS Observations Using The Precise Point Positioning (PPP) Service, Canadian Geodetic Vertical Datum of 1928 (CGVD1928), Geodetic Elevations

CAUTION
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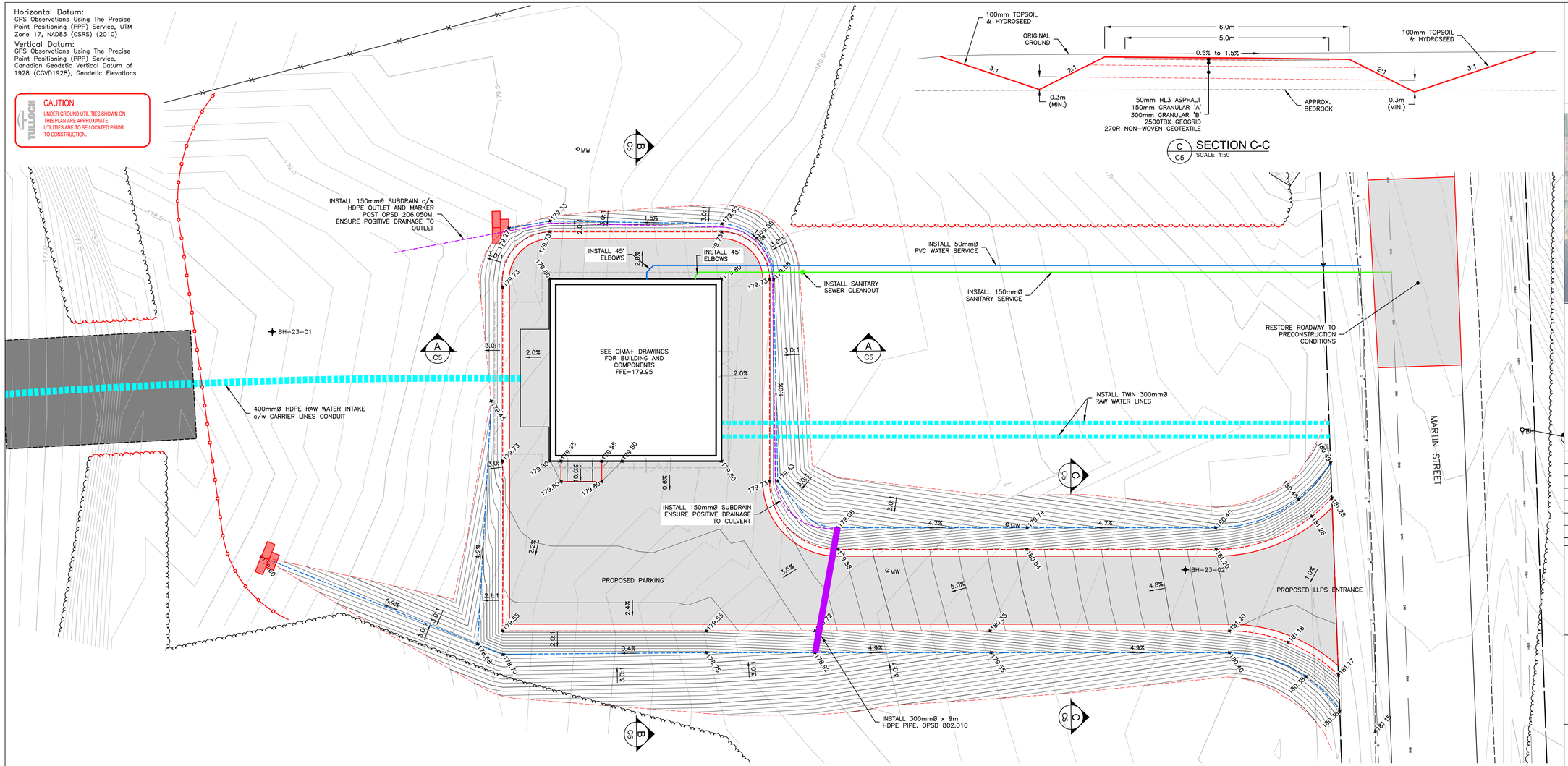
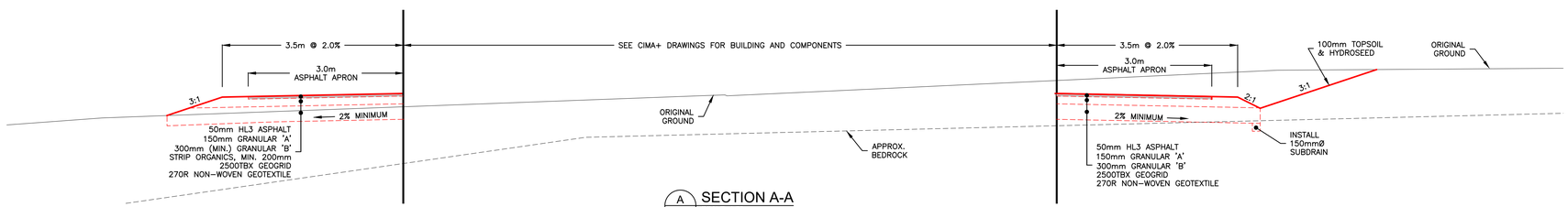
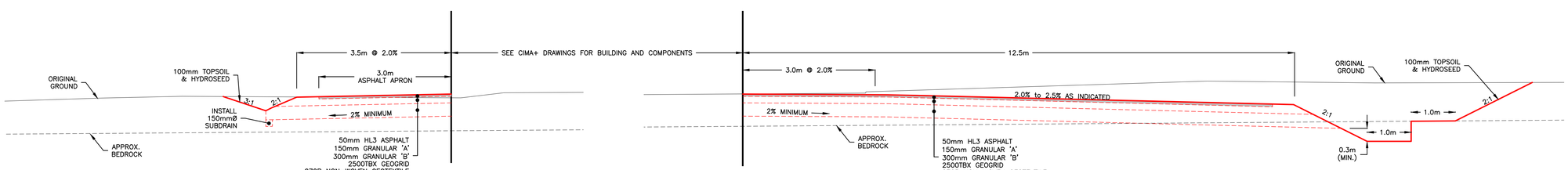


C / C5 SECTION C-C
SCALE 1:50



A / C5 SECTION A-A
SCALE 1:50



B / C5 SECTION B-B
SCALE 1:50

KEY PLAN

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LICENSED PROFESSIONAL ENGINEER
JAN. 15/26
C.L. KIRBY
100111792
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APPD
26/01/15	0	Issued For Tender	DAS	CLK

Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

LLPS SITE GRADING DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED
DAS	DAS	CLK	CLK

SCALE	DATE
1:250	JAN. 15, 2026

PROJECT NO.	REVISION	DRAWING
250809	0	C-005

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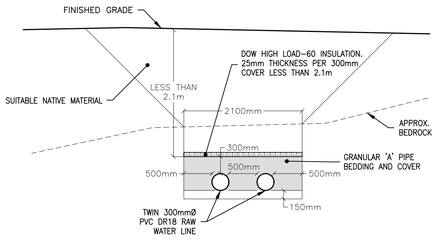
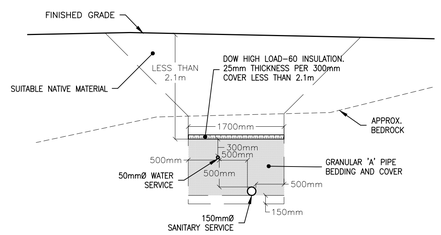


TYPICAL RAW WATER LINE INSTALLATION DETAIL

SCALE N.T.S.

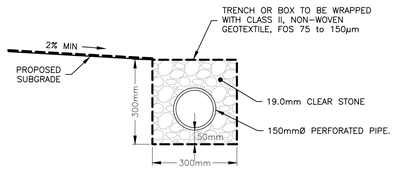


TYPICAL SERVICES INSTALLATION DETAIL - TRENCH

SCALE N.T.S.

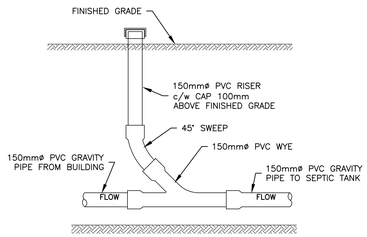
INSULATION REQUIREMENTS		
COVER DEPTH FINISHED GRADE TO TOP OF PIPE (m)	WIDTH OF INSULATION REQUIRED (m) *	THICKNESS OF INSULATION REQUIRED (mm)
2.1	0.00	0
2.0	0.53	25
1.9	0.80	25
1.8	1.04	50
1.7	1.26	50
1.6	1.48	50
1.5	1.70	75
1.4	1.91	75
1.3	2.12	75
1.2	2.32	100

*** WIDTH IDENTIFIED SHALL BE CENTRED OVER THE PIPE.**



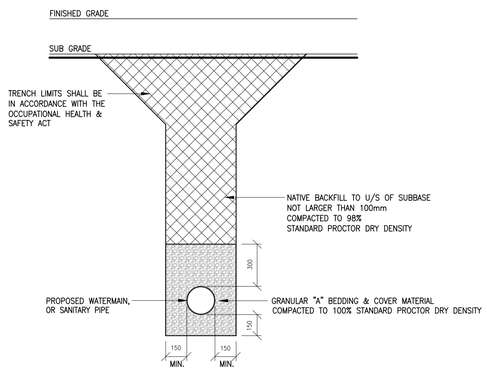
SUBDRAIN DETAIL

SCALE N.T.S.



SEWER CLEANOUT DETAIL

SCALE N.T.S.



TYPICAL PIPE TRENCH - WATERMAIN OR SANITARY SEWER

SCALE 1:50

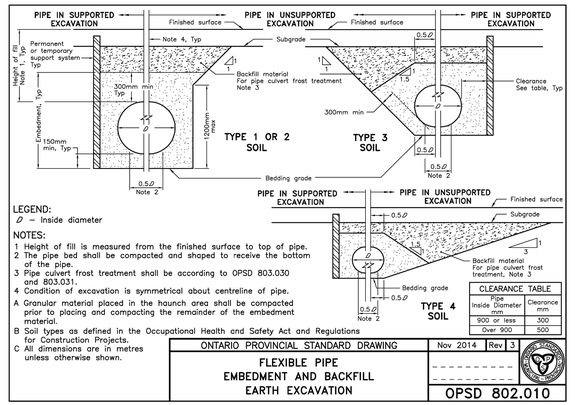
SUMMARY OF BOREHOLE INFORMATION

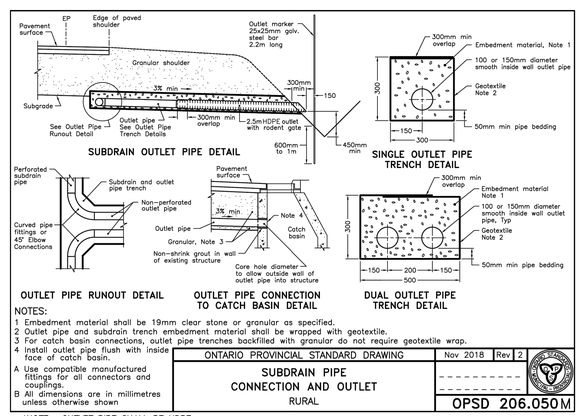
Borehole No.	Easting (m)	Northing (m)	Lakebed Elevation (m)	Termination Elevation (m)
BH-25-01-700	349 232	5 116 228	175.52	173.23
BH-25-02-701	349 222	5 116 207	175.7	172.96
BH-25-03-702	349 207	5 113 174	175.04	171.38
BH-25-04-703	349 197	5 116 142	175.38	171.11
BH-25-05-704	349 187	5 116 102	174.09	171.04
BH-25-06-705	349 180	5 116 060	173.82	171.08
BH-25-07-706	349 177	5 116 011	173.54	170.80
BH-25-08-707	349 178	5 115 957	173.33	171.04
BH-25-09-708	349 181	5 115 905	173.03	170.13

WATERMAIN JOINT RESTRAINT REQUIREMENTS

PLUG END

MAIN LINE DIAMETER (mm)	DEPTH OF BURY (m)	RESTRAINED LENGTH (m)
300	2.2	15





***NOTE: OUTLET PIPE SHALL BE HDPE**

KEY PLAN

ENGINEER'S SEAL:

26/01/15	0	Issued For Tender	DAS	CLK
DATE	REV.	REVISION	BY	APP'D

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

TYPICAL SECTIONS AND DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED
DAS	DAS	CLK	CLK

SCALE	DATE
AS NOTED	JAN. 15, 2026

PROJECT NO.	REVISION	DRAWING
250809	0	C-006

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GENERAL NOTES:

1. READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE REMAINDER OF THE CONTRACT DRAWINGS AND DOCUMENTS.
2. VERIFY ALL DIMENSIONS ON THE STRUCTURAL DRAWINGS WITH THE REMAINDER OF THE CONTRACT DRAWINGS BEFORE CONSTRUCTION. ANY DISCREPANCIES OR ERRORS MUST BE REPORTED TO THE ENGINEER PRIOR TO STARTING THE WORK.
3. DO NOT SCALE DRAWINGS.
4. DESIGN LOADS INDICATED ARE UNFACTORED UNLESS NOTED OTHERWISE.
5. DESIGN LIVE LOADS FOR EACH PORTION OF THE STRUCTURE ARE SHOWN. DO NOT EXCEED THESE LOADS DURING CONSTRUCTION.
6. STRUCTURAL DESIGN IS BASED ON THE LATEST EDITION OF THE NATIONAL AND ONTARIO BUILDING CODES. SUBSTRUCTURES AND WATER RETAINING TANKS, RESERVOIRS AND CONDUITS HAVE BEEN DESIGNED IN ACCORDANCE WITH CODE REQUIREMENTS FOR ENVIRONMENTAL CONCRETE STRUCTURES (ACI) 350-06 EXCEPT WHERE IT WAS NOT CONSIDERED APPLICABLE.
7. FEATURES OF CONSTRUCTION NOT FULLY SHOWN ARE OF THE SAME CHARACTERAS THOSE NOTED FOR SIMILAR CONDITIONS.

FOUNDATION:

1. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT "NEW WATER INTAKE AND HURON STREET RECONSTRUCTION, BLIND RIVER, ONTARIO" COMPLETED IN JUNE 2024 BY TULLOCH.
2. FOUND ALL FOUND ALL FOUNDATION ON SOUND AND SOLID BEDROCK. ROCK MASS PROPERTIES SEE FOLLOWING TABLE.

ROCK (GREYWACKE) MASS PROPERTIES			
ROCK PROPERTY	SYMBOL	UNIT	VALUE
UNIT WEIGHT ROCK MASS	γ	kN/m^3	25
EARTH PRESSURE COEFFICIENT AT REST	K_o	UNITLESS	0.44
INTACT ROCK STRENGTH[1]	σ	MPa	75.6
GEOLOGICAL STRENGTH INDEX	GSI	UNITLESS	50
ROCK MASS COMPRESSIVE STRENGTH[2]	σ_{cm}	MPa	13.2
DEFORMATION MODULUS[3]	E_m	MPa	8700
POISSON'S RATIO	v	-	0.2
FRICTION ANGLE (RESIDUAL)	ϕ'	DEGREE	40

NOTES:
[1]THE INTACT ROCK STRENGTH IS ESTIMATED FROM THE AVERAGE UNCONFINED COMPRESSION TESTING VALUES ON RETRIEVED ROCK CORES ON SITE.
[2]σcm=(0.0034m_i^0.8) σc (1.029+0.25e^((-0.1m_i))^GSI (EBERHARDT, 2003); 3 GIVEN BY Em=\(σc /100)*10^((GSI-10)/40 (HOEK AND BROWN, 1998).

3. DESIGN GROUND WATER ELEVATION: TO THE FINISH GRADE.
4. SITE CLASS: B
5. BEARING CAPACITY MUST BE VERIFIED BY THE SOIL ENGINEER PRIOR TO THE PLACING OF THE FOUNDATIONS AND ANY NON-CONFORMANCE WITH THE SPECIFIED MINIMUM CAPACITIES MUST BE IMMEDIATELY REPORTED TO THE STRUCTURAL ENGINEER.
6. FOUND FOUNDATION WHICH ARE EXPOSED TO FREEZING WEATHER A MINIMUM OF 1800mm BELOW FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
7. THE DESIGN OF TEMPORARY WORKS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTROL OF THE GROUND WATER SHALL BE CARRIED OUT BY A SPECIALIZED FOUNDATION CONSULTANT, ENGAGED BY THE CONTRACTOR. THE COSTS OF ANY ADDITION GEOTECHNICAL INVESTIGATION AND/OR TESTING IS INCIDENTAL TO THE WORK AND WILL NOT BE CONSIDERED AS EXTRA COST TO THE OWNER.
8. THE SPECIALIZED FOUNDATION CONSULTANTS SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, TESTING, MONITORING AND, IF REQUIRED, REMOVAL OF TEMPORARY SHORING AND DEWATERING SYSTEMS.
9. A SHORING SYSTEM IS NOT REQUIRED IF THE SAFE INCLINATION OF THE SIDES OF THE EXCAVATION IS PROVIDED IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS, EXCAVATION IS MAINTAINED, AND DOES NOT INTERFERE WITH EXISTING STRUCTURES OR ACCESS ON THE SITE.
10. PROTECT SOIL FROM FREEZING ADJACENT TO AND BELOW ALL FOUNDATION.
11. BACKFILL AGAINST FOUNDATION WALL IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 450mm DIFFERENCE FROM THE LEVEL ON THE OTHER SIDE OF THE WALL UNLESS TEMPORARY SUPPORT FOR THE WALL IS PROVIDED.
12. SOFT AREAS UNCOVERED ON EXCAVATION SHALL BE SUB EXCAVATED TO SOUND MATERIAL AND FILLED WITHMATERIAL AS RECOMMENDED BY THE GEOTECHNICAL CONSULTANT.
13. DO NOT EXCEED A RISE OF 7 IN A RUN OF 10 IN THE LINE OF SLOPE BETWEEN ADJACENT FOOTING EXCAVATIONS OR ALONG STEPPED FOOTINGS. FOR STEPPED FOOTINGS, USE STEPS NOT EXCEEDING 600mm IN HEIGHT AND NOT LESS THEN 1200mm IN LENGTH.
14. PLACE SLAB ON GRADE ON SOIL CAPABLE OF SUSTAINING 24KPa WITHOUT SETTLEMENT RELATIVE TO THE BUILDING FOOTINGS.
15. SEE PROCESS DRAWINGS FOR RECESSES AND DEPRESSIONS IN SLAB ON GRADE AND MAINTAIN SLAB THICKNESS INDICATED ON STRUCTURAL DRAWINGS IN ALL CASES.
16. REINFORCE CONCRETE SIDEWALKS OR WALKWAYS WITH 10M BAR @ 300 E.W. IN THE CENTER OF THE CONCRETE, UNLESS NOTED OTHERWISE.

MATERIALS:

1. THE DESIGN REQUIREMENTS FOR THE VARIOUS CONCRETE MIX DESIGNS INDICATED SHALL CONFORM TO THE CHARACTERISTICS DESCRIBED IN THE PROJECT SPECIFICATIONS.
2. MINIMUM COMPRESSICE STRENGTH

   STRUCTURAL CONCRETE: 35 MPa @ 28 DAYS
   FILL CONCRETE, BENCHING AND MUD SLAB: 20 MPa @ 28 DAYS

3. ALL REINFORCING BAR SHALL BE GRADE 400R MPa, DEFORMED, CAN/CSA-G30.18.
4. WELED WIRE FABRIC SHALL CONFORM TO ASTM A185/A185M.
5. CONCRETE BLOCK SHALL CONFORM TO THE LATEST EDITION OF THE RELEVANT CODES AND STANDARDS AND THE BLOCK STRENGTH SHALL BE 15 MPa ON NET AREA.
6. MORTAR SHALL BE TYPE "S" UNLESS NOTED OTHERWISE.
7. CONCRETE FILL IN REINFORCED MASONRY SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 20 MPa.
8. THE STRUCTURAL STEEL COMPONENTS SHALL SATISFY THE REQUIREMENT OF THE PROJECT SPECIFICATIONS.
9. COLUMN BEARING GROUT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 40 MPa.
10. STRUCTURAL STEEL TO CONFORM TO CAN/CSA-G40.21, UNO.

    W SECTIONS: GRADE 350W
    L AND C SECTIONS: GRADE 300W
    HSS SECTIONS: GRADE 350 CLASS `H'

11. THE WELDING ELECTRODES SHALL CONFORM TO THE REQUIREMENS OF CSA STANDARD W48 (LATEST EDITION).
12. ALUMINUM AND FRP CONSTRUCTION TO CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS.
13. ALL PIPE SUPPORTS TO BE 304 STAINLESS STEEL, UNLESS NOTED OTHERWISE.

CAST-IN-PLACE CONCRETE:

1. DO CONCRETE WORK IN ACCORDANCE WITH THE LATEST VERSION OF THE APPLICABLE CODES AND STANDARDS AS REQUIRED BY THE PROJECT SPECIFICATION.
2. FORMWORK AND TOLERANCES IN ACCORDANCE WITH THE LATEST VERSION OF THE APPLICABLE CODES AND STANDARDS AS REQUIRED BY THE PROJECT SPECIFICATIONS.
3. SUBMIT REINFORCING DIAGRAMS BEFORE FABRICATION FOR REVIEW BY THE ENGINEER.
4. REINFORCING IS TO BE GENERALLY DETAILED IN ACCORDANCE WITH RSIC. MANUAL OF STANDARD PRACTICE (LATEST EDITION). SPLICES SHALL CONFORM TO "TABLE OF CLASS `B TENSION LAPS AND STANDARD 90° HOOKS' PROVIDED ON THE DRAWINGS.
5. THE CLEAR DISTANCE BETWEEN REINFORCING STEEL AND SURFACE OF CONCRETE SHALL BE AS FOLLOWS:
   FORMED CONCRETE NOT EXPOSED TO WATER OR WEATHER: 40mm
   FORMED CONCRETE EXPOSED TO WATER, WEATHER OR EARTH: 50mm
   CONCRETE PLACED AGAINST EARTH: 75mm
6. UNLESS INDICATED OTHERWISE, ALL DOWELS SHALL HAVE THE SAME SIZE AND SPACING AS THE REINFORCING STEEL TO WHICH THEY ARE SPLICED, AND SHALL HAVE A MINIMUM LAP L1.
7. ALL REINFORCING STEEL PLACEMENT TO BE INSPECTED BY THE ENGINEER BEFORE PLACING THE CONCRETE.
8. NO WELDING OF REINFORCING BARS SHALL BE PERMITTED, UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.
9. PROTECT ALL AREAS WHERE CONCRETE IS TO BE PLACED WITH A MINIMUM OF 50mm THICK "MUD" SLAB WHICH WILL FUNCTION AS A WORKING MAT ONLY AND WILL NOT BE CONSIDERED TO PROVIDE A CONTRIBUTION TO THE OVERALL SLAB THICKNESS.
10. DO NOT SAWCUT THE SLAB ON GRADE OR OTHER FLOORS, UNLESS SPECIFICALLY SHOWN AND DETAILED ON THE DESIGN DRAWINGS.
11. ALL REINFORCING BARS SHALL BE SUPPORTED IN THE FORMS AND SPACED WITH STANDARD ACCESSORIES SO THAT THERE IS NO MOVEMENT DURING CONCRETE PLACEMENT.
12. PROVIDE REINFORCING DOWELS PROJECTING FROM CAST-IN-PLACE CONCRETE INTO BLOCK WALLS TO MATCH VERTICAL REINFORCING IN BLOCK WALLS.

TABLE OF CLASS `B' TENSION LAPS AND STANDARD 90° HOOKS Fy = 400MPa, Fc = 35MPa			
BAR SIZE	STANDARD TENSION LAP SPLICE	TENSION LAP SPLICE FOR TOP BARS	STANDARD 90° HOOK
	L1	L2	L3
10M	400mm	500mm	180mm
15M	600mm	700mm	260mm
20M	700mm	900mm	310mm
25M	1100mm	1400mm	400mm
30M	1300mm	1700mm	510mm
35M	1500mm	2000mm	610mm

CONSTRUCTION JOINTS:

1. CONSTRUCTION JOINTS SHALL BE LOCATED SO AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE.PROVIDE MASTER PLAN, SHOWING ALL CONTRACTOR PROPOSED CONSTRUCTION JOINTS FOR APPROVAL BEFORE CONSTRUCTION.
2. WHERE A CONSTRUCTION JOINT IS TO BE MADE, THE SURFACE OF THE SET CONCRETE SHALL BE THOROUGHLY CLEANED OF FOREIGN MATTER AND LAITANCE USING MECHANICAL ABRASION, SATURATED WITH WATER AND LEFT IN A DAMP CONDITION WITH NO FREE WATER ON THE SURFACE IMMEDIATELY BEFORE PLACING ADJACENT CONCRETE.
3. REINFORCING STEEL PROJECTING THROUGH CONSTRUCTION JOINT SHALL BE THOROUGHLY CLEANED OF LOOSE, FLAKY RUST, MUD, OIL, AND DRIED CONCRETE OR OTHER COATINGS WHICH WOULD REDUCE BOND, USING MECHANICAL ABRASION OR SAND BLASTING, OF THE SURFACE OF THE STEEL.
4. A CONTINUOUS 150mm WIDE WATERSTOP MUST BE PROVIDED AT ALL CONSTRUCTION JOINT LOCATIONS WHERE WATER TIGHTNESS IS REQUIRED. INSTALL THE WATERSTOP AS INDICATED ON THE TYPICAL JOINT DETAILS.

MASONRY:

1. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE RELEVANT CODES AND STANDARD AS REQUIRED IN THE PROJECT SPECIFICATION.
2. THE MASONRY WORK HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE APPLICABLE CODES AND STANDARDS AS REQUIRED BY THE PROJECT SPECIFICATIONS.
3. NO MASONRY WORK SHALL BE PEMITTED WITH THE TEMPERATURE BELOW 5°C UNLESS PROVISIONS ARE MADE FOR HEATING THE MATERIALS AND WORK AREA AND PROTECTING THE WORK.
4. OBTAIN ENGINEER'S PERMISSION FOR ALL OPENINGS, SLEEVES AND SLOTS OTHER THAN SHOWN ON THE STRUCTURAL DRAWINGS. WHERE DOWELS, ANCHOR BOLTS, ETC., ARE SHOWN PROJECTING INTO MASONRY, BUILD THESE INTO MASONRY VOIDS WITH GROUT.
5. ALL MASONRY SHALL BE SET WITH FULLY FILLED JOINTS.
6. CELLS TO BE REINFORCED SHALL BE KEPT CLEAN OF MORTAR.
7. PROVIDE A MINIMUM 25mm GROUT UNDER ALL WALL PLATES AND BASE PLATES AND BEAR ON SOLID MASONRY OF 400mm (MINIMUM) DEPTH.
8. PROVIDE AND INSTALL LINTELS OVER ALL OPENINGS OR RECESSES IN MASONRY WALLS INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES OR EQUIPMENT, IN ACCORDANCE WITH THE REQUIREMENTS OF THE LINTEL SCHEDULE.
9. PROVIDE A MINIMUM LENGTH OF 200mm OF 100% SOLID MASONRY UNITS FOR BEARING OF STEEL, CONCRETE OR REINFORCED MASONRY LINTELS. FILL LINTELS WITH 20MPa CONCRETE GROUT CONTAINING 10mm AGGREGATE.
10. THE CONCRETE CONTRACTOR MUST PROVIDE REINFORCING DOWELS PROJECTING FROM CAST-IN-PLACE CONCRETE INTO BLOCK WALLS TO MATCH VERTICAL REINFORCING IN BLOCK WALLS. LAPS IN REINFORCING:

    WIRE REINFORCING 150
    10M 600
    15M 750
    20M 950
    25M 1100
    30M 1600

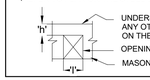
11. FILL CELLS CONTAINING VERTICAL REINFORCING WITH 20 MPa CONCRETE GROUT CONTAINING 10mm AGGREGATE AND UP TO 250mm SLUMP, VIBRATE OR PUDDLE TO FILL CELLS COMPLETELY. USING JOINT MORTAR FOR FILLING THE CELLS IS NOT ACCEPTABLE AND WILL REQUIRE RECONSTRUCTION OF WALL.
12. FILL CELLS IN 1500mm HIGH LIFTS OR IF CLEANOUTS ARE PROVIDED IN 2400mm HIGH LIFTS.
13. PROVIDE CONTINUOUS LADDER TYPE JOINT REINFORCING AT 400mm c/c AND USE"CORNER-LOK" AT ALL WALL INTERSECTIONS. REINFORCING TO BE GALVANIZED TO ASTM A153 CLASS B2 (458g/m^2).

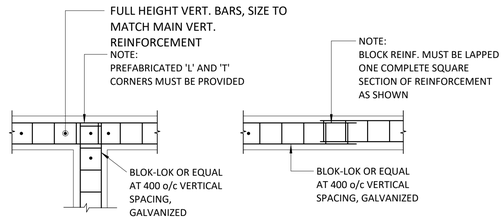
    FOR CAVITY WALL AND SINGLE WYTHE 3.65mm Ø WIRES (9 GAUGE)
    FOR COMPOSITE WYTHE 4.76mm ⌀ WIRES

14. ALL METAL ANCHORS TO SECURE WALLS EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED.
15. JOINTS IN MASONRY SHALL BE LOCATED AT LEAST 300mm FROM ANY OPENING IN THE WALL, UNLESS SPECIFICALLY NOTED OTHERWISE.
16. THE VENEER MUST BE FASTENED TO THE BACK UP USING'BLOCK SHEAR TIES' BY FERO CORPORATION (HYPERLINK "http://www.ferocorp.com" www.ferocorp.com). REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
17. MINIMUM BEARING: UNLESS OTHERWISE NOTED SHALL BE 90mm ON MASONRY OR CONCRETE 60mm ON STEEL.

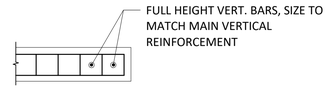
BLOCK LINTELS		
WALL THICKNESS	UP TO 1200	1200 TO 2030
90	1-10M TOP & BOTT.	1-15M TOP & BOTT.
140	1-10M TOP & BOTT.	1-15M TOP & BOTT.
190	2-15M TOP & BOTT.	2-15M TOP & BOTT.
240	2-15M TOP & BOTT.	2-15M TOP & BOTT.

1. MINIMUM BEARING FOR BLOCK LINTEL SHALL BE 200 UNLESS NOTED.
2. FILL VOIDS OR LINTEL BLOCKS WITH 20 MPa (3000 psi) CONCRETE. MORTAR IS NOT ACCEPTABLE.
3. WHEN 'h' IS SMALLER THAN 'I', ABOVE LINTEL SCHEDULE DOES NOT APPLY. (REFER TO PLAN OR THE STEEL LINTEL SCHEDULE)





INTERSECTING WALLS STACK BOND COMPOSITE WALLS



AT OPENINGS

NOTE:

SIZE AND SPACING OF VERTICAL BARS TO BE SHOWN ON PLAN

STEEL LINTEL SCHEDULE			
CLEAR SPAN	UP TO 1200mm	1200mm TO 1800mm	1800mm TO 2100mm
90 WALL	1L-90x90x8	1L-127x90x8	1L-150x90x8
140 WALL	1L-127x127x8	1L-180x127x8	1L-180x127x8
190 WALL	2L's-90x90x8	2L's-127x90x8	2L's-150x90x8
240 WALL	2L'S-100x100x8	2L'S-150x100x8	2L'S-150x100x8
290 WALL	3L's-90x90x8	3L's-127x90x8	3L's-150x90x8
UP TO 3200mm	W200x27 + PL. 6mm THK. IN CENTER OF WALL		

1. PAIRS OF LINTEL ANGLES TO BE STITCH WELDED (T&B) @ 600mm c/c.
2. MINIMUM BEARING FOR STEEL ANGLES SHALL BE 150mm, UNO.
3. FOR LINTELS ABUTTING STEEL COLUMNS, CONCRETE WALLS OR OTHER COLUMNS PROVIDE L-90x90x10 FASTENED TO ABUTMENT.
4. ALL ANGLES SHALL BE LLV, UNO.
5. ALL LOOSE ANGLES SHALL BE HOT DIPPED GALVANIZED (UNO).

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	RZ	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

GENERAL NOTES

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

As indicated	JAN 2026
SCALE	DATE

T001592B	0	S-001
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt

WOOD:

1. THE STRUCTURAL TIMBER SHALL BE No. 1 OR 2 GRADE SPECIES S.P.F. OR BETTER UNLESS NOTED OTHERWISE.
2. THE DESIGN OF THE BEAMS, COLUMNS AND LINTELS IS BASED ON THE LIMIT SATES DESIGN SPECIFIED UNDER C.S.A. STANDARD 086. ANY SUBSTITUTION OF SPECIES, GRADE OR GROUP MUST BE APPROVED BY THE ENGINEER PRIOR TO THE COMMENCING OF WORK.
3. THE LUMBER WAS DESIGNED FOR A MOISTURE CONENT GREATER THAN 15% AT THE TIME OF MANUFACTURE AND LESS THAN 15% IN SERVICE.
4. DURING CONSTRUCTION ENSURE ALL MEMBERS ARE IN GOOD BEARING CONTACT.
5. CONNECTION HARDWARE IS TO RECEIVE ONE COAT OF ZINC CHROMATE PRIMER OR EQUAL.
6. ALL PLYWOOD JOINTS ARE TO BE STAGGERED. NAIL ALL FLOOR, ROOF AND WALL SHEATHING AT 150mm c/c. AT EDGES AND 300mm CENTRES ELSEWHERE. UNO.
7. PROVIDE SOLID BLOCKING IN THE EXTERIOR STUDWALLS AT THE LOCATION OF ALL JOINTS IN THE PLYWOOD WITH A MAXIMUM VERTICAL SPACING OF 1200mm c/c. SECURELY NAIL AT A 150mm MAXIMUM SPACING THE INDIVIDUAL SHEETS OF PLYWOOD TO THE SOLID BLOCKING.
8. ALL PLYWOOD SHALL CONFORM TO C.S.A. STANDARD 0121 OR 0151.
9. THE ROOF TRUSSES ARE TO BE "FLAT" OWWJ OR PROFILED TRUSSES DESIGNED FOR THE SPECIFIED LOADS. THE SUPPLIER IS TO PROVIDE ERECTION AND MEMBER FABRICATION DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER REGISTERED OR LICENSED IN THE PROVINCE OF ONTARIO. THE DRAWING MUST INDICATE DESIGN LOADS, TIMBER SPECIES, GRADES, BRACING AND CONNECTORS. ALL TRUSSES MUST BE ANCHORED WITH TIE DOWN METAL ANCHORS.
10. THE BEARING SHOWN ON THE DRAWINGS IS THE MAXIMUM WIDTH TO BE PROVIDED AND THE TRUSS MANUFACTURER MUST DESIGN TRUSSES TO SUIT THE BEARING WIDTH.
11. PROVIDE STANDARD JOIST HANGERS AS REQUIRED BY SIMPSON, CLEVELAND, MGA OR APPROVED EQUIVALENT.
12. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED AND SHALL BE SEPARATED FROM THE CONCRETE BY A SUITABLE BARRIER MEMBRANE.
13. MAXIMUM BRIDGING SPACING FOR SAWN LUMBER JOISTS SHALL BE 2300mm c/c.
14. PERMANENT BRACING FOR THE CHORDS OR DIAGONAL TRUSS MEMBERS SHALL BE INSTALLED AND BE BACK BRACED DIAGONALLY OR ATTACHED TO END WALLS.

PRECAST HOLLOW CORE:

1. FOR REQUIRED QUALIFICATIONS FOR PRECAST MANUFACTURER AND FOR PRECAST PRODUCTION FACILITIES SEE THE PROJECT SPECIFICATIONS.
2. DESIGN GROUNDWATER ELEVATION TO FINISHED GRADE.
3. THE SLABS SHALL CONFORM TO THE LATEST EDITION OF THE APPLICABLE CODES AND STANDARDS AS REQUIRED BY THE PROJECT SPECIFICATIONS.
4. THE STRAND AND STRESSING PROCEDURES SHALL CONFORM TO THE LATEST EDITION OF THE APPLICABLE CODES AND STANDARDS AS REQUIRED BY THE PROJECT SPECIFICATIONS. PRESTRESSING STEEL SHALL CONFORM TO CSA G279 AND BE STRESS- RELIEVED 7 WIRE STRAND WITH AN ULTIMATE STRENGTH OF 1720 OR 1860 MPa. STRESS-STRAIN CURVES AND STRAND STRENGTH TESTS MUST BE PROVIDED FOR SUBMISSION TO THE ENGINEER.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO THE MANUFACTURING OF THE UNITS. THE DRAWINGS MUST BEAR THE STAMP OF A PROFESSIONAL ENGINEER WHO SHALL BE RESPONSIBLE FOR THE DESIGN, ANCHORAGE AND BEARING OF THE UNITS. CALCULATIONS MUST BE MADE AVAILABLE TO THE ENGINEER UPON REQUEST. LIVE LOAD DEFLECTION SHALL BE LIMITED TO L/240 FOR ROOF UNITS AND L360 FOR FLOORS.
6. SUPPLY AND INSTALL BAR REINFORCEMENT IN JOINTS AND ANCHORAGE TO MASONRY AS WELL AS HARDBOARD BEARING PADS OR AS REQUIRED ON DRAWINGS. PROVIDE INSULATION PLUGS IN CORES OF UNITS AS REQUIRED.
7. OPENINGS: HOLES UP TO 150mm INCLUDING OPENINGS TO PERMIT PENETRATION OF VERTICAL MASONRY REINFORCEMENT SHALL BE DRILLED ON SITE. OTHER OPENINGS SHALL BE CUT IN PLANT OR ON SITE BY THIS TRADE AND HEADER FRAMING OR REINFORCEMENT SHALL BE PROVIDED.
8. FINISHES TO BE:
   - FLOOR UNITS: STANDARD GRADE AND EVEN TO RECEIVE FLOORING FINISH. WHERE NO FINISH IS APPLIED, APPLY AN APPROVED SEALER.
   - ROOF UNITS: COMMERCIAL GRADE AND EVEN JOINT. FEATHER OUT CAMBER OR OTHER ELEVATION DIFFERENCES AS REQUIRED BY THE ROOFING CONTRACTOR.
   - COMPOSITE UNITS: MUST HAVE A RAKED FINISH ACROSS THE WIDTH TO PROVIDE COMPOSITE ACTION.
   - UNDERSIDE UNITS: MUST PRESENT AN EVEN REGULAR APPEARANCE FREEFROM DEFECTS OR STAINS.
9. SUPPLIER SHALL SUPPLY AND INSTALL GROUT ON HORIZONTAL SURFACES AT JOINTS TO PRESENT AN EVEN ROOF OR FLOOR FINISH.
10. MINIMUM BEARING: UNLESS OTHERWISE NOTED SHALL BE 90mm ON MASONRY OR CONCRETE 60mm ON STEEL.

SHORING:

1. THE SITE CONDITIONS WILL NOT PERMIT AN OPEN EXCAVATION. THE CONTRACTOR MUST REFER TO THE INFORMATION CONTAINED IN THE SOILS REPORT FOR FURTHER DETAILS.
2. ALL SHORED SIDES OF THE EXCAVATION MUST BE BRACED OR SHORED TO MAINTAIN STRICT ADHERENCE TO THE OCCUPATIONAL HEALTH AND SAFETY ACT.
3. THE LINE OF THE SHORING SHOWN ON THE DRAWING HAS BEEN PROVIDED AS A GUIDE INDICATING THE GENERAL EXTENT AND LOCATION OF THE SYSTEM. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A SYSTEM TO SUIT THEIR CONSTRUCTION REQUIRMENTS.
4. THE CONTRACTOR SHALL ENGAGE A STRUCTURAL ENGINEER TO DESIGN AND INSPECT THE SHORING SYSTEM.
5. THE CONTRACTOR SHALL ENGAGE A GEOTECHNICAL ENGINEER TO REVIEW AND CARRY OUT AN ASSESSMENT OF THE SITE CONDITIONS. BASED ON THIS WORK AND A REVIEW OF THE AVAILABLE GEOTECHNICAL INFORMATION, THE GEOTECHNICAL ENGINEER SHALL PROVIDE DESIGN INFORMATION TO THE STRUCTURAL ENGINEER ENGAGED BY THE CONTRACTOR TO DESIGN THE SHORING SYSTEM.
6. THE SHORING DESIGN ENGINEER SHALL SUBMIT SEALED COPIES OF THE DESIGN DRAWINGS FOR REVIEW BEFORE PROCEEDING WITH THE WORK.
7. THE CONTRACTOR SHALL NOT DISTURB OR DAMAGE ADJACENT PROPERTIES DURING EXCAVATION CONSTRUCTION, BACKFILL OR COMPACTION OPERATIONS, INCLUDING THE DRIVING OR REMOVAL OF ANY SHORING.
8. ALL EXCAVATION LIMITS SHALL BE WITHIN THE PROPERTY LIMITS AND SHALL NOT EXPOSE ANY BURIED UTILITIES IN ADJACENT ROADS.
9. THE CONTRACTOR SHALL PROVIDE FOR CONDUCTING PRECONDITION SURVEYS OF EXISTING ADJACENT BUILDINGS AND FOR DESIGNING APPROPRIATE CONSTRUCTION METHODS TO AVOID DAMAGE TO THESE BUILDINGS AND/OR PREMISES.

METAL FABRICATIONS:

1. METAL COMPONENTS SHALL SATISFY THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
2. ALUMINUM SHALL CONFORM TO CSA S157 WITH ALUMINUM ALLOY 6061-T6.
3. WELDED ALUMINUM CONSTRUCTION SHALL CONFORM TO CSA W59.2.
4. STAINLESS STEEL SHALL CONFORM TO ASTM A276, TYPE 316L.
5. STAINLESS STEEL BOLTS AND NUTS SHALL CONFORM TO ASTM F593, TYP 316L.
6. STAINLESS STEEL WELDING SHALL CONFORM TO CSA W59 AND AWS D1.6.
7. THE WELDING ELECTRODES SHALL CONFORM TO THE REQUIREMENS OF CSA STANDARD W48 (LATEST EDITION).
8. ALL PIPE SUPPORTS SHALL CONFORM TO ASTM A276, TYPE 304, UNLESS NOTED OTHERWISE.
9. DISSIMILAR METALS IN CONTACT WITH EACH OTHER SHALL BE ISOLATED TO AVOID GALVANIC CORROSION.

DESIGN CRITERIA:

CLIMATE DATA FOR CITY OF ELLIOT LAKE				
LOAD TYPE	IMPORTANCE CATEGARY		POST DISASTER	IMPORTANCE FACTOR
SNOW	GROUND SNOW LOAD (1/50 YRD)	Ss	2.90kPa	Is = 1.25
	ASSOCIATED RAIN LOAD (1/50 YRS)	Sr	0.40 kPa	
WIND	HOURLY WIND PRESSURE (1/50 YRS)	q	0.38 kPa	Iw = 1.25
RAINFALL	ONE DAY RAINFALL (1/50 YRD)		108 cm	
	ANNUAL RAINFALL (1/50 YRD)		630 cm	
EARTHQUAKE	PEAK GROUND ACCELERATION	PGA	0.0543	I_E = 1.50
	HORIZONTAL SPECTRAL ACCELERATION VALUES (2% PROBABILITY OF EXCEEDANCE IN 50 YEARS)	Sa(0.2)	0.124	
		Sa(0.5)	0.0933	
		Sa(1)	0.0542	
		Sa(2)	0.0263	

LEGEND:

NEW CONCRETE
EX CONCRETE
NATIVE SOIL
GRANULAR 'A'
BEDROCK
CHECKERED PLATE

TYPICAL ABBREVIATIONS	
KEY NAME	COMMENTS
(E)	"EXISTING"
(N)	"NEW"
ALT	"ALTERNATE"
ALUM	"ALUMINIUM"
B/S	"BOTH SIDES"
BLL	"BOTTOM LOWER LAYER"
BM	"BEAM"
BOT	"BOTTOM"
BUL	"BOTTOM UPPER LAYER"
C/W	"COMPLETE WITH"
CANT	"CANTILEVER"
CLR	"CLEAR"
COL	"COLUMN"
CONC	"CONCRETE"
CONN	"CONNECTION"
CONT	"CONTINUOUS"
CP	"COMPLETE PENETRATION" (WELD)
DIA	"DIAMETER"
DWG	"DRAWING"
DWL	"DOWEL"
E/F	"EACH FACE"
E/S	"EACH SIDE"
E/W	"EACH WAY"
EL	"ELEVATION"
ELEV	"ELEVATION"
FTG	"FOOTING"
H1E	"HOOK ONE END"
H2E	"HOOK TWO ENDS"
HORIZ	"HORIZONTAL"
IF	"INSIDE FACE"
INT	"INTERNAL"
LG	"LONG"
LW	"LONG WAY"
MAX	"MAXIMUM"
MIN	"MINIMUM"
NTS	"NOT TO SCALE"
O/F	"OUTSIDE FACE"
OC	"ON CENTER"
OPNG	"OPENING"
OPP	"OPPOSITE"
PL	"PLATE"
R/W	"REINFORCE WITH"
REINF	"REINFORCING"
S/W	"SHORT WAY"
SF	"STEP FOOTING"
SIM	"SIMILAR"
STAGG	"STAGGERED"
STIRR	"STIRRUPS"
SYMM	"SYMMETRICAL"
T&B	"TOP & BOTTOM"
T/O	"TOP OF"
THK	"THICK"
TLL	"TOP LOWER LAYER"
TOF	"TOP OF FOOTING"
TOS	"TOP OF STEEL"
TOW	"TOP OF WALL"
TUL	"TOP UPPER LAYER"
TYP	"TYPICAL"
U/S	"UNDERSIDE"
UNO	"UNLESS NOTED OTHERWISE"
VERT	"VERTICAL"
VIF	"VERIFY IN FIELD"
W/	"WITH"

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	RZ	TK

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

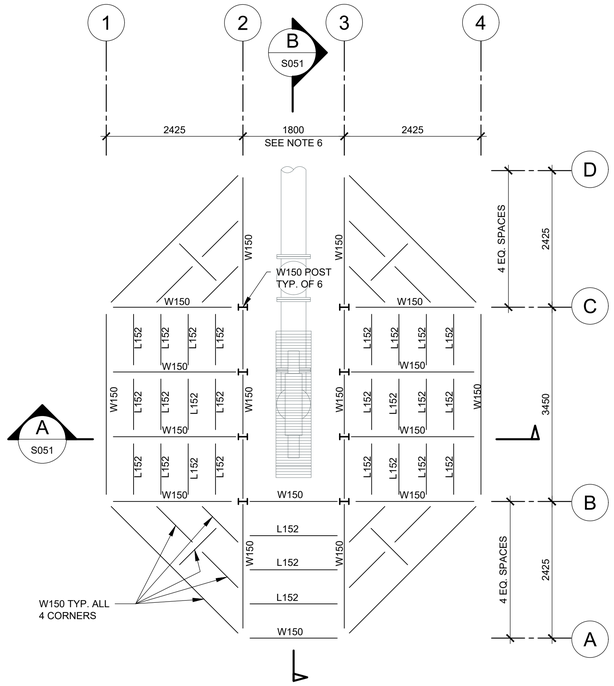
GENERAL NOTES
& ABBREVIATIONS

DRAWN	DESIGNED	CHECKED	APPROVED
EE	RZ/CM	RZ	ARP

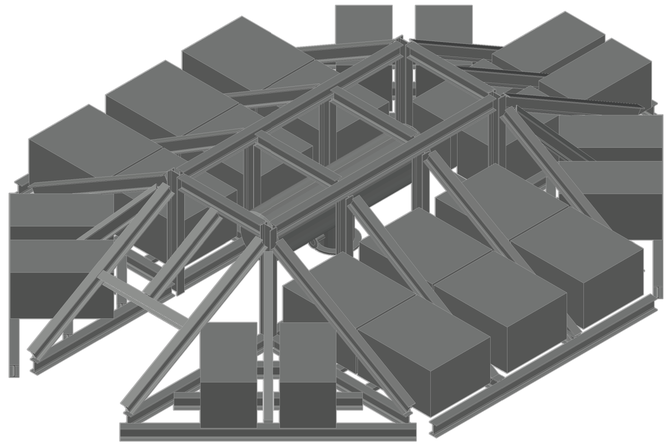
SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	S-002

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt



1 PLAN - BOTTOM LEVEL
SCALE: 1:50



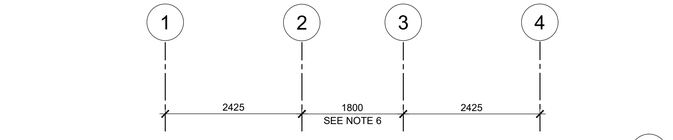
4 3D VIEW - INTAKE CRIB STRUCTURE
SCALE: 1:50

NOTES:

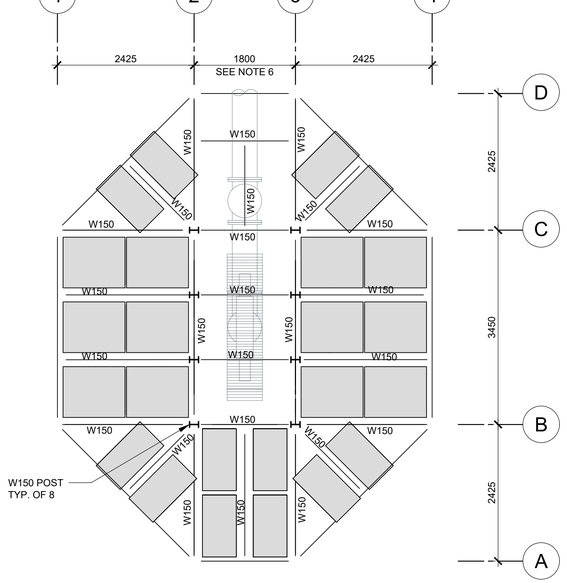
1. INSTALL BLOCKS AFTER CRIB IS SET AND CENTERED ON SCREEN.
2. FOR BLOCKS SEE DETAIL 4/S051.
3. MEMBERS:
   L152: L152x102x6.4 LLV UNO
   W150: W150x24
4. LOADS ARE DEVELOPED BASED ON ICE LOADS USING CSA S6. LOADS ARE SHOWN ON SECTION A/S051.
5. ALL CONNECTIONS TO BE SHOP WELDED UNLESS NOTED OTHERWISE. EACH MAIN FRAME TO BE FULLY WELDED CONSTRUCTION.
6. ALL CONNECTIONS BETWEEN GRID 2 AND GRID 3 TO BE BOLTED. PROVIDE SLOTTED CONNECTIONS.
7. PROVIDE P.ENG. SEALED SHOP DRAWING FOR REVIEW BEFORE FABRICATION.
8. ALL MEMBERS TO BE PAINTED. ALL MEMBERS TO BE PREPARED WITH SEAL WELDS, AND ALL CUT ENDS TO BE RADIUSED PRIOR TO PAINTING. SEE SPECIFICATIONS.

INSTALLATION NOTES

1. CLEAN AREA AROUND THE CRIB LOCATION OF DEBRIS, AND SOFT SOILS TO 100mm DEPTH AND LEVEL THE AREA.
2. INSTALLATION OF THE CRIB MAIN FRAMES FROM GRIDS 1-2 AND 3-4 ON THE LAKE FLOOR. FRAMES CANNOT BE LIFTED WITH BLOCKS INSTALLED.
3. INSTALL BALLAST BLOCKS.
4. INSTALL MEMBERS BETWEEN GRIDS 2-3 TO COMPLETE THE STRUCTURE.
5. INSTALL BOUYS.



2 PLAN - INTERMEDIATE LEVEL
SCALE: 1:50



3 PLAN - TOP LEVEL
SCALE: 1:50

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
NOV 2025	0	ISSUED FOR TENDER	RZ	TK

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

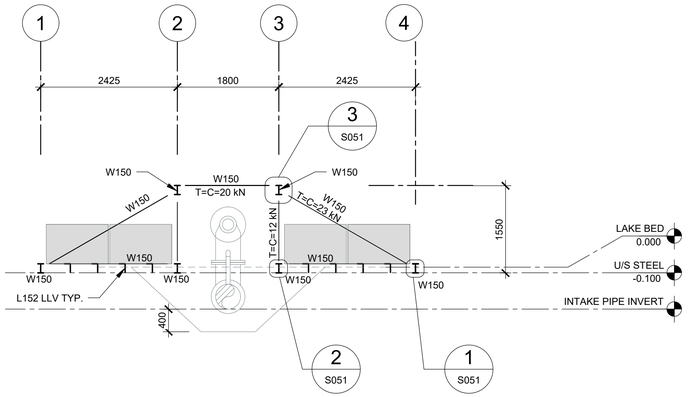
DRAWING TITLE:

INTAKE PIPE
CRIB SUPPORT
3D VIEW AND PLANS

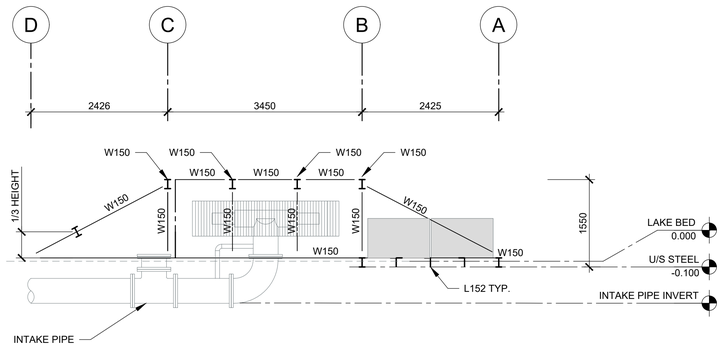
EE	RZ	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

1:50	NOV 2024
SCALE	DATE

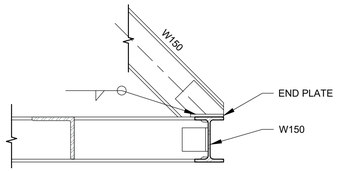
T001592B	A	S-050
PROJECT NO.	REVISION	DRAWING



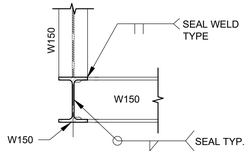
A S050 SECTION - INTAKE PIPE SUPPORT CRIB
SCALE: 1:50



B S050 SECTION - INTAKE PIPE SUPPORT CRIB
SCALE: 1:50



1 S051 DETAIL - TYP. CONNECTION 1
SCALE: 1:10



2 S051 DETAIL - TYP. CONNECTION 2
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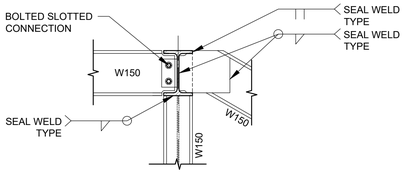

3 S051 DETAIL - TYP. CONNECTION 3
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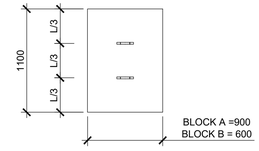
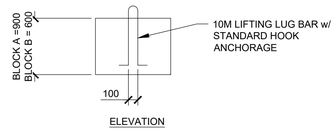




4 S051 DETAIL - BLOCK A AND B
SCALE: 1:10

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
NOV 2025	0	ISSUED FOR TENDER	RZ	TK

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

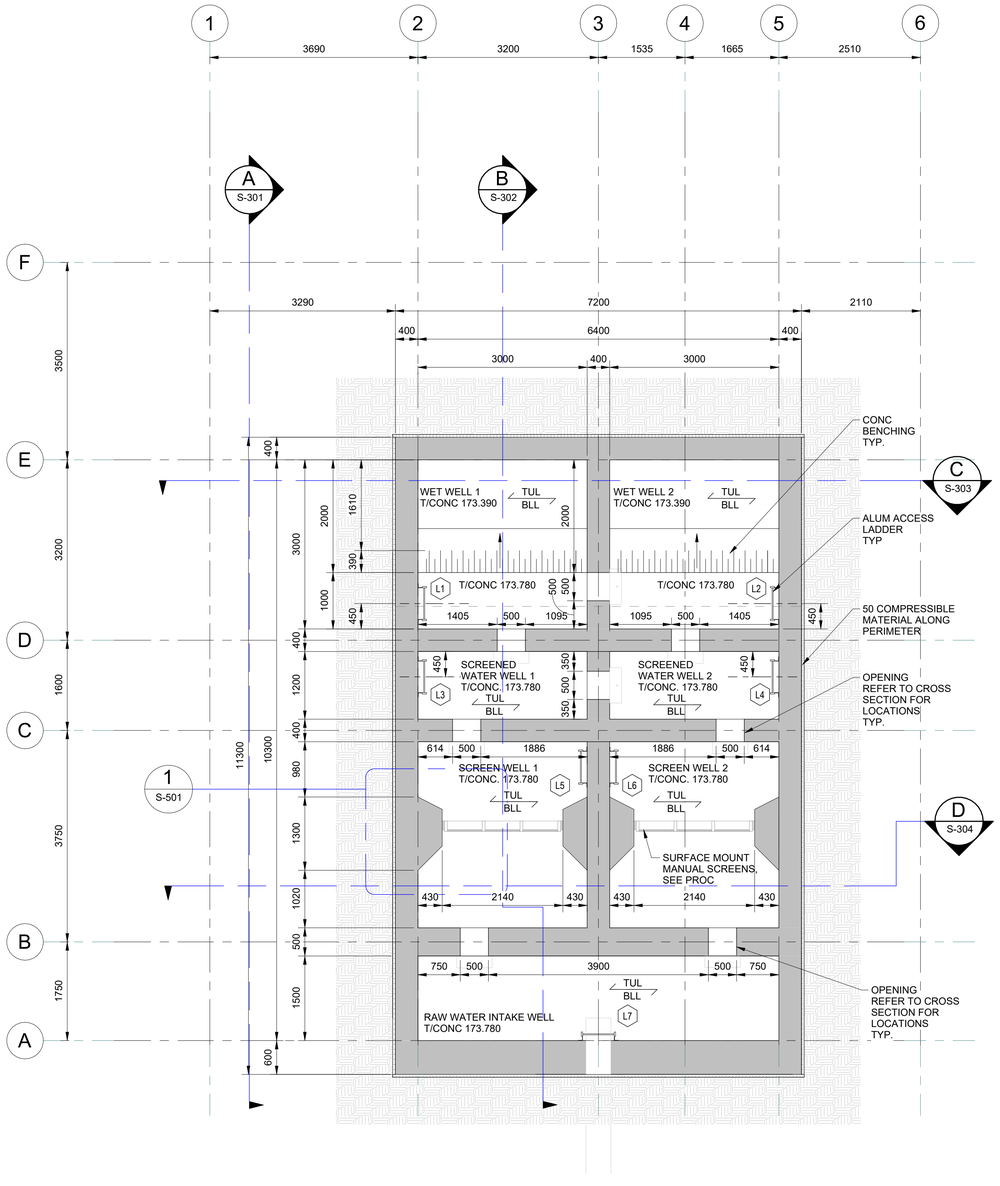
DRAWING TITLE:

INTAKE PIPE
CRIB SUPPORT
SECTIONS AND DETAILS

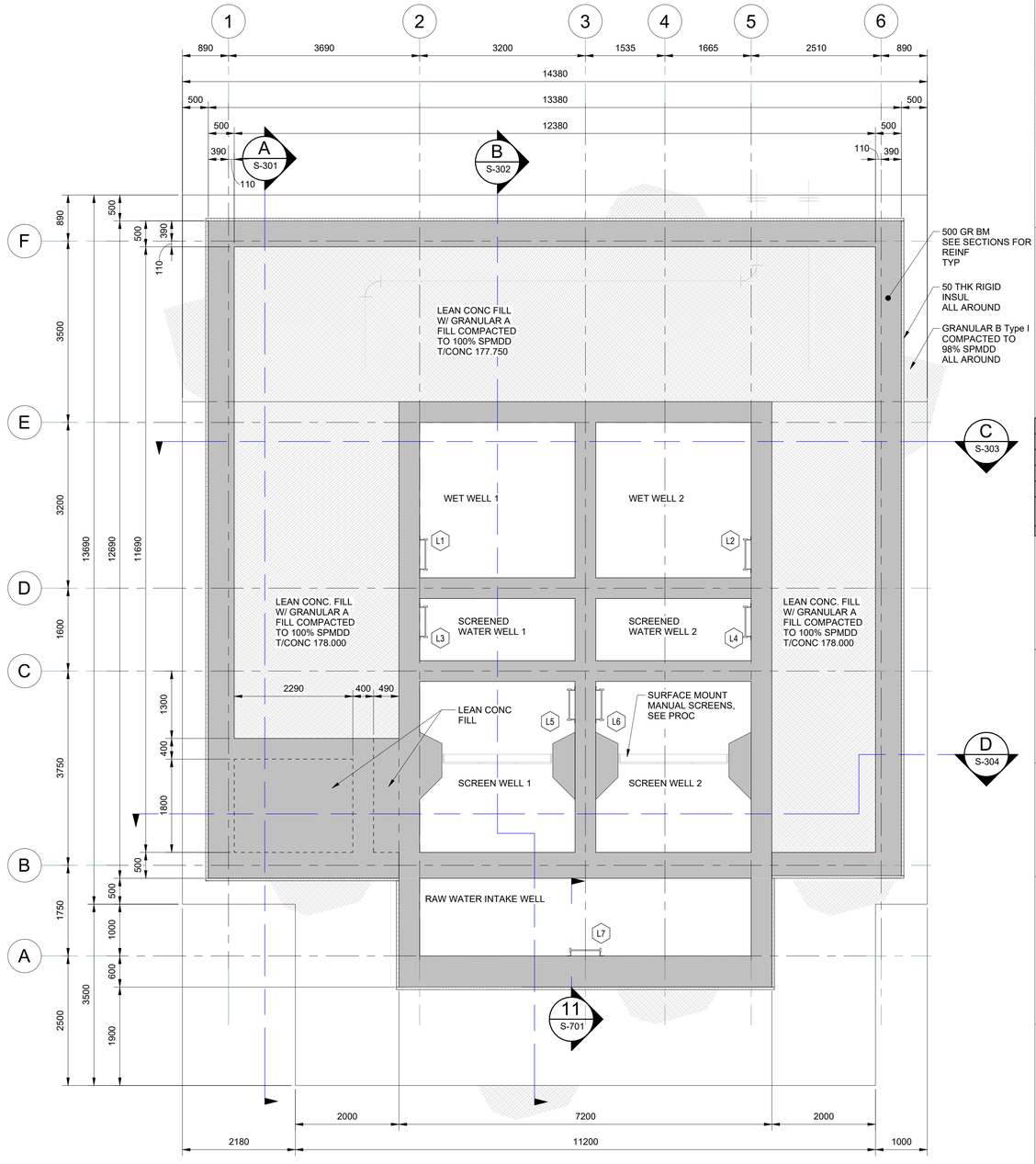
DRAWN	DESIGNED	CHECKED	APPROVED
EE	RZ	RZ	ARP

SCALE	DATE
As Indicated	DEC 2024

PROJECT NO.	REVISION	DRAWING
T001592B	A	S-051



1 BOTTOM SLAB PLAN AT ELEVATION 173.780
SCALE: 1 : 50



2 FOUNDATION SLAB PLAN AT ELEVATION 178.900
SCALE: 1 : 50

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	RZ	TK

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

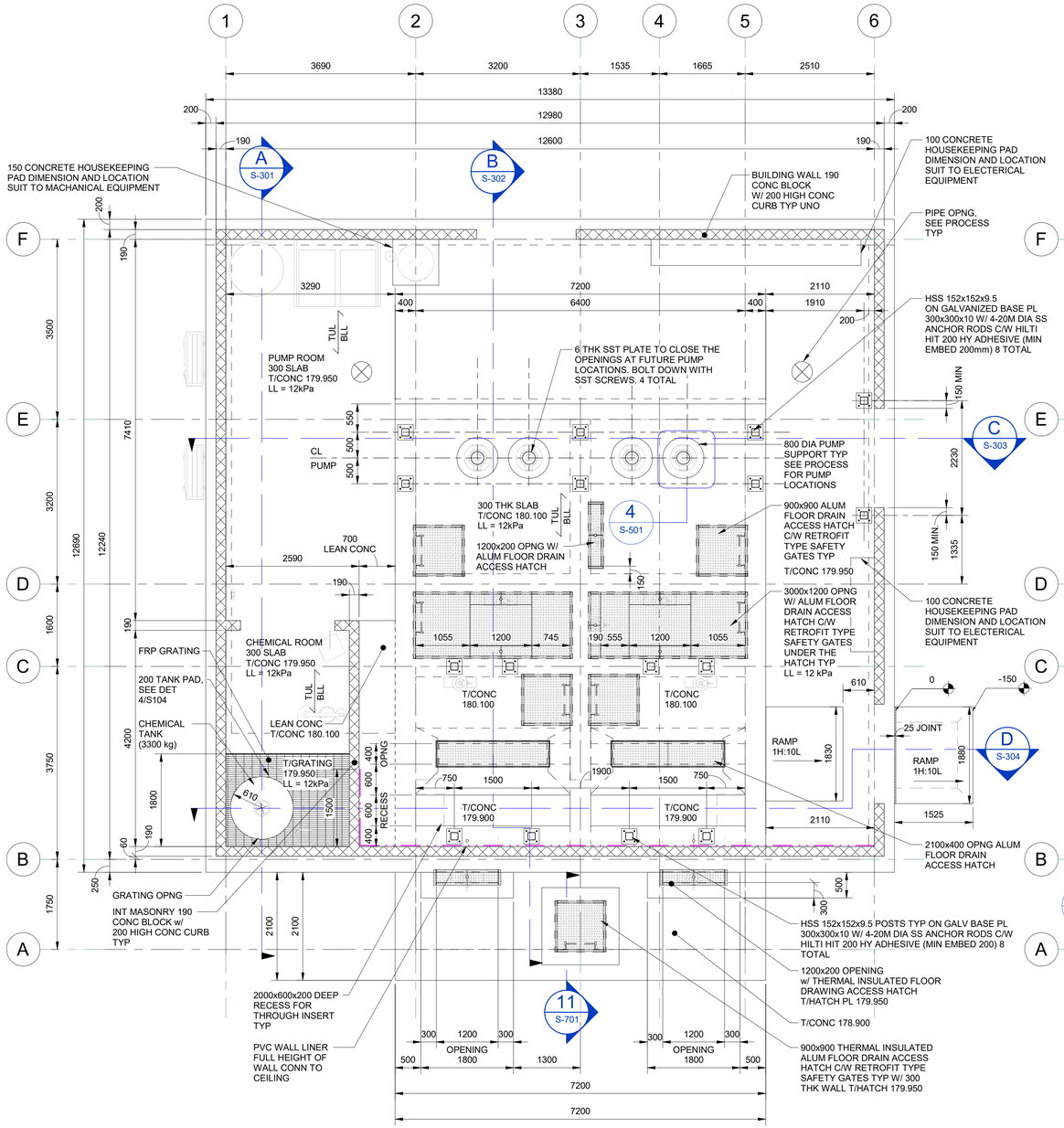
STRUCTURAL
PLANS - 01

DRAWN	DESIGNED	CHECKED	APPROVED
EE	RZ/CM	RZ	ARP

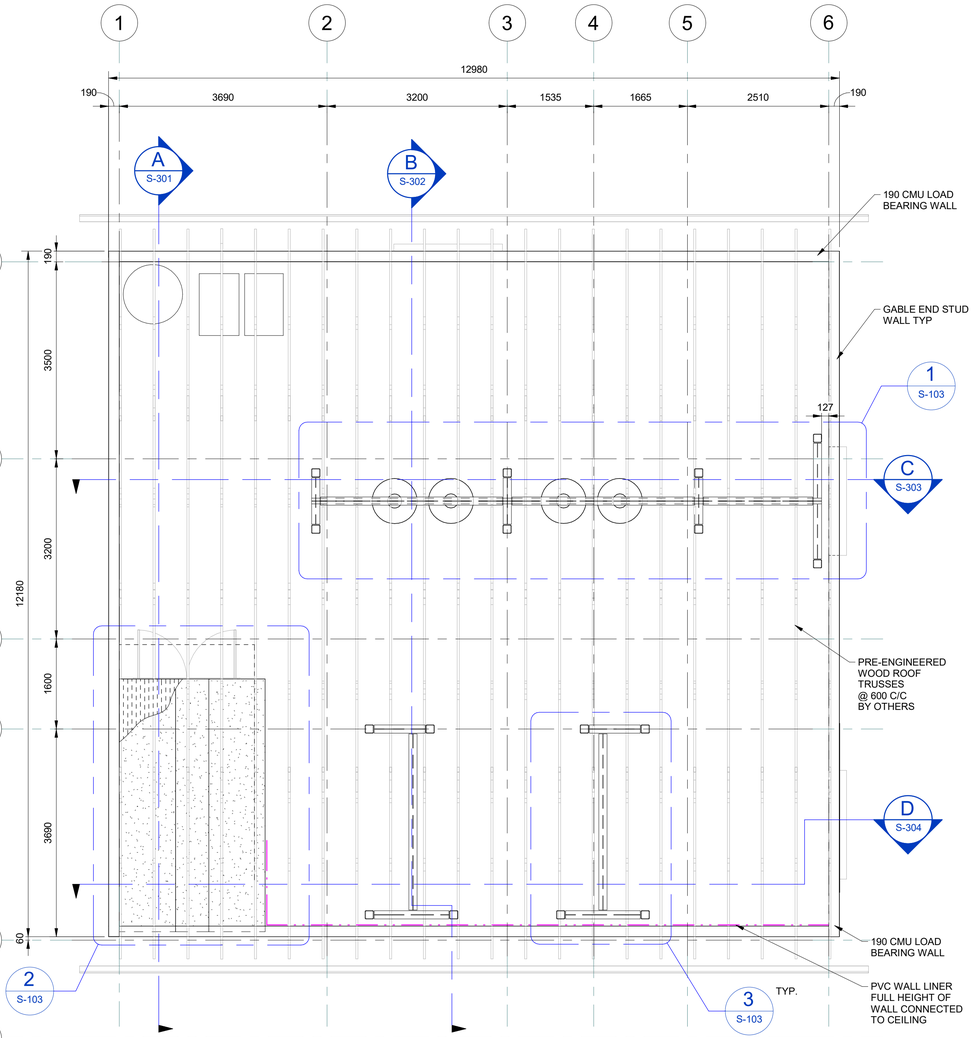
SCALE	DATE
1 : 50	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	S-101

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt



3 GROUND FLOOR SLAB AT ELEVATION 179.950
SCALE: 1 : 50



4 TOP OF WALL PLAN AT ELEVATION 184.190
SCALE: 1 : 50

NOTE:

1. ROOF DESIGN LOAD: (W/ IMPORTANCE FACTOR FOR POST DISASTER CATEGORY)
   A. SUPERIMPOSED DEAD LOADS ON ROOF (EXCLUDING TRUSS SELF-WEIGHT)
   B. PLYWOOD: 0.17 kPa
   C. METAL SHINGLES: 0.15 kPa
   D. INSULATION: 0.10 kPa
   E. CEILING: 0.20 kPa
   F. SERVICES: 0.50 kPa
   G. TOTAL SDL: 0.87 kPa

   B. SUPERIMPOSED DEAD LOADS ON CANOPY (EXCLUDING TRUSS SELF-WEIGHT)
   a. PLYWOOD: 0.17 kPa
   b. METAL SHINGLES: 0.15 kPa
   c. TOTAL SDL: 0.32 kPa

   C. SNOW LOAD (WITH IMPORTANCE FACTOR FOR POST DISASTER CATEGORY) 3.40 kPa (ULS), 2.45 kPa (SLS); SEE SNOW DRIFT ON PLAN

   D. WIND UPLIFT = 0.34 kPa

2. ROOF FRAMING FOR REPRESENTATION ONLY, REFER TO ARCH DWGS. FOR ROOF OVERHANG DIMENSIONS, REFER TO 3/A131.
3. ROOF FRAMING AND CANOPY FRAMING ARE FOR PRESENTATION PURPOSES ONLY.
4. WOOD FRAMING STRUCTURAL DESIGNER WILL DESIGN THE FRAMING DETAILS, ASSEMBLY DETAILS, INCLUDING ROOF PLAN, ROOF TRUSS DETAILS, CONNECTION DETAILS AND ALL OTHER REQUIRED STRUCTURAL COMPONENTS BASED ON THE DESIGN LOADS, IMPORTANCE CATEGORY AND OTHER DESIGN REQUIREMENTS SPECIFIED ON THIS DRAWING AND IN SPECIFICATION SECTION 06310.
5. PROVIDE PROFESSIONAL ENGINEER SEALED SHOP DRAWINGS, CALCULATIONS FOR REVIEW BEFORE MANUFACTURING.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	RZ	TK

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

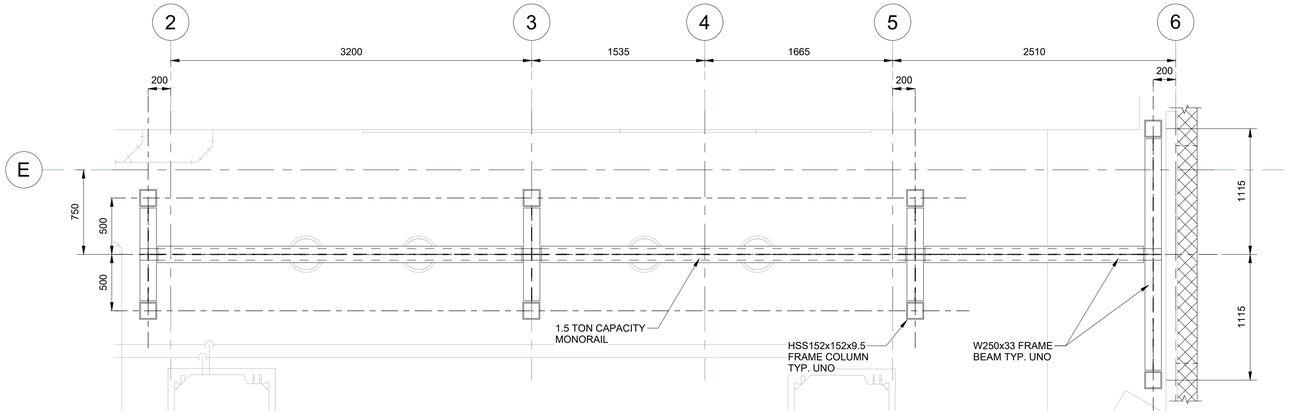
DRAWING TITLE:
STRUCTURAL
PLANS - 02

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

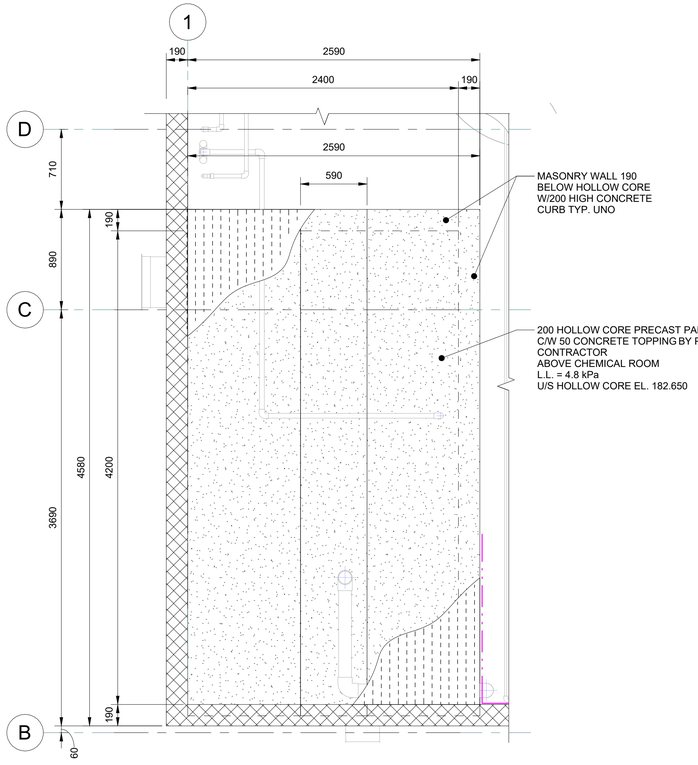
1 : 50	JAN 2026
SCALE	DATE

T001592B	0	S-102
PROJECT NO.	REVISION	DRAWING

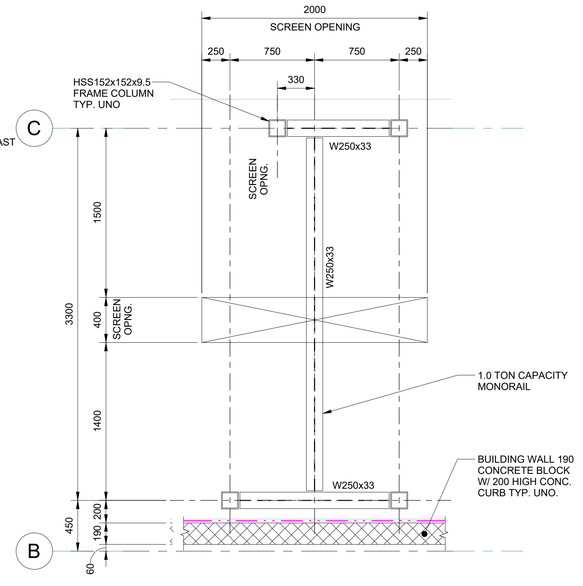
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B\1592-S Blind River Struc.rvt



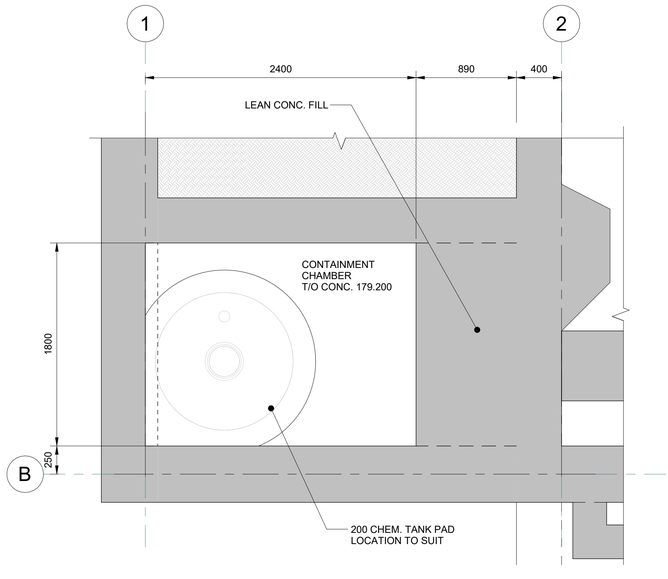
1 MONORAIL SUPPORT FRAME PLAN
S-102 SCALE: 1 : 25



2 CHEMICAL ROOM ROOF PLAN
S-102 SCALE: 1 : 25



3 MONORAIL SUPPORT FRAME
S-102 SCALE: 1 : 25



4 CHEMICAL ROOM @ EL 179.200
S-301 SCALE: 1 : 25

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

NOTES:

1. ALL STEEL MEMBERS TO BE HOT DIPPED GALVANZIED.
2. USE ONLY STAINLESS STEEL BOLTED CONNECTIONS. NO WELDING IS PERMITTED AFTER GALVANIZING.
3. CONTRACTOR TO COORDINATE WITH MONORAIL MAUFACTURER REGARDING THE ANCHORING OF THE MONORAIL TO THE STRUCTURAL BEAMS. PROVIDE SHOP DRAWINGS FOR REVIEW PRIOR TO MANUFACTURING.

JAN 2026	0	ISSUED FOR TENDER	RZ	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

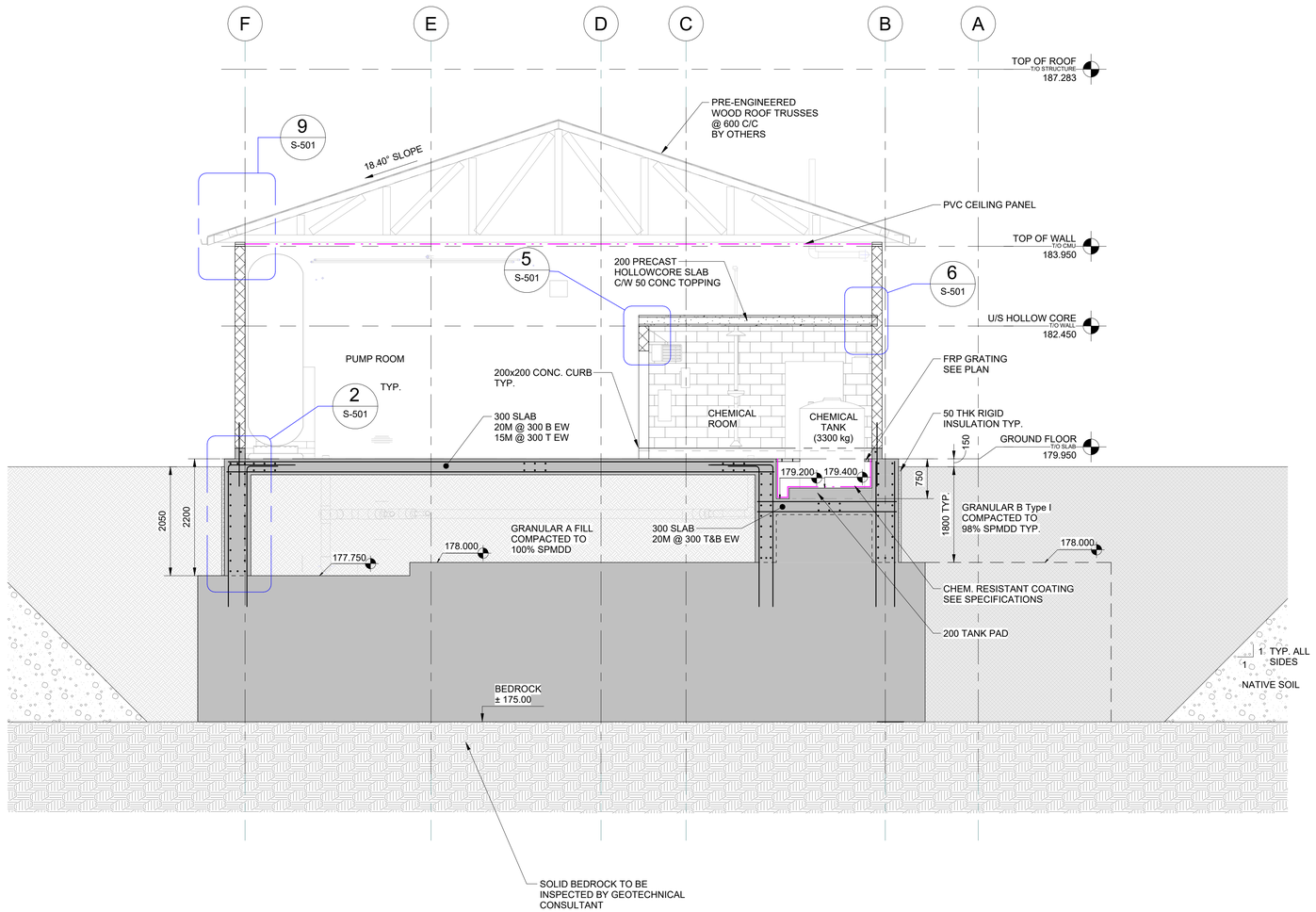
ENLARGED
STRUCTURAL
PLANS

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

1 : 25	JAN 2026
SCALE	DATE

T001592B	0	S-103
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt



A S-101 CROSS SECTION
SCALE: 1 : 50

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	RZ	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

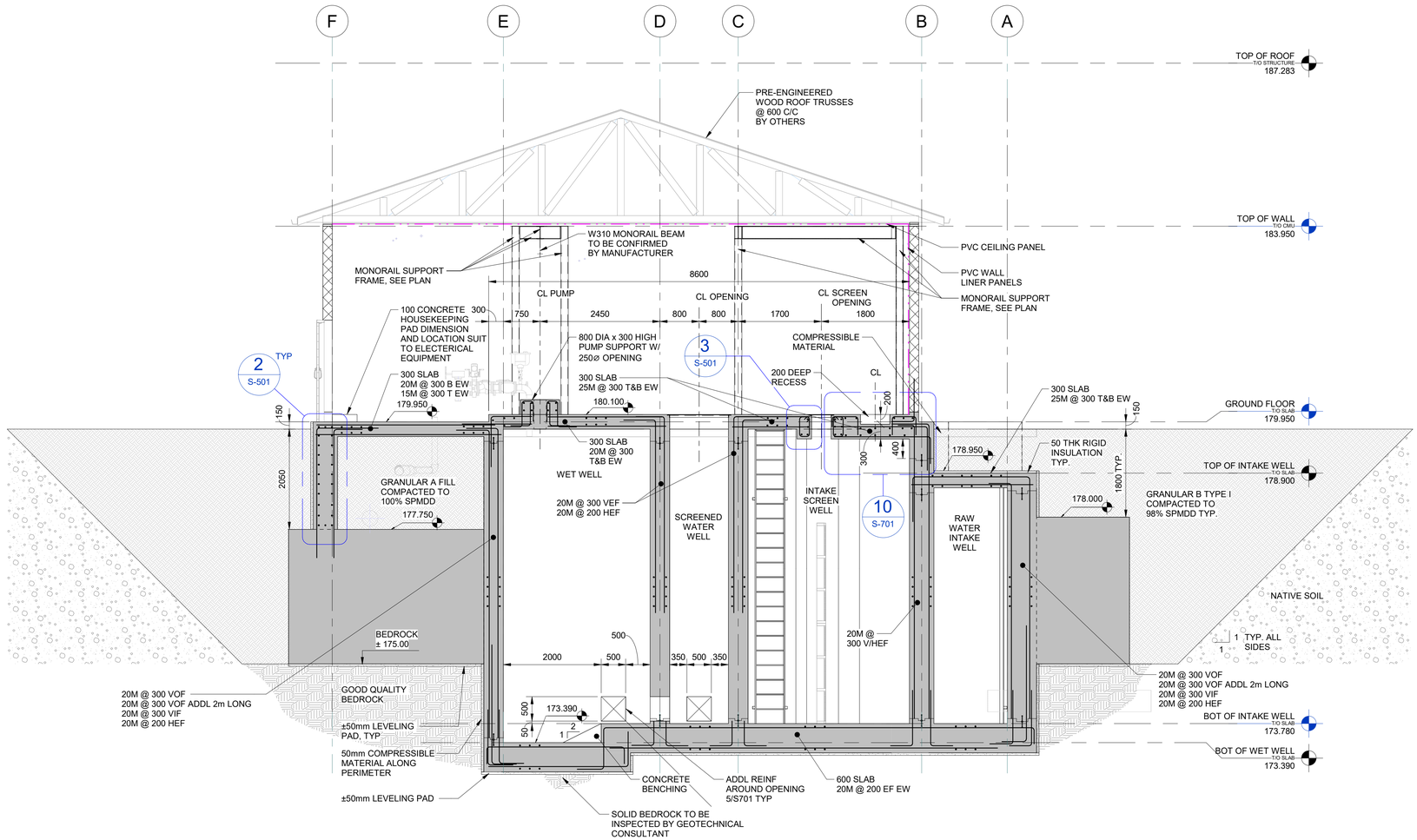
STRUCTURAL
SECTIONS - 01

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

1 : 50	JAN 2026
SCALE	DATE

T001592B	0	S-301
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt



B S-101 CROSS SECTION
SCALE: 1 : 50

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	RZ	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT:
Blind River

CONSULTANT:
CIMA+

CONSULTANT:
TULLOCH

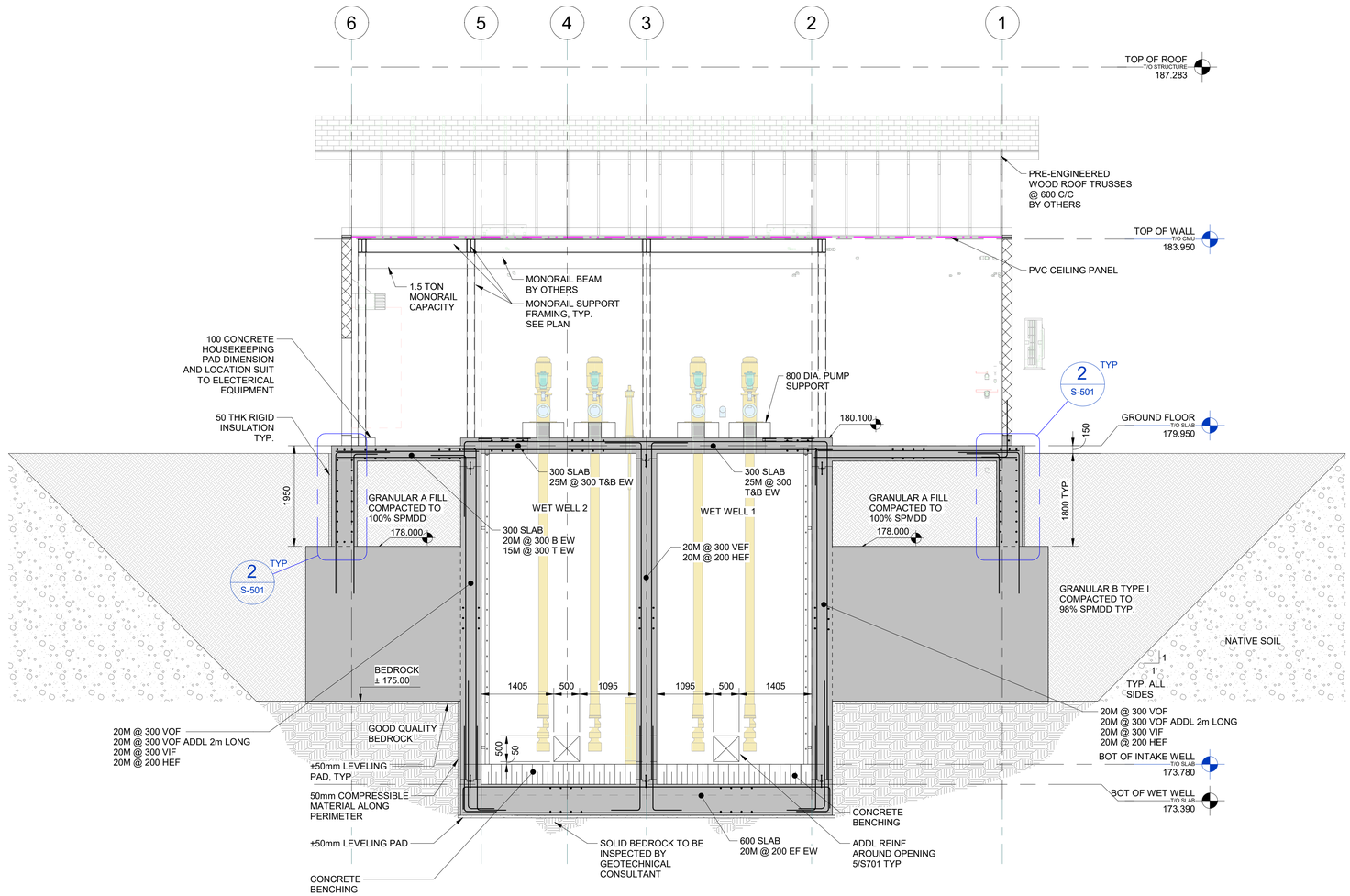
PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
STRUCTURAL
SECTIONS - 02

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

1 : 50	JAN 2026
SCALE	DATE

T001592B	0	S-302
PROJECT NO.	REVISION	DRAWING



C S-101 CROSS SECTION

SCALE: 1 : 50

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	RZ	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

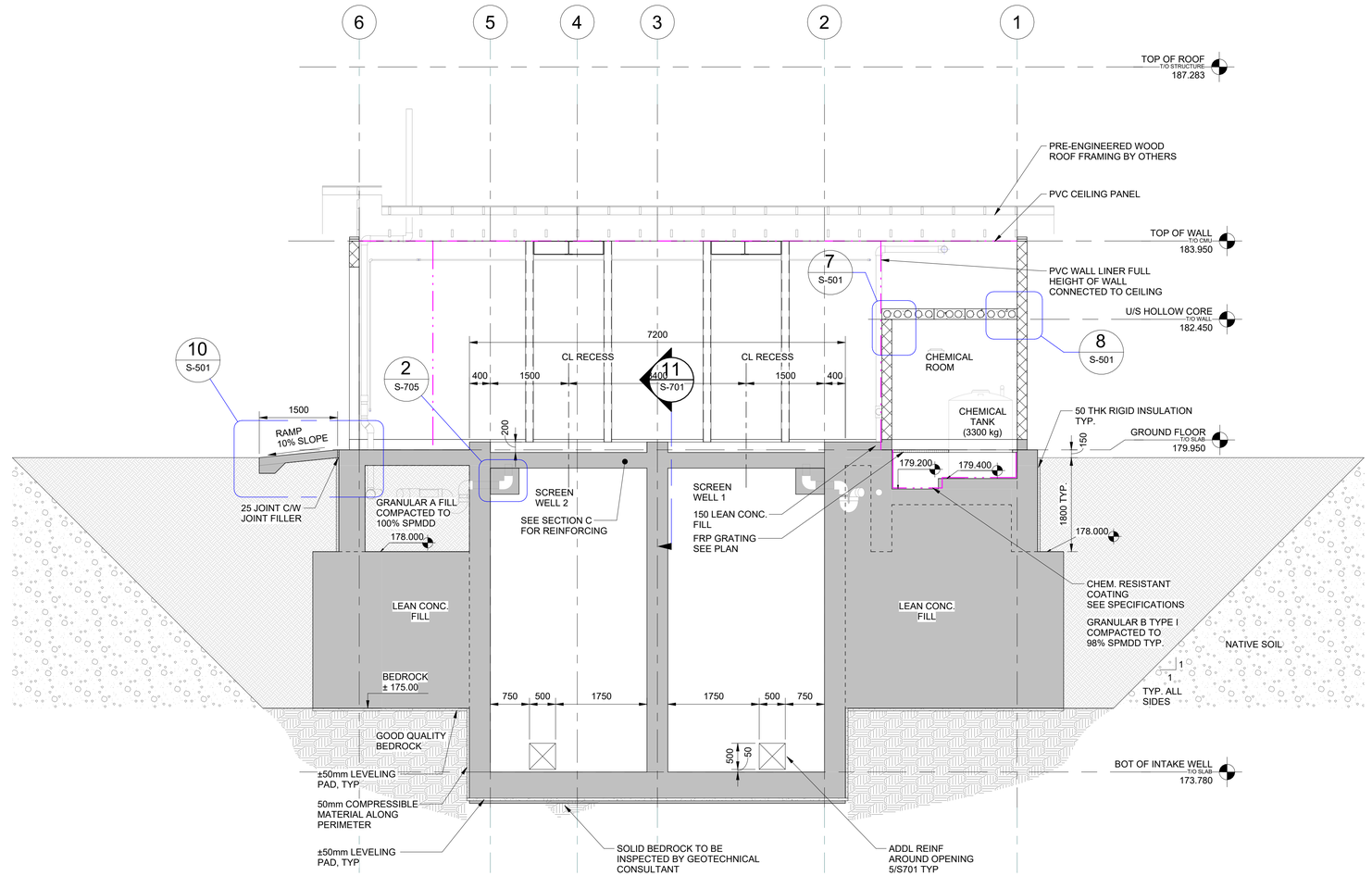
STRUCTURAL
SECTIONS - 03

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

1 : 50	JAN 2026
SCALE	DATE

T001592B	0	S-303
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt



D S-101 CROSS SECTION
SCALE: 1 : 50

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
R. ZENG
100055493
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	RZ	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

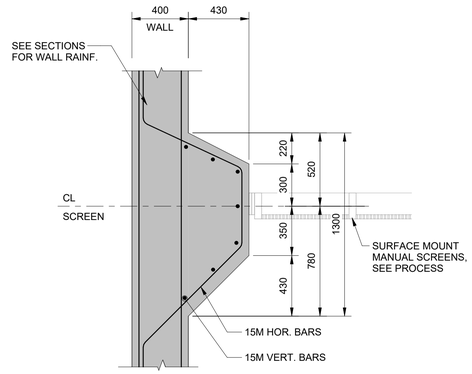
STRUCTURAL
SECTIONS - 04

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

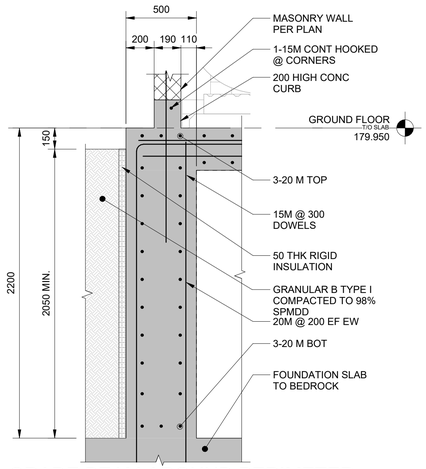
1 : 50	JAN 2026
SCALE	DATE

T001592B	0	S-304
PROJECT NO.	REVISION	DRAWING

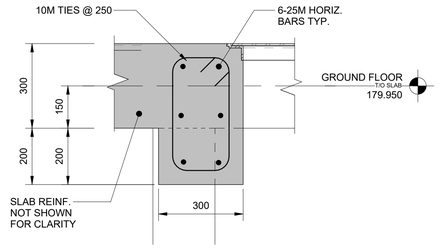
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt



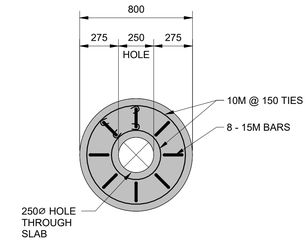
1 CONCRETE THICKENING AT SCREEN
S-101 SCALE: 1 : 20



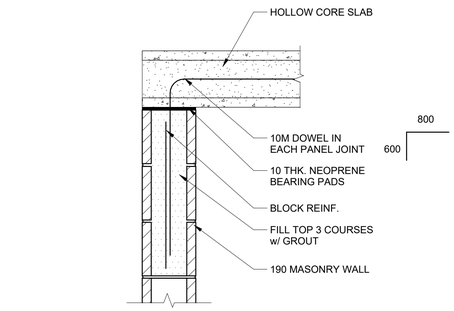
2 GRADE BEAM AROUND PERIMETER
S-301 SCALE: 1 : 20



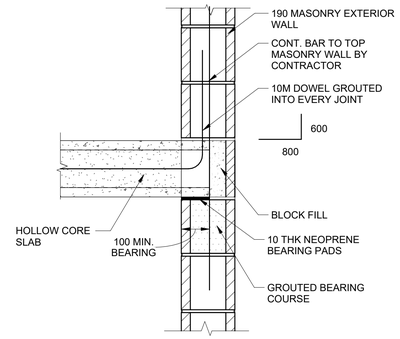
3 CONCRETE BEAM DETAIL
S-302 SCALE: 1 : 10



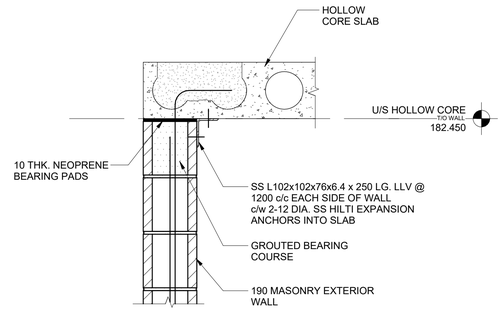
4 PUMP SUPPORT DETAIL
S-102 SCALE: 1 : 20



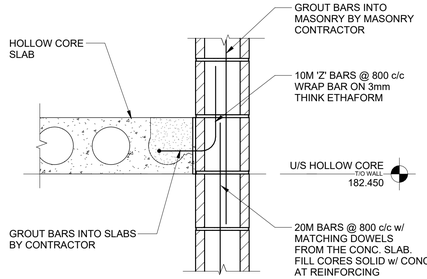
5 HOLLOW CORE END BEARING - INTERIOR 1
S-301 SCALE: 1 : 10



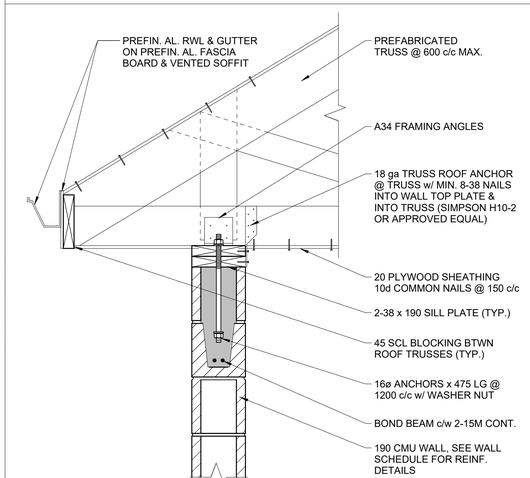
6 HOLLOW CORE END BEARING - EXTERIOR 1
S-301 SCALE: 1 : 10



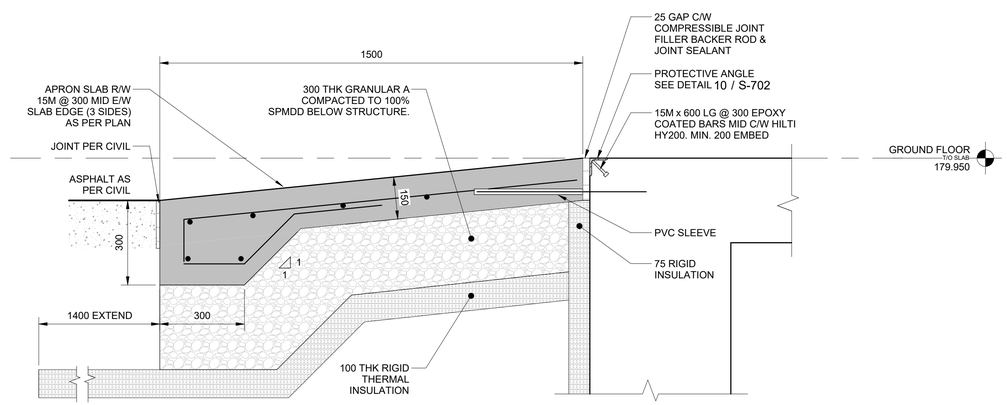
7 HOLLOW CORE END BEARING - INTERIOR 2
S-304 SCALE: 1 : 10



8 HOLLOW CORE END BEARING - EXTERIOR 2
S-304 SCALE: 1 : 10



9 ROOF TRUSS SUPPORT ON CMU WALL
S-301 SCALE: 1 : 10



10 RAMP DETAIL
S-304 SCALE: 1 : 10

KEY PLAN

ENGINEER'S SEAL:

JAN 2026	0	ISSUED FOR TENDER	RZ	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

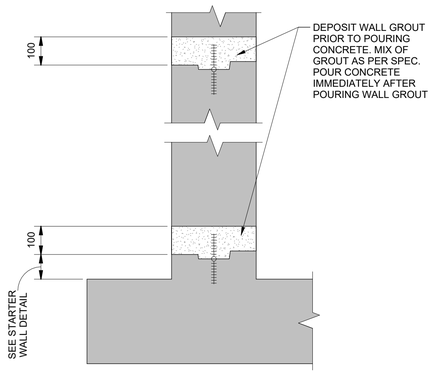
STRUCTURAL
DETAILS

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED

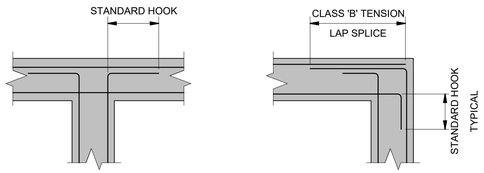
As indicated	JAN 2026
SCALE	DATE

T001592B	0	S-501
PROJECT NO.	REVISION	DRAWING

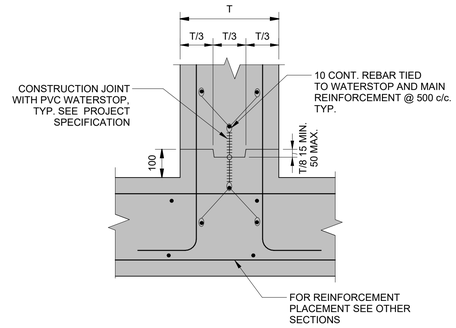
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt



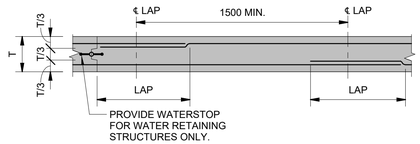
1 STARTER WALL GROUT
SCALE: 1 : 10



2 WALL CORNER & INTERSECTION
SCALE: 1 : 20



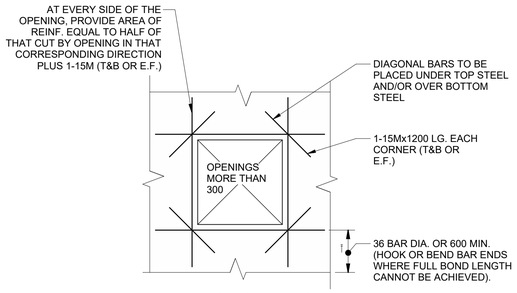
3 WATERSTOP AT BASE
SCALE: 1 : 10



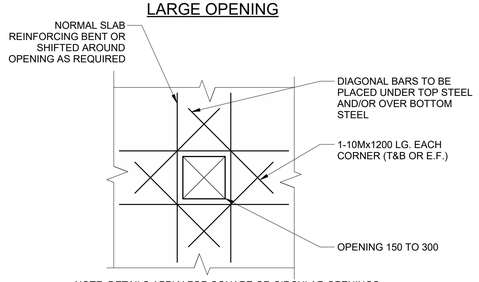
NOTES:

1. STAGGER ALTERNATE LAPS 1500 MINIMUM.
2. FOR MAXIMUM LENGTH OF POUR, SEE SPECIFICATIONS.
3. GENERAL CONTRACTOR TO PROVIDE DRAWINGS SHOWING ALL CONSTRUCTION JOINTS FOR APPROVAL PRIOR TO FABRICATION OF REINFORCING STEEL

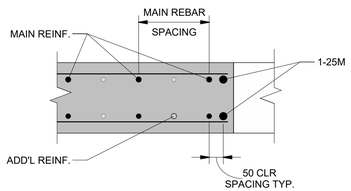
4 CONSTRUCTION JOINT
SCALE: 1 : 20



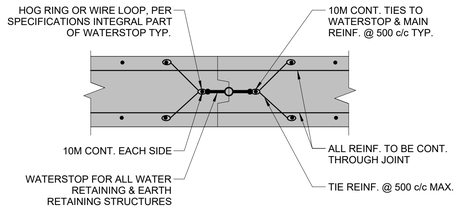
LARGE OPENING



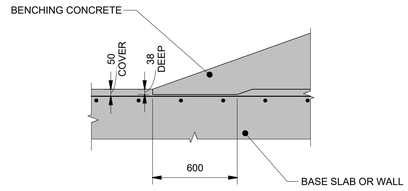
NOTE: DETAILS APPLY FOR SQUARE OR CIRCULAR OPENINGS



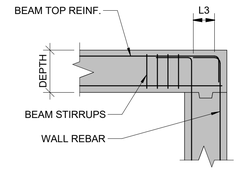
5 OPENING AT FLOOR OR WALL
SCALE: 1 : 10



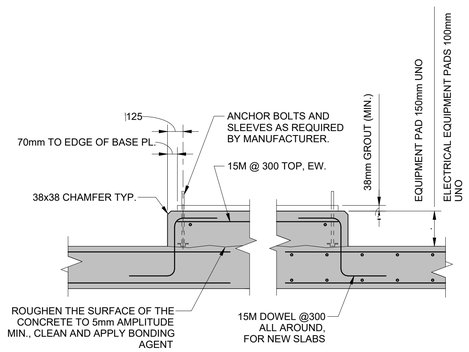
6 CONC. JOINT IN CONC. WALL
SCALE: 1 : 10



7 CONC. BENCH TERMINATION
SCALE: 1 : 20



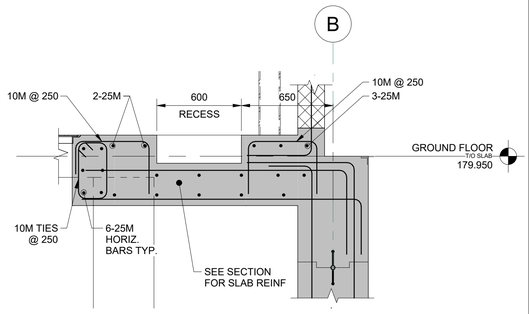
8 BEAM TO WALL CONNECTION
SCALE: 1 : 20



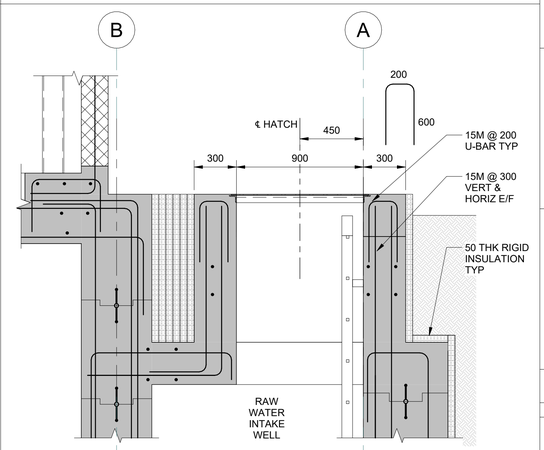
NOTES:

1. ANY APERTURES IN SLAB OR PAD, REQUIRED BY THE MANUFACTURER, TO BE COORDINATED WITH CONTRACTOR.
2. FOR PLAN DIMENSIONS & LOCATION SEE PLAN.
3. CONTRACTOR TO COORDINATE SIZING AND LOCATION WITH EQUIPMENT SHOP DRAWINGS.

9 HOUSEKEEPING PAD
SCALE:NTS



10 CONCRETE BEAM DETAIL1
SCALE: 1 : 20



11 ACCESS HATCH DETAIL
SCALE: 1 : 20

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	RZ	TK

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

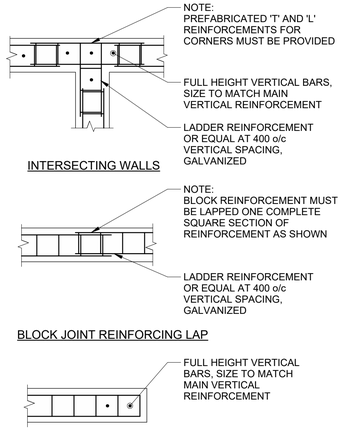
DRAWING TITLE:

STRUCTURAL
TYPICAL DETAILS

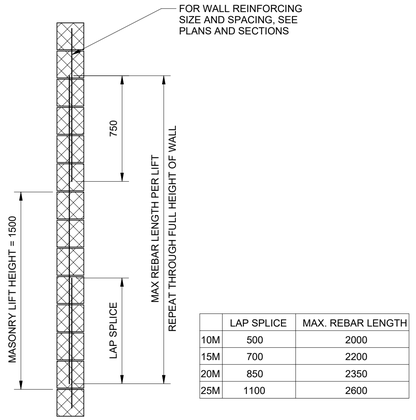
DRAWN	DESIGNED	CHECKED	APPROVED
EE	RZ/CM	RZ	ARP

SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	S-701

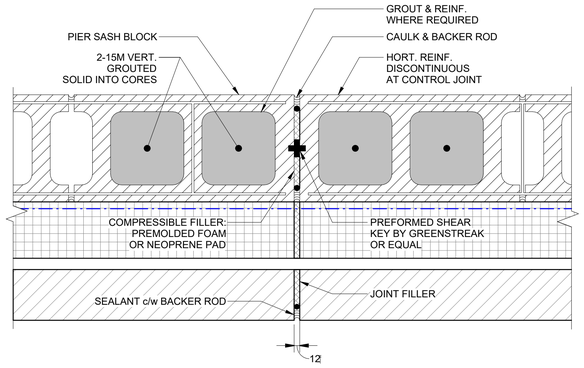


1 BLOCK WALL REINFORCEMENT
SCALE: 1 : 20

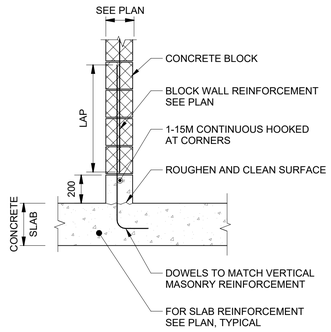


	LAP SPLICE	MAX. REBAR LENGTH
10M	500	2000
15M	700	2200
20M	850	2350
25M	1100	2600

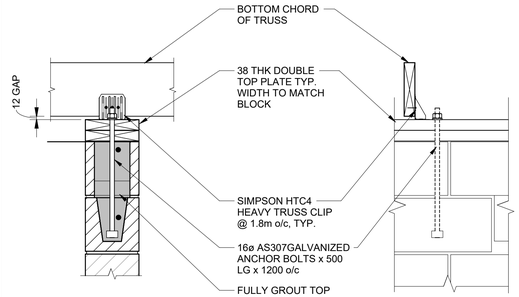
2 BLOCK WALL REBAR LAP
SCALE:NTS



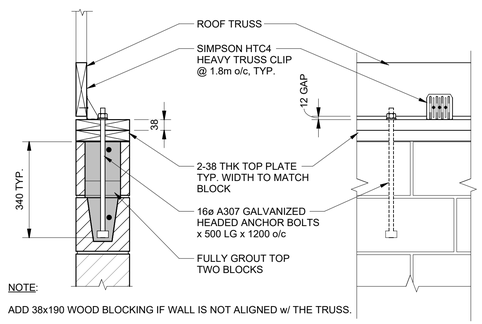
3 CONTROL JOINT - BLOCK WALL
SCALE: 1 : 5



4 200 HIGH CURB IN CMU WALL
SCALE: 1 : 20

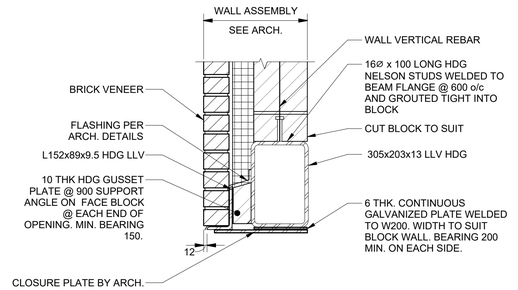


5 NON-LOAD BEARING BLOCK WALL LATERAL RESTRAINT PERPENDICULAR TO WOOD TRUSS
SCALE: 1 : 10

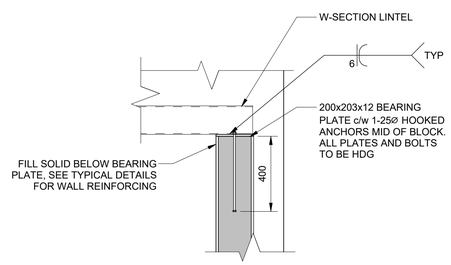


NOTE:
ADD 38x190 WOOD BLOCKING IF WALL IS NOT ALIGNED w/ THE TRUSS.

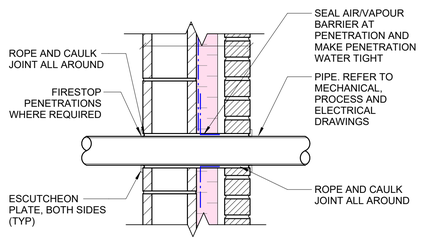
6 NON-LOAD BEARING BLOCK WALL LATERAL RESTRAINT PARALLEL TO WOOD TRUSS
SCALE: 1 : 10



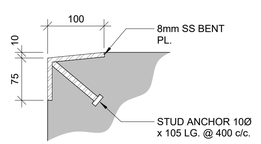
7 STEEL LINTEL FOR SPAN OPENINGS BETWEEN 2500 & 4600
SCALE: 1 : 10



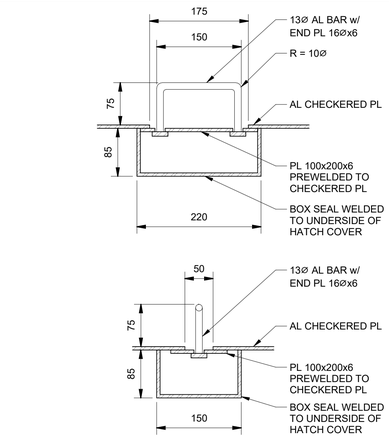
8 BEARING PLATE AT DOUBLE DOOR LINTEL
SCALE: NTS



9 EXT. WALL SECTION @ PIPE PENETRATION
SCALE: 1 : 10



10 PROTECTION ANGLE AT DOOR
SCALE: 1 : 5



11 GAS-TIGHT CHECKERED PLATE RECESSED HANDLE
SCALE: 1 : 5

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	RZ	TK

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

STRUCTURAL
TYPICAL DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED
EE	RZ/CM	RZ	ARP

SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	S-702

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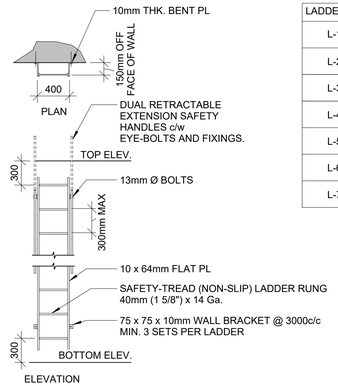
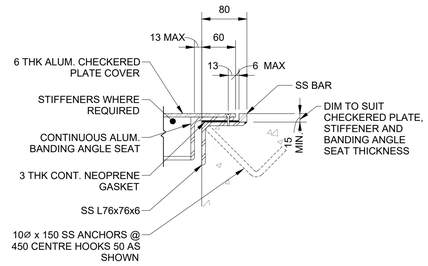


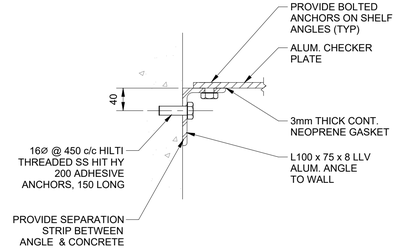
LADDER No.	MATERIAL	TOP FLOOR EL.	BOTTOM FLOOR EL.	LOCATION	COMMENTS
L-1	ALUM	179.950	173.780	WET WELL 1	-
L-2	ALUM	179.950	173.780	SCREENED WATER WELL 1	-
L-3	ALUM	179.950	173.780	WET WELL 2	-
L-4	ALUM	179.950	173.780	SCREENED WATER WELL 2	-
L-5	ALUM	179.950	173.780	RAW WATER INTAKE WELL	-
L-6	ALUM	179.950	173.780	INTAKE SCREEN WELL	-
L-7	ALUM	179.950	173.780	INTAKE SCREEN WELL	-

NOTES:
1. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE NOTED.
2. PRIOR TO FABRICATION THE CONTRACTOR IS TO SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW, STAMPED & SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.

1 LADDER - PLAN/ELEVATION
SCALE:NTS



2 CHECKERED PLATE SUPPORT ON CONC.
SCALE: 1 : 5



5 CHECKERED PL SUPPORT ANGLE TO WALL
SCALE: 1 : 5

KEY PLAN

ENGINEER'S SEAL:

JAN 2026	0	ISSUED FOR TENDER	RZ	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

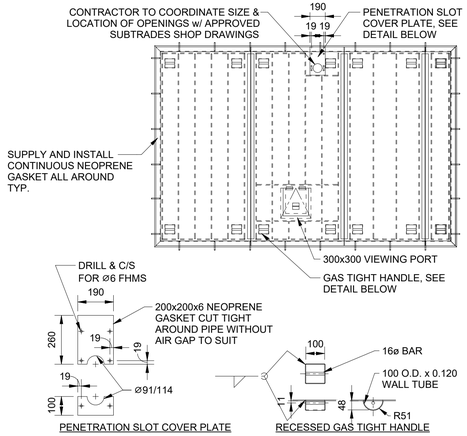
CONSULTANT: CIMA+

CONSULTANT: TULLOCH

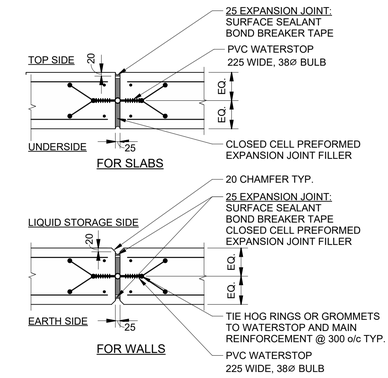
PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
STRUCTURAL
TYPICAL DETAILS

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED
As indicated		JAN 2026	
SCALE		DATE	
T001592B	0	S-703	
PROJECT NO.	REVISION	DRAWING	



3 TOP MOUNT CHECKERED PL
SCALE:1 : 35



INSTRUCTIONS:
CLEAN JOINT, INSTALL BOND BREAKER, APPLY PRIMER AND SEALANT AS PER MANUFACTURER'S RECOMMENDATIONS.

4 EXPANSION JOINT FOR SLABS & WALLS
SCALE:1 : 15

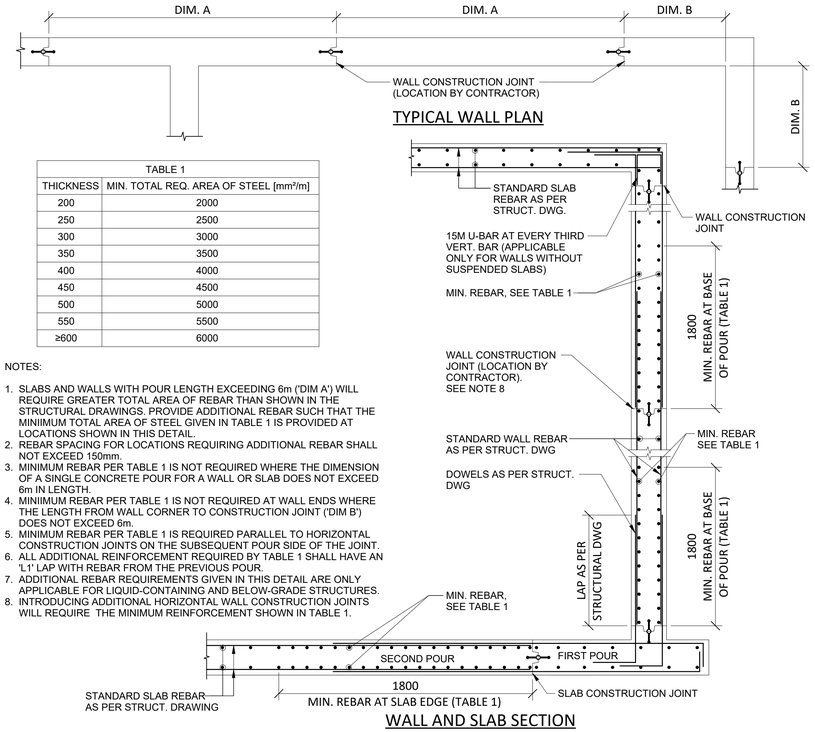
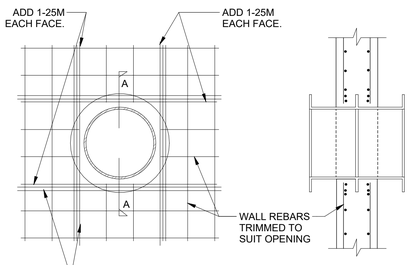


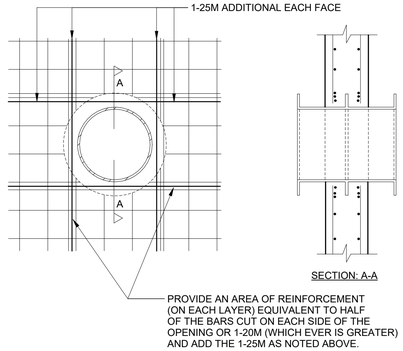
TABLE 1	
THICKNESS	MIN. TOTAL REQ. AREA OF STEEL [mm²/m]
200	2000
250	2500
300	3000
350	3500
400	4000
450	4500
500	5000
550	5500
≥600	6000

NOTES:
1. SLABS AND WALLS WITH POUR LENGTH EXCEEDING 6m ('DIM A') WILL REQUIRE GREATER TOTAL AREA OF REBAR THAN SHOWN IN THE STRUCTURAL DRAWINGS. PROVIDE ADDITIONAL REBAR SUCH THAT THE MINIMUM TOTAL AREA OF STEEL GIVEN IN TABLE 1 IS PROVIDED AT LOCATIONS SHOWN IN THIS DETAIL.
2. REBAR SPACING FOR LOCATIONS REQUIRING ADDITIONAL REBAR SHALL NOT EXCEED 150mm.
3. MINIMUM REBAR PER TABLE 1 IS NOT REQUIRED WHERE THE DIMENSION OF A SINGLE CONCRETE POUR FOR A WALL OR SLAB DOES NOT EXCEED 6m IN LENGTH.
4. MINIIMUM REBAR PER TABLE 1 IS NOT REQUIRED AT WALL ENDS WHERE THE LENGTH FROM WALL CORNER TO CONSTRUCTION JOINT ('DIM B') DOES NOT EXCEED 6m.
5. MINIMUM REBAR PER TABLE 1 IS REQUIRED PARALLEL TO HORIZONTAL CONSTRUCTION JOINTS ON THE SUBSEQUENT POUR SIDE OF THE JOINT.
6. ALL ADDITIONAL REINFORCEMENT REQUIRED BY TABLE 1 SHALL HAVE AN 'L1' LAP WITH REBAR FROM THE PREVIOUS POUR.
7. ADDITIONAL REBAR REQUIREMENTS GIVEN IN THIS DETAIL ARE ONLY APPLICABLE FOR LIQUID-CONTAINING AND BELOW-GRADE STRUCTURES.
8. INTRODUCING ADDITIONAL HORIZONTAL WALL CONSTRUCTION JOINTS WILL REQUIRE THE MINIMUM REINFORCEMENT SHOWN IN TABLE 1.

6 ADD'L REINFORCEMENT AT CONSTRUCTION JOINT
SCALE: 1 : 20

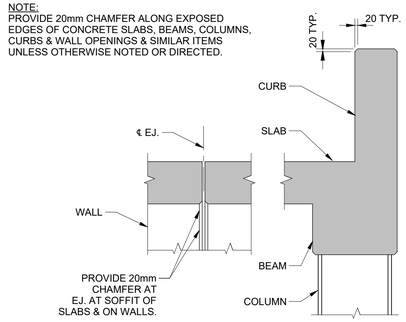


7 PIPE CAST INTO WALL/SLAB > 300mm DIA.
SCALE: 1 : 20

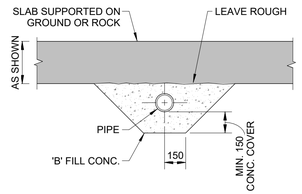


8 PIPE CAST INTO WALL/SLAB < 300mm DIA.
SCALE: 1 : 20

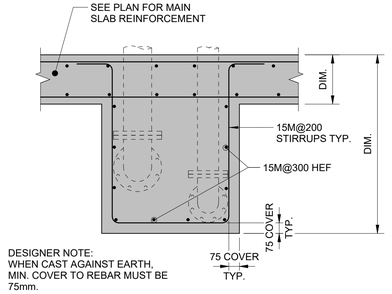
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt



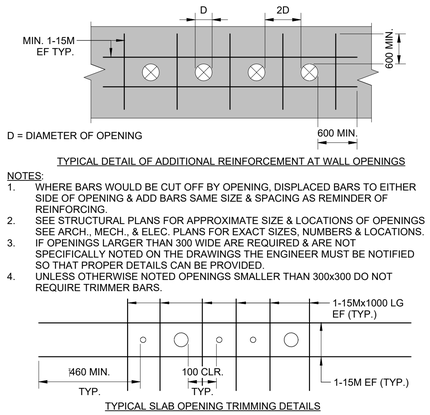
1 CHAMFER
SCALE:NTS



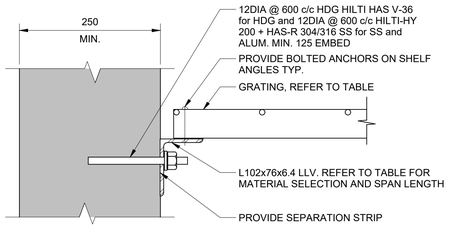
2 UNREINFORCED PIPE ENCASEMENT
SCALE:NTS



3 PIPE ENCASEMENT
SCALE: 1 : 20

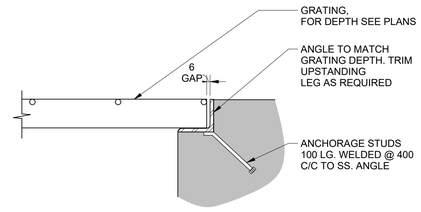


4 SLAB/WALL ADDL REINFORCING
SCALE:NTS



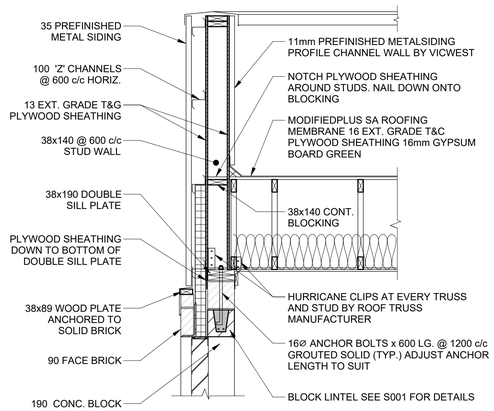
GRATING SIZE (mm)	GRATING MATERIAL	MAX SPAN (mm)	SUPPORT ANGLE	SUPPORT MATERIAL	ANCHOR	ANCHOR SHEAR CAPACITY (kN)
44x5	ALUM 6060 - T6	1500	L102x76x6.4 (LLV)	ALUM.	HIT-HY 200 + HAS-R-316SS	37
57x5	ALUM 6060 - T6	2000	L102x76x6.4 (LLV)	ALUM.	HIT-HY 200 + HAS-R-316SS	37

5 FRP GRATING ON ANGLE
SCALE:NTS

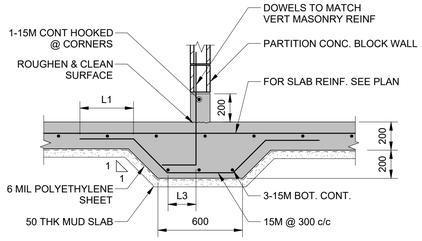


GRATING THK.	ANGLE SIZE (6.35 THK.)
44.45	L 51 x 51
57.15	L 64 x 64

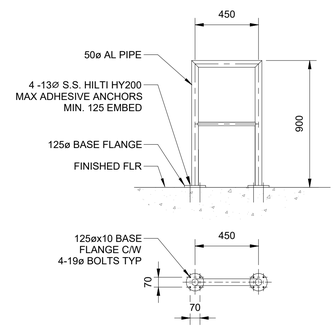
6 GRATING BEARING ON CONCRETE
SCALE:NTS



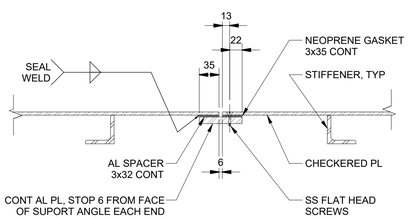
7 WOOD STUD ROOF ON BLOCK LINTEL
SCALE:NTS



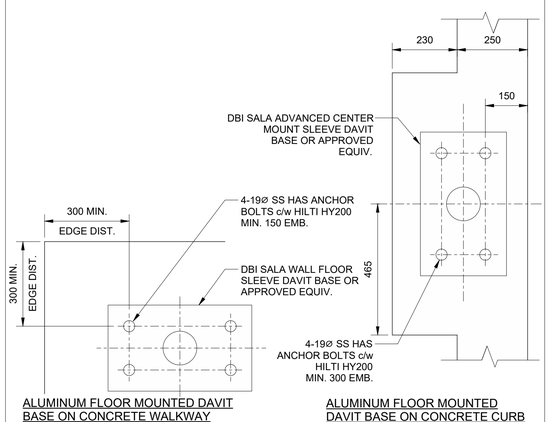
8 INTERIOR BLOCK WALL THICKENING
SCALE:NTS



9 ALUM GRAB LADDER
SCALE: 1 : 20



10 CHECKERED PLATE CONNECTION
SCALE: 1 : 5



11 ACCESS DAVIT BASE
SCALE: 1 : 10

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	RZ	TK

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

STRUCTURAL
TYPICAL DETAILS

EE	RZ/CM	RZ	ARP
DRAWN	DESIGNED	CHECKED	APPROVED
As indicated		JAN 2026	
SCALE		DATE	
T001592B	0	S-704	
PROJECT NO.	REVISION	DRAWING	

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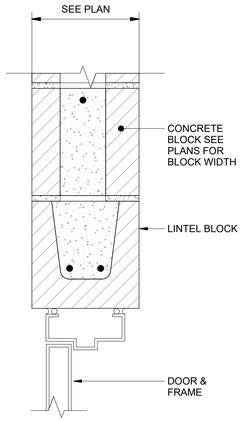
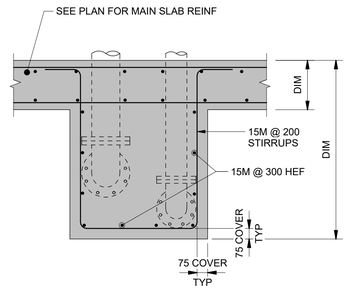
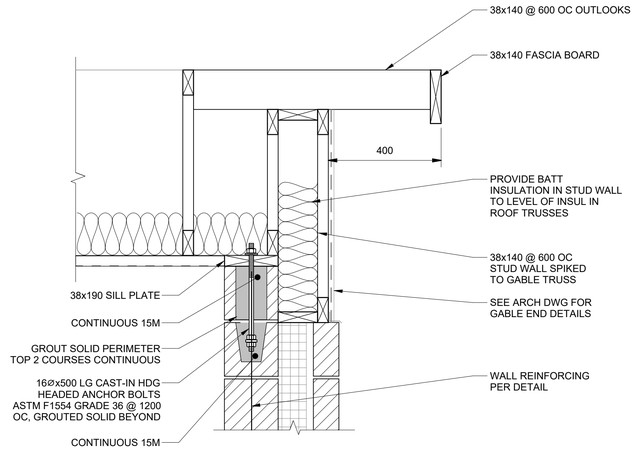


1 DOOR HEAD
SCALE:NTS

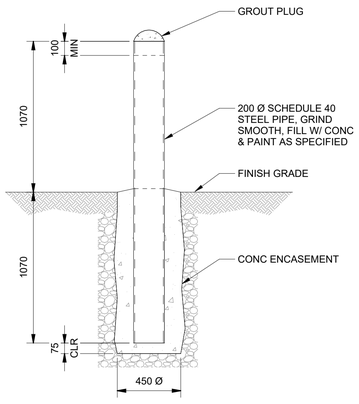


DESIGNER NOTE:
WHEN CAST AGAINST EARTH MIN COVER TO REBAR MUST BE 75

2 PIPE ENCASEMENT
SCALE: 1 : 20



3 GABLE DETAIL
SCALE: 1 : 10



4 EXTERIOR BOLLARD
SCALE: 1 : 20

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	RZ	TK

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
STRUCTURAL
TYPICAL DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED
EE	RZ/CM	RZ	ARP

SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	S-705

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-S Blind River Struc.rvt

TYPICAL ABBREVIATIONS

BUILDING COMPONENTS EXTERIOR

AB	AIR BARRIER
AVB	AIR/VAPOUR BARRIER
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CW	CURTAIN WALL
GL	GLAZING
OSB	ORIENTED STRAND BOARD
MTL	METAL
RWL	RAIN WATER LEADER
ST	STEEL
SST	STAINLESS STEEL
STN	STONE
WD	WOOD
VR	VAPOUR RETARDER
VB	VAPOUR BARRIER

BUILDING COMPONENTS

HC	HOLLOW CORE
HDRL	HANDRAIL
HM	HOLLOW METAL
SC	SOLID CORE

MISCELLANEOUS

AFF	ABOVE FINISHED FLOOR
BH	BORE HOLE
B/O	BACK OF
CB	CATCH BASIN
CLR	CLEAR
CONT	CONTINUOUS
C/W	COMPLETE WITH
EJ	EXPANSION JOINT
E.O.	EDGE OF
ER	ELECTRICAL RECEPTACLE
EX.	EXISTING
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
F.F.	FINISHED FRAME
F.O.	FACE OF
GC	GENERAL CONTRACTOR
GL	GLAZING
GP	GLAZED PARTITION
MH	MAN HOLE
MIN.	MINIMUM
MO	MASONRY OPENING
N.I.C.	NOT IN CONTRACT
O.B.C.	ONTARIO BUILDING CODE
O.C.	ON CENTRE
PLY	PLYWOOD
RCP	RADIANT CEILING PANEL
RD	ROOF DRAIN
RV	REVEAL
SMC	SURFACE MOUNTED CONDUIT
SOG	SLAB ON GRADE
TB	TOWEL BAR
T/O	TOP OF
TYP.	TYPICAL
U/S	UNDERSIDE
VEST	VESTIBULE
V.I.F	VERIFY IN FIELD
W/	WITH

GENERAL NOTES

GENERAL NOTES & SPECIFICATIONS

1. ALL DIMENSIONS ARE FOR REFERENCE ONLY, SITE VERIFY PRIOR TO CONSTRUCTIONS.

3. ALL WORK TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE, LATEST EDITION.

4. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL SATISFY THEMSELVES WITH THE ACTUAL REQUIREMENTS AND CONDITIONS FOR THE WORK, AS WELL AS ANY MEASURES REQUIRED TO COMPLETE THE WORK IN A SAFE AND RESPONSIBLE MANOR.

5. THE CONTRACTOR SHALL DO ALL CUTTING, PATCHING AND REPAIRS AS REQUIRED TO ACCOMMODATE THE WORK OF ALL TRADES.

7. FIRE STOPPING OF SERVICE PENETRATIONS-PIPING, TUBING, DUCTS, WIRING, CONDUIT, ELECTRICAL OUTLET BOXES THAT PENETRATE FIRE SEPARATION SHALL BE TIGHTLY FITTED AND SEALED WITH MINERAL WOOL, GYPSUM PLASTER OR PORTLAND CEMENT MATERIAL.

8.CONSULTANT TO REVIEW PRIOR TO INSTALLATION OF CEILING AND WALLBOARD.

CONSTRUCTION ASSEMBLIES GENERAL NOTES

1. ASSEMBLY CONSTRUCTIONS ARE PROVIDED FOR DESCRIPTIVE PURPOSES ONLY. ALL FIRE RESISTANT ASSEMBLIES MUST COMPLY FULLY WITH REQUIREMENTS LISTED UNDER SPECIFIC ULC DESIGN No. IN THE UNDERWRITERS' LABORATORIES OF CANADA LIST OF EQUIPMENT AND MATERIALS, FIRE RESISTANCE, 2004 EDITION (U.L.C.) OR THE SPECIFIC DESIGN IN THE SUPPLEMENTARY GUIDELINES TO THE ONTARIO BUILDING CODE 2012 (O.B.C.-SG).

2. SEAL ALL FIRE RATED PARTITIONS TO FLOOR SLAB AND UNDERSIDE OF STRUCTURE ABOVE WITH FIRE STOP AND FIRE-PROOFING SEALANT.

3. CONTRACTOR IS RESPONSIBLE TO COORDINATE THE LOCATION OF ALL FIRE SEPARATIONS WITH THE CONTRACT DOCUMENTS. ENSURE THAT ALL RATINGS ARE CONTINUOUS AND MAINTAINED FOR THE ENTIRE SEPARATION AND AT ALL PENETRATIONS.

4. FIRE RESISTANCE ASSEMBLY MARKINGS: ALL RATED PARTITIONS (FIRE AND SMOKE) TO BE LABELED ABOVE FINISH CEILING WITH 100mm TALL BLOCK LETTERS INDICATING THE FIRE-RESISTANCE RATING OF THE ASSEMBLY AND THE TYPE OF ASSEMBLY. SPACE LABELS 1000mm MINIMUM APART ALONG FULL LENGTH OF WALL. MINIMUM (1) LABEL PER WALL.

5. SEE DRAWINGS FOR SPECIFIC PARTITION DETAILS

6. IF CONTRACTOR CHOOSES A DIFFERENT PRODUCT THAN INDICATED ON THE ULC LISTING ON THIS SCHEDULE IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT AN ALTERNATIVE APPROPRIATE ULC LISTING FOR REVIEW AND APPROVAL AND TO COMPLY WITH ALL REQUIREMENTS OF THAT LISTING.

7. IF THE ULC LISTINGS CITED SHOW THE MINIMUM REQUIREMENTS TO ACHIEVE THE FIRE LISTING SHOWN. ADDITIONAL REQUIREMENTS SHOWN ON THE ASSEMBLIES SCHEDULE WHICH ARE OVER AND BEYOND WHAT IS LISTED ON THE ULC LISTING ARE ALSO TO BE PROVIDED. EXAMPLES MAY INCLUDE INCREASED STUD SIZE, ADDITIONAL LAYERS OF GWB, AND/OR INSULATION.

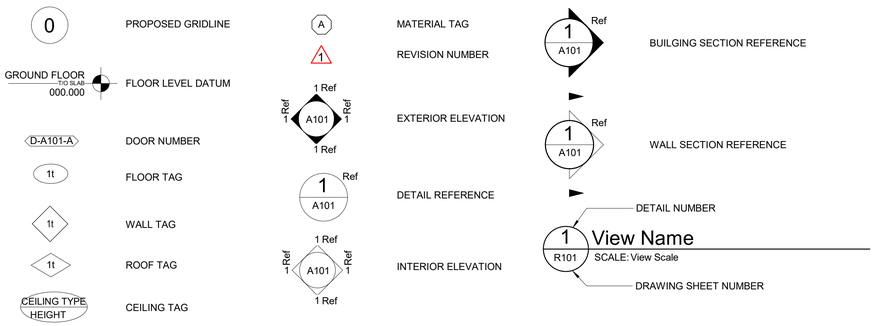
8. 0HR FIRE SEPARATIONS SHALL BE CONSTRUCTED AS FIRE SEPARATIONS BUT ARE NOT REQUIRED TO HAVE A FIRE RESISTANT RATING (PER O.B.C. A-3.1.8.1(1)(b)). EXTEND DRYWALL TO UNDERSIDE OF DECK ABOVE. PROVIDE CONTINUOUS CAULKING ALONG PERIMETER OF GWB AT ALL INTERSECTIONS AND PENETRATIONS

9. PROVIDE CONCEALED CONTINUOUS REINFORCEMENT AT PARTITIONS AS REQUIRED. REFER TO PLANS FOR LOCATIONS OF HANDRAILS AND ANY OTHER ITEMS REQUIRING REINFORCEMENT.

10. DEFLECTION TRACKS - PROVIDE DEFLECTION TRACKS WHERE STRUCTURAL INDICATES DEFLECTION AND DEFLECTION TRACKS (FIRE RATED) WHERE STRUCTURAL INDICATES DEFLECTION AT FIRE RATED PARTITIONS.

11. COORDINATE AND PROVIDE OPENINGS FOR ARCHITECTURAL, MECHANICAL, ELECTRICAL AND STRUCTURAL PENETRATIONS. ENSURE THE INTEGRITY OF FRAMED PARTITIONS. PROVIDE LOOSE LINTELS AS REQUIRED IN MASONRY PARTITIONS. FIRESTOP ALL PENETRATIONS AT FIRE RATED SEPARATIONS.

SYMBOL LEGEND



KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

GENERAL
INFORMATION

DRAWN	DESIGNED	CHECKED	APPROVED
CM	WH	MN	WH

SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	A-001

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt

NAME OF PRACTICE: C2 ARCHITECTURE INC.
415 BASELINE ROAD WEST, BOWMANVILLE, ON L1C 5M2

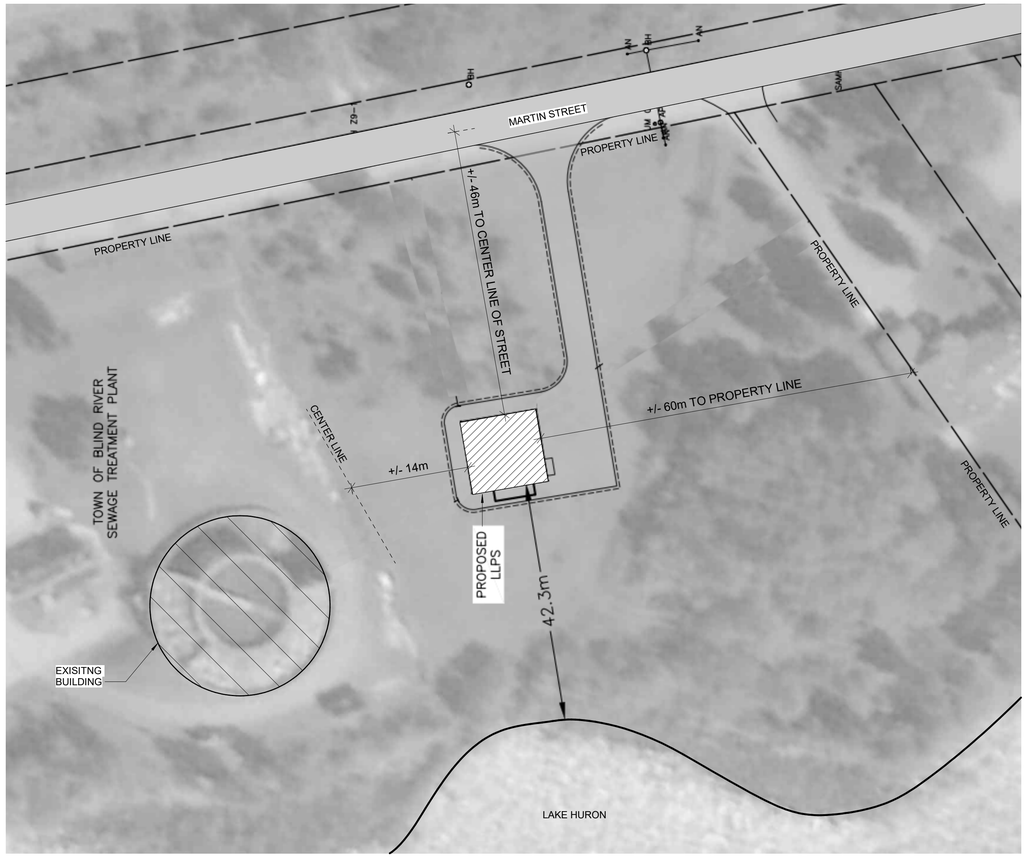
PROJECT NAME: Blind River Intake and LLPS

PROJECT ADDRESS:

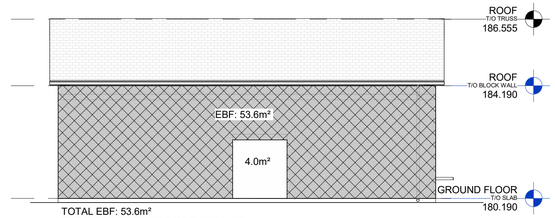
ONTARIO BUILDING CODE DATA MATRIX PARTS 3 OR 9

Building Code Version: O.Reg. 163/24 Last Amendment: 447/24

ITEM		BUILDING CODE REFERENCE: REFERENCES ARE TO DIVISION B UNLESS NOTED [A] FOR DIVISION A OR [C] FOR DIVISION C		COMMENTS
		■ PART 3	□ PART 9	
1	PROJECT TYPE: ■ NEW CONSTRUCTION □ ADDITION □ RENOVATION □ CHANGE OF USE □ ADDITION AND RENOVATION	1.3.3.2 (1)	1.3.3.8 & 9.10.1.3.	1.3.3.2.1a - classified as post-disaster buildings
2	MAJOR OCCUPANCY(S) : F3 USE: LOW HAZARD INDUSTRIAL OCCUPANCY (WATER INTAKE AND SCREENING)	3.1.2.	9.10.2	The combustible content is not more than 50 kg/m2 or 1200 MJ/m2 of floor area
3	SUPERIMPOSED MAJOR OCCUPANCY(S) : ■ NO □ YES DESCRIPTION: N/A	3.2.2.7.		
4	BUILDING AREA (m²) EXISTING: N/A NEW: 158 TOTAL: 158	1.4.1.2. [A]	1.4.1.2. [A]	Building area means the greatest horizontal area of a building above grade, (a)within the outside surface of exterior walls, or (b)within the outside surface of exterior walls and the centre line of firewalls.
5	GROSS AREA (m²) — DESCRIPTION / EXISTING / NEW / TOTAL: LEVEL 1: N/A / 158 / 158; LEVEL 2: / / /; TOTAL: N/A / 158 / 158	1.4.1.2. [A]	1.4.1.2. [A]	Gross area means the total area of all floors above grade measured between the outside surface of exterior walls and the centre line of firewalls, except that, in any occupancy other than a residential occupancy, where an access or a building service penetrates a firewall, measurements shall not be taken on the centre line of such firewall.
6	MEZZANINE(S) AREA (m²): EXISTING: N/A NEW: N/A TOTAL: N/A	3.2.1.1.(3)-(8)	9.10.4.1.	
7	BUILDING HEIGHT STOREYS ABOVE GRADE: 1 HEIGHT BELOW GRADE: 1 HEIGHT ABOVE GRADE: 7.5m	1.4.1.2. [A] & 3.2.1.1.	1.4.1.2. [A] & 9.10.4	Building height means the number of storeys contained between the roof and the floor of the first storey.
8	HIGH BUILDING: □ YES ■ NO	3.2.6.	N/A	3.2.6.Based on the OBC criteria, this building is not a high building as the distance from grade to the top storey is less than 36m.
9	NUMBER OF STREETS/FIRE FIGHTER ACCESS: 1	3.2.2.10. & 3.2.5	9.10.20.	
10	BUILDING CLASSIFICATION: 3.2.2.87 GROUP/DIV: GROUP F, DIVISION 3, UP TO 2 STOREYS	3.2.2.20.-93	9.10.2.	
11	SPRINKLER SYSTEM: □ REQUIRED ■ NOT REQUIRED PROVIDED: □ ENTIRE BUILDING □ SELECTED FLOOR AREAS □ IN LIEU OF ROOF RATING □ SELECTED COMPARTMENTS □ BASEMENT	3.2.2.20.-93, 3.2.1.5., 3.2.2.18.,.21., 29, 3.2.4.1., 3.2.4.9., 3.2.4.15, and 3.2.5.12 to 14	1.1.1.2 [A]	Based on the applied building classification.
12	STANDPIPE SYSTEM: □ REQUIRED ■ NOT REQUIRED TYPE PROVIDED: N/A	3.2.5.8 - 11	N/A	3.2.5.8 (1) a stadpipe system is shall be installed in a building that is (a) more than 3 storeys in building height, (b) more than 14m high measured between grade and the ceiling of the top storey, or (c) not more than 14m high but has a building area exceeding the area shown in Table 3.2.5.8.
13	FIRE ALARM SYSTEM: □ REQUIRED ■ NOT REQUIRED	3.2.4.	9.10.18	3.2.4.1. Determination of Requirement for a Fire Alarm System a fire alarm system shall be installed in a building that contains, (c) more than 3 storeys, including storeys below the first storey.
14	WATER SERVICE/SUPPLY IS ADEQUATE: ■ YES □ NO	3.2.5.7.	N/A	
15	CONSTRUCTION RESTRICTIONS: ■ COMBUSTIBLE PERMITTED □ NON-COMBUSTIBLE REQUIRED □ BOTH ENCAPSULATED MASS TIMBER ACTUAL CONSTRUCTION: □ COMBUSTIBLE □ NON-COMBUSTIBLE ■ BOTH ENCAPSULATED MASS TIMBER ENCAPSULATED MASS TIMBER & NON-COMBUSTIBLE HEAVY TIMBER CONSTRUCTION	3.2.2.20.-.92., & 3.2.1.4.	9.10.6.	
16	IMPORTANCE CATEGORY: □ LOW □ LOW HUMAN OCCUPANCY POST-DISASTER SHELTER □ NORMAL □ HIGH □ MINOR STORAGE BUILDING EXPLOSIVE OR HAZARDOUS SUBSTANCES ■ POST-DISASTER	4.1.2.1.(3) & 4.1.2.1		
17	SEISMIC CATEGORY: POST DISASTER SITE CLASS: B Seismic design required for Table 4.1.8.18 items 6 to 21: ■ YES □ NO	4.1.8.4.(1) & T-4.1.8.5.-B 4.1.8.18.		Refer to structural design documentation
18	OCCUPANT LOAD BASED ON: □ m² / PERSON ■ DESIGN OF BUILDING TOTAL OCCUPANT LOAD: 0 PERSONS — BASEMENT: OCCUPANCY F2 LOAD 0 PERSONS; 1ST FLOOR: OCCUPANCY F2 LOAD 0 PERSONS; 2ND FLOOR: OCCUPANCY LOAD PERSONS; 3RD FLOOR: OCCUPANCY LOAD PERSONS; 4TH FLOOR: OCCUPANCY LOAD PERSONS	3.1.17.1	9.9.1.3.	The space will not be used on a daily or full time basis
19	BARRIER-FREE DESIGN □ YES ■ NO (EXPLAIN) BARRIER-FREE ENTRANCES: N/A	3.8., 3.8.1.2.	9.5.2.	3.8.1.1.(c) - Exception - buildings that are not intended to be occupied on a daily or full time basis,
20	HAZARDOUS SUBSTANCES □ YES ■ NO	3.3.1.2.	9.10.1.3.(4)	
21	REQUIRED FIRE-RESISTANCE RATINGS (FRR) — HORIZONTAL ASSEMBLIES / FRR (HR) / SUPPORTING ASSEMBLY (HR) *LOADBEARING WALLS, COLUMNS AND ARCHES / NONCOMBUSTIBLE IN LIEU OF RATING? — FLOORS OVER BASEMENT: N/A / N/A / □ YES □ NO ■ N/A; FLOORS: N/A / N/A / □ YES □ NO ■ N/A; ROOF: N/A / N/A / □ YES □ NO ■ N/A; MEZZANINE: N/A / N/A / □ YES □ NO ■ N/A	3.2.2.20.-.93, 3.2.1.2, 3.2.1.4, 3.2.2.15., 3.3.2.1.	9.10.8., 9.10.9.	The lower level is a service room. The primary function of this space is for raw water intake and screening wells.
	SPECIFIC ROOMS / REFERENCE / FRR (HR) / SPECIFIC ROOMS / REFERENCE / FRR (HR): ELECTRICAL ROOM 3.6.2.1.(6) N/A; JANITORS ROOM 3.3.1.20.(3) N/A; STAIRS 3.4.4.1. N/A; UTILITY ROOM 3.6.2.1. N/A; GARBAGE ROOM 3.6.2.5. N/A; GROUND LEVEL LOBBY (NOT ENCLOSING ANOTHER EXIT) 3.4.4.2. N/A; GENERATOR ROOM 3.6.2.1. N/A; BLOWER ROOM - N/A; STORAGE OF DANGEROUS GOODS 3.3.6.2. 2HR			
22	SPATIAL SEPARATION - CONSTRUCTION OF EXTERIOR WALLS — WALL / AREA OF EBF (m²) / L.D. (m) / L/H OR H/L / PERMITTED MAX % OF OPENINGS / PROPOSED % OF OPENINGS / FRR (HOURS) / TYPE OF CONSTR. / TYPE OF CLADDING: NORTH 53.6 46 3:1 to 10:1 100% 8% N/A NON COMB./COMB. NON COMB.; EAST 50.4 60 3:1 to 10:1 100% 21% N/A NON COMB./COMB. NON COMB.; SOUTH 53.6 42.3 3:1 to 10:1 100% 1% N/A NON COMB./COMB. NON COMB.; WEST 50.4 14 3:1 to 10:1 100% 1% N/A NON COMB./COMB. NON COMB.	3.2.3.	9.10.14.	
23a	PLUMBING FIXTURE REQUIREMENTS *Male:Female = 50:50 Except as noted otherwise. — LEVEL / OCCUPANCY / OCCUPANT LOAD / OBC TABLE NUMBER / FIXTURES REQUIRED: MALE, FEMALE, UNISEX / FIXTURES PROVIDED: MALE, FEMALE, UNISEX: BASEMENT:; 1ST FLOOR:; 2ND FLOOR: N/A 0 m²	3.7.4., 3.8.2.3.		3.7.4.1. (3) Plumbing fixtures need not be provided in a building that is not normally occupied by persons where such installations are impractical and other fixtures are available in nearby buildings when the subject building is in use.
23b	LEVEL / BARRIER-FREE WC's REQUIRED / BARRIER-FREE WC's PROVIDED / UNIVERSAL WASHROOM REQUIRED / UNIVERSAL WASHROOM PROVIDED: BASEMENT:; 1ST FLOOR:; 2ND FLOOR:	Tables 3.8.2.3.A and 3.8.2.3.B		
24	ENERGY EFFICIENCY: COMPLIANCE PATH: N/A CLIMATIC ZONE: N/A DEGREE DAYS BELOW 18 C: N/A	12.2.1.2. SB10 (Table 3.2.2.2) SB-1 Table 2		Building is exempt based on SB-10 clauses 1.2.1.1.(c) and (e)
25	SOUND TRANSMISSION DESIGN: IS THERE MORE THAN 1 DWELLING UNIT PER BUILDING? □ YES ■ NO OPTION IMPLEMENTED: N/A	SB-3 5.8.1.2.(2), 5.8.1.4., & 5.8.1.5.		
26	NOTES: as per 3.4.2.1.(1), the building is permitted to be served by one exit.			

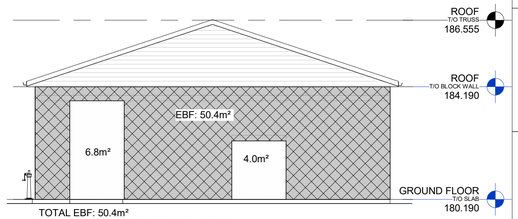


1 LIMITING DISTANCE SITE PLAN
SCALE: 1 : 250



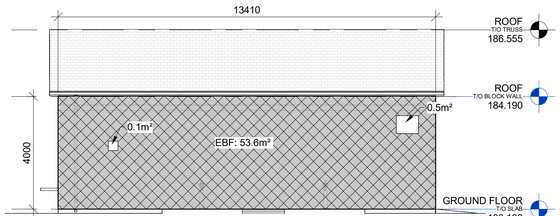
TOTAL EBF: 53.6m²
TOTAL UNPROTECTED OPENINGS: 4.0m²

2 NORTH BUILDING FACE
SCALE: 1 : 100



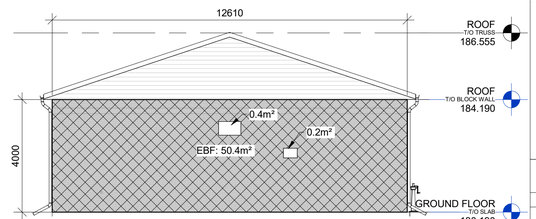
TOTAL EBF: 50.4m²
TOTAL UNPROTECTED OPENINGS: 10.8m²

3 EAST BUILDING FACE
SCALE: 1 : 100



TOTAL EBF: 53.6m²
TOTAL UNPROTECTED OPENINGS: 0.6m²

4 SOUTH BUILDING FACE
SCALE: 1 : 100



TOTAL EBF: 50.4m²
TOTAL UNPROTECTED OPENINGS: 0.6m²

5 WEST BUILDING FACE
SCALE: 1 : 100

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
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JAN 2026	0	ISSUED FOR TENDER	W.H.	W.H.
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

OBC COMPLIANCE

CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED

As indicated — JAN 2026 (SCALE — DATE)

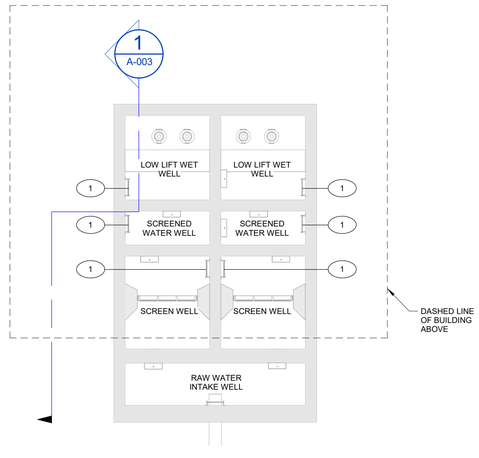
T001592B	0	A-002
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/11592-A Blind River Arch.rvt

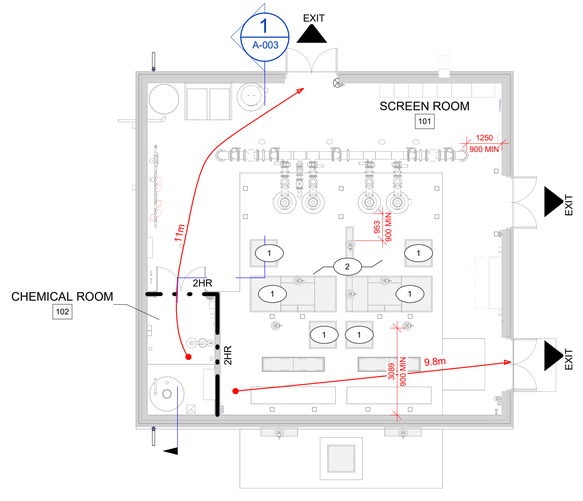
LIFE SAFETY & FRR LEGEND

- 1 HR
- 2 HR
- TRAVEL DISTANCE
- EXIT
- (1) ACCESS LADDER W/ FLUSH ACCESS HATCH AT GROUND LEVEL
- (2) HOUSEKEEPING PAD (150MM)

1 LIFE SAFETY SECTION
SCALE: 1 : 100



2 LOWER WELLS (SERVICE LEVEL) SAFETY PLAN
SCALE: 1 : 100



3 GROUND FLOOR LIFE SAFETY PLAN
SCALE: 1 : 100

KEY PLAN

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26/01/20
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JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

LIFE SAFETY

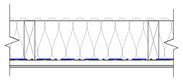
CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED

As indicated	JAN 2026
SCALE	DATE

T001592B	0	A-003
PROJECT NO.	REVISION	DRAWING

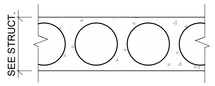
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt

CEILING TYPES



C1 HEIGHT — WOOD TRUSS CEILING

- PREMANUFACTURED WOOD TRUSS @ 600 O.C.
- 300mm BATT INSULATION
- VAPOUR BARRIER
- 25mm STRAPPING
- PVC CEILING PANELS



C2 HEIGHT — 2HR PRECAST HOLLOWCORE CEILING

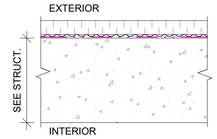
- PRECAST HOLLOWCORE SLAB (REFER TO STRUCTURAL)

SOFFIT TYPES

SF1 HEIGHT — SOFFIT ASSEMBLY

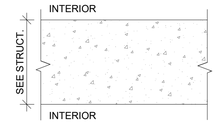
- PREMANUFACTURED WOOD TRUSS @ 600 O.C.
- PREFINISHED METAL VENTED SOFFIT

FOUNDATION WALL TYPES



FW1 — FOUNDATION WALL (CIP)

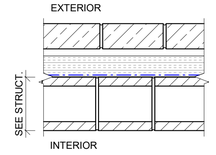
- 75mm BELOW GRADE RIGID INSULATION (MIN.1220mm)
- VERTICAL DRAINAGE BOARD
- SHEET WATERPROOFING MEMBRANE
- CAST IN PLACE CONCRETE (REFER TO STRUCTURAL)



FW2 — FOUNDATION WALL (CIP)

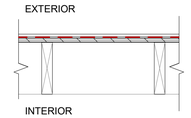
- CAST IN PLACE CONCRETE (REFER TO STRUCTURAL)

EXTERIOR WALL TYPES



EW1 — BRICK VENEER ON CMU WALL
TABLE 9.10.3.1.-A (B1b) - 1HR FRR

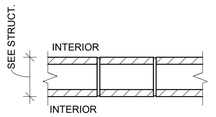
- 90mm FACE BRICK
- 25mm AIR SPACE
- 100mm SEMI-RIGID INSULATION
- AIR/VAPOUR BARRIER
- CONCRETE MASONRY UNITS (REFER TO STRUCTURAL)



EW2 — FIBER CEMENT SIDING ON WOOD STUD WALL

- FIBER CEMENT HORIZONTAL SIDING
- AIR BARRIER
- 13mm EXTERIOR GRADE PLYWOOD SHEATHING
- 184mm WOOD STUDS @ 400 O.C.

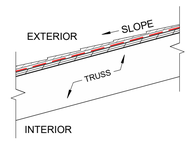
INTERIOR WALL TYPES



P1 — 2HR FIRE RATED CMU WALL - **ULC S101-14**

- CONCRETE MASONRY UNITS (REFER TO STRUCTURAL)

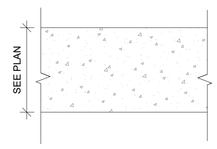
ROOF TYPES



R1 — ASPHALT ROOF

- ASPHALT SHINGLE ROOFING
- WEATHER RESISTANT FELT UNDERLAYMENT
- 16mm EXTERIOR GRADE ROOF SHEATHING
- PREFAB WOOD TRUSS (REFER TO STRUCTURAL)

FLOOR TYPES



F1 — FLOOR SLAB (CIP)

- CAST IN PLACE CONCRETE (REFER TO STRUCTURAL)

KEY PLAN

ENGINEER'S SEAL:

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26/01/20
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DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

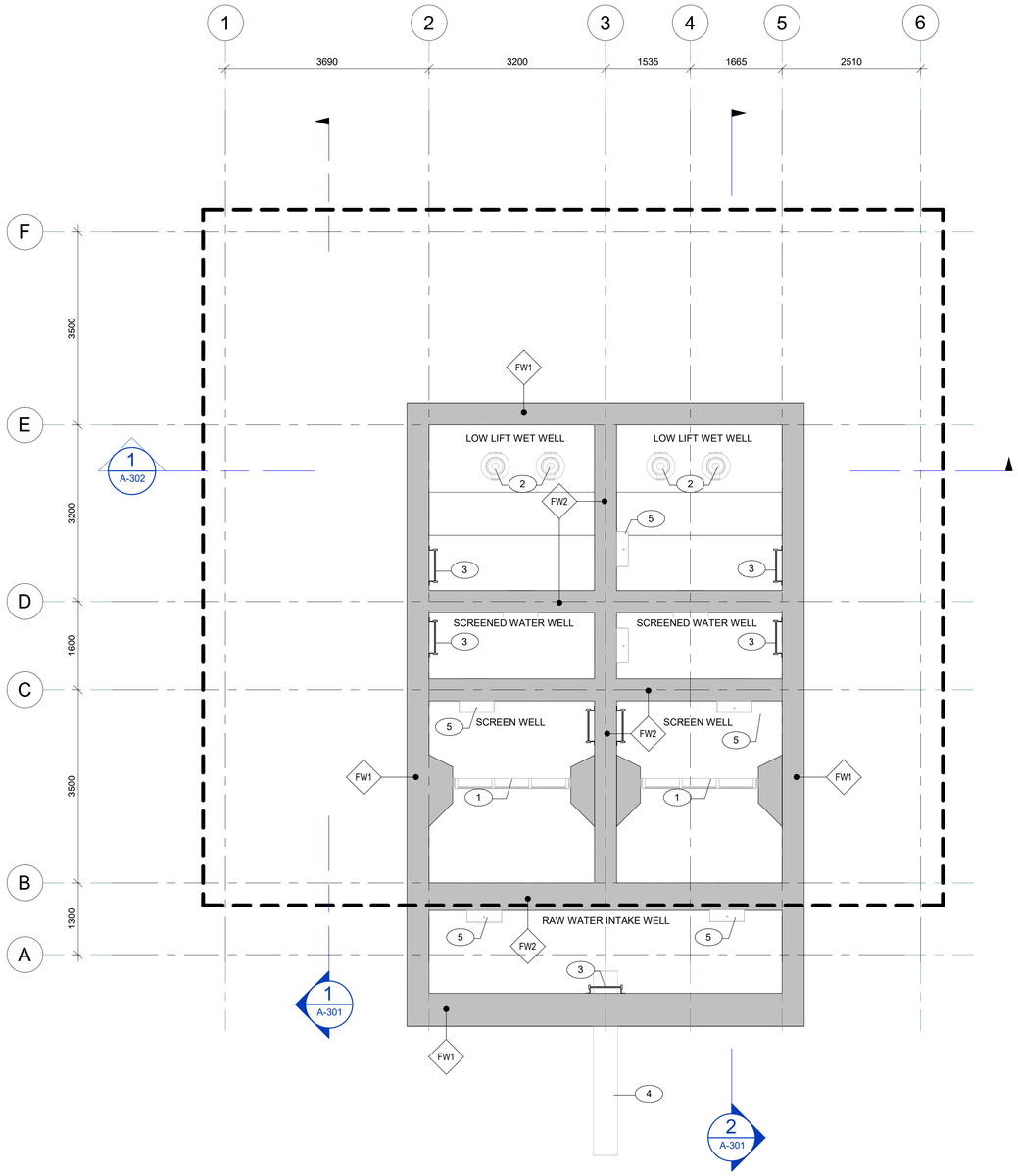
CONSTRUCTION
ASSEMBLIES

DRAWN	DESIGNED	CHECKED	APPROVED
CM	WH	MN	WH

SCALE	DATE
1 : 10	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	A-004

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



1 LOWER WELLS (SERVICE LEVEL) PLAN

GENERAL NOTES

1. REFER TO ELECTRICAL DRAWINGS / SPECIFICATIONS FOR ALL QUANTITIES / LOCATIONS OF ELECTRICAL RECEPTACLES.
2. REFER TO MECHANICAL DRAWINGS / SPECIFICATIONS FOR ALL QUANTITIES / LOCATIONS OF MECHANICAL RECEPTACLES.
3. UNLESS OTHERWISE INDICATED, LIGHTING TO BE CENTERED BETWEEN INTERIOR PARTITIONS OF BOUNDING ROOM.

BASEMENT FLOOR PLAN KEYNOTE LEGEND

1. SCREENS (REFER TO PROCESS)
2. PROCESS EQUIPMENT (REFER TO PROCESS)
3. ACCESS LADDER
4. RAW WATER INTAKE PIPE
5. SLIDE GATE (REFER TO PROCESS)

BASEMENT FLOOR PLAN LEGEND

LINE OF BUILDING FOOTPRINT ABOVE

N

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

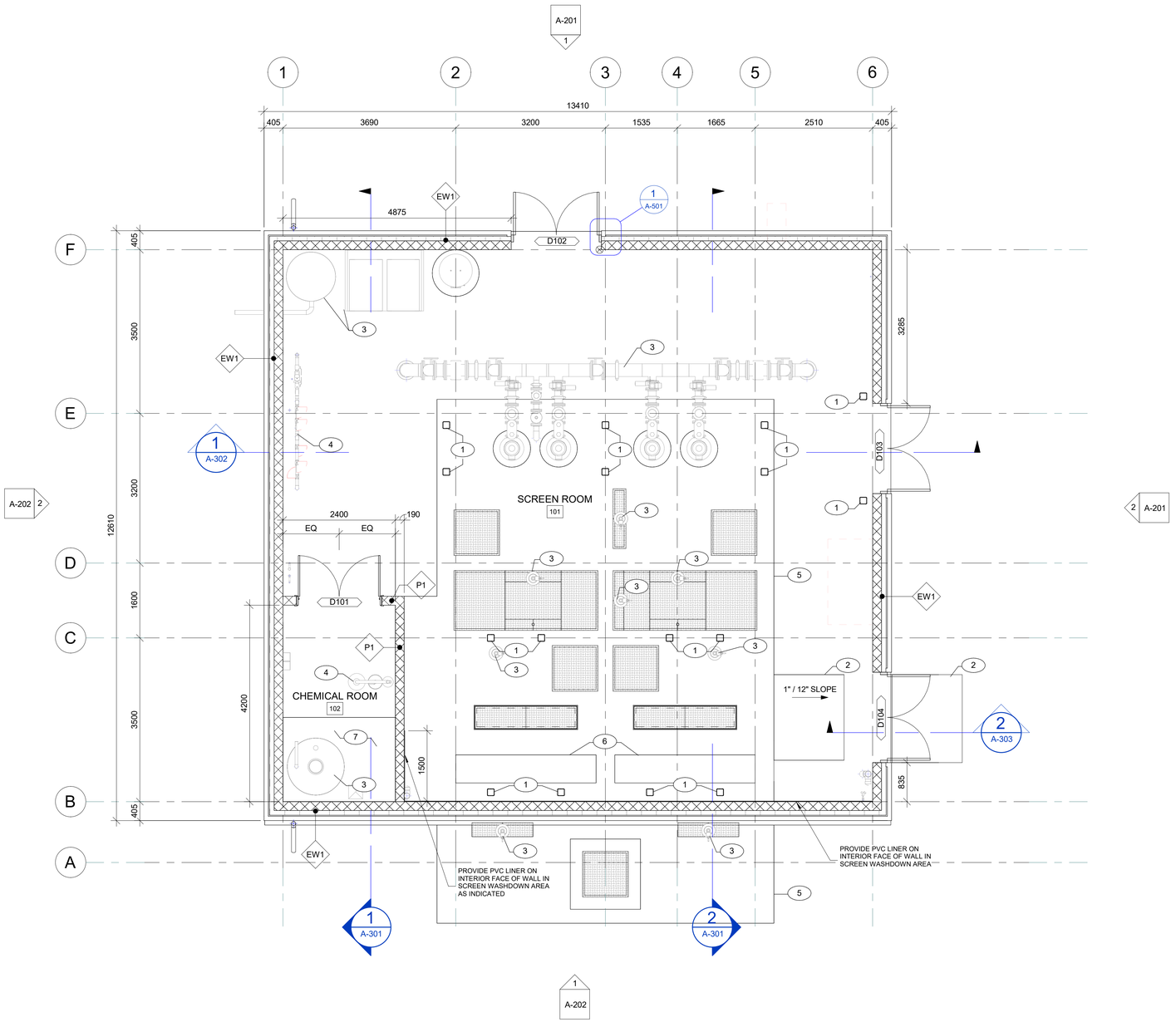
LOWER WELLS
(SERVICE LEVEL)
PLAN

DRAWN	DESIGNED	CHECKED	APPROVED
CM	WH	MN	WH

SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	A-101

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



1 GROUND FLOOR PLAN
SCALE: 1 : 50

GENERAL NOTES

1. REFER TO ELECTRICAL DRAWINGS / SPECIFICATIONS FOR ALL QUANTITIES / LOCATIONS OF ELECTRICAL RECEPTACLES.
2. REFER TO MECHANICAL DRAWINGS / SPECIFICATIONS FOR ALL QUANTITIES / LOCATIONS OF MECHANICAL RECEPTACLES.
3. UNLESS OTHERWISE INDICATED, LIGHTING TO BE CENTERED BETWEEN INTERIOR PARTITIONS OF BOUNDING ROOM.

GROUND FLOOR PLAN KEYNOTE LEGEND

1. SUPPORT POSTS FOR HOIST (REFER TO SRUCTURAL)
2. CONCRETE RAMP (REFER TO STRUCTURAL)
3. PROCESS EQUIPMENT (REFER TO PROCESS)
4. MECHANICAL EQUIPMENT (REFER TO MECHANICAL)
5. LINE OF CONCRETE PLATFORM (REFER TO STRUCTURAL)
6. WASH BASIN FOR SCREEN CLEANING (REFER TO PROCESS)
7. SECONDARY CONTAINMENT PIT (REFER TO PROCESS)

GROUND FLOOR PLAN LEGEND

CHECKER PLATE REMOVABLE FLOORING (REFER TO STRUCTURAL)

N

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

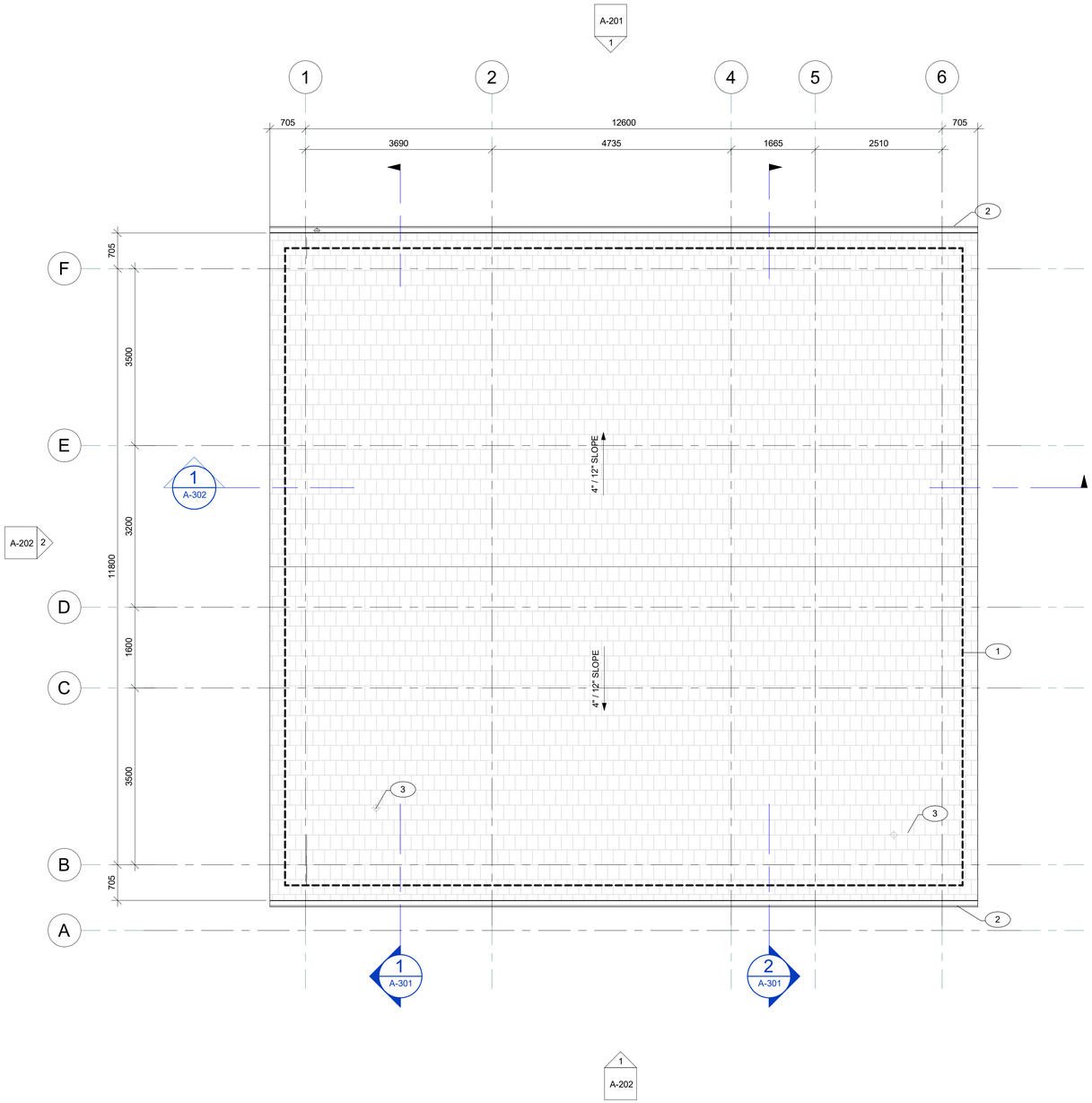
GROUND FLOOR
PLAN

DRAWN	DESIGNED	CHECKED	APPROVED
CM	WH	MN	WH

SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	A-102

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



1 ROOF PLAN
SCALE: 1 : 50

GENERAL NOTES

1. REFER TO ELECTRICAL DRAWINGS / SPECIFICATIONS FOR ALL QUANTITIES / LOCATIONS OF ELECTRICAL RECEPTACLES.
2. REFER TO MECHANICAL DRAWINGS / SPECIFICATIONS FOR ALL QUANTITIES / LOCATIONS OF MECHANICAL RECEPTACLES.
3. UNLESS OTHERWISE INDICATED, LIGHTING TO BE CENTERED BETWEEN INTERIOR PARTITIONS OF BOUNDING ROOM.

ROOF PLAN KEYNOTE LEGEND

1. DASHED LINE OF EXTERIOR WALL BELOW
2. PREFABRICATED METAL GUTTER
3. PIPE (REFER TO MECHANICAL)

N

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

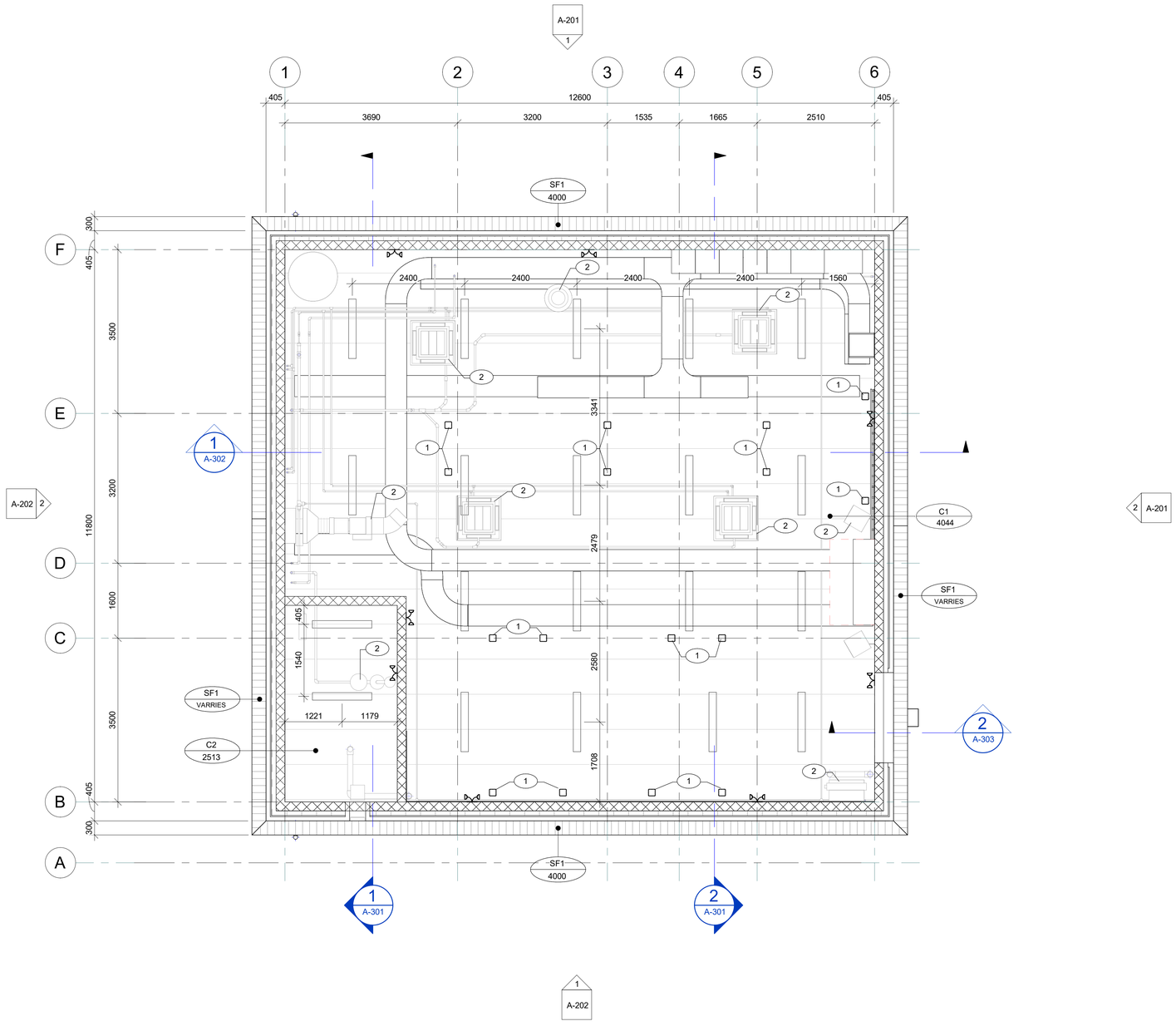
ROOF PLAN

CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED

As indicated	JAN 2026
SCALE	DATE

T001592B	0	A-103
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



1 GROUND FLOOR REFLECTED CEILING PLAN
SCALE: 1 : 50

GENERAL NOTES

1. REFER TO ELECTRICAL DRAWINGS / SPECIFICATIONS FOR ALL QUANTITIES / LOCATIONS OF ELECTRICAL RECEPTACLES.
2. REFER TO MECHANICAL DRAWINGS / SPECIFICATIONS FOR ALL QUANTITIES / LOCATIONS OF MECHANICAL RECEPTACLES.
3. UNLESS OTHERWISE INDICATED, LIGHTING TO BE CENTERED BETWEEN INTERIOR PARTITIONS OF BOUNDING ROOM.

REFLECTED CEILING PLANS LEGEND

ARCHITECTURAL

- C1 / HEIGHT — CEILING TAG (REFER TO CONSTRUCTION ASSEMBLIES)
- SF1 / HEIGHT — SOFFIT (REFER TO CONSTRUCTION ASSEMBLIES)
- EXP — EXPOSED CONSTRUCTION

ELECTRICAL

- EMERGENCY LIGHTING (REFER TO ELECTRICAL)
- CEILING MOUNTED LINEAR LUMINAIRE (REFER TO ELECTRICAL)

REFLECTED CEILING PLAN KEYNOTE LEGEND

1. SUPPORT POSTS FOR HOIST (REFER TO SRUCTURAL)
2. MECHANICAL EQUIPMENT (REFER TO MECHANICAL)

N

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

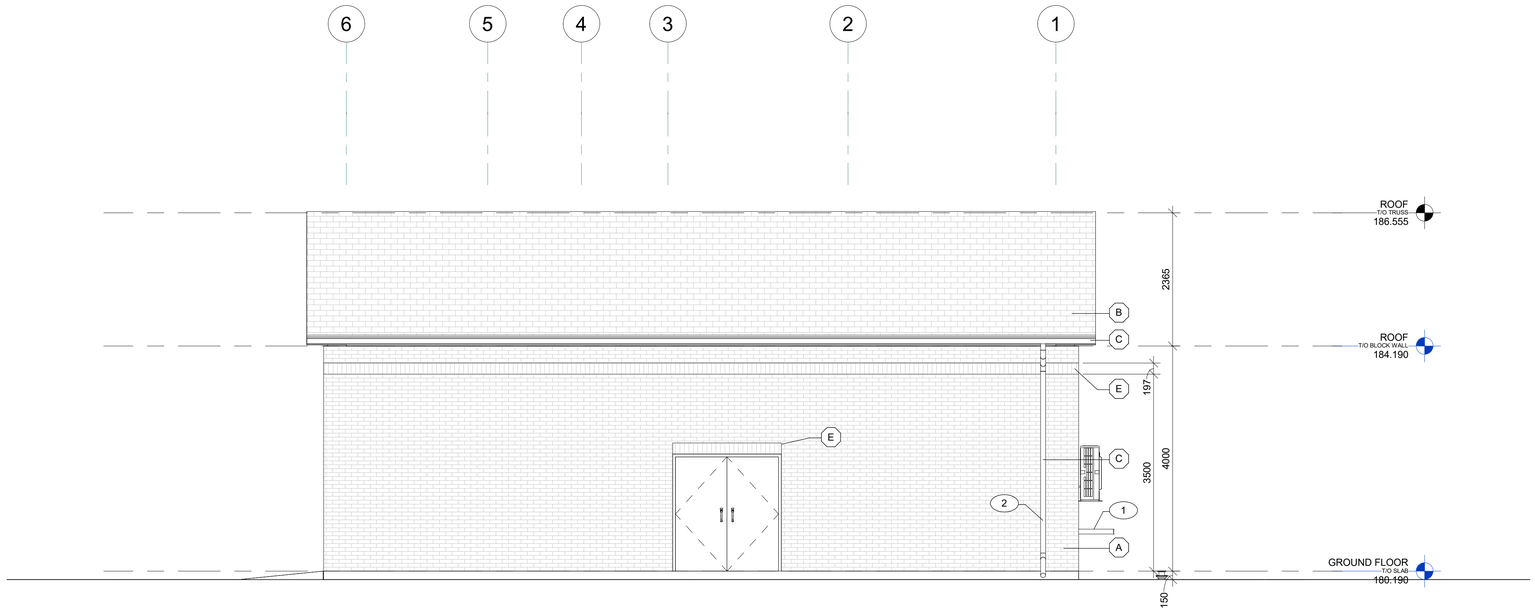
GROUND FLOOR
REFLECTED
CEILING PLAN

DRAWN	DESIGNED	CHECKED	APPROVED
CM	WH	MN	WH

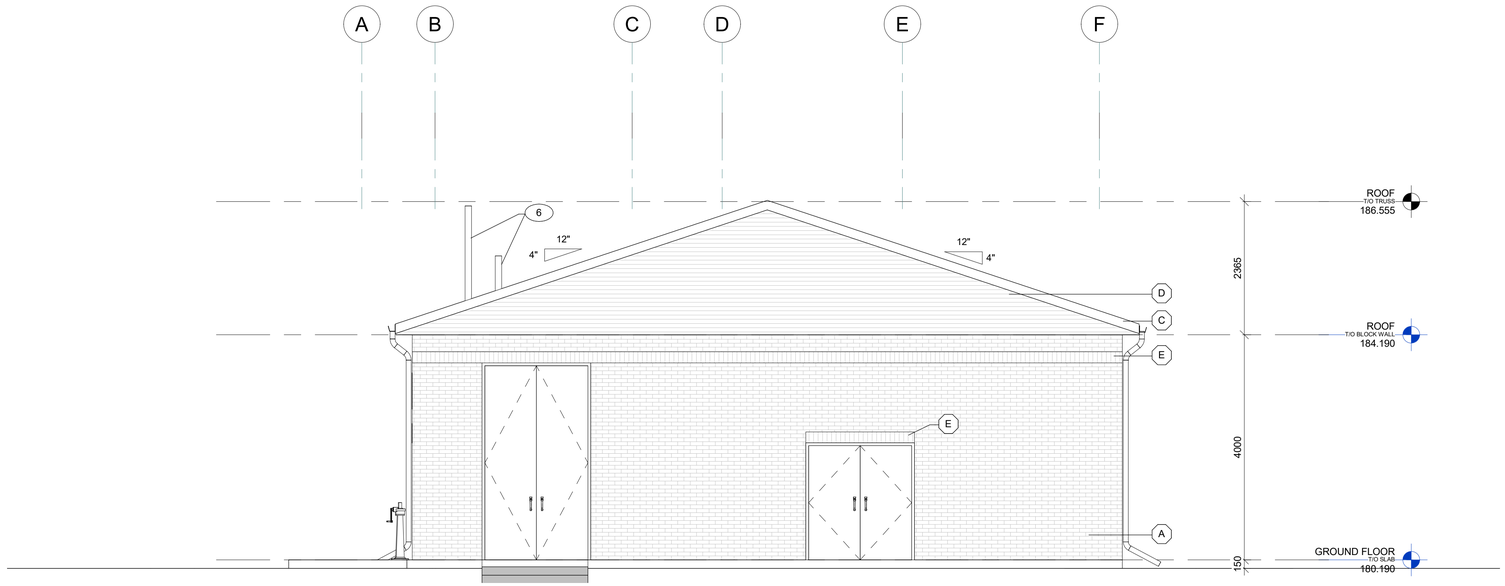
SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	A-151

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



1 NORTH ELEVATION
SCALE: 1 : 50



2 EAST ELEVATION
SCALE: 1 : 50

ELEVATION KEYNOTE LEGEND

1. PROCESS PIPE (REFER TO PROCESS)
2. DOWNSPOUT
3. PROCESS EQUIPMENT (REFER TO PROCESS)
4. LOUVER (REFER TO MECHANICAL)
5. MECHANICAL EQUIPMENT (REFER TO MECHANICAL)
6. MECHANICAL PIPE (REFER TO MECHANICAL)

EXTERIOR MATERIALS LEGEND

- A BRICK VENEER (RUNNING BOND)
- B ASPHALT SHINGLES
- C PREFINISHED FLASHING / GUTTER
- D FIBER CEMENT SIDING
- E BRICK VENEER (SOLDIER COURSE)

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT:
Blind River

CONSULTANT:
CIMA+

CONSULTANT:
TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

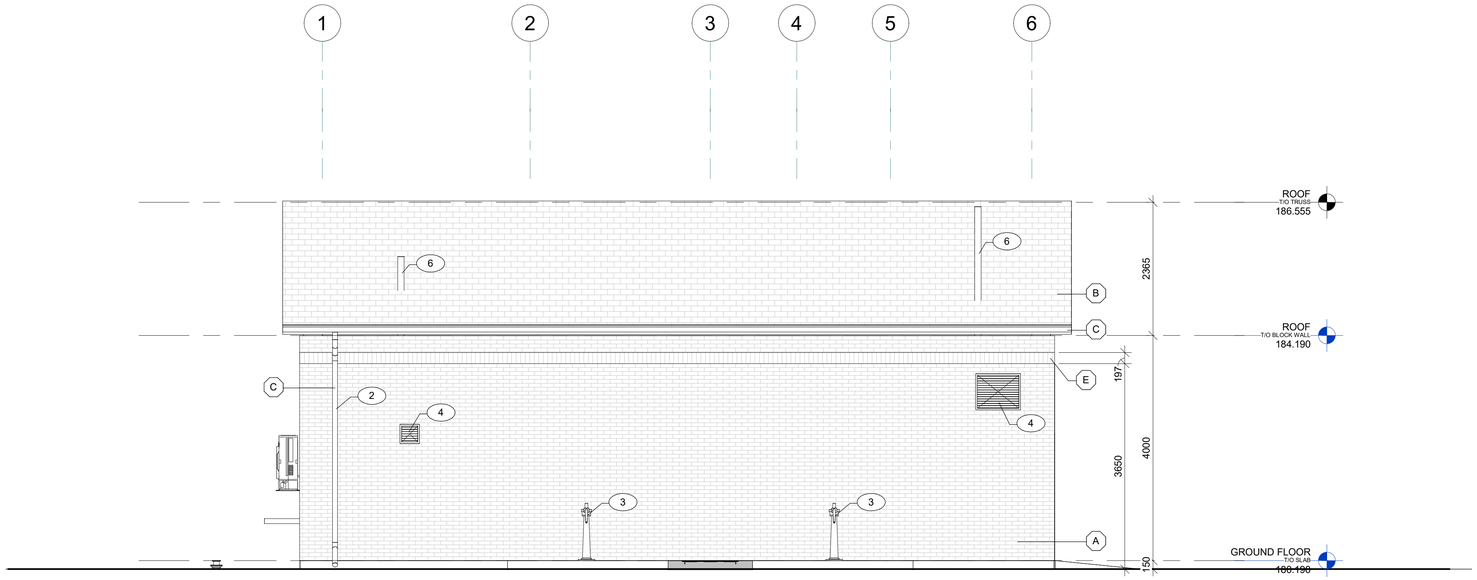
DRAWING TITLE:
NORTH AND EAST
ELEVATIONS

DRAWN	DESIGNED	CHECKED	APPROVED
CM	WH	MN	WH

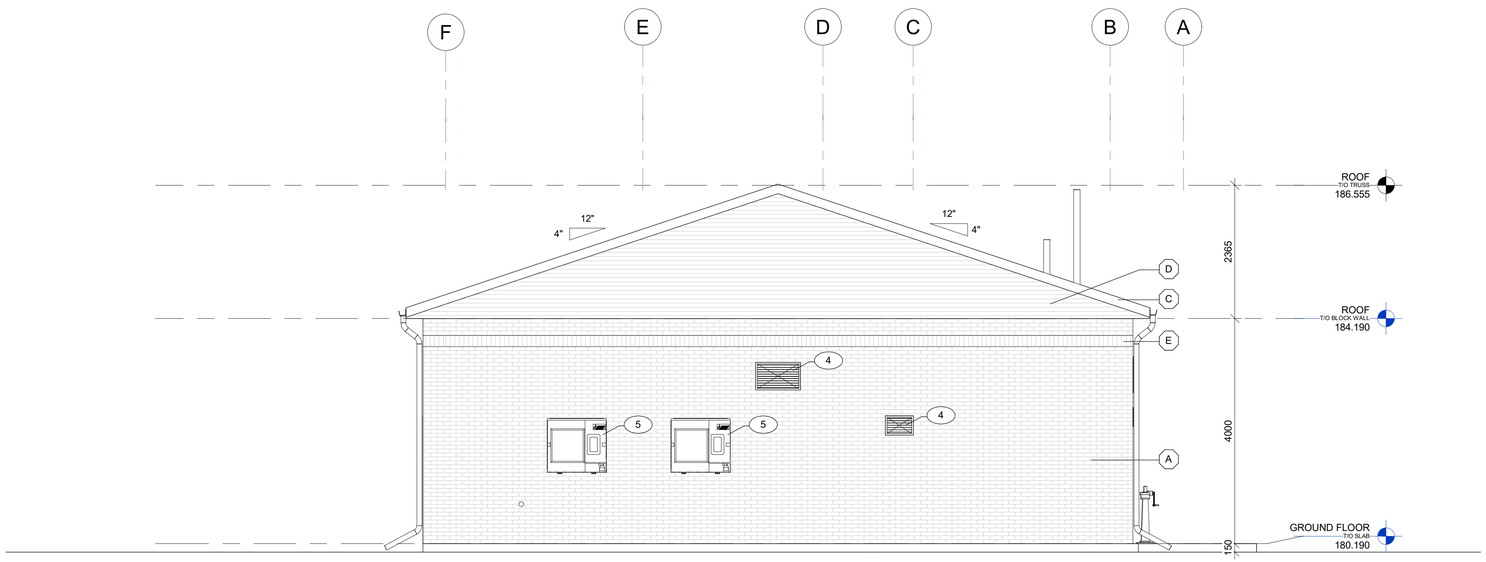
SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	A-201

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



1 SOUTH ELEVATION
SCALE: 1 : 50



2 WEST ELEVATION
SCALE: 1 : 50

ELEVATION KEYNOTE LEGEND

1. PROCESS PIPE (REFER TO PROCESS)
2. DOWNSPOUT
3. PROCESS EQUIPMENT (REFER TO PROCESS)
4. LOUVER (REFER TO MECHANICAL)
5. MECHANICAL EQUIPMENT (REFER TO MECHANICAL)
6. MECHANICAL PIPE (REFER TO MECHANICAL)

EXTERIOR MATERIALS LEGEND

- A BRICK VENEER (RUNNING BOND)
- B ASPHALT SHINGLES
- C PREFINISHED FLASHING / GUTTER
- D FIBER CEMENT SIDING
- E BRICK VENEER (SOLDIER COURSE)

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.
DATE	REV.	REVISION	BY	APP'D

CLIENT:
Blind River

CONSULTANT:
CIMA+

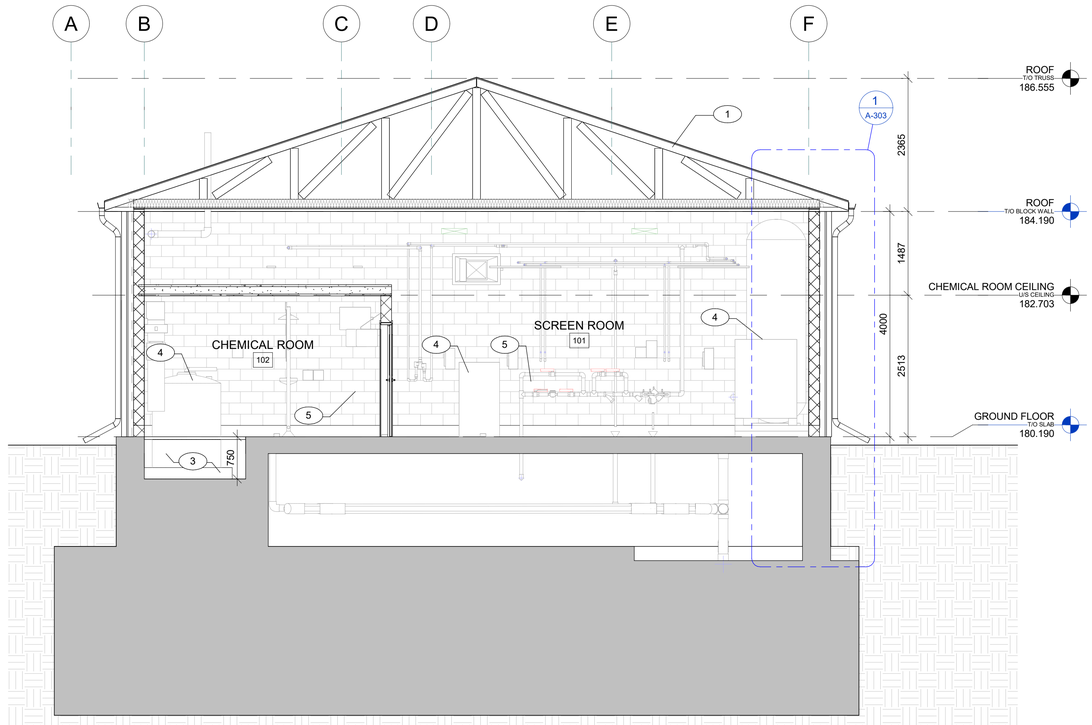
CONSULTANT:
TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

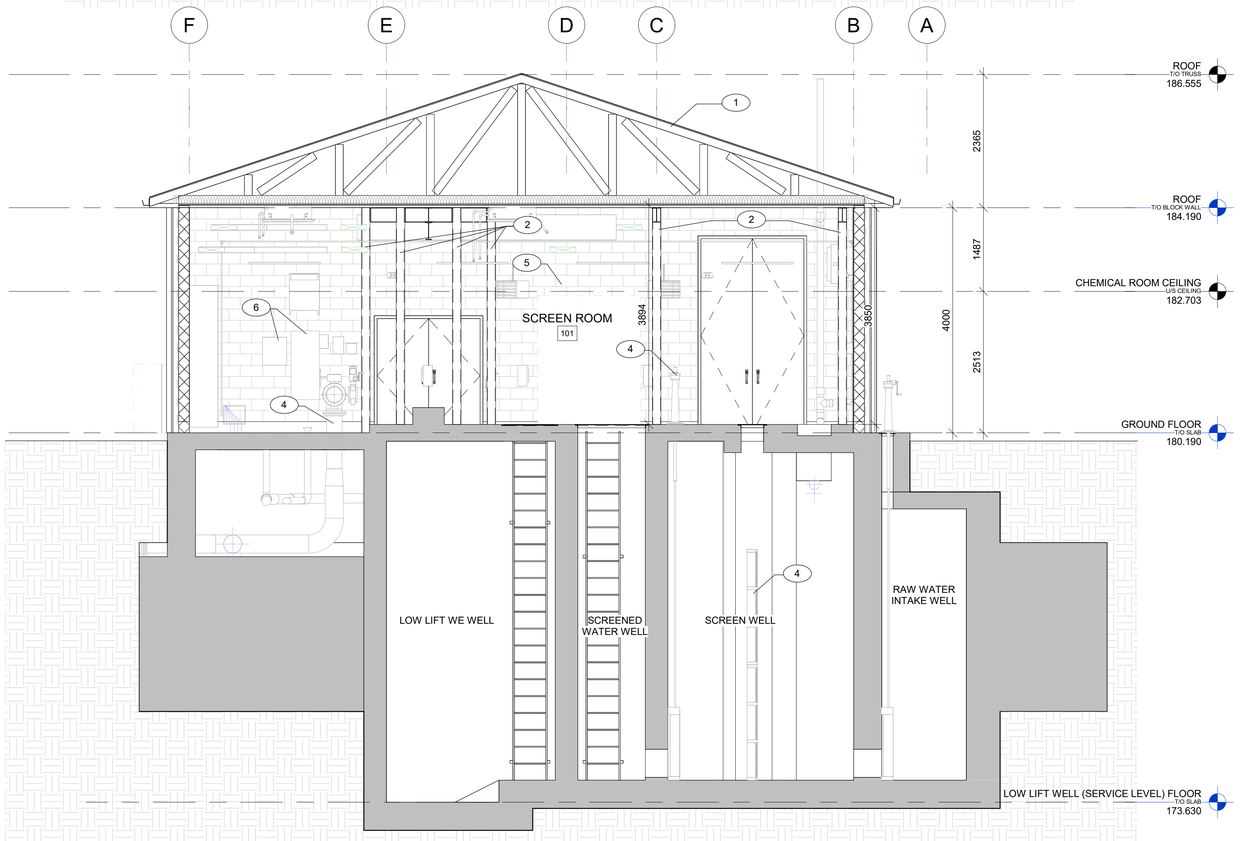
DRAWING TITLE:
SOUTH AND WEST
ELEVATIONS

CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED
As indicated		JAN 2026	
SCALE		DATE	
T001592B	0	A-202	
PROJECT NO.	REVISION	DRAWING	

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



1 CROSS SECTION A
SCALE: 1 : 50



2 CROSS SECTION B
SCALE: 1 : 50

SECTION GENERAL NOTES

1. PLEASE NOTE, NOT ALL SECTION BASED EXTERIOR DETAILS ARE CALLED OUT IN THE SECTIONS/WALL SECTIONS. EXTERIOR DETAILS ARE LABELED TYP. WHERE THEY ARE TYPICAL CONTRACTOR TO REVIEW ALL CONTRACT DOCUMENTS TO IDENTIFY QUANTITY AND LOCATION

SECTION KEYNOTE LEGEND

1. PREFABRICATED TRUSS (REFER TO STRUCTURAL)
2. MONORAIL AND MONORAIL SUPPORT FRAMING (REFER TO STRUCTURAL)
3. SECONDARY CONTAINMENT PIT
4. PRCESS EQUIPMENT (REFER TO PROCESS)
5. MECHANICAL EQUIPMENT (REFER TO MECHANICAL)
6. ELECTRICAL EQUIPMENT (REFER TO ELECTRICAL)

N

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.
DATE	REV.	REVISION	BY	APP'D

CLIENT:
Blind River

CONSULTANT:
CIMA+

CONSULTANT:
TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
SECTIONS

CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED

As indicated	JAN 2026
SCALE	DATE

T001592B	0	A-301
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B\1592-A Blind River Arch.rvt

SECTION GENERAL NOTES

1. PLEASE NOTE, NOT ALL SECTION BASED EXTERIOR DETAILS ARE CALLED OUT IN THE SECTIONS/WALL SECTIONS. EXTERIOR DETAILS ARE LABELED TYP. WHERE THEY ARE TYPICAL CONTRACTOR TO REVIEW ALL CONTRACT DOCUMENTS TO IDENTIFY QUANTITY AND LOCATION

SECTION KEYNOTE LEGEND

1. PREFABRICATED TRUSS (REFER TO STRUCTURAL)
2. MONORAIL AND MONORAIL SUPPORT FRAMING (REFER TO STRUCTURAL)
3. SECONDARY CONTAINMENT PIT
4. PRCESS EQUIPMENT (REFER TO PROCESS)
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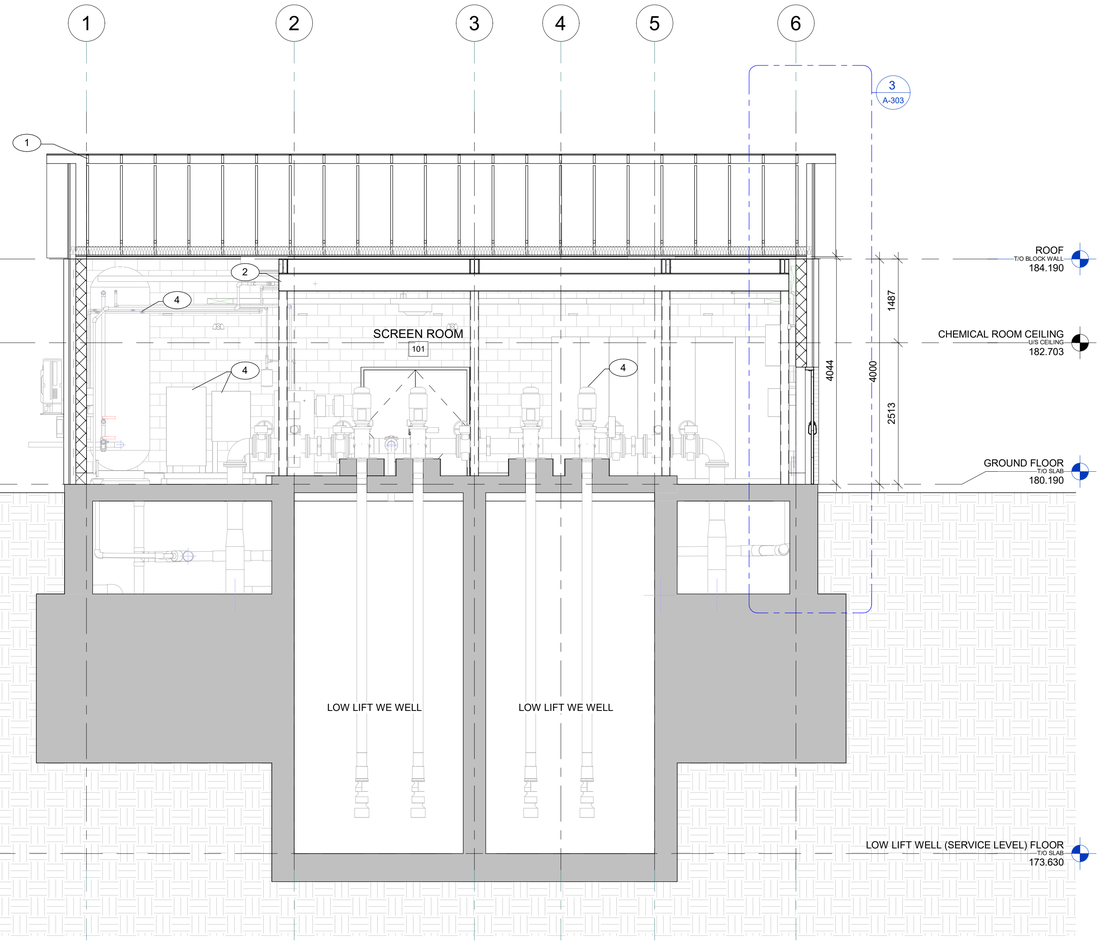
6. ELECTRICAL EQUIPMENT (REFER TO ELECTRICAL)



1 CROSS SECTION C
SCALE: 1 : 50

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.
DATE	REV.	REVISION	BY	APPD

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

SECTIONS

CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED

As indicated	JAN 2026
SCALE	DATE

T001592B	0	A-302
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt

SECTION GENERAL NOTES

1. PLEASE NOTE, NOT ALL SECTION BASED EXTERIOR DETAILS ARE CALLED OUT IN THE SECTIONS/WALL SECTIONS. EXTERIOR DETAILS ARE LABELED TYP. WHERE THEY ARE TYPICAL CONTRACTOR TO REVIEW ALL CONTRACT DOCUMENTS TO IDENTIFY QUANTITY AND LOCATION

SECTION KEYNOTE LEGEND

1. PREFABRICATED TRUSS (REFER TO STRUCTURAL)
2. MONORAIL AND MONORAIL SUPPORT FRAMING (REFER TO STRUCTURAL)
3. SECONDARY CONTAINMENT PIT
4. PRCESS EQUIPMENT (REFER TO PROCESS)
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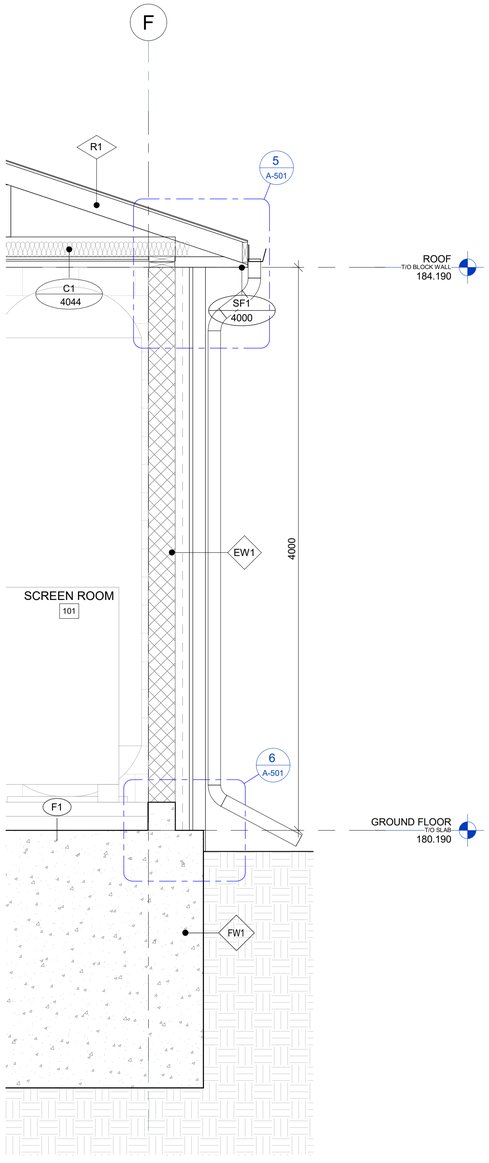
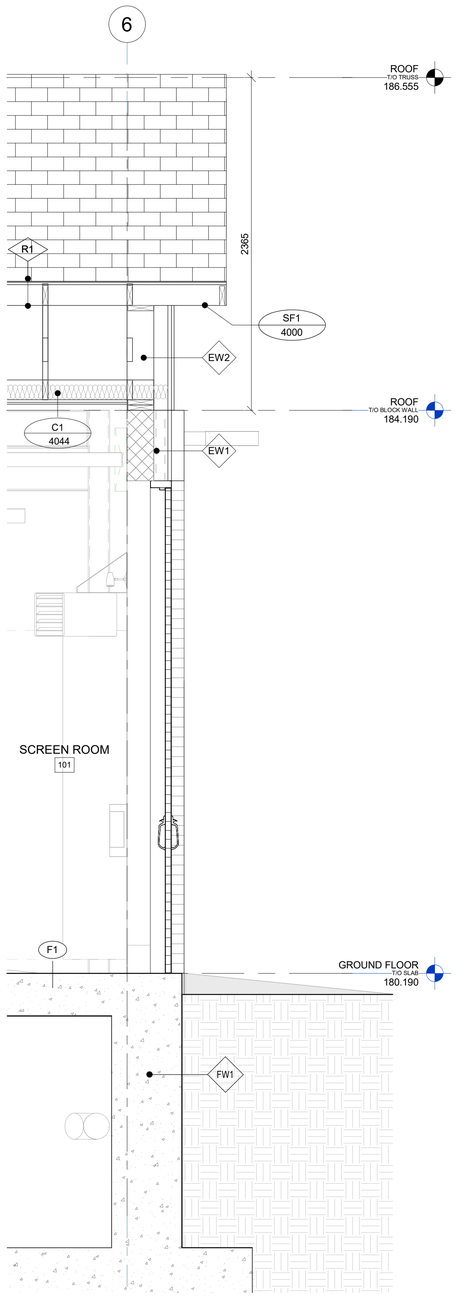
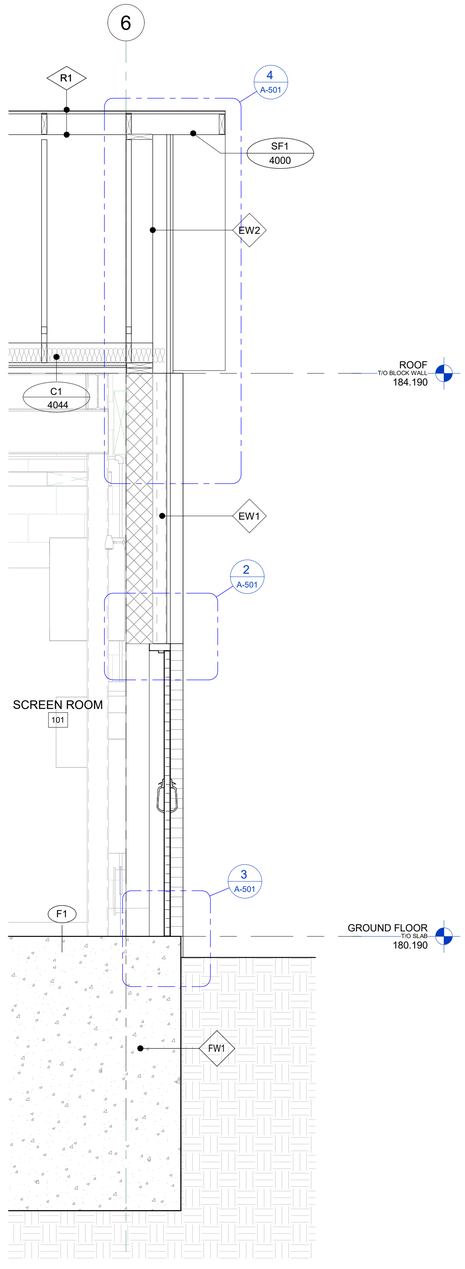


1 WALL SECTION A
SCALE: 1 : 20



2 WALL SETION B
SCALE: 1 : 20



3 WALL SECTION C
SCALE: 1 : 20

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

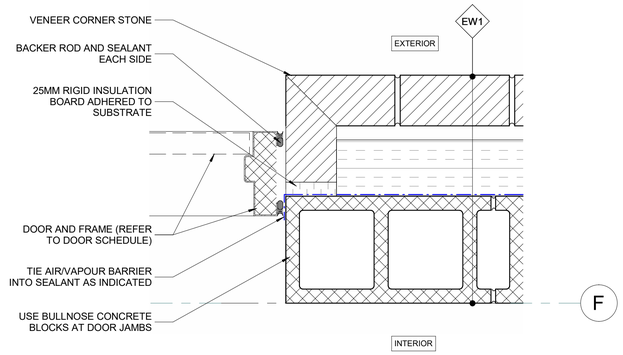
WALL SECTIONS

CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED

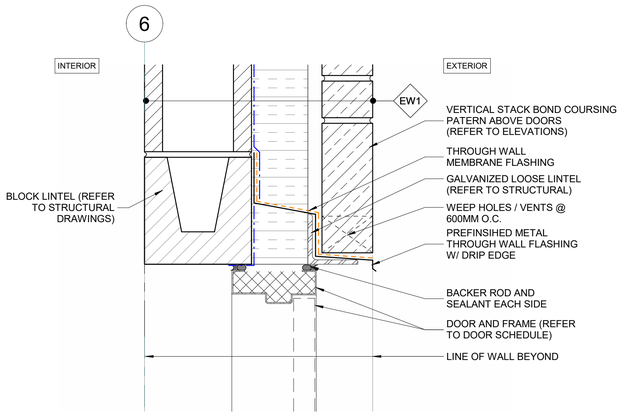
As indicated	JAN 2026
SCALE	DATE

T001592B	0	A-303
PROJECT NO.	REVISION	DRAWING

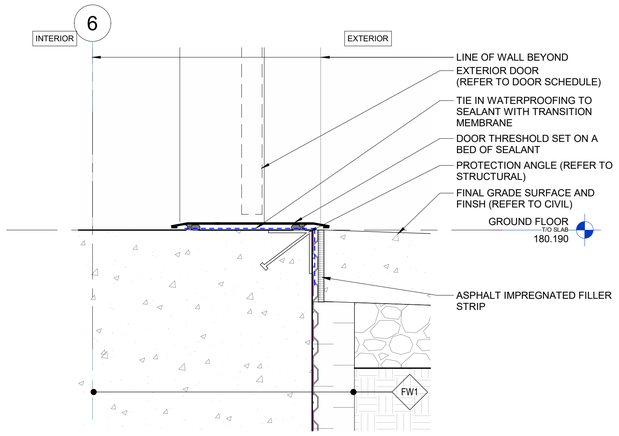
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



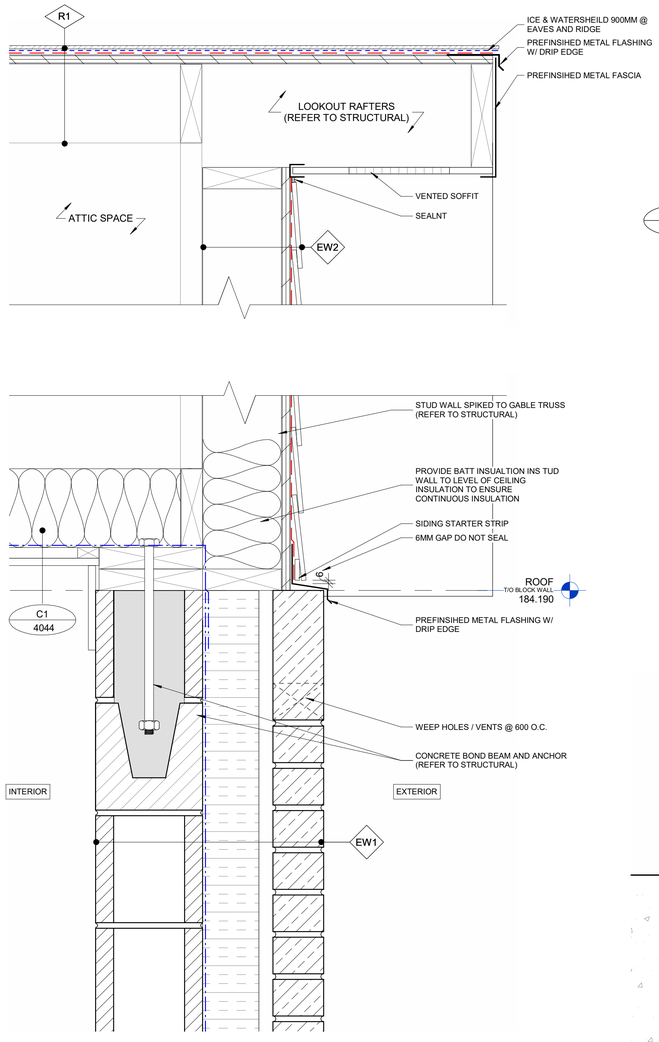
1 PLAN DETAIL - TYP. DOOR JAMB
SCALE: 1 : 5



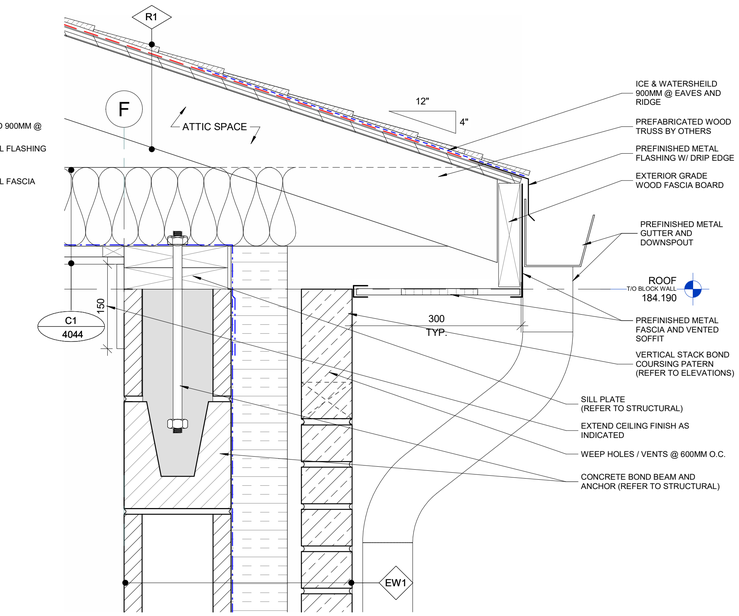
2 TYP. DOOR HEAD DETAIL
SCALE: 1 : 5



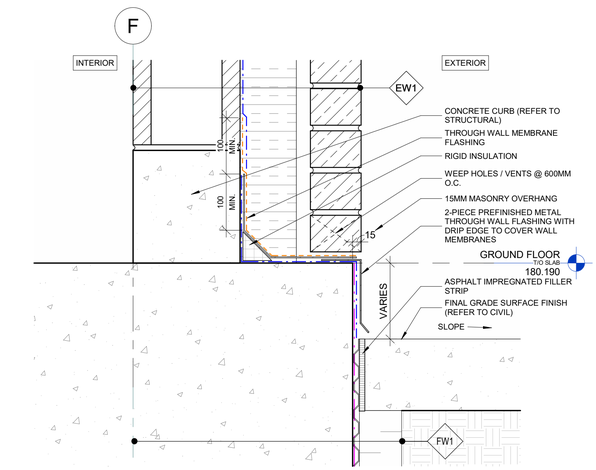
3 TYP. DOOR THRESHOLD DETAIL



4 TYP. GABLE END DETAIL
SCALE: 1 : 5



5 TYP. SOFFIT DETAIL
SCALE: 1 : 5



6 TYP. BASE DETAIL
SCALE: 1 : 5

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt

N

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

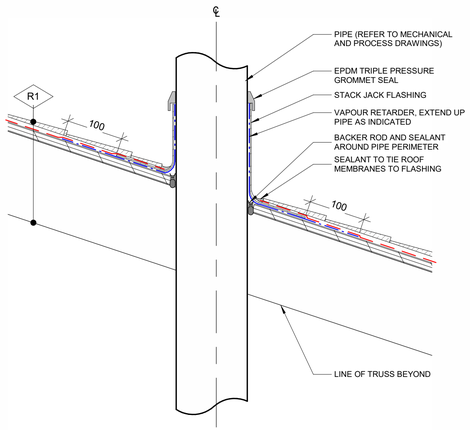
DRAWING TITLE:

DETAILS

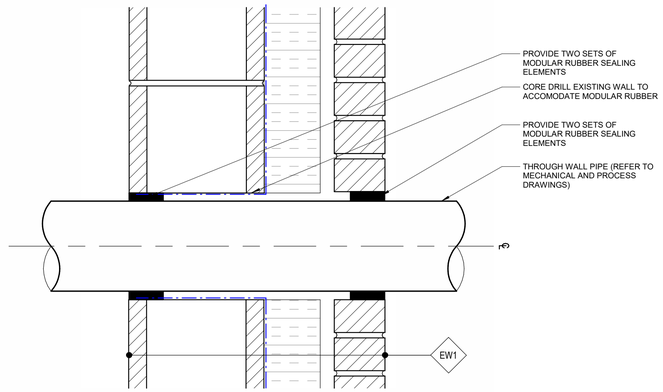
DRAWN	DESIGNED	CHECKED	APPROVED
CM	WH	MN	WH

SCALE	DATE
1 : 5	JAN 2026

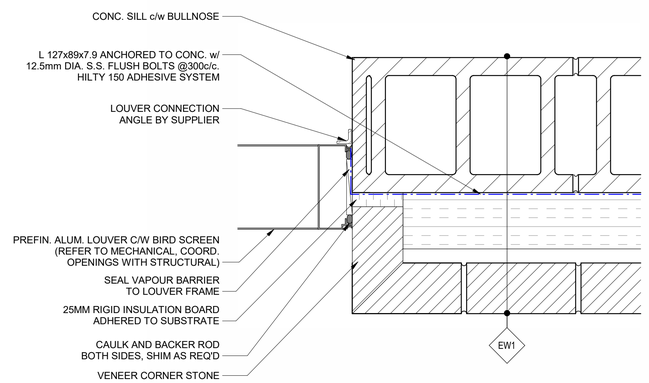
PROJECT NO.	REVISION	DRAWING
T001592B	0	A-501



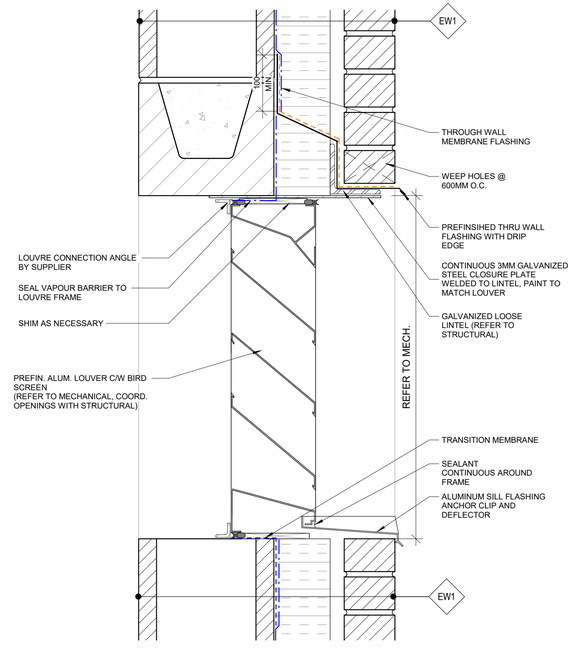
1 TYP. PIPE PENETRATION THROUGH ROOF
SCALE: 1 : 5



2 TYP. PIPE PENETRATION THROUGH EXTERIOR WALL
SCALE: 1 : 5



3 LOUVER JAMB
SCALE: 1 : 5



4 TYP. LOUVER HEAD AND SILL
SCALE: 1 : 5

N

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.
DATE	REV.	REVISION	BY	APP'D

CLIENT:
Blind River

CONSULTANT:
CIMA+

CONSULTANT:
TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
DETAILS

CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED

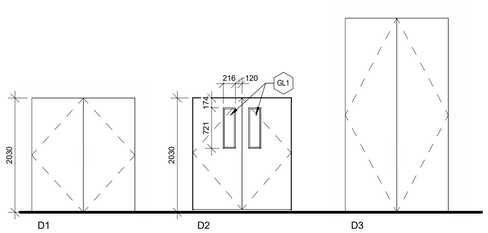
1 : 5	JAN 2026
SCALE	DATE

T001592B	0	A-502
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt

Door Schedule													
Door Number	From Room: Name	To Room: Name	Leaf Type	Leaf Width	Leaf Height	Leaf Material	Leaf Finish	Frame Type	Frame Material	Frame Finish	Fire Rating	Electrification	Comments
D101	SCREEN ROOM	CHEMICAL ROOM	D2	915	2030	FRP	N/A	F1	FRP	N/A	2H	N/A	
D102	SCREEN ROOM	EXTERIOR	D1	915	2030	HM	PT-EXT 5.3C	F1	HM	PT-EXT 5.3D	N/A	DC	
D103	SCREEN ROOM	EXTERIOR	D1	915	2030	HM	PT-EXT 5.3C	F1	HM	PT-EXT 5.3D	N/A	DC	
D104	SCREEN ROOM	EXTERIOR	D3	915	3450	HM	PT-EXT 5.3C	F2	HM	PT-EXT 5.3D	N/A	DC	

DOOR TYPE LEGEND



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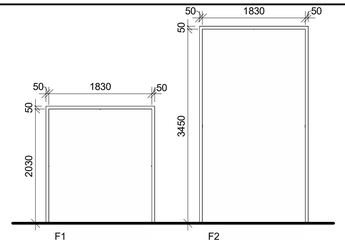
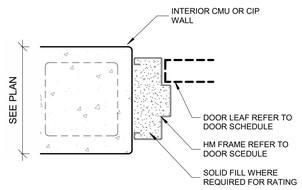
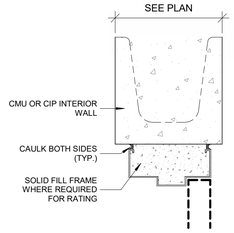


JAMB DETAIL



HEAD DETAIL



1 DOOR DETAILS
SCALE: 1 : 5

Room Finish Schedule						
Number	Name	Floor Finish	Base Finish	Wall Finish	Ceiling Finish	Comments
101	SCREEN ROOM	EP1	EP1	PT1 (INT4.2G)	PVC1	Refer to general note 3 & 5
102	CHEMICAL ROOM	EP1	EP1	PT1 (INT4.2G)	PT1 (INT4.2G)	Refer to general note 3 & 4

DOOR SCHEDULE GENERAL NOTES

1. DOOR OFFSET TO BE 100mm FROM INTERIOR PARTITION UNLESS OTHERWISE NOTED

2. COORDINATE W/ DOOR SCHEDULE FOR DOOR AND SCREEN DIMENSTIONS

3. COORDINATE W/ SPECIFICATION FOR APPROVED MANUFACTURERS. DIMENSIONS MAY VARY TO SUITE FRAME MATERIAL AND PROFILES AVAILABLE

4. COORDINATE W/ DOOR SCHEDULE FOR TYPE OF GLAZING OR INSERTS

5. REFER TO PLANS FOR DOOR SWING/OPERATION DIRECTION

6. COORDINATE W/ HARDWARE SCHEDULE FOR HARDWARE AND OTHER ACCESSORIES

7. COORDINATE W/ MECHANICAL DRAWINGS FOR LOCATIONS OF DOOR LOUVERS

8. COORDINATE W/ ELECTRICAL FOR DEVICES REQUIRING POWER (I.E. OPERATORS, HOLD-OPENS, CARD ACCESS ETC.)

9. PROVIDE SAFETY WINDOW FILM MARKING FOR ALL SCREENS AND GLAZED DOORS AS PER THE EXTENT NOTED ON DOOR LEGEND, SCREEN LEGEND AND SAFETY WINDOW FILM DETAIL

10. ALL DOOR UNDERCUTS TO BE 25mm

11. REFER TO SPECIFICATIONS FOR ALL DOOR AND FRAME PAINT COLOURS

DOOR SCHEDULE LEGEND

GL1 GLAZING (INTERIOR GLAZING)

MATERIAL ABBRIVIATIONS

ALUM	ALUMINUM
HM	HOLLOW METAL
PT	PAINT

ELECTRIFICATION ABBRIVIATIONS

DC	DOOR CONTACT (REFER TO ELECTRICAL)

ROOM FINISH GENERAL NOTES

1.UNLESS OTHERWISE NOTED, FLOORING MATERIAL CHANGES TO OCCUR AT THE DOOR THRESHOLD.

2. WHERE NO FINISHES ARE IDENTIFIED, REFER TO ROOM FINSIH SCHEDULE

3. PLEASE NOTE THAT "CEILING ASSEMBLIES" (I.E. ACT/GWB) ARE NOT DOCUMENTED ON THE ROOM FINISH SCHEDULE. FOR SPECIFIC "CIELING ASSEMBLIES REFER TO REFLECTED CEILING PLANS.

4. FLOOR AND 750MM PIT WALLS IN SECONDARY CONTAINMENT AREA TO BE EP2

5. INTERIOR SOUTH WALL TO BE PVC1

INTERIOR FINISH LEGEND

EP1 EP2 EPOXY SEAMLESS FLOORING

PT1 PAINT

PVC1 PVC CEILING PANELS

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

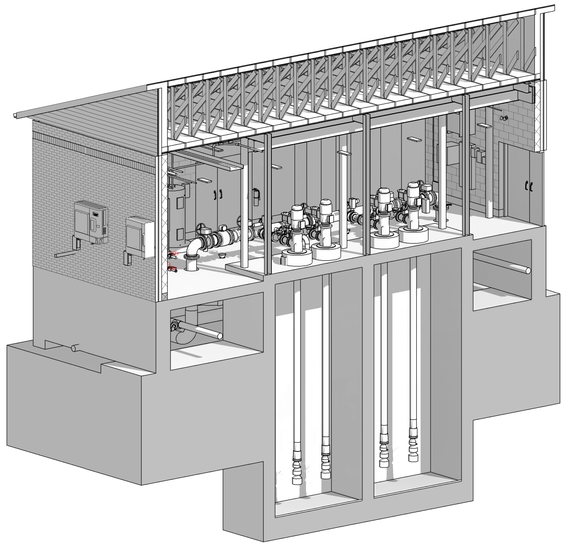
INTERIOR
SCHEDULES

DRAWN	DESIGNED	CHECKED	APPROVED
CM	WH	MN	WH

SCALE	DATE
As indicated	JAN 2026

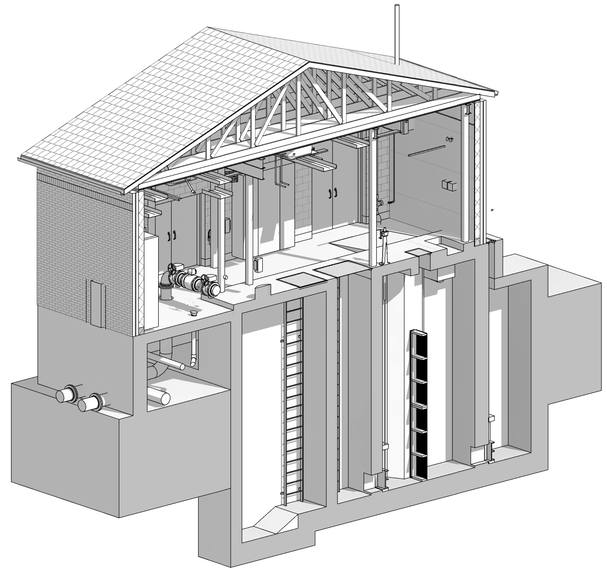
PROJECT NO.	REVISION	DRAWING
T001592B	0	A-601

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt



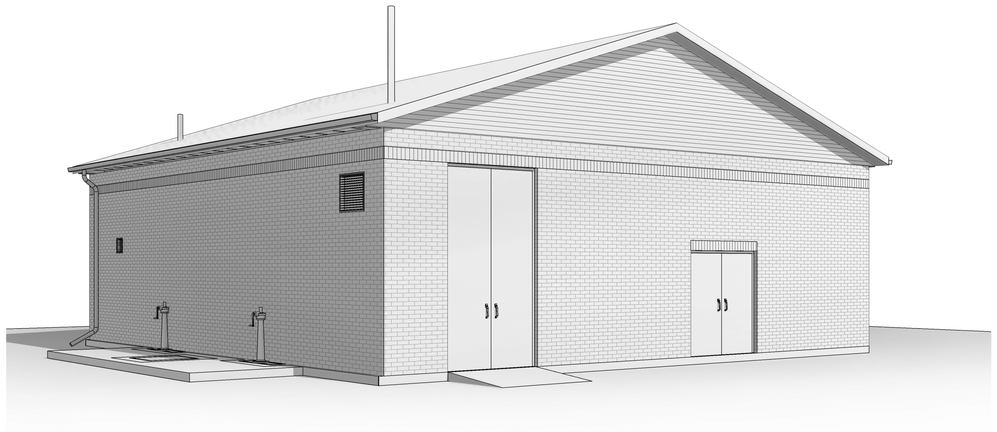
1 3D SECTION C

GRAPHIC DEMONSTRATED FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO ALL CONTRACT DOCUMENTS (I.E. PLANS, WALL SECTIONS, DETAILS, ASSEMBLY TYPES ETC.) FOR LOCATIONS AND DETAIL INTERFACES .



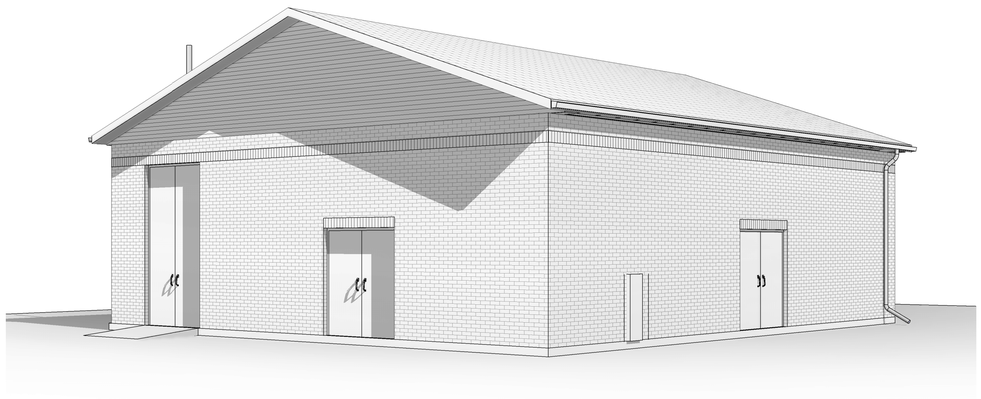
2 3D SECTION A

GRAPHIC DEMONSTRATED FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO ALL CONTRACT DOCUMENTS (I.E. PLANS, WALL SECTIONS, DETAILS, ASSEMBLY TYPES ETC.) FOR LOCATIONS AND DETAIL INTERFACES .



3 SOUTH/EAST PERSPECTIVE

GRAPHIC DEMONSTRATED FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO ALL CONTRACT DOCUMENTS (I.E. PLANS, WALL SECTIONS, DETAILS, ASSEMBLY TYPES ETC.) FOR LOCATIONS AND DETAIL INTERFACES .



4 NORTH/EAST PERSPECTIVE

GRAPHIC DEMONSTRATED FOR ILLUSTRATIVE PURPOSES ONLY. REFER TO ALL CONTRACT DOCUMENTS (I.E. PLANS, WALL SECTIONS, DETAILS, ASSEMBLY TYPES ETC.) FOR LOCATIONS AND DETAIL INTERFACES .

N

KEY PLAN

ENGINEER'S SEAL:

ONTARIO ASSOCIATION OF ARCHITECTS
26/01/20
WILLIAM G. HARISPURU
LICENCE
8752

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	W. H.	W.H.

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

PERSPECTIVES

CM	WH	MN	WH
DRAWN	DESIGNED	CHECKED	APPROVED
		JAN 2026	
SCALE		DATE	

T001592B	0	A-901
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-A Blind River Arch.rvt

PLUMBING LEGEND

PIPING SYMBOLS

- GATE VALVE
- GLOBE VALVE
- BALL VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- PRESSURE REDUCING VALVE
- STRAINER
- UNION
- FLOW DIRECTION
- TEE
- TEE DOWN
- TEE UP
- CAP
- PIPE BREAK
- ELBOW DOWN
- ELBOW UP
- PUMP
- -/M — GAS (G) OR WATER (W) METER
- SCHEMATIC DRAIN
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- PIPE ANCHOR
- PIPE GUIDE
- EXPANSION JOINT
- FLEXIBLE CONNECTOR
- FLANGED CONNECTION
- REDUCED PRESSURE BACKFLOW PREVENTER

PLUMBING SYMBOLS

FD	FLOOR DRAIN
HD	HUB DRAIN
CO	CLEAN OUT (IN-LINE)
CO	CLEAN OUT (THRU FLOOR)
HB	HOSE BIBB
	P-TRAP
FFD	FUNNEL FLOOR DRAIN

PLUMBING PIPE LINE IDENTIFICATION

XXXB	PIPE BELOW GRADE OR FLOOR
SAN	SANITARY DRAIN
V	VENT
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRC.
T	TEMPERED WATER
PW	PROCESS WATER
SEP	SEPARATED WATER (NON-POTABLE WATER)

PLUMBING ABBRIVATIONS

BFP	BACKFLOW PREVENTER
EWS	EYE WASH STATION
ETP	ELECTRONIC TRAP PRIMER
FHC	FIRE HOSE CABINET
FSP	FIRE STANDPIPE
HWT	HOT WATER TANK
HD	HUB DRAIN
HPEW	HIGH PRESSURE EFFLUENT WATER
NPW	NON-POTABLE WATER
PW (DCW)	POTABLE COLD WATER (DOMESTIC COLD WATER)
SUP	SUMP PUMP
TD	TRENCH DRAIN
VTR	VENT THROUGH ROOF
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER

GENERAL NOTES:

1. CONTRACTOR SHALL ENSURE WORK AND MATERIALS RELATING TO PLUMBING AND DRAINAGE SHALL BE IN STRICT ACCORDANCE WITH LASTEST REGULATIONS OF THE ONTARIO BUILDING CODE. DRAWINGS ARE SCHEMATIC IN NATURE AND MAY NOT REFLECT ALL DETAIL REQUIRED TO CONFORM TO CODE.
2. ALL PLUMBING RELATED WORK SHALL BE CARRIED OUT BY A LICENSED PLUMBER.
3. CONTRACTOR TO VERIFY EXACT LOCATION FOR ALL TIE-INS TO EXISTING SERVICES OR TO NEW SERVICES INTERFACE WITH PROCESS PIPING.
4. PRIOR TO COMMENCEMENT OF WORK, ORDERING OF EQUIPMENT AND/OR FABRICATING MATERIALS THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS AND OR INTERFERENCES PRIOR TO COMMENCEMENT OF WORK. PROVIDE INTERFERENCE DRAWINGS.
5. SUPPLY, INSTALL AND TEST THE MECHANICAL WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED.
6. REFER TO THE SPECIFICATIONS FOR STANDARDS THAT SHALL FORM THE BASIS FOR THIS CONSTRUCTION.
7. THE DIRECTION TO 'PROVIDE' EQUIPMENT, MATERIALS, PRODUCTS, LABOUR AND SERVICES SHALL BE INTERPRETED TO 'SUPPLY, INSTALL AND TEST' THE MECHANICAL WORK INDICATED ON THE DRAWINGS AND SPECIFIED.
8. PROVIDE MECHANICAL COMPONENTS AND NORMAL SYSTEM ACCESSORIES NOT SHOWN ON THE DRAWINGS OR STIPULATED IN THE SPECIFICATIONS BUT REQUIRED TO ENSURE COMPLETE OPERATIONAL SYSTEMS ACCEPTABLE TO THE CONSULTANT AND ALL AUTHORITIES HAVING JURISDICTION.
9. ELECTRICAL WIRING FOR POWER SUPPLY SHALL BE PROVIDED BY DIV. 16.
10. EXACT PIPE ROUTING, DROPS AND FINAL CONNECTIONS SHALL BE DETERMINED ON SITE WITH THE PROJECT MANAGER. REFER TO THE MECHANICAL AND ARCHITECTURAL DRAWINGS AND SHOP DRAWINGS FOR ALL EQUIPMENT AND FIXTURE LOCATIONS AND CONNECTIONS.
11. PROVIDE ALL REQUIRED CUTTING AND PATCHING OF FLOORING AND WALLS TO FACILITATE THE INSTALLATION OF THE MECHANICAL SERVICES OUTLINED FOR THIS SCOPE OF WORK.
12. SEAL ALL OPENINGS THROUGH FLOOR AND WALLS WHERE PIPING HAS BEEN INSTALLED TO MAINTAIN THE INTEGRITY OF THE SLAB.
13. SANITARY DRAINAGE LINES SHALL BE SLOPED A MINIMUM OF 20mm PER METER, UNLESS SPECIFIED.
14. THE CONTRACTOR SHALL SUBMIT FOR REVIEW FIVE (5) COPIES OF HIS PROPOSED PLUMBING AND DRAINAGE LAYOUT INCLUDING TRAP PRIMING SEALS AT LEAST ONE MONTH BEFORE CONSTRUCTION.
15. ALL FLOOR DRAINS SHALL BE CONSIDERED SANITARY AND SHALL BE PRIMED.
16. CONNECT ALL DRAIN LINES ACCORDING TO CODE REQUIREMENTS.
17. WHERE A WATER SERVICE CONNECTS TO A PIECE OF EQUIPMENT, SINK OR OTHER FIXTURE INSTALL AN ISOLATION VALVE.
18. ALL TRAPS AND DRAINS PIPES FOR ALL PIPES PASSING THROUGH LOW-LIFT WELLS AND POTABLE WATER TANKS, SHALLBE INCASED WITH A MIN, OF 75mm CONCRETE.
19. PROVIDE NEW FIXTURE COMPLETE WITH ASSOCIATED TRIM AND ALL NECESSARY WATER SUPPLIES, SHUT-OFF VALVES, P-TRAP, CLEANOUT AND PLUMBING ACCESSORIES FOR COMPLETE OPERATIONAL INSTALLATION - ACCOUNT FOR WATER, VENT, SANITARY PIPING.
20. ALL FLOOR DRAINS AND FIXTURE DRAINS SHALL BE VENTED TO THE OUTSIDE THROUGH THE ROOF, AS REQUIRED BY CODE.
21. WHERE ACCEPTABLE BY CODE, CONNECT ALL VENT PIPES PRIOR TO ROOF PENETRATION, VENT PIPES TO MINIMUM OF 80mm PRIOR TO ROOF PENETRATION, VENTS TO BE SIZED AND LAID AS PER BUILDING CODE REQUIREMENTS.
22. CONTRACTOR SHALL PROVIDE EQUIPMENT LISTED IN ACCORDANCE WITH SCHEDULE AND SPECIFICATIONS.
23. ALTERNATE SELECTIONS SHALL BE APPROVED BY ENGINEER.
24. IF THE CONTRACTOR SUBMIT AN ALTERNATE DRAIN PIPE LAYOUT, THE ENGINEER SHALL REVIEW AND MAY APPROVE ANY SUCH PROPOSALS PRIOR TO CONSTRUCTION.
25. THIS CONTRACTOR SHALL COORDINATE ALL WORK WITH ARCHITECT, ELECTRICAL, AND OTHER TRADES ON SITE.
26. PROVIDE AND INSTALL FIRE EXTINGUISHERS AS PER NFPA-10 REQUIREMENTS. CONFIRM QUANTITY AND LOCATIONS WITH ARCHITECTURAL DRAWINGS (LIFE SAFETY PLAN) AND WITH CITY OFFICIALS. EXTINGUISHERS TO MEET CORRISION RESISTANT.
27. THE DIRECTION "PROVIDED BY DIV 11" AND "PROVIDED BY DIV 5" SHALL BE INTERPRETED AS FOLLOWS: DIV 11 AND DIV 5 SHALL SUPPLY, INSTALL AND TEST THE EQUIPMENT, MATERIALS, PRODUCTS, LABOUR AND SERVICES INDICATED ON THE DRAWINGS.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
2026-01-16
S. FARSIMOHAMMADIPOOR
100518283
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	T.K	T.K

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

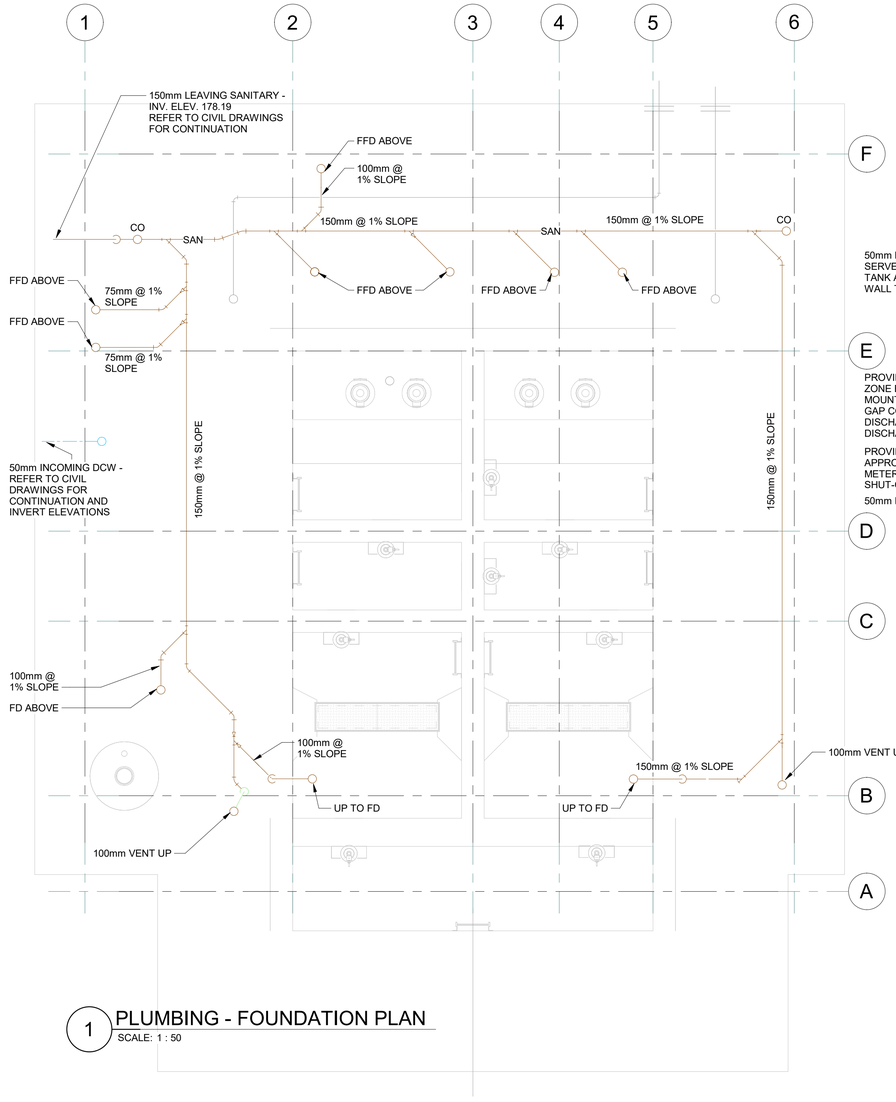
PLUMBING
LEGEND AND
GENERAL NOTES

DRAWN	DESIGNED	CHECKED	APPROVED
JD	EZ	SF	SF

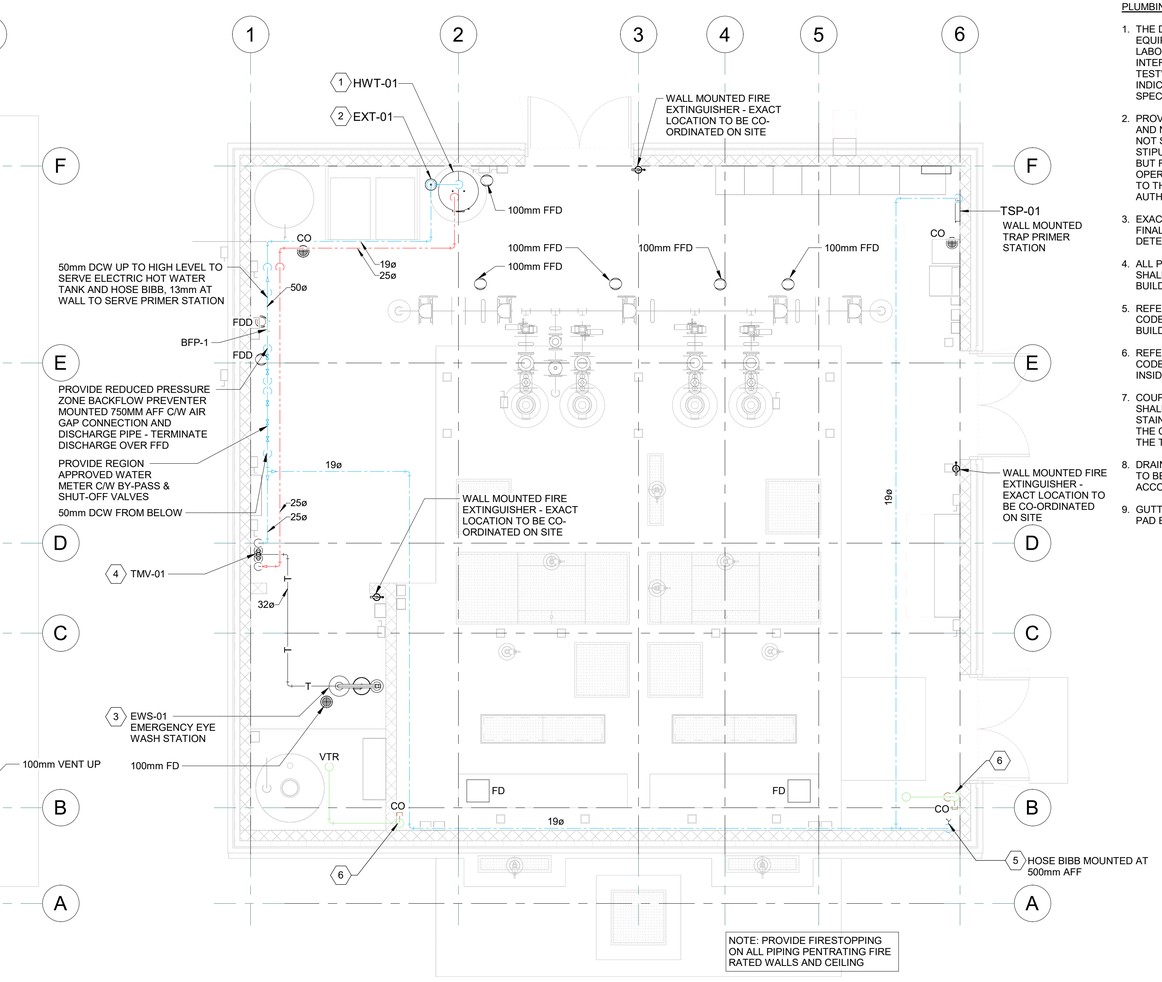
SCALE	DATE
1 : 1	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	P-001

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-M Blind River Mech.rvt



1 PLUMBING - FOUNDATION PLAN
SCALE: 1 : 50



2 PLUMBING - GROUND FLOOR PLAN
SCALE: 1 : 50

PLUMBING GENERAL NOTES

1. THE DIRECTION TO 'PROVIDE' EQUIPMENT, MATERIALS, PRODUCTS, LABOUR AND SERVICES SHALL BE INTERPRETED TO 'SUPPLY, INSTALL AND TEST' THE MECHANICAL WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED.
2. PROVIDE MECHANICAL COMPONENTS AND NORMAL SYSTEM ACCESSORIES NOT SHOWN ON THE DRAWINGS OR STIPULATED IN THE SPECIFICATIONS BUT REQUIRED TO ENSURE COMPLETE OPERATIONAL SYSTEMS ACCEPTABLE TO THE CONSULTANT AND ALL AUTHORITIES HAVING JURISDICTION.
3. EXACT PIPE ROUTING, DROPS AND FINAL CONNECTIONS SHALL BE DETERMINED ON SITE
4. ALL PLUMBING INSIDE THE BUILDING SHALL CONFORM TO THE ONTARIO BUILDING CODE PART 7.
5. REFER TO THE ONTARIO BUILDING CODE 7.3.5.7 FOR TESTING OF THE BUILDING DRAIN.
6. REFER TO THE ONTARIO BUILDING CODE 7.3.6 FOR TESTING OF THE PIPING INSIDE THE BUILDING.
7. COUPLINGS FOR DISSIMILAR METALS SHALL BE PROVIDED BETWEEN THE STAINLESS STEEL WATER MAINS AND THE COPPER BRANCH PIPING TO SERVE THE TRAP PRIMER STATIONS.
8. DRAINAGE PIPING INSIDE THE BUILDING TO BE SCHEDULE 40 PVC DWV IN ACCORDANCE WITH CSA B181.2.
9. GUTTERS, DOWNSPOUTS AND SPLASH PAD BY ARCH DIV.

KEYED NOTES

1. ELECTRIC HOT WATER TANK C/W ALL ASSOCIATED PLUMBING. MOUNT ON 100MM HIGH HOUSEKEEPING PAD
2. EXPANSION TANK
3. EYE WASH/SHOWER STATION C/W ALL NECESSARY WATER SUPPLIES, SHUT-OFF VALVES AND PLUMBING ACCESSORIES FOR A COMPLETE OPERATIONAL INSTALLATION. ACCOUNT FOR WATER, VENT AND SANITARY PIPING. PROVIDE TEMPERATURE MIXING VALVE IN CABINET AND CONNECT TEMPERED WATER TO FIXTURE. EXACT LOCATION OF CABINET TO BE DETERMINED ON SITE.
4. TEMPERATURE MIXING VALVE IN WALL MOUNTED BOX - EXACT LOCATION TO BE DETERMINED ON SITE
5. PROVIDE NEW 19mm DCW DOWN COMPLETE WITH VACUUM BREAKER TO INTERIOR HOSE BIBB WITH ISOLATION VALVE MOUNTED AT 2400MM AFF
6. 100mm VENT UP & DN PENETRATE CHEMICAL ROOM CEILING AND RUN UP INTO ATTIC SPACE AT HIGH LEVEL

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	T.K	T.K

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
PLUMBING -
FLOOR PLANS

DRAWN	DESIGNED	CHECKED	APPROVED
JD	EZ	SF	SF

SCALE	DATE
1 : 50	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	P-101

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-M Blind River Mech.rvt

ELECTRIC DOMESTIC WATER HEATER SCHEDULE

TAG	SERVICE	LOCATION	UNIT SELECTION			STORAGE CAPACITY L (USGAL)	HEATER					ELECTRICAL		PIPING CONNECTION			DIMENSIONS DIAxHEIGHT mm x mm (IN x IN)	OPTIONAL EQUIPMENT
			MAKE	MODEL	TYPE		TYPE	CAPACITY kW (MBH)	THERMAL EFF. %	TEMP. RISE C (F)	RECOVERY LPH (GPH)	V/Ph/Hz	FLA	CW INLET mm (IN)	HW OUTLET mm (IN)	RELIEF mm (IN)		
HWT-01	DOM HOT WATER	CHEMICAL ROOM	AO SMITH	DRE-120-6	ELECTRIC STORAGE	450 (119)	ELECTRIC	2x6 (2x20)	-	56 (100)	57 (15)	600/3/60	12.7	32 (1.25)	32 (1.25)	19 (0.75)	552x1403 (21.75x 55.25)	2 HEATING ELEMENTS

GENERAL REQUIREMENTS:
1. STANDARD OF ACCEPTANCE: BRADFORD WHITE, RHEEM AND A.O. SMITH
2. DIV. 15 SHALL PROVIDE ALL ELECTRICAL WIRING FROM JUNCTION BOX PROVIDED BY DIV. 16 FOR COMPLETE INSTALLATION OF WATER HEATER ALL ELECTRICAL WORKS SHALL COMPLY WITH DIV. 16 SPECIFICATION AND ELECTRICAL SAFETY CODE.

TRAP SEAL PRIMER SCHEDULE

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	ELECTRICAL (V/Ph/Hz)	COMMENTS
TSP-01	FLOOR DRAINS	PUMP ROOM	PPP	PTS-12	120/1/60	UNIT TO BE SURFACE WALL MOUNTED

NOTES:
1. MOUNT IN METAL CABINET C/W COVER PLATE.
2. UNIT COMPLETE WITH VACUUM BREAKER.
3. PROVIDE MANUAL OVER RIDE SWITCH AND TEST BUTTON, AND 24 HOUR TIMER.
4. STANDARD OF ACCEPTANCE: PRECISION PLUMBING PRODUCTS, MIFAB.

EXPANSION TANK SCHEDULE

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	TANK VOLUME GAL (L)	ACCEPTANCE VOLUME GAL (L)	PRESS. RATING PSI (KPA)	DIMENSIONS		WEIGHT INCLUDING WATER LBS (Kg)	COMMENTS
								DIAMETER INCH (mm)	HEIGHT INCH (mm)		
EXT-01	DOM HOT WATER EXPANSION TANK	PUMP ROOM	WATTS	DETA-20	8.0 (36.4)	5.3 (24.1)	150 (1,034.2)	12 (304.8)	20.0 (508)	34 (15)	UNIT TO BE PROPERLY SUPPORT FROM WALL (DO NOT SUPPORT FROM PLUMBING PIPING)

NOTES:
1. RECOVERY RATE BASED ON 100°F (38C) TEMPERATURE RISE.
2. STANDARD OF ACCEPTANCE: WATTS, EXTROL, ARMSTRONG.

EMERGENCY EYEWASH/SHOWER SCHEDULE

TAG	DESCRIPTION	LOCATION	MANUFACTURER	MODEL	REQUIREMENTS
EWS	EMERGENCY EYEWASH/SHOWER COMBINATION	CHEMICAL BUILDING	HAWS	8300CRP-830 9CRP	c/w ABS RECEPTOR, IN-LINE STRAINER, AUTOMATICALLY RELEASING DUST CAPS

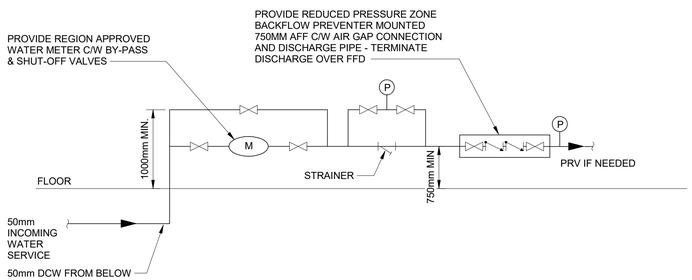
BACKFLOW PREVENTER SCHEDULE

TAG	LOCATION	DESCRIPTION	MANUFACTURER	MODEL	SIZE	COMMENTS
BFP-1	PUMP ROOM	REDUCED PRESSURE BACKFLOW PREVENTER	WATTS	909QT	LINE SIZE	INSTALL ON WATER SUPPLY AS IT'S SHOWN ONDRAWINGS AND ALL OTHER POINTS OF CROSS CONNECTION

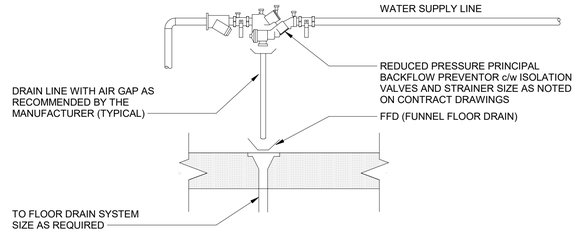
THERMOSTATIC MIXING VALVE SCHEDULE

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	MAXIMUM FLOW RATE GPM (L/S)	MINIMUM FLOW RATE GPM (L/S)	ADJUSTABLE OUTLET TEMPERATURE RANGE C (F)	OPERATING PRESSURE PSI (KPA)	PIPING CONNECTION		COMMENTS
									WATER INLET	WATER OUTLET	
TMV-01	EMERGENCY EYEWASH/SHOWER	CHEMICAL ROOM	HAWS	9201H	31.0 (2.0)	1.0 (0.1)	16-32 (60-90)	125 (861.8)	25 (1)	32 (1.25)	TO BE INSTALLED IN WALL MOUNTED BOX

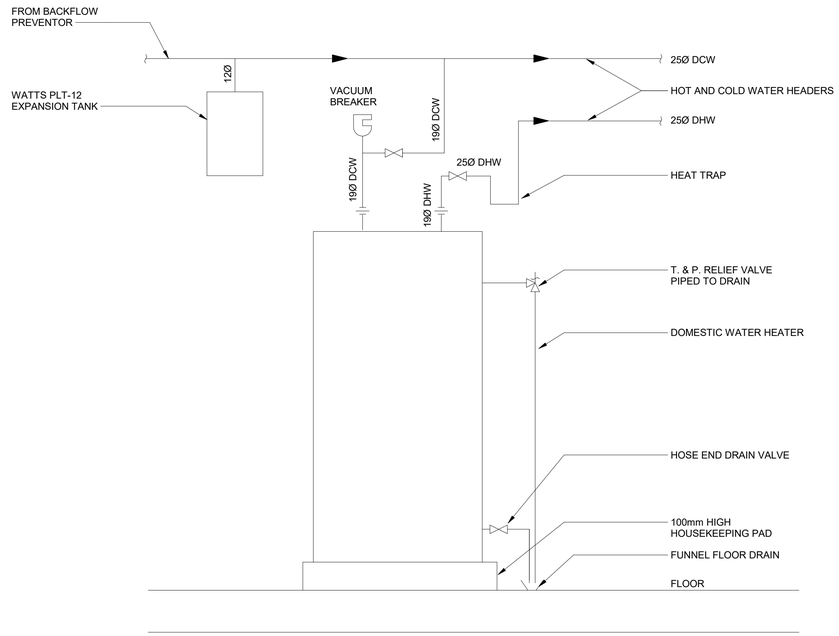
NOTES:
1. STANDARD OF ACCEPTANCE: WATTS, ARMTROL, ARMSTRONG.



2 WATER METER AND BACKFLOW PREVENTER DETAIL
SCALE: NTS



1 BACKFLOW PREVENTER DRAIN DETAIL
SCALE: NTS



NOTES:
- PROVIDE SEISMIC RESTRAINTS AS REQUIRED.

3 DOMESTIC HOT WATER TANK PIPING SCHEMATIC
SCALE: NTS

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	T.K	T.K

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
SCHEDULES AND DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED
JD	EZ	SF	SF

SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	P-501

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-M Blind River Mech.rvt

Valves

- AIR RELEASE VALVE
- BACK PRESSURE VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CAMLOCK
- CHECK VALVE
- DIAPHRAGM VALVE
- DOUBLE CHECK VALVE
- MOTOR ACTUATED VALVE
- GATE VALVE
- GLOBE VALVE
- HOSE VALVE W/ NIPPLE
- KNIFE VALVE
- KNIFE GATE VALVE
- PINCH VALVE
- PLUG VALVE
- PRESSURE RELIEF VALVE
- PRESSURE SUSTAINING VALVE - PILOT
- PRESSURE SUSTAINING VALVE - SELF ACTUATING
- AIR PURGE
- VACUUM RELIEF VALVE
- SURGE VALVE
- KNIFE GATE VALVE
- THREE WAY VALVE
- STRAINER

Actuators

- MOTOR ACTUATOR
- SOLENOID ACTUATOR

Indicators/Meters/Sensors

- FLOW INDICATING TRANSMITTER
- PRESSURE INDICATOR
- PRESSURE TRANSMITTER
- ULTRASONIC LEVEL ELEMENT
- DENSITY METER
- ELAPSED TIME METER
- FLOW METER
- MAGNETIC FLOW METER
- SONIC FLOW METER
- THERMAL FLOW METER
- VENTURI METER
- WATER SENSING FLOAT
- LEVEL SENSOR
- LEVEL SENSING FLOAT

Equipment

- AIR FILTER
- AGITATOR
- FLEXIBLE COUPLING
- GENERIC COUPLING
- DIAPHRAGM SEAL
- DIFFUSER
- BLIND FLANGE
- FLANGE
- FLEXIBLE HOSE - FLANGED
- FLUSHING CONNECTION
- PNEUMATIC CYLINDER
- INSULATION
- INLINE MIXER

Equipment Cont'd

- OVER FLOW WEIR
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- SAMPLING HOSE BIB
- SLIDE GATE
- ANTI FOAM SPRINKLER
- VARIABLE FREQUENCY DRIVE
- VICTAULIC COUPLING
- CLARIFIER - RECTANGULAR
- SLIDE PLATE
- SLUICE GATE
- SILENCER
- SILENCER TANK
- AIR COMPRESSOR
- PULSATION DAMPER
- AIR RECIEVER

Diagram Symbols

- DRAIN ARROW
- FLOW DIRECTION - PRIMARY
- FLOW DIRECTION - SECONDARY
- FLOW DIRECTION ARROW
- WATER LEVEL
- LINE BREAK
- LINE JUMP
- TEXT NOTE
- ZONE LIMIT
- PROCESS LINE
- PROCESS LINE ARROW
- COMMUNICATION SIGNAL LINK
- ROUND LABEL

Misc.

- FIELD MOUNTED INSTRUMENT
- INSTRUMENT MOUNTED ON FACE OF PANEL.D MOUNTED
- PROGRAMMABLE LOGIC CONTROLLER
- PROGRAMMABLE LOGIC CONTROLLER - CENTRAL - NOT ACC
- PROGRAMMABLE LOGIC CONTROLLER - AUX - ACC
- PROGRAMMABLE LOGIC CONTROLLER - AUX - NOT ACC
- FIELD MOUNTED INSTRUMENT
- INSTRUMENT MOUNTED ON FACE OF PANEL
- INSTRUMENT MOUNTED BEHIND OR INSIDE OF PANEL
- INSTRUMENT MOUNTED ON FACE OF LOCAL PANEL/MCC
- FIELD MOUNTED INSTRUMENT
- INSTRUMENT MOUNTED ON FACE OF PANEL
- INSTRUMENT MOUNTED ON FACE OF LOCAL PANEL/MCC
- OVAL LABEL
- OPERATOR INTERFACE TERMINAL

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
21/01/2026
C. ALEPIN
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	N. P.	T.K.
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

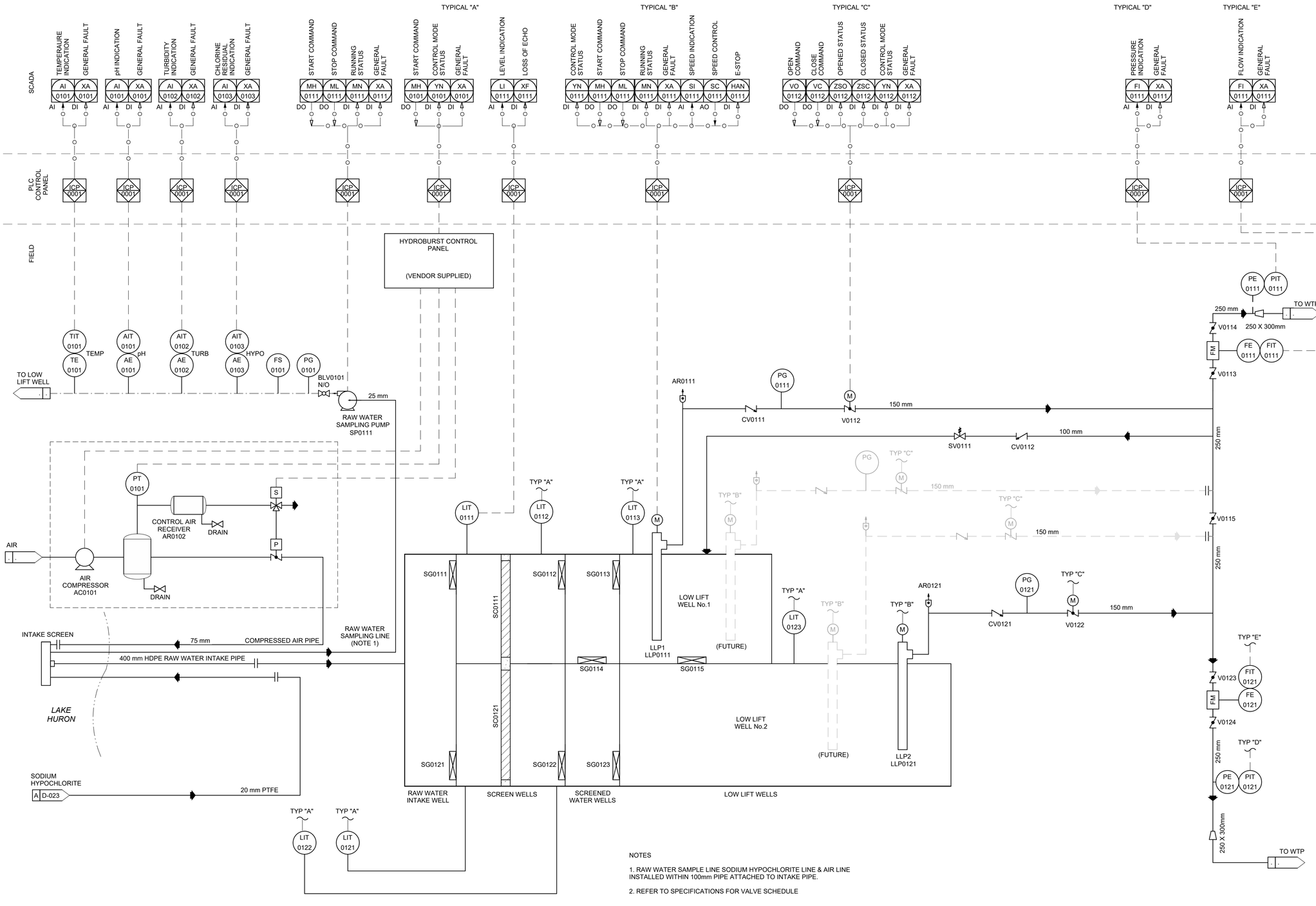
P&ID LEGEND

N.P.	EDA/DT	CA/RS	TK
DRAWN	DESIGNED	CHECKED	APPROVED

1 : 1	JAN 2026
SCALE	DATE

T001592B	0	D-021
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D-6 Blind River Process.rvt



NOTES

1. RAW WATER SAMPLE LINE SODIUM HYPOCHLORITE LINE & AIR LINE INSTALLED WITHIN 100mm PIPE ATTACHED TO INTAKE PIPE.

2. REFER TO SPECIFICATIONS FOR VALVE SCHEDULE

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

Electrical Only

LICENSED PROFESSIONAL ENGINEER
21/01/2026
C. ALEPIN
PROVINCE OF ONTARIO

Process

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	N. P.	T.K.

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

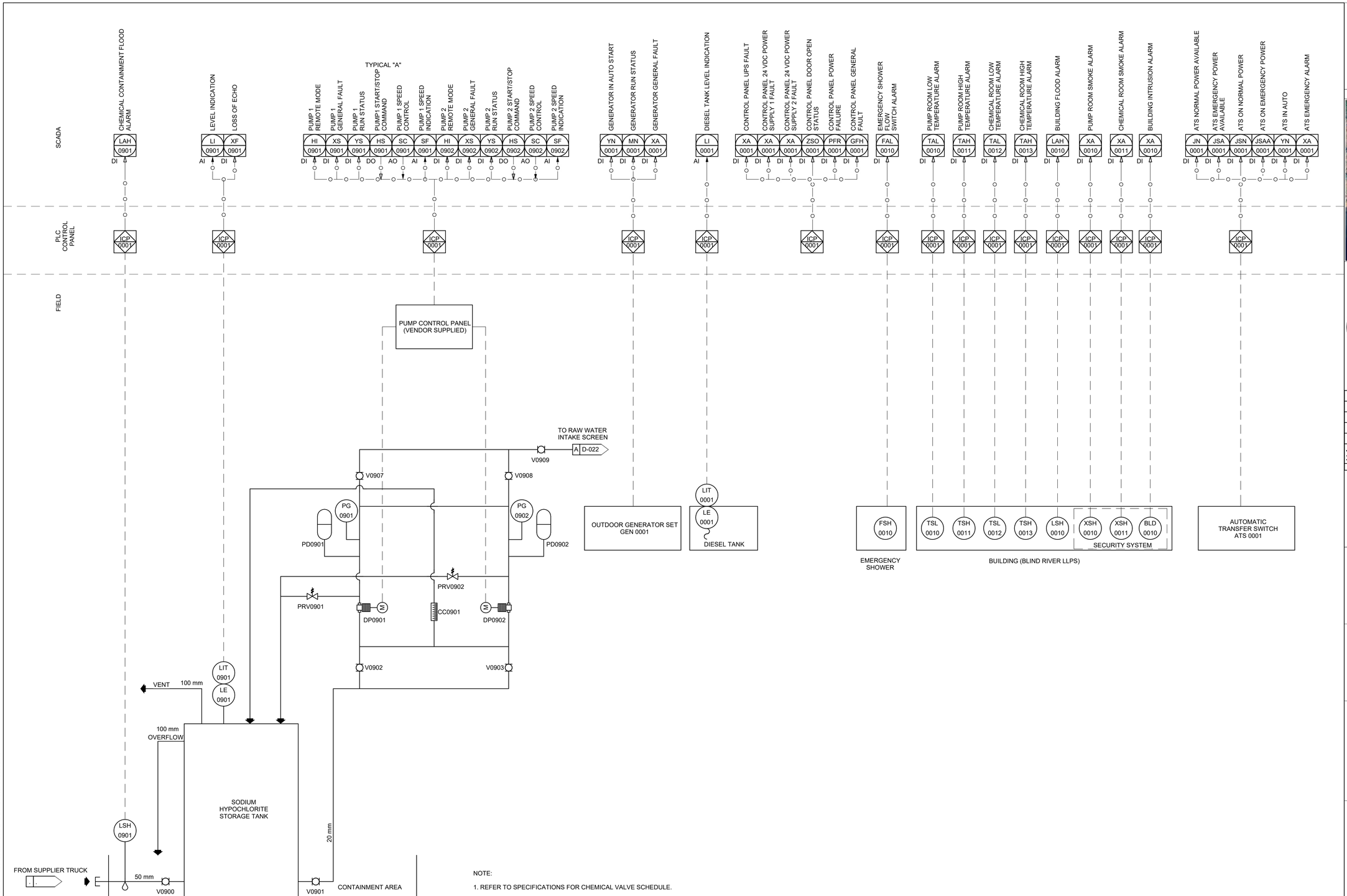
INTAKE & LLPS P&ID

DRAWN	DESIGNED	CHECKED	APPROVED
NP	EDA/DT	CA/RS	TK

SCALE	DATE
1 : 1	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	D-022

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D-6 Blind River Process.rvt



NOTE:

1. REFER TO SPECIFICATIONS FOR CHEMICAL VALVE SCHEDULE.

NOTE:
THE TITLE BLOCK AND THE REVISIONS NEED TO BE UPDATED ACCORDING TO THE PROJECT SUBMISSION STATUS

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

Electrical Only

LICENSED PROFESSIONAL ENGINEER
21/01/2026
C. ALEPIN
PROVINCE OF ONTARIO

Process

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	N. P.	T.K.

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

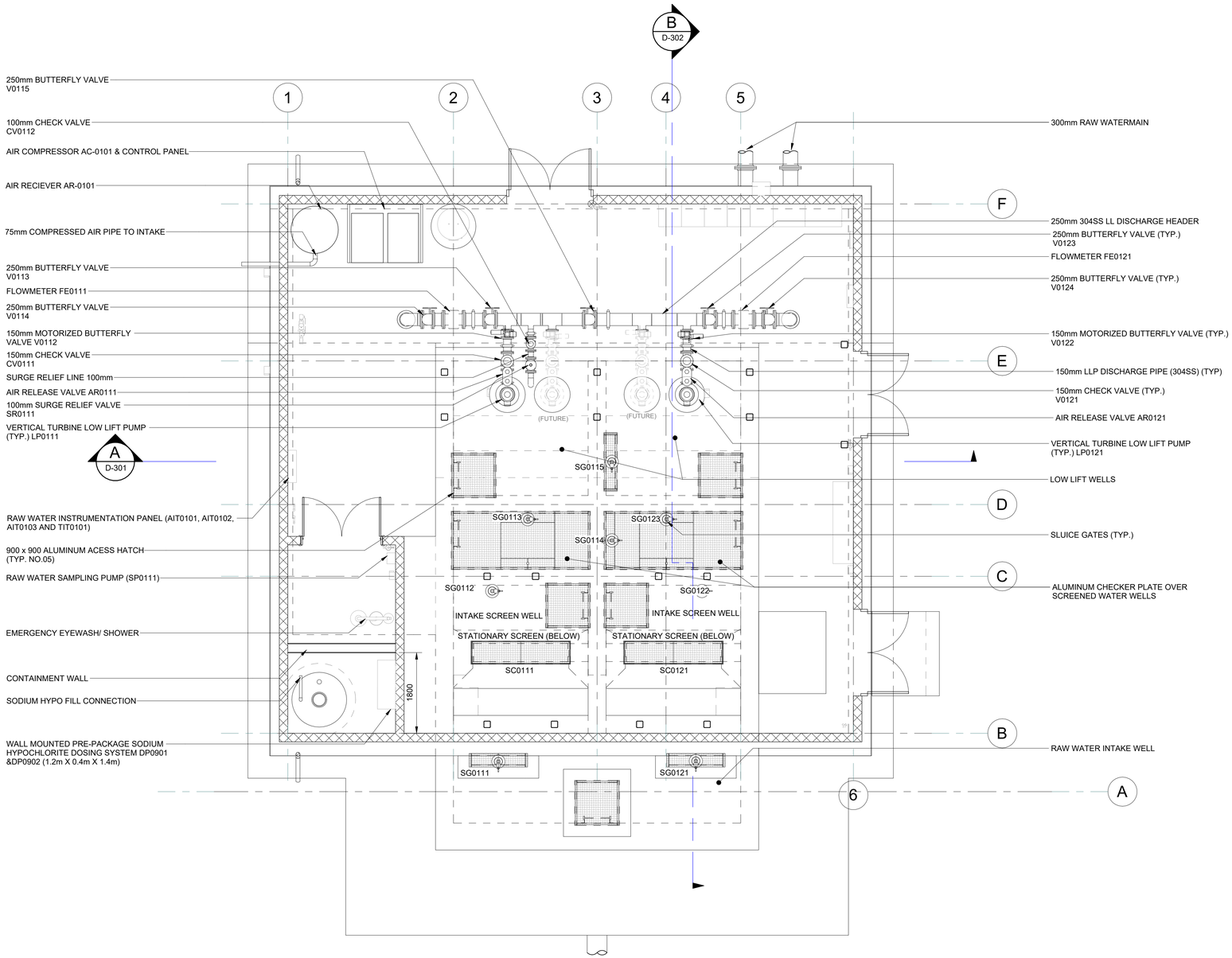
SODIUM HYPOCHLORITE DOSING SYSTEM & MISCELLANEOUS EQUIPMENT P&ID

DRAWN	DESIGNED	CHECKED	APPROVED
NP	EDA/DT	CA/RS	TK

SCALE	DATE
1 : 1	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	D-023

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D-6 Blind River Process.rvt



1 GROUND FLOOR PLAN
D-301 SCALE: 1 : 50

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D Blind River Process.rvt

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
21/01/2026
C. ALEPIN
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	NP	TK

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

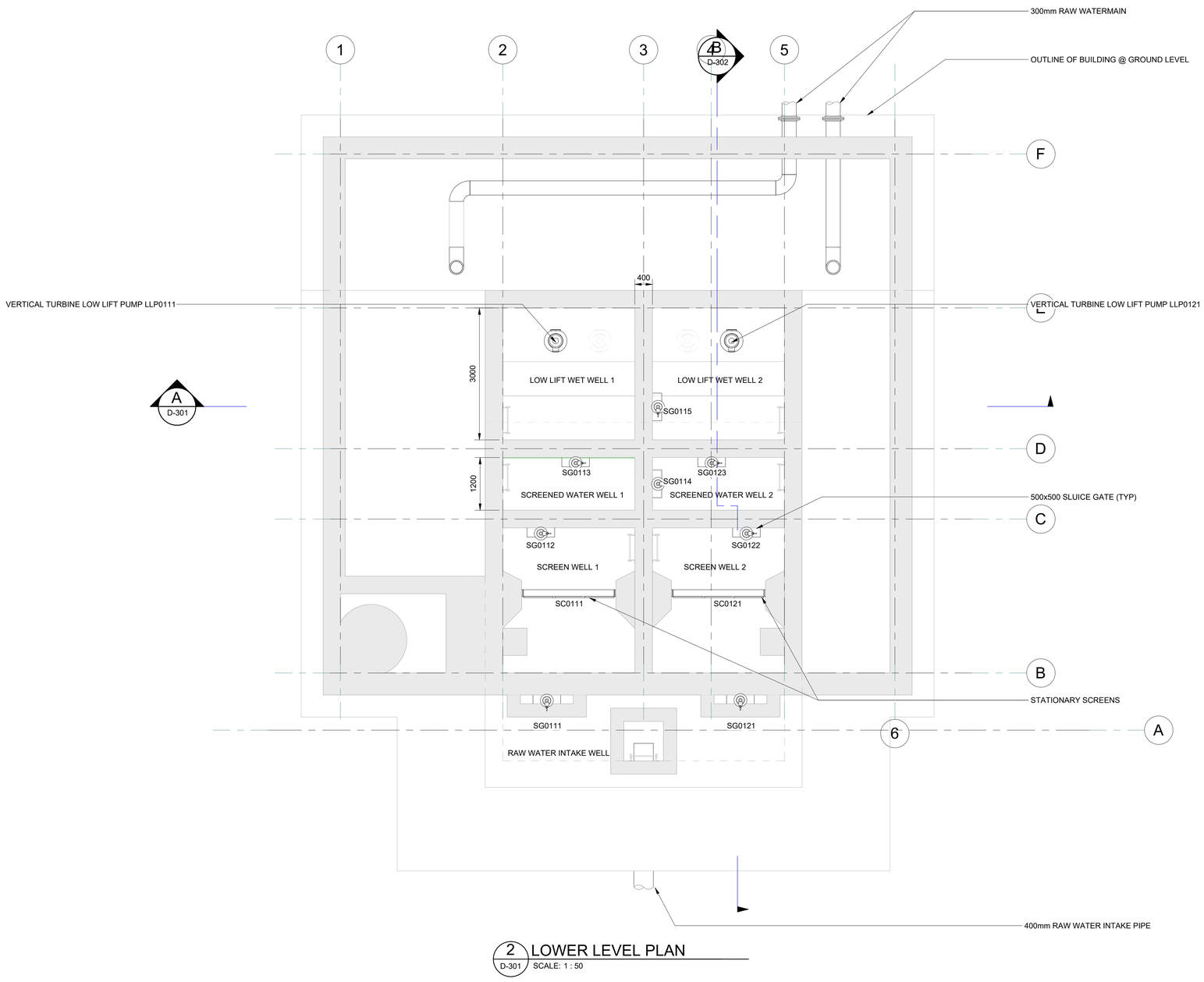
DRAWING TITLE:

LLPS GROUND FLOOR

DRAWN	DESIGNED	CHECKED	APPROVED
NP	EDA	CA/RS	TK

SCALE	DATE
1 : 50	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	D-101



2 D-301 LOWER LEVEL PLAN
SCALE: 1 : 50

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
21/01/2026
C. ALEPIN
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	NP	TK
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:
NEW BLIND RIVER WTP INTAKE AND LLPS

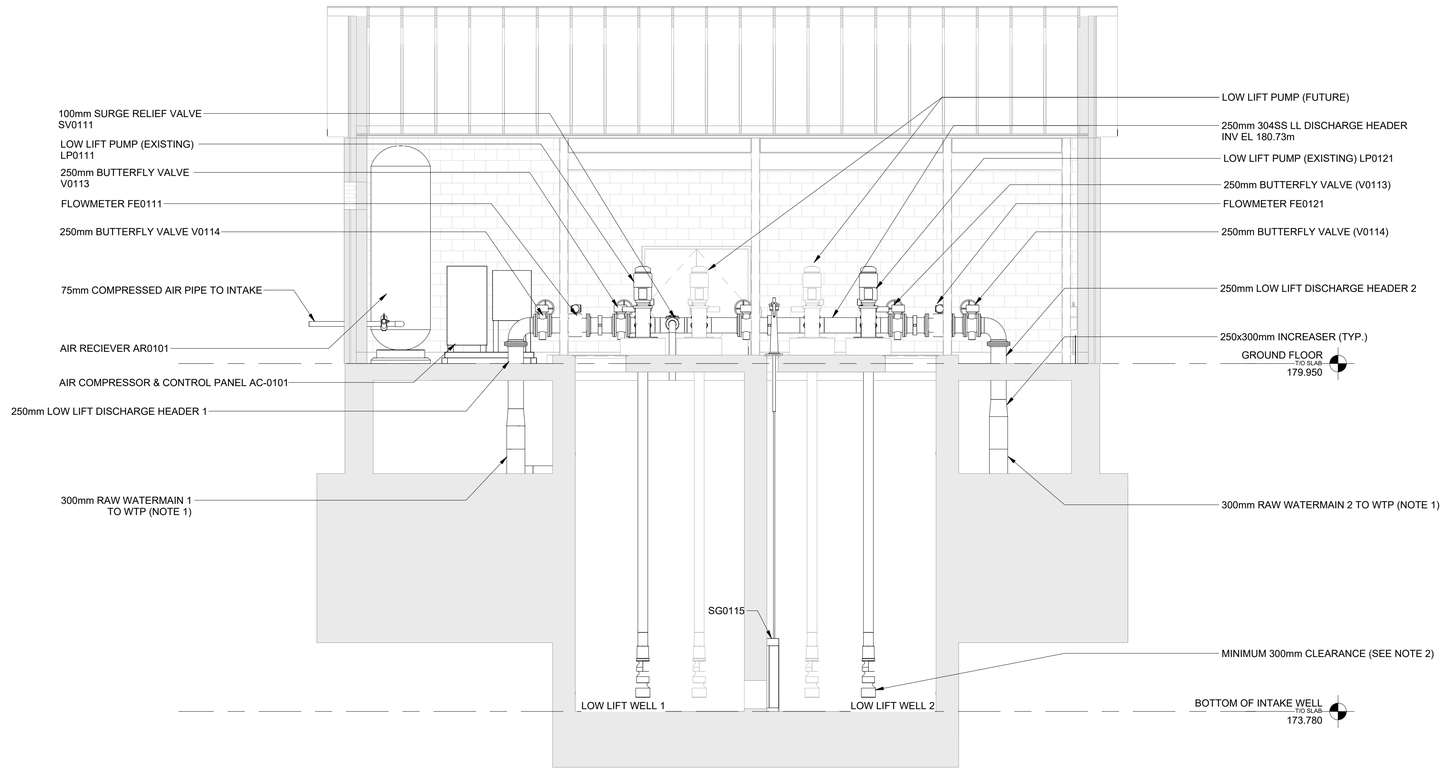
DRAWING TITLE:
LLPS LOWER LEVEL

NP	EDA	CA/RS	TK
DRAWN	DESIGNED	CHECKED	APPROVED

1 : 50	JAN 2026
SCALE	DATE

T001592B	0	D-102
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D Blind River Process.rvt



A / D151 SECTION
SCALE: 1 : 50

NOTES:

1. REFER TO DRAWING C4-C8 FOR WATERMAINS PLAN AND PROFILE.
2. INSTALL PUMP AS PER MANUFACUTRER RECOMMENDATION MEETING MINIMUM SUBMERGENCE AND CLEARANCE.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
21/01/2026
C. ALEPIN
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	NP	TK

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

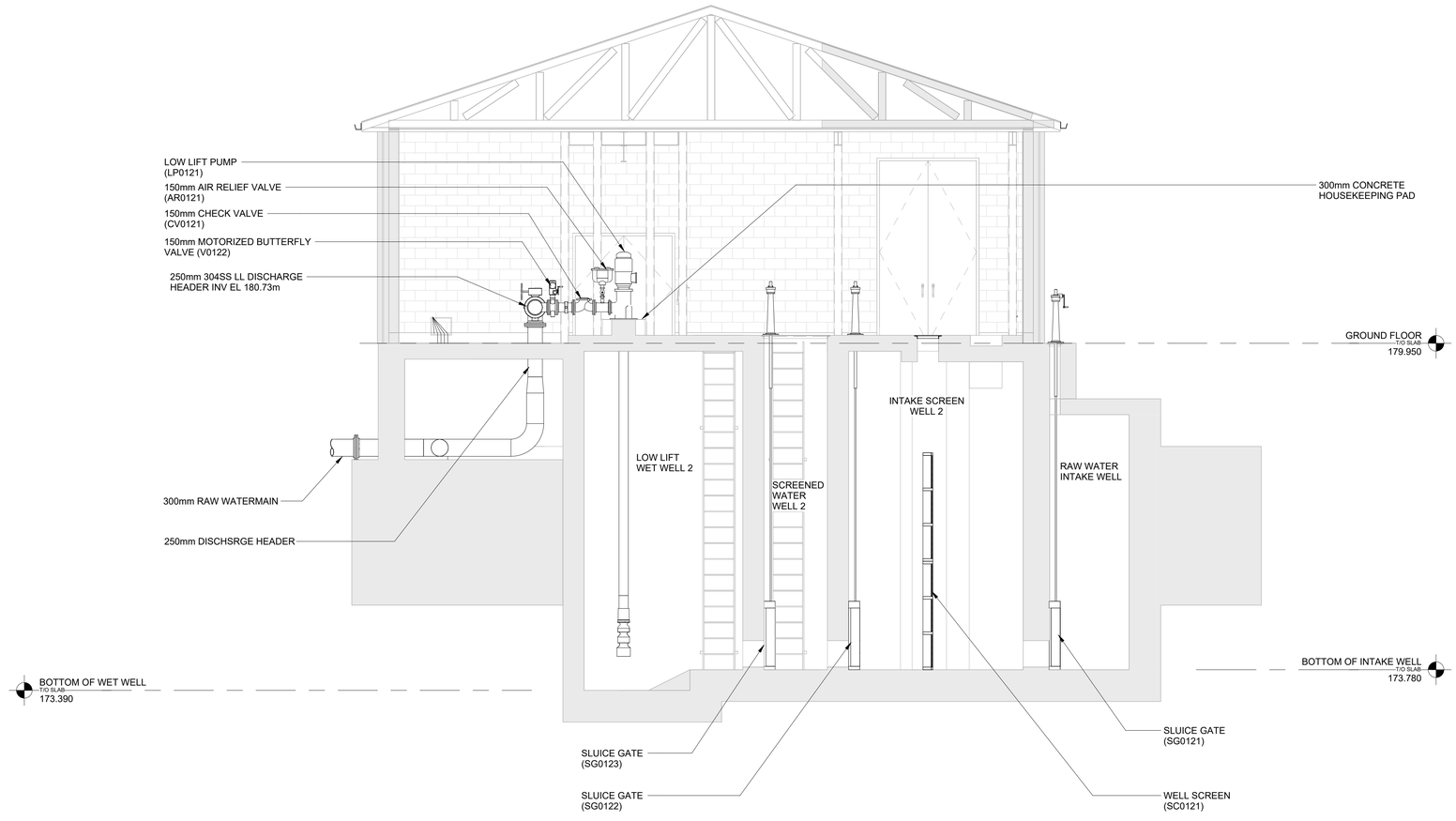
LLPS SECTION A

DRAWN	DESIGNED	CHECKED	APPROVED
NP	EDA	CA/RS	TK

SCALE	DATE
1 : 50	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	D-301

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D Blind River Process.rvt



B / D151 SECTION
SCALE: 1 : 50

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
21/01/2026
C. ALEPIN
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	NP	TK

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

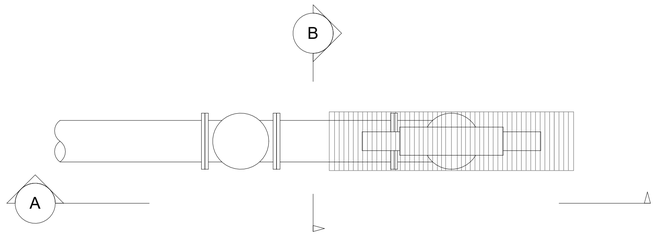
LLPS SECTION B

DRAWN	DESIGNED	CHECKED	APPROVED
NP	EDA	CA/RS	TK

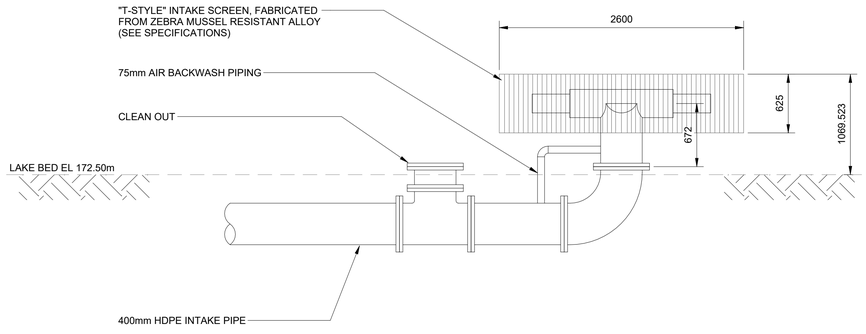
SCALE	DATE
1 : 50	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	D-302

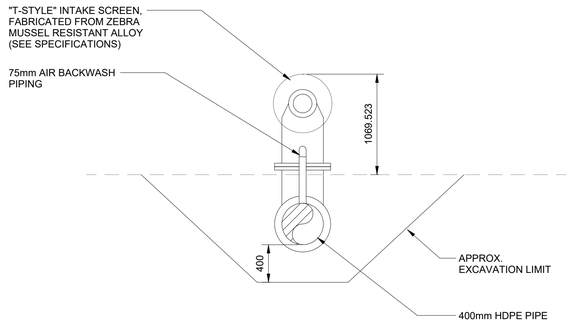
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D Blind River Process.rvt



PLAN



SECTION A



SECTION B

WATER INTAKE DETAIL

SCALE:1 : 30

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
21/01/2026
C. ALEPIN
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	NP	TK

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

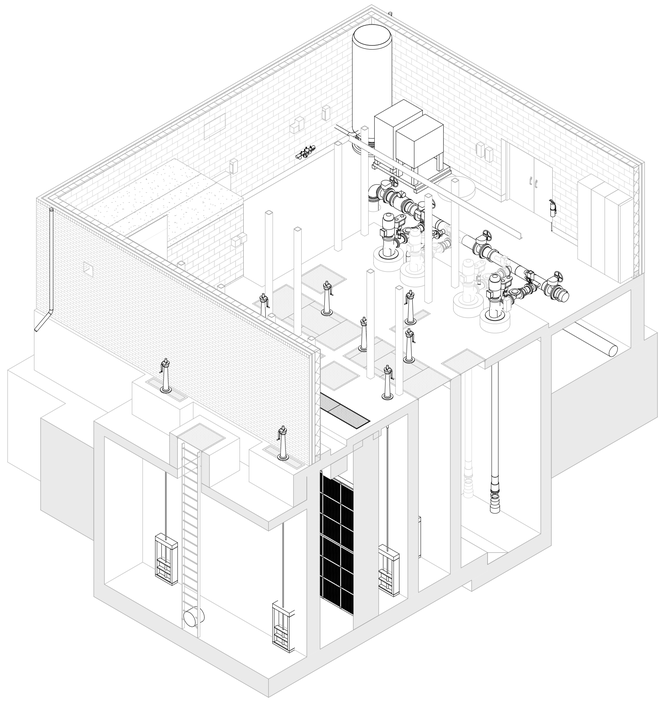
INTAKE DETAILS

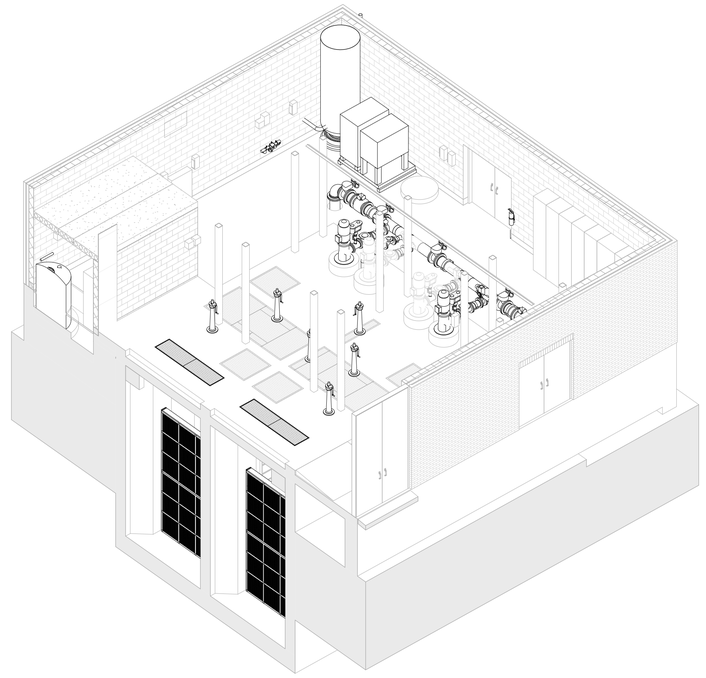
DRAWN	DESIGNED	CHECKED	APPROVED
NP	EDA	CA	TK

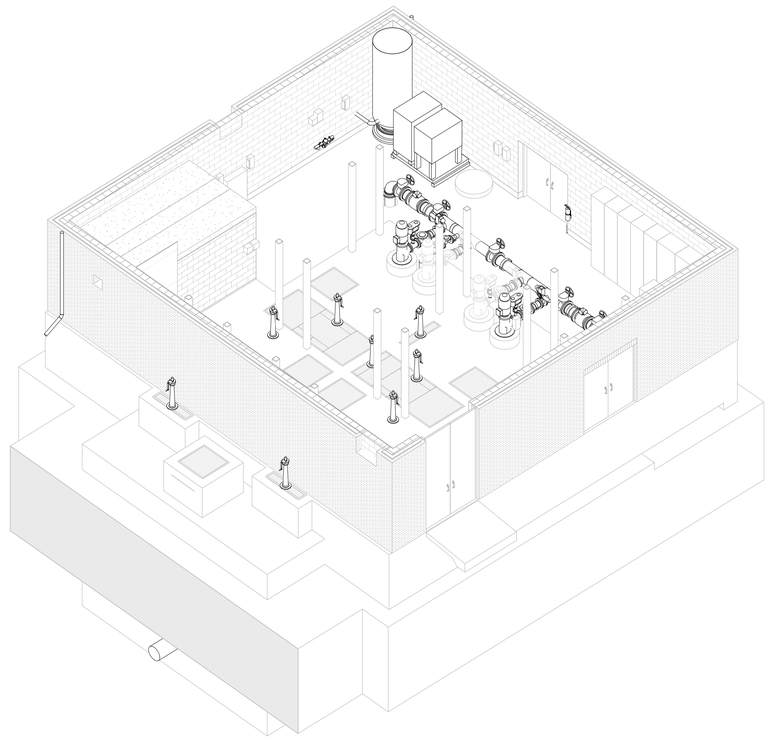
SCALE	DATE
1 : 30	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	D-501

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D Blind River Process.rvt







KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	NP	TK

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

NEW BLIND RIVER WTP INTAKE AND LLPS

DRAWING TITLE:

LLPS 3D VIEWS

DRAWN	DESIGNED	CHECKED	APPROVED
NP	EDA	RS	TK

SCALE		DATE
		JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	D-901

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-D Blind River Process.rvt

HVAC LEGEND

HVAC SYMBOLS

- 250x250 — RECTANGULAR DUCT
- ROUND DUCT
- ACOUSTIC DUCT INSULATION
- FC — FLEX DUCT CONNECTION
- SUPPLY AIR UP / DOWN
- OUTDOOR & INTAKE AIR UP / DOWN
- RETURN AIR UP / DOWN
- COMBUSTION AIR UP / DOWN
- EXHAUST AIR UP / DOWN
- RADIUS (UP/DOWN)
- M — MOTORIZED DAMPER
- AIR FLOW DIRECTION
- XXXXXXX — EQUIPMENT TAG
- BD — BALANCING DAMPER
- BDD — BACKDRAFT DAMPER
- TYPE
- XX | YY / ZZ — VOLUME (L/S) AIR OUTLET TAG (REFER TO SCHEDULE)
- SIZE (mm)
- TS — TEMPERATURE SENSOR

HVAC PIPE LINE IDENTIFICATION

S.A.	SUPPLY AIR
E.A.	EXHAUST AIR
R.A.	RETURN AIR

CONTROLS AND INSTRUMENTATION

- (T) — THERMOSTAT

GENERAL NOTES:

1. COORDINATE WITH GENERAL CONTRACTOR TO SCHEDULE THE MECHANICAL/CONTROLS WORKS, AS SPECIFIED ON PLANS. REFER TO AND COMPLY WITH THE PHASING PLAN OF THE PROJECT AND OF THE GENERAL CONTRACTOR WHERE REQUIRED.
2. PRIOR TO COMMENCEMENT OF WORK, ORDERING OF EQUIPMENT AND/OR FABRICATING MATERIALS THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE TO VERIFY EXISTING CONDITIONS. THIS SHALL BE DONE IN ORDER TO CONFIRM THAT EQUIPMENT AND SERVICES CAN BE INSTALLED AS SHOWN ON DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE ENGINEERS OF ANY DISCREPANCIES, OMISSIONS AND OR INTERFERENCES PRIOR TO COMMENCEMENT OF WORK. PROVIDE INTERFERENCE DRAWINGS.
3. REFER TO THE SPECIFICATIONS FOR STANDARDS THAT SHALL FORM THE BASIS FOR THIS CONSTRUCTION.
4. THE DIRECTION TO 'PROVIDE' EQUIPMENT, MATERIALS, PRODUCTS, LABOUR AND SERVICES SHALL BE INTERPRETED TO 'SUPPLY, INSTALL AND TEST' THE MECHANICAL WORK INDICATED ON THE DRAWINGS AND SPECIFIED.
5. NOT ALL DUCT/PIPE INSULATION/LINING IS SHOWN FOR CLARITY. REFER TO SPECIFICATION.
6. NOT ALL BALANCING DEVICES ARE SHOWN FOR CLARITY. DIVISION 15 SHALL PROVIDE ALL NECESSARY BALANCING DEVICES TO ACHIEVE PERFORMANCE SHOWN ON PLAN.
7. NOT ALL CONTROL WIRING IS SHOWN. FOR CLARITY AND COORDINATION SOME THERMOSTATIC WIRING IS SHOWN. PROVIDE A COMPLETE CONTROL SYSTEM ACCORDING TO THE SPECIFICATIONS.
8. ELECTRICAL WIRING FOR POWER SUPPLY SHALL BE PROVIDED BY DIV. 16.
9. PROVIDE MECHANICAL COMPONENTS AND NORMAL SYSTEM ACCESSORIES NOT SHOWN ON THE DRAWINGS OR STIPULATED IN THE SPECIFICATIONS BUT REQUIRED TO ENSURE COMPLETE OPERATIONAL SYSTEMS ACCEPTABLE TO THE CONSULTANT AND ALL AUTHORITIES HAVING JURISDICTION.
10. CONTRACTOR TO VERIFY EXACT LOCATION FOR ALL SERVICES.
11. CONTRACTOR SHALL PROVIDE EQUIPMENT LISTED IN ACCORDANCE WITH SCHEDULE AND SPECIFICATIONS.
12. ALTERNATE SELECTIONS SHALL BE REVIEWED BY ENGINEER.
13. MECHANICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH PROCESS, ELECTRICAL, ARCHITECTURAL DRAWINGS, MECHANICAL & ELECTRICAL SPECIFICATIONS, PROCESS PCN, IOM MANUALS AND OTHER DOCUMENTS RELATED TO INSTALLATION OF SPECIFIED EQUIPMENT.
14. THIS CONTRACTOR SHALL COORDINATE ALL WORK WITH ELECTRICAL, CONTROLS, AND OTHER TRADES ON SITE.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
2026-01-16
S. FARSIMOHAMMADIPOOR
100518283
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	T.K	T.K

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

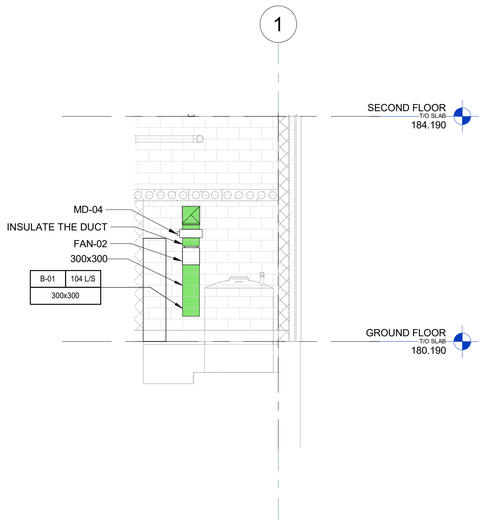
MECHANICAL
LEGEND AND
GENERAL NOTES

DRAWN	DESIGNED	CHECKED	APPROVED
JD	EZ	SF	SF

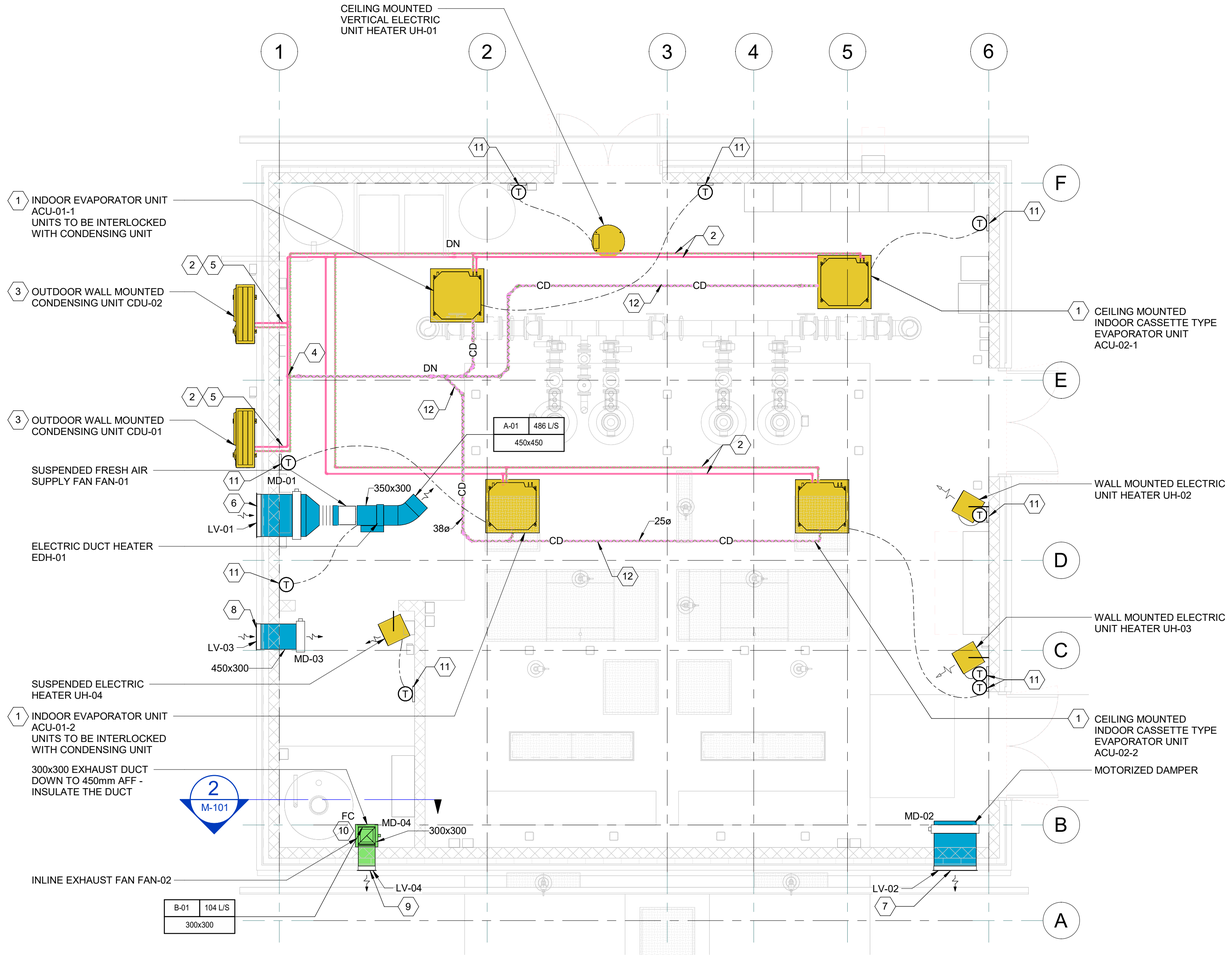
SCALE	DATE
1 : 1	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	M-001

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-M Blind River Mech.rvt



2 SECTION
M-101 SCALE: 1 : 50



1 MECHANICAL - GROUND FLOOR PLAN
SCALE: 1 : 50

KEYED NOTES (GROUND FLOOR PLAN)

1. FLUSH CEILING MOUNTED CASSETTE SPLIT SYSTEM EVAPORATOR UNIT
2. INSULATED REFRIGERANT PIPING (TYPICAL OF 2) - SIZE OF PIPING AND CONNECTIONS TO BE AS PER MANUFACTURER'S RECOMMENDATIONS. EXACT ROUTING OF PIPING TO BE DETERMINED ON SITE AND IS TO BE COORDINATED WITH ALL PROCESS EQUIPMENT AND PIPING - PIPING LENGTHS NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS.
3. WALL MOUNTED OUTDOOR CONDENSING UNIT - MOUNT UNIT AT MIN. 1000MM ABOVE GRADE
4. 38MM INSULATED CONDENSATE DRAIN LINE TERMINATE ABOVE FUNNEL DRAIN.
5. SEAL WEATHERTIGHT PENETRATIONS THROUGH WALL
6. 750 W X 450 H FRESH AIR INTAKE LOUVRE C/W MOTORIZED DAMPER AT HIGH LEVEL (EXACT HEIGHT TO BE DETERMINED ON SITE). 300MM DEEP INSULATED PLENUM BEHIND LOUVRE. DUCT METAL SLEEVE & INSULATION TO RUN CONTINUOUS TO LOUVRE. SLOPE BOTTOM OF LOUVRE TO BUILDING EXTERIOR. PROVIDE SUPPLY FAN BEHIND PLENUM C/W TRANSITIONS AS REQUIRED TO CONNECT TO PLENUM.
7. 750 W X 600 H EXHAUST LOUVRE AT HIGH LEVEL (EXACT HEIGHT TO BE DETERMINED ON SITE). 300MM DEEP INSULATED PLENUM BEHIND LOUVRE. DUCT METAL SLEEVE & INSULATION TO RUN CONTINUOUS TO LOUVRE. SLOPE BOTTOM OF LOUVRE TO BUILDING EXTERIOR. PROVIDE MOTORIZED DAMPER BEHIND PLENUM SAME SIZE AS PLENUM OPENING.
8. 450 W X 300 H FRESH AIR INTAKE LOUVRE C/W MOTORIZED DAMPER AT HIGH LEVEL (EXACT HEIGHT TO BE DETERMINED ON SITE). 300MM DEEP INSULATED PLENUM BEHIND LOUVRE. DUCT METAL SLEEVE & INSULATION TO RUN CONTINUOUS TO LOUVRE. SLOPE BOTTOM OF LOUVRE TO BUILDING EXTERIOR. PROVIDE MOTORIZED DAMPER BEHIND PLENUM SAME SIZE AS PLENUM OPENING.
9. 300 W X 300 H EXHAUST LOUVRE C/W MOTORIZED DAMPER AT HIGH LEVEL (EXACT HEIGHT TO BE DETERMINED ON SITE). 300MM DEEP INSULATED PLENUM BEHIND LOUVRE. DUCT METAL SLEEVE & INSULATION TO RUN CONTINUOUS TO LOUVRE. SLOPE BOTTOM OF LOUVRE TO BUILDING EXTERIOR. PROVIDE MOTORIZED DAMPER BEHIND PLENUM SAME SIZE AS PLENUM OPENING. PROVIDE TRANSITIONS FROM DAMPER TO EXHAUST FAN DISCHARGE AS REQUIRE.
10. FAN TO RUN CONTINUOUSLY, MOTORIZED DAMPER TO BE POWERED OPEN CONTINUOUSLY.
11. MOUNT THERMOSTAT 1500MM AFF - PROVIDE INSULATED BACK PLATE PRIOR TO MOUNTING THERMOSTAT ON WALL
12. INSULATED PUMPED CONDENSATE DRAIN PIPING TO RUN BELOW CABLE TRAYS. PROVIDE ADEQUATE SLOPE ON PIPING TO ALLOW FOR PROPER DRAINAGE.

N

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
2026-01-16
S. FARSIMOHAMMADIPOOR
100518283
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	T.K	T.K

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
MECHANICAL
GROUND FLOOR
PLAN

DRAWN	DESIGNED	CHECKED	APPROVED
JD	EZ	SF	SF

SCALE	DATE
1 : 50	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	M-101

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-M Blind River Mech.rvt

SUPPLEMENTAL COOLING UNIT SCHEDULE

			OUTDOOR UNIT											
			UNIT SELECTION			PERFORMANCE DATA				ELECTRICAL DATA			PHYSICAL DATA		
TAG	SERVICE	LOCATION	MAKE	MODEL	TYPE	NOM. CAP. kW (MBH)	DESIGN AMBIENT C (F)	MINIMUM AMBIENT C (F)	SOUND (dBA)	SUPPLY (V/Ph/Hz)	MCA (A)	MAX. BREAKER (A)	DIMENSIONS (WxDxH) mm x mm x mm (IN x IN x IN)	WEIGHT kg (LBS.)	SPECIAL REQUIREMENTS
CDU-01	ACU-01-1&2	OUTSIDE-WALL MOUNTED	MITSUBISHI	PUMY-P36NK MU4	CONDENSING UNIT	10.6 (36.0)	35 (95.0)	-34.4 -(30.0)	49	208/1/60	5.3	30	1050x330x1338 (41x13x53)	123 (271)	SEE GENERAL REQUIREMENTS #5 & #7 BELOW.
CDU-02	ACU-02-1&2	OUTSIDE-WALL MOUNTED	MITSUBISHI	PUMY-P36NK MU4	CONDENSING UNIT	10.6 (36.0)	35 (95.0)	-34.4 -(30.0)	49	208/1/60	5.3	30	1050x330x1338 (41x13x53)	123 (271)	SEE GENERAL REQUIREMENTS #5 & #7 BELOW.

			INDOOR UNIT											
			UNIT SELECTION			PERFORMANCE DATA					ELECTRICAL DATA			PHYSICAL DATA	
REF.	SERVICE	LOCATION	MAKE	MODE	TYPE	TOTAL COOLING kW (MBH)	TOTAL HEATING kW (MBH)	EAT	AIRFLOW CFM (L/S)	SOUND (dBA)	SUPPLY (V/Ph/Hz)	MCA (A)	MAX. FUSE (A)	DIMENSIONS (WxDxH) mm x mm x mm (IN x IN x IN)	WEIGHT kg (LBS.)	SPECIAL REQUIREMENTS
ACU-01-1	PUMP ROOM	CEILING SPACE	MITSUBISHI	PLFY-EP18NE MU-E	CEILING CASSETTE	5.3 (18.0)	5.9 (20.0)	27/19 (80/67)	283 (600)	31	208/1/60	0.43	15.0	949.3x298.5x949.3 (37.4x11.8x37.4)	21 (46)	SEE GENERAL REQUIREMENTS #2 TO #4 BELOW. PROVIDE SEPARATE 120/1/60, 15A SERVICE FOR CONDENSATE PUMP. UNIT TO BE HEATING AND COOLING
ACU-01-2	PUMP ROOM	CEILING SPACE	MITSUBISHI	PLFY-EP18NE MU-E	CEILING CASSETTE	5.3 (18.0)	5.9 (20.0)	27/19 (80/67)	283 (600)	31	208/1/60	0.43	15.0	949.3x298.5x949.3 (37.4x11.8x37.4)	21 (46)	SEE GENERAL REQUIREMENTS #2 TO #4 BELOW. PROVIDE SEPARATE 120/1/60, 15A SERVICE FOR CONDENSATE PUMP. UNIT TO BE HEATING AND COOLING
ACU-02-1	PUMP ROOM	CEILING SPACE	MITSUBISHI	PLFY-EP18NE MU-E	CEILING CASSETTE	5.3 (18.0)	5.9 (20.0)	27/19 (80/67)	283 (600)	31	208/1/60	0.43	15.0	949.3x298.5x949.3 (37.4x11.8x37.4)	21 (46)	SEE GENERAL REQUIREMENTS #2 TO #4 BELOW. PROVIDE SEPARATE 120/1/60, 15A SERVICE FOR CONDENSATE PUMP. UNIT TO BE HEATING AND COOLING
ACU-02-2	PUMP ROOM	CEILING SPACE	MITSUBISHI	PLFY-EP18NE MU-E	CEILING CASSETTE	5.3 (18.0)	5.9 (20.0)	27/19 (80/67)	283 (600)	31	208/1/60	0.43	15.0	949.3x298.5x949.3 (37.4x11.8x37.4)	21 (46)	SEE GENERAL REQUIREMENTS #2 TO #4 BELOW. PROVIDE SEPARATE 120/1/60, 15A SERVICE FOR CONDENSATE PUMP. UNIT TO BE HEATING AND COOLING

GENERAL REQUIREMENTS:
1. STANDARD OF ACCEPTANCE: MITSUBISHI CITY MULTI, LG AND DAIKIN
2. ALL UNITS SHALL BE COMPLETE WITH STARTER, DISCONNECT SWITCH AND AIR FILTERS. UPON CONSTRUCTION COMPLETION, REPLACE THE AIR FILTERS AND PROVIDE 1 SET OF SPARE FILTERS FOR EACH UNIT.INDOOR AC UNITS SHALL BE COMPLETE WITH INDIVIDUAL MITSUBISHI #PAC-YT53CRAU-J, REMOTE ELECTRONIC THERMOSTAT/CONTROLLERS.
3. INDOOR AC UNITS SHALL BE COMPLETE WITH INDIVIDUAL MITSUBISHI #PAR-41MAA REMOTE ELECTRONIC THERMOSTAT/CONTROLLERS. INDIVIDUAL THERMOSTAT/CONTROLLER SHALL BE EQUIPPED WITH EXTERNAL CONTACT FOR INTERFACING ENABLE/DISABLE SIGNAL AND STATUS SIGNAL.
4. INDOOR AC UNITS SHALL BE COMPLETE WITH BUILT-IN CONDENSATE PUMPS.
5. EACH CONDENSING UNIT SHALL BE EQUIPPED FOR -30F ULTRA-LOW AMBIENT OPERATIONS, INCLUDING SNOW HOOD WITH LOW-AMBIENT DAMPERS, WINDSCREENS, HEATED & INSULATED ACCUMULATORS, "ECO" CONDENSER FRAMES.
6. EACH CONDENSING UNIT SHALL INCLUDE ONE #MELCO-BEMS-MINI, BACnet IINTERFACE MODULE .
7. EACH CONDENSING UNIT SHALL BE COMPLETE WITH UNIT MANUFACTURER'S SUPPLIED WALL MOUNTING BRACKET.

ELECTRIC HEATER SCHEDULE

TAG	LOCATION / AREA SERVED	MAKE AND MODEL	TYPE	AIR OUTPUT L/S (CFM)	WIDTH/ DIAMETER mm (IN)	DEPTH mm (IN)	HEIGHT mm (IN)	SHIPPING WEIGHT KG (LBS)	ELECTRICAL DATA	KW	MCA (AMPS)	REMARKS
EDH-01	PUMP ROOM	THERMOLEC DUCT HEATER-C2CACNR0P6ICB1AAX6 MZMTSC	DUCT MOUNTED	-	350 (14)	203 (8)	305 (12)	-	600/3/60	24	-	C/W CTH291 THERMOSTAT, DS600 DUCT SENSOR, SCR. SUPPORT FROM THE CEILING
UH-1	PUMP ROOM	OUELLET VERTICAL UNIT HEATER-OAV05006AM	CEILING MOUNTED	212 (450)	587 (23)	-	203 (8)	34 (75)	600/3/60	5	-	EPOXY-POLYESTER POWDERCOAT, THERMAL PROTECTION WITH AUTO RESET - MOUNT AT 3000mm AFF - PROVIDE REMOTE THERMOSTAT
UH-2 & 3	PUMP ROOM	OUELLET UNIT HEATER-OAS03036AM	WALL MOUNTED	241 (510)	419 (17)	432 (17)	309 (12)	20 (45)	600/3/60	3	-	C/W WALL MOUNTING ADAPTER, EPOXY-POLYESTER POWDERCOAT, THERMAL PROTECTION WITH AUTO RESET - MOUNT AT 2400 mm AFF -PROVIDE REMOTE THERMOSTAT
UH-4	CHEMICAL ROOM	OUELLET UNIT HEATER-OWD05036-EP	WALL MOUNTED	331 (700)	330 (13)	390 (15 1/2)	550 (21 1/2)	30 (70)	600/3/60	5	-	C/W WALL MOUNTING ADAPTER, EPOXY-PAINTED, THERMAL PROTECTION WITH AUTO RESET - MOUNT AT 2100 mm AFF -PROVIDE REMOTE NEMA4X THERMOSTAT

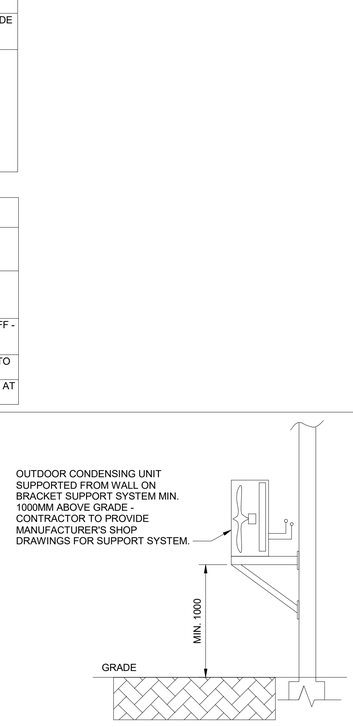
FAN SCHEDULE

TAG	SERVICE	LOCATION	MANUFACTURER	MODEL	TYPE	CAPACITY CFM (L/s)	STATIC PRESSURE in.H20 (Pa)	MOTOR SIZE POWER HP (kW)	FAN RPM	ELECTRICAL MCA	ELECTRICAL V/P/Hz	WEIGHT LBS (Kg)	COMMENTS
FAN-01	PUMP ROOM SUPPLY	PUMP ROOM	GREENHECK	SQ-9-M1-VG	IN-LINE	992 (468)	0.25 (62.21)	0.16 (0.11)	1090	3.5	120V/1PH/60	34 (15.4)	INTERLOCK WITH MD-01 AND DM-02 - COMPLETE WITH EC MOTOR & SPRING ISOLATORS
FAN-02	CHEMICAL ROOM EXHAUST	CHEMICAL ROOM	GREENHECK	SQ-90-VG	IN-LINE	220 (104)	0.25 (62.21)	0.25 (0.19)	1050	-	120V/1PH/60	36 (16)	INTERLOCK WITH MD-03 AND DM-04 - TO OPERATE CONTINUOUSLY

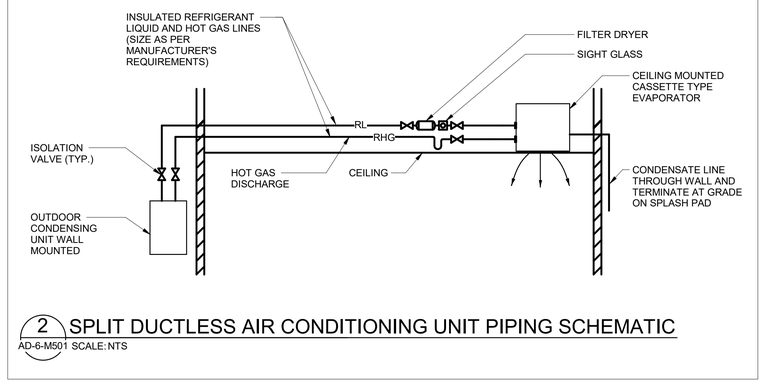
NOTES:
1. PROVIDE LOCAL DISCONNECTS AND STARTERS FOR ALL FANS.
2. STANDARD OF ACCEPTANCE: COOK, GREENHECK AND TWIN CITY

LOUVRE /GRILLE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	LOCATION	INTAKE/ EXHAUST	DIMENSIONS (W/DIAMETER W x H x D)	REQUIREMENTS
LV-01	ALUMINUM STATIONARY DRAINABLE LOUVER	VENTEX	2430	PUMP ROOM	INTAKE	750x450x100 (30x18x4)	PROVIDE INSECT AND BIRD SCREEN
LV-02	ALUMINUM STATIONARY DRAINABLE LOUVER	VENTEX	2430	PUMP ROOM	EXHAUST	750x600x100 (30x24x4)	PROVIDE INSECT AND BIRD SCREEN
LV-03	STAINLESS STEEL STATIONARY DRAINABLE LOUVER	VENTEX	2430SS	CHEMICAL ROOM	INTAKE	450x300x100 (18x12x4)	PROVIDE INSECT AND BIRD SCREEN
LV-04	STAINLESS STEEL STATIONARY DRAINABLE LOUVER	VENTEX	2430SS	CHEMICAL ROOM	EXHAUST	300x300x100 (12x12x4)	PROVIDE INSECT AND BIRD SCREEN
MD-01	ALUMINUM MOTORIZED FLANGE MOUNTED CONTROL DAMPER	VENTEX	3965	PUMP ROOM	INTAKE	750x450x200 (30x18x8)	COME WITH ACTUATOR .Belimo Model AF120-S (120V/1/60)
MD-02	ALUMINUM MOTORIZED FLANGE MOUNTED CONTROL DAMPER	VENTEX	3965	PUMP ROOM	EXHAUST	750x600x200 (30x24x8)	COME WITH ACTUATOR .Belimo Model AF120-S (120V/1/60)
MD-03	STAINLESS STEEL MOTORIZED FLANGE MOUNTED CONTROL DAMPER	VENTEX	4100-304SS	CHEMICAL ROOM	INTAKE	450x300x200 (18x12x8)	COME WITH ACTUATOR .Belimo Model AF120-S (120V/1/60). BALANCE ROOM PRESSURE TO 25 Pa BELOW AMBIENT PRESSURE
MD-04	STAINLESS STEEL MOTORIZED FLANGE MOUNTED CONTROL DAMPER	VENTEX	4100-304SS	CHEMICAL ROOM	EXHAUST	300x300x200 (12x12x8)	COME WITH ACTUATOR .Belimo Model AF120-S (120V/1/60). BALANCE ROOM PRESSURE TO 25 Pa BELOW AMBIENT PRESSURE
A-01	ALUMINUM LOUVERED FACE GRILL	EH PRICE	620DAL	PUMP ROOM	INTAKE	450x450x69 (18x18x3)	COME WITH INTEGRAL ALUMINUM DAMPER
B-01	STAINLESS STEEL LOUVERED FACE GRILL	EH PRICE	730D	CHEMICAL ROOM	EXHAUST	300x300x69 (12x8x3)	COME WITH INTEGRAL STAINLESS STEEL DAMPER



1 WALL BRACKET DETAIL FOR OUTDOOR CONDENSER UNIT
AD-6-M501 SCALE: NTS



2 SPLIT DUCTLESS AIR CONDITIONING UNIT PIPING SCHEMATIC
AD-6-M501 SCALE: NTS

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
2026-01-16
S. FARSIMOHAMMADIPOOR
100518283
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	T.K	T.K
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

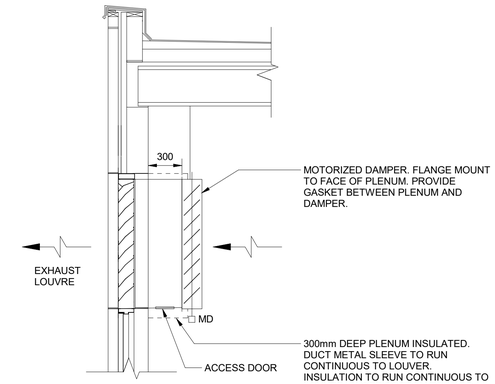
CONSULTANT: TULLOCH

PROJECT TITLE:
BLIND RIVER INTAKE AND LLPS

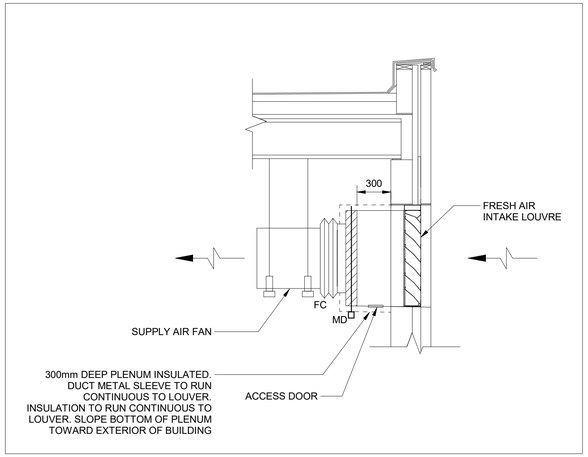
DRAWING TITLE:
MECHANICAL SCHEDULES AND DETAILS

JD	EZ	SF	SF
DRAWN	DESIGNED	CHECKED	APPROVED
As indicated		JAN 2026	
SCALE		DATE	
T001592B	0	M-501	
PROJECT NO.	REVISION	DRAWING	

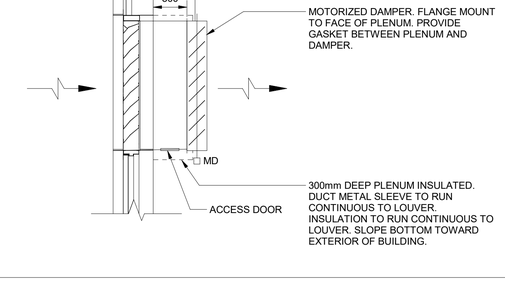
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/11592-M Blind River Mech.rvt



1 EXHAUST LOUVER/PLENUM DETAIL
SCALE: NTS



2 INTAKE FAN DETAIL
SCALE: NTS



3 INTAKE LOUVER/PLENUM DETAIL
SCALE: NTS

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	T.K	T.K

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

MECHANICAL
DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED
JD	EZ	SF	SF

SCALE	DATE
NTS	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	M-502

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-M Blind River Mech.rvt

GENERAL ELECTRICAL LEGEND

HYDRO POLE

DRAWOUT OR PLUG TYPE CONTACTS

28KV LOAD BREAK ELBOW
BUILT TO IEEE-386, COOPER POWER
OR ELASTIMOLD. PROVIDE INTEGRAL
28KV CLASS SURGE ARRESTORS

POLE MOUNTED WEATHERHEAD

TRANSFORMER - VARIABLE
:DENOTES DELTA CONNECTION
:DENOTES WYE CONNECTION WITH RESISTANCE GROUND
:DENOTES WYE CONNECTION WITH SOLID GROUND WITH SOLID GROUND

CURRENT XMR
X: QUANTITY (IF SHOWN)
Y: RATIO (IF SHOWN)
IF NOT INDICATED, PROVIDE QUANTITY & RATIO TO SUIT PHASING, COORDINATION STUDY REQUIREMENTS AND EQUIPMENT

ZERO SEQUENCE CURRENT XMR

STORED ENERGY CIRCUIT BREAKER
DRAWOUT TYPE COMPLETE WITH INTEGRAL SOLID STATE DIGITAL 50/51, 50/51G, OVERCURRENT, POWER METERING, AND ARC FLASH REDUCTION, ZONE SELECTIVITY

STORED ENERGY CIRCUIT BREAKER
FIXED TYPE COMPLETE WITH INTEGRAL DIGITAL 50/51, 50/51G, OVERCURRENT PROTECTION, POWER METERING, AND ARC FLASH REDUCTION, ZONE SELECTIVITY

CONTACTOR & OVERLOAD

FUSE

27.6KV FUSED INTERRUPTOR SWITCH

NON FUSED INTERRUPTER SWITCH

FUSED INTERRUPTOR LOAD BREAK SWITCH

FUSED CONTACTOR

CONTACTOR-XC
BC: BYPASS CONT.
CC: CAPACITOR CONT.
IC: INLINE CONT.

CIRCUIT BREAKER MOLDED CASE

CIRCUIT BREAKER
C/W THERMAL AND MAGNETIC TRIP

SOLID STATE OVERLOAD

POWER FACTOR CORRECTION CAPACITOR

MOTOR SYMBOL
"XX" DENOTES HORSEPOWER RATING

HEAVY DUTY SAFETY SWITCH
NON FUSED, 600V, 3P
X: DENOTES AMPACITY RATING AS FOLLOWS:
A = 30A (20HP)
B = 60A (50HP)
C = 100A (75HP)
D = 200A (150HP)
E = 300A
ALL DISCONNECTS TO INCLUDE A LATE MAKE, EARLY BREAK AUX. 120V, 2A STATUS CONTACT FOR VFD APPLICATIONS. WIRE THE CONTACT TO THE ENABLE INPUT OF THE RESPECTIVE VFD.
SS: DENOTES NEMA 4X STAINLESS STEEL ENCLOSURE
FRP: NOTES NEMA 4X FIBERGLASS REINFORCED POLYESTER

TYPE 'H' NON FUSED DISCONNECT
600V, 3P BRYANT MODEL 30003 IN A PVC BOX SCEPTRE TYPE FSC 15/10 C/W VSC 15/10 WEATHERPROOF TOGGLE COVER PLATE

CABLE SCHEDULE TAG

SURGE PROTECTION DEVICE

MOTOR CONTROL PANEL

JUNCTION BOX

AUTOMATIC TRANSFER SWITCH

SURGE ARRESTER STATION CLASS

BAS PUSHBUTTON STATION

TOGGLE TYPE LIGHT SWITCH

TRANSFORMER (SITE PLAN)

FUSED POTENTIAL TRANSFORMER
X: DENOTES QUANTITY

POINT OF TRANSITION FROM RIGID CONDUIT TO FLEXIBLE CONDUIT

REACTOR

COMBINATION MAGNETIC STARTER, FULL VOLTAGE NON-REVERSING BREAKER TYPE
PROVIDE EEMAC SIZE STARTER TO SUIT MOTOR HORSEPOWER APPLICATION

TWO SPEED STARTER
F=FAST
S=SLOW
PROVIDE EEMAC SIZE STARTER TO SUIT MOTOR HP AND RPM

REVERSING MOTOR STARTER
PROVIDE EEMAC SIZE STARTER TO SUIT MOTOR HP AND RPM

VFD MOTOR STARTER
NEMA RATED TO SUIT MOTOR HP.

DV/DT LOAD FILTER, MIRUS INVERSINE
600V, 3P, SIZED TO SUIT THE VFD APPLICATION

SOLID STATE SOFT STARTER
C/W BYPASS CONTACTOR, DIGITAL DISPLAY, AND PROGRAMMING LCD KEYPAD
PROVIDE EEMAC SIZE STARTER TO SUIT MOTOR HP AND RPM

DIGITAL POWER METER
C/W INTEGRAL ETHERNET COMMUNICATIONS

GENERATOR

THREE PHASE FOUR WIRE GENERATOR NEUTRAL DRAWOUT

KIRK KEY INTERLOCK

ELECTRICAL INTERLOCK

DUPLEX RECEPTACLE, 20A, NEMA 15-20R
120V U GND, COPPER ARC GUARD ENR TYPE.
WP: DENOTES WEATHER PROOF
GFCI: GROUND FAULT CIR INTERRUPTER

600V, 3PH RECEPTACLE

DIRECT CONNECTION TO EQUIPMENT

THREE PHASE MOTOR

SINGLE PHASE MOTOR

MOTOR SYMBOL

ATS CONTROLLER

3P SELECTOR SWITCH

ELECTRICAL HEATER DUCT UNIT

ENGINEERED CABLE BUS DUCT

POT HEAD

TEST POINT

MICROPROCESSOR ENGINE CONTROLLER

ELECTRONIC ARC FLASH DETECTION DEVICE

S&C SOLID STATE PROTECTION RELAY

MULTI FUNCTION RELAY
"X"= MODEL TYPE
X=1: GE MULTILIN L30 LINE
X=2: GE MULTILIN F35 LINE
X=3: GE MULTILIN SR850 FEEDER MANAGEMENT RELAY

ELAPSED TIME METER

INDUCTOR

AUTO TRANSFORMER

BUZZER

PRESSURE SWITCH

TEMPERATURE SWITCH

ULTRASONIC LEVEL ELEMENT

INDICATING LIGHT
(FOR SINGLE LINE DIAGRAM ONLY)

CONNECTION

CONCRETE ENCASED RIGID PVC DUCT
14.4/25kV AERIAL OVERHEAD LINE
UNDERGROUND CONDUIT
(SITE PLAN ONLY)

BUS CONTINUATION SYMBOL
X: DENOTES BUS/CONDUCTOR

REVERSE POWER RELAY DEVICE

THERMAL OVERLOAD RELAY DEVICE

TIMED/INST GROUND OVER CURRENT RELAY

INSTANTANEOUS OVER CURRENT RELAY DEVICE

TIMED OVER CURRENT RELAY DEVICE

TANK SUDDEN PRESSURE RELAY

LIQUID LEVEL RELAY

LOCKOUT RELAY DEVICE

DIFFERENTIAL PROTECTIVE RELAY DEVICE

LOAD SHARING & SPEED CONTROL

AUTOMATIC VOLTAGE REGULATOR

KILOWATT TRANSDUCER
BITRONICS MODEL POWERPLEX RTH
C/W MODBUS PLUS COMMUNICATIONS

VOLTAGE METER

AMMETER

FREQUENCY METER

POWER FACTOR METER

KILOWATT METER

NORMALLY OPEN PUSHBUTTON

NORMALLY CLOSED PUSHBUTTON

NORMALLY OPEN MUSHROOM HEAD PUSHBUTTON

NORMALLY CLOSED MUSHROOM HEAD PUSHBUTTON

TOGGLE SWITCH

SELECTOR SWITCH

TWO POSITION SELECTOR SWITCH
X: INDICATES CONTACT CLOSED POSITION FOR RESPECTIVE MODE

THREE POSITION SELECTOR SWITCH
X: INDICATES CONTACT CLOSED POSITION FOR RESPECTIVE MODE OFF: INDICATES ALL CONTACTS OPEN

STARTER/CONTACTOR OPERATING COIL DESIGNATION
XX=M: STARTER COIL
XX=MR: MOTOR STARTER
XX=CR: CONTROL RELAY
XX=TR: ELECTRIC TIMER COIL WITH ADJUSTABLE TIMING RANGE

NORMALLY OPEN CONTACT

NORMALLY CLOSED CONTACT
O/L DENOTES THERMAL OVERLOAD CONTACT

NORMALLY OPEN TIME-CLOSED CONTACT
(TIME DELAY ON ENERGIZATION)

NORMALLY CLOSED TIME
DELAY OPENING

NORMALLY OPEN CONTACT TIME
DELAY OPENING

NORMALLY CLOSED CONTACT TIME
DELAY CLOSING

TEMPERATURE SWITCH (NO)
CLOSE ON RISE

TEMPERATURE SWITCH (NC)
OPEN ON RISE

INDICATING LIGHT (PUSH TO TEST, C: COLOR)
C=A: AMBER C=W: WHITE
C=Y: YELLOW C=B: BLUE
C=G: GREEN C=R: RED

SOLENOID VALVE
NX=NO: NORMALLY OPEN WHEN DE-ENERGIZED
NX=NC: NORMALLY CLOSED WHEN DE-ENERGIZED

EARTH GROUND

CHASSIS GROUND

NEUTRAL GROUNDING RESISTOR (NGL)

19mm x 3000mm GROUNDING ROD

LINE BREAK

HEAT DETECTOR/SMOKE DETECTOR

SINE WAVE FILTER

COMBINATION MAGNETIC MOTOR STARTER

DISCONNECT SWITCH

EXTERIOR LIGHTING FIXTURE MOUNTED ON POLE

LEGENDS FOR EMERGENCY LIGHTING AND EXIT

BATTERY UNIT, 120VAC INPUT, 24VDC OUTPUT, 2 LED HEADS, 10 MINUTE TIME DELAY. (NEMA 12)

REMOTE EMERGENCY LIGHT FIXTURE WITH 2 LED HEADS. (NEMA 12)

EXIT PICTOGRAM SIGN, 12VDC, SINGLE FACE. ARROW, IF SHOWN, INDICATES REQUIREMENT FOR PICTOGRAM WITH DIRECTION ILLUSTRATION AND ORIENTATION (I.E. DIRECTION) (NEMA 12)

EXIT PICTOGRAM SIGN, 12VDC, DOUBLE FACES. ARROW, IF SHOWN, INDICATES REQUIREMENT FOR PICTOGRAM WITH DIRECTION ILLUSTRATION AND ORIENTATION (I.E. DIRECTION) (NEMA 12)

THREE POLE - SWITCH
3: DENOTES 3 WAY SWITCH

OUTDOOR - PHOTOCELL

OCCUPANCY SENSOR
X: SENSOR NUMBER
HUBBELL, WASP SENSOR

POLE MOUNTED SINGLE PHASE TRANSFORMER

POLE MOUNTED THREE PHASE TRANSFORMER

ACCESS CONTROL SYSTEM LEGEND

DOOR CONTACT

JUNCTION BOX

OVERHEAD DOOR CONTACT

TELECOMMUNICATION LEGEND

ANALOG PHONE

TELEPHONE OR PAGING ENCLOSURE

PAGING ANNUNCIATOR ARROW, IF SHOWN, INDICATES ANNUNCIATOR DIRECTION

PHONE

HORN

ABBREVIATIONS

AA/FA	DRY TYPE SELF COOLED/FORCED AIR COOLED
ATS	AUTOMATIC TRANSFER SWITCH
CCTV	CLOSED CIRCUIT TELEVISION SECURITY SYSTEM
CPT	CONTROL POWER TRANSFORMER
DIS	LOCAL DISCONNECT AUXILIARY POSITION STATUS CONTACT 2A, 120VAC, LATE MAKE EARLY BREAK TO SUIT VFD APPLICATIONS.
	DISTRIBUTION PANEL
FCV	FLOW CONTROL VALVE
HV-SG	DENOTES HIGH VOLTAGE SWITCHGEAR
	LIGHTING PANEL
LA	LIGHTNING ARRESTER
MCC	MOTOR CONTROL CENTER
MCP	MASTER CONTROL PANEL
MFR	MULTI FUNCTION RELAY
MMR	MOTOR MANAGEMENT RELAY
	NORMALLY CLOSED
NO	NORMALLY OPEN
OESC	ONTARIO ELECTRICAL SAFETY CODE
ONAF	OIL (FLASH POINT BELOW OR EQUAL TO 300°C) IMMERSED, FORCED AIR COOLED
ONAN	OIL (FLASH POINT BELOW OR EQUAL TO 300°C) IMMERSED, SELF COOLED
KNAF	OIL (FLASH POINT ABOVE 300°C) IMMERSED, FORCED AIR COOLED
KNAN	OIL (FLASH POINT ABOVE 300°C) IMMERSED, SELF COOLED
PFCC	POWER FACTOR CORRECTION CAPACITOR
PSDG	PEEL PUMPING STATION DESIGN GUIDELINES
RVAT	REDUCED VOLTAGE AUTOTRANSFORMER STARTER
SDBC	SOFT DRAWN BARE COPPER GROUND CONDUCTOR
SLD	SINGLE LINE DIAGRAM
SPD	SURGE PROTECTION DEVICE
VFD	VARIABLE FREQUENCY DRIVE
XXXX#####	TAG FOR NEW EQUIPMENT

GENERAL NOTES:

1. REFER TO DIVISION 1, CONTRACTOR SHALL DEVELOP AND SUBMIT A SEQUENCE OF CONSTRUCTION AND A PROJECT PLANT TO ENGINEER PRIOR TO STARTING ANY WORK.
2. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOUR, AND COORDINATION TO SET UP TEMPORARY POWER AND BELL SERVICE FOR PURPOSE OF CONSTRUCTION AND MAINTAINING A SITE OFFICE.
3. CONTRACTOR SHALL PROVIDE LABELS ON ALL EQUIPMENT PER SECTION 16090.
4. ALL CONTROL CONDUITS SHALL HAVE 20% SPARE CONTROL CONDUCTORS INSTALLED OR AT MINIMUM 1 PAIR OF EACH TYPE, WHICH EVER IS THE GREATER NUMBER.
5. ALL SAFETY SWITCHES SHALL BE HEAVY DUTY, NEMA 12 RATED FOR NON-CLASSIFIED AREAS. SAFETY SWITCHES LOCATED IN THE CHEMICAL ROOM SHALL BE HEAVY DUTY, NEMA 4X RATED.
6. ALL INDOOR ELECTRICAL AND CONTROLS CONDUIT SHALL BE RIGID PVC FOR UNLESS INDICATED OTHERWISE, SEE SECTION 16133.
7. ALL POWER DISTRIBUTION CABLE INSTALLED UNDER THIS PROJECT SHALL BE COPPER.
8. PROVIDE LIQUID TIGHT METAL ARMOUR FLEXIBLE CONDUIT FOR ALL MOTOR TERMINATIONS. FLEX CONNECTIONS NOT TO EXCEED MAX. ALLOWABLE LENGTH PERMITTED UNDER THE ONTARIO ELECTRICAL SAFETY CODE - LATEST REVISION.
9. REFERENCE P&I DRAWING LEGEND FOR DETAILED DESCRIPTION OF THE INSTRUMENTATION AND FIELD DEVICE SYMBOLS.
10. ALL NEW POWER DISTRIBUTION CABLES SHALL BE CONTINUOUS FROM PRIMARY OVER CURRENT PROTECTION SUPPLY POINT TO THE LOAD APPLICATION TERMINATION. NO SPLICES ARE PERMITTED UNLESS INDICATED OTHERWISE.
11. PROVIDE BUILDING GROUNDING AND GROUNDED CONDUCTORS TO SUIT METAL DISTRIBUTION EQUIPMENT, AS WELL AS BOND ARMORED CABLE SHEATHING AT BOTH ENDS IN ACCORDANCE WITH THE OESC LATEST REVISION.
12. THE CONTRACTOR MUST SUBMIT ELECTRICAL SHOP DRAWINGS AND COORDINATION STUDY TO THE ELECTRICAL SAFETY AUTHORITY (ESA) FOR REVIEW PRIOR TO COMMENCING WITH WORK.
13. ALL ELECTRICAL EQUIPMENT & INSTALLATION TO BE INSPECTED BY THE ESA.
14. ALL ELECTRICAL EQUIPMENT MUST BE CSA APPROVED. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ESA REVIEW AND SPECIAL INSPECTION TO FACILITATE EQUIPMENT APPROVAL INSPECTION.
15. ALL ELECTRICAL AND CONTROLS CONDUIT INSTALLED UNDER THIS PROJECT SHALL BE SURFACE MOUNTED UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
16. ALL CONDUIT ROUTES NOT SHOWN SHALL BE FINALIZED ON SITE.
17. CONTRACTOR IS REQUIRED TO PROVIDE A SHORT CIRCUIT, PROTECTION COORDINATION STUDY, IN ADVANCE OF ELECTRICAL DISTRIBUTION EQUIPMENT SHOP DRAWING SUBMISSIONS.
18. ELECTRICAL DISTRIBUTION EQUIPMENT SHOP DRAWINGS WILL BE ACCEPTED FOR REVIEW PENDING THE REVIEW OF THE SHORT CIRCUIT, PROTECTION COORDINATION STUDY BASED ON A "AS NOTED" OR "NO COMMENT" REVIEW STATUS.
19. DRAWINGS WILL BE SUBMITTED TO ESA AND ALL COMMENTS SHALL BE INCLUDED AS PART OF THE CONTRACT. CONTRACTOR IS TO ENSURE THAT ALL ESA COMMENTS IN SECTION 16010-S1 ESA PLAN REVIEW ARE ADDRESSED.
20. CONTRACTOR IS TO PROVIDE MOUNTING EQUIPMENT FOR ALL FIELD LOCAL CONTROL PANELS AND TRANSMITTERS SUCH AS PEDESTALS/POSTS, BRACKETS, AS REQUIRED. TRANSMITTERS AND FIELD LOCAL CONTROL PANELS SHOWN ON POWER LAYOUTS ARE FOR ILLUSTRATION ONLY, FINAL LOCATIONS ARE TO BE DETERMINED ON SITE WITH THE APPROVAL OF THE ENGINEER FIELD STAFF. THE CONTRACTOR IS TO CONFIRM LOCATIONS AND INSTALLATION/MOUNTING REQUIREMENTS ON SITE PRIOR TO PURCHASING ANY INSTRUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR ALL MOUNTING HARDWARE BASED ON LOCATION FINALIZED ON SITE. ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE IN mm.
21. CONTRACTOR IS TO PROVIDE HILTI OR APPROVED CERTIFIED EQUIVALENT FIRESTOP SEPARATION TO CORES ENTERING OR EXITING THE BUILDING AND WHEN CROSSING BETWEEN ROOMS LOCATED INSIDE THE BUILDING.
22. CONTRACTOR IS TO PROVIDE OPENINGS FOR THE MCCs, SWGRS, AND ALL FREESTANDING EQUIPMENT TO ENSURE THAT THE BOTTOM ENTRY CABLES, FIELD WIRING, AND COMMUNICATION CABLES ARE COORDINATED WITH THE RESPECTIVE VENDOR AND OTHER TRADES SUCH AS STRUCTURAL COLUMNS/REBARS, ETC.
23. CONTRACTOR IS TO PROVIDE TAGGING FOR ALL CONDUITS USING "CIRCULAR DISCS" AS SPECIFIED.
24. ALL RIGID PVC DUCTS TO BE BURIED MIN. 760mm BELOW FINISHED GRADE. ALL UNDERGROUND DUCTBANKS TO BE INSTALLED IN ACCORDANCE WITH OESC REQUIREMENTS.
25. RIGID PVC DBII DUCT FOR UNDERGROUND APPLICATIONS TO BE IPEX SUPER DUCT
26. ALL DUCTS TO BE TERMINATED AT BOTH ENDS WITH A "BELL END" COUPLING.
27. DUCTS TO BE JOINED TOGETHER WITH AN APPROVED COUPLING. INCLUDE EXPANSION COUPLING AS REQUIRED FOR APPLICATIONS THAT TRANSITION FROM A ONE MEDIUM TO ANOTHER (EXAMPLE BELOW GRADE TO ABOVE GRADE).
28. ADJACENT COUPLINGS SHALL BE STAGGERED BY AT LEAST 200mm.
29. WHEN COMPLETED THE DUCTS SHALL BE CLEANED AND ENDS PLUGGED WITH DUCT PLUGS. TEST DUCTS FOR CLEARANCE BY PULLING A STEEL WIRE BRUSH AND MANDRILL THROUGH THE COMPLETE LENGTH IN THE PRESENCE OF ENGINEER. MANDREL TO BE SIZED ACCORDING TO THE CONDUIT DIAMETER FOR UNDERGROUND CONDUITS THAT ARE 75mm OR GREATER.
30. EXACT LOCATION OF ALL NEW GROUND RODS SHALL BE DETERMINED ON SITE.
31. CONTRACTOR IS TO PROVIDE A LOCAL DISCONNECT SWITCH FOR EACH MOTOR POWERED FROM A SWGR, MCC, 600V DISTRIBUTION PANEL, OR A LIGHTING PANEL. CONTRACTOR IS RESPONSIBLE FOR PROVIDING POWER FEEDS FROM THE SOURCE SUCH AS A LIGHTING PANEL TO THE DISCONNECT SWITCH AND FROM THE DISCONNECT SWITCH TO THE MOTOR. THE DISCONNECT SWITCHES ARE TO BE SIZED TO SUIT THE MOTOR RATINGS. THE DISCONNECT SWITCHES NEMA RATING SHALL BE NEMA 12. ALL DISCONNECT SWITCHES ARE TO BE MOUNTED ADJACENT THE RESPECTIVE MOTOR IN A LOCATION APPROVED BY THE SITE INSPECTOR.
32. CONTRACTOR IS REQUIRED TO COORDINATE WITH EACH VENDOR TO CONFIRM VENDOR REQUIREMENTS AND RECOMMENDATIONS FOR OVER CURRENT PROTECTION, CABLING, DISCONNECTS, SWITCH SIZE, JUNCTION BOXES, LOCATION, ETC. PROVIDE REQUIRED AND RECOMMENDED ITEMS NOTED BY THE VENDOR. THE ELECTRICAL CONTRACTOR IS REQUIRED AND RESPONSIBLE FOR REVIEWING VENDOR SHOP DRAWINGS TO CONFIRM POWER REQUIREMENTS, I/O REQUIREMENTS, POWER, FLA, ETC, TO ENSURE COMPLIANCE WITH THE POWER REQUIREMENTS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS REQUIRED TO COORDINATE WITH THE VENDOR TO ENSURE THAT ALL POWER AND FIELD I/O AVAILABILITY SUITS THE INTENDED DESIGN REQUIREMENTS.
33. ANY ABANDONED PENETRATIONS INCLUDING WALL, FLOOR, CEILINGS ARE TO BE FILLED/FIRE STOPPED. ALL NEW PENETRATIONS BE FIRE STOPPED.
34. ALL NEW ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE RATED FOR SEISMIC RESTRAINT IN ACCORDANCE WITH OBC REQUIREMENTS INCLUDING MCCS, SWGRS, CABLE TRAYS, RACEWAYS, PANELS, AND CABLE BUS.
35. EACH PACKAGED EQUIPMENT DISTRIBUTION CONTROL PANEL IS TO BE PROVIDED WITH A LOCAL OVERCURRENT/DISCONNECT DEVICE.
36. CONTRACTOR IS TO SIZE THE CABLE SIZE FOR VENDOR SUPPLIED EQUIPMENT BASED ON VENDOR INSTALLATION REQUIREMENTS. CONTRACTOR IS TO PROVIDE POWER CABLE AND CONDUIT IN ACCRODANCE WITH THE SPECIFICATIONS.
37. CONFIRM AND COORDINATE ALL DATA REQUIRED FOR THE PROTECTION COORDINATION STUDY INCLUDING BUT NOT LIMITED TOO: CT/PT RATIOS, MOTOR NAMEPLATE DATA, CABLE TYPE/LENGTH, EQUIPMENT WITHSTAND RATING, UTILITY CONTRIBUTION, AND OVER-CURRENT PROTECTION DEVICE RATINGS.
38. CONFIGURATION, QUANTITIES, AND SIZES FOR ALL INTERNAL COMPONENTS SHALL BE DETERMINED BY THE MCC MANUFACTURER BASED ON APPLICATION REQUIREMENTS.
39. PROVIDE A LOCAL DISCONNECT SWITCH THAT IS RATED IN ACCORDANCE WITH THE AREA OF THE RESPECTIVE MOTOR LOCATION. DISCONNECT SWITCHES LOCATED IN THE CHEMICAL ROOM SHALL BE NEMA 4X RATED, ALL OTHER DISCONNECT SWITCHES SHALL BE NEMA 12 RATED. THE LOCAL DISCONNECT SWITCH IS TO BE INSTALLED ADJACENT TO THE MOTOR IN A LOCATION THAT IS ACCESSIBLE BY AN OPERATOR. CONTRACTOR IS RESPONSIBLE FOR MOUNTING EQUIPMENT SUCH AS STAINLESS STEEL UNISTRUTS, ETC. FINAL LOCATION FOR EACH LOCAL DISCONNECT SWITCH IS TO BE APPROVED ON SITE BY THE ENGINEER.
40. PROVIDE A LOCAL CONTROL PANEL FOR EACH MOTOR AS SHOWN IN THE WIRING DETAIL DRAWINGS. THE LOCAL CONTROL PANELS ARE TO BE INSTALLED ADJACENT TO THE MOTOR IN A LOCATION THAT IS ACCESSIBLE BY AN OPERATOR. CONTRACTOR IS RESPONSIBLE FOR MOUNTING EQUIPMENT SUCH AS STAINLESS STEEL UNISTRUTS, ETC, INCLUDING BUT NOT LIMITED TO WIRING AND CONDUITS. FINAL LOCATION FOR EACH LOCAL CONTROL PANEL IS TO BE APPROVED ON SITE BY THE ENGINEER.
41. ALL VENDOR SUPPLIED EQUIPMENT OVERCURRENT DEVICE AND BRANCH CIRCUIT CONDUCTORS ARE TO BE SIZED AS PER THE RESPECTIVE MANUFACTURER RECOMMENDATIONS. CONTRACTOR SHALL CONFIRM ALL MOTOR NAMEPLATES WITH DIVISION 11 AND DIVISION 15 EQUIPMENT PRIOR TO MANUFACTURING THE MCC. CONTRACTOR IS RESPONSIBLE FOR PROVIDING POWER AND CONTROL WIRING FROM ANY VENDOR PANEL (DIVISION 11 AND 15) TO THE RESPECTIVE MOTOR INCLUDING BUT NOT LIMITED TO CONDUITS, JUNCTION BOXES, ETC. PROVIDE FIELD WIRING FOR THE VENDOR PACKAGED EQUIPMENT IN ACCORDANCE WITH VENDOR PACKAGE SHOP DRAWINGS AND INSTALLATION INSTRUCTIONS
42. HYDRO ONE TO PROVIDE UTILITY GRADE CT/PT FOR REVENUE METERING. CONTRACTOR TO COORDINATE WITH HYDRO ONE AND ENSURE THAT SUFFICIENT SPACE IS AVAILABLE FOR CT/PT INSTALL IN THE UTILITY METER SECTION OF THE NEW MCC.
43. CONTRACTOR TO PROVIDE AND INSTALL ALL POWER AND FIELD WIRING IN ACCORDANCE WITH THE VENDOR INSTALLATION REQUIREMENTS BETWEEN THE MCC AND THE LCP AS WELL AS BETWEEN THE LCP AND RESPECTIVE MOTORS/INSTRUMENTS.
44. REFER TO THE ELECTRICAL DETAILS. CONTRACTOR TO VERIFY ALL WIRING REQUIREMENTS WITH SODIUM HYPOCHLORITE DOSING SYSTEM VENDOR PROVIDED BY DIVISION 11.
45. CONTRACTOR TO PROVIDE A 120VAC, 15A CIRCUIT FOR ALL HVAC EQUIPMENT FROM THE RESPECTIVE LIGHTING PANEL AS SHOWN ON THE SLDS AND LIGHTING PANEL SCHEDULES.
46. FOR ALL CONDUITS, CONTRACTOR IS TO PROVIDE HOT DIP GLAVANIZED STEEL SUPPORTS AND/OR STRUTS AS REQUIRED. USE STAINLESS HARDWARE IN WET OR CORROSIVE AREAS.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100946543
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

LEGEND AND GENERAL NOTES

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

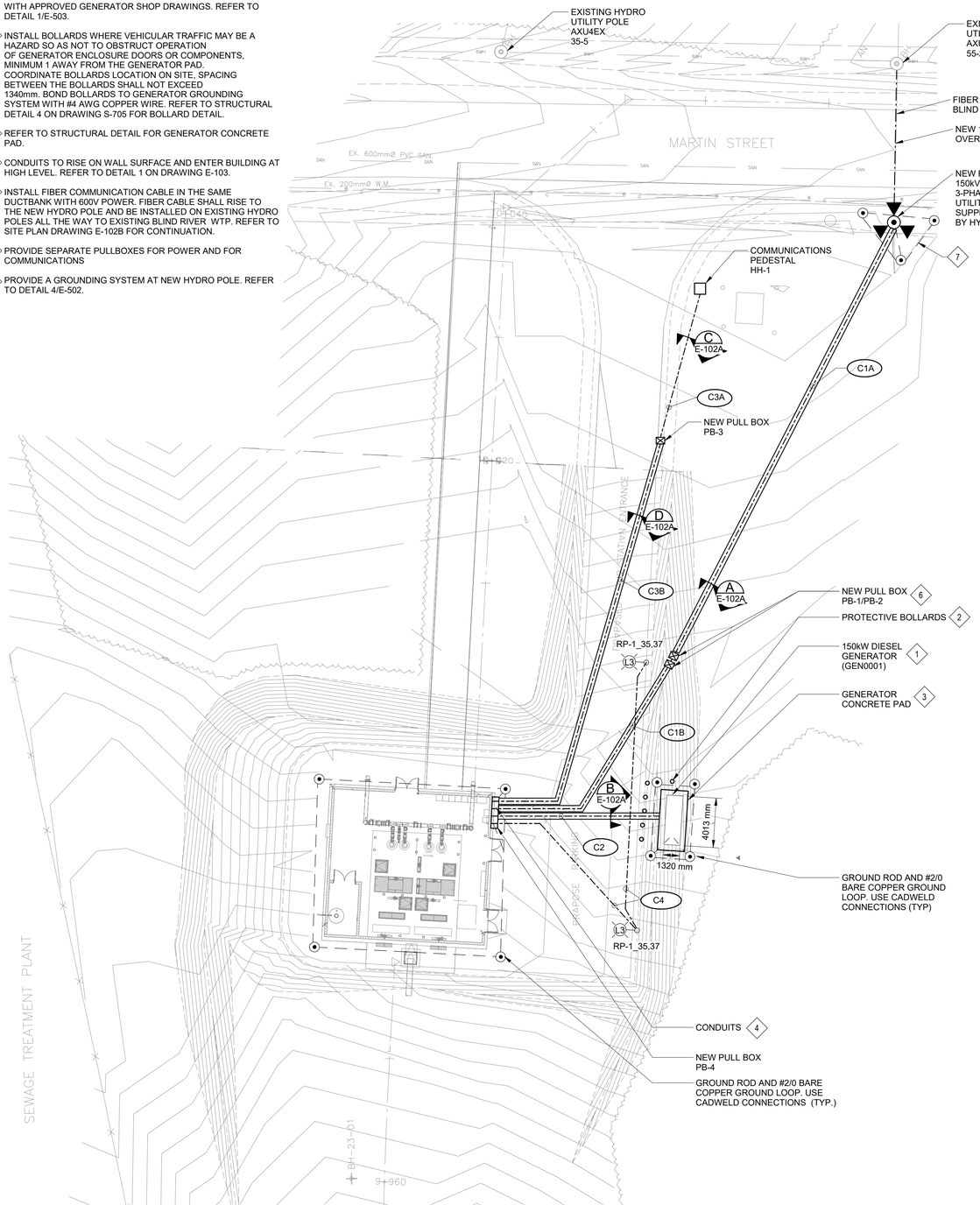
SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-001

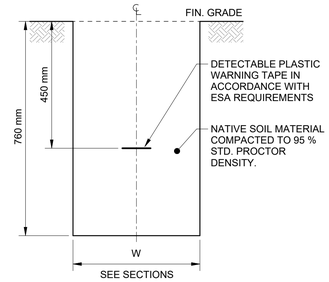
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

NOTES:

1. PROVIDE A NEW 150kW OUTDOOR GENERATOR IN SKIN TYPE SOUND ATTENUATED ENCLOSURE. PROVIDE GENERATOR FOUNDATION PER STRUCTURAL DRAWINGS, COORDINATE FOUNDATION DIMENSIONS AND CONDUIT UPTURN POSITIONS WITH APPROVED GENERATOR SHOP DRAWINGS. REFER TO DETAIL 1/E-503.
2. INSTALL BOLLARDS WHERE VEHICULAR TRAFFIC MAY BE A HAZARD SO AS NOT TO OBSTRUCT OPERATION OF GENERATOR ENCLOSURE DOORS OR COMPONENTS, MINIMUM 1 AWAY FROM THE GENERATOR PAD. COORDINATE BOLLARDS LOCATION ON SITE, SPACING BETWEEN THE BOLLARDS SHALL NOT EXCEED 1340mm. BOND BOLLARDS TO GENERATOR GROUNDING SYSTEM WITH #4 AWG COPPER WIRE. REFER TO STRUCTURAL DETAIL 4 ON DRAWING S-705 FOR BOLLARD DETAIL.
3. REFER TO STRUCTURAL DETAIL FOR GENERATOR CONCRETE PAD.
4. CONDUITS TO RISE ON WALL SURFACE AND ENTER BUILDING AT HIGH LEVEL. REFER TO DETAIL 1 ON DRAWING E-103.
5. INSTALL FIBER COMMUNICATION CABLE IN THE SAME DUCTBANK WITH 600V POWER. FIBER CABLE SHALL RISE TO THE NEW HYDRO POLE AND BE INSTALLED ON EXISTING HYDRO POLES ALL THE WAY TO EXISTING BLIND RIVER WTP. REFER TO SITE PLAN DRAWING E-102B FOR CONTINUATION.
6. PROVIDE SEPARATE PULLBOXES FOR POWER AND FOR COMMUNICATIONS
7. PROVIDE A GROUNDING SYSTEM AT NEW HYDRO POLE. REFER TO DETAIL 4/E-502.



1 ELECTRICAL SITE PLAN
SCALE: 1 : 200



2 TYPICAL DUCT BANK TOP FILL DETAIL
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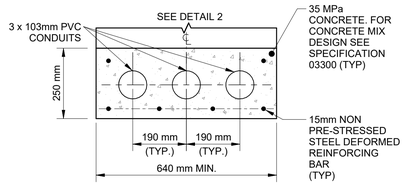
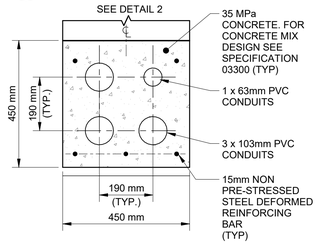


A CROSS SECTION
SCALE:N.T.S.



B CROSS SECTION
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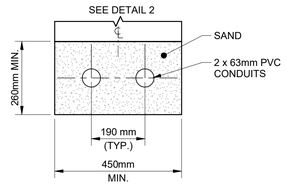

C CROSS SECTION
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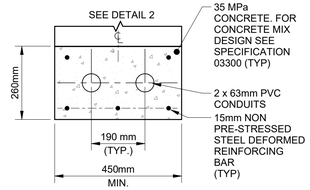


D CROSS SECTION
SCALE:N.T.S.

UNDERGROUND DUCT SCHEDULE:

TAG	DESCRIPTION	ORIGIN	DESTINATION	SECTION	COMMENTS
C1A	1 x 103mm (600V POWER) 1 x 103mm (SPARE) 1 x 103mm (COMMUNICATIONS/FIBER)	NEW MARTIN ST HYDRO ONE 150kVA UTILITY POLE-MOUNTED TRANSFORMER	NEW PULL BOX (PB-1)	A	CONCRETE ENCASED
C1B	1 x 103mm (600V POWER) 1 x 103mm (SPARE) 1 x 103mm (COMMUNICATIONS/FIBER)	NEW PULL BOX (PB-1)	NEW BUILDING	A	CONCRETE ENCASED
C2	1 x 103mm (600V POWER) 1 x 103mm (208/120V SHORE POWER & CONTROLS) 1 x 103mm (SPARE) 1 x 63mm (SPARE)	NEW GENERATOR GEN0001 ON CONCRETE PAD	NEW BUILDING	B	CONCRETE ENCASED
C3A	1 x 63mm (CAT6 COMMUNICATION) 1 x 63mm (SPARE)	COMMUNICATIONS PEDESTAL (HH-1)	NEW PULL BOX (PB-2)	C	DIRECT BURIED
C3B	1 x 63mm (CAT6 COMMUNICATION) 1 x 63mm (SPARE)	NEW PULL BOX (PB-2)	NEW MAN HOLE (MH-4)	D	CONCRETE ENCASED
C4	1 x 41mm 2 X 1/C #10 TECK90 (LIGHTING)	NEW BUILDING	LIGHTING POLE		DIRECT BURIED

SITE LIGHTING FIXTURE SCHEDULE										
TYPE	DESCRIPTION	MODEL	SOURCE TYPE	MOUNTING HEIGHT	DRIVER VOLTAGE	WATTAGE	NOMINAL LUMENS	CRI	FINISH	COLOUR TEMPERATURE
L3	POLE MOUNT LED AREA LIGHT (SINGLE)	LITHONIA LIGHTING RSX3-LED-P3-30K-R4-MVOLT-SPA EGS-DBLXD	LED	7.5m POLE MOUNT	208V	266W	32593	80	BLACK	3000K
POLE	NOVA POLE 4" STRAIGHT SQUARE STEEL	NSS42MD LENGTH; 24FT, SINGLE HEAD POWDER COATED BLACK								

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100046543
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

PROPOSED
ELECTRICAL SITE
PLAN

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
1:200	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-102A

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

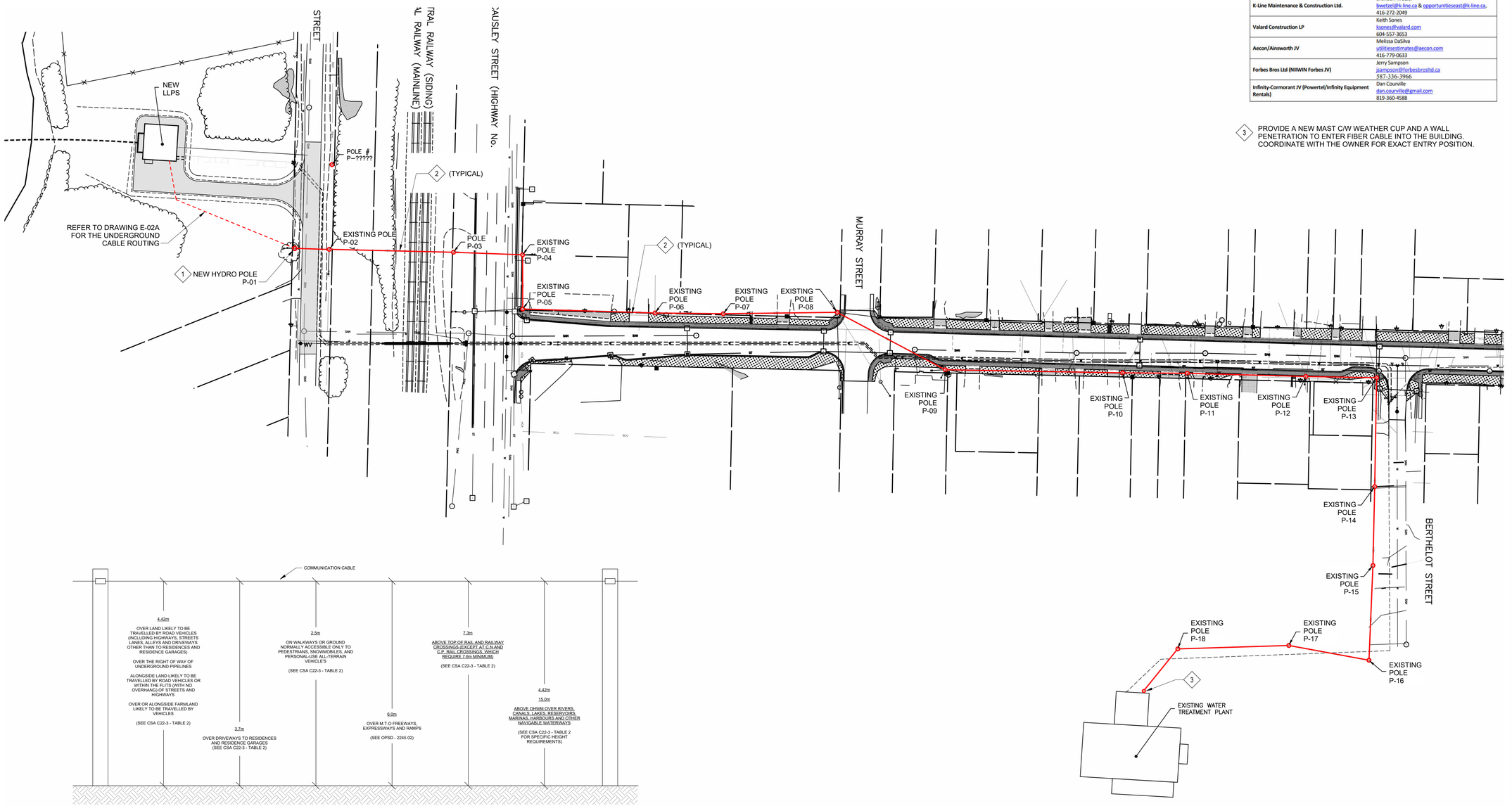
NOTES:

1. THE FIBER CABLE SHALL ORIGINATE FROM THE NEW PUMPING STATION AND APPROACH THE POLE IN U/G DUCTBANK. REFER TO SITE PLAN E-102A FOR CONTINUATION. REFER TO NETWORK ARCHITECTURE DRAWING I-603 FOR ADDITIONAL INFORMATION.

2. 12 STRANDS AERIAL FIBER, POLYETHYLENE MULTIMODE, 10 GIG OM3 OUTDOOR CABLE WITH MESSENGER WIRE. THE CABLE SHALL BE MOUNTED ON EXISTING HYDRO POLES. THE WORK SHALL BE PERFORMED BY A HYDRO ONE APPROVED CONTRACTOR AS PROVIDED; COORDINATE WORK WITH HYDRO ONE. REFER TO THE FOLLOWING FOR A LIST OF HYDRO ONE APPROVED CONTRACTORS:

Contractor Name	Contact Information
Black & McDonald Limited	Chuck Mossman cmossman@blackandmcdonald.com, 416-803-1528
Iconic Power Systems Ltd.	Barb Page bpage@conicpowersystems.com 403-463-1757
K-Line Maintenance & Construction Ltd.	Brandon Wetzel bwetzel@k-line.ca & opportunitieseast@k-line.ca, 416-272-9049
Valard Construction LP	Keith Sones ksones@valard.com 604-557-3653
Aecon/Ainsworth JV	Melissa DaSilva utilitiesestimates@aecon.com 416-779-0633
Forbes Bros Ltd (NIIWIN Forbes JV)	Jerry Sampson jsampson@forbesbrosltd.ca 587-336-3966
Infinity-Cormorant JV (Powertel/Infinity Equipment Rentals)	Dan Courville dan.courville@gmail.com 819-360-4588

3. PROVIDE A NEW MAST C/W WEATHER CUP AND A WALL PENETRATION TO ENTER FIBER CABLE INTO THE BUILDING. COORDINATE WITH THE OWNER FOR EXACT ENTRY POSITION.



NOTE: CLEARANCE NOTED ASSUME MAXIMUM LOADING CONDITIONS AT MID SPAN.

2 CABLE HEIGHT REQUIREMENTS
SCALE:N.T.S.

1 FIBRE OPTICS SITE PLAN
SCALE:1 : 750

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100946543
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

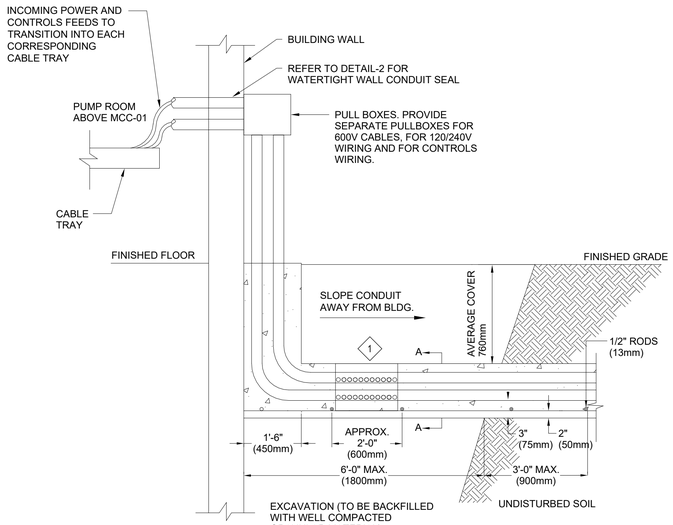
FIBER OPTIC CABLE INSTALLATION SITE PLAN

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
1:200	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-102B

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt



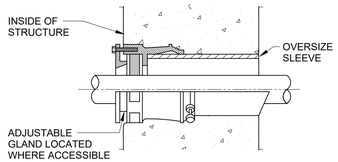
SIDE VIEW

NOTES:

1 PROVIDE AN APPROX. 2FT. BREAK IN CONCRETE ENCASEMENT AND DRILL OPENINGS IN THE BOTTOM OF THE DUCTS TO CREATE A SOAK PIT IN ORDER TO DRAIN ANY EXCESS WATER THAT MAY ACCUMULATE IN THE DUCT. PROVIDE CLEAN SCREENED SAND UNDER THE DUCT OPENINGS.

1 CONDUIT ENTRY (OUTDOOR TO INDOOR) DETAIL

SCALE:N.T.S.

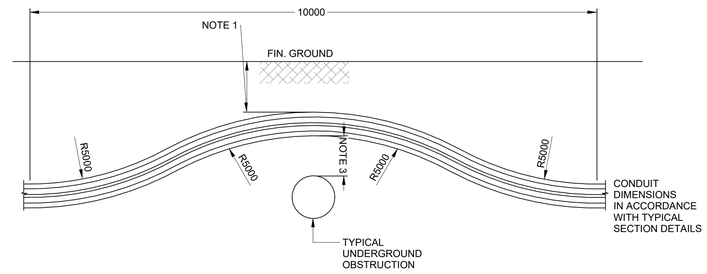


NOTES:

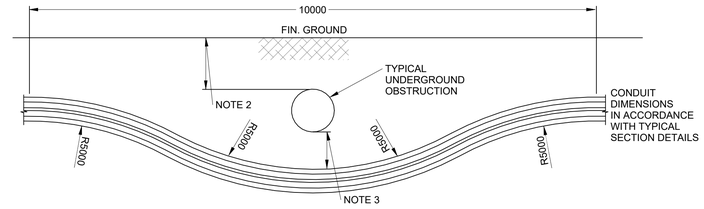
1. USE WATERTIGHT CONDUIT SEAL WHERE CONDUIT PENETRATIONS OF BUILDING EXTERIOR WALLS ARE BELOW GRADE

2 CONDUIT WATERTIGHT WALL SEAL DETAIL

SCALE:N.T.S.



DUCT BANK OBSTRUCTION DETAIL 1 (TYP.)



DUCT BANK OBSTRUCTION DETAIL 2 (TYP.)

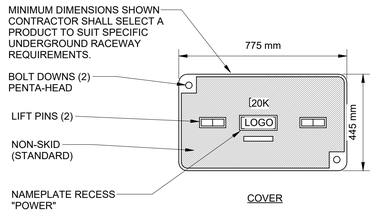
3 DUCT BANK OBSTRUCTION DETAIL

SCALE:N.T.S.

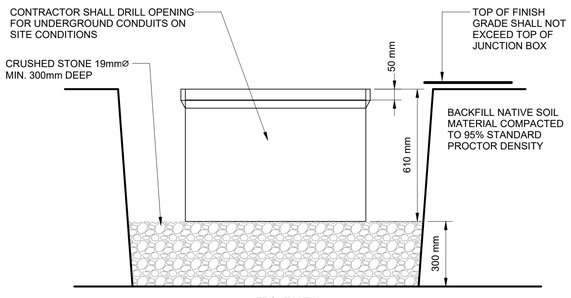
DUCT BANK NOTES:

1. UTILIZE DUCT BANK DETAIL NO.1 WHEN THERE IS SUFFICIENT COVERAGE FROM THE FINISHED GRADE TO THE TOP OF THE OBSTRUCTION TO ACCOMMODATE MIN. DUCT BANK EARTH COVERAGE AND SEPARATION FROM THE OBSTRUCTION TO SUIT THE RESPECTIVE DUCT DIMENSIONS.
2. UTILIZE DUCT BANK DETAIL NO.2 WHEN THERE IS INSUFFICIENT COVERAGE FROM THE FINISHED GRADE TO THE TOP OF THE OBSTRUCTION TO ACCOMMODATE MIN. DUCT BANK EARTH COVERAGE AND SEPARATION FROM THE OBSTRUCTION TO SUIT THE RESPECTIVE DUCT DIMENSIONS.
3. PROVIDE REQUIRED CLEARANCE BETWEEN THE DUCT BANK AND THE OBSTRUCTIONS TO SUIT THE ONTARIO ELECTRICAL SAFETY CODE AND GAS CODE AS APPLICABLE FOR DUCT BANK DETAILS NO.1 AND NO.2.

TOP VIEW



COVER



FRONT VIEW

COVER FEATURES:

1. SHEET MOLDING COMPOUND (SMC) LINING
2. 2 BOLT DOWN LOCATIONS
3. HIGH DENSITY POLYER CONCRETE (HDPC)
4. DUOMOLDING CONSTRUCTION
5. APPROXIMATE WEIGHT: 55LBS

BOX FEATURES:

1. SHEET MOLDING COMPOUND (SMC) LINING
2. 2 BOLT DOWN LOCATIONS
3. HIGH DENSITY POLYMER CONCRETE (HDPC) RING
4. APPROXIMATE WEIGHT (OPEN BOTTOM): 54 LBS

ACCEPTABLE PRODUCT:

1. NEWBASIS
2. HUBBELL QUAZITE
3. APPROVED EQUAL

NOTES:

1. CONTRACTOR TO PROVIDE PULLBOXES AS REQUIRED. DRAWINGS DO NOT SHOW PULLBOXES AND ARE INTENDED TO BE SELECTED BY THE CONTRACTOR FOR EASE OF PULLING WIRING AND CABLING FOR UNDERGROUND APPLICATIONS. PULIBOX IS NOT INTENDED FOR VEHICULAR TRAFFIC LOADS. CONTRACTOR IS NOT PERMITTED TO INSTALL PULL BOXES IN ROADWAYS.

4 TYPICAL UNDERGROUND PULLBOX DETAIL

SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100946543
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

SITE PLAN
DETAILS - SHEET 1

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-103

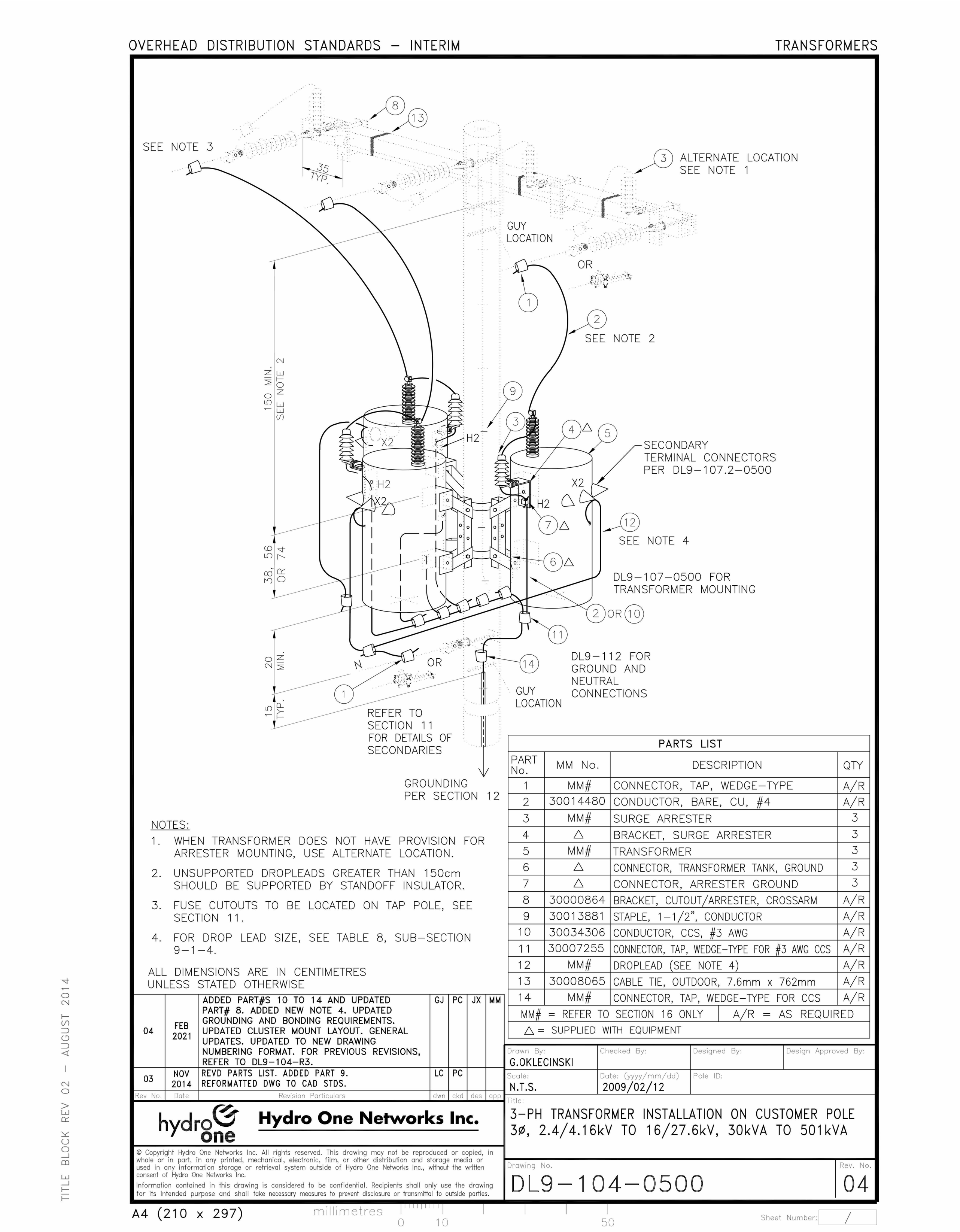
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100046543
PROVINCE OF ONTARIO

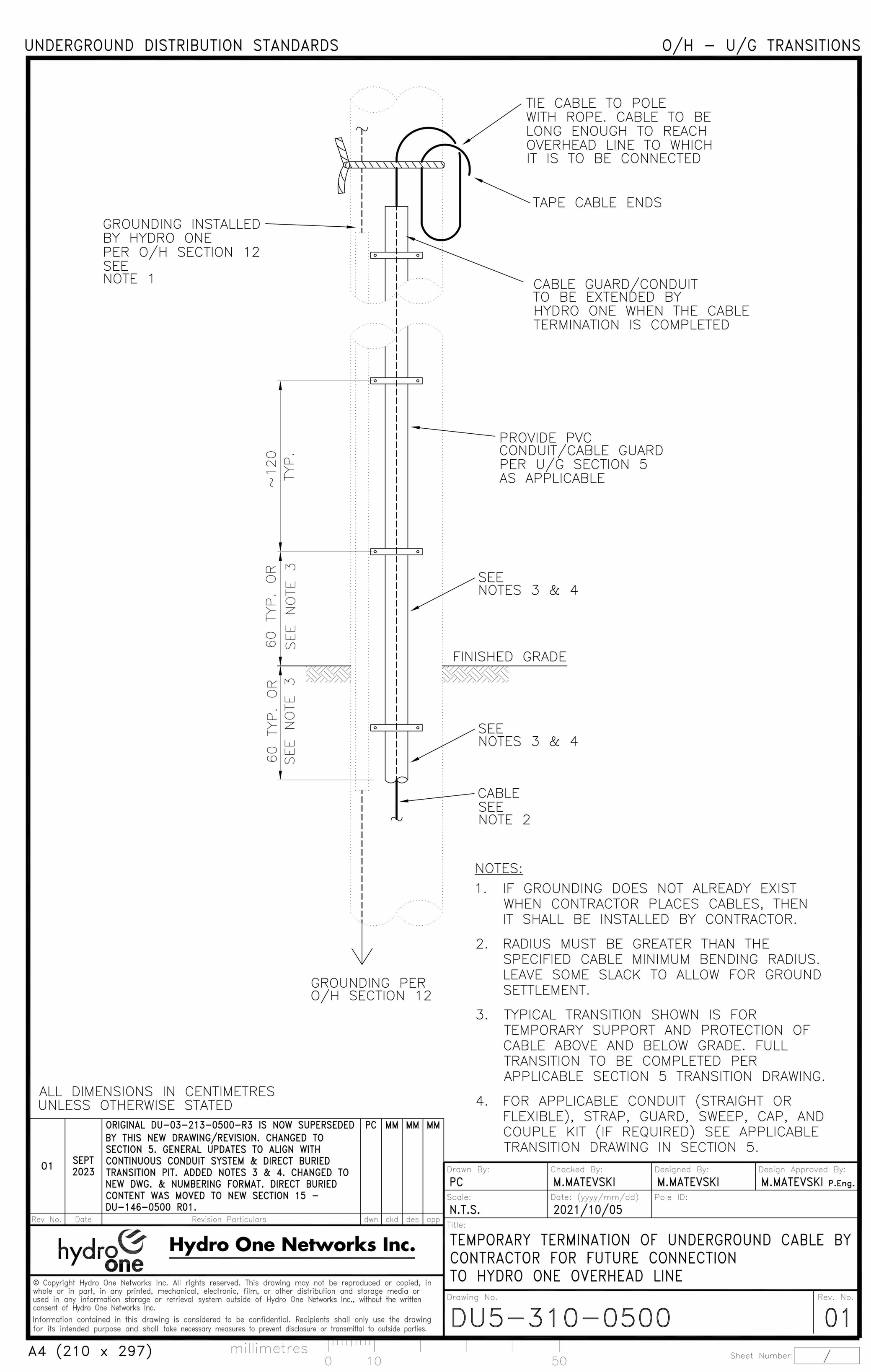


OVERHEAD DISTRIBUTION STANDARDS – INTERIM
TRANSFORMERS
SEE NOTE 3
ALTERNATE LOCATION SEE NOTE 1
GUY LOCATION
SEE NOTE 2
SECONDARY TERMINAL CONNECTORS PER DL9-107.2-0500
SEE NOTE 4
DL9-107-0500 FOR TRANSFORMER MOUNTING
DL9-112 FOR GROUND AND NEUTRAL CONNECTIONS
REFER TO SECTION 11 FOR DETAILS OF SECONDARIES
GROUNDING PER SECTION 12
NOTES:
1. WHEN TRANSFORMER DOES NOT HAVE PROVISION FOR ARRESTER MOUNTING, USE ALTERNATE LOCATION.
2. UNSUPPORTED DROPLEADS GREATER THAN 150cm SHOULD BE SUPPORTED BY STANDOFF INSULATOR.
3. FUSE CUTOUTS TO BE LOCATED ON TAP POLE, SEE SECTION 11.
4. FOR DROP LEAD SIZE, SEE TABLE 8, SUB-SECTION 9-1-4.
ALL DIMENSIONS ARE IN CENTIMETRES UNLESS STATED OTHERWISE
PARTS LIST
1 MM# CONNECTOR, TAP, WEDGE-TYPE A/R
2 30014480 CONDUCTOR, BARE, CU, #4 A/R
3 MM# SURGE ARRESTER 3
4 △ BRACKET, SURGE ARRESTER 3
5 MM# TRANSFORMER 3
6 △ CONNECTOR, TRANSFORMER TANK, GROUND 3
7 △ CONNECTOR, ARRESTER GROUND 3
8 30000864 BRACKET, CUTOUT/ARRESTER, CROSSARM A/R
9 30013881 STAPLE, 1-1/2", CONDUCTOR A/R
10 30034306 CONDUCTOR, CCS, #3 AWG A/R
11 30007255 CONNECTOR, TAP, WEDGE-TYPE FOR #3 AWG CCS A/R
12 MM# DROPLEAD (SEE NOTE 4) A/R
13 30008065 CABLE TIE, OUTDOOR, 7.6mm x 762mm A/R
14 MM# CONNECTOR, TAP, WEDGE-TYPE FOR CCS A/R
MM# = REFER TO SECTION 16 ONLY A/R = AS REQUIRED
△ = SUPPLIED WITH EQUIPMENT
Hydro One Networks Inc.
3-PH TRANSFORMER INSTALLATION ON CUSTOMER POLE 3Ø, 2.4/4.16kV TO 16/27.6kV, 30kVA TO 501kVA
G.OKLECINSKI
N.T.S.
2009/02/12
DL9-104-0500
04
A4 (210 x 297)
TITLE BLOCK REV 02 – AUGUST 2014

NOTES:

1. SUPPLY AND INSTALL TRANSFORMER POLE TO HYDRO ONE AND ESA STANDARDS INCLUDING CROSS ARM, DEAD END FRAMING AND GUYING. CONFIRM ANY ADDITIONAL REQUIRMENTS WITH HYDRO ONE.

1 3-PH TRANSFORMER INSTALLATION ON CUSTOMER POLE 3 PH, 2.4/4.16kV TO 16/27.6kV, 30kVA TO 501kVA



UNDERGROUND DISTRIBUTION STANDARDS
O/H – U/G TRANSITIONS
TIE CABLE TO POLE WITH ROPE. CABLE TO BE LONG ENOUGH TO REACH OVERHEAD LINE TO WHICH IT IS TO BE CONNECTED
TAPE CABLE ENDS
GROUNDING INSTALLED BY HYDRO ONE PER O/H SECTION 12 SEE NOTE 1
CABLE GUARD/CONDUIT TO BE EXTENDED BY HYDRO ONE WHEN THE CABLE TERMINATION IS COMPLETED
PROVIDE PVC CONDUIT/CABLE GUARD PER U/G SECTION 5 AS APPLICABLE
SEE NOTES 3 & 4
FINISHED GRADE
CABLE SEE NOTE 2
GROUNDING PER O/H SECTION 12
NOTES:
1. IF GROUNDING DOES NOT ALREADY EXIST WHEN CONTRACTOR PLACES CABLES, THEN IT SHALL BE INSTALLED BY CONTRACTOR.
2. RADIUS MUST BE GREATER THAN THE SPECIFIED CABLE MINIMUM BENDING RADIUS. LEAVE SOME SLACK TO ALLOW FOR GROUND SETTLEMENT.
3. TYPICAL TRANSITION SHOWN IS FOR TEMPORARY SUPPORT AND PROTECTION OF CABLE ABOVE AND BELOW GRADE. FULL TRANSITION TO BE COMPLETED PER APPLICABLE SECTION 5 TRANSITION DRAWING.
4. FOR APPLICABLE CONDUIT (STRAIGHT OR FLEXIBLE), STRAP, GUARD, SWEEP, CAP, AND COUPLE KIT (IF REQUIRED) SEE APPLICABLE TRANSITION DRAWING IN SECTION 5.
ALL DIMENSIONS IN CENTIMETRES UNLESS OTHERWISE STATED
Hydro One Networks Inc.
TEMPORARY TERMINATION OF UNDERGROUND CABLE BY CONTRACTOR FOR FUTURE CONNECTION TO HYDRO ONE OVERHEAD LINE
M.MATEVSKI
N.T.S.
2021/10/05
DU5-310-0500
01
A4 (210 x 297)
TITLE BLOCK REV 02 – AUGUST 2014

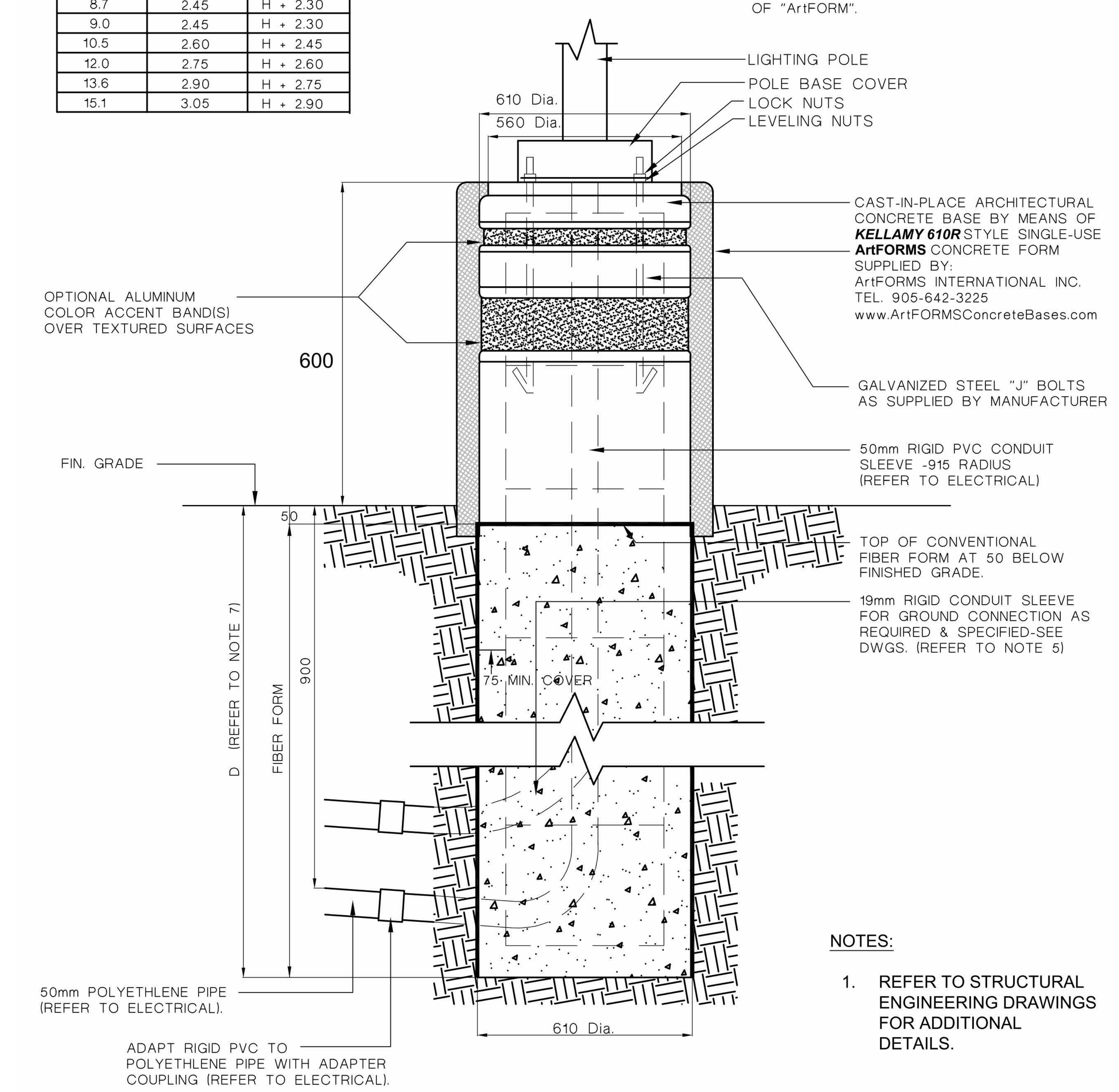
2 TEMPORARY TERMINATION OF UNDERGROUND CABLE BY CONTRACTOR FOR FUTURE CONNECTION TO HYDRO ONE OVERHEAD LINE

SCALE:N.T.S.

POLE LENGTH (m)	BASE BURIAL DEPTH D (m)	REINF. ROD LENGTH (m)
3.0	1.50	H + 1.35
5.6	2.15	H + 2.00
7.0	2.15	H + 2.00
7.5	2.15	H + 2.00
8.7	2.45	H + 2.30
9.0	2.45	H + 2.30
10.5	2.60	H + 2.45
12.0	2.75	H + 2.60
13.6	2.90	H + 2.75
15.1	3.05	H + 2.90

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES OR METRES
2. TOP OF FOUNDATION SHALL BE TROWELLED SMOOTH & LEVEL.
3. CLASS OF CONCRETE SHALL BE 25mPa. CONCRETE SHALL BE VIBRATED.
4. MINIMUM OF TWO SLEEVES REQUIRED FOR EACH CONC. FOUNDATION UNLESS OTHERWISE SHOWN.
5. PROVIDE A 19mm DIA. 3000mm STEEL COPPER COATED GROUND ROD ADJACENT TO POLES AS SPECIFIED ON PLAN AND CONNECT TO METAL POLE WITH BARE COPPER CONDUCTOR.
6. CONTRACTOR TO VERIFY OPENING SIZE IN POLE BASE PLATE PRIOR TO SETTING CONDUIT SLEEVES.
7. SUBJECT TO SOIL CONDITIONS, REFER TO SOIL REPORT.
8. FORM RELEASE AGENT HAS BEEN FACTORY-APPLIED TO INSIDE SURFACE OF "ArtFORM".



LIGHTING POLE
POLE BASE COVER
LOCK NUTS
LEVELING NUTS
610 Dia.
560 Dia.
CAST-IN-PLACE ARCHITECTURAL CONCRETE BASE BY MEANS OF KELLAMY 610R STYLE SINGLE-USE ArtFORMS CONCRETE FORM SUPPLIED BY: ArtFORMS INTERNATIONAL INC. TEL. 905-642-3225 www.ArtFORMSConcreteBases.com
OPTIONAL ALUMINUM COLOR ACCENT BAND(S) OVER TEXTURED SURFACES
600
GALVANIZED STEEL "J" BOLTS AS SUPPLIED BY MANUFACTURER
FIN. GRADE
50mm RIGID PVC CONDUIT SLEEVE -915 RADIUS (REFER TO ELECTRICAL)
50
TOP OF CONVENTIONAL FIBER FORM AT 50 BELOW FINISHED GRADE
19mm RIGID CONDUIT SLEEVE FOR GROUND CONNECTION AS REQUIRED & SPECIFIED-SEE DWGS. (REFER TO NOTE 5)
D (REFER TO NOTE 7)
FIBER FORM
900
75 MIN. COVER
50mm POLYETHLENE PIPE (REFER TO ELECTRICAL)
ADAPT RIGID PVC TO POLYETHLENE PIPE WITH ADAPTER COUPLING (REFER TO ELECTRICAL)
610 Dia.

NOTES:

1. REFER TO STRUCTURAL ENGINEERING DRAWINGS FOR ADDITIONAL DETAILS.

3 ArtFORMS LIGHTING POLE BASE FOR LUMINAIRE TYPE L3

SCALE:N.T.S.

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER INTAKE AND LLPS

DRAWING TITLE:

SITE PLAN DETAILS - SHEET 2

DRAWN	DESIGNED	CHECKED	APPROVED
JP	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-104

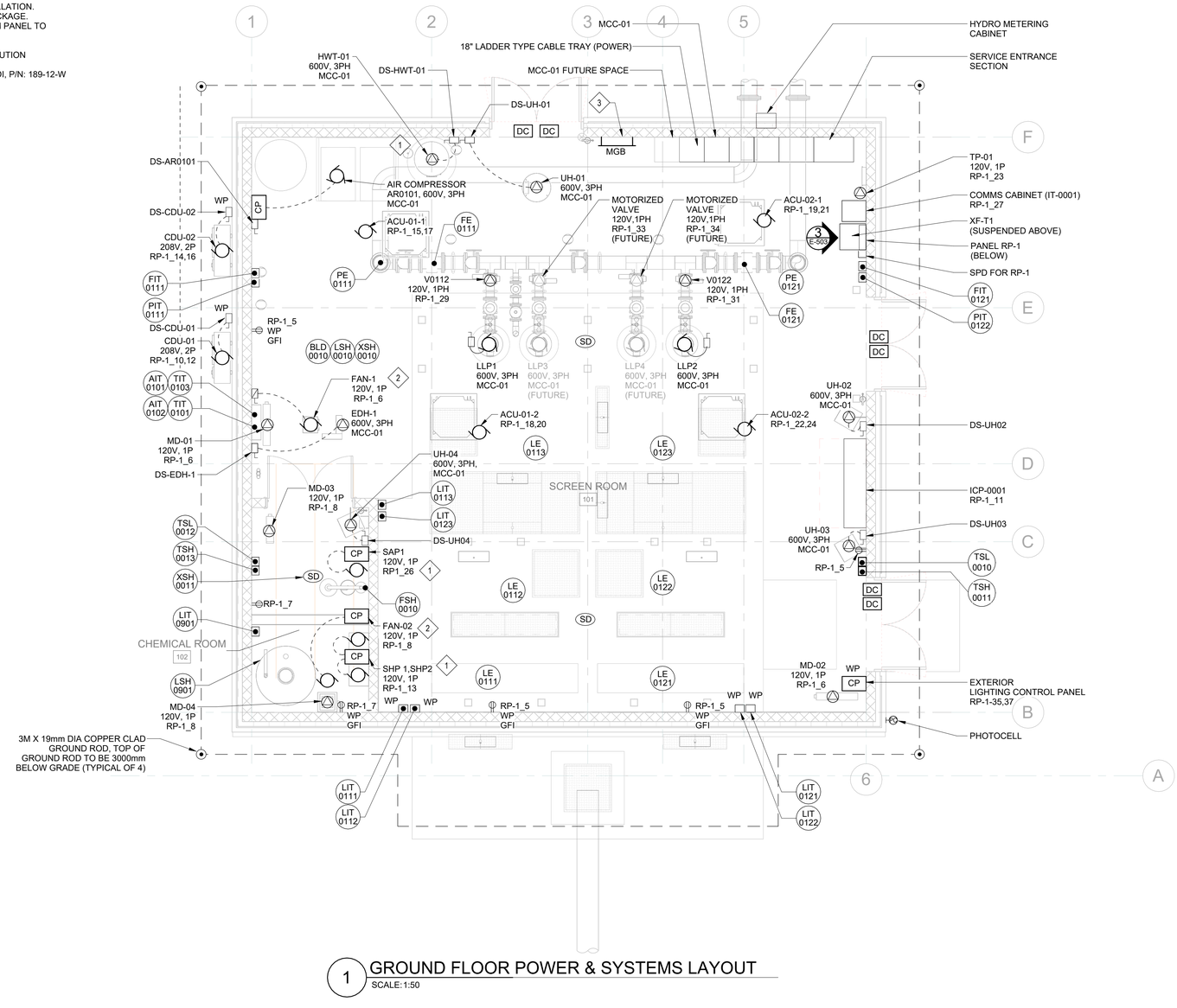
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

NOTES:

1. CONDUIT ROUTES FOR ALL LOW VOLTAGE 120/208V EQUIPMENT / INSTRUMENTS ARE NOT SHOWN ON ANY OF THE POWER LAYOUTS AND SHALL BE FINALIZED ON SITE.
2. LOCATION FOR ALL NEW INSTRUMENTS AND EQUIPMENT SHALL BE ADJUSTED AND FINALIZED ON SITE.
3. REFER TO MECHANICAL DRAWINGS FOR DETAILED MECHANICAL EQUIPMENT LOCATIONS.
4. PROVIDE A LOCAL DISCONNECT SWITCH AT EACH MOTOR LOCATION. THE LOCAL DISCONNECT SWITCH IS TO BE INSTALLED ADJACENT TO THE MOTOR IN A LOCATION THAT IS ACCESSIBLE BY AN OPERATOR. CONTRACTOR IS RESPONSIBLE FOR MOUNTING EQUIPMENT SUCH AS STAINLESS STEEL UNISTRUTS, ETC. FINAL LOCATION FOR EACH LOCAL DISCONNECT SWITCH IS TO BE APPROVED ON SITE BY THE ENGINEER.
5. THE PANELS SHALL NOT EXCEED THE NOTED DIMENSIONS GIVEN THE CONSTRAINTS OF THE SPACE.
6. CHLORINE ANALYZER ELEMENTS ARE TO BE INSTALLED IN THE MAIN FLOOR CLOSE TO THE TRANSMITTERS. LOCATION IS TO BE VERIFIED AND APPROVED BY THE ENGINEER.
7. REFER TO PROCESS DRAWINGS FOR LOCATION OF MOTORIZED VALVES AND OTHER PROCESS EQUIPMENT SUCH AS LEVEL/FLOW INSTRUMENTATION ETC.
8. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS OF OTHER HVAC EQUIPMENT. ALL HVAC EQUIPMENT INCLUDING HEATERS ARE SUPPLIED UNDER DIV 15 AND INSTALLED BY DIV 16.
9. PROCESS PIPING IS NOT SHOWN FOR CLARITY. REFER TO PROCESS DRAWINGS AND P&IDS FOR ADDITIONAL INFORMATION WHEN INSTALLING INSTRUMENTS.
10. VERIFY AND FINALIZE LOCATIONS AT ALL FIELD INSTRUMENTS ON SITE BEFORE INSTALLATION.
11. HYPO PUMP CONTROL PANEL IS PROVIDED BY DIV 11 AS PART OF THE HYPO PUMP PACKAGE. CONTRACTOR TO INSTALL POWER AND CONTROL WIRING TO THE PANEL. WIRING FROM PANEL TO HYPO PUMPS IS BY THE SUPPLIER.
12. DISCONNECT SWITCH LOCATIONS MAY BE ADJUSTED ON SITE AS REQUIRED.
13. PROVIDE A 100mm HOUSEKEEPING PAD FOR ALL FREE STANDING ELECTRICAL DISTRIBUTION EQUIPMENT AND PANELS.
14. CONTRACTOR TO PROVIDE AND INSTALL ONE (1) DOOR CONTACT (MANUFACTURER: ADI, P/N: 189-12-W SERIES OR APPROVED EQUAL) ON EACH HINGED DOOR.

DRAWING NOTES:

1. CONTROL PANEL IS SUPPLIED BY EQUIPMENT VENDOR AND INSTALLED AND WIRED BY DIV.16.
2. CONTROL PANEL IS PROVIDED BY DIV.16. REFER TO DRAWING E-505
3. PROVIDE WALL MOUNTED COPPER MAIN GROUND BAR, REFER TO DETAIL 2/E-502.



1 GROUND FLOOR POWER & SYSTEMS LAYOUT
SCALE:1:50

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER 01/20/2026 D. TODOROVIC 100540350 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER 2026-01-20 D. CHILOV 100946543 PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

ELECTRICAL
POWER &
SYSTEMS
LAYOUTS

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED

1:50	JAN 2026
SCALE	DATE

T001592B	0	E-108A
PROJECT NO.	REVISION	DRAWING

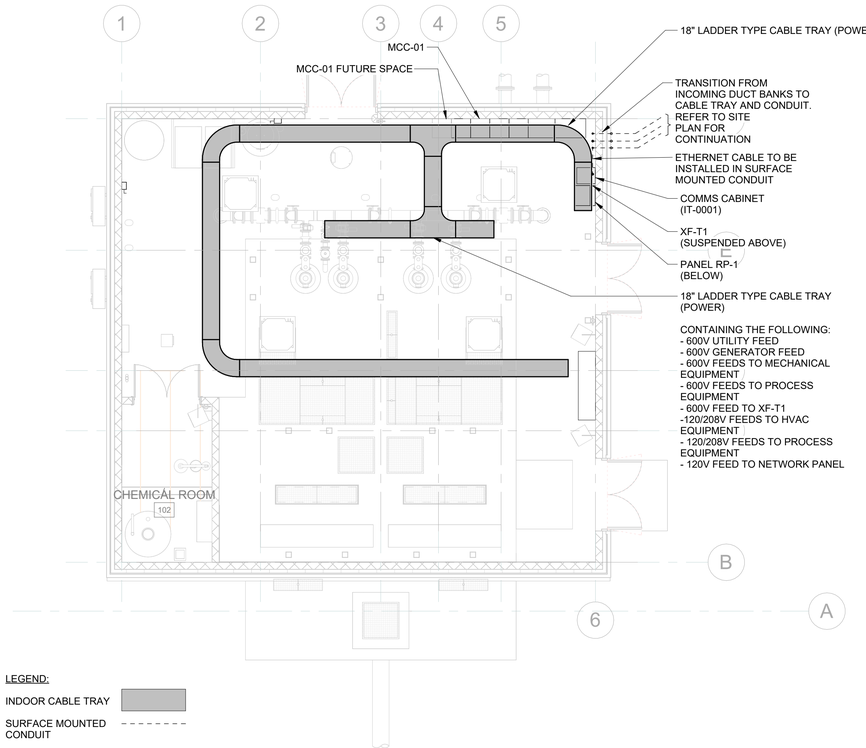
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

NOTES:

1. PROVIDE ALL NECESSARY FITTINGS FOR ADEQUATE CABLE SUPPORT AND BENDING RADIUS PRIOR TO INSTALL OF CABLES. SUPPORTS SHALL BE NON-COMBUSTIBLE TYPE.
2. ALLOW FOR A MINIMUM OF 300MM VERTICAL CLEARANCE ABOVE THE TRAY FOR FUTURE ACCESSIBILITY. REDUCED CLEARANCES SHALL BE PERMITTED IN AREAS WHERE CABLE TRAY IS TRANSITIONING THROUGH A CHASE OR UNDER A SHORT LENGTH OBSTRUCTION. OBTAIN APPROVAL FROM THE ENGINEER FOR SEGMENTS REQUIRING REDUCED CLEARANCE PRIOR TO INSTALL.
3. THE CABLE TRAY INSTALLATION SHALL COMPLY WITH ADDITIONAL REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE OESC AND RECOMMENDED MANUFACTURER INSTALLATION GUIDELINES.
4. MAINTAIN A MINIMUM OF 300MM CLEARANCE BETWEEN TOP OF CABLE TRAY AND UNDERSIDE OF CEILING AND/OR OTHER CABLE TRAY.
5. PROPOSED CONDUIT AND CABLE TRAY ROUTES ARE SHOWN FOR ILLUSTRATION PURPOSES AND PRICING. ELECTRICAL CONTRACTOR IS TO COORDINATE WITH ALL TRADES AND TO FINALIZE A PROPOSED ROUTING IN A SHOP DRAWING FOR A FINAL REVIEW WITH THE ENGINEER. CABLE TRAY OR CONDUIT LAYOUT ALTERNATES MAY BE PROPOSED FOR FINAL APPROVAL PROVIDED THAT THERE IS NO ADDITIONAL COSTS TO THE OWNER.
6. CONDUITS ARE TO DROP DOWN FROM THE CEILING FOR INSTRUMENTS AND EQUIPMENT NOT SHOWN ON THE FLOOR SLAB. EXACT CONDUITS AND ROUTING ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR IS TO PROVIDE PROPOSED CEILING ROUTING TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION. CONTRACTOR IS TO AVOID CONDUIT ROUTING THAT WILL OBSTRUCT LIGHTING COVERAGE.
7. ELECTRICAL CONTRACTOR TO PROVIDE CABLES AND CONDUIT FROM OUTDOOR (CONDENSER) UNIT TO INDOOR (AC) UNIT AS REQUIRED.
8. CABLE TRAY SIZES ARE SUGGESTED SIZES. CONTRACTOR SHALL ADJUST AS REQUIRED TO SUIT APPLICATION.
9. CONTRACTOR IS TO RELOCATE CEILING MOUNTED LIGHTING FIXTURES THAT ARE OBSTRUCTED BY THE CABLE TRAYS. ROUTE CABLE TRAYS AS NEEDED BELOW PIPING AND/OR ANY OBSTRUCTION. TRANSITION TO TOP OF CEILING WHEN THE OBSTRUCTION IS CLEAR.
10. CONTRACTOR TO PROVIDE A CABLE TRAY ROUTE PLAN PRIOR TO DRILLING/CORING THROUGH WALLS, STAIRS, OR FLOOR.
11. EXAMINE THE PROPOSED ROUTING TO CONFIRM INSTALLATION REQUIREMENTS, INCLUDING PENETRATIONS, SUPPORTS, AND CLEARANCES TO EXISTING SERVICES AND EQUIPMENT TO FACILITATE THE NEW CABLE TRAY APPLICATIONS.
12. PROVIDE A ROUTING PLAN FOR THE NEW CABLE TRAY FOR REVIEW PRIOR TO INSTALLATION. CABLE TRAY TO BE ROUTED ABOVE THE 600V MCC TO FACILITATE TOP ENTRY OF THE POWER CONDUCTORS.
13. UTILIZE CABLE TRAY FITTINGS AND REDUCERS AS REQUIRED FOR PENETRATIONS AND TO AVOID OBSTRUCTIONS.
14. CONTRACTOR TO ENSURE CABLE TRAY IS ROUTED TO AVOID INSTALLING CABLE TRAY BENEATH LIQUID PIPES WHERE POSSIBLE AND TO ENSURE COMPLIANCE WITH OESC.
15. SURFACE MOUNTED WIRE AND CONDUIT SHALL ONLY BE ACCEPTABLE FOR LIGHTING AND RECEPTACLE CIRCUITS FROM ELECTRICAL PANEL RP-1.
16. RECEPTACLE AND LIGHTING WIRING INSIDE OF THE CHEMICAL ROOM SHALL BE INSTALLED IN CORROSION RESISTANCE NEMA 4X SURFACE MOUNTED CONDUIT. ALL OTHER WIRING INSIDE OF THE CHEMICAL ROOM SHALL BE SURFACE MOUNTED TECK CABLE. CABLE TRAY IS NOT ACCEPTABLE.
17. FOR CONTROLS CABLE TRAYS, CONTRACTOR SHALL PROVIDE A METAL BARRIER WHICH SEPARATES ANALOG CONTROLS WIRING FROM DIGITAL CONTROLS AND 120VAC POWER WIRING.

DRAWING NOTE:

1. PROVIDE 1" SURFACE MOUNTED CONDUIT FOR AC INDOOR/OUTDOOR UNIT CONTROLS WIRING.

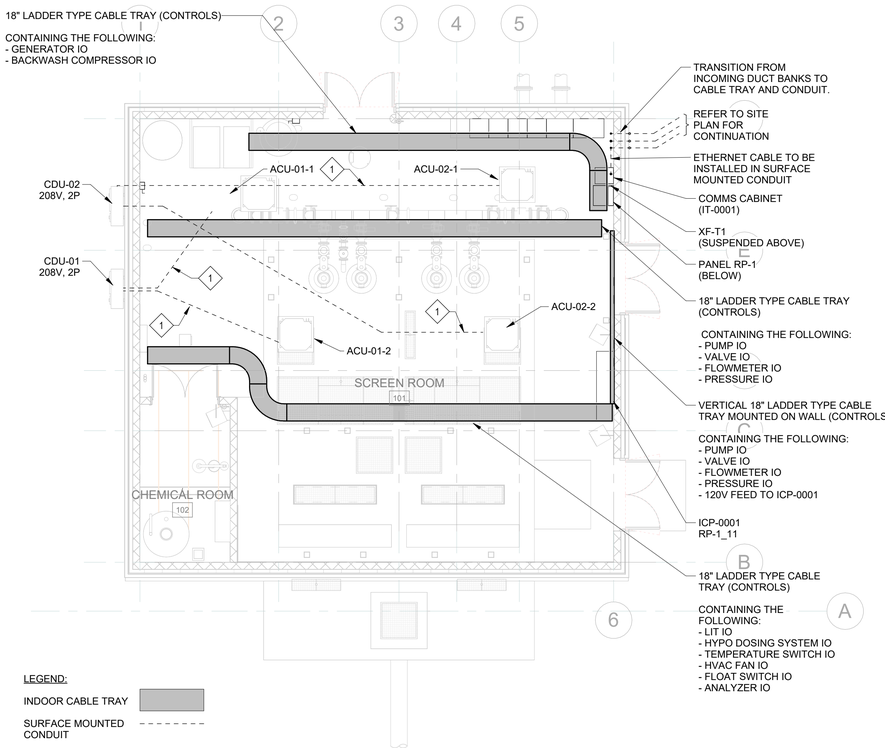


LEGEND:

INDOOR CABLE TRAY

SURFACE MOUNTED CONDUIT

1 GROUND FLOOR POWER CABLE TRAY / CONDUIT
SCALE: 1 : 75



LEGEND:

INDOOR CABLE TRAY

SURFACE MOUNTED CONDUIT

2 GROUND FLOOR CONTROLS CABLE TRAY / CONDUIT
SCALE: 1 : 75

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100946543
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

ELECTRICAL
CABLE TRAY &
CONDUIT LAYOUT

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED

1 : 75	JAN 2026
SCALE	DATE

T001592B	0	E-108B
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

LIGHTING FIXTURE SCHEDULE

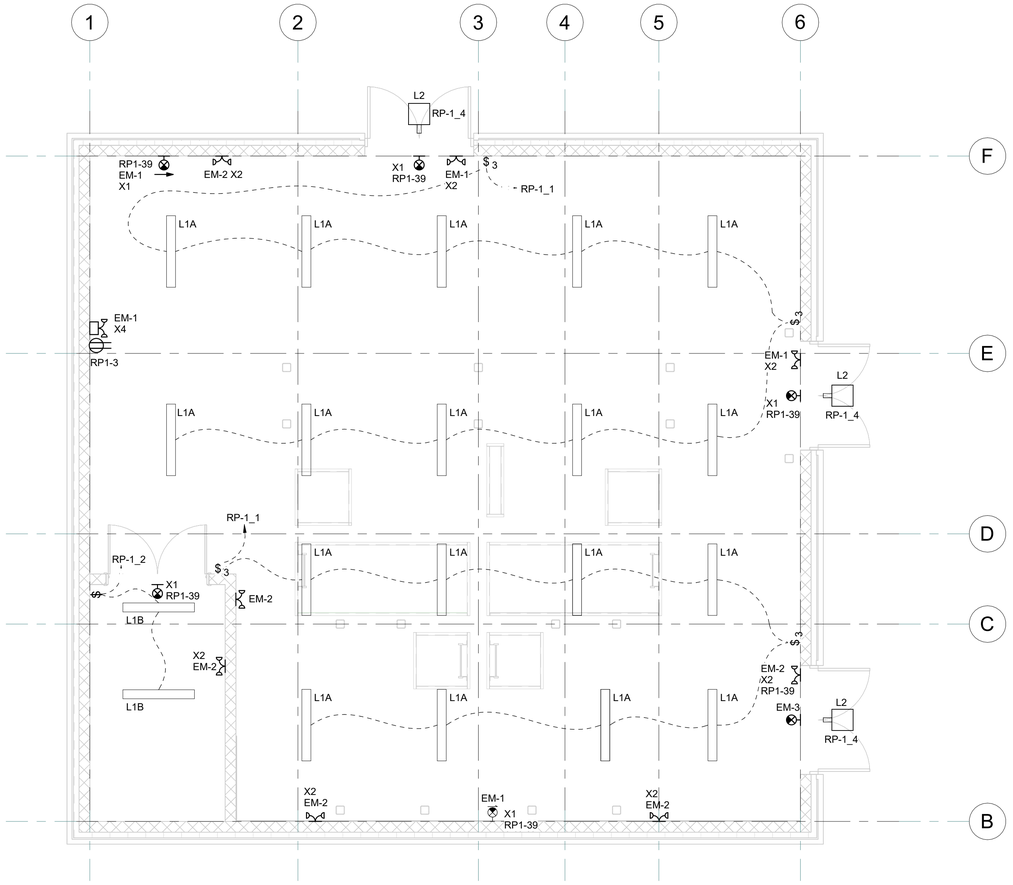
SYMBOL	TYPE	INITIAL LUMENS (lm)	VOLTAGE	POWER (W) PER FIXTURE	LENS	MOUNTING	COLOR TEMPERATURE	CRI	ACCEPTABLE PRODUCT (OR APPROVED EQUAL)
L1A	48" VAPOR TIGHT LED STRIP LIGHT	6000	120V	49 W	FROSTED POLYCARBONATE LENS	SURFACE MOUNTED ON CEILING	4000K LED	80	LITHONIA LIGHTING CSVT-L48-6000LM-MVOLT-40K-80CRI
L1B	48" VAPOR TIGHT LED STRIP LIGHT	5000	120V	42 W	FROSTED POLYCARBONATE LENS	SURFACE MOUNTED ON CEILING	4000K LED	80	LITHONIA LIGHTING CSVT-L48-5000LM-MVOLT-40K-80CRI
L2	LED WALLPACK C/W PHOTOCELL	8661	120V	59 W	ACRYLIC PRECISION REFRACTIVE LENS	SURFACE MOUNTED ABOVE THE DOOR	3000K LED	80	LITHONIA LIGHTING WDGE3-LED-P2-30K-80CRI-R3-MVOLT-SRM

EMERGENCY LIGHTING FIXTURE SCHEDULE

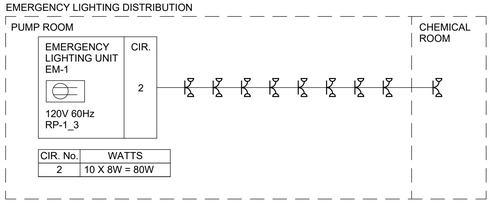
TYPE	DESCRIPTION	MANUFACTURER	MODEL	SOURCE TYPE	MOUNTING HEIGHT (m)	DRIVER VOLTAGE	WATTAGE	NOMINAL LUMENS	CRI	FINISH	COLOUR TEMPERATURE
X1	SELF POWERED EXIT SIGN	LUMACELL	LA-1-W-S	LED	ABOVE DOOR	120 V	2.5 W			WHITE	
X2	REMOTE DOUBLE HEAD	LUMACELL	MQMP2NC-LD14	LED	2.4m WALL MOUNTED	24 V	6 W			WHITE	
X4	EMERGENCY BATTERY UNIT C/W DOUBLE HEAD	LUMACELL	RG24S-200-2-LD14-AT-TMBD	LED	2.4m WALL MOUNTED	120/24 V	6 W			WHITE	

LIGHTING SYMBOLS LEGEND

- SURFACE OR SUSPENDED MOUNTED LUMINAIRE, 305mm x 1220mm (1' x 4')
- EXTERIOR MOUNTED LUMINAIRE
- PC — PHOTOCELL
- WALL MOUNTED EXIT SIGN
- CEILING MOUNTED EXIT SIGN
- WALL MOUNTED EMERGENCY LIGHT REMOTE HEAD (# LAMPS AS SHOWN)
- WALL MOUNTED EMERGENCY LIGHT BATTERY PACK (# LAMPS AS SHOWN)
- $ — LINE VOLTAGE SWITCH
- $3 — LINE VOLTAGE THREE WAY SWITCH



EMERGENCY LIGHTING DISTRIBUTION



CIR. No.	WATTS
2	10 X 8W = 80W

EMERGENCY LIGHTING BATTERY LOADS

REFERENCE	LOCATION	MIN. RUN TIME	EMERGENCY LIGHTS		TOTAL LOAD	CAPACITY	VOLTAGE
EM-1	PUMP ROOM/CHEMICAL ROOM	30 MINUTES	9W	X 12W	108W	200W	24 VDC

1 ELECTRICAL LIGHTING LAYOUT
SCALE: 1 : 50

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100046543
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

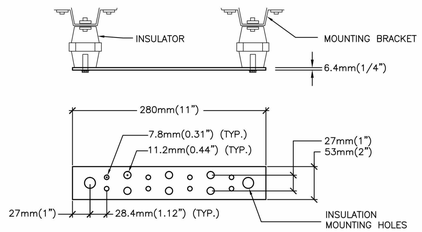
ELECTRICAL
LIGHTING LAYOUT

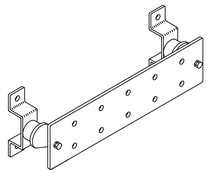
DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
As indicated	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-109

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt





DRAWING SYMBOL

NOTES

1 GROUNDING BUS BAR SHALL BE MOUNTED ON WALL AT 2m(80") A.F.F.

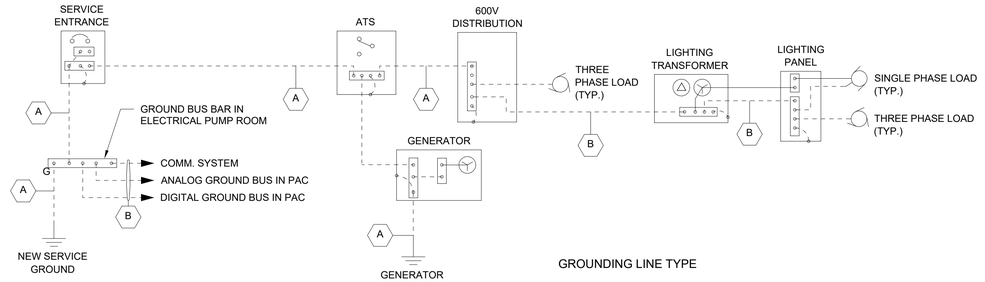
2 GROUNDING BUS BAR KIT SHALL BE PANDUIT GB280304TPI OR EQUIVALENT.

3 PANDUIT GROUNDING BUS BAR KIT COMES FULLY ASSEMBLED.
KIT INCLUDES:
BUSBAR – QTY. 1
MOUNTING BRACKET QTY. 2
INSULATORS – QTY. 2
9.5mm(3/8") FLAT WASHERS – QTY. 4
9.5mm(3/8") LOCK WASHERS – QTY. 4
9.5mm X 15.9mm(3/8" X 5/8") CAP SCREWS – QTY. 2
9.5mm X 31mm(3/8" X 3/4") CAP SCREWS – QTY. 2

4 ALL ITEMS (GROUNDING BUS BAR KIT, BONDING BACKBONE WIRE, ETC) BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.

5 ELECTRICAL CONTRACTOR TO TIE–IN GROUND BUS BAR TO BASE BUILDING MAIN GROUND LOCATED IN THE BASE BUILDING ELECTRICAL ROOM, SIZES AS PER SCHEDULE ABOVE.

2 MAIN GROUND BAR
SCALE:N.T.S.



CABLE SCHEDULE:

A #2/0 AWG, RWU90, 1000V GREEN OR 300A BUS

B #6 AWG, RW90, 1000V GREEN

GROUNDING LINE TYPE

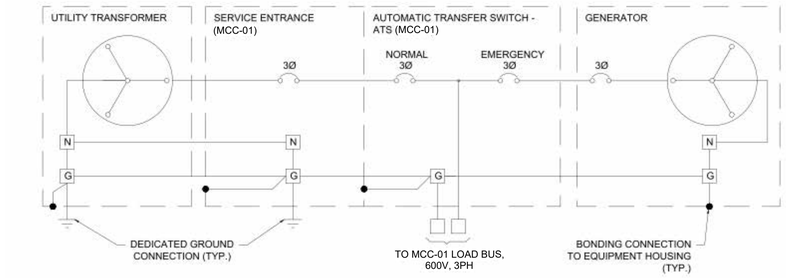
NEUTRAL CONDUCTORS

GROUNDING/BONDING CONDUCTORS

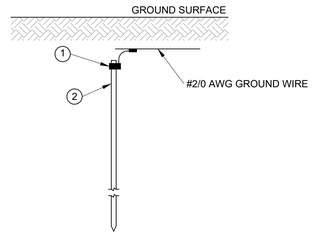
1 GROUNDING AND BONDING SCHEMATIC
SCALE:N.T.S.

GROUNDING NOTE:

1. PHASE CONDUCTORS NOW SHOWN FOR CLARITY.
2. ALL BOLTED FAULTS TO BE CLEARED WITHIN 0.5S.
3. SERVICE ENTRANCE IS THE FIRST MAIN OVER CURRENT PROTECTION DEVICE THAT IS SUPPLIED BY THE 14.4/25kV STEP DOWN TRANSFORMER. PROVIDE GROUND/BOND UP TO THE 14.4/25kV STEP DOWN TRANSFORMER, INCLUDING THE TRANSFORMER.
4. CONNECT GROUND CONNECTIONS TO THE BUILDING STRUCTURAL STEEL MEMBERS. PROVIDE MULTIPLE GROUND CONNECTIONS FOR THE RESPECTIVE BUILDING STRUCTURAL STEEL.



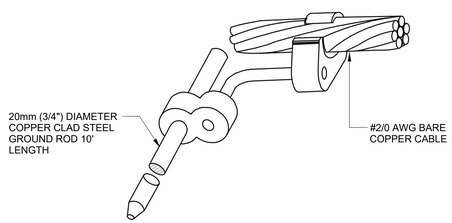
3 TYPICAL 3-PHASE 3-WIRE GROUNDING SCHEMATIC
SCALE:N.T.S.



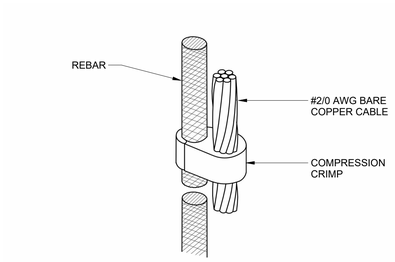
1 CONNECTOR: BURNDY CAT. No. YGLR29C34

2 GROUND ROD: 20 DIA. x 3000 LG.

4 GROUNDING ROD - BURIED TYPE
SCALE:N.T.S.



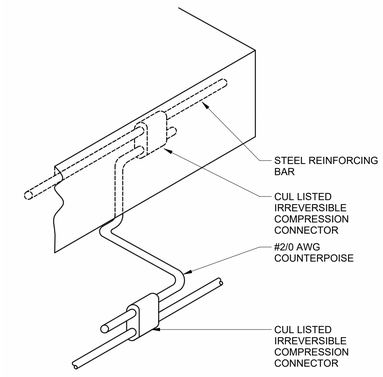
5 GROUND ROD CONNECTION
SCALE:N.T.S.



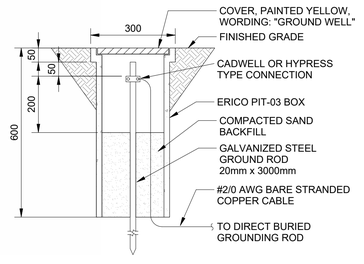
NOTE:

1 CUL LISTED IRREVERSIBLE COMPRESSION CRIMPING SYSTEM COMPONENTS (BURNDY HY-LIG OR EQUAL) MAY BE SUBSTITUTED WITH EXOTHERMIC WELDED CONNECTION.

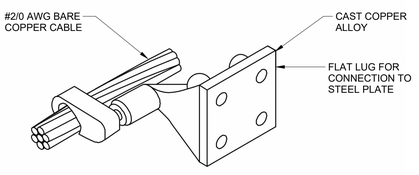
6 GROUND CABLE TO REBAR CONNECTION HORIZONTAL/VERTICAL
SCALE:N.T.S.



7 REBAR TO COUNTERPOISE
SCALE:N.T.S.



8 GROUNDING ROD WITH INSPECTION PIT
SCALE:N.T.S.



9 GROUND - STEEL PLATE CONNECTION
SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER 01/20/2026 D. TODOROVIC 100540350 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER 2026-01-20 D. CHILOV 100046543 PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

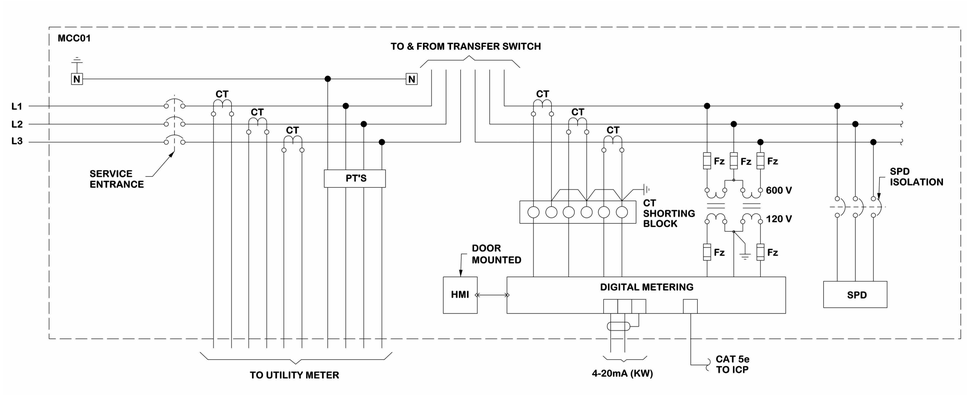
GROUNDING &
BONDING DETAILS
- SHEET 1

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

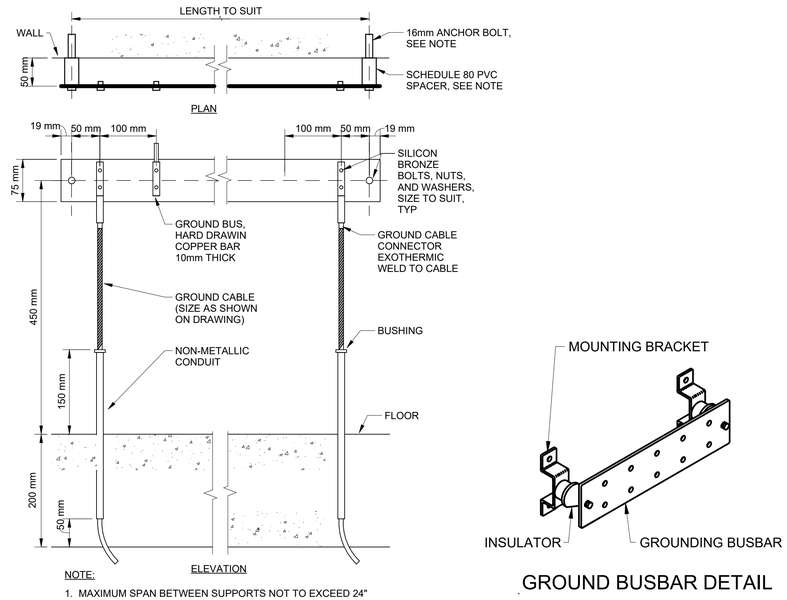
PROJECT NO.	REVISION	DRAWING
T001592B	0	E-501

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt



1 SERVICE ENTRANCE & DIGITAL METERING SCHEMATIC

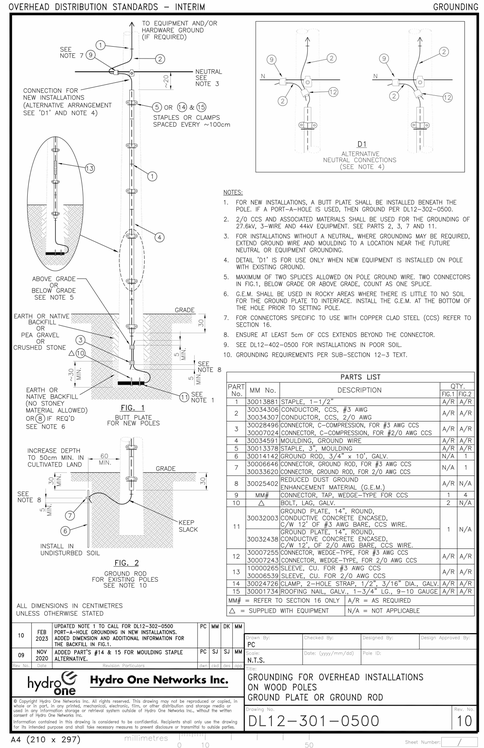
SCALE:N.T.S.



GROUND BUSBAR DETAIL

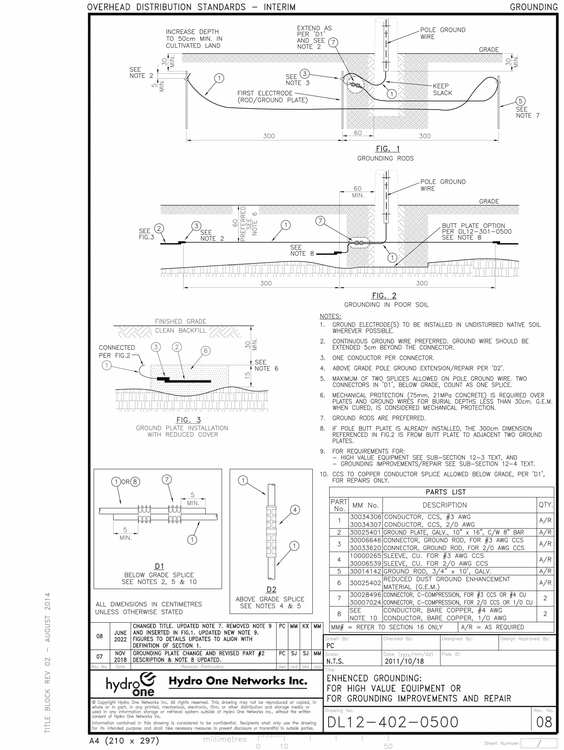
2 GROUND BUS

SCALE:N.T.S.



3 GROUNDING FOR OVERHEAD INSTALLATIONS ON WOOD POLES

SCALE:N.T.S.



4 ENHENCED GROUNDING FOR HIGH VALUE EQUIPMENT OR FOR GROUNDING IMPROVEMENTS AND REPAIR

SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100046543
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

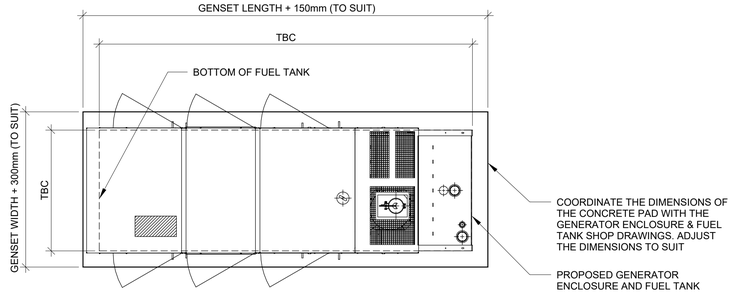
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

GROUNDING &
BONDING DETAILS
- SHEET 2

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED
N.T.S.		JAN 2026	
SCALE		DATE	
T001592B	0	E-502	
PROJECT NO.	REVISION	DRAWING	

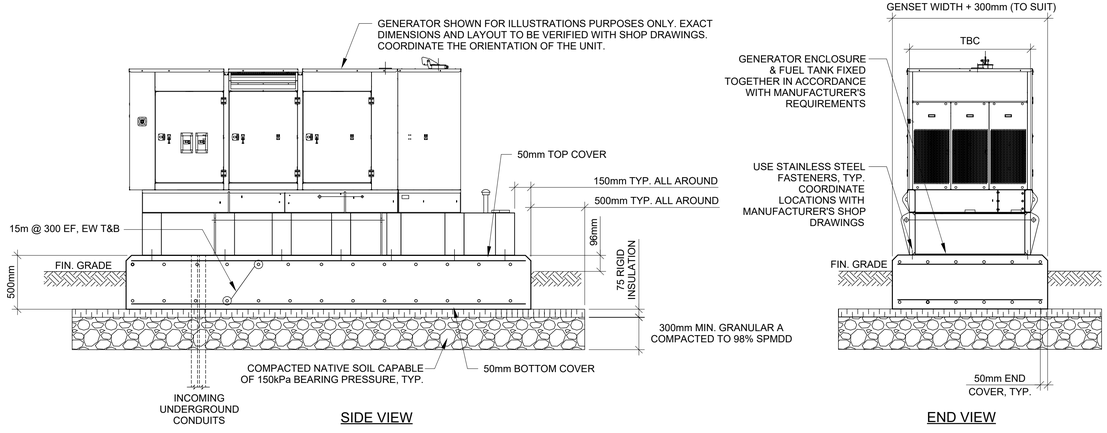
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt



PLAN VIEW

NOTES:

1. THE PAD MOUNTED, SOUND ATTENUATED DIESEL GENERATOR DIMENSIONS AND CONFIGURATION IS BASED ON A MTU 135 KW PRIME RATED GENERATOR WITH AN INTEGRAL 24-HOUR SUB-BASED FUEL TANK. THE CONTRACTOR IS REQUIRED TO COORDINATE THE LENGTH AND WIDTH OF THE GENERATOR CONCRETE PAD WITH THE SHOP DRAWING DIMENSIONS OF THE SPECIFIC PRODUCT SUPPLIED. ENSURE 150 MM OF EXPOSED CONCRETE PAD AROUND THE PERIMETER OF THE GENERATOR.
2. ROUGH IN ALL POWER AND CONTROL CONDUITS TO SUIT THE DIESEL GENERATOR PRIOR TO INSTALLATION OF THE CONCRETE PAD. COORDINATE ENTRY OF CONDUITS AND LOCATION IN CONCRETE SLAB WITH GENERATOR SHOP DRAWINGS TO SUIT POWER AND CONTROLS CONDUCTOR TERMINATIONS.
3. COORDINATE CONSTRUCTION OF CONCRETE PAD, INCLUDING REINFORCING BARS, WITH LOCATIONS AND ENTRY POINTS OF ELECTRICAL CONDUITS.
4. PROVIDE ALL CONDUIT ENTRY TO GENERATOR THROUGH CONCRETE PAD.
5. APPROXIMATE DIMENSIONS OF 150 KW GENERATOR IN A SOUND ATTENUATED ENCLOSURE ON UL LISTED FUEL TANK BASE ARE: L=4008 MM, W=1318 MM, H=1925 MM. FOR EXACT DIMENSIONS REFER TO APPROVED GENERATOR SHOP DRAWINGS.

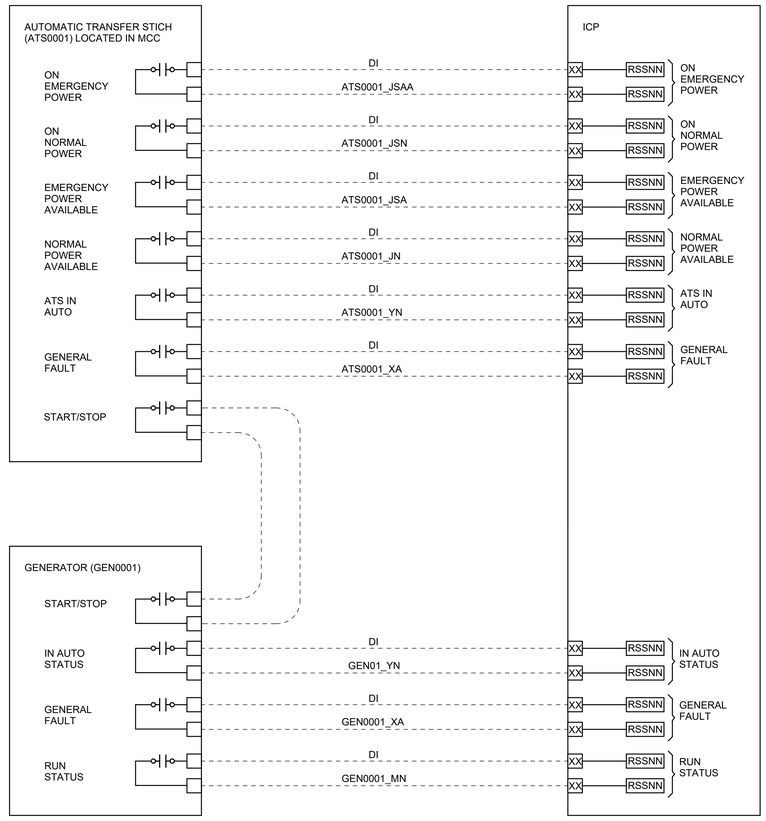


SIDE VIEW

END VIEW

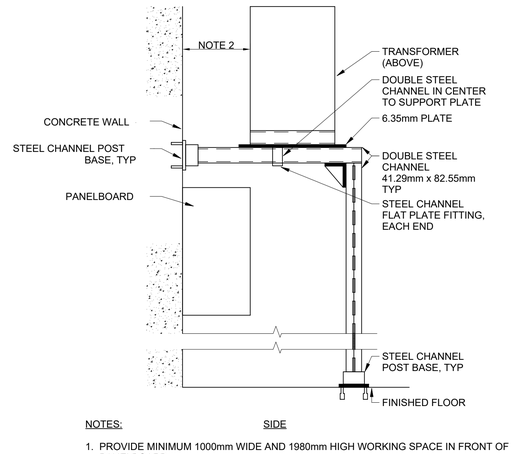
1 GENSET DETAILS

SCALE:N.T.S.



2 GENERATOR/ATS CONTROLLER DETAIL

SCALE:N.T.S.



NOTES: SIDE

1. PROVIDE MINIMUM 1000mm WIDE AND 1980mm HIGH WORKING SPACE IN FRONT OF PANELBOARD,
2. SPACE PROVIDED BEHIND THE TRANSFORMER SHALL BE GREATER THAN THE DEPTH OF THE PANELBOARD,

3 TYPICAL TRANSFORMER MOUNTING

SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

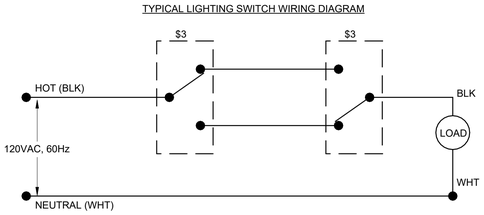
ELECTRICAL
DETAILS - SHEET 1

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

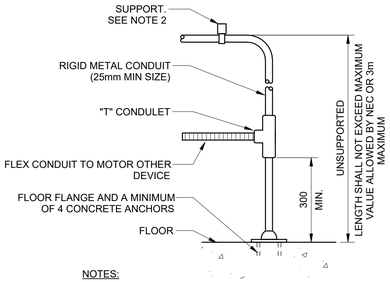
SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-503

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt



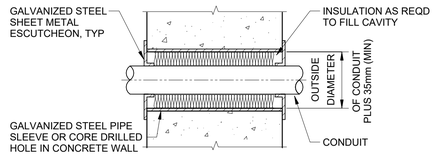
1 TYPICAL INDOOR NON-CLASSIFIED AREA LIGHTING DETAIL
SCALE:N.T.S.



NOTES:

1. INSTALLATION OF CONDUIT TO A MOTOR OR OTHER DEVICE WHERE A FLEXIBLE CONNECTION IS REQUIRED AND NO JUNCTION BOXES OR CONTROL DEVICES ARE REQUIRED SHALL BE MADE IN ACCORDANCE WITH THIS DETAIL.
2. ALL HARDWARE SHALL BE STAINLESS STEEL

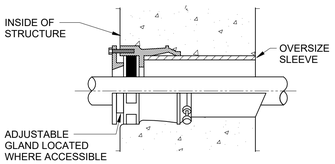
2 TYPICAL CONDUIT TO EQUIPMENT FROM CEILING
SCALE:N.T.S.



NOTES:

1. CONDUITS WHICH INDIVIDUALLY PASS THRU AN INTERIOR WALL SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL. IF WALL IS A FIRE WALL, FILL CAVITY WITH FIRE STOP SEALANT.

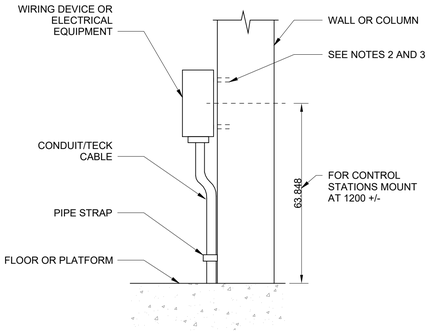
3 TYPICAL INTERIOR WALL PENETRATION
SCALE:N.T.S.



NOTES:

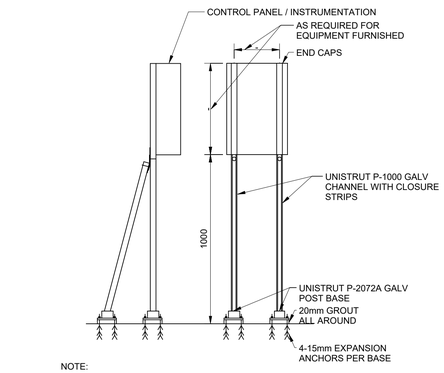
1. USE WATERTIGHT CONDUIT SEAL WHERE CONDUIT PENETRATIONS OF BUILDING EXTERIOR WALLS ARE BELOW GRADE

4 TYPICAL WATERTIGHT WALL CONDUIT SEAL
SCALE:N.T.S.



NOTES:
1. ALL MOUNTING HARDWARD SHALL BE STAINLESS STEEL, USE WASHER AND SPLIT-LOCK WASHERS UNDER ALL NOTS.
2. ON CONCRETE WALLS USE STAINLESS STEEL CONCRETE ANCHORS, MOUNT ENCLOSURE ON 13MM SPACERS.
3. BOXES 6" SQUARE AND LESS SHALL BE SUPPORTED BY TWO ANCHORS, LARGER BOXES SHALL BE SUPPORTED BY AT LEAST FOUR.

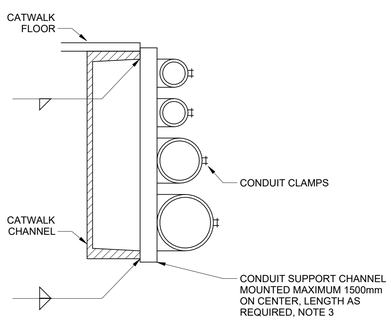
5 WALL OR COLUMN MOUNTED DEVICE
SCALE:N.T.S.



NOTE:

1. USE STAINLESS STEEL BOLTS, NUTS, WASHERS, AND ANCHOR BOLTS.

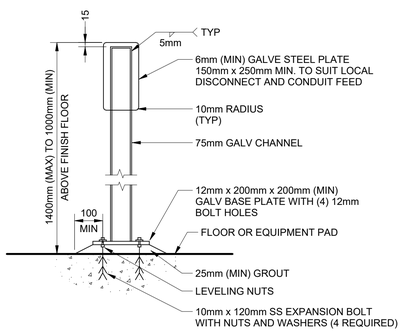
6 TYPICAL LOCAL CONTROL PANEL/INSTRUMENTATION EQUIPMENT MOUNTING DETAIL
SCALE:N.T.S.



NOTES:

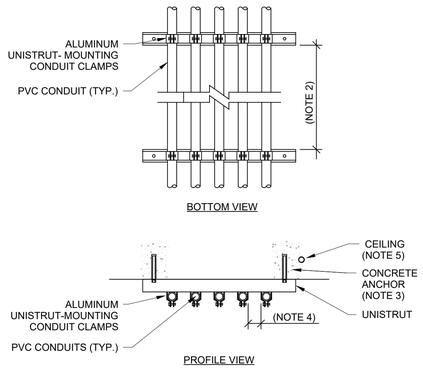
1. EXPOSED CONDUIT AND CONDUIT CLAMPS IN AREAS SUBJECT TO ACCELERATED CORROSION SHALL BE PVC COATED RIGID STEEL.
2. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
3. LOCATE AND SIZE SUPPORTS FOR VERTICAL AND LATERAL LOADS.
4. PROVIDE SEISMIC RESTRAINTS FOR EQUIPMENT, INCLUDING ANCHORAGE, AND SUPPORT SYSTEMS FOR VERTICAL AND LATERAL LOADING PER THE REQUIREMENTS OF THE OBC FOR A POST DISASTER FACILITY.

7 CONDUIT RACKING SYSTEM VERTICAL
SCALE:N.T.S.



NOTE: EACH MOTOR IS TO INCLUDE A LOCAL DISCONNECT SWITCH

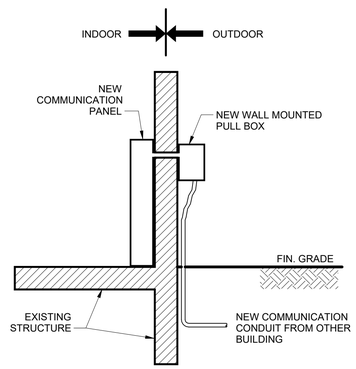
8 TYPICAL LOCAL DISCONNECT SWITCH AND ELECTRICAL EQUIPMENT MOUNTING DETAIL
SCALE:N.T.S.



NOTES:

1. ALL UNISTRUT SUPPORT MATERIAL SHALL BE FABRICATED FROM HOT DIP GALVANIZED STEEL. REPAIR ALL DAMAGED COATING AS PER SPECIFICATIONS.
2. DETERMINE SPAN AND TYPE OF SUPPORTS. LOCATE AND SIZE SUPPORTING UNISTRUT STRUCTURE, ANCHORS, CONNECTIONS, AND BRACES PER MANUFACTURER RECOMMENDATIONS AND SEISMIC REQUIREMENTS.
3. USE STAINLESS STEEL HARDWARE IN WET OR CORROSIVE AREAS.
4. PROVIDE SPACE BETWEEN CONDUITS SUFFICIENT TO ALLOW FOR FUTURE INSTALLATION OF NEW TYPICAL CONDUITS.
5. CONTRACTOR TO DETERMINE CEILING MATERIAL BEFORE DETERMINING BEST PRACTICE FOR ANCHORING STRUCTURE.

9 CEILING UNISTRUT CONDUIT SUPPORT DETAIL
SCALE:N.T.S.



10 TYPICAL CONDUIT DETAIL FOR COMMUNICATION
SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100946543
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

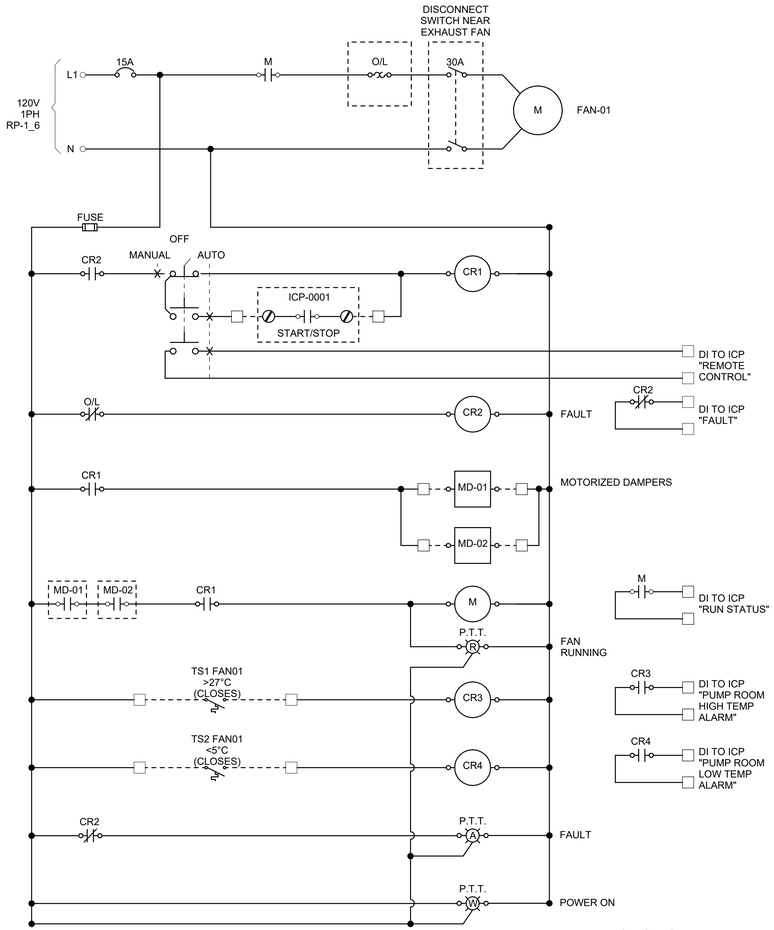
ELECTRICAL
DETAILS - SHEET 2

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED

As indicated	JAN 2026
SCALE	DATE

T001592B	0	E-504
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

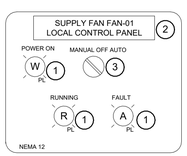


BILL OF MATERIAL

ITEM	DESCRIPTION	QTY
1	LED PILOT LIGHT, 30mm, PUSH TO TEST	3
2	NAME PLATE	AS REQ.
3	POSITION SELECTOR SWITCH, 30mm	1

TERMINALS

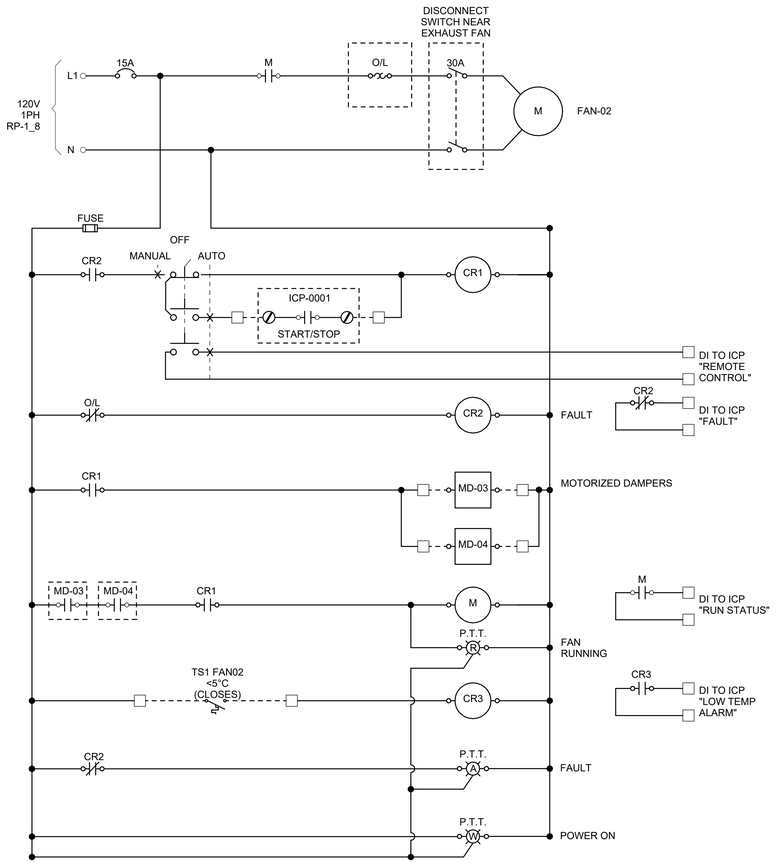
- DEVICE TERMINAL
- TERMINAL BLOCK IN CP
- TERMINAL BLOCK IN FIELD
- TERMINAL BLOCK IN ICP PANEL
- FIELD WIRING CONNECTIONS



TYPICAL LOCAL CONTROL PANEL

1 PUMP ROOM SUPPLY FAN WIRING SCHEMATIC (FAN-01)

SCALE:N.T.S.

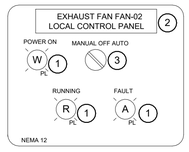


BILL OF MATERIAL

ITEM	DESCRIPTION	QTY
1	LED PILOT LIGHT, 30mm, PUSH TO TEST	3
2	NAME PLATE	AS REQ.
3	POSITION SELECTOR SWITCH, 30mm	1

TERMINALS

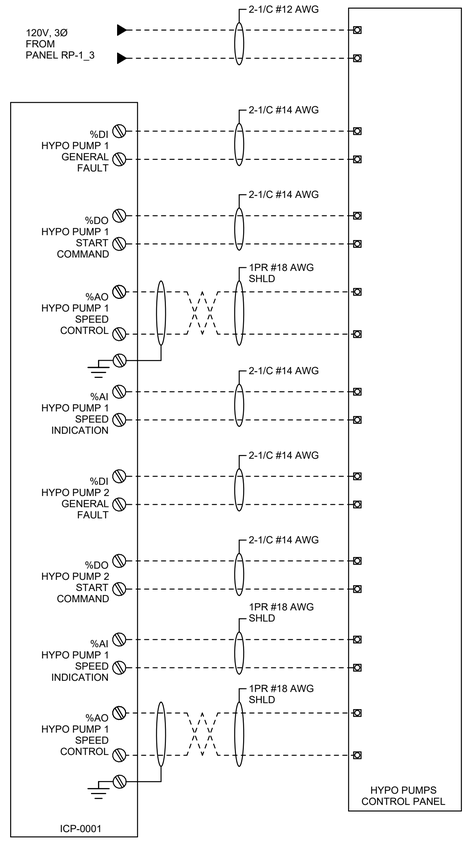
- DEVICE TERMINAL
- TERMINAL BLOCK IN CP
- TERMINAL BLOCK IN FIELD
- TERMINAL BLOCK IN ICP PANEL
- FIELD WIRING CONNECTIONS



TYPICAL LOCAL CONTROL PANEL

2 CHEMICAL ROOM EXHAUST FAN WIRING SCHEMATIC (FAN-02)

SCALE:N.T.S.



3 CHEMICAL PUMPS -WIRING DIAGRAM

SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

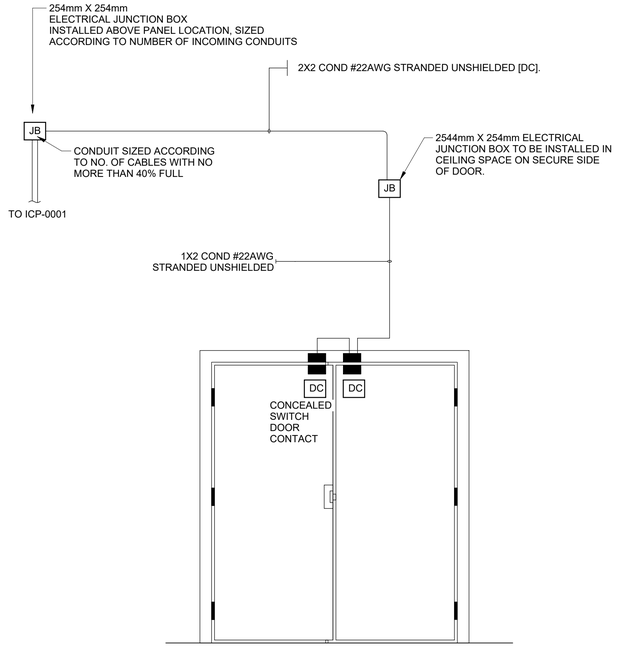
ELECTRICAL
DETAILS - SHEET 3

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-505

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt



ACCESS CONTROL SYSTEM LEGEND

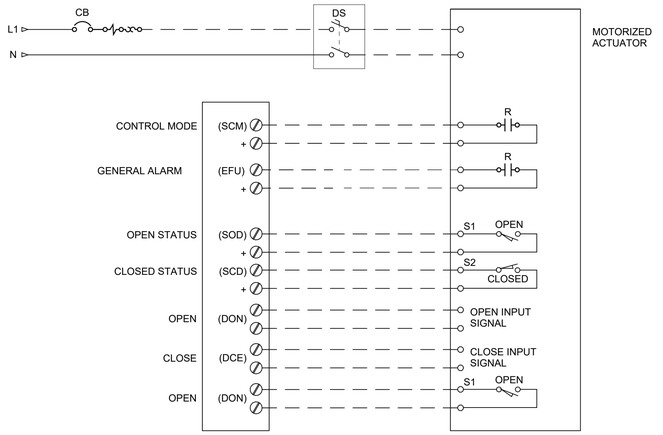
CR	CREDENTIAL READER
DC	DOOR CONTACT
EC	ELECTRONIC CYLINDER
ED	EXIT DEVICE RX: REQUEST TO EXIT (TO BE INCLUDED IN ED)
EL	ELECTRICAL LOCKSET RX: REQUEST TO EXIT LX: LOCK STATUS MONITORING (TO BE INCLUDED IN EL)
ES	ELECTRIC STRIKE LX: LOCK STATUS MONITORING (TO BE INCLUDED IN ES)
JB	JUNCTION BOX
LAA	LOCAL AUDIO ALARM
MS	MONITOR STRIKE
OHDC	OVERHEAD DOOR CONTACT
TL	TRANSFER LOOP

NOTES:

1. CONTRACTOR TO INSTALL ACCESS CONTROL SYSTEM ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
2. CONTRACTOR TO SUBMIT PROPOSED INSTALLATION LOCATION OF ACCESS CONTROL PANEL TO ENGINEER FOR APPROVAL BEFORE INSTALLATION.
3. REFER TO SPECIFICATIONS FOR DETAILED REQUIREMENTS THAT ARE APPLICABLE FOR THE SELECTION AND IMPLEMENTATION OF ACCESS CONTROL RELATED DEVICES.
4. PROVIDE ONE DOOR CONTACT FOR EACH SINGLE DOOR. PROVIDE TWO DOOR CONTACTS IN SERIES FOR EACH DOUBLE DOOR.

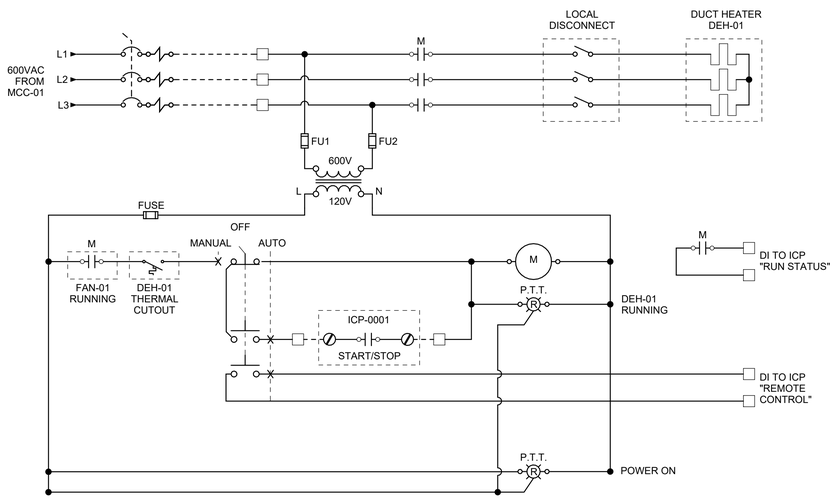
1 TYPICAL DOUBLE DOOR ACCESS CONTROL 1

SCALE:N.T.S.



2 MOTORIZED VALVE (V0112, V0122) (ON/OFF) ACTUATOR WIRING DIAGRAM

SCALE:N.T.S.

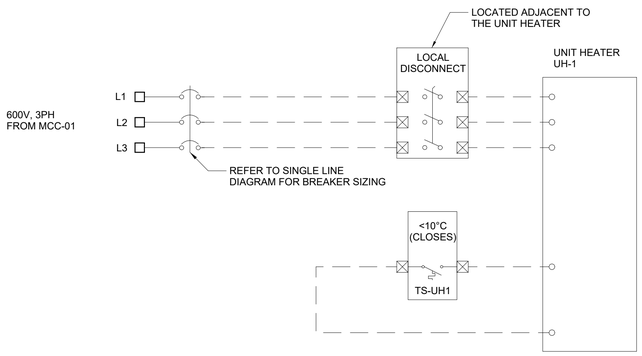


NOTES:

1. REFER TO THE VENDOR CONTROL SCHEMATIC

3 DUCT HEATER (EDH-01) TYPICAL CONTROL SCHEMATIC

SCALE:N.T.S.



4 PUMP/CHEM ROOM UNIT HEATER WIRING SCHEMATIC (UH-1,UH-2,UH-3,UH-4)

SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100946543
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

ELECTRICAL
DETAILS - SHEET 4

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED

N.T.S.	JAN 2026
SCALE	DATE

T001592B	0	E-506
PROJECT NO.	REVISION	DRAWING

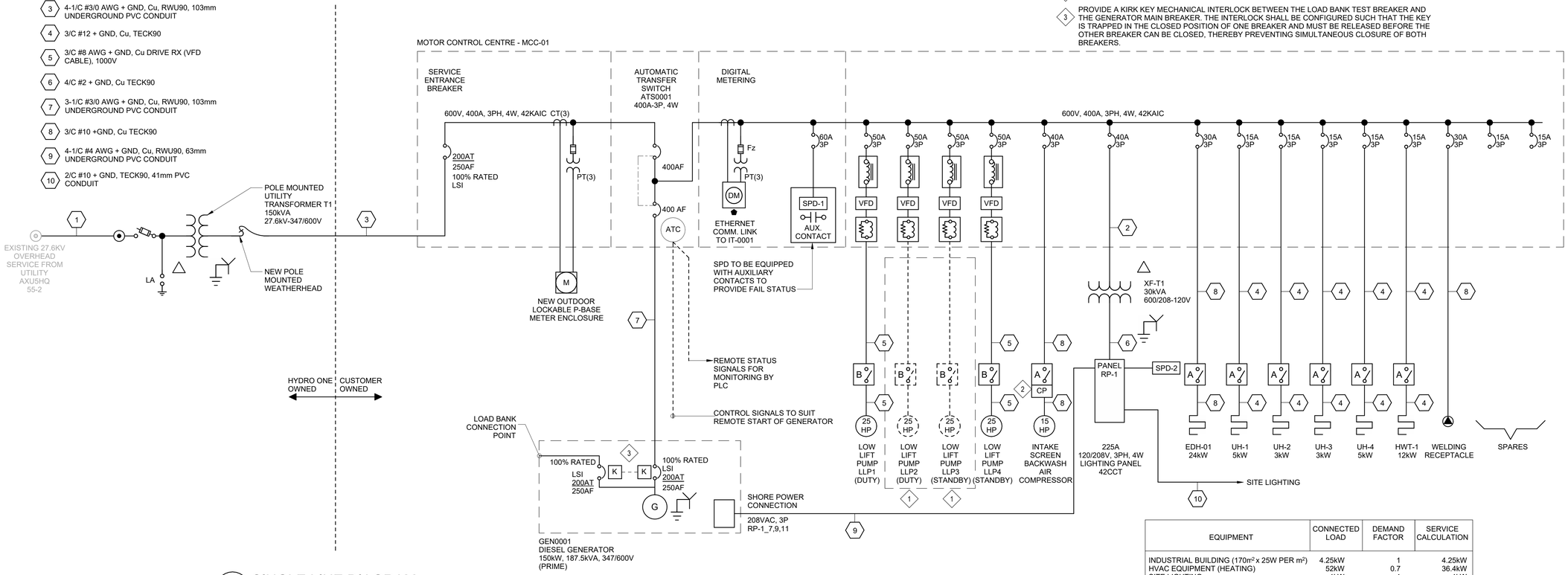
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

CABLE AND CONDUIT SCHEDULE:

1. OVERHEAD UTILITY 14.4/25kV PRIMARY CABLE BY HYDRO ONE
2. 3/C #8 + GND, Cu TECK90
3. 4-1/C #3/0 AWG + GND, Cu, RWU90, 103mm UNDERGROUND PVC CONDUIT
4. 3/C #12 + GND, Cu, TECK90
5. 3/C #8 AWG + GND, Cu DRIVE RX (VFD CABLE), 1000V
6. 4/C #2 + GND, Cu TECK90
7. 3-1/C #3/0 AWG + GND, Cu, RWU90, 103mm UNDERGROUND PVC CONDUIT
8. 3/C #10 +GND, Cu TECK90
9. 4-1/C #4 AWG + GND, Cu, RWU90, 63mm UNDERGROUND PVC CONDUIT
10. 2/C #10 + GND, TECK90, 41mm PVC CONDUIT

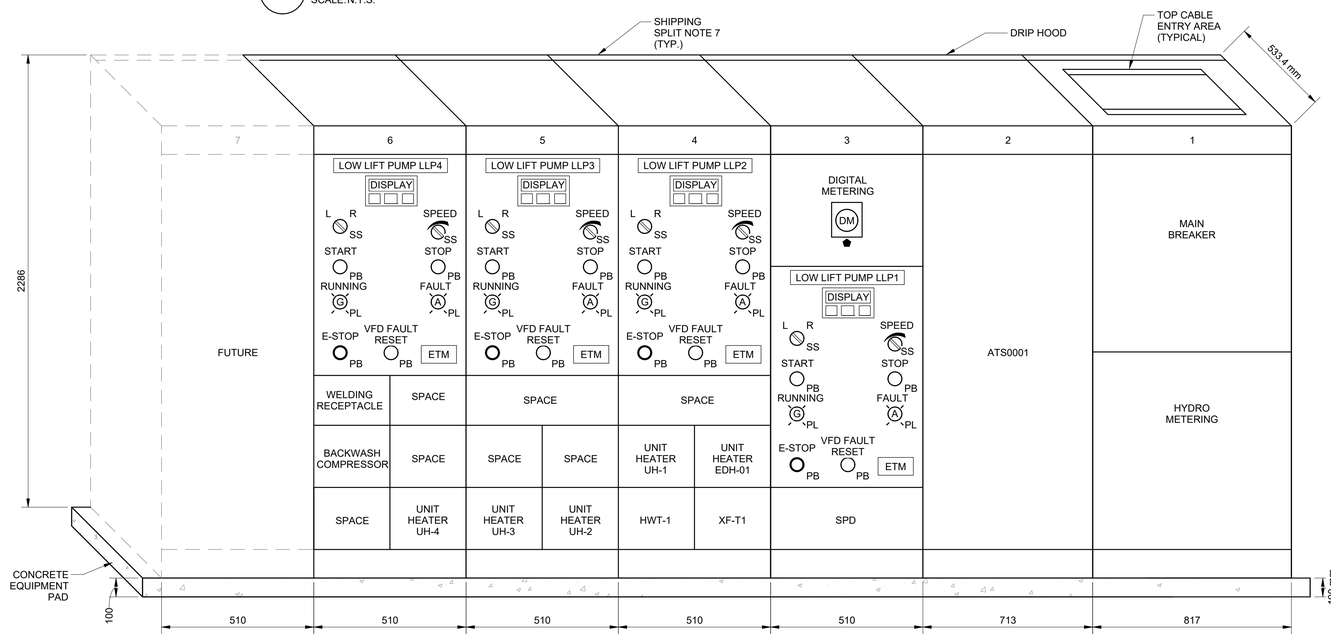
NOTES:

1. PUMPS LLP-2 AND LLP-3 ARE INTENDED FOR FUTURE INSTALLATION AND ARE NOT TO BE INCLUDED IN THE BASE CONTRACT. NEW VFD STARTER, REACTOR AND DV/DT FILTER INCLUDING ALL CONTROL WIRING SHALL BE PROVIDED AS PART OF THE CONTRACT.
2. THE CONTROL PANEL IS TO BE SUPPLIED BY COMPRESSOR VENDOR AND WIRED BY DIV 16.
3. PROVIDE A KIRK KEY MECHANICAL INTERLOCK BETWEEN THE LOAD BANK TEST BREAKER AND THE GENERATOR MAIN BREAKER. THE INTERLOCK SHALL BE CONFIGURED SUCH THAT THE KEY IS TRAPPED IN THE CLOSED POSITION OF ONE BREAKER AND MUST BE RELEASED BEFORE THE OTHER BREAKER CAN BE CLOSED, THEREBY PREVENTING SIMULTANEOUS CLOSURE OF BOTH BREAKERS.



1 SINGLE LINE DIAGRAM
SCALE:N.T.S.

EQUIPMENT	CONNECTED LOAD	DEMAND FACTOR	SERVICE CALCULATION
INDUSTRIAL BUILDING (170m² x 25W PER m²)	4.25kW	1	4.25kW
HVAC EQUIPMENT (HEATING)	52kW	0.7	36.4kW
SITE LIGHTING	1kW	1	1kW
PUMPS (4 x 25HP)	95.2kW	0.5	47.6kW
COMPRESSOR (1 X 15HP)	15kW	1	15kW
TOTAL AT COMPLETION			104.25kW
AMPS = 104.25 x 1000 / 600V x 1.73 x 0.95 = 105.7 AMP			THEREFORE, A 200A SERVICE IS SUFFICIENT



2 MCC-01 ELEVATION
SCALE:N.T.S.

HYDRO ONE (SCOPE OF WORK)	CONTRACTOR (SCOPE OF WORK) ALL WORK IS TO BE COORDINATED WITH HYDRO ONE PRIOR TO ANY INSTALLATION
PROVIDE NEW HYDRO POLE WITH POLE 150kVA 3-PH POLE-MOUNT TRANSFORMER. HYDRO ONE TO SUPPLY AND INSTALL TRANSFORMER. THE NEW HYDRO POLE WILL BE DESIGNATED AS THE DEMARCATION POINT.	COORDINATE WITH HYDRO ONE AND SUPPLY AND INSTALL NEW 600V UNDERGROUND DUCT BANK, MAN HOLES AND PULL BOXES FROM THE NEW HYDRO POLE TO THE BUILDING UTILITIES POINT-OF-ENTRY (MCC SERVICE ENTRANCE BREAKER). CONTRACTOR TO KEEP SUFFICIENT LOOPED CABLING AT THE POLE FOR HYDRO ONE TO INSTALL VIA THE RISER AND WEATHERHEAD ON THE POLE. COORDINATE INSTALLATION FOR ALL UNDERGROUND DUCT BANKS WITH OTHER DISCIPLINES AND UTILITIES TO AVOID INTERFERENCE FINAL. ADJUST FINAL LOCATIONS AS NECESSARY.
SUPPLY NEW 24" (H) x 16" (W) x 12" (D) NEMA 4X LOCKABLE P-BASE METER ENCLOSURE. SUPPLY AND INSTALL INSTRUMENT TRANSFORMERS IN THE MCC UTILITY METERING SECTION. WIRE INSTRUMENT TRANSFORMER TO EXTERIOR P-BASE METER ENCLOSURE.	COORDINATE WITH HYDRO ONE AND INSTALL A NEW 24" (H) x 16" (W) x 12" (D) NEMA 4X LOCKABLE P-BASE METER ENCLOSURE ON THE EXTERIOR OF THE BUILDING. CONTRACTOR TO PROVIDE AND INSTALL A 1 1/14" CONDUIT C/W PULL STRING FROM THE P-BASE METER ENCLOSURE TO THE MCC UTILITY METER SECTION. ONCE INSTALL IS COMPLETE, HAND OVER KEYS FOR THE P-BASE METER ENCLOSURE TO HYDRO ONE.
CONNECT THE PRIMARY CABLING TO THE NEW POLE-MOUNTED TRANSFORMER.	COORDINATE WITH HYDRO ONE TO MAKE THE NECESSARY SERVICE CONNECTION FROM SECONDARY SIDE OF THE NEW UTILITY TRANSFORMER.

NOTES:

1. NEW MCC DIMENSION IS BASED ON AN EATON PRODUCT. CONTRACTOR SHALL ENSURE THAT PRODUCTS FROM OTHER VENDORS FALL WITHIN THE DIMENSIONAL CONSTRAINTS SHOWN ON THIS DRAWING.
2. MINIMUM CONDUCTOR SIZE FOR ALL LOW VOLTAGE (120VAC, 1-PHASE) CIRCUITS SHALL BE #12AWG. CONTRACTOR SHALL SIZE WIRES/CONDUITS FOR ALL LOW VOLTAGE EQUIPMENT FED FROM DISTRIBUTION PANELS BASED ON MINIMUM ACCEPTABLE SIZES AND MANUFACTURERS REQUIREMENTS.
3. CONDUIT ROUTES FOR ALL LOW VOLTAGE (120VAC, 1-PHASE) FEEDERS SHALL BE DETERMINED ON SITE BY THE CONTRACTOR.
4. PROVIDE LOCAL DISCONNECT SWITCHES FOR ALL MOTORS LOADS.
5. PROVIDE LAMACOIDS FOR EACH BUCKET.
6. PROVIDE CONCRETE PAD DIMENSION FOR THE MCC. REFER TO DIVISION 3 FOR CONCRETE PAD DETAILS.
7. PROVIDE SHIPPING SPLITS FOR EACH MCC SECTION.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100046543
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

SINGLE LINE DIAGRAM

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	E-601

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

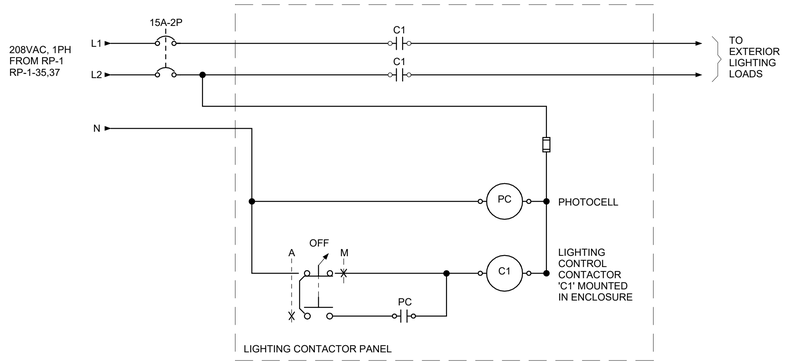
Branch Panel: RP-1

VOLTS: 120/208 Wye
PHASES: 3
WIRES: 4

LOCATION: 120/208V
FEEDER:

A. BUSSING:
MAIN BKR: 225 A
MOUNTING: Recessed
NO. CIR: 84
IR: 10kA

CIRCUIT DESCRIPTION	LTG	REC	CIR	BKR	P	A	B	C	P	BKR	CIR	REC	LTG	CIRCUIT DESCRIPTION
LIGHTING - PUMP ROOM 1			1	15 A	1				1	15 A	2			LIGHTING - CHEMICAL ROOM
EMERGENCY LIGHTING EM-1			3	15 A	1				1	15 A	4			LIGHTING - OUTDOOR
RECEPTACLES - PUMP ROOM			5	20 A	1				1	15 A	6			EXHAUST FAN FAN-01 & DAMPERS MD-01,...
RECEPTACLES - CHEMICAL ROOM			7	20 A	1				1	15 A	8			EXHAUST FAN FAN-02 & DAMPERS MD-03,...
SPARE			9	20 A	1				2	30 A	10			AC OUTDOOR UNIT CDU-01 OUTSIDE
ICP-0001 PANEL			11	20 A	1						12			
CHEMICAL CONTROL PANEL FOR PUMPS 1 & 2			13	15 A	1				2	30 A	14			AC OUTDOOR UNIT CDU-02 OUTSIDE
AC INDOOR UNIT ACU-01-1 PUMP ROOM			15	15 A	2						16			
			17						2	15 A	18			AC INDOOR UNIT ACU-01-2 PUMP ROOM
AC INDOOR UNIT ACU-02-1 PUMP ROOM			19	15 A	2						20			
			21						2	15 A	22			AC INDOOR UNIT ACU-02-2 PUMP ROOM
TRAP SEAL PRIMER TSP-01 - PUMP ROOM			23	15 A	1						24			
SPARE			25	15 A	1				1	15 A	26			RAW WATER SAMPLE PUMP SAP1 - PUMP...
COMMUNICATIONS CONTROL CABINET			27	15 A	1				3	60 A	28			GENERATOR GEN0001 SHORE POWER
MOTORIZED DISCHARGE VALVE V0112			29	15 A	1						30			
MOTORIZED DISCHARGE VALVE V0122			31	15 A	1						32			
MOTORIZED DISCHARGE VALVE (FUTURE			33	15 A	1				1	15 A	34			MOTORIZED DISCHARGE VALVE (FUTURE)
EXTERIOR LIGHTING			35	15 A	2						36			
			37								38			
EXIT SIGNS			39	15 A	1						40			
			41								42			
			43								44			
			45								46			
			47								48			
			49								50			
			51								52			
			53								54			
			55								56			
			57								58			
			59								60			
			61								62			
			63								64			
			65								66			
			67								68			
			69								70			
			71								72			
			73								74			
			75								76			
			77								78			
SPD (TOTAL PROTECTION SOLUTIONS TK-ST080-3Y208-FL OR EQUIVALENT)			79	20 A	3	0...					80			
			81				0...				82			
			83					0...			84			



1 EXTERIOR LIGHTING CONTROL SCHEMATIC
SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100046543
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT:
Blind River

CONSULTANT:
CIMA+

CONSULTANT:
TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

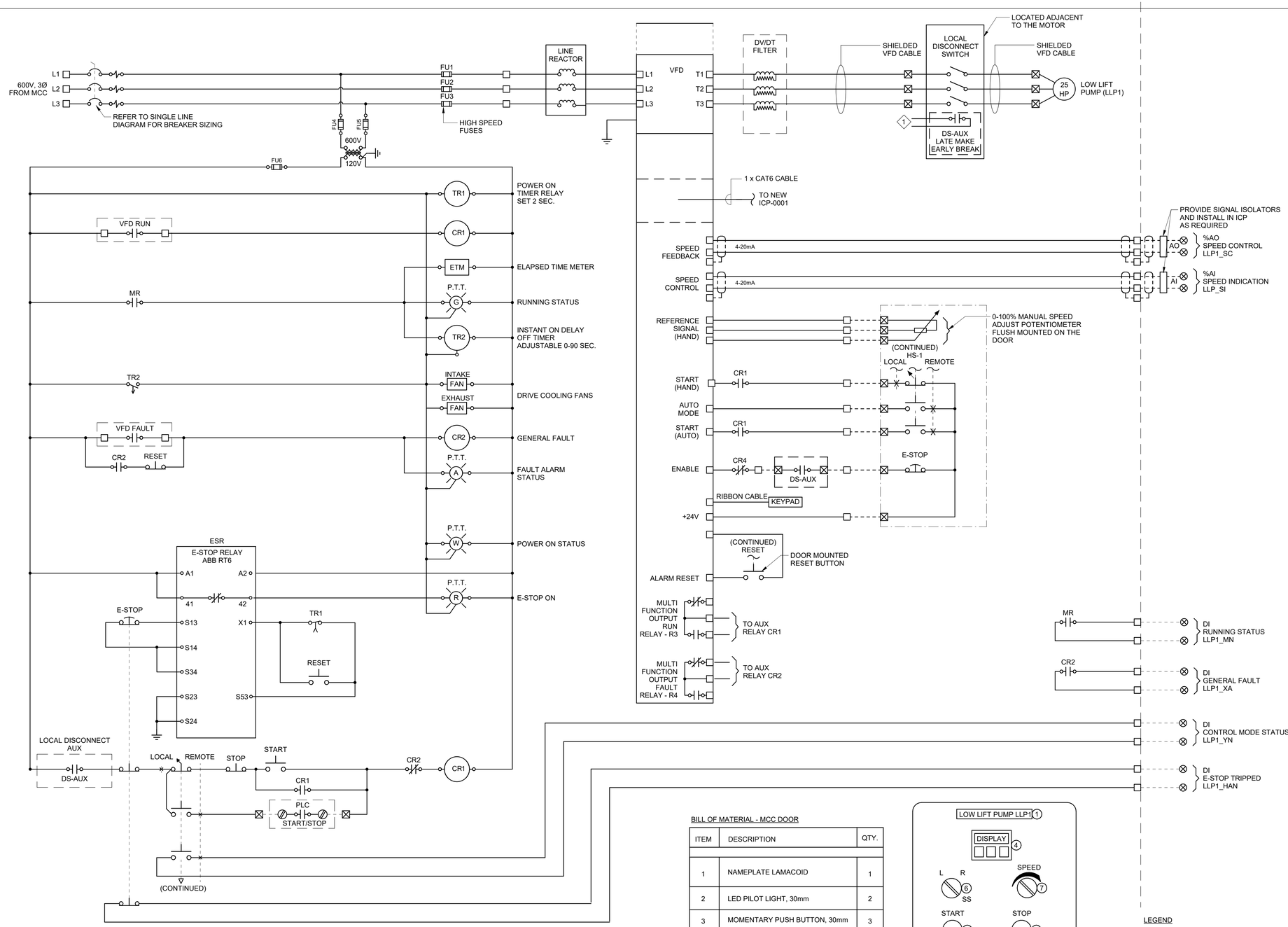
DRAWING TITLE:
ELECTRICAL
PANEL
SCHEDULES

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED

N.T.S.	JAN 2026
SCALE	DATE

T001592B	0	E-602
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt



NOTES:

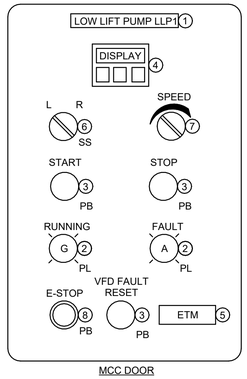
1. THE LOCAL SAFETY DISCONNECT SWITCH SHALL HAVE AN AUXILIARY CONTACT LEADING ON OPENING TO ENABLE VFD SHUTDOWN.

1 TYPICAL CONTROL SCHEMATIC FOR LOW LIFT PUMPS (LLP1, LLP4 & FUTURE LOW LIFT PUMPS LLP2, LLP3)

SCALE:N.T.S.

BILL OF MATERIAL - MCC DOOR

ITEM	DESCRIPTION	QTY.
1	NAMEPLATE LAMACOID	1
2	LED PILOT LIGHT, 30mm	2
3	MOMENTARY PUSH BUTTON, 30mm	3
4	VFD DISPLAY KEYPAD	1
5	ELAPSED TIME METER	1
6	SELECTOR SWITCH, 30mm	1
7	POTENTIOMETER, 30mm	1
8	EMERGENCY STOP PUSH BUTTON C/W IEC YELLOW RING	1



MCC DOOR

LEGEND

- DEVICE TERMINAL
- TERMINAL BLOCK IN MCC
- TERMINAL BLOCK IN FIELD
- TERMINAL BLOCK IN ICP PANEL
- FIELD WIRING CONNECTIONS
- VENDOR SUPPLIED EQUIPMENT
- LOCAL CONTROL PANEL
- FUSES
- DIGITAL OUTPUT

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER 01/20/2026 D. TODOROVIC 100540350 PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER 2026-01-20 D. CHILOV 100946543 PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

VFD CONTROL SCHEMATIC

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED

N.T.S.	JAN 2026
SCALE	DATE

T001592B	0	E-603
PROJECT NO.	REVISION	DRAWING

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

GENERAL INSTRUMENT SYMBOLS

FIELD MOUNTED INSTRUMENT

INSTRUMENT MOUNTED ON FACE OF PANEL

INSTRUMENT MOUNTED BEHIND OR INSIDE OF PANEL

INSTRUMENT MOUNTED ON FACE OF LOCAL PANEL/MCC

INSTRUMENT MOUNTED BEHIND OR INSIDE OF LOCAL PANEL/MCC

SINGLE INSTRUMENT HOUSING CONTAINING TWO (OR MORE) INSTRUMENTATION FUNCTIONS

PILOT LIGHT MOUNTED ON FACE OF PANEL IN CONTROL ROOM

PILOT LIGHT MOUNTED ON FACE OF LOCAL PANEL/MCC

I — CONTROL INTERLOCK FUNCTION
SEE SCHEMATICS AND SYSTEM SPECIFICATIONS FOR SPECIFIC FUNCTION

CP — LOCAL CONTROL PANEL SEE CONTROL WIRING AND/OR EQUIPMENT PACKAGE SPECIFICATIONS
X: INDICATES PANEL DESIGNATION AS REQUIRED ON THE RESPECTIVE DRAWINGS

TAG NUMBERS AND ADDITIONAL DESIGNATIONS

LIT 31 01 — FIRST LETTER; SUCCEEDING LETTERS; PROCESS AREA IDENTIFIER LOOP NUMBER

ph / 2 — SEE INSTRUMENT FUNCTIONAL DESIGNATIONS AND ABBREVIATIONS; PANEL REFERENCE NUMBER AS FOLLOWS: 1= 2= 3=

① — ALARM TO AUTO DIALER; "1" - DENOTES COMMON ALARM TO AUTO DIALER

DIGITAL SYSTEMS INTERFACE SYMBOLS

NOTE: REFER TO DETAILED SYSTEM SPECIFICATIONS FOR FUNCTIONAL DESCRIPTION. ALSO SEE I/O SCHEDULES FOR COMPLETE INPUT AND OUTPUT LISTINGS.

COMPUTER OR DISTRIBUTED CONTROL SYSTEM FUNCTION BLOCK
LETTERS, TAG NUMBERS, ABBREVIATIONS AND OTHER ANNOTATIONS ARE SIMILAR TO THE GENERAL INSTRUMENT LEGEND

DI — DATA INTERFACE TO CONTROL SYSTEM FUNCTIONS. DIRECTION OF ARROW DENOTES INPUT OR OUTPUT SIGNAL.
NOTE: NO ARROW HEAD INDICATES INPUT/OUTPUT SINALS VIA COMMUNICATIONS LINKS
- SOLID ARROW DENOTES ANALOG INPUT/OUTPUT (AI/AO) AT THE RESPECTIVE PLC
- EMPTY ARROW DENOTES DIGITAL INPUT/OUTPUT (DI/DO) AT THE RESPECTIVE PLC

PLC 123 45 — PROGRAMMABLE LOGIC CONTROLLER
"PLC" DENOTES PROGRAMMABLE LOGIC CONTROLLER
"123" THREE DIGITAL CODE TO IDENTIFY PLC DESIGNATION
"45" REPRESENTS THE RIO PANEL TAG IF APPLICABLE

SHARED DISPLAY/CONTROL ACCESSIBLE TO OPERATOR ON MAIN CONTROL CONSOLE

PANEL MOUNTED AUXILIARY OPERATOR DEVICE NOT NORMALLY ON MAIN CONTROL CONSOLE

FIELD MOUNTED OPERATOR DEVICE

XXX — A SOFTWARE FUNCTION WHICH PROVIDES CONTROL FROM A DISTRBUTED OPERATOR STATION 'XXX' DENOTES ACTION (E.G START/STOP)

CONNECTION TO/FROM FIELD MOUNTED PLC OR RTU

CONNECTION TO/FROM A CENTRAL OR MASTER PLC OR RTU NORMALLY ACCESSIBLE TO OPERATOR

CONNECTION TO/FROM A PLC OR RTU IN AN AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR

CONNECTION TO/FROM A CENTRAL OR MASTER PLC OR RTU NOT NORMALLY ACCESSIBLE TO OPERATOR OR MOUNTED BEHIND THE PANEL

CONNECTION TO/FROM A PLC OR RTU IN AN AUXILIARY LOCATION NOT NORMALLY ACCESSIBLE TO OPERATOR OR MOUNTED BEHIND THE PANEL

EQUIPMENT IDENTIFICATION

AAANNNXX
- DEVICE CODE - THE LETTERS DEFINE THE PROCESS EQUIPMENT TYPE (SEE PROCESS EQUIPMENT ABBREVIATIONS TABLE)
- PROCESS CODE - THREE DIGITS NUMERIC IDENTIFIER (SEE PROCESS AREA CODE TABLE)
- DEVICE/LOOP NUMBER (TWO DIGITS NUMERIC IDENTIFIER)

EXAMPLE: HV17201

TRANSDUCER & CONVERTER DESIGNATION

E	VOLTAGE	P	PNEUMATIC
FSK	FREQUENCY SHIFT KEYING	PD	PULSE DURATION
H	HYDRAULIC	PF	PULSE FREQUENCY
I	CURRENT	R	RESISTANCE (ELECTRICAL)

EXAMPLE: I/P = CURRENT TO PNEUMATIC TRANSDUCER

INSTRUMENT FUNCTIONAL DESIGNATIONS AND ABBREVIATIONS

K	GAIN OR ATTENUATE (INPUT:OUTPUT)
-K	GAIN AND REVERSE
Σ	ADD OR SUM (ADD AND SUBTRACT)
Δ	SUBTRACT (DIFFERENCE)
√	EXTRACT SQUARE ROOT
÷	DIVIDE
F(X)	CHARACTERIZE SIGNAL
>	HIGH-SELECT
<	LOW-SELECT
×	MULTIPLY
∫	INTEGRATE (TIME INTEGRAL)
CH4	METHANE
CL2	CHLORINE RESIDUAL
C02	CARBON DIOXIDE
DO	DISSOLVED OXYGEN
LEL	LOWER EXPLOSIVE LIMIT
MLSS	MIXED LIQUOR SUSPENDED SOLIDS
C2	OXYGEN (PURITY)
pH	pH CELL
TURB	TURBIDITY
H2S	HYDROGEN SULFIDE
ORP	OXIDATION REDUCTION POTENTIAL

HAND SWITCH DESIGNATIONS

XX / HS — HAND SELECTOR SWITCH (OR PUSH BUTTON) - MAINTAINED CONTACTS (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE)

XX / HMS — SPRING RETURN AND SWITCH (OR PUSH BUTTON) - MOMENTARY CONTACTS CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE)

XX / HIC — POTENTIOMETER

XX: SEE ELECTRICAL AND CONTROLS ABBREVIATIONS

EXAMPLES:

HOA / HS / 172 — REPRESENTS A HAND/OFF/AUTO HAND SWITCH

LR / HS / 172 — REPRESENTS A LOCAL/REMOTE HAND SWITCH

TEMP / HIC — TEMPERATURE CONTROL POTENTIOMETER

POWER SUPPLY ABBREVIATIONS

AS	AIR SUPPLY	NS	NITROGEN SUPPLY
ES	ELECTRIC SUPPLY	SS	STEAM SUPPLY
GS	GAS SUPPLY	WS	WATER SUPPLY
HS	HYDRAULIC SUPPLY		

AS — POWER SUPPLY SOURCE LABEL. USED ONLY WHERE NECESSARY TO HELP CLARIFY AN INSTRUMENT OR SYSTEM FUNCTION.

LINE LEGEND AND SYMBOLS

- MAIN/PRIMARY PROCESS (CLOSED CONDUIT)
- SECONDARY PROCESS
- INSTRUMENT LINE OR CONNECTION TO PROCESS
- SODIUM HYPOCHLORITE
- ALUMINUM SULPHATE
- POLYMER
- CITRIC ACID
- SODIUM HYDROXIDE
- HYDROFLOUSICLIC ACID
- HYDROGEN PEROXIDE
- ELECTRIC SIGNAL - ANALOG OR DISCRETE (ONE OR MULTIPLE)
- HYDRAULIC SIGNAL
- PNEUMATIC SIGNAL
- INTERNAL SYSTEM SIGNAL LINK (SOFTWARE OR DATA LINK)
- GROUPING FRAME
- FLOW DIRECTION
- N XX-XX — PROCESS LINE COMING FROM OR GOING TO ANOTHER SHEET
- N XX-XX — MATCH SHEET NO. IDENTIFIER; MATCH LINE NO.
- PROCESS LINE CONNECTING OUTSIDE OF PROJECT SCOPE
- PROCESS LINES CROSSING (NOT CONNECTED)
- SIGNAL CONNECTION POINT
- SIGNAL CROSSING POINT (NOT CONNECTED)

IDENTIFICATION LETTERS FOR INSTRUMENT TAGGING

LETTER	FIRST LETTER: MEASURED OR INITIATING VARIABLE	FIRST LETTER: MODIFIER	SUCCEEDING LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING LETTERS: OUTPUT FUNCTION	SUCCEEDING LETTERS: MODIFIER.
A	ANALYSIS (3)		ALARM		
B	BURNER, COMBUSTION			CLOSE, STOP, DECREASE (4)	
C	CONDUCTIVITY (ELECTRICAL)		CONTROLLER	CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL	DIFFERENTIAL	OPEN, START, INCREASE (4)	
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)	RATIO		FAIL (4)
G	STATUS		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME-SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTOR, MOTION	MOMENTARY	MOMENTARY	MOTOR (4)	MIDDLE OR INTERMEDIATE
N				ON, OPERATE (4)	
O			ORIFICE (RESTRICTION)		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE OR TOTALIZE	INTEGRATE OR TOTALIZE		
R	RADIATION		RECORD OR PRINT		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION (3)	MULTIFUNCTION (3)	MULTIFUNCTION (3)
V	VIBRATION			VALVE, DAMPER, OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED		UNCLASSIFIED (3)	UNCLASSIFIED (3)	UNCLASSIFIED (3)
Y	EVENT, STATE, OR PRESENCE			RELAY OR COMPUTE	
Z	POSITION, DIMENSION			DRIVE, ACTUATOR OR UNCLASSIFIED FINAL CONTROL ELEMENT	

Grand total: 26

NOTES:

1. THIS TABLE IS BASED ON ISA STANDARD ISA-S5.1
2. WHEN USED, A SPECIFIC ABBREVIATION (SEE TABLE BELOW) IS SHOWN AS AN ANNOTATION TO INSTRUMENT SYMBOL.
3. THE INDICATED MEANING, AS ADOPTED PER "USER CHOICE", SHALL BE USED CONSISTENTLY.

ELECTRICAL & CONTROL EQUIPMENT AND FUNCTIONS ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
1/A/2	DUTY P1-AUTO-DUTY P2	FR	FORWARD-REVERSE	LOS	LOCKOUT STOP	REV	REVERSE
A	AUTO	FS	FAST-SLOW	LP	CONTROL PANEL, LIGHTING	RIO	REMOTE INPUT/OUTPUT PLC/RTU MODULES
AA	ALARM ACKNOWLEDGE	FWD	FORWARD	LR	LOCAL REMOTE	RPU	REMOTE PROCESSING UNIT
ACK	ACKNOWLEDGE	FZ	FUSE	M	MOTOR	RST	RESET
ACS	AREA CONTROL SWITCH	G	GROUND	MAN	MANUAL	RTU	REMOTE TELEMETRY/TERMINAL UNIT
AR	ALARM RESET	HL	HIGH-LOW	MCC	MOTOR CONTROL CENTER	S	SIGMA A/SIGMA B
AT	ALARM TEST	H	HAND/HOLD	ME	MOTION ELEMENT	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
C	CLOSE	HET	HEAT TRACE	NC	NORMALLY CLOSED	SL	SIGNAL
CB	CIRCUIT BREAKER	HMI	HUMAN MACHINE INTERFACE	NO	NORMALLY OPENED	SOB	SOFT START- OFF-BYPASS
CCP	CONTROL PANEL FOR COMMUNICATION EQUIPMENT	HMS	HAND MOMENTARY SWITCH OR PUSHBUTTON	O	OPEN/OFF	SP	STOP
CP	CONTROL PANEL	HMSH	PUSH BUTTON START/OPEN	OC	OPEN-CLOSE	SPD	SPEED POTENTIOMETER
CR	RELAY, CONTROL	HMSL	PUSH BUTTON START/CLOSE	OCR	OPEN-CLOSE-REMOTE	SS	START-STOP
D	DISABLE	HS	HAND SWITCH OR PUSH BUTTON OR SELECTOR SWITCH	OL	OVERLOAD	ST	START
DAS	DATA ACQUISITION SYSTEM	HOA	HAND-OFF-AUTO	ON	ON	SV	SERVO
DCS	DISTRIBUTION CONTROL SWITCH	ICP	CONTROL PANEL FOR INSTRUMENT	OO	ON-OFF	T	TRANSFORMER
DISC	DISCONNECT	IO	LOCAL INPUT/OUTPUT PLC/RTU MODULES	OOA	ON-OFF-AUTO	TA	TEST ALARM
E	ENABLE	ISO	ISOLATOR (LOOP)	OOR	ON-OFF-REMOTE	TD	TIME DELAY/RELAY
ES	EMERGENCY STOP	J	JOG	OSC	OPEN-STOP-CLOSE	TEMP	TEMPERATURE CONTROL
ESD	EMERGENCY SHUTDOWN	K	KEY	PF	POWER FAIL RELAY	TSFS	TRANSFER SWITCH
ET	ELAPSED TIME	KES	KEY SWITCH	PLC	PROGRAMMABLE LOGIC CONTROLLER	UPS	UNINTERRUPTIBLE POWER SUPPLY
FC	FAIL CLOSE	KI	TIME INDICATOR (CLOCK)	POT	POTENTIOMETER	VFD/VSD	VARIABLE FREQUENCY/SPEED DRIVE
FO	FAIL OPEN	KQ	TIME TOTALIZE (RUNTIME)	PSU	POWER SUPPLY UNIT	XA	ALARM/GENERAL FAULT
FOR	FORWARD-OFF-REVERSE	L	LOCAL/LOCK	PU	POWER MONITOR		
FOS	FAST-OFF-SLOW	LCP	LOCAL CONTROL PANEL	R	REMOTE		
FPP	FIBRE PATCH PANEL	LOR	LOCAL-OFF-REMOTE	RC	RECORDER		

Grand total: 25

GENERAL NOTES:

1. UNLESS OTHERWISE SPECIFIED TRANSMITTERS SHALL BE TWO (2) WIRE SUITABLE FOR OPERATION ON 24V DC WITH 4-20mA DC OUTPUT.
2. PROVIDE SHUNT RESISTORS & LOOP ISOLATORS AS SHOWN OR WHERE REQUIRED TO OBTAIN REQUIRED 4-20mA SIGNALS.
3. INSTRUMENTATION WIRING TO BE BELDEN 9316, 16 GA, SHIELDED. CABLE TO BE PROVIDED IN A METAL ARMOURED PVC ENCAPSULATED CONDUIT AS REQUIRED TO SUIT THE INSTALLATION.
4. I/O NOT SHOWN TO BE CONSIDERED AS SPARE CAPACITY.
5. VERIFY ALL WIRING PRIOR TO PROCEEDING WITH WORK & NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
6. VERIFY LOCATION OF ALL FIELD DEVICES WITH THE ENGINEER PRIOR TO INSTALLATION.
7. ALL CONTROL AND INSTRUMENTATION SHALL BE ON UPS BACKUP.
8. ALL DISCRETE OUTPUTS SHALL TRANSITION THROUGH DIN RAIL MOUNTED INTERPOSING RELAYS C/W LED STATUS INDICATION.
9. NEW TERMINAL BLOCKS TO BE DIN RAIL MOUNTED TYPE SINGLE LEVEL, PHOENIX CONTACT MOD. UK OR APPROVED EQUAL.
10. ANALOG SIGNAL TERMINAL BLOCKS TO BE KNIFE DISCONNECT TYPE, PHOENIX CONTACT, MOD. MTK OR APPROVED EQUAL.
11. PROVIDE LINE VOLTAGE FILTER/TRANSIENT VOLTAGE SURGE SUPPRESSION AS SHOWN. ACCEPTABLE MANUFACTURER: CUTLER HAMMER AEG11 POWER LINE FILTER OR APPROVED EQUAL.
12. FUSED TERMINAL BLOCKS TO BE PHOENIX CONTACTS MOD. UK-HES1 OR APPROVED EQUAL.
13. PROVIDE 30% SPARE CAPACITY FOR EACH TERMINAL BLOCK TYPE.
14. PROVIDE NEW TERMINAL BLOCKS IN EXISTING PANEL TO SUIT NEW CONTROL WIRING.
15. PROVIDE 20% SPARE CONTROL WIRE CAPACITY IN ALL CONTROL WIRING CONDUITS AND MULTI-CONDUCTOR CABLES.
16. REFERENCE MECHANICAL PROCESS AND ELECTRICAL DRAWINGS FOR LOCATION OF ALL INSTRUMENTATION AND FIELD DEVICES.
17. PROVIDE ALL POWER AND CONTROL WIRING FOR PACKAGED SYSTEMS BASED ON APPROVED SUBMITTAL DRAWINGS FOR RESPECTIVE PACKAGE SYSTEM. THE CONTRACTOR SHALL COORDINATE WITH PACKAGE SYSTEM LAYOUT DRAWINGS AND WIRING SCHEMATICS.
18. ALL ETHERNET COMMUNICATION MEDIA AND HARDWARE IS TO BE CATEGORY 6 TIA/EIA-568-B.2-1
19. ALL CONTROL PANEL MOUNTED INDICATING LIGHTS TO BE LED PUSH TO TEST TYPE.
20. PROVIDE SYNC. CONNECTIONS BETWEEN ULTRASONIC LEVEL TRANSMITTERS THAT HAVE LEVEL ELEMENTS. FIELD WIRING INSTALLED IN THE SAME CONDUIT OR IN CLOSE PROXIMITY (I.E. <=2m SEPARATION).
21. PROVIDE CONTROL PANELS TO SUIT ALL FIELD I/O REQUIREMENTS SHOWN ON THE DRAWINGS INCLUDING ITEMS IDENTIFIED TO BE INSTALLED BY OTHERS.
22. THE CONTRACTOR IS REQUIRED TO PROVIDE AS BUILT MARK UP CONTROL WIRING DRAWINGS.
23. IN GENERAL, THE P&ID SYMBOLS AND DEVICE IDENTIFICATIONS ARE BASED ON INSTRUMENT SOCIETY OF AMERICA, STANDARD PRACTICE ISA-S5.1. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS NEEDED TO ACCOMODATE THE PROJECT REQUIREMENTS.
24. SOME CONTROL AND INTERLOCK REQUIREMENTS WHICH CAN BE MORE CLEARLY ILLUSTRATED ON SCHEMATIC DRAWINGS HAVE BEEN OMITTED FROM THE P&ID DRAWINGS. SOME PROCESS ITEMS SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, ETC., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS HAVE ALSO BEEN OMITTED.
25. THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT.
26. PIPING AND EQUIPMENT LEGEND APPLIES TO P&ID SHEETS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
27. THE SEAL APPLIED ON THE INSTRUMENTATION DRAWINGS ARE BASED ON DIVISION 13, I/O SIGNALS AND P&ID TAGGING. REFER TO PROCESS, MECHANICAL DRAWINGS AND DIVISION 11 FOR PROCESS RELATED INSTRUMENTS, PIPING AND MECHANICAL EQUIPMENT.

KEY PLAN

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LICENSED PROFESSIONAL ENGINEER — 01/20/2026 — D. TODOROVIC — 100540350 — PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER — 2026-01-20 — D. CHILOV — 100946543 — PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

INSTRUMENTATION LEGEND & GENERAL NOTES (1)

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	I-001

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

CONTROL WIRING LEGEND

- NORMALLY CLOSE SPRING RETURN PUSH BUTTON
- NORMALLY OPEN SPRING RETURN PUSH BUTTON
- SELECTOR SWITCH. POSITION TO SUIT APPLICATION
- P.T.T.
- INDICATING LIGHT
  C=A: AMBER C=W: WHITE C=Y: YELLOW
  C=B: BLUE C=G: GREEN C=R: RED
- ME — MOTION ELEMENT
- TD — TIME DELAY RELAY
- CR — CONTROL RELAY
- OFF / HAND / AUTO — 3 POSITION SELECT SWITCH HAND/OFF/AUTO 'X' INDICATES CONTACT CLOSED POSITION FOR RESPECTIVE MODE
- SOLENOID VALVE
- LIMIT SWITCH
- FLOW SWITCH
- LSH — LEVEL SWITCH
- TEMPERATURE SWITCH (NO) CLOSE ON RISE
- PDSH — HIGH PRESSURE DIFFERENTIAL SWITCH
- EMERGENCY STOP BUTTON
- NORMALLY OPEN RELAY CONTACT
- NORMALLY CLOSED RELAY CONTACT
- CIRCUIT BREAKER
- Fz — COMBINATION SWITCHED FUSE BLOCK
- TERMINAL BLOCK
- ANALOG CABLE SHIELD
- GROUND
- DUPLEX RECEPTACLE

ABBREVIATIONS

PLC	PROGRAMMABLE LOGIC CONTROLLER	C	FIBER OPTIC CLOSET CONNECTOR HOUSING PANEL
RPU	REMOTE PROCESSING UNIT	F	PUSH TO TEST
RIO	REMOTE INPUT & OUTPUT HARDWARE	F	FUSE
CP	CONTROL PANEL	L	LINE
ICP	INSTRUMENTATION'S CONTROL PANEL	N	NEUTRAL
		G	GROUND
		S	SHIELD

VALVE & GATE SYMBOLS

- GATE VALVE
- BALL VALVE
- GLOBE VALVE
- BUTTERFLY VALVE
- PLUG VALVE
- CHECK VALVE
- KNIFE GATE VALVE
- PRESSURE REDUCING VALVE - PILOT
- PRESSURE SUSTAINING VALVE
- SELF ACTUATING PRESSURE REDUCING VALVE
- SELF ACTUATING PRESSURE SUSTAINING VALVE
- SURGE VALVE
- DIAPHRAGM VALVE
- BACKFLOW PREVENTER
- GATE FLAP
- HOSE VALVE W/ HOSE NIPPLE
- M — MOTORIZED GATE VALVE
- M — STANDARD ELECTRIC
- VACUUM BREAKER
- SLIDE PLATE
- NEEDLE VALVE
- AIR PURGE
- AIR RELIEF VALVE
- STOP LOG
- DIAPHRAGM SEAL
- CONCENTRIC REDUCER
- CAP OR PLUG
- 'Y' STRAINER
- DUPLEX 'Y' STRAINER
- FLEXIBLE CONNECTOR - FLANGED
- BLIND FLANGE
- ARCH TYPE EXPANSION
- F — FLUSHING CONNECTION
- SLIDE GATE
- STOP GATE
- FINE BUBBLE DIFFUSERS
- CHANNEL AERATION ASSEMBLY
- M / P — MODULATING ELECTRIC

PUMP AND BLOWERS SYMBOLS

- SLUDGE PUMP
- SUMP PUMP
- M — ELECTRIC MOTOR
- BLOWER
- INLINE MIXER
- PROGRESSIVE CAVITY PUMP
- FE 36201 — PARSHALL FLUME

FLOW AND METERING SYMBOLS

- M — MAGNETIC FLOW METER
- TM — THERMAL MASS FLOW METER
- SONIC FLOW METER
- LEVEL SENSING FLOAT
- ULTRASONIC LEVEL ELEMENT
- FE — LEVEL SENSOR

AUTOMATION SYSTEM LEGEND

- CONTROL LOGIX
  17 SLOT CHASSIS
  1756-PA75
- ZZ / PP YYYXX — ETHERNET PATCH PANEL
  CAT6 PANDUIT DP6 PLUS C/W ZZ 12 OF PORTS
  "PP" DENOTES ETHERNET COPPER PATCH PANEL
  "YYY" DENOTES PROCESS AREA NUMBER
  "XX" DENOTES PANEL NUMBER
  "ZZ" DENOTES NUMBER OF PATCH PORTS
- HMI — PANELVIEW PLUS 7 STANDARD TERMINAL,
  TOUCH SCREEN, 15 INCHES, TFT COLOR,
  SINGLE ETHERNET,
  MODEL: 2711P-T15C21D8S
- WAxx / YY — SURFACE/WALL MOUNT ETHERNET JACK
  MODULES, QUANTITY TO SUIT
  YY: DENOTES QUANTITY OF ETHERNET PORTS CONNECTED TO THE RESPECTIVE ORIGINATING SWITCH
  WAxx: WORK AREA OUTLET NUMBER/TAGS FOR EXAMPLE: WA01
- BRS30 — HIRSHMANN
  (BRS30-0404OOOO-SFCY99HHSES)
  MANAGED NETWORK SWITCH C/W
  ETHERNET PORTS AND UPLINK PORTS WITH
  SFP TRANSCEIVERS FOR EACH PORT.
- UPS — UNINTERRUPTABLE POWER SUPPLY
- FPXX — FIBER CLOSET CONNECTOR HOUSING (CCH) PANEL
  "FP" INDICATES FIBER PTCH PANEL
  "XX" DENOTES PANEL NUMBER
- COMMUNICATION POLE
- ETHERNET PATCH PANEL CAT6 PANDUIT DP6 PLUS C/W 8 PORTS
- VFD STARTER C/W COMMUNICATIONS
- COMBINATION RECEPTACLE

LINE SYMBOLS:

- ETHERNET CABLE - CAT 6 10/100/1000 BASE T COMMUNICATIONS
- FIBER OPTIC PATCH CABLE 50mm/125mm
- FIBER OPTIC MULTI-STRAND BACKBONE CABLE 50mm/125mm

ABBREVIATIONS

CCH	FIBER OPTIC CLOSET CONNECTOR HOUSING PANEL
CP	CONTROL PANEL
DRN	DRAINAGE
FRCL	FERROUS
Fz	FUSE
G	GROUND
ICP	INSTRUMENTATION'S CONTROL PANEL LINE
L	LINE
N	NEUTRAL
ODC	ODOUR CONTROL
PLC	PROGRAMMABLE LOGIC CONTROLLER
POLY	POLYMER
PREF	PRIMARY EFFLUENT
PRIN	PRIMARY INFLUENT
PRSC	PRIMARY SCUM
PRS	PRIMARY SLUDGE
PTT	PUSH TO TEST
RAS	RETURN ACTIVATED SLUDGE
RIO	REMOTE INPUT & OUTPUT HARDWARE
RPU	REMOTE PROCESSING UNIT
RWW	RAW WASTEWATER
SH	SHIELD
WAS	WASTE ACTIVATED SLUDGE

MATERIAL CODE

Cu	SCH. 10 COPPER
DI	DUCTILE IRON
PVC	SCH. 80 PVC
SS OR SS304	SCH. 10 304L STAINLESS STEEL
SS316	SCH. 10 316L STAINLESS STEEL

GENERAL NOTES:

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BLIND RIVER
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DRAWING TITLE:

INSTRUMENTATION
LEGEND &
GENERAL NOTES
(2)

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

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N.T.S.	JAN 2026

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T001592B	0	I-002

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INSTRUMENTATION CONTROL PANEL BILL OF MATERIAL

ITEM	TAG	QTY	MAKE	MODEL	DESCRIPTION	CERT.
1.0	ENCL	1	EUROBEX		NEMA 12 PAINTED STAINLESS STEEL, TWO-DOOR ENCLOSURE PHOSPHATIZED, PRIMED, AND PAINTED WITH ASA61 GRAY ENAMEL INSIDE AND OUT; 2286MM (H) X 1829MM (W) X 508MM (D), C/W PAD LOCKABLE HANDLES, 3-POINT LATCHING, WINDOWS & PLASTIC LITERATURE POCKET.	CSA
1.1	BP	1	EUROBEX		BACK PANELS, QTY 1 OF 1981MM(H) X 1726MM(W)	CSA
1.2	SHLF	1	EUROBEX	880 FS1818	FOLDING SHELF, METAL, 18"x18"	CSA
2	FL1	1	CFI	SB124-120SO	24" 120VAC LIGHT FIXTURE C/W LAMP	CSA
3	LS1	1	OMRON	A-20GQ-B7-K	PANEL DOOR ACTIVATED LIGHT SWITCH, 7.5A, c/w SWITCH COVER (PART #: AP-Z)	CSA
4	PS1,2	2	PHOENIX CONTACT	2866750	24VDC 5A POWER SUPPLY, QUINT-PS/1AC/24DC/5	CSA
5	EY	1	PHOENIX CONTACT	2320157	REDUNDANCY MODULE, 2 x 20A (INPUT)MAX, DIODE/12-24DC/2X20/1X40	CSA
6	S-S	1	PHOENIX CONTACT	2856812	120VAC IN/OUT SURGE PROTECTOR, 26A, PT2-PE/S-120AC/FM	CSA
7	CB1, CB2	2	ABB/ENTRELEC	SU201M-Z20	120VAC 60HZ 20A 1 POLE CIRCUIT BREAKER	CSA
8			ABB/ENTRELEC	011566121	120VAC FUSE TERMINAL BLOCK WITH INDICATOR c/w FAST ACTING FUSE	CSA
9		AS REQ	ABB/ENTRELEC	011566323	24VDC FUSE TERMINAL BLOCK WITH INDICATOR c/w FAST ACTING FUSE	CSA
10	IL1	1	ALLEN BRADLEY	800H-QRTH2W	"POWER OK" WHITE PUSH-TO-TEST LED, PILOT LIGHT	CSA
11	IL2	1	ALLEN BRADLEY	800HP-LE4	"GENERAL FAULT" RED CAP EXTENDED PUSH-TO-TEST BUTTON	CSA
12	TB's (NOTE 1)	AS REQ	ABB/ENTRELEC	011511607	GREY SINGLE DECK TERMINAL BLOCK	CSA
				012511601	BLUE SINGLE DECK TERMINAL BLOCK	CSA
				011568714	SWITCH TERMINAL BLOCK WITH BLADE	CSA
				011836816	SINGLE DECK TERMINAL BLOCK END PLATE	CSA
				011695115	FUSE TERMINAL BLOCK END PLATE	CSA
				010300226	END STOP	CSA
13	DIN	AS REQ	PHOENIX CONTACT	1201730	TS 35x7.5 DIN RAIL. STEEL	CSA
14		AS REQ	PANDUIT	TYPE F	GRAY PVC WIRE DUCT & COVER, SIZE AS ON LAYOUT DRAWING	CSA
15.0	REC1	1	HUBBELL	HBL5262I	120VAC 15A DUPLEX RECEPTACLE, NEMA 5-15R, IVORY	CSA
15.1	REC2	1	HUBBELL	RR201	120VAC 20A SIMPLEX RECEPTACLE, NEMA 5-20R, BROWN	CSA
16	RBOX	2	IBERVILLE	BC1110	RECEPTACLE BOX	CSA
17		1	PHOENIX CONTACT	5500521	120VAC 5A RECEPTACLE WITH RJ45 CONNECTOR	CSA
18	UPS01	1	POWERWARE	9SX1500	120VAC/120VAC UPS,1500VA/1350W, ETHERNET COMPATIBLE	CUL
	EBM1	1	POWERWARE	9SXEBM48	EXTENDED BATTERY MODULE FOR 9SX1500	CUL
		1	POWERWARE	RELAY-MS	RELAY INTERFACE CARD UPS, CONTACT RATED 40VAC/50VDC, 1A (5 CONTACTS) 200mA (PER CONTACT)	CUL
19	MBM	1	POWERWARE	EHBPL1500R-PDU1U	MAINTENANCE BYPASS MODULE	CSA
20	PS1EA, PS2EA, XA, CRXX	17	OMRON	G2R-1-SN-DC24S	24VDC SPDT INTERPOSING RELAY WITH INDICATOR, CONTACT 10A	CSA
				P2RF-05-E	SCREW TERMINAL SOCKET SPDT INTERPOSING RELAY	CSA
21	PFR, CR-XA, DOs	50	OMRON	G2R-1-SN-AC120S	120VAC SPDT INTERPOSING RELAY WITH INDICATOR, CONTACT 10A	CSA
				P2RF-05-E	SCREW TERMINAL SOCKET SPDT INTERPOSING RELAY	CSA
22	ICP-0001	1	ALLEN BRADLEY	1756-A17	17 SLOT CHASSIS	CSA
		1	ALLEN BRADLEY	1756-PA75	120VAC 60Hz POWER SUPPLY, 100VA MAX @ INPUT	CSA
		1	ALLEN BRADLEY	1756-N2	EMPTY SLOT COVER	CSA
		1	ALLEN BRADLEY	1756-L83E	CONTROLOGIX CPU WITH 10MB USER MEMORY	CSA
		6	ALLEN BRADLEY	1756-IA16I	16 POINT ISOLATED DISCRETE INPUT MODULE, 120VAC	CSA
		3	ALLEN BRADLEY	1756-OA16I	16 POINT ISOLATED RELAY DISCRETE OUTPUT MODULE, N.O. CONTACT	CSA
		4	ALLEN BRADLEY	1756-IF8IH	8 POINT ISOLATED ANALOG INPUT MODULE WITH HART PROTOCOL, 4-20mA	CSA
		2	ALLEN BRADLEY	1756-OF8I	8 POINT ISOLATED ANALOG OUTPUT MODULE, 4-20mA	CSA
		2	ALLEN BRADLEY	1756-TBNH	REMOVABLE TERMINAL BLOCK HOUSING FOR DI & AO (20 PINS)	
		2	ALLEN BRADLEY	1756-TBCH	REMOVABLE TERMINAL BLOCK HOUSING FOR DO & AI (36 PINS)	
23		AS REQ	ILSCO	N-174	COPPER GROUND BAR 6-14 AWG	CSA
24		AS REQ	ILSCO	SLU-125	COPPER GROUND LUG 1/0-6 AWG	CSA
25		1	HIRSCHMANN	BRS30-8TX/4SFP	(BRS30-0404OOOO-SFCY99HHSES) MANAGED NETWORK SWITCH C/W ETHERNET PORTS AND UPLINK PORTS WITH SFP TRANSCEIVERS FOR EACH PORT.	CSA
26	HMI1	1	ALLEN BRADLEY	PANEL VIEW PLUS 7	15" HMI TOUCH C/W FACTORYTALK VIEW ME SOFTWARE	CUL
27		1	CUSTOM MADE		BREAKER AND FUSE TABLE WITH PLEXIGLASS COVER	CSA
28		1	PANDUIT	CDPP8RG	ETHERNET PATCH PANEL CAT6 PANDUIT DP6 PLUS C/W 8 PORTS	CSA

KEY PLAN

ENGINEER'S SEAL:

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

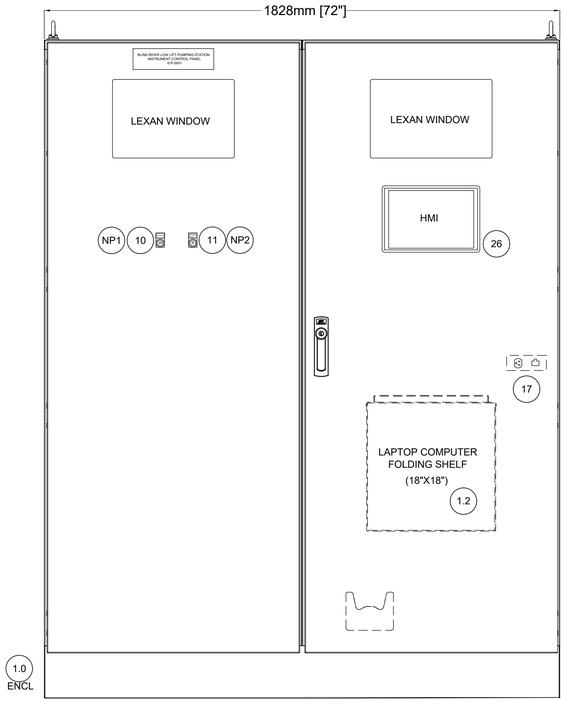
INSTRUMENT
CONTROL PANEL
BILL OF MATERIAL

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED

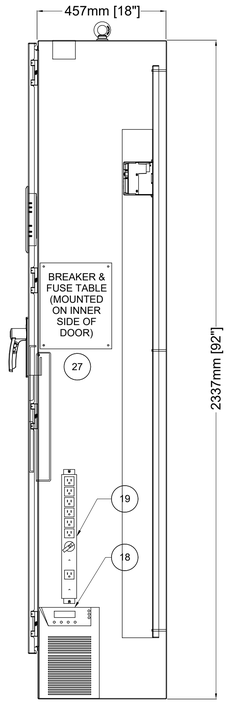
N.T.S.	JAN 2026
SCALE	DATE

T001592B	0	I-501
PROJECT NO.	REVISION	DRAWING

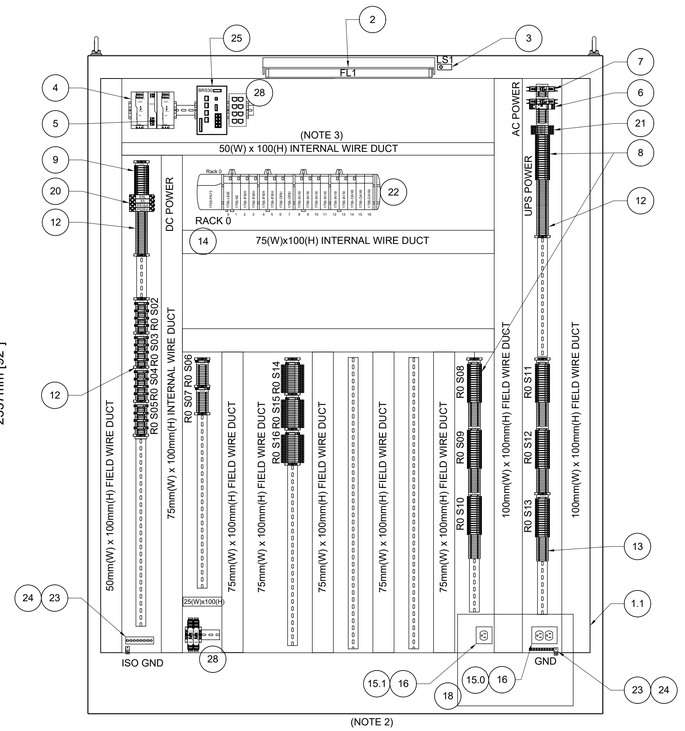
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt



PANEL FRONT LAYOUT



SIDE VIEW



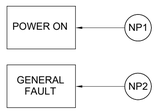
(NOTE 2)

INTERNAL LAYOUT

1 INSTRUMENT CONTROL PANEL

SCALE: NTS

NAMEPLATE LEGEND



NOTES:

1. PROVIDE A CONCRETE HOUSE KEEPING PAD FOR EACH ICP.
2. CONTROL ENCLOSURES TO BE FULL DEPTH C/W BACK PLATE FOR MOUNTING.
3. PROVIDE VENTILATION FOR THE CONTROL PANEL AS REQUIRED TO MITIGATE TEMPERATURE RISE INSIDE OF THE RESPECTIVE PANEL. PANEL TEMPERATURE SHALL NOT EXCEED 29 DEGREES CELSIUS. ALL VENTILATION OPENINGS SHALL C/W REMOVABLE FILTERS.
4. PROVIDE CONTINUOUS CLEAR CONTROL PANEL FLOOR SPACE TO SUIT THE UPS INSTALLATION, INCLUDING A 50MM PERIMETER OF CLEAR FLOOR AREA BEYOND THE UPS FOOT PRINT.
5. PROVIDE 200 MM MINIMUM CLEARANCE TO SUIT THE FRONT UPS DISPLAY AND 150 MM CLEARANCE TO SUIT THE UPS REAR RECEPTACLES.
6. PROVIDE A FOLD DOWN SHELF AND COMBINATION RECEPTACLE ON THE INSIDE DOOR OF THE CONTROL PANEL.
7. ALL CONTROL SYSTEM COMPONENTS INCLUDING TERMINAL BLOCKS, WIRING, WIRE WAYS, PC, ETC. ARE TO BE MOUNTED ON THE BACK PLATE. PROVIDE ADDITIONAL CONTROL SECTIONS AS REQUIRED TO SUIT THE DESIGN OF THE CONTROL PANEL APPLICATION. DO NOT MOUNT ANY CONTROL SYSTEM COMPONENTS ON THE RESPECTIVE PANEL SIDE WALLS.
8. PANDUIT TYPE WIRE WAYS SHOWN ON LAYOUT ARE TO BE CONSIDERED MINIMUM REQUIREMENT. THE CONTRACTOR IS REQUIRED TO DESIGN THE PANEL LAYOUT TO SUIT THE SPECIFIC APPLICATION.
9. UPS POWER FEED RECEPTACLE COLOR TO BE ORANGE.
10. PROVIDE SUFFICIENT CLEARANCE HEIGHT FOR ALL COMMUNICATION'S SHELVING TO SUIT COMMUNICATION EQUIPMENT AS REQUIRED.
11. PROVIDE ADDITIONAL CONTROL PANEL SECTION AS REQUIRED IN TERMS OF WIDTH OF THE PANEL. ADDITIONAL SECTION TO BE PART OF A SINGLE MULTI DOOR PANEL ARRANGEMENT. THE MINIMUM IS A TWO-DOOR PANEL CONTRACTOR TO COORDINATE THE HOUSEKEEPING PAD DIMENSIONS AND FLOOR CORING REQUIREMENT WITH THE CONTROL PANEL DIMENSIONS.
12. THE CONTROL PANEL LAYOUT IS FOR ILLUSTRATION PURPOSES. CONTRACTOR IS TO DESIGN THE CONTROL PANEL LAYOUT BASED ON THE ILLUSTRATION DRAWING THAT HAS BEEN PROVIDED.
13. THE NEW ICP SHALL BE INSTALLED ON CONCRETE PAD. THE CONCRETE PAD IS TO MATCH THE HEIGHT OF THE MCC PAD.
14. EACH LOOP POWERED DEVICE SHALL USE ITS OWN POWER SOURCE FUSE. USING A COMMON BREAKER/FUSE FOR MORE THAN 1 LOOP POWERED DEVICE IS UNACCEPTABLE.
15. ALL OTHER ANALOG INSTRUMENTS ARE TO BE LOOP POWERED VIA THE IC POWER SUPPLY.
16. ALL WIRE LABELS SHALL BE HEAT SHRUNK PRIOR TO THE PANEL BEING SHIPPED.
17. CONTRACTOR TO REFER TO THE CONTRACT I/O LIST TO DETERMINE THE SIZE OF THE PANEL BASED ON RACK NUMBER AND SPARE SPACE AND I/O QUANTITY. THE PANEL LAYOUT IS SHOWN FOR ILLUSTRATION PURPOSES ONLY WITH ONE RACK AND ONE SPACE FOR FUTURE. THE I/O LIST MAY INCLUDE LESS RACKS OR MORE RACKS. THE ICP SHALL BE SIZES AND DESIGNED TO SUIT THE I/O LIST DESIGN.
18. INSTALL THE HMI 1.55m FROM THE FLOOR (INCLUDING CONCRETE PAD) TO THE CENTER OF THE HMI.

KEY PLAN

ENGINEER'S SEAL:

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

INSTRUMENT
CONTROL PANEL
LAYOUT

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	I-502

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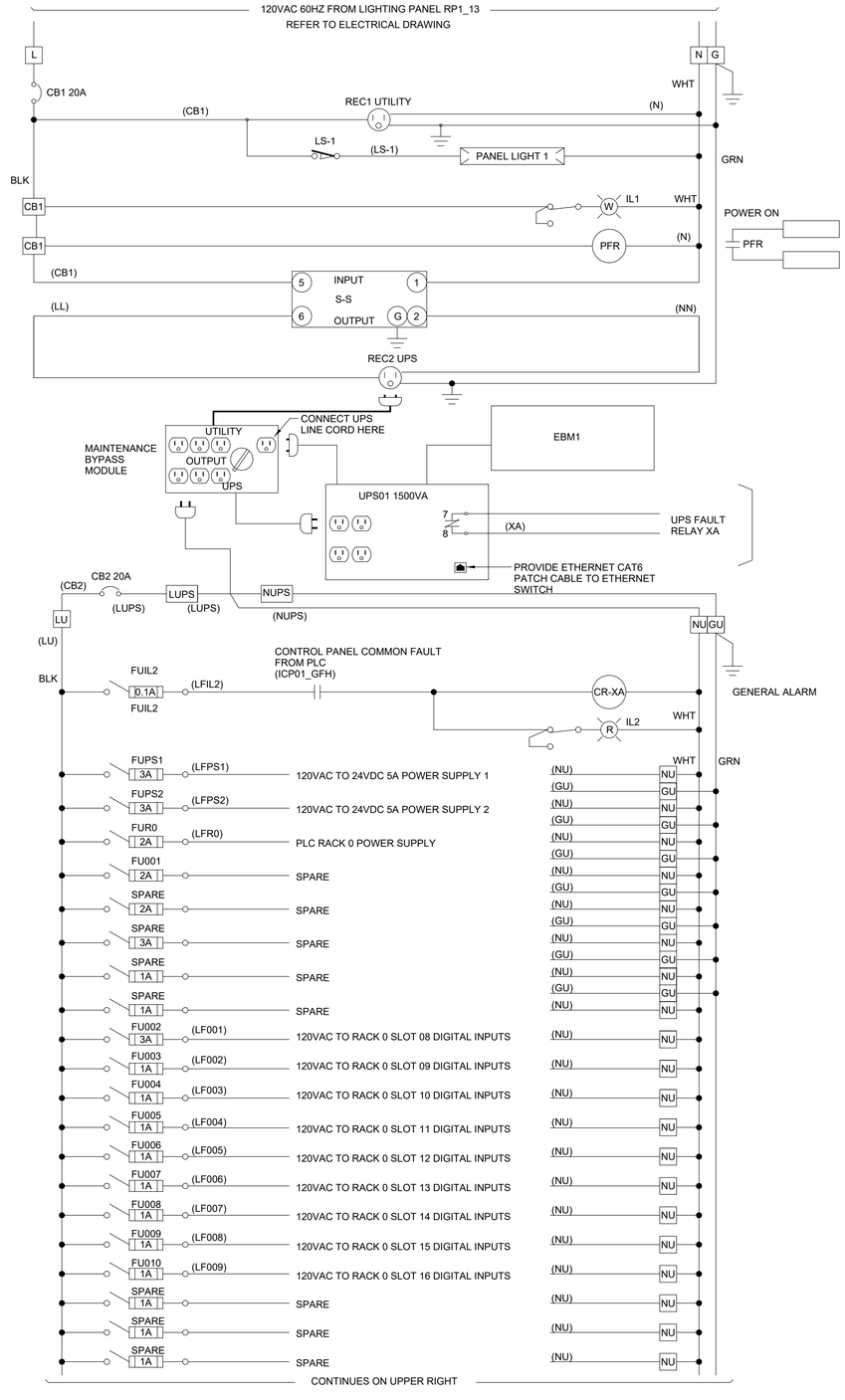

NOTES:

1. PROVIDE LOOP POWER TO ALL 24 VDC LOOP POWERED DEVICES SUCH AS ULTRASONIC LEVEL TRANSMITTERS AND PRESSURE TRANSMITTERS.
2. EACH LOOP POWERED DEVICE SHALL USE A DEDICATED FUSE FOR POWER. USING A COMMON FUSE FOR MULTIPLE DEVICES IS NOT ACCEPTABLE.
3. ALL WIRE LABELS SHALL BE HEAT SHRUNK PRIOR TO THE PANEL BEING SHIPPED.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
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PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100946543
PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

INSTRUMENT CONTROL PANEL POWER DISTRIBUTION (1)

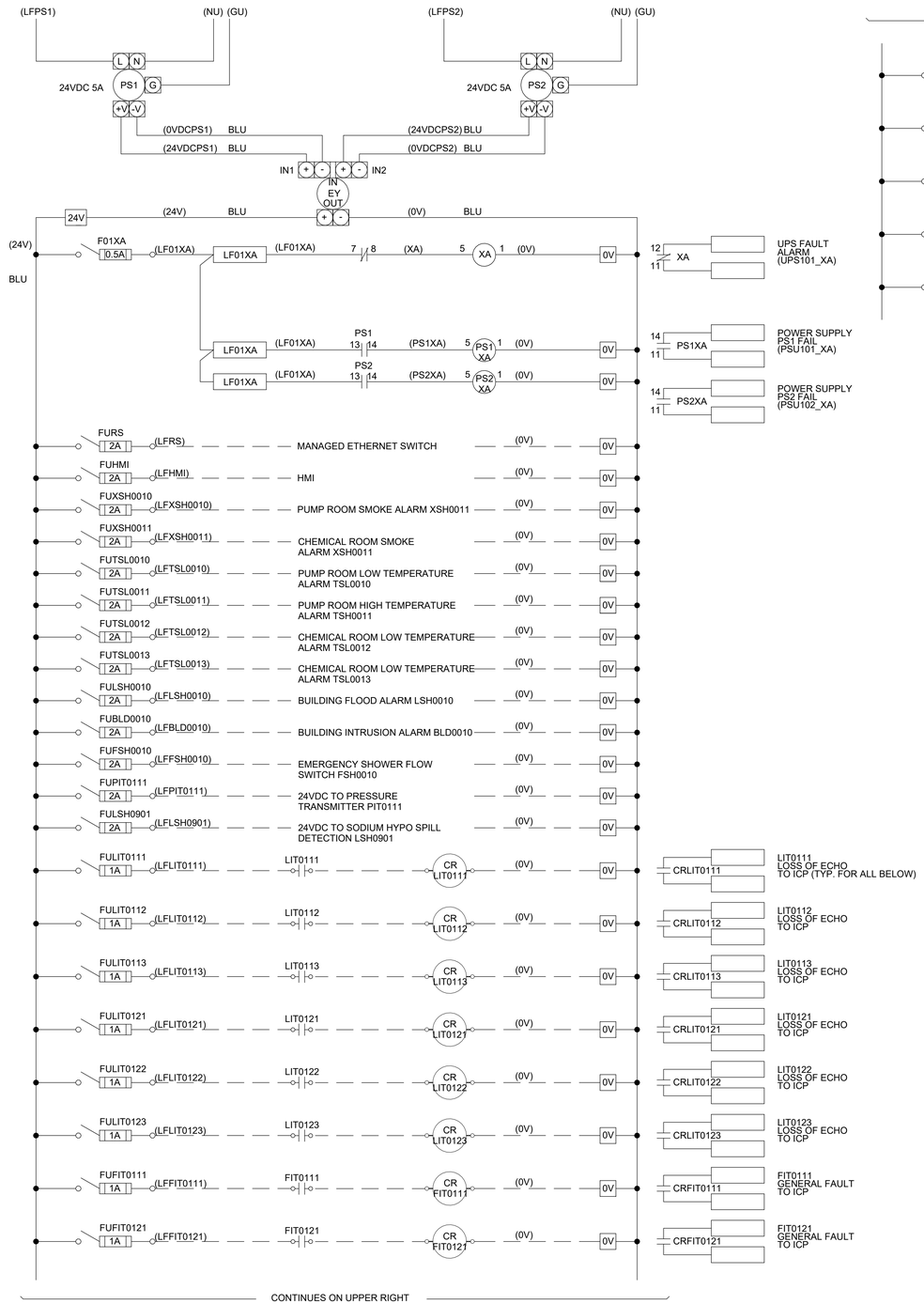
DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	I-503

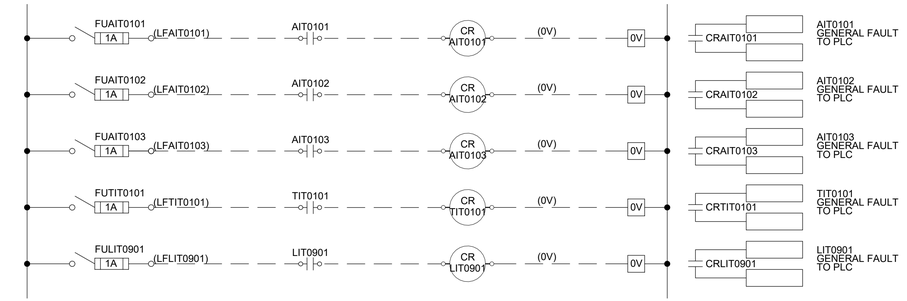
PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

SEE DWG. I-503



CONTINUES ON UPPER RIGHT

CONTINUES FROM LEFT



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2026-01-20
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PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

INSTRUMENT
CONTROL PANEL
POWER
DISTRIBUTION (2)

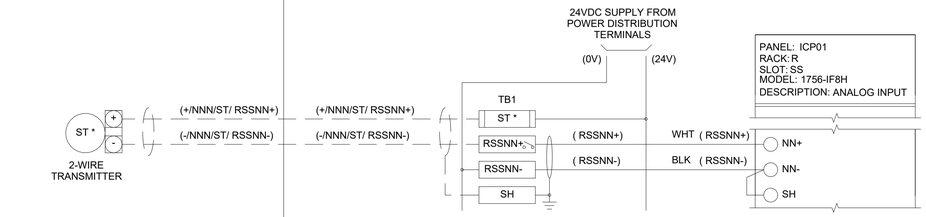
DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	I-504

PATH: Autodesk Docs://C12 Blind River LLPS - T001592B/1592-E Blind River Elec.rvt

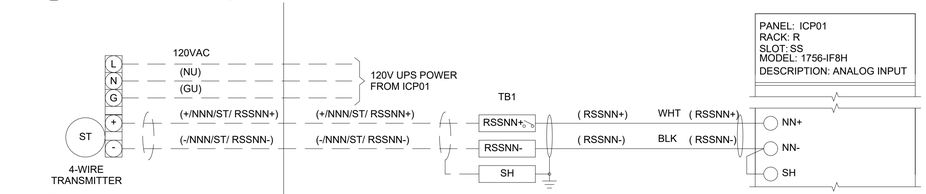
INPUTS



1 TYPICAL LOOP DIAGRAM FOR 2 WIRE TRANSMITTERS

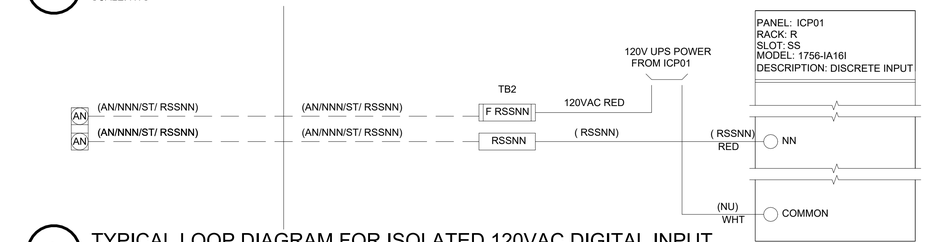
SCALE: NTS

* ST = SIGNAL TAG NAME (e.g. PITxxx01)



2 TYPICAL LOOP DIAGRAM FOR 4 WIRE TRANSMITTERS

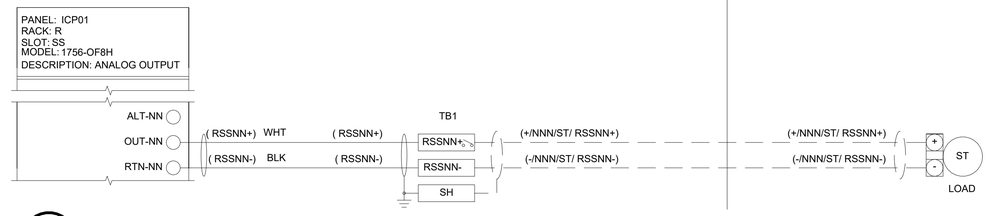
SCALE: NTS



3 TYPICAL LOOP DIAGRAM FOR ISOLATED 120VAC DIGITAL INPUT

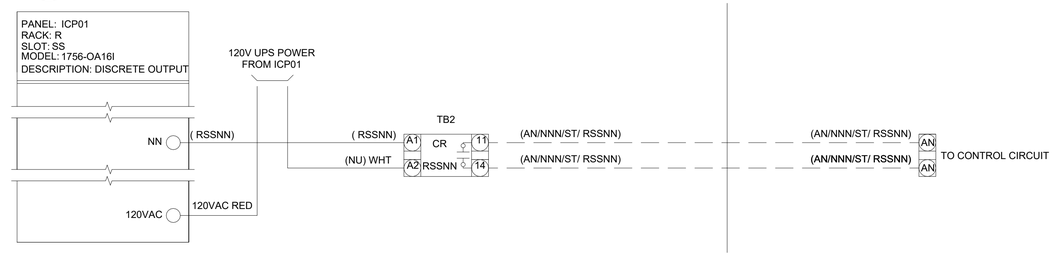
SCALE: NTS

OUTPUTS



4 TYPICAL LOOP DIAGRAM FOR ANALOG OUTPUT MODULE

SCALE: NTS

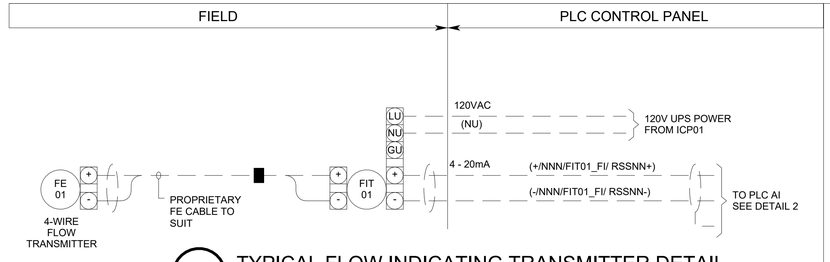


5 TYPICAL LOOP DIAGRAM FOR 120VAC DIGITAL RELAY OUTPUT MODULE & INTERPOSING RELAY

SCALE: NTS

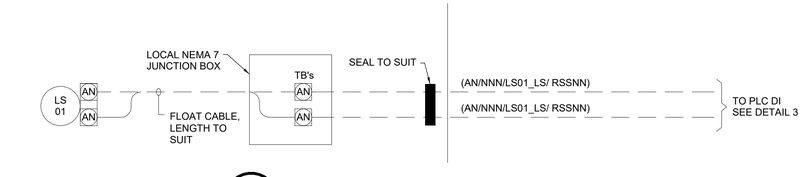
TERMINALS & LINE SYMBOL

- DENOTES INTERNAL CONTROL PANEL WIRING
- DENOTES FIELD WIRING BY ELECTRICAL CONTRACTOR.
- DEVICE TERMINAL
- TERMINAL BLOCK IN CONTROL PANEL (ICP01)
- AN — TERMINAL BLOCK IN FIELD OR INSTRUMENT/DEVICE TERMINAL BLOCK
- FRSSNN — FUSED TERMINAL BLOCK, (FUSE SIZE TO SUIT LOAD)
- RSSNN — FIELD WIRING TERMINAL BLOCK FOR IO CARDS
- SH — SHIELD TERMINAL BLOCK
- 11 / CR RSSNN / 14 — A1 / A2 — DIGITAL OUTPUT RELAY
- xxx — DENOTES STATION NUMBER



6 TYPICAL FLOW INDICATING TRANSMITTER DETAIL

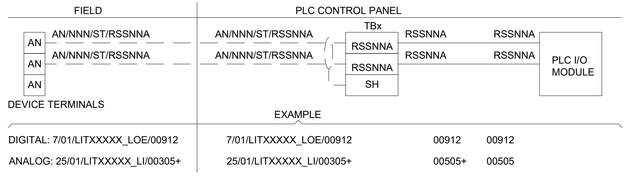
SCALE: NTS



7 TYPICAL LEVEL SWITCH DETAIL

SCALE: NTS

WIRE NUMBERING STANDARD (TYP.)



EXAMPLE

DIGITAL: 7/01/LITXXXXX_LOE/00912	7/01/LITXXXXX_LOE/00912	00912	00912
ANALOG: 25/01/LITXXXXX_LI/00305+	25/01/LITXXXXX_LI/00305+	00505+	00505

NOTE FOR WIRE MARKER AT THE FIELD DEVICE:

1. THE WIRE MARKER FOR THE FIELD DEVICE END SHALL BE AS FOLLOWS:
AN/NNN/ST/RSSNNA - WHERE "AN" STANDS FOR ALPHANUMERIC DESIGNATION OF THE TERMINAL ON THE FIELD DEVICE, "NNN" STANDS FOR THE ICP NUMBER, "ST" STANDS FOR THE SIGNAL TAG NAME, AND "RSSNNA" STANDS FOR TERMINAL NUMBER INSIDE ICP, ACCORDING TO TERMINALS' IDENTIFICATION NOTED BELOW.

NOTE FOR WIRE MARKER AT THE ICP END, WIRING GOING TO FIELD DEVICE:

1. USE THE SAME WIRE MARKER AS AT THE OTHER END.

NOTE FOR WIRE MARKER ON ICP FOR WIRE GOING FROM TBx TO PLC MODULE:

1. THE WIRE MARKER FOR THE ICP END WIRE GOING TO PLC MODULE SHALL BE AS FOLLOWS:
"RSSNNA" - WHERE "RSSNNA" STANDS FOR ICP TERMINAL NUMBER, ACCORDING TO TERMINALS IDENTIFICATION NOTED BELOW.

NOTE FOR WIRE MARKER IN ICP AT PLC MODULE END:

1. USE THE SAME WIRE MARKER AS AT THE OTHER END.

NOTE FOR ICP TERMINAL BLOCKS AND TERMINALS IDENTIFICATION:

1. TBx IDENTIFIES THE TERMINAL BLOCKS, WERE
x=1 FOR ANALOG SIGNAL TERMINAL BLOCK
x=2 FOR DI/DO SIGNAL TERMINAL BLOCK
2. ICP TERMINAL NUMBERS HAVE THE "RSSNNA" ASSIGNMENT, WHERE "R" STANDS FOR THE RACK NUMBER, "SS" STANDS FOR THE SLOT NUMBER, "NN" STANDS FOR THE CHANNEL NUMBER IN THE I/O MODULE, AND "A" (FOR ANALOG MODULES ONLY) STANDS FOR THE POLARITY OF THE MARKING ON THE MODULE.
3. "SS" & "NN" INCLUDE A LEADING ZERO WHERE SLOT/CHANNEL NUMBER IS LESS THAN 10.
4. EACH GROUP OF TERMINALS ASSOCIATED WITH AN I/O CARD SHALL BE LABELED AS "RSS" TO IDENTIFY THE CARD BASED ON "R" - RACK AND "SS" - SLOT NUMBER.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
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PROVINCE OF ONTARIO

DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

TYPICAL IO
WIRING DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	I-505

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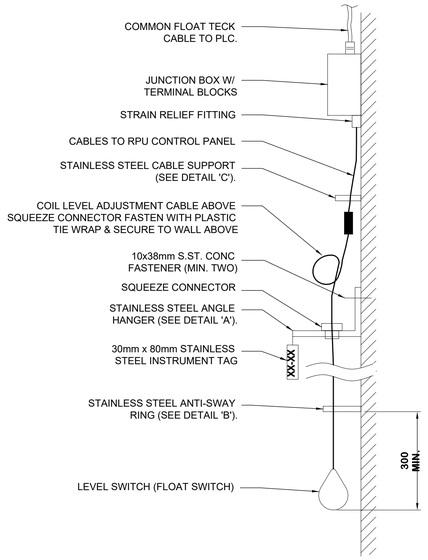
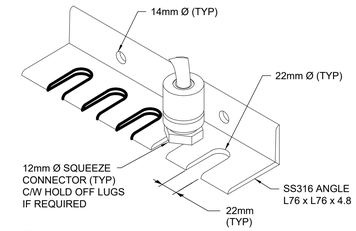


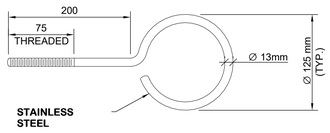
1 LEVEL SWITCH INSTALLATION DETAIL (TYP.)

SCALE: NTS



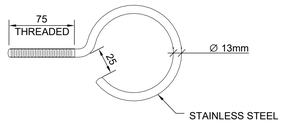
1A FLOAT SUPPORT ANGLE DETAILS

SCALE: NTS



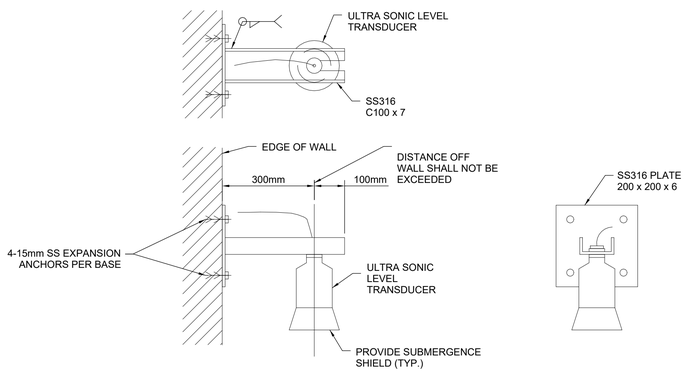
1B SWAY CONTROL RING DETAIL

SCALE: NTS



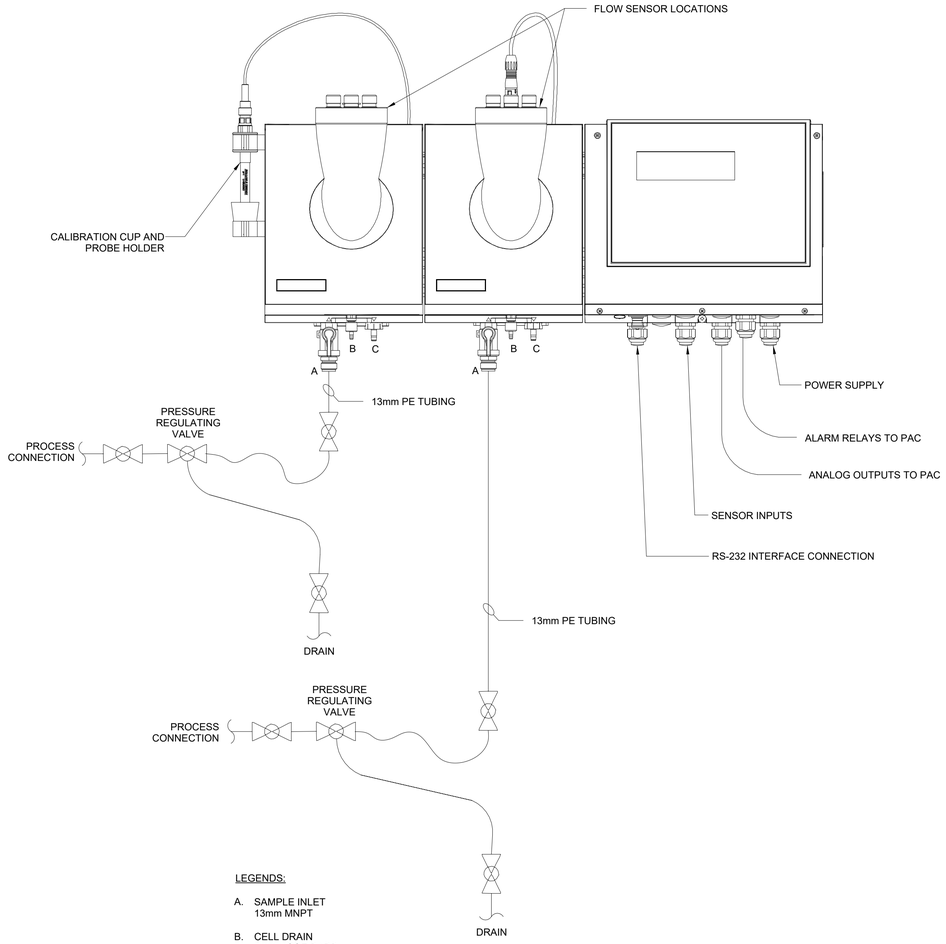
1C CABLE SUPPORT HOOK DETAILS

SCALE: NTS



2 TYPICAL LEVEL TRANSDUCER INSTALLATION DETAIL

SCALE: NTS



LEGENDS:

A. SAMPLE INLET
13mm MNPT

B. CELL DRAIN
5mm HOSE BARB

C. SAMPLE OUTLET
6mm HOSE BARB

NOTES:

1. LOCATE INSTRUMENTS AS SHOWN ON PLANS.
2. SECURE INSTRUMENTS TO WALL WITH SST CONCRETE ANCHORS SUITABLE FOR BLOCKWALLS.
3. PIPE NIPPLES SHALL BE SCHEDULE 40 STAINLESS STEEL, MAXIMUM 30mm FROM PROCESS PIPE OR PIPE LAGGING.
4. CONDUIT (AND CABLE) ENTRY CONNECTION TO THE INSTRUMENT SHALL BE 900mm FLEXIBLE, THE BALANCE IN RIGID CONDUIT.
5. INSTRUMENT ELECTRONICS NOT MOUNTED/INSTALLED INDOORS MUST BE INSTALLED WITHIN HEATED FIBERGLASS ENCLOSURE WITH VIEWING WINDOW.
6. NEVER USE COPPER TUBING FOR SAMPLE WATER.
7. PRESSURE REGULATING VALVE INSTALLED ON SAMPLE LINE TO MAINTAIN CONSTANT FLOW AND MANUFACTURER PRESSURE LIMITS.

3 AMPEROMETRIC FREE CHLORINE ANALYZER

SCALE: NTS

KEY PLAN

ENGINEER'S SEAL:

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D. TODOROVIC
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JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

INSTRUMENTATION
DETAILS SHEET 1

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED
N.T.S.		JAN 2026	
SCALE		DATE	

T001592B	0	I-506
PROJECT NO.	REVISION	DRAWING

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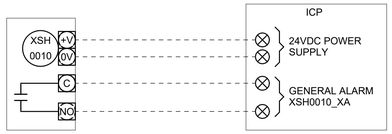
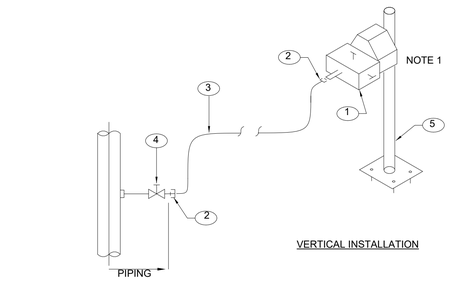


1 TYPICAL NEW SMOKE DETECTOR OR TEMPERATURE SWITCH CONTROL WIRING DETAIL (TYPICAL FOR XSH0011)



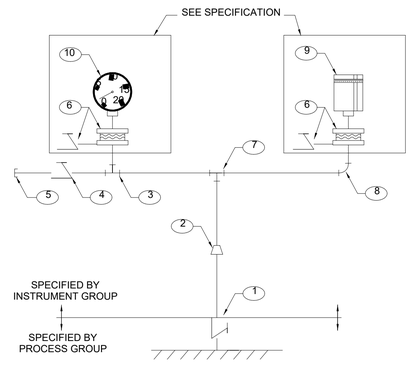
NOTES:

1. PRESSURE TRANSMITTER TO BE MOUNTED ON PIPE STAND ABOVE PIPING CONNECTION FOR GAS SERVICE AND BELOW PIPING CONNECTION FOR LIQUID SERVICE.
2. PRESSURE GAUGE TO BE INSTALLED AT EACH POINT OF PRESSURE TRANSMITTER INSTALLATION.

ITEM	SIZE	QUANTITY	DESCRIPTION
1	1/2"	1	2 VALVE MANIFOLD (ANDERSON GREENWOOD PTMVC)
2	1/2" X 1/2"	2	MALE CONNECTOR, 316 S.S., 12.7mm O.D. TUBE X 12.7mm NPT, SWAGELOK
3	1/2"	1	TUBING, 304 S.S., 12.7mm O.D., 1.25mm WALL
4			GAUGE VALVE C/W BLOW DOWN
5			INSTRUMENT PIPE STAND

2 PRESSURE TRANSMITTER INSTALLATION

SCALE:N.T.S.

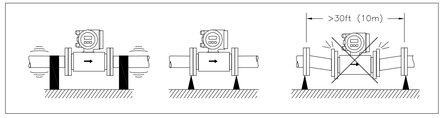


NOTES:
1. PRESSURE GAUGE AND SEAL ASSEMBLED ARE LIQUID FILLED AT FACTORY.
2. LOCATE AS CLOSE AS POSSIBLE TO PUMP/EQUIPMENT CONNECTIONS UNLESS NOTED.
3. FOR LIQUID APPLICATIONS ROOT VALVE SHOULD BE SIDE MOUNTED (ON THE PIPE).
4. FOR GAS APPLICATIONS ROOT VALVE SHOULD BE TOP MOUNTED (ON THE PIPE).

ITEM	SIZE	QUANTITY	DESCRIPTION
1	40mm NPT	1	BALL VALVE (BY PROCESS)
2	40mm NPT	1	REDUCER (40mm x 25mm)
3	25mm NPT	1	TEE (25mm x 25mm x 6mm)
4	6mm NPT	1	SS HAND VALVE (CALIBRATION PORT), MODEL # H1-S-22, ANDERSON GREENWOOD
5	6mm NPT	1	CAP
6	BOTTOM CONN. 25mm TOP CONN. 12mm	2	DIAPHRAGM SEAL C/W 6mm BLOW OFF/FLUSHING VALVE MODEL # "VA" BLEED PLUG, ANDERSON GREENWOOD
7	25mm NPT	1	TEE (25mmX25mmX25mm)
8	25mm NPT	1	ELBOW (25mmX25mm)
9	SEE SPECIFICATION	1	PRESSURE SWITCH
10	SEE SPECIFICATION	1	PRESSURE GAUGE

3 PRESSURE SWITCH/GAUGE INSTALLATION DETAIL

SCALE:N.T.S.

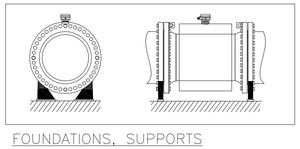


VIBRATIONS

SECURE THE PIPING AND THE SENSOR IF VIBRATION IS SEVERE.

CAUTION:

INSTALL SENSOR AND TRANSMITTER SEPARATELY IF VIBRATION IS EXCESSIVELY SEVERE.

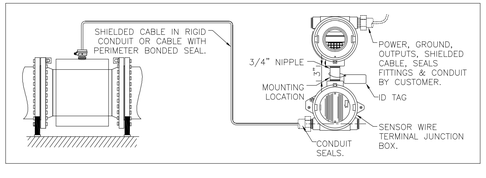


FOUNDATIONS, SUPPORTS

IF THE NOMINAL DIAMETER IS 14", MOUNT THE TRANSMITTER ON A FOUNDATION OF ADEQUATE LOAD-BEARING STRENGTH.

CAUTION:

DO NOT ALLOW THE CASING TO TAKE THE WEIGHT OF THE SENSOR. THIS CAN BUCKLE THE CASING AND DAMAGE THE INTERNAL MAGNETIC COILS.



4 MAGNETIC FLOWMETER MOUNTING DETAIL

SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT:

Blind River

CONSULTANT:

CIMA+

CONSULTANT:

TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

INSTRUMENTATION
DETAILS SHEET 2

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED
N.T.S.		JAN 2026	
SCALE		DATE	
T001592B	0	I-507	
PROJECT NO.	REVISION	DRAWING	

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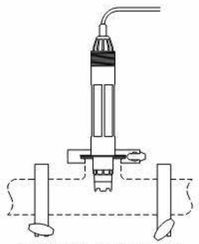
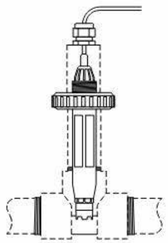
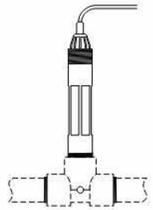


SENSOR SANITARY MOUNT

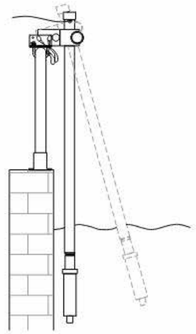


SENSOR UNION MOUNT



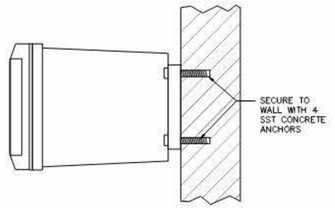
SENSOR FLOW-THROUGH MOUNT

SENSOR INSERTION MOUNT

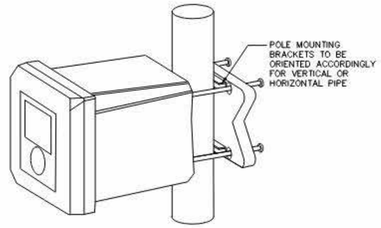


SENSOR IMMERSION MOUNT

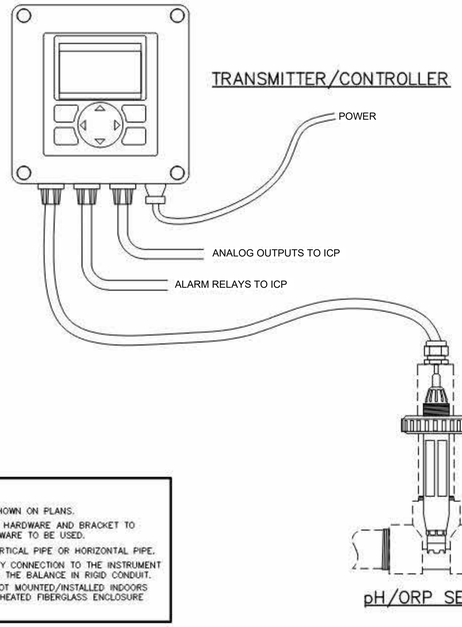
1 pH/ORP SENSOR MOUNTING
SCALE:N.T.S.



WALL MOUNT



PIPE MOUNT



NOTES:
1. LOCATE INSTRUMENTS AS SHOWN ON PLANS.
2. MANUFACTURER'S MOUNTING HARDWARE AND BRACKET TO BE USED. STAINLESS HARDWARE TO BE USED.
3. PIPE MOUNT MAY BE ON VERTICAL PIPE OR HORIZONTAL PIPE.
4. CONDUIT (AND CABLE) ENTRY CONNECTION TO THE INSTRUMENT SHALL BE 900mm FLEXIBLE, THE BALANCE IN RIGID CONDUIT.
5. INSTRUMENT ELECTRONICS NOT MOUNTED/INSTALLED INDOORS MUST BE INSTALLED WITHIN HEATED FIBERGLASS ENCLOSURE WITH VIEWING WINDOW.

2 pH/ORP TRANSMITTER INSTALLATION
SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
100540350
PROVINCE OF ONTARIO

LICENSED PROFESSIONAL ENGINEER
2026-01-20
D. CHILOV
100946543
PROVINCE OF ONTARIO

JAN 2026	0	ISSUED FOR TENDER	MG	DC
DATE	REV.	REVISION	BY	APP'D

CLIENT:
Blind River

CONSULTANT:
CIMA+

CONSULTANT:
TULLOCH

PROJECT TITLE:
BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:
INSTRUMENTATION
DETAILS SHEET 3

RW	DT	DC	MG
DRAWN	DESIGNED	CHECKED	APPROVED

N.T.S.	JAN 2026
SCALE	DATE

T001592B	0	I-508
PROJECT NO.	REVISION	DRAWING

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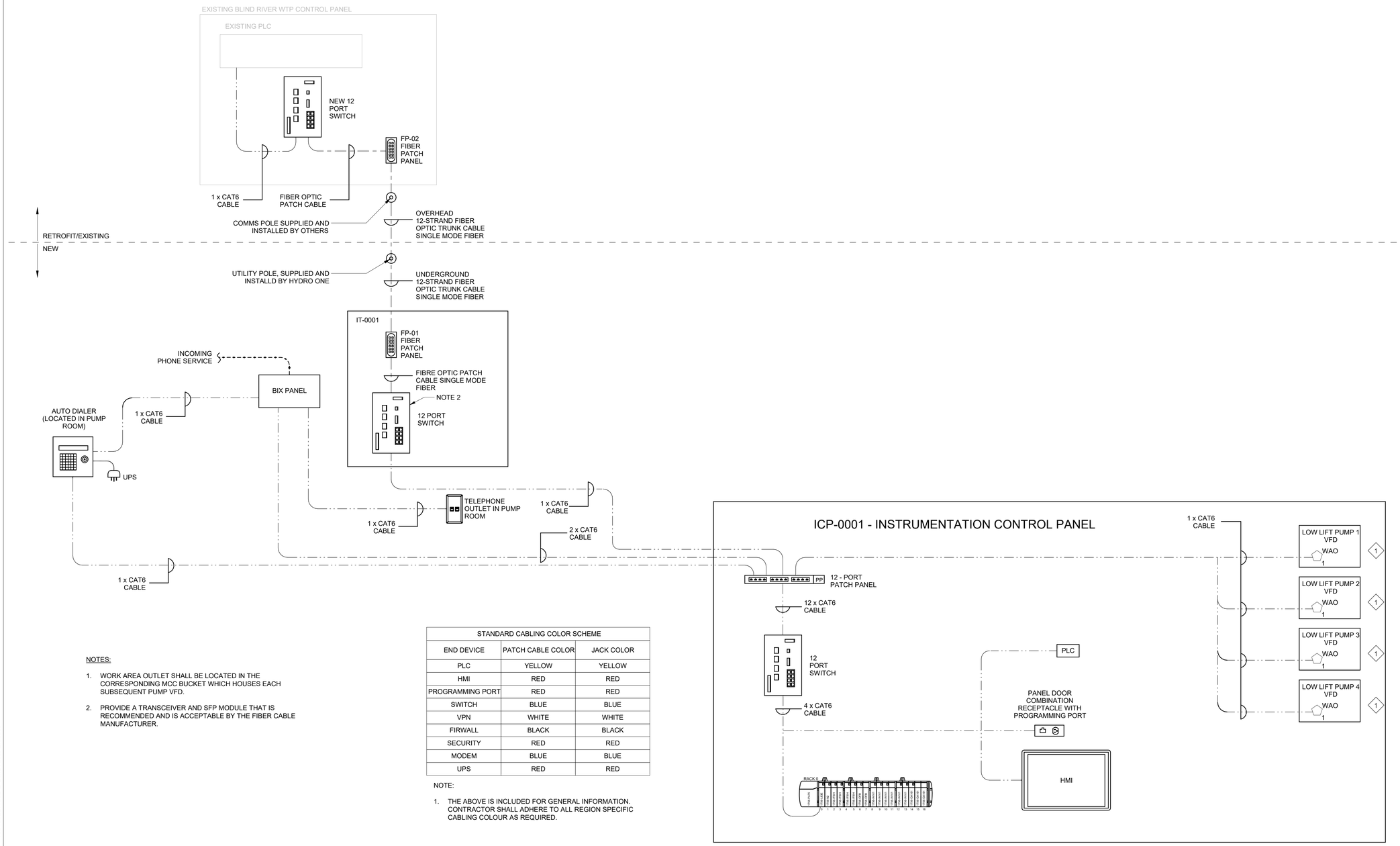

NOTES:

1. WORK AREA OUTLET SHALL BE LOCATED IN THE CORRESPONDING MCC BUCKET WHICH HOUSES EACH SUBSEQUENT PUMP VFD.
2. PROVIDE A TRANSCEIVER AND SFP MODULE THAT IS RECOMMENDED AND IS ACCEPTABLE BY THE FIBER CABLE MANUFACTURER.

STANDARD CABLING COLOR SCHEME		
END DEVICE	PATCH CABLE COLOR	JACK COLOR
PLC	YELLOW	YELLOW
HMI	RED	RED
PROGRAMMING PORT	RED	RED
SWITCH	BLUE	BLUE
VPN	WHITE	WHITE
FIRWALL	BLACK	BLACK
SECURITY	RED	RED
MODEM	BLUE	BLUE
UPS	RED	RED

NOTE:

1. THE ABOVE IS INCLUDED FOR GENERAL INFORMATION. CONTRACTOR SHALL ADHERE TO ALL REGION SPECIFIC CABLING COLOUR AS REQUIRED.

1 NETWORK ARCHITECTURE
SCALE:N.T.S.

KEY PLAN

ENGINEER'S SEAL:

LICENSED PROFESSIONAL ENGINEER
01/20/2026
D. TODOROVIC
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PROVINCE OF ONTARIO

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DATE	REV.	REVISION	BY	APP'D
JAN 2026	0	ISSUED FOR TENDER	MG	DC

CLIENT: Blind River

CONSULTANT: CIMA+

CONSULTANT: TULLOCH

PROJECT TITLE:

BLIND RIVER
INTAKE AND LLPS

DRAWING TITLE:

NETWORK
ARCHITECTURE

DRAWN	DESIGNED	CHECKED	APPROVED
RW	DT	DC	MG

SCALE	DATE
N.T.S.	JAN 2026

PROJECT NO.	REVISION	DRAWING
T001592B	0	I-603

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