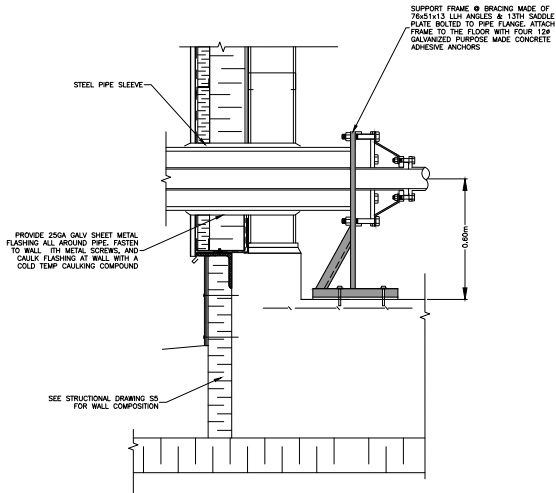


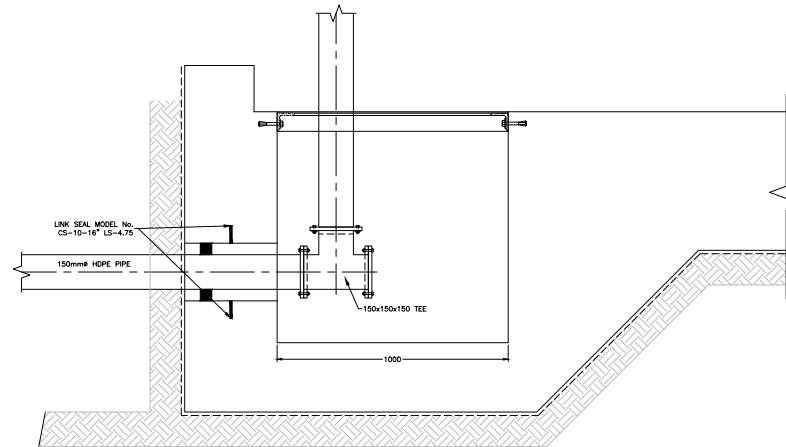


LIST OF DRAWINGS		
DRAWING No.	REVISION No.	DESCRIPTION
M001	0	MECHANICAL LEGEND AND DRAWING LIST
M002	0	MECHANICAL DETAILS
M201	0	MECHANICAL FUEL SYSTEM LAYOUT
M301	0	MECHANICAL HEATING SYSTEM LAYOUT
M302	0	MECHANICAL HEATING SYSTEMS, ELEVATIONS AND SCHEMATICS
M501	0	MECHANICAL VENTILATION LAYOUT
M601	0	MECHANICAL CONTROLS - LENGED & NETWORK ARCHITURE
M602	0	MECHANICAL CONTROLS - VENTILATION SCHEMATICS
M603	0	MECHANICAL CONTROLS - HYDRONIC NETWORK SCHEMATICS
M604	0	MECHANICAL CONTROLS- WIRING SCHEMATICS
S-300	0	TYPICAL DETAILS
S-301	2	LAYOUT PLAN AND GENERAL NOTES
S-302	2	FOUNDATION PLAN
S-303	2	ROOF FRAMING PLAN AND WALL ELEVATIONS
S-304	2	SECTIONS
S-305	1	SECTIONS
S-306	0	SECTIONS
S-401	2	EXISTING PUMP HOUSE DEMOLITION PLANS, SECTIONS & GENERAL NOTES

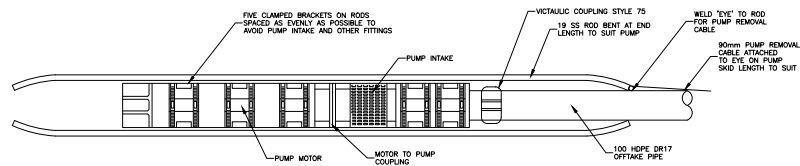
DATE: JANUARY 2018



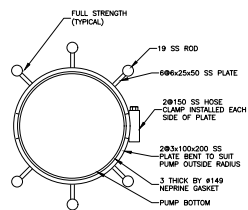
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NOT TO SCALE



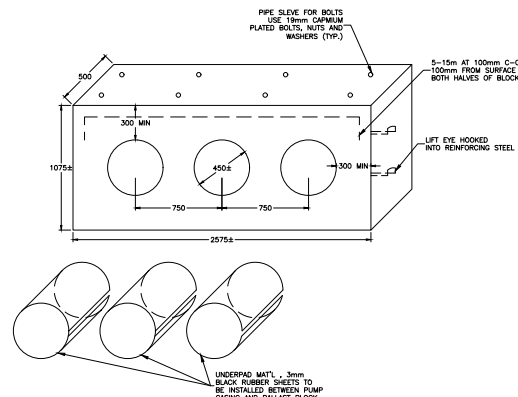
④ PIPE PENETRATION DETAIL
NOT TO SCALE



② PUMP SKID DETAIL
NOT TO SCALE



③ PUMP SKID SECTION
NOT TO SCALE



⑤ CONCRETE BALLAST BLOCK DETAIL
NOT TO SCALE

No.	Issue	Date
01	50% SUBMISSION	17/02/17
02	75% SUBMISSION	06/04/17
03	100% SUBMISSION	27/04/17



No.	Revision	Chg. By	Date
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PRELIMINARY

Const. North	
Drawn By: SAB	
Chg. Standards Chg. By: SAD	
Designed By: SAD	
Date Printed	Chg. Design Chg. By:

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Project Title

NEW UTILIDOR DESIGN
RESOLUTE BAY, NU

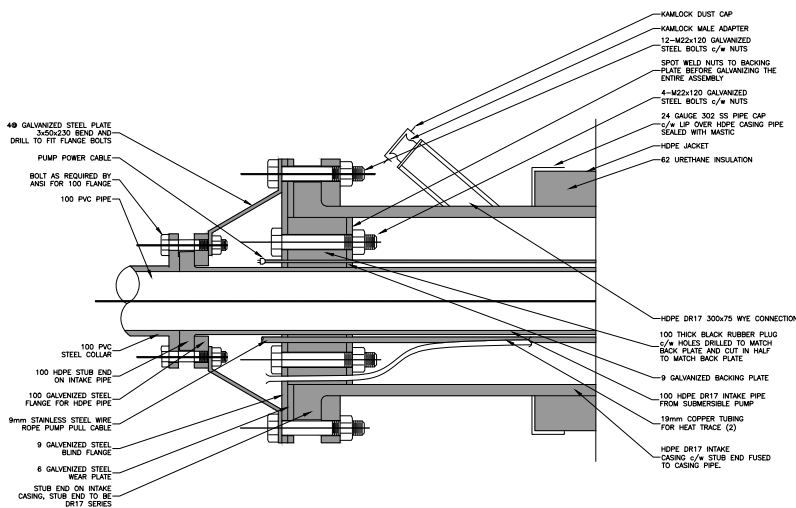
Draw. Title

CHAR LAKE
PUMP HOUSE
DETAILS 1

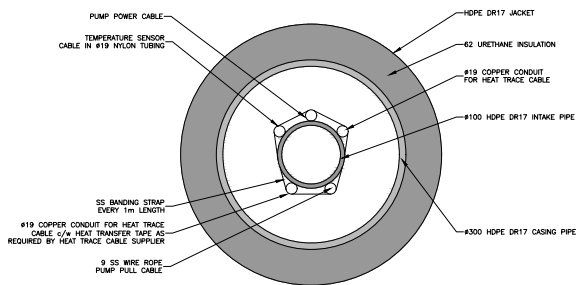
Project No. OTT-00206333-B0

Draw. No. C-101 Rev. No. 02

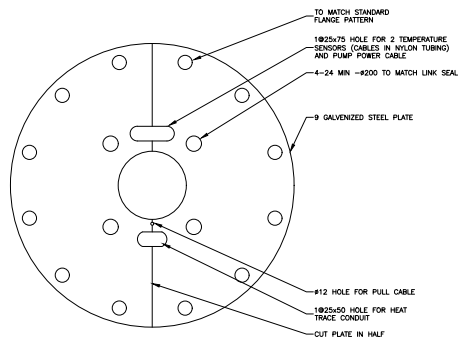
Scale AS NOTED
This drawing is not to be scaled



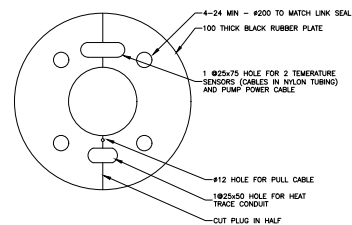
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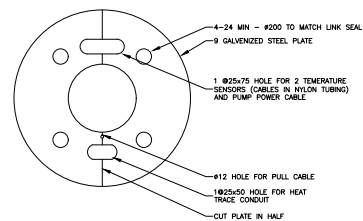
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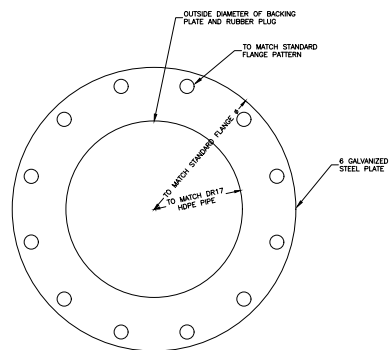
⑤ BLIND FLANGE DETAIL
NOT TO SCALE



② RUBBER PLUG DETAIL
NOT TO SCALE



③ BACKING PLATE DETAIL
NOT TO SCALE



⑥ WEAR PLATE DETAIL
NOT TO SCALE

No.	Issue	Date
01	50% SUBMISSION	17/02/17
02	75% SUBMISSION	06/04/17
03	100% SUBMISSION	27/04/17



No.	Revision	Chg. By	Date
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PRELIMINARY

Const. North	
Drawn By:	SAB
Desig. Standards	
Chg. By:	
Designed By:	SAD
Chg. Design	
Chg. By:	

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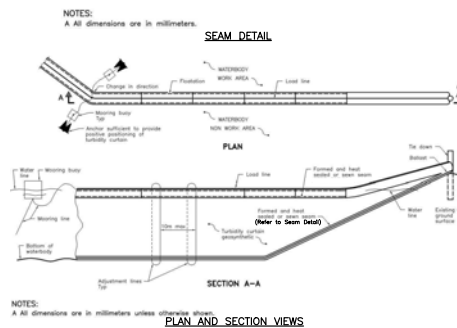
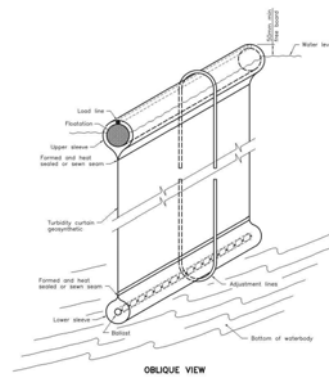
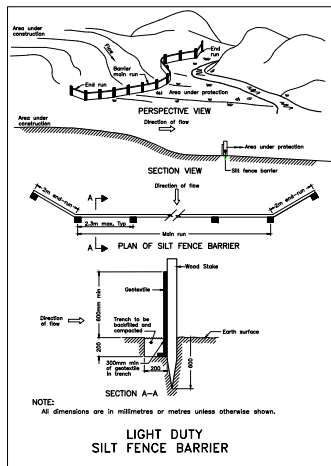
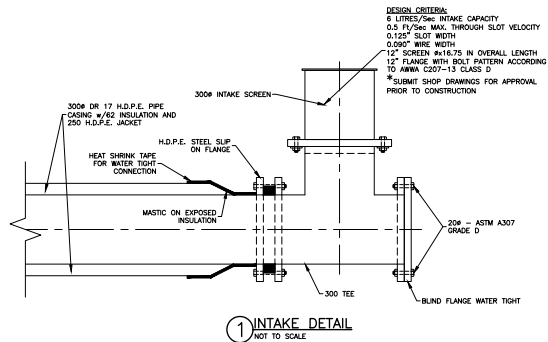
Project Title
**NEW UTILIDOR DESIGN
RESOLUTE BAY, NU**

Design Title
**CHAR LAKE
PUMP HOUSE
DETAILS 2**

Project No. **OTT-00206333-B0**

Design No. **C-102** Rev. No. **02**

Scale
AS NOTED
This drawing is not to be scaled



2 TURBIDITY DETAILS AND NOTES
 NOT TO SCALE

DEFINITION

A FLEXIBLE, IMPENETRABLE BARRIER USED TO TRAP SEDIMENT IN WATER BODIES. THIS CURTAIN IS WEIGHTED AT THE BOTTOM TO ACHIEVE CLOSURE WHILE SUPPORTED AT THE TOP THROUGH A FLotation SYSTEM.

PURPOSE

TO PREVENT THE MIGRATION OF SILT FROM A WORK SITE IN A WATER ENVIRONMENT INTO THE LARGER BODY OF WATER.

CONDITION WHERE PRACTICE APPLIES

A TURBIDITY CURTAIN IS GENERALLY USED WHEN CONSTRUCTION ACTIVITY OCCURS WITHIN A WATERBODY OR ALONG ITS SHORELINE AND IS OF SHORT DURATION, GENERALLY LESS THAN ONE MONTH. CURTAINS ARE USED IN CALM WATER SURFACES. TURBIDITY CURTAINS ARE NOT TO BE SUED ACROSS FLOWING WATERCOURSES.

DESIGN CRITERIA

THE TURBIDITY CURTAIN SHALL BE LOCATED BEYOND THE LATERAL LIMITS OF THE CONSTRUCTION SITE AND FIRMLY ANCHORED IN PLACE. THE ALIGNMENT SHOULD BE SET AS CLOSE TO THE WORK AREA AS POSSIBLE BUT NOT SO CLOSE AS TO BE DISTURBED BY APPLICABLE CONSTRUCTION EQUIPMENT. THE HEIGHT OF THE CURTAIN SHALL BE 10% PERCENT GREATER THAN THE DEPTH OF THE WATER TO ALLOW FOR WATER LEVEL FLUCTUATIONS. THE AREA THAT THE TURBIDITY CURTAIN PROTECTS SHALL NOT CONTAIN LARGE CULVERTS OR DRAINAGE AREAS THAT IF FLOW OCCUR BEHIND THE CURTAIN WOULD CAUSE A BREAK OR LOST CONTACT AT THE BOTTOM SURFACE. IF WATER DEPTHS AT THE DESIGN ALIGNMENT ARE MINIMAL, THE TOE CAN BE ANCHORED IN PLACE BY STAKING.

CONSTRUCTION SPECIFICATIONS

THE AREA OF PROPOSED INSTALLATION OF THE CURTAIN SHALL BE INSPECTED FOR OBSTACLES AND IMPEDIMENTS THAT COULD DAMAGE THE CURTAIN OR IMPAIR ITS EFFECTIVENESS TO RETAIN SEDIMENT. ALL MATERIALS SHALL BE REMOVED SO THEY CANNOT ENTER THE WATERBODY. SHALLOW INSTALLATIONS CAN BE MADE BY SECURING THE CURTAIN BY STAKING RATHER THAN USING A FLotation SYSTEM. SUPPLEMENTARY ANCHORS OF THE TURBIDITY CURTAIN TOE SHALL BE USED, AS NEEDED, DEPENDING ON WATER SURFACE DISTURBANCES SUCH AS WAVE ACTION BY WINDS.

MAINTENANCE

THE TURBIDITY CURTAIN SHALL BE INSPECTED DAILY AND REPAIRED OR REPLACED IMMEDIATELY. IT IS NOT NORMALLY NECESSARY TO REMOVE SEDIMENT DEPOSITED BEHIND THE CURTAIN, BUT, WHEN NECESSARY, REMOVAL IS USUALLY DONE BY HAND PRIOR TO REMOVAL OF THE BARRIER. ALL REMOVED SILT IS STABILIZED AWAY FROM THE WATERBODY. THE BARRIER SHALL BE REMOVED CAREFULLY PULLING IT TOWARD THE CONSTRUCTION SITE TO MINIMIZE THE RELEASE OF ATTACHED SEDIMENT. ANY FLOATING CONSTRUCTION OR NATURAL DEBRIS SHALL BE IMMEDIATELY REMOVED TO PREVENT DAMAGE TO THE CURTAIN. IF THE CURTAIN IS ORIENTED IN A MANNER THAT FACES THE PREVAILING WINDS, FREQUENT CHECKS OF THE ANCHORING SHALL BE MADE.

No.	Issue	Date
01	50% SUBMISSION	17/02/17
02	75% SUBMISSION	06/04/17
03	100% SUBMISSION	27/04/17



No.	Revision	Chg. By	Date

PRELIMINARY

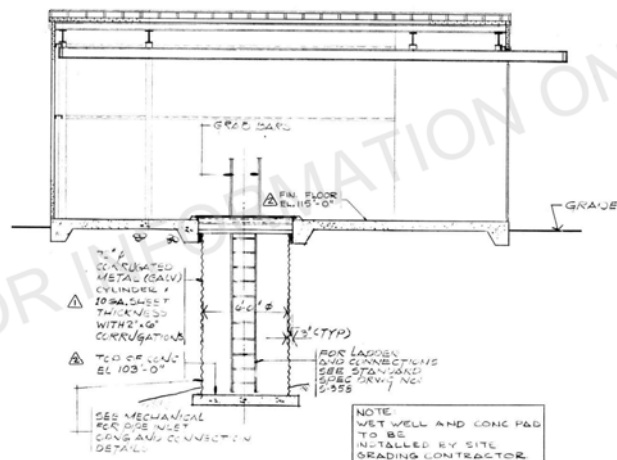
Client:	North
Drawn By:	SAB
Dep. Standards:	Chg. By:
Designed By:	SAD
Dep. Design:	Chg. By:
Date Printed:	

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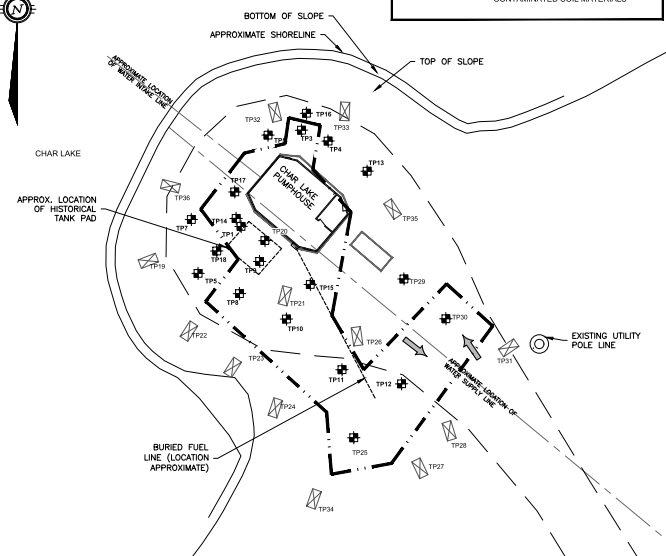


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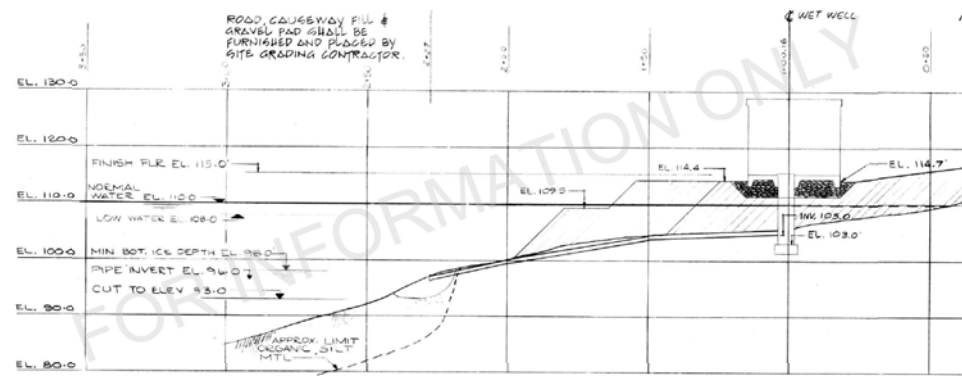
Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Drawn Title	CHAR LAKE PUMP HOUSE DETAILS 3	
Project No.	OTT-00206333-B0	
Drawn No.	C-103	Rev. No. 02
Scale	AS NOTED This drawing is not to be scaled	



SECTION A-A
N.T.S.



PLAN VIEW
1:250



PROFILE VIEW
N.T.S.

No.	Issue	Date
01	75% SUBMISSION	06/04/17
02	100% SUBMISSION	27/04/17



No.	Revision	Out By	Date
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PRELIMINARY

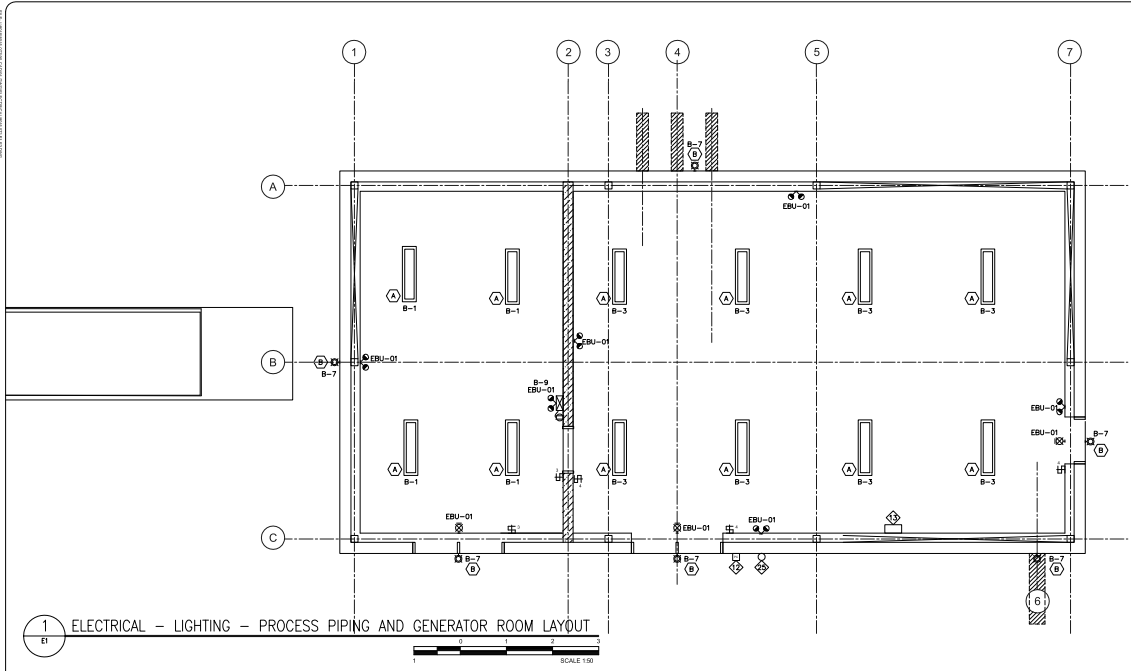
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Dwg. Standards	
Out. By:	
Designed By:	SAD
Dwg. Design	
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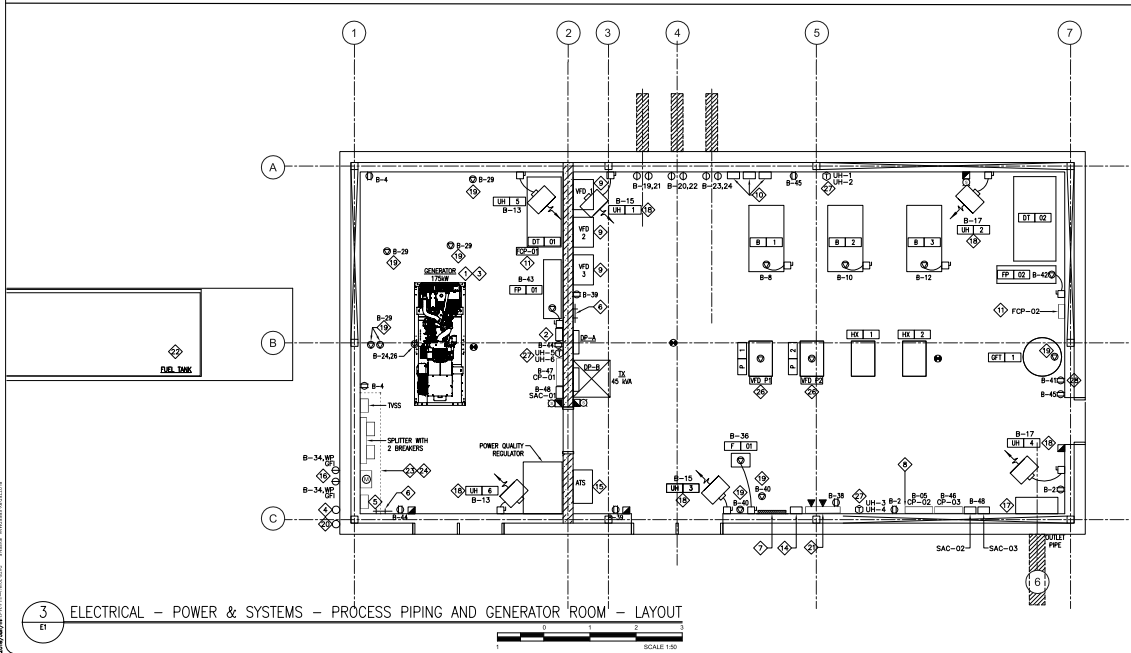


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Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Dwg. Title	CHAR LAKE EXTENT OF CONTAMINATED SOILS	
Project No.	OTT-00206333-B0	
Dwg. No.	C-104	Rev. No. 01
Scale	AS NOTED This drawing is not to be scaled	



1 ELECTRICAL - LIGHTING - PROCESS PIPING AND GENERATOR ROOM LAYOUT



3 ELECTRICAL - POWER & SYSTEMS - PROCESS PIPING AND GENERATOR ROOM LAYOUT

DRAWING LIST

SHEET	DRAWING TITLE
E1	LIGHTING, POWER & SYSTEMS LAYOUT
E2	LEGEND, SITE PLAN & DETAILS
E3	SCHEDULES
E4	GROUNDING LAYOUT & DETAILS

2 ELECTRICAL - DRAWING LIST

GENERAL NOTES:

- PERFORM COMPLETE INSTALLATION OF EQUIPMENT IN STRICT ACCORDANCE, AND SHALL MEET THE MOST STRINGENT REQUIREMENTS OF THE FOLLOWING STANDARDS:
 - CSA C22.1 - 15 CANADIAN ELECTRICAL CODE, PART 1 (23RD EDITION).
 - GOVERNMENT OF NUNAVUT'S GOOD BUILDING PRACTICES GUIDELINES - SECOND EDITION DECEMBER, 2005.
 - PROTECTION SERVICES DIVISION - ON ELECTRICAL BULLETINS OFFICE OF THE NUNAVUT FIRE MARSHALL TECHNICAL BULLETINS.
- VERIFY WITH THE ELECTRICAL INSPECTION DEPARTMENT THE ACCEPTABILITY OF ANY PRE-WIRING DONE OUTSIDE THE PROVINCE OF NUNAVUT AND ENSURE THAT A PERMIT IS ACQUIRED.

NOTES:

- PROVIDE AND INSTALL NEW 175kW 600V, 3Ø, 4W EMERGENCY GENERATOR GL.
- PROVIDE AND INSTALL BATTERY CHARGER AS INDICATED. COMPLETE CONNECTION FROM CHARGER TO BATTERIES AT GENERATOR.
- ENERGIZE BLOCK HEATER TERMINAL BOX FROM PANEL BE-2 AS INDICATED. REFER TO PANEL SCHEDULE.
- OVERHEAD INCOMING POWER AND COMMUNICATION SERVICE. PROVIDE ONE (1) 38mm RIGID GALVANIZED CONDUIT STUB TO EXTERIOR OF BUILDING FOR SERVICE ENTRANCE AND SEAL.
- PROVIDE MAIN INCOMING FEEDER BREAKER AND ENCLOSURE AS INDICATED. REFER TO SINGLE LINE DIAGRAM FOR DETAILS.
- PROVIDE GROUND BUS IN NEW GENERATOR ROOM AS INDICATED. REFER TO S/E2 FOR DETAILS.
- PROVIDE FIRE ALARM CONTROL PANEL AND ASSOCIATED FIRE DETECTING DEVICES AND ALARMS AS INDICATED.
- PROVIDE POWER FROM PANEL BE-2 TO CONTROL PANEL CE-22 PROVIDED BY DIVISION 25. PROVIDE SIX (6) 27mm EMT CONDUIT FROM CONTROL PANEL TO WATER PUMP STARTERS TO CONTROL THEIR OPERATION. COORDINATE CONNECTION WITH CONTROLS CONTRACTOR.
- PROVIDE THREE (3) VDS WITH 75% OF 3 x 12 AWG TECK CABLE FEED FROM PANEL BE-2 TO FEED WATER PUMPS WE-2, WE-22 AND WE-23 AS INDICATED. COORDINATE CONNECTION WITH MECHANICAL.
- PROVIDE HEAT TRACE CONTROLLERS AND 8 RECEPTACLES TO MATCH THE HEAT TRACE CABLE'S PLUS. PROVIDE GFI BREAKERS ON ASSOCIATED CIRCUITS. REFER TO DETAIL 2/E2.
- PROVIDE POWER FROM PANEL BE-2 TO FUEL CONTROL PANELS AS INDICATED. TWO (2) FUEL TRANSFER PUMPS AND TWO (2) CONTROL PANELS PROVIDED BY DIVISION 23. ENERGIZE EACH PUMP WITH SEPARATE FEEDER FROM CONTROL PANEL IN LIQUID TIGHT FLEX CONDUIT. COORDINATE CONNECTIONS WITH DIVISION 23. MOUNT CONTROL PANEL ON UNBUILT SUPPORTS ADJACENT TO PUMPS IN GENERATOR ROOM.
- PROVIDE PHOTOCELL AS INDICATED TO CONTROL TYPE B EXTERIOR LIGHTS.
- PROVIDE LIGHTING CONTROL CONTACTOR FOR OUTDOOR LIGHTING COMPLETE WITH HAND-OFF-AUTO CONTROL. CONNECT TO PHOTOCELL.
- PROVIDE EIGHT (8) CHANNEL AUTO-DIALER COMMUNICATION MODULE AS INDICATED INCLUDING SIGNAL WIRING IN 27mm CONDUIT, AND DRY CONTACTS TO DIAL OUT MAJOR ALARMS AS FOLLOWS:
 - ONE PAIR: 3 #14 TO SIGNAL GENERATOR ON
 - ONE PAIR: 3 #14 TO SIGNAL GENERATOR TROUBLE/FAILURE
 - ONE PAIR: 3 #14 TO SIGNAL LOW BUILDING TEMP
 - ONE PAIR: 3 #14 TO SIGNAL FIRE ALARM ACTIVATION
 - ONE PAIR: 3 #14 TO SIGNAL PLE FAILURE
 - AUTO DIALER TO HAVE BATTERY BACK-UP FOR 24 HOURS OF MONITORING.
- PROVIDE 200A, 600V, 3Ø, 4W ATS, COMPLETE WITH SWITCHABLE NEUTRAL.
- PROVIDE SPLIT PARKING RECEPTACLE IN WEATHERPROOF ENCLOSURE ON EXTERIOR WALL OF BUILDING FOR MAINTENANCE STAFF.
- NEW HEAT TRACING CONTROLLER (MODEL THERMON TMD) FOR MAIN WATER SUPPLY LINE TO SIGNAL HILL TREATMENT PLANT. HEAT TRACING CONTROL PANEL TO INCLUDE CONTROL MODULE, CONTACTOR AND GFI BREAKERS FOR HEAT TRACING CIRCUIT. HEAT TRACING SHALL BE THERMON TEX SERIES CONSTANT WATT HEATING CABLE, RATED 600V, 3Ø, 13.3W/m, MODEL TEX3060.
- PROVIDE 15A, 120V CONNECTIONS FOR HYDRONIC UNIT HEATER.
- PROVIDE 15A, 120V CONNECTIONS FOR MOTORIZED DAMPERS SUPPLIED AND INSTALLED BY DIV.23.
- OPTICAL FIBER MAST WITH CONNECTION TO UTILITY POLE. PROVIDE 53mm CONDUIT FROM MAST TO COMMUNICATION BACKBOARD.
- PROVIDE 1300mm x 2600mm PLYWOOD COMMUNICATIONS BACKBOARD WITH AUTO DIALER, DEDICATED OUTLET, TELEPHONE OUTLET, SPLITTER, TELEPHONE, AND FIBER OPTIC TO CAT SE PATCH PANEL FOR COMMUNICATIONS.
- PROVIDE EMPTY 27mm CONDUIT FROM FUEL TANK TO BUILDING FOR CONTROL WIRING. MOUNT CONDUIT ON OVERHEAD UNBUILT. COORDINATE WITH MECHANICAL.
- PROVIDE DRP SHIELD ABOVE ALL EQUIPMENT MOUNTED BELOW AIR INTAKE DUCTWORK.
- PROVIDE ANGLE IRON SUPPORTS TO MOUNT EQUIPMENT OFF OF THE STRUCTURAL WALL TO CLEAR STRUCTURAL CROSS BEAMS.
- PROVIDE STROBE LIGHT ON MAST TO ANNUNCIATE CONTROL ALARMS.
- CONNECT TWO (2) VDS (PROVIDED BY DIVISION 23) WITH 3/8" x 12 GND IN 27mm CONDUIT. COORDINATE CONNECTION WITH DIVISION 23.
- PROVIDE LINE VOLTAGE THERMOSTAT. COORDINATE INSTALLATION WITH CONTROLS CONTRACTOR.
- COORDINATE GLYCOL FILL TANK CONNECTION WITH DIVISION 23.

No.	Issue	Date
04	REISSUED FOR 100% TECHNICAL REVIEW	A.W. 2018-01-11
03	ISSUED FOR 100% REVIEW	A.W. 2017-04-10
02	ISSUED FOR 75% REVIEW	A.W. 2017-03-21
01	ISSUED FOR 50% REVIEW	A.W. 2017-02-18
No.	Revision	Chg. By Date



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PRELIMINARY

Drawn By:	J.F.
Design Standards:	
Designed By:	A.W.
Drawn By:	
Design:	

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Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Drawn Title	ELECTRICAL LEGEND, LIGHTING, POWER & SYSTEMS LAYOUT	
Project No.	OTT-00260333-B0	
Drawn No.	E1	Rev. No. 0
Scale	AS SHOWN This drawing is not to be scaled	

1 ELECTRICAL – PANEL SCHEDULE
E3 N.T.S.

FITTURE SCHEDULE		
SYMBOL	TYPE	DESCRIPTION
		138mm x 210mm VAPOUR PROOF LEAD
		40W LED LAMP
		FROSTED POLYCARBONATE HOUSING WITH CONTINUOUS FOUR-PIECE, CLOSE GASKET IMPACT RESISTANT, CLEAR TRANSPARENT POLYCARBONATE LENS
	100	OPTIONAL CHAIN SUPPORT
		WALL MOUNTED LED DOWNLIGHT
		70W LED LAMP
		WEATHER RESISTANT DIE CAST ALUMINUM HOUSING
		PROTECTIVE GLASS LENS
	100	OPTIONAL CHAIN SUPPORT
		CW VANDAL GUARD
		VAPOUR PROOF FITTURE
		30W LED LAMP
		HOUSING WITH CONDENSATE RESISTANT PAINT
		SEALED GASKET AGAINST MOISTURE AND DUST
		FROSTED GLASS DIFFUSER
	100	OPTIONAL CHAIN SUPPORT
		CW VANDAL GUARD

PANEL DESIGNATION.....	BP-13	PANEL LOCATION.....	ELECT. RM					
NUMBER OF POLES.....	120/208V 3PH, 4W	MOUNTING.....	SURFACE					
SYSTEM VOLTAGE.....	120/208V 3PH, 4W							
WIRING DIAGRAM.....	120/208V 3PH, 4W							
DESCRIPTION	LOAD	BRKR AMP POLE	CCT NO.	PHASE	CCT NO.	BRKR AMP POLE	LOAD	DESCRIPTION
GENERATOR ROOM LIGHTING		15A	1	A	2	15A	1	PROCESS ROOM RECEPTACLE
CHILLER ROOM LIGHTING		15A	2	B	3	15A	2	CHILLER ROOM RECEPTACLE
CO-2		15A	3	C	4	15A	3	AIR DRYER
CHILLER ROOM LIGHTING		15A	4	D	5	15A	4	CO-2
EBU-1		15A	5	A	6	15A	5	BOILER 2
EBU-2		15A	6	B	7	15A	6	BOILER 1
HORIZONTAL LINE HEATERS 3 & 4		15A	7	C	8	15A	7	BOILER CONTROL PANEL
HORIZONTAL LINE HEATERS 1 & 2		15A	8	D	9	15A	8	BOILER CONTROL PANEL
HORIZONTAL LINE HEATERS 3 & 4		15A	9	A	10	15A	9	FUEL TILMATION SYSTEM
HORIZONTAL LINE HEATERS 1 & 2		15A	10	B	11	15A	10	HEAT TRAC 70"
HEAT TRAC 70"		30A	21	A	22	30A	21	HEAT TRAC 70"
HEAT TRAC 70"		30A	22	B	23	30A	22	GENERATOR ROOM HEATER
CHILLER ROOM RECEPTACLES		30A	23	C	24	30A	23	STARTER CHASSIS
CHASSIS CONTROL GENERATOR		15A	24	D	25	15A	24	FA PANEL, LOGIC, PAINTER
CHILLER ROOM RECEPTACLES		15A	25	A	26	15A	25	CHILLER ROOM RECEPTACLE
HEAT EXCHANGER 1		15A	26	B	27	15A	26	EXTRUDER PLUGS (EYE)
HEAT EXCHANGER 2		15A	27	C	28	15A	27	WELDER
PROCESS ROOM RECEPTACLE		15A	28	D	29	15A	28	ROTARY CHASSIS
CHILLER ROOM RECEPTACLE		15A	29	A	30	15A	29	FUEL PUMP #2
CHILLER ROOM RECEPTACLE		15A	30	B	31	15A	30	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	31	C	32	15A	31	CO-2
CHILLER ROOM RECEPTACLE		15A	32	D	33	15A	32	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	33	A	34	15A	33	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	34	B	35	15A	34	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	35	C	36	15A	35	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	36	D	37	15A	36	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	37	A	38	15A	37	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	38	B	39	15A	38	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	39	C	40	15A	39	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	40	D	41	15A	40	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	41	A	42	15A	41	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	42	B	43	15A	42	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	43	C	44	15A	43	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	44	D	45	15A	44	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	45	A	46	15A	45	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	46	B	47	15A	46	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	47	C	48	15A	47	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	48	D	49	15A	48	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	49	A	50	15A	49	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	50	B	51	15A	50	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	51	C	52	15A	51	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	52	D	53	15A	52	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	53	A	54	15A	53	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	54	B	55	15A	54	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	55	C	56	15A	55	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	56	D	57	15A	56	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	57	A	58	15A	57	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	58	B	59	15A	58	CHILLER ROOM RECEPTACLE
PROCESS ROOM RECEPTACLE		15A	59	C	60	15A	59	CHILLER ROOM RECEPTACLE
CHILLER ROOM RECEPTACLE		15A	60	D	61	15A	60	CHILLER ROOM RECEPTACLE

2 ELECTRICAL - PANEL SCHEDULE
E3 N.T.S.

[illegible]

3 ELECTRICAL - MOTOR CONTROL SCHEDULE
E3 N.T.S.

[illegible]

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PRELIMINARY

Conet North

Drawn By: LE

Dwg. Standards

Designed By:

Data Printed

Dwg. Design

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Project Title

NEW UTILIDOR DESIGN
RESOLUTE BAY, NU

Dwg. Title

ELECTRICAL SCHEDULES

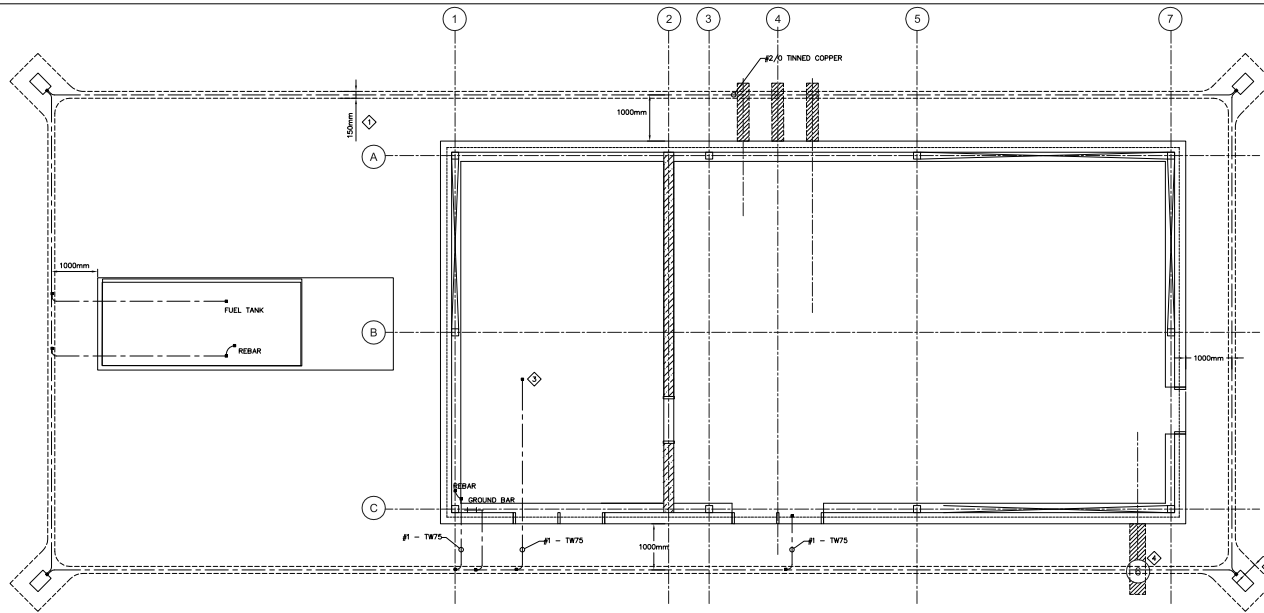
Project No.	
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OTT-00206333-B0

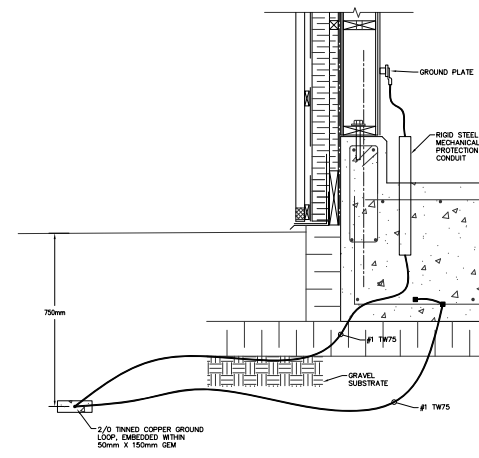
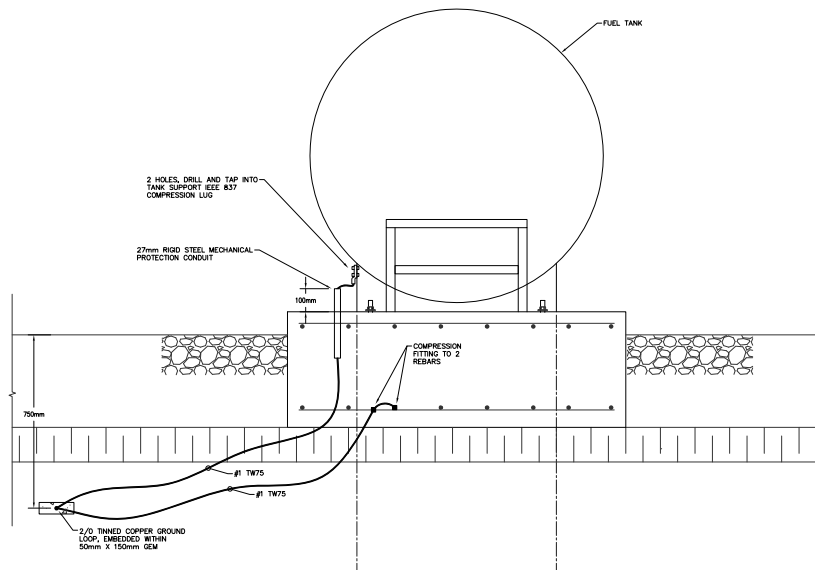
Dwg. No.	
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E3	0
----	---

AS SHOWN
This drawing is not to be scaled



- NOTES:**
- 150mm x 750mm TRENCH WITH 50mm THICK GROUND ENHANCEMENT MATERIAL (GEM), ERICO GEM25A AROUND GROUND CABLE LOOP.
 - LAY A 406mm x 254mm, GALVANIZED STEEL GROUND PLATE (ERICO EGPC), 750mm DEEP, EMBEDDED WITHIN 50mm OF GEM. EXTEND GEM 300mm AROUND PLATE.
 - DO NOT CONNECT THE BOND BETWEEN THE NEUTRAL CONDUCTOR AND GROUND AT THE GENERATOR. NEUTRAL AND GROUND TO REMAIN UNCONNECTED.
 - COORDINATE DEPTH OF GROUND CABLE BURIAL WITH OUTLET PIPE TO PREVENT CONFLICT.
- IEEE 837 COMPRESSION FITTING



No.	Issue	Date
04	ISSUED FOR 100% TECHNICAL REVIEW	A.W. 2018-01-11
01	ISSUED FOR 100% REVIEW	A.W. 2017-04-10
02	ISSUED FOR 75% REVIEW	A.W. 2017-03-21
01	ISSUED FOR 50% REVIEW	A.W. 2017-02-16
No.	Revision	Chd. By Date



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PRELIMINARY

Const. North	
Drawn By:	J.F.
Dwg. Standards	
Designed By:	A.W.
Date Printed	
Dwg. Design	

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Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Dwg. Title	ELECTRICAL GROUNDING LAYOUT & DETAILS	
Project No.	OTT-00206333-B0	
Dwg. No.	E4	Rev. No. 0
Scale	AS SHOWN This drawing is not to be scaled	

PLUMBING AND HEATING

	PIPE BOTTOM TAKE-OFF		PRESSURE GAUGE
	PIPE TOP TAKE-OFF		VACUUM BREAKER
	PIPE CAP		PUMP
	PIPE CONTINUATION		PUMP WITH VFD
	CHECK VALVE		WATER SEPARATOR
	UNION TYPE JOINT		AIR SEPARATOR
	FLEXIBLE JOINT		WATER METER
	STRAINER		OIL FILTER
	ISOLATION VALVE (REFER TO SPEC FOR TYPE)		HEAT EXCHANGER PLATE TYPE
	FIRE VALVE		THERMOMETER
	BALANCING VALVE (CRV VALVE)		
	GLOBE VALVE		
	SAFETY VALVE		
	TWO WAY MOTORIZED VALVE		
	PRESSURE REDUCING VALVE		
	SOLENOID VALVE		
	GLYCOL FILL TANK		
	BOILER		
	GLYCOL EXPANSION TANK		

HVAC

	UPWARD AND DOWNWARD SUPPLY DUCT
	UPWARD AND DOWNWARD RETURN OR EXHAUST DUCT
	SUPPLY DUCT UPWARD
	SUPPLY DUCT DOWNWARD
	RETURN OR EXHAUST DUCT UPWARD
	RETURN OR EXHAUST DUCT DOWNWARD
	MOTORIZED DAMPER (WITH ACCESS DOOR)
	UNIT HEATER
	SIDEWALL GRILL, SITE FABRICATED STEEL MESH, EXHAUST OPENINGS.
	SUSPENDED CEILING FAN

DRAWING LIST

M001	MECHANICAL - LEGEND AND DRAWING LIST
M002	MECHANICAL - DETAILS
M201	MECHANICAL - FUEL SYSTEM LAYOUT
M301	MECHANICAL - HEATING SYSTEMS LAYOUT
M302	MECHANICAL - HEATING SYSTEMS ELEVATIONS AND SCHEMATICS
M501	MECHANICAL - VENTILATION LAYOUT
M601	MECHANICAL - CONTROLS - LEGEND AND NETWORK ARCHITECTURE
M602	MECHANICAL - CONTROLS - VENTILATION SCHEMATICS
M603	MECHANICAL - CONTROLS - HYDRONIC NETWORK SCHEMATICS
M604	MECHANICAL - CONTROLS - WIRING SCHEMATICS

GENERAL

	UPWARD
	DOWNWARD
	TO REMAIN
	TO REMOVE
	DISMANTLING POINT
	CONNECTION POINT TO EXISTING
	CAPPED FOR FUTURE CONNECTION

No.	Issue	Date



04	RE-ISSUED FOR 100% REVIEW	PSD	2018-01-12
01	ISSUED FOR 100% REVIEW	PSD	2017-04-10
02	ISSUED FOR 75% REVIEW	PSD	2017-03-21
01	ISSUED FOR 50% REVIEW	PSD	2017-02-16
No.	Revision	Clk. By	Date

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PRELIMINARY

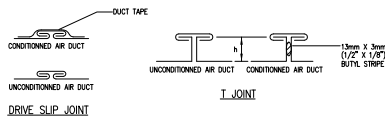
	Const. North
	Drawn By: J. Faudert
	Orig. Standards Clk. By: P. St-Onge
	Designed By: J. Faudert
Date Printed: 12-01-2018	Orig. Design Clk. By: P. St-Onge

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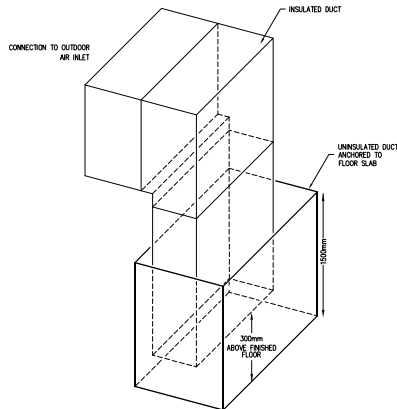
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Project Title	
NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Dwg. Title	
MECHANICAL LEGEND AND DRAWING LIST	
Project No. OTT-00206333-B0	
Dwg. No. M001	Rev. No. 0
Scale AS SHOWN This drawing is not to be scaled	

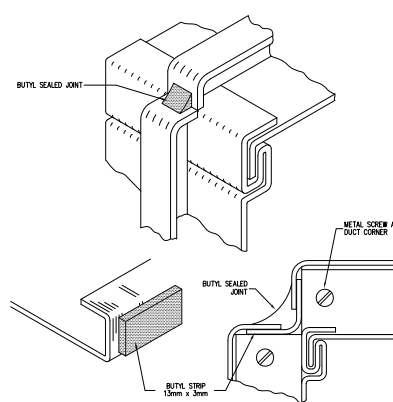


DIMENSIONS mm (in)	SHEET THICKNESS mm (CAL. 155)	JOINT TYPE	"A" mm (in)	"B" mm (in)	STEEL ANGLE mm	
					CENTER	END
≤ 300 (≤ 12)	0.551 (.02)	"TYPE SLIP"	25 (1)	2400 (94)	—	—
350 X 750 (14 X 30)	0.701 (.03)	"Y"	25 (1)	1770 (69)	—	—
800 X 1350 (32 X 54)	0.853 (.03)	"Y"	35 (1-1/2)	1770 (69)	—	—
1400 X 1500 (56 X 60)	1.006 (.04)	"Y"	35 (1-1/2)	1770 (69)	35 X 35 X 3	—
1500 X 2100 (60 X 84)	1.006 (.04)	"Y"	35 (1-1/2)	1770 (69)	35 X 35 X 3	35 X 35 X 3
2000 ET PLUS (80 ET PLUS)	1.311 (.05)	"Y"	35 (1-1/2)	1770 (69)	55 X 55 X 3	35 X 35 X 3

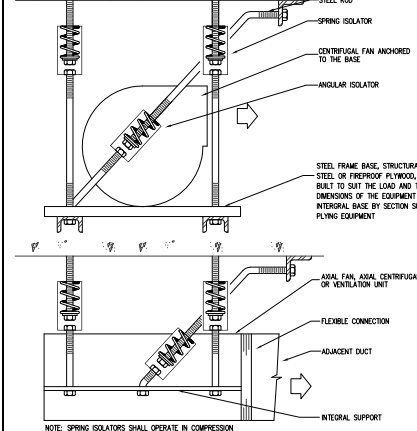
CROSS JOINT AND REINFORCEMENT FOR LOW PRESSURE RECTANGULAR DUCT (NTS)



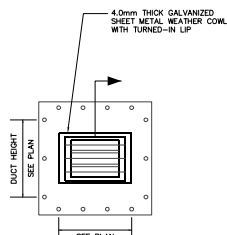
TYPICAL COMBUSTION AIR INLET DETAIL (NTS)



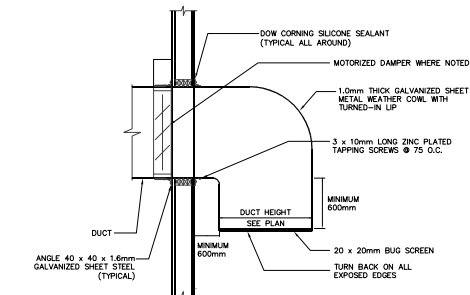
SEALED JOINT FOR LOW PRESSURE RECTANGULAR DUCT (NTS)



SUSPENDED EQUIPMENT (TYPE VI) (NTS)

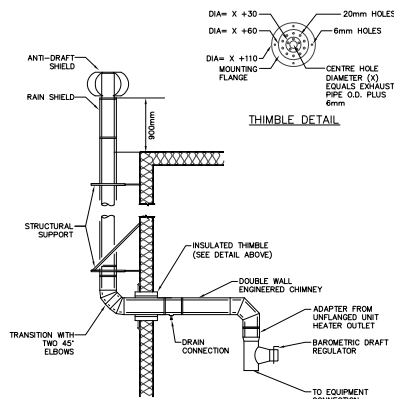


ELEVATION

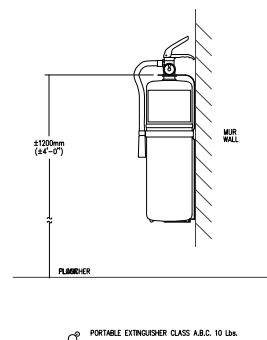


TYPICAL WEATHER COWL DETAIL (NTS)

REFER TO STRUCTURAL DRAWINGS FOR SPECIFIC SEALING DETAILS



BOILER CHIMNEY DETAIL (NTS)



PORTABLE EXTINGUISHER (NTS)

No.	Issue	Date
04	RE-ISSUED FOR 100% REVIEW	PSD 2019-01-12
03	ISSUED FOR 100% REVIEW	PSD 2017-04-10
02	ISSUED FOR 75% REVIEW	PSD 2017-03-21
01	ISSUED FOR 50% REVIEW	PSD 2017-02-16
No.	Revision	Clk. By Date

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PRELIMINARY

Const. North	Drawn By: J. Faudert
	Chg. Standards: P. St-Onge
	Clk. By: J. Faudert
Date Printed: 12-01-2018	Chg. Design: P. St-Onge

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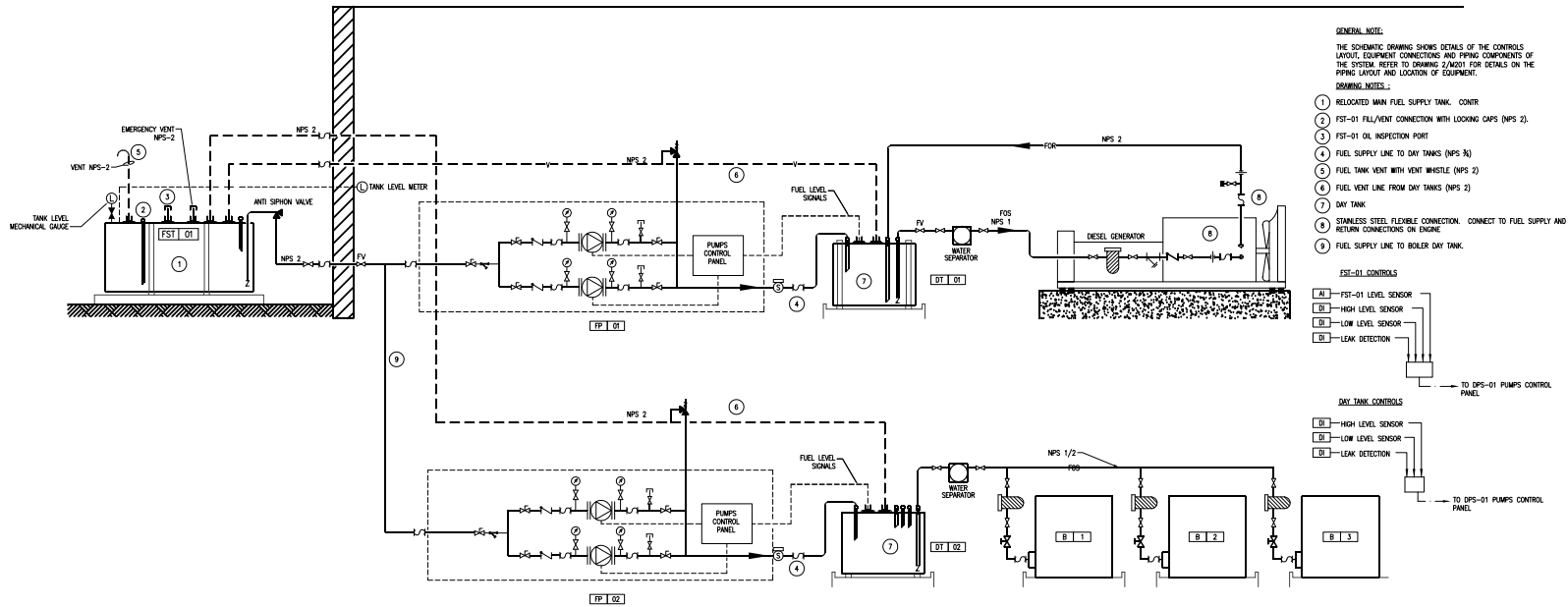
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Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Dwg. Title	MECHANICAL DETAILS	
Project No.	OTT-00206333-B0	
Dwg. No.	M002	Rev. No. 0
Scale	AS SHOWN This drawing is not to be scaled	

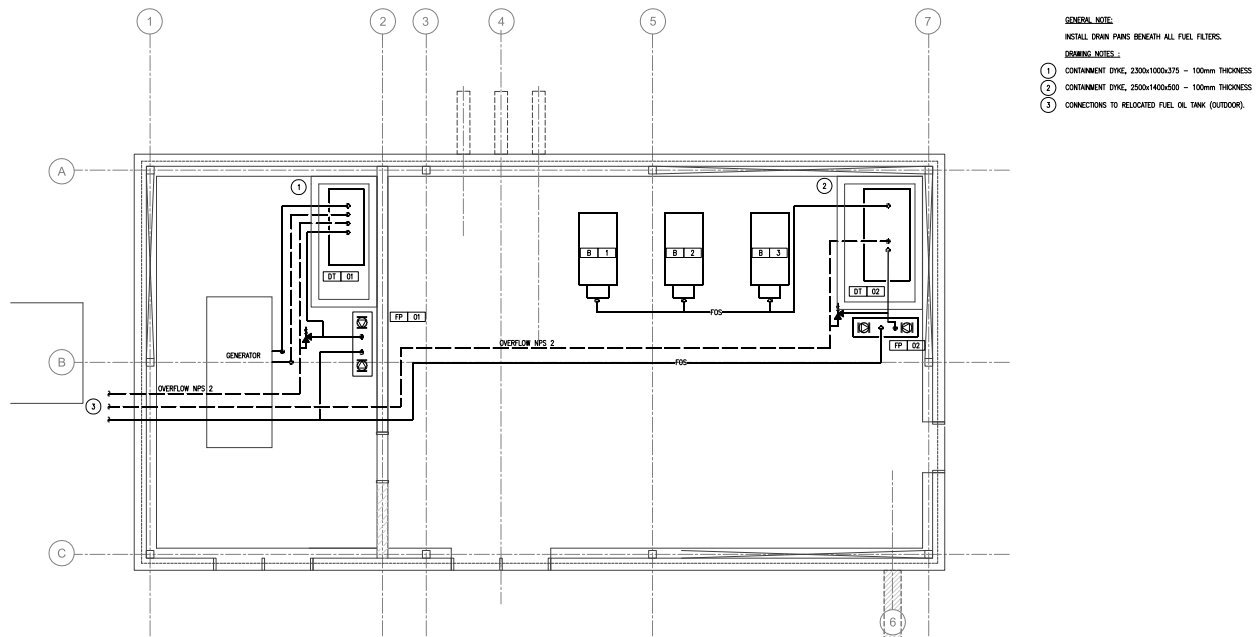
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A:\Projects\B015-072\B015-072-CAD\B015-072-M2-1-0-00-00.dwg



1 MECHANICAL - FUEL SYSTEM - SCHEMATIC
M201



2 MECHANICAL - FUEL SYSTEM LAYOUT
M201
SCALE: 1:50

No.	Issue	Date



04	RE-ISSUED FOR 100% REVIEW	PSD	2018-01-12
01	ISSUED FOR 100% REVIEW	PSD	2017-04-10
02	ISSUED FOR 75% REVIEW	PSD	2017-03-21
01	ISSUED FOR 50% REVIEW	PSD	2017-02-16
No.	Revision	Clk. By	Date

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PRELIMINARY

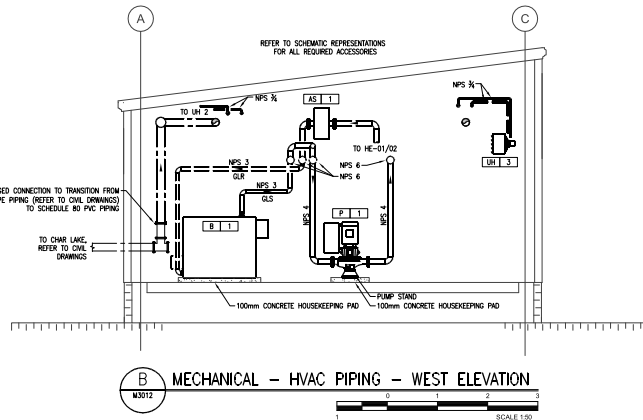
Const. North	Drawn By: J. Faubert
	Comp. Standards: P. St-Onge
	Clk. By: J. Faubert
Date Printed: 12-01-2018	Exp. Design: P. St-Onge
	Clk. By:

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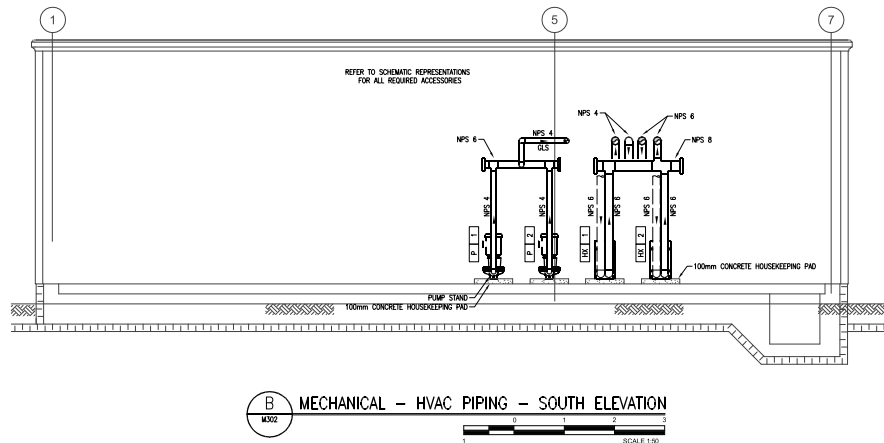
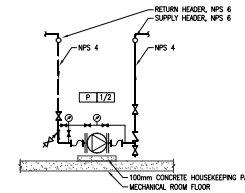


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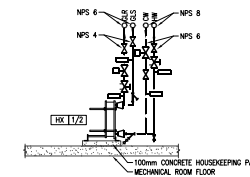
Project Title	
NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Dwg. Title	
MECHANICAL FUEL SYSTEM LAYOUT	
Project No.	OTT-00206333-B0
Dwg. No.	M201
Scale	AS SHOWN This drawing is not to be scaled



1 CIRCULATION PUMPS - SCHEMATIC REPRESENTATION



2 HEAT EXCHANGER - SCHEMATIC REPRESENTATION



No.	Issue	Date
04	RE-ISSUED FOR 100% REVIEW	PSD 2018-01-12
03	ISSUED FOR 100% REVIEW	PSD 2017-04-10
02	ISSUED FOR 75% REVIEW	PSD 2017-03-21
01	ISSUED FOR 50% REVIEW	PSD 2017-02-16
No.	Revision	Clk. By Date

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PRELIMINARY

Const. North	
Drawn By:	J. Faudert
Orig. Standards	P. St-Onge
Clk. By:	J. Faudert
Designed By:	J. Faudert
Date Printed:	12-01-2018
Orig. Design	P. St-Onge
Clk. By:	

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Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Draw. Title	MECHANICAL HEATING SYSTEMS, ELEVATIONS AND SCHEMATICS	
Project No.	OTT-00206333-B0	
Draw. No.	M302	Rev. No. 0
Scale	AS SHOWN This drawing is not to be scaled	

GENERAL NOTES

ALL DUCTWORK TERMINATING OUTSIDE TO BE EQUIPPED WITH BREEZECRENS.



No.	Revision	Clk. By	Date
04	RE-ISSUED FOR 100% REVIEW	PSD	2018-01-12
03	ISSUED FOR 100% REVIEW	PSD	2017-04-10
02	ISSUED FOR 75% REVIEW	PSD	2017-03-21
01	ISSUED FOR 50% REVIEW	PSD	2017-02-16

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PRELIMINARY

Const. North	
Drawn By:	J. Faudert
Chg. Standards	P. St-Onge
Clk. By:	J. Faudert
Date Printed:	12-01-2018
Chg. Design	P. St-Onge
Clk. By:	

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Project Title

NEW UTILIDOR DESIGN
RESOLUTE BAY, NU

Dwg. Title

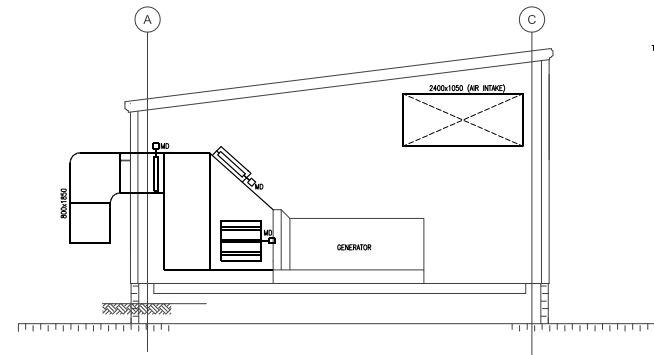
MECHANICAL
VENTILATION LAYOUT

Project No. OTT-00206333-B0

Dwg. No. M501 Rev. No. 0

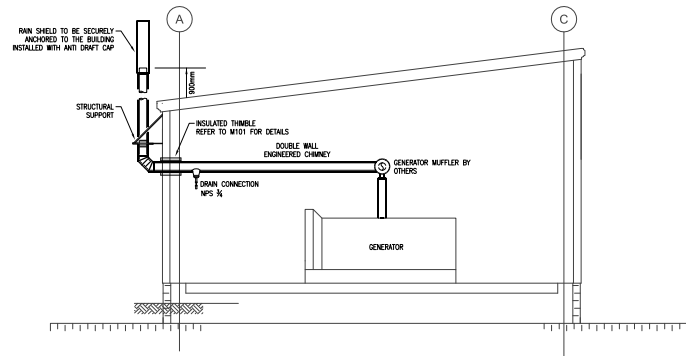
Scale AS SHOWN
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TO BE



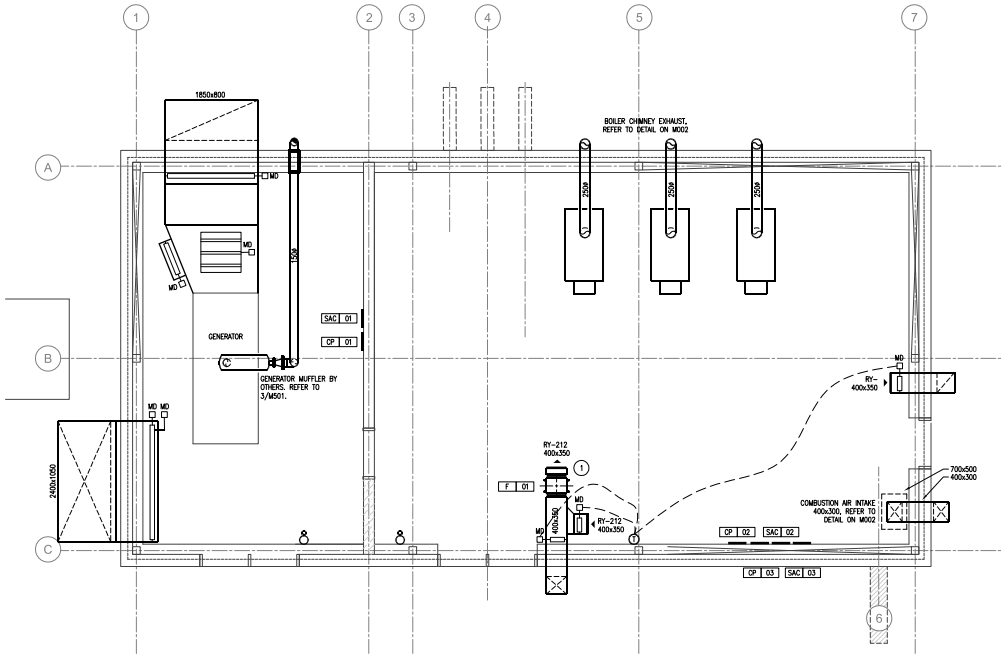
2 MECHANICAL - VENTILATION - GENERATOR INTAKE AND EXHAUST ELEVATION

M501 SCALE 1:50



3 MECHANICAL - VENTILATION - GENERATOR CHIMNEY ELEVATION

M501 SCALE 1:50



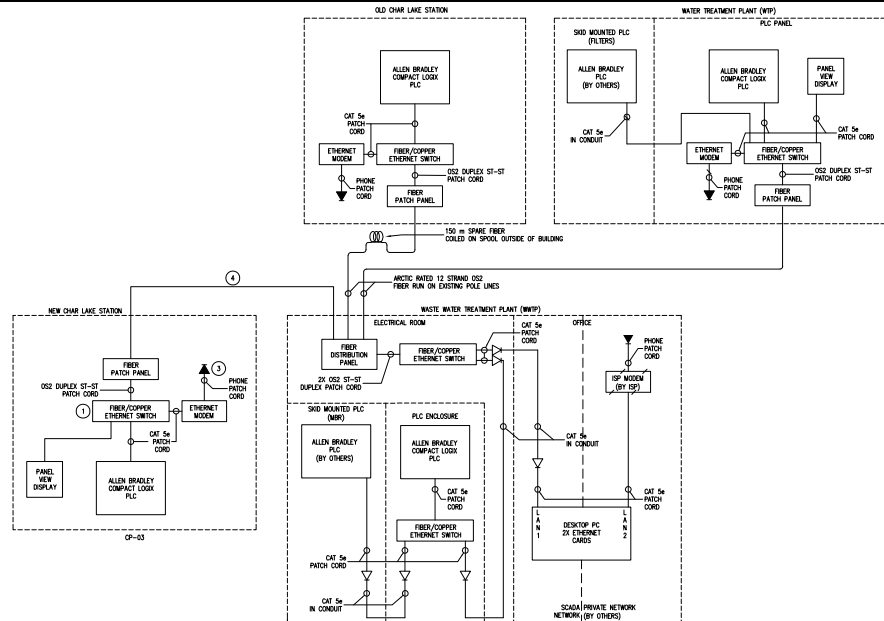
1 MECHANICAL - VENTILATION

M501 SCALE 1:50

N.C. NORMALLY CLOSED
N.O. NORMALLY OPEN
AL ALARM
MO MOTORIZED DAMPER
ATMO AIRTIGHT MOTORIZED DAMPER
ME MOTOR - ELECTRIC
E.A. EXHAUST AIR
O.A. OUTDOOR AIR
S.A. SUPPLY AIR
R.A. RECIRCULATED AIR
C.A. COMBUSTION AIR
PLC PROGRAMMABLE LOGIC CONTROLLER
SP SET POINT
LL LOW LIMIT
FAN - CONSTANT VOLUME
PUMP - VARIABLE VOLUME
DAMPER

HEAT TRACE
ELECTRICITY BY DIVISION 25
ELECTRICITY BY DIVISION 26
TRANSFORMER WITH FUSE AND GROUND ON SECONDARY
NORMALLY OPEN CONTACT
NORMALLY CLOSED CONTACT
OVERLOAD RELAYS
MANUAL SWITCH
PUSH-BUTTON - NORMALLY OPEN
FUSE
MANUAL STARTER
PUMP SELECTOR SWITCH - 3 POSITIONS
PUMP SELECTOR SWITCH - 2 POSITIONS
GREEN PILOT LIGHT
RED PILOT LIGHT
ELECTRIC RELAY
CURRENT SENSOR (ON CURRENT RELAY)
(CT) CURRENT TRANSMITTER
ELECTRIC MOTOR
THERMOSTAT
ELECTRIC THERMOSTAT

TEMPERATURE SENSOR
TEMPERATURE SENSOR WITH THERMOWELL
CENTRALIZED POINT (INPUT OR OUTPUT)
2-WAY MOTORIZED VALVE NORMALLY OPEN
2-WAY MOTORIZED VALVE NORMALLY CLOSED
BUTTERFLY VALVE NORMALLY OPEN
FLOW METER (WATER)
EQUIPMENT PROVIDED BY OTHERS, WRED BY THIS DIVISION
DATA OUTLET/VOICE OUTLET
WATER FLOW SWITCH
CONTROL PANEL
STAND ALONE CONTROLLER



- NOTES:
- THE 10/100 UNMANAGED ETHERNET SWITCH IN THE WTP ELECTRICAL ROOM TO BE CONFIGURED WITH 8x COOPER PORTS AND TWO 24 ST DUPLEX FIBER PORTS. TO BE INSTALLED ON SCADA FIBER PLYWOOD BACKBOARD. STANDARD OF ACCEPTANCE: BMB ELECTRONICS - 8800X-EST WITH 10WAC - JAVO-POWER ADAPTOR FOR CONNECTION TO STANDARD RECEPTACLE.
 - ALL STRUCTURED CABLING TO MEET GOVERNMENT OF NUNAVUT COMMUNITY AND GOVERNMENT SERVICES (CSG) STRUCTURED CABLING GUIDELINE VERSION 1.5 JUNE 2012.
 - BACKUP DATA CONNECTION BETWEEN WATER TREATMENT PLANT AND CHAIR LAKE ON PHONE LINES USING MODEM INSTALLED AT THE TWO SITES.
 - FIBER CABLE BY OTHER.
 - REFER TO SPECIFICATIONS FOR EQUIPMENT PART NUMBERS.

NETWORK ARCHITECTURE

No.	Issue	Date
04	RE-ISSUED FOR 100% REVIEW	PSD 2018-01-12
03	ISSUED FOR 100% REVIEW	PSD 2017-04-10
02	ISSUED FOR 75% REVIEW	PSD 2017-03-21
01	ISSUED FOR 50% REVIEW	PSD 2017-02-16
No.	Revision	Ord. By Date



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01 ISSUED FOR 100% REVIEW P.S.D. 2017-04-07
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PRELIMINARY

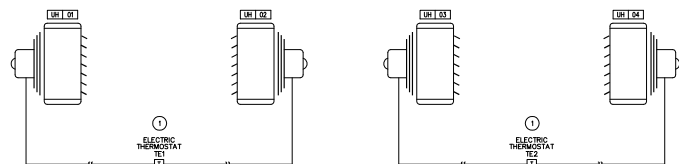
Coord. North	
Drawn By:	C.B.
Dwg. Standards:	
Ord. By:	C.B.
Designed By:	
Ord. By:	
Date Printed	Dwg. Design
	Ord. By:

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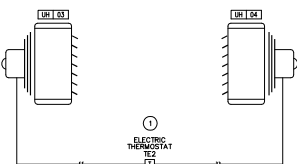


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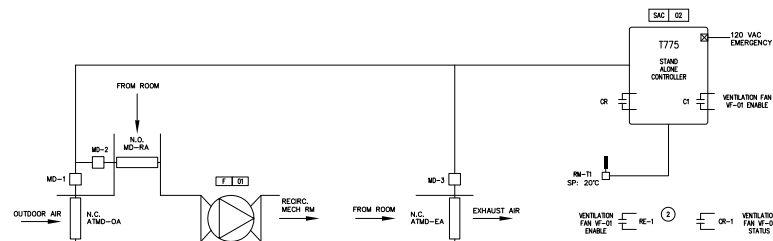
Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Dwg. Title	MECHANICAL CONTROLS - LEGEND & NETWORK ARCHITECTURE	
Project No.	OTT-00206333-B0	
Dwg. No.	M601	Rev. No. 0
Scale	AS SHOWN This drawing is not to be scaled	



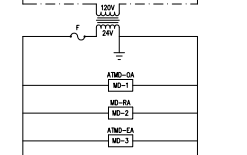
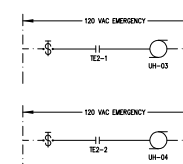
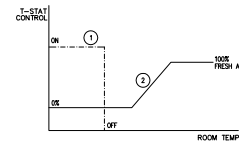
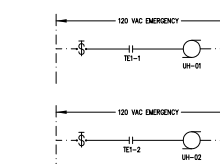
MECHANICAL ROOM NORTH



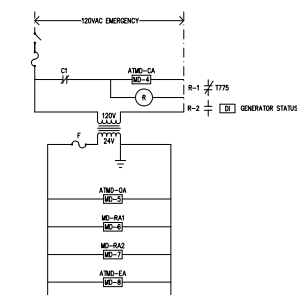
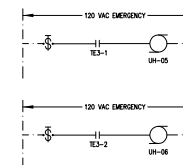
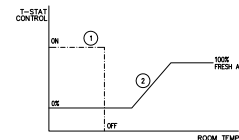
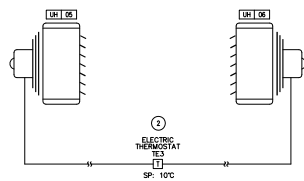
MECHANICAL ROOM SOUTH



BOILER ROOM VENTILATION

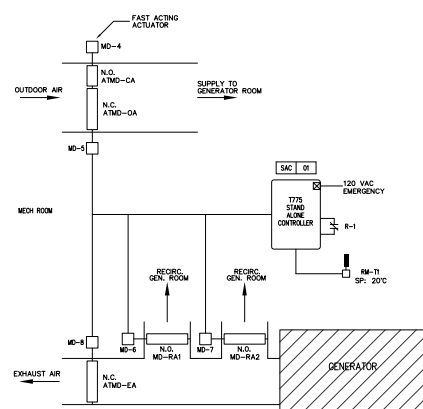


- NOTES:
- UNIT HEATER (UH-01) START/STOP COMMAND BY ELECTRICAL THERMOSTAT (TES).
 - MOTORIZED DAMPERS MODULATION BY STANDALONE THERMOSTAT T775.
 - ROOM TEMPERATURE SENSOR FOR ALARMING PURPOSES.

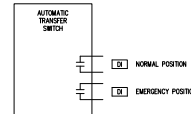
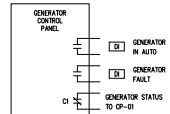


CONTROL PANEL CP-01

- NOTES:
- UNIT HEATER (UH-01) START/STOP COMMAND BY ELECTRICAL THERMOSTAT (TES).
 - MOTORIZED DAMPERS MODULATION BY STANDALONE THERMOSTAT T775.
 - ROOM TEMPERATURE SENSOR FOR ALARMING PURPOSES.



GENERATOR ROOM VENTILATION



No.	Issue	Date
04	RE-ISSUED FOR 100% REVIEW	P.D. 2018-01-12
03	ISSUED FOR 100% REVIEW	P.D. 2017-04-10
02	ISSUED FOR 75% REVIEW	P.D. 2017-03-21
01	ISSUED FOR 50% REVIEW	P.D. 2017-02-16
No.	Revision	Chg. By Date

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01 ISSUED FOR 100% REVIEW P.D. 2017-04-07
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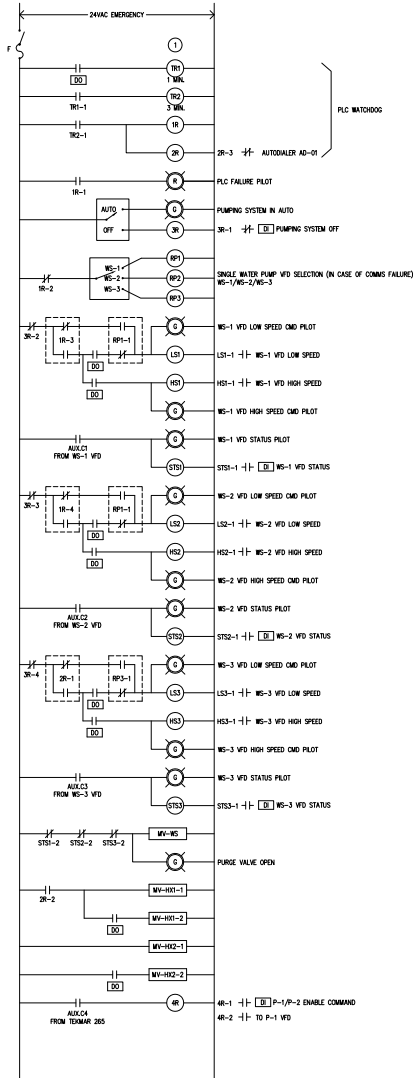
PRELIMINARY	
Const. North	
Drawn By:	C.B.
Dwg. Standards	
Chg. By:	C.B.
Designed By:	C.B.
Dwg. Design	
Date Printed	

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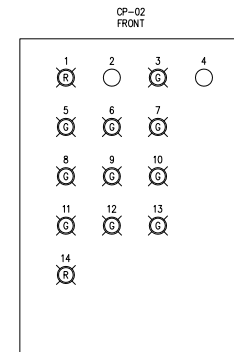
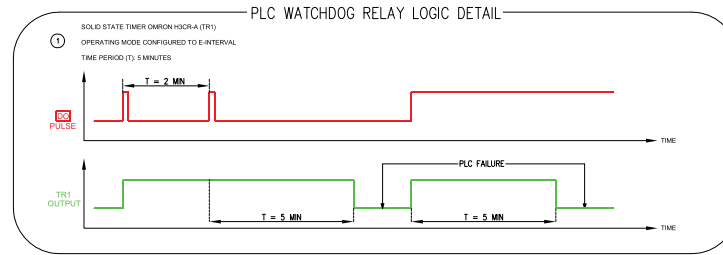
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Project Title	
NEW UTILIDOR DESIGN RESOLUTE BAY, NU	
Dwg. Title	
MECHANICAL CONTROLS - VENTILATION SCHEMATICS	
Project No.	OTT-00206333-B0
Dwg. No.	M602
Rev. No.	0
Scale	AS SHOWN This drawing is not to be scaled



CONTROL PANEL CP-02



MAIN CONTROL PANEL CP-02 TO BE INSTALLED INSIDE PUMP HOUSE.
REFER TO RELAY LOGIC AND SPECS FOR PANEL DETAILS.


CP-02 NOTES:

1. PLC FAILURE PILOT
2. PUMPING SYSTEM AUTO/OFF SELECTOR
3. PUMPING SYSTEM IN AUTO PILOT
4. WS-1/WS-2/WS-3 PLC FAILURE DUTY PUMP SELECTOR
5. WS-1 ENABLE/LOW SPEED COMMAND PILOT
6. WS-1 HIGH SPEED COMMAND PILOT
7. WS-1 RUN STATUS PILOT
8. WS-2 ENABLE/LOW SPEED COMMAND PILOT
9. WS-2 HIGH SPEED COMMAND PILOT
10. WS-2 RUN STATUS PILOT
11. WS-3 ENABLE/LOW SPEED COMMAND PILOT
12. WS-3 HIGH SPEED COMMAND PILOT
13. WS-3 RUN STATUS PILOT
14. PURGE VALVE OPEN

NOTES:

1. TIMER RELAY TR1/TR2 TO BE CONFIGURED TO CLOSE WHENEVER THE DIGITAL OUTPUT (DO) CONTACT IS CLOSED, AND OPEN 5 MINUTES AFTER THE DIGITAL OUTPUT CONTACT OPENS.

No.	Issue	Date



04	RE-ISSUED FOR 100% REVIEW	PSD	2018-01-12
03	ISSUED FOR 100% REVIEW	PSD	2017-04-10
02	ISSUED FOR 75% REVIEW	PSD	2017-03-21
01	ISSUED FOR 50% REVIEW	PSD	2017-02-16
No.	Revision	Chk. By	Date

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PRELIMINARY

Const. North	
Drawn By: C.B.	
Dwg. Standards Chk. By: C.B.	
Designed By: C.B.	
Date Printed	Dwg. Design Chk. By:

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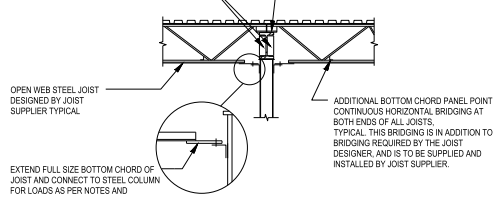


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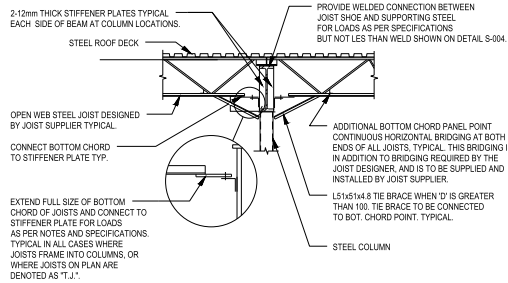
Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU
Dwg. Title	MECHANICAL CONTROLS - WIRING SCHEMATICS
Project No.	OTT-00206333-B0
Dwg. No.	M604
Scale	AS SHOWN This drawing is not to be scaled

2-12mm THICK STIFFENER PLATES TYPICAL EACH SIDE OF BEAM AT COLUMN LOCATIONS.

PROVIDE WELDED CONNECTION BETWEEN JOIST SHOE AND SUPPORTING STEEL FOR LOADS AS PER SPECIFICATIONS BUT NOT LESS THAN WELD SHOWN ON DETAIL S-004

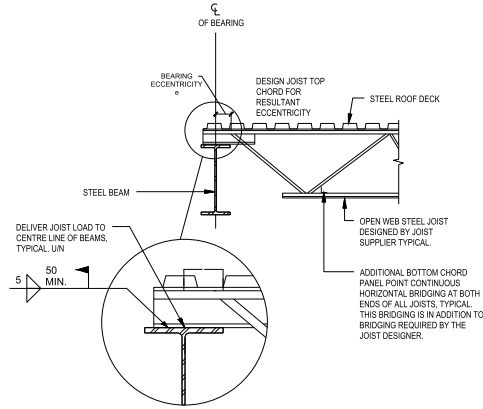


**JOISTS BEARING ON BEAMS AT COLUMN LOCATIONS
(WHERE JOIST DEEPER THAN BEAM)**



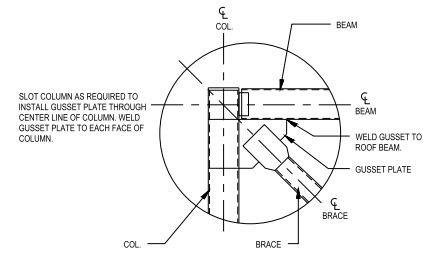
**JOISTS BEARING BEAMS AT COLUMN LOCATIONS
(WHERE JOIST DEEPER THAN BEAM)**

S-002 JOISTS BEARING ON BEAMS AT COLUMN LOCATIONS

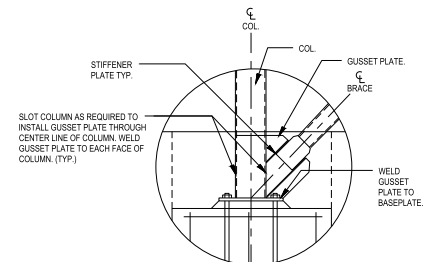


TYPICAL JOIST BEARING ON EXTERIOR BEAM

S-006 JOIST BEARING ON EXTERIOR BEAM

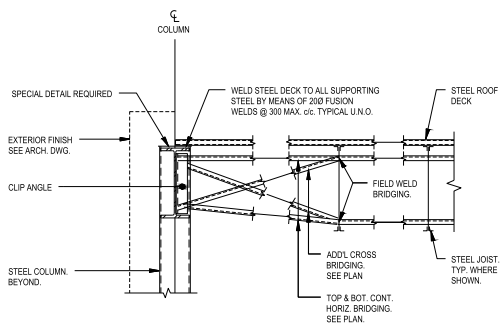


**TYPICAL BRACE CONNECTION
TO COLUMN & ROOF BEAM**



**TYPICAL BRACE CONNECTION
TO COLUMN BASEPLATE**

S-010 VERTICAL BRACE DETAILS



S-003 STEEL DECK AND HORIZONTAL BRIDGING DETAIL

No.	Issued	Date
0	100% REVIEW	2017-04-27



No.	Revision	Clk. By	Date
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PRELIMINARY

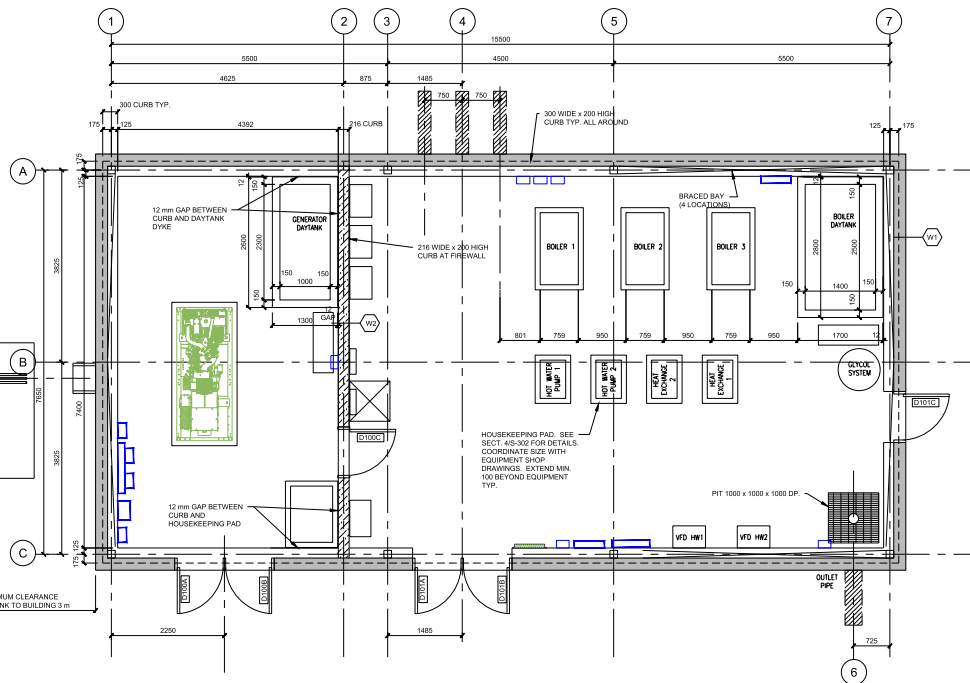
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Drawn By: MN	
Chg. Standards Clk. By:	
Designed By: KAB	
Date Printed	Chg. Design Clk. By: KAB

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Project Title	NEW UTILIDOR DESIGN RESOLUTE BAY, NU CHAR LAKE PUMP HOUSE	
Dwg. Title	TYPICAL DETAILS	
Project No.	OTT-00206333-B0	
Dwg. No.	S-300	Rev. No. 0
Scale	N.T.S.	



FLOOR PLAN
SCALE: 1:50

GENERAL NOTES

- Check all dimensions on structural drawings with other drawings. Report any inconsistencies before proceeding with the work. DO NOT SCALE THESE DRAWINGS.
- All work shall comply with current provisions of the National Building Code, the Workplace Safety and Insurance Board and best trade practices. Work shall comply with all local and provincial regulations and with applicable C.S.A. standards. In all cases, the latest editions of codes and standards shall apply.
- Structural design complies with Part 4 of the National Building Code 2015.
- Before submitting tenders contractors shall carefully examine existing conditions to establish the extent of the work.
- Locate all buried services prior to excavation. The contractor shall be responsible for all temporary bracing, shoring and dewatering necessary to undertake the work.
- The contractor is responsible for removing excess materials and cleaning up on completion of the work.
- The contractor shall verify dimensions before construction and report discrepancies before proceeding with the work.

FOUNDATIONS

- Refer to Sols Report No. OTT-0020633-AD prepared by exp Services Inc. dated December 6, 2012 for granular pad construction and compaction requirements.
- Protect slabs-on-grade and adjacent Soil against freezing, frost action and water infiltration at all times during construction.

MATERIALS SPECIFICATIONS

- Concrete - materials to CSA-A23.1-14. Compressive strength minimum 35 MPa. 5% +/- 1% entrained air for concrete. Slump 70 +/- 20mm. Maximum water/cement ratio: 0.43. Maximum aggregate size 20 mm. Type GU cement. Exposure Class: C1
- Formwork - to CSA-A23.1-14. Use only new forming materials for architecturally exposed surfaces. Form release agent shall be nonstaining, compatible with finishes where applicable.
- Rebar - deformed billet steel bars to CSA G30.18M-09 (R2014), Grade 400. Type W for welded rebar.
- Mesh - welded wire fabric to ASTM A1064/A1064M-17.

- Rolled structural steel shapes - General requirements to CSA S16-14, rolled shapes to CSA G40.21, 355W minimum. Channels, angles and plates 300W.
- Hollow structural sections - to CSA-G40.20/G40.21-13, 355W, Class C or ASTM A500 Grade C.
- Bolts, nuts and washers - General requirements to CSA S16-14, ASTM F3125/F3125M-15a. Hot dipped galvanized as required.

- Welding - to CSA W59-13, E480XXCH or LH basic electrodes conforming to CSA W48-14. Welding shall be performed only by companies certified by Canadian Welding Bureau as follows: Fusion Welding - certified to CSA W47.1-09(2014); Resistance Welding - certified to CSA W55.3-08 (2013). Workmanship to best trade practices for cold weather installations.
- Prime paint to Structural Steel - to GISCOPMA STANDARD 2-75, one shop coat, one touch up field coat.
- Wood Framing Material - SPF Grade No. 1 or 2. All lumber in direct contact with concrete, soil or moisture to be pressure treated.

- Nails and Staples - materials to ASTM F1667-13 Common and spiral ardox nails to be galvanized.
- Prefinished Metal Roofing - Sheet steel to ASTM A653/A653M-15el, commercial quality, galvanized, Z275 coating, designation, factory precoated with paint finish.

- Colour: from manufacturer's standard range of colours Profile: to be determined Class: FIS Thickness: 0.53 mm base metal thickness
- Preformed Cladding/Siding - Sheet steel to ASTM A653/A653M-15el, grade A, galvanized, Z275 coating designation, factory precoated with paint finish, 2 coat system dry film thickness of 0.025 mm +/- 0.005 mm both faces conforming to film test procedures described in CSSB1 Bulletin No. 5 and ASTM D1005-95 (2013).

- Colour: from manufacturer's standard range of colours Profile: vertical ribbed, preformed interlocking joints, based on Vic West CL725 Thickness: 0.61 mm base metal thickness Fascia and Trims: same colour and thickness as cladding
- Wall and Roof Insulation: Rigid Closed Cell polystyrene to CANULC-S701-11, type 4, square shiplapped edges. Acceptable material Styrofoam SM or approved equal.

- Underside Rigid Insulation: Extruded polystyrene foam insulation CANULC-S701-11, type 4, rigid, closed cell type, compressive strength at 5% deformation 275 kPa. Thermal resistance of 0.87 RSI/25 mm, thicknesses as specified. Standard of Acceptance Styrofoam High Load 40 by Dow Chemical or approved equivalent.
- Girts: "Z" profile, minimum 1.3 mm thick, height to suit insulation thickness, formed from galvanized sheet steel to ASTM A653/A653M-15el, Grade A, with zinc coating designation Z275. Terminations: perimeter framing of "L" or "C" profiles to match "Z" girts.

- Fasteners for girts: epoxy coated 4mm dia. steel screws of sufficient length to penetrate through deck.
- Fasteners for metal roofing: self-drilling cadmium plated steel purpose made, head colour same as exterior steel roofing, neoprene washer exposure.
- Fasteners for metal cladding: cadmium plated steel purpose made, head colour same as exterior sheet, dished steel/neoprene.
- Sealants: single component acrylic, colour to match roofing/cladding.
- Polyethylene Sheets - 0.25 mm (10 mil) clear polyethylene film.
- Open Web Steel Joist - General requirements to CSA-S16-14.

- Roof deck - to CSA-S16-16 and ASTM A653/A653M-15el, galvanized with Z275 zinc coating, Grade A structural quality, with 0.76 mm core 38 mm deep profile, interlocking side laps. Secure deck to all supporting members. Side lap joints to be fastened with stitch screws.
- Anchor Rods - to CSA-G40.20-13/G40.21-13, Grade 300 W complete with ASTM A563-15 nuts and ASTM F436-11 circular washers.

REINFORCEMENT PLACEMENT

- Minimum clear cover
 - For concrete placed against earth.....75 mm
 - For concrete placed in forms but in contact with earth and weather.....50 mm
 - Interior slabs.....40 mm
 - Curbs.....40 mm
- Laps
 - lap all bars 36 bar diameters or 450 mm minimum, whichever is greater, unless otherwise indicated.
- Chairs for support of slab reinforcing placed at maximum of 1.0 m in either direction. Supply support bars, chairs and carriers.

DESIGN SERVICE LOADS

DEAD LOADS

Roof (Self weight)
Exterior metal cladding, insulation, Z girts, insulation, structural steel deck, DWS/Is Superimposed Loads (Mech. Allowance) 1.00 kPa 0.5 kPa

LIVE LOADS

FLOOR 4.8 kPa

Roof Snow Load

Sa = 2.0 kPa
Sr = 0.1 kPa
Is = 1.25 ULS
Is = 0.9 SLS

S = Is [Sa (Cb Cs Cti Cq) + Sr]
= 1.25 [2.0 (0.8) 1.0 (1.0) (1.0) + 0.1]
= 2.125 kPa

LATERAL LOADING

Wind Load

q(1.10) = 0.54
q(1.50) = 0.69 kPa
Cp Cq = 1.85 for walls
Cp Cq = 2.00 for roof
Ce = 0.5
Ct = 1.0
Iw = 1.25 ULS Iw = 0.75 SLS

Wind East - West = 58.1 kN

Wind North - South = 121.8 kN

Wind Uplift Parameters for design of roof components and cladding

Cp Cq = -1.8 (generally)
Cp Cq = -5.4 (corners)

DOOR TYPES

D1004 A D1008

TWO INSULATED METAL DOORS
PAINTED, 915 x 2134 x45
DOOR CLOSER
1/4 PR. HEAVY DUTY HINGES
WEATHER STRIPPING
DOOR SWEEP
ALUMINUM THRESHOLD
PANIC HARDWARE
LEVERED LOCKSET
THERMALLY BROKEN PRESSED STEEL FRAME
PAINTED C/W REMOVABLE MULLION
OVERHEAD STOP
FLUSH BOLTS (TOP AND BOTTOM CANE BOLTS)
ASTRAGAL

D1009

1-1/2 HR. FIRE RATED HOLLOW METAL DOOR
PAINTED, 915 x 2134 x 45
DOOR CLOSER
1-1/2 PR. HEAVY DUTY HINGES
ALUMINUM THRESHOLD
LEVERED PASSAGE SET
1-1/2 HR. FIRE RATED PRESSED STEEL FRAME
PAINTED
NO PLATE

WALL TYPES

W1

EXTERIOR WALL ASSEMBLY (RSI 5.64)

FIRE-FINISHED METAL CLADDING

50 mm SEMI-RIGID INSULATION

50 mm HORIZONTAL Z GIRTS @ 330 mm O.C. WITH NEOPRENE GASKET

102 SEMI-RIGID INSULATION

102 GALVANIZED COLD FORMED METAL STUDS @ 400 O.C.

C/W HORIZONTAL BRIDGING @ 1200 O.C.

INTERIOR METAL LINER PANEL (VAPOUR BARRIER)

2 HOUR FIRE RATED WALL (NRC - DESIGN WSKI NON-LOAD BEARING)

PRE-FINISHED METAL LINER

2-15.9 mm TYPE X GYPSUM BOARD***

31 mm x 152 mm (0.46 mm (25 gauge)) steel studs spaced at 610 mm

2-15.9 mm TYPE X GYPSUM BOARD***

PRE-FINISHED METAL LINER

*** THE JOINTS OF THE OUTER LAYER OF FINISH ON BOTH SIDES OF THE WALL SHALL BE TAPED AND FINISHED. FASTENER TYPES AND SPACING SHALL CONFORM TO CSA A663-14, GYPSUM BOARD APPLICATION

ROOF

ROOF ASSEMBLY (RSI 7.05)

EXTERIOR STANDING SEAM METAL ROOF

190 x 18 GA. FLUSH MOUNT CLIP

50 SEMI-RIGID INSULATION

50 DEEP x 15 TOP x 38 FLANGE (16 GA. MIN.) METAL NAT. HAT SECTION

SPACED AT 800 C/C WITH CONTINUOUS THERMAL BREAK

203 SEMI-RIGID INSULATION

203 DEEP x 41 FLANGE x 12 LIP (16 GA. MIN.) COLD FORMED METAL

ROOF JOIST (GALV.) SPACED AT 800 C/C WITH CONTINUOUS THERMAL BREAK

SELF ADHERING AIR VAPOUR BARRIER

16 mm FIBRE REINFORCED HEATHING (DENSE DECK)

38 mm STEEL DECK

D.W.S.

EARTHQUAKE LOAD

Site Classification: Class C

Sa (0.2) = 0.194

Sa (0.5) = 0.105

Sa (1.0) = 0.057

Sa (2.0) = 0.028

Sa (5.0) = 0.0069

Sa (10.0) = 0.0030

Fa = 1.0

Pv = 1.0

S (T = 0.2) = 0.194

S (T = 0.5) = 0.105

S (T = 1.0) = 0.057

S (T = 2.0) = 0.028

S (T = 5.0) = 0.0069

S (T = 10.0) = 0.0030

Rv = 2.0 for conventional braced frames

Rv = 1.3 for conventional braced frames

Is = 1.5

Structural configuration - Regular

V = 50.2 (L) W (Rd Ro)

= 1.0 (194) (1.5) (W (2.0 x 1.3))

= 0.0746 W

= 0.0746 (539)

NORTH - SOUTH or EAST - WEST

V = 40.2 kN

SPATIAL SEPARATION CONSTRUCTION OF EXTERIOR WALLS

PUMP HOUSE BUILDING
BUILDING GROUP F, DIVISION 3 (LOW HAZARD INDUSTRIAL OCCUPANCY)
BUILDING AREA 126.5 m²
NUMBER OF STOREYS ABOVE GRADE - 1
BELOW GRADE - 0
NBC 2015 REFERENCE TO DIVISION 8 3.2.3 AND TABLE 3.2.3.1

WALL	AREA OF EBF (m ²)	L.D. (m)	L/H or H/L	PERMITTED MAX. % OF UNPROTECTED OPENINGS	PROPOSED % OF UNPROTECTED OPENINGS	FIN (hours)	NON-COMBUSTIBLE CONSTRUCTION
NORTH	63.68	> 9 m	3.80	100%	0%	NA	YES
SOUTH	78.53	> 9 m	3.08	79%	5%	NA	YES
EAST	37.49	> 8 m	1.80	100%	5.3%	NA	YES
WEST	37.49	> 8 m	1.80	100%	0%	NA	YES

SPRINKLER SYSTEM - NOT REQUIRED
STANDPIPE REQUIRED - NO
FIRE ALARM REQUIRED - YES AS PER FIRE MARSHAL. FIRE ALARM SYSTEM PROVIDED
OCCUPANT LOAD - BASED ON DESIGN OF BUILDING LOAD = 3 PERSONS
BARRIER FREE DESIGN - NO
HAZARDOUS SUBSTANCES - ?

No.	Rev.	Date
1	50% REVIEW	2017-02-15
2	75% REVIEW	2017-03-17
3	100% REVIEW	2017-04-27



No.	Revision	Chk. By	Date

PRELIMINARY

Const. North	Drawn By: MN
Dwg. Standards	Chk. By:
Designed By: KAB	Dwg. Design: KAB
Date Printed:	

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• INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY •

Project Title

NEW UTILIDOR DESIGN
RESOLUTE BAY, NU
CHAR LAKE PUMP HOUSE

Dwg. Title

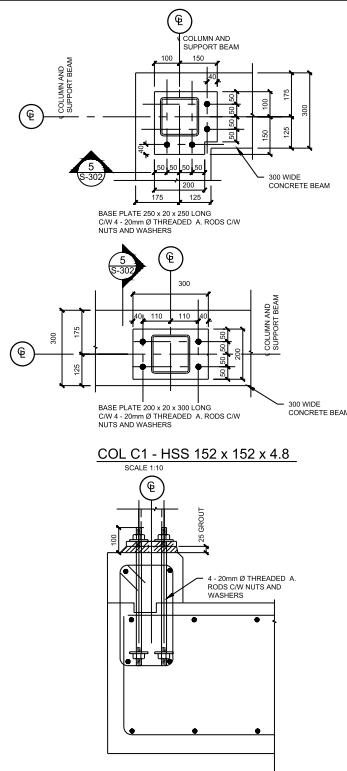
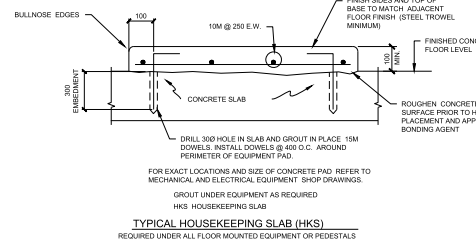
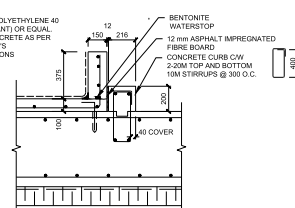
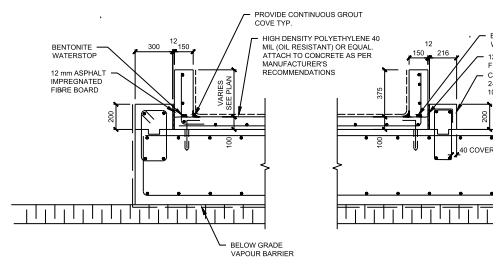
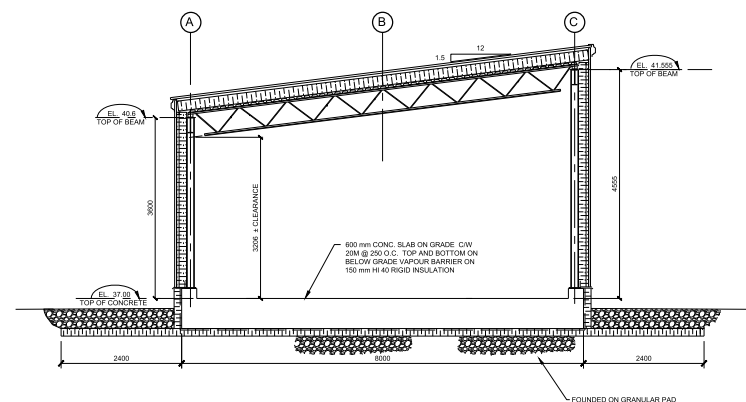
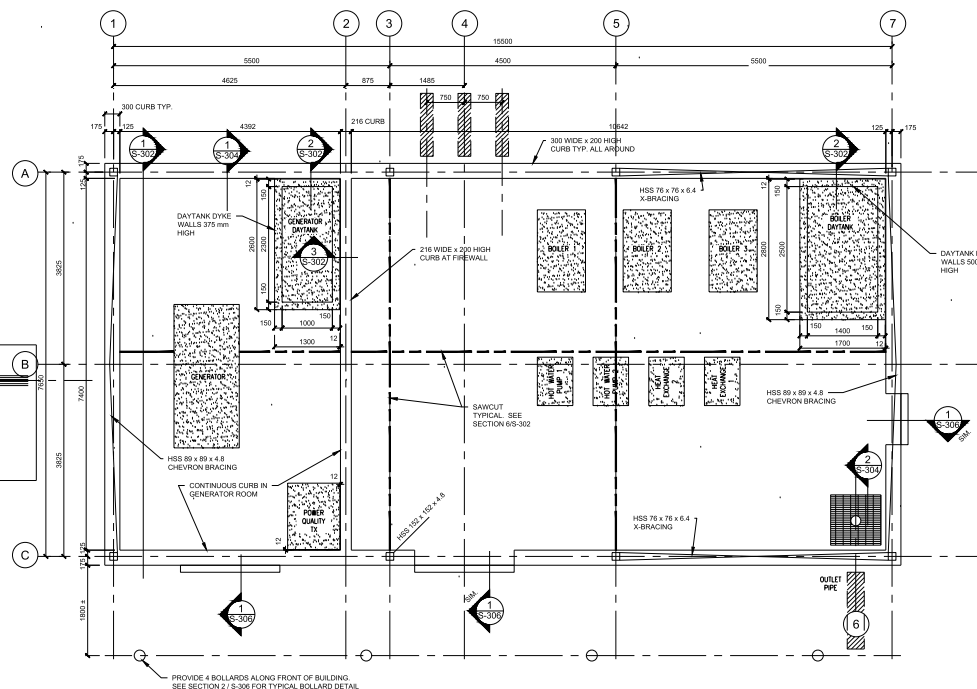
LAYOUT PLAN AND GENERAL NOTES

Project No. OTT-00206333-B0

Dwg. No. S-301 Rev. No. 2

Scale AS NOTED

This drawing is not to be scaled



No.	Issue	Date
0	50% REVIEW	2017-02-15
1	75% REVIEW	2017-03-17
2	100% REVIEW	2017-04-27



No.	Revision	Clkd. By	Date

PRELIMINARY

	Const. North
	Drawn By: MN
	Dwg. Standards Ord. By:
	Designed By: KAB
Date Printed	Dwg. Design Ord. By:

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t: +1.613.688.1899 | f: +1.613.225.7330
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Project Title _____

NEW UTILIDOR DESIGN
RESOLUTE BAY, NU
CHAR LAKE PUMP HOUSE

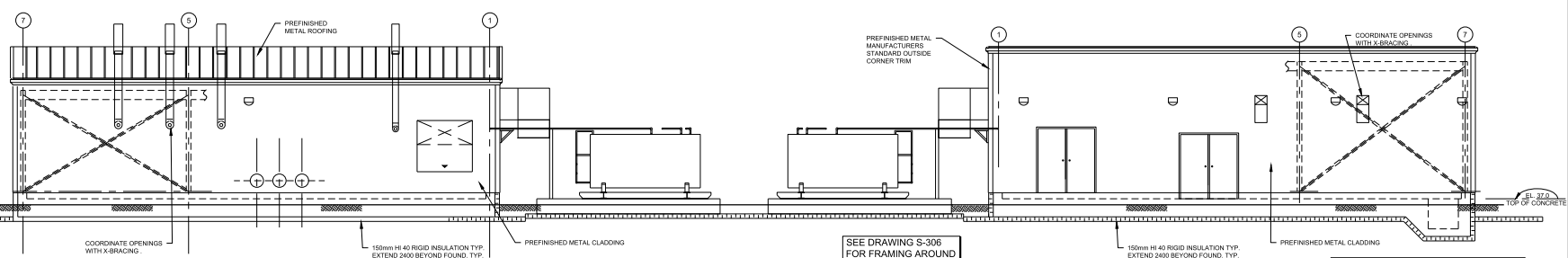
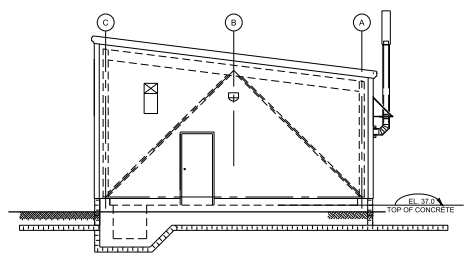
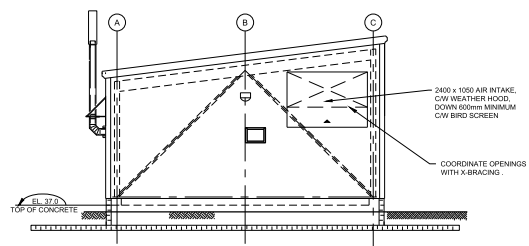
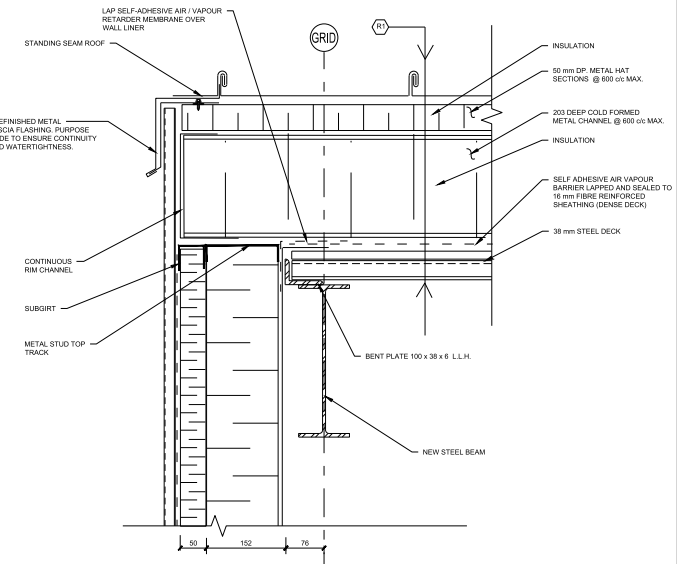
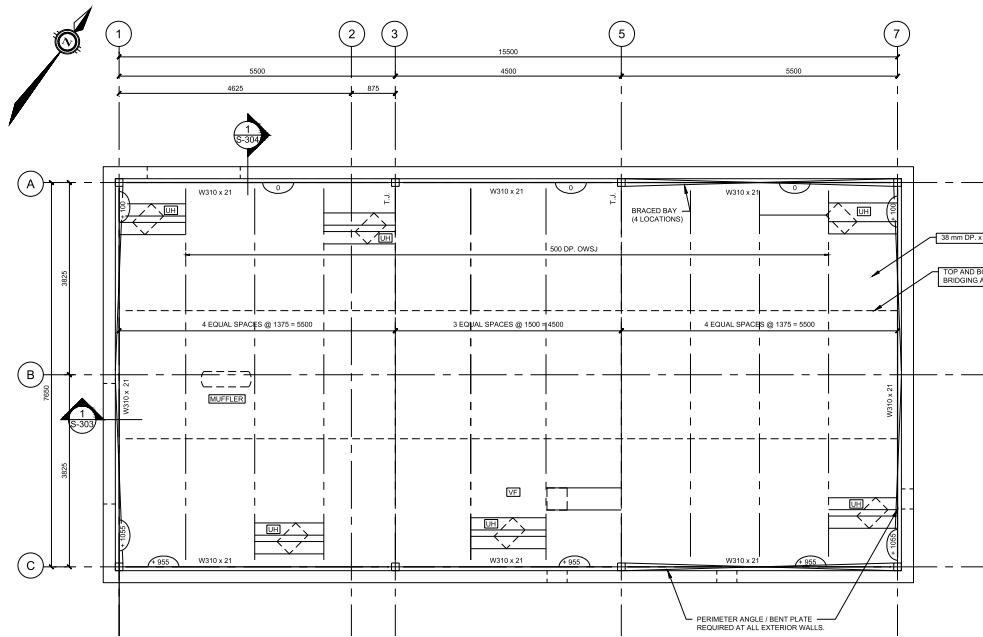
Dwg. Title

FOUNDATION PLAN

Project No.		OTT-00206333-B0	
Drawg. No.		S-302	Rev. No. 2
Scale		AS NOTED	

This drawing is not to be

TABLE 1. *Continued*



No.	Issue	Date
0	50% REVIEW	2017-02-15
1	75% REVIEW	2017-03-17
2	100% REVIEW	2017-04-27



No.	Revision	Chd. By	Date
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PRELIMINARY

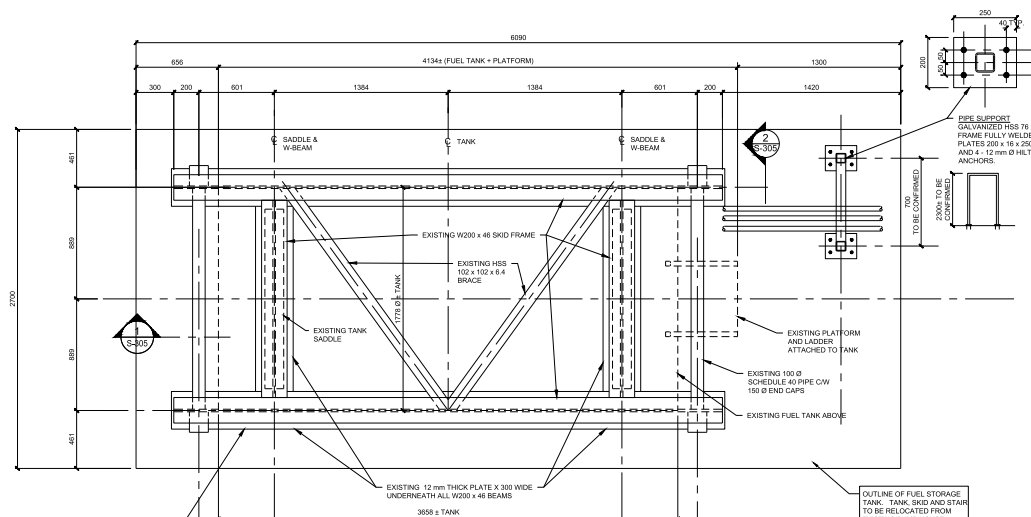
Const. North	
Drawn By: MN	
Eng. Standards Chd. By:	
Designed By: KAB	
Date Printed	Eng. Design Chd. By:

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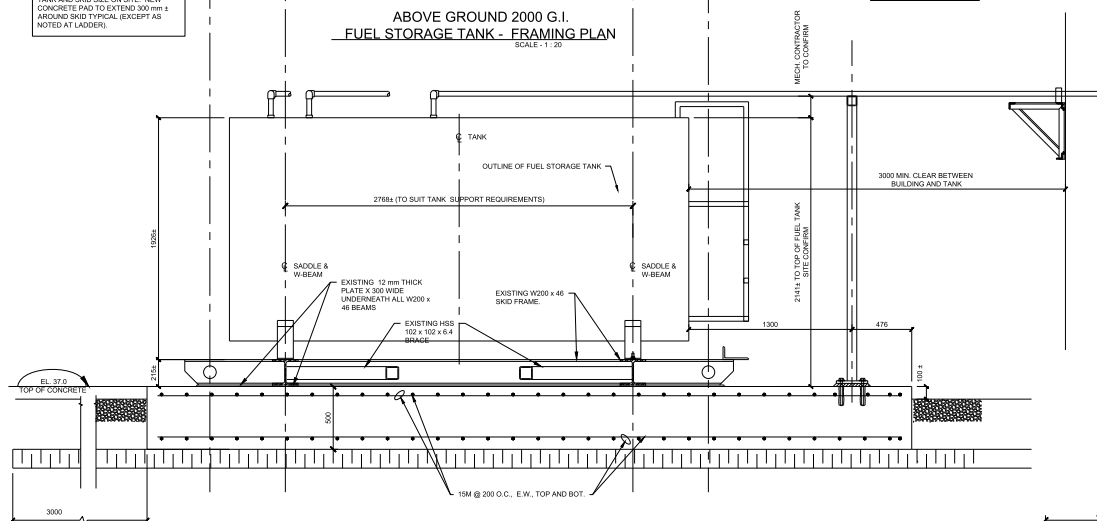


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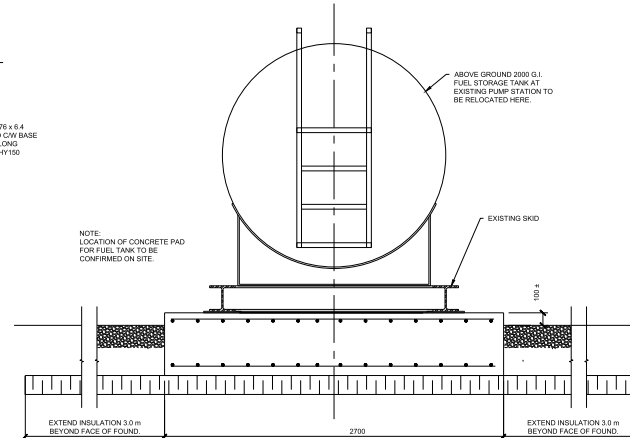
Project Title	
NEW UTILIDOR DESIGN RESOLUTE BAY, NU CHAR LAKE PUMP HOUSE	
Design Title	
ROOF FRAMING PLAN AND WALL ELEVATIONS	
Project No.	OTT-00206333-B0
Design No.	S-303
Rev. No.	2
Scale	AS NOTED
This drawing is not to be scaled	



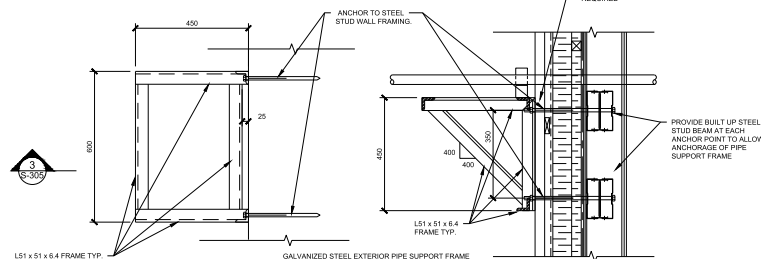
ABOVE GROUND 2000 G.I.
FUEL STORAGE TANK - FRAMING PLAN
SCALE 1:20



1 SECTION
S-305 SCALE 1:20



2 SECTION
S-305 SCALE 1:20



A PLAN DETAIL
S-305 SCALE 1:10

3 SECTION
S-305 SCALE 1:10

No.	Issue	Date
1	75% REVIEW	2017-03-17
2	100% REVIEW	2017-04-27

No.	Revision	Chd. By	Date

PRELIMINARY

Const. North	
Drawn By: MN	
Eng. Standards	
Chd. By: KAB	
Designed By: KAB	
Date Printed	
Eng. Design	
Chd. By: KAB	

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Project Title

NEW UTILIDOR DESIGN
 RESOLUTE BAY, NU
 CHAR LAKE PUMP HOUSE

Design Title

SECTIONS

Project No.	OTT-00206333-B0
Design No.	S-305
Rev. No.	1
Scale	AS NOTED

This drawing is not to be scaled

