SEWAGE TREATMENT PLANT MODIFICATIONS

PANGNIRTUNG

Nunavut

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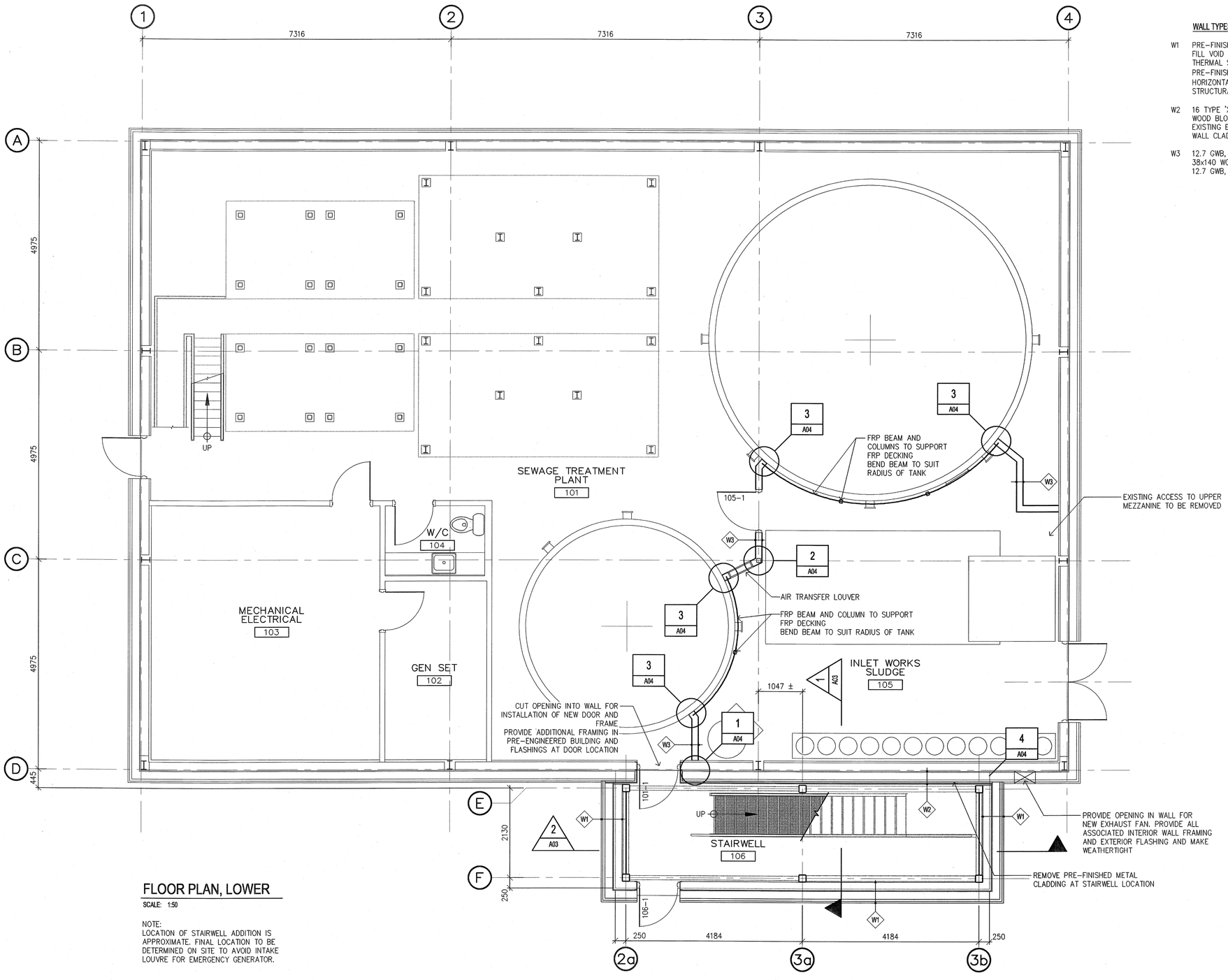
DILLON CONSULTING
PANGNIRTUNG
SEWAGE TREATMENT PLANT MODIFICATION
Project No. 08-8979
JANUARY 2009

CONSTRUCTION NORTH



WALL TYPES

W1 PRE-FINISHED METAL WALL CLADDING
FILL VOID WITH RSI 5.4 BATT INSULATION
THERMAL SPACER CLIPS WITH HAT BAR
PRE-FINISHED METAL LINER PANEL / VAPOUR BARRIER
HORIZONTAL 'Z' GIRTS
STRUCTURAL STEEL FRAMING

W2 16 TYPE 'X' GWB, PAINTED
WOOD BLOCKING
EXISTING EXTERIOR WALL ASSEMBLY WITH PRE-FINISHED WALL CLADDING REMOVED IN STAIRWELL LOCATION

W3 12.7 GWB, PAINTED
38x140 WOOD STUDS @ 400 O.C.
12.7 GWB, PAINTED

FLOOR PLAN, LOWER

SCALE: 1:50

NOTE:
LOCATION OF STAIRWELL ADDITION IS APPROXIMATE. FINAL LOCATION TO BE DETERMINED ON SITE TO AVOID INTAKE LOUVRE FOR EMERGENCY GENERATOR.

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DRAWN	PDR
CHECKED BY	LT
APPROVED	GS
DATE	JANUARY 2009
SCALE	AS NOTED

PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

PROJECT NO. 08-8979

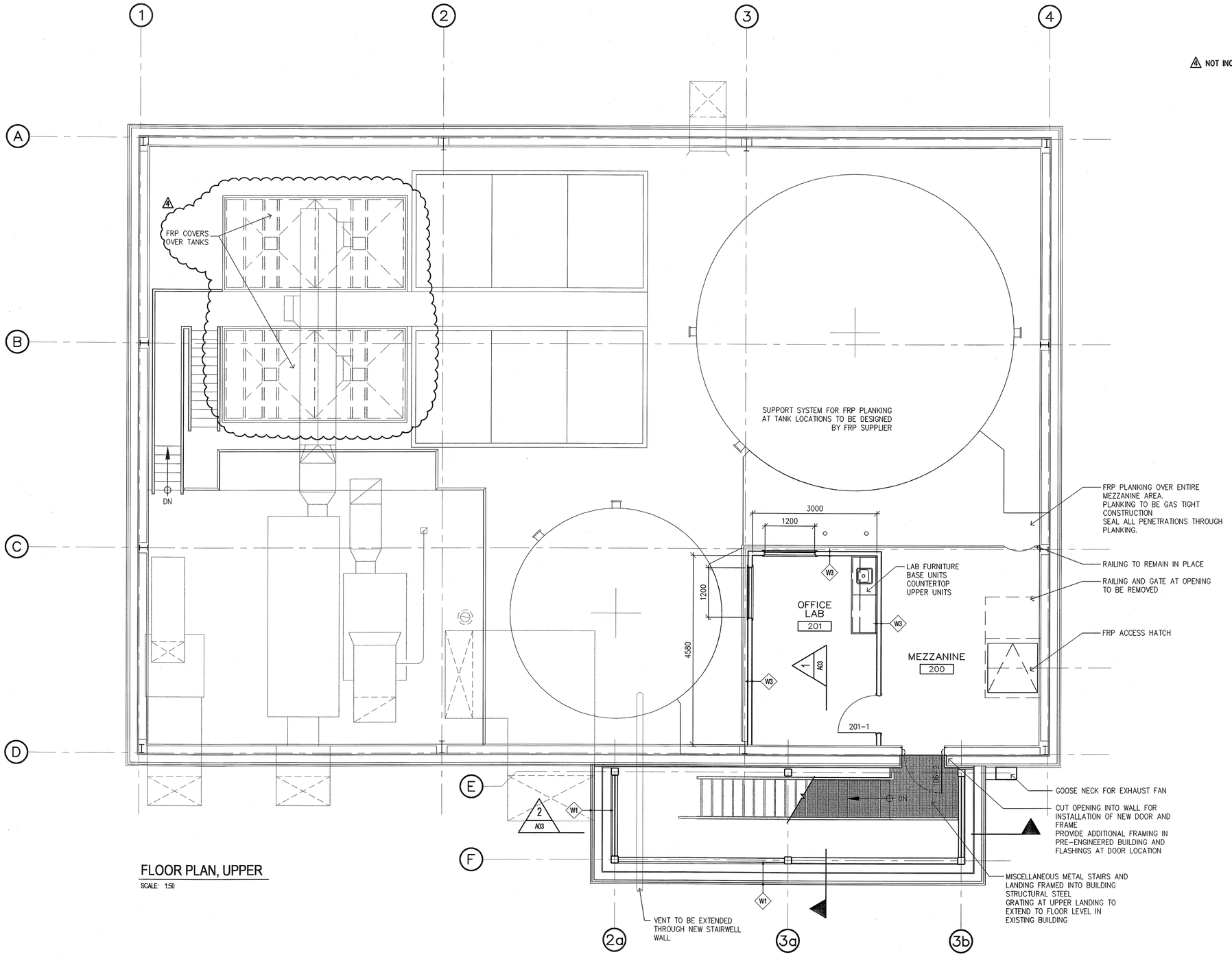
ARCHITECTURAL

FLOOR PLAN - LOWER LEVEL WALL TYPES

SHEET NO. A01

CONSTRUCTION NORTH

⚠4 NOT INCLUDED IN THIS CONTRACT



FLOOR PLAN, UPPER

SCALE: 1:50

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APPROVED: GS	
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PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

PROJECT NO. 08-8979

ARCHITECTURAL

FLOOR PLAN - UPPER LEVEL

SHEET NO. **A02**

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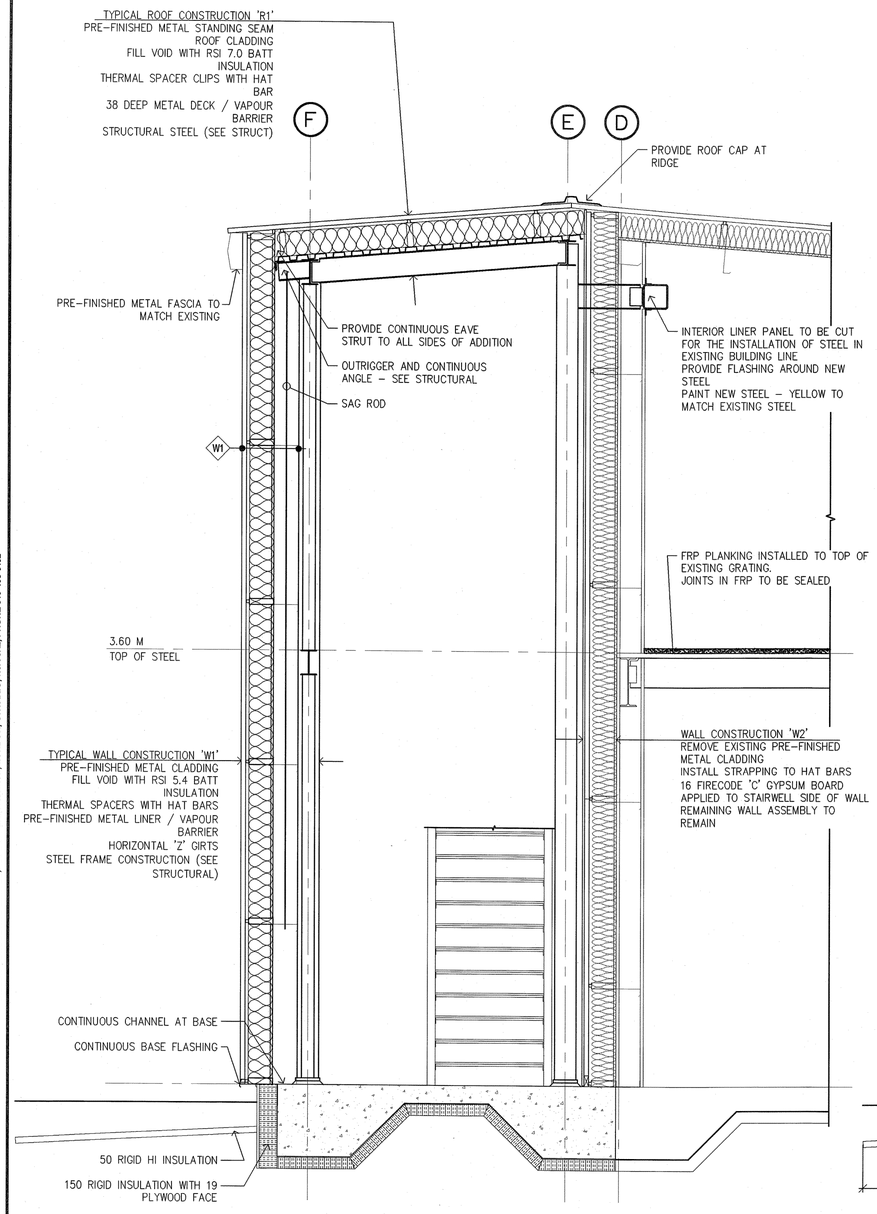
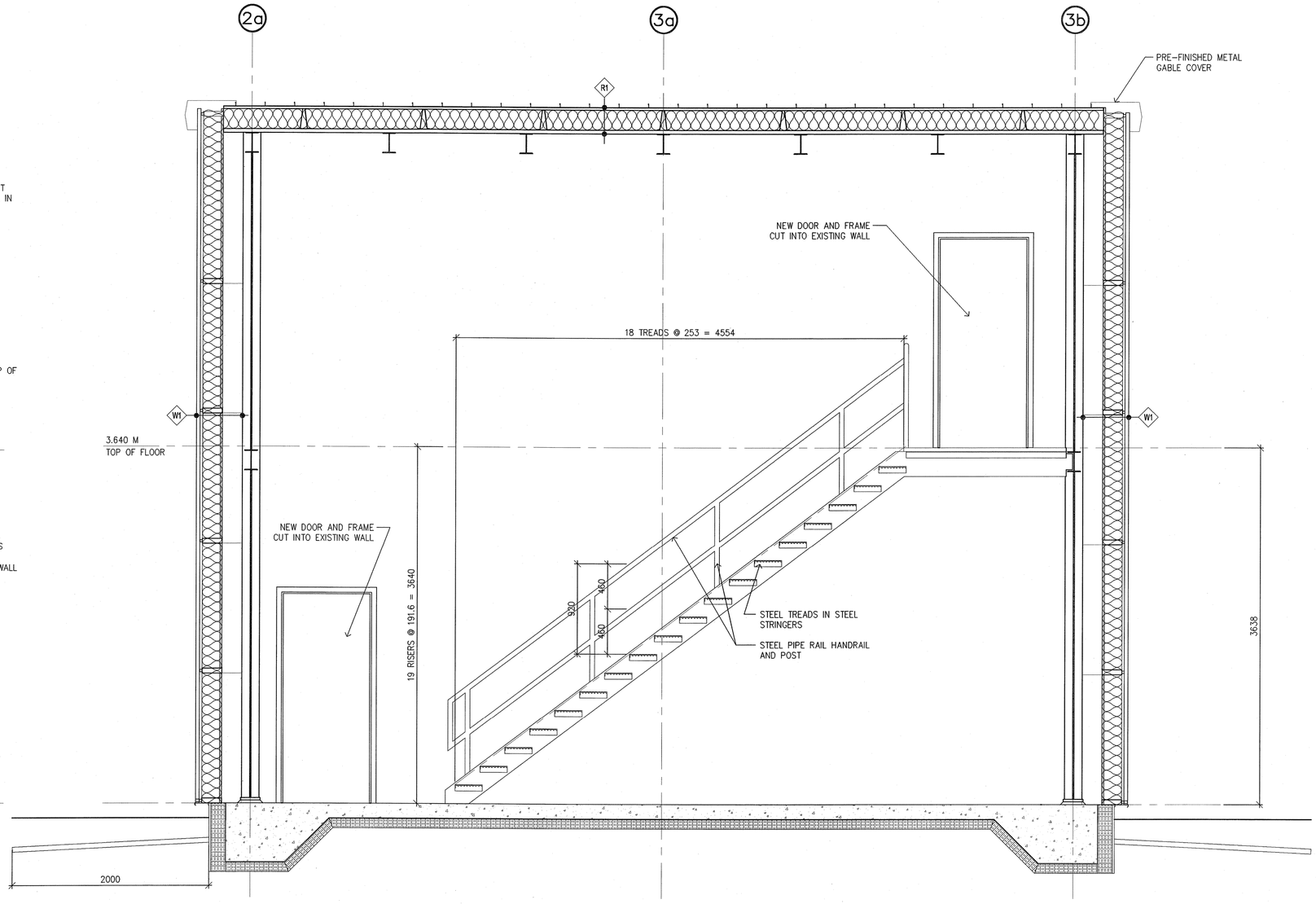


SECTION 1 / A01 / A02
SCALE: 1:25



SECTION 2 / A01 / A02
SCALE: 1:25

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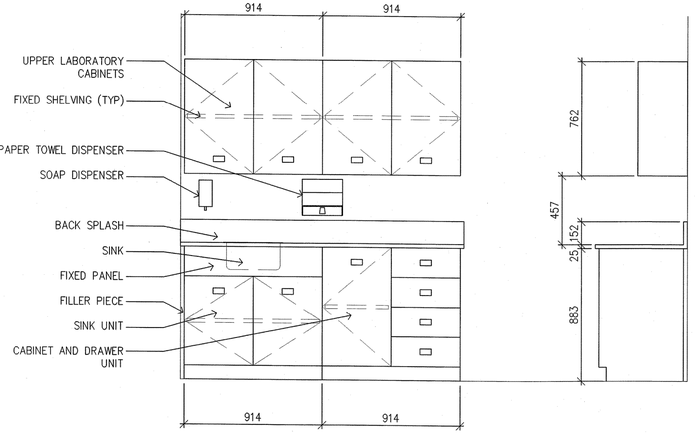
PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

ARCHITECTURAL

CROSS SECTIONS

PROJECT NO. 08-8979

SHEET NO. A03



ELEVATION AND SECTION AT LABORATORY FURNITURE

SCALE: 1:20

DOOR, FRAME AND HARDWARE SCHEDULE

DOOR NUMBER	FROM	TO	SWING	TYPE	HEIGHT	WIDTH	THICK	MAT	FINISH	GLAZING	FRAME TYPE	FRAME MAT	FRAME FINISH	FRAME DETAIL	RATING	REMARKS	HARDWARE
101–1	101	106	RH	F	2134	914	45	HM	PNT		F1	HM	PNT	01	3/4	RATED DOORS AND FRAME	A
105–1	105	101	RH	NL	2134	914	45	HM	PNT	TEMP	F1	HM	PNT	02		GAS TIGHT CONSTRUCTION	C
106–1	106	EXT	RH	F	2134	914	45	HM	PNT		F1	HM	PNT			INSULATED DOOR, THERMALLY BROKEN FRAME	B
106–2	200	106	RH	NL	2134	914	45	HM	PNT		F1	HM	PNT	01	3/4	RATED DOORS AND FRAME	A
201–1	200	201	LH	F	2134	914	45	HM	PNT		F1	HM	PNT	02			D

HARDWARE PACKAGE DESCRIPTION

A
3 HINGES
EXIT DEVICE / LEVER TRIM
CLOSER
KICK PLATES

B
3 HINGES (NRP)
EXIT DEVICE W/ LEVER TRIM
RIM CYLINDER
CLOSER
THRESHOLD
DOORSWEEP
WEATHERSTRIPPING
VINYL TOP CAP
KICK PLATE

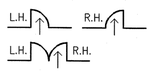
C
3 HINGES
PASSAGE SET
CLOSER
KICK PLATES
WEATHERSTRIPPING
THRESHOLD
DOORSWEEP

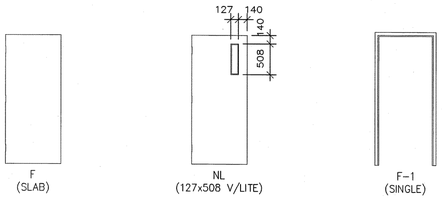
D
3 HINGES
PASSAGE SET

ABBREVIATIONS

EXT	EXTERIOR	NL	NARROW LITE
LH	LEFT HAND	TEMP	TEMPERED
RH	RIGHT HAND		
HM	HOLLOW METAL		
PNT	PAINT		

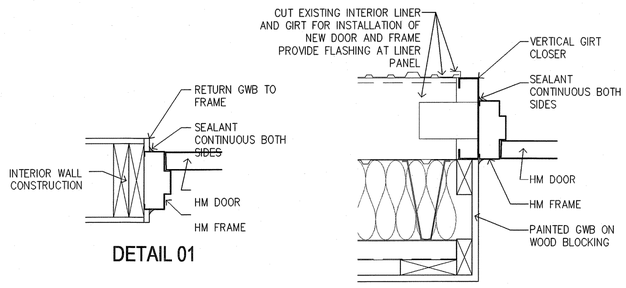
DOOR SWINGS





DOOR AND FRAME ELEVATIONS

SCALE: 1:50

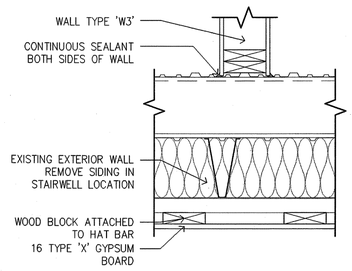


DETAIL 01

DETAIL 02

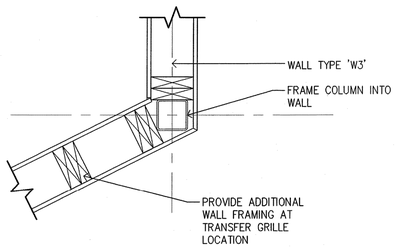
FRAME DETAILS

SCALE: 1:7.5



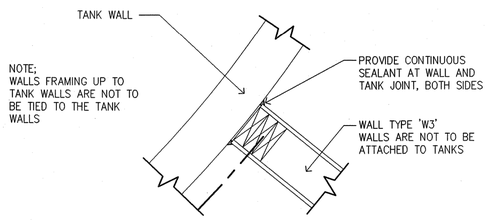
DETAIL 1 / A01

SCALE: 1:10



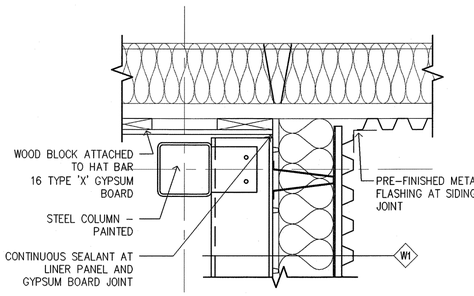
DETAIL 2 / A01

SCALE: 1:10



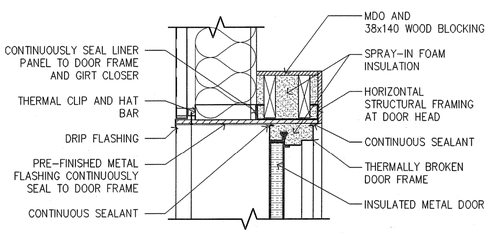
DETAIL 3 / A01

SCALE: 1:10



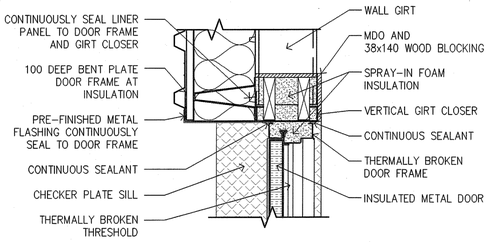
DETAIL 4 / A01

SCALE: 1:10



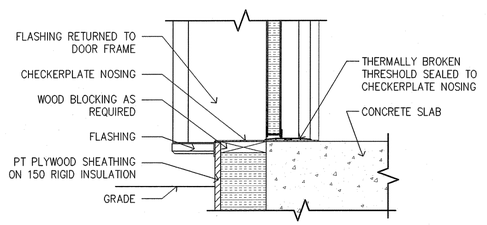
DOOR 106-1 - HEAD DETAIL

SCALE: 1:10



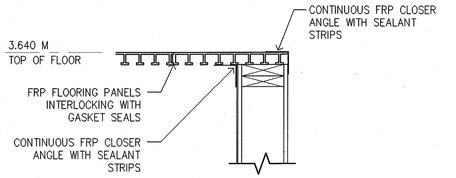
DOOR 106-1 - JAMB DETAIL

SCALE: 1:10



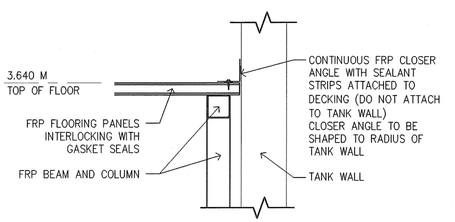
DOOR 106-1 - SILL DETAIL

SCALE: 1:10



DETAIL AT FRP FLOOR AND WALL

SCALE: 1:10



DETAIL AT FRP FLOOR AND TANK WALL

SCALE: 1:10

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PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

PROJECT NO. 08-8979

ARCHITECTURAL

LABORATORY FURNITURE, DOOR SCHEDULE, DETAILS PLAN AND MISCELLANEOUS DETAILS

SHEET NO. A04

DILLON CONSULTING LIMITED, 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE 519-438-6192

DILLON CONSULTING LIMITED, 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE 519-438-6192

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE NATIONAL BUILDING CODE OF CANADA, 2005 EDITION
2. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE LEGISLATION AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS.
3. THE CONTRACTOR SHALL AS PART OF HIS WORK CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH CONSTRUCTION.
4. SAFEGUARD AND PROTECT ALL EXISTING STRUCTURES, SERVICES AND UTILITIES WHICH MAY BE AFFECTED BY THE WORK OF THIS CONTRACT.
5. SHOP DRAWINGS
   - .1 SHOP DRAWINGS: ORIGINAL DRAWINGS, OR MODIFIED STANDARD DRAWINGS PROVIDED BY CONTRACTOR, TO ILLUSTRATE DETAILS OF PORTIONS OF WORK WHICH ARE SPECIFIC TO PROJECT REQUIREMENTS.
   - .2 SUBMIT FOUR COPIES OF SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. TWO COPIES TO BE RETAINED BY THE ENGINEER.
   - .3 CONTRACTOR TO REPRODUCE AND DISTRIBUTE DRAWINGS TO SUPPLIERS AND SUBCONTRACTORS.
   - .4 ALL SUBCONTRACTORS' AND MANUFACTURERS' DRAWINGS SHALL FIRST BE SENT DIRECTLY TO THE CONTRACTOR, WHO SHALL KEEP A RECORD OF THE DRAWING NUMBERS AND DATES OF RECEIPT. THE CONTRACTOR SHALL CHECK THOROUGHLY ALL SUCH DRAWINGS, ALL OTHER DETAILS, TO ASSURE HIMSELF THAT THEY CONFORM TO THE INTENT OF THE CONTRACT DOCUMENTS AND SHALL PROMPTLY RETURN TO THE SUBCONTRACTORS AND/OR MANUFACTURERS, FOR CORRECTION, SUCH OF THE DRAWINGS AS ARE FOUND INACCURATE OR OTHERWISE IN ERROR. AFTER THE CONTRACTOR HAS CHECKED AND APPROVED SUCH DRAWINGS, HE SHALL PLACE THEREON THE DATE OF SUCH APPROVAL AND THE LEGIBLE SIGNATURE OF THE CHECKER AND SHALL THEN SUBMIT THEM TO THE ENGINEER FOR REVIEW. THE ENGINEER RESERVES THE RIGHT TO REFUSE TO CHECK OR REVIEW ANY DRAWINGS OF A SUBCONTRACTOR OR MANUFACTURER WHICH ARE NOT SUBMITTED IN COMPLIANCE WITH THE FOREGOING REQUIREMENTS.
   - .5 SHOP DRAWINGS SHALL BE COMPLETE IN ALL RESPECTS AND SHALL SHOW CLEAR COMPLIANCE WITH THE CONTRACT DOCUMENTS. WHERE APPLICABLE, PERFORMANCE FIGURES OF EQUIPMENT, FINISHES AND REFERENCE TO OTHER RELEVANT DRAWINGS MUST BE NOTED ON THE SHOP DRAWINGS. DETAILS OF ANCILLARY ITEMS BEING SUPPLIED WITH THE PARTICULAR EQUIPMENT MUST BE SUBMITTED. PIECEMEAL SUBMISSIONS WILL NOT BE CONSIDERED. WIRING AND ELEMENTARY CONTROL DIAGRAMS SHALL BE SUBMITTED FOR ELECTRICAL EQUIPMENT. DESCRIPTIVE BROCHURES WHERE APPLICABLE SHALL BE INCLUDED FOR INFORMATION. ANY NOTATION ON THE DRAFT DRAWINGS WHICH IS ON THE PRINTS AND NOT ON THE ORIGINAL FROM WHICH THE PRINTS WERE MADE SHALL BE IN GREEN INK.

SPECIFICATIONS

1.0 DEMOLITION

.1 THIS SECTION SPECIFIES THE DEMOLITION AND REMOVAL OF PARTIAL DEMOLITION OF WALLS OF EXISTING BUILDIING, TO THE REQUIRED SUBSTRATE AS IDENTIFIED ON THE DRAWINGS.
.2 CONTRACTOR MUST CO-ORDINATE REMOVALS WITH OWNER TO ENSURE CONTINUOUS USE OF PLANT.
.3 APPROXIMATE LIMITS OF DEMOLITION ARE SHOWN ON DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY OTHER MISCELLANEOUS DEMOLITION REQUIRED TO FACILITATE CONSTRUCTION OF NEW FACILITIES.

1.1 EXISTING CONDITIONS

.1 TAKE OVER STRUCTURES TO BE DEMOLISHED BASED ON THEIR CONDITION, AT TIME OF EXAMINATION PRIOR TO TENDERING.

1.2 PROTECTION

.1 PROTECTION OF EXISTING SERVICES AND STRUCTURES AS WELL AS EMPLOYEE ACCESS TO PLANT MUST BE MAINTAINED.

1.3 EXECUTION

.1 DISPOSE OF DEMOLISHED MATERIALS OFF SITE EXCEPT WHERE NOTED OTHERWISE AND IN ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION.

1.4 SAFETY CODE

.1 UNLESS OTHERWISE SPECIFIED, CARRY OUT DEMOLITION WORK IN ACCORDANCE WITH LOCAL AUTHORITIES HAVING JURISDICTION.

1.5 PREPARATION

.1 FIELD LOCATE ALL EXISTING UTILITIES BEFORE COMMENCING ANY DEMOLITION WORK.
.2 DISCONNECT ELECTRICAL SERVICE LINES ENTERING AREAS TO BE DEMOLISHED, POST WARNING SIGNS ON ELECTRICAL LINES AND EQUIPMENT WHICH MUST REMAIN ENERGIZED TO SERVE OCCUPIED AREAS DURING CONSTRUCTION.
.3 DISCONNECT AND CAP MECHANICAL SERVICES IN ACCORDANCE WITH REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.
.4 DO NOT DISRUPT ACTIVE OR ENERGIZED UTILITIES DESIGNATED TO REMAIN UNDISTURBED.

1.6 DEMOLITION

.1 DEMOLISH AREAS TO LIMITS INDICATED ON THE DRAWINGS.
.2 AT END OF EACH DAY'S WORK, LEAVE WORK IN SAFE CONDITION SO THAT NO PART IS IN DANGER OF TOPPLING OR FALLING.
.4 REMOVE CONTAMINATED OR DANGEROUS MATERIALS FROM SITE AND DISPOSE IN SAFE MANNER.

2.0 EXCAVATION AND BACKFILL

.1 SEE STRUCTURAL NOTES ON DRAWING S02.

I0,L0;

3.0 CONCRETE

I-5,L5;
.1 SEE STRUCTURAL NOTES ON DRAWING S02.

I0,L0;

4.0 REINFORCEMENT

.1 SEE STRUCTURAL NOTES ON DRAWING S02.

5.0 MISCELLANEOUS METALS

.1 SEE STRUCTURAL NOTES ON DRAWING S02 FOR MISCELLANEOUS METALS SHOWN ON ARCHITECTURAL DRAWINGS.

6.0 WOOD

.1 SEE STRUCTURAL NOTES ON DRAWING S02.

7.0 WALL ASSEMBLY

.1 COMPONENT DESCRIPTION; VAPOURGUARD 32 SUB-STRUCTURAL SYSTEM AS MANUFACTUERED BY BEHLEN INDUSTRIES AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERES INSTRUCTIONS.
.2 THE SUB-STRUCTURAL SYSTEM SHALL CONSIST OF NOTCHED ZEE SHAPED MEMBER (THICKNES TO SUIT LOADING) NOTCHED TO SUIT LINER PANEL BEING INSTALLED. THE NOTCHED ZEEBARS ARE INSTALLED WITH SELF-DRILLING SCREWS THROUGH THE INTERIOR LINER PANEL AND THE BUILDING STRUCTURE.
.3 LINER PANEL; SHALL BE FORMED FROM 0.018"-0.036" COATED STEEL WITH MINIMUM YIEL STRENGTH OF 33,000 PSI. THE PANEL SHALL BE NOMINAL 813MM WIDE WITH A 32MM SEAM RIB & STIFF RIBS @ 203MM O.C.; PANEL SHALL BE FACTORY CUT TO REQUIRED LENGTH. PAINTED LINER PANEL SHALL BE G90 GALVANIZED STEEL CONFORMING TO ASTM SPECIFICATION A653 (G90) AND 8000 SERIES SILICONE POLYESTER PAINT ON THE EXPOSED SIDE AND NON-COLOUR CONTROLLED WASH COAT PRIMER ON UNEXPOSED SIDE.
.4 VAPOR RETARDER; SHALL CONSIST OF THE LINER PANEL WITH SIDELAPS SEALED WITH FACTORY APPLIED SIKA 901 AND BUTYL TAPE SEALER ON ENDS TO PREVENT VAPOR TRANSMISSION BETWEEN SHEETS.
.5 INSULATION; ALL UNFACED SEMI-RIGID INSULATION SHALL MEET CAN/CGSB-51-11-92 STANDARD THE LAYER(S) SHALL CONSIST OF INSULATION IN ROLLS IN 1220 WIDTH. THE THICKNESS OF THE LAYER VARY DEPENDENT ON OVERALL THERMAL PERFORMANCE OF SYSTEM AS INDICATED ON THE DRAWINGS.
.6 SYSTEM DESIGN; ALL COMPONENTS OF THE VAPOURGUARD 32 SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH SOUND ENGINEERING METHODS AND PRACTICES.
.7 SYSTEM INSTALLATION; THE COMPLETE VAPOURGUARD 32 SYSTEM SHALL BE INSTALLED ON STRUCTURAL GIRTS AND INSTALLED AS PER MANUFACTURER'S INSTRUCTIONS.
.8 FASTENERS; THE SUB-STRUCTURALS AND LINER PANEL SHALL BE INSTALLED WITH 6MM DIAMETER SELF-DRILLING SCREWS FOR ATTACHMENT.
.9 EXTERIOR SHEET-WALL: FACTORY PREFORMED STEEL SHEET, ZINC COATED PREFINISHED TO MATCH EXISTING. INCLUDE CLOSURES, GASKETS, CAULKING, FLASHING AND FASTENERS TO EFFECT WEATHERTIGHT INSTALLATION. CUT ENDS OF SHEETS SQUARE AND CLEAN. PAINT CUT EDGES. STEEL SHEET, ZINC-COATED: TO ASTM A 446/A 446M-93, STRUCTURAL QUALITY GRADE A WITH Z275 COATING, UNPASSIVATED FOR PAINT FINISH.

8.0 ROOF ASSEMBLY

.1 THE INSULATION SYSTEM SHALL BE THE THERMALGUARD SYSTEM AS FURNISHED BY BEHLEN INDUSTRIES AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
.2 COMPONENT DESCRIPTION; THERMALGUARD SUB-STRUCTURAL SYSTEM
.3 THE SUB-STRUCTURAL SYSTEM SHALL CONSIST OF 50mm NOMINAL HAT SHAPED MEMBER WITH THICKNESS TO SUIT LOAD FOR THE SPECIFIC ROOF SYSTEM BEING INSTALLED. THERMAL CLIPS TO A HEIGHT TO SUIT INSULATION DEPTH TO BE INSTALLED BETWEEN THE HAT BAR AND THE BUILDING STRUCTURE. THE THERMAL CLIPS ARE INSTALLED WITH SELF-DRILLING SCREWS THROUGH THE INTERIOR METAL DECK AND THE BUILDING STRUCTURE. THE HAT BARS ARE INSTALLED TO THE SUPPORT BRACKETS WITH SELF-DRILLING SCREWS.
.4 METAL DECK; SEE STRUCTURAL DRAWINGS AND NOTES.
.5 VAPOUR RETARDER; SHALL CONSIST OF THE METAL DECK WITH SIDELAPS AND ENDLAPS SEALED WITH BETYL TAPE SEALANT TO PREVENT VAPOUR TRANSMISSION BETWEEN THE SHEETS. A FOAM CLOSURE SHALL ALSO BE USED AT TERMINATING ENDS OF THE METAL DECK TO SEAL THE CORRUGATIONS OF THE DECK.
.6 INSULATION; ALL UNFACED INSULATION SHALL MEET GGSB.51-GPLIM TYPE 1 STANDARD. THE TO LAYER OF BLANKET INSULATION SHALL CONSIST OF INSULATION FURNISHED IN ROLLS 1220m WIDE, THE BOTTOM LAYER(S) SHALL CONSIST OF BLANKET INSULATION IN ROLLS 1220mm WIDE. THE THICKNESS OF THE BOTTOM LAYER VARY DEPENDENT ON OVERALL THERMAL PERFORMANCE AS NOTED ON THE DRAWINGS.
.7 SYSTEM DESIGN; ALL COMPONENTS OF THE SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH SOUND ENGINEERING METHODS AND PRACTICES.
.8 NEITHER THE METAL DECK NOR THE ROOF SYSTEM PANEL SHALL BE CONSIDERED TO BE A SAFE WORK PLATFORM UNTIL COMPLETELY SECURED TO THE STRUCTURAL SYSTEM. THEREFORE, WALKBOARDS OR OTHER SAFETY EQUIPMENT, AS REQUIRED BY SAFETY STANDARDS, SHALL BE PROVIDED BY THE ERECTING CONTRACTOR FOR WORKER SAFETY DURING INSTALLATION.
.9 FASTENERS; THE SUB-STRUCTURALS SHALL BE INSTALLED WITH 6mm DIAMETER SELF-DRILLING SCREWS FOR ATTACHMENT.
.10 EXTERIOR SHEET-ROOF: FACTORY PREFORMED STEEL SHEET ZINC COATED STANDING SEAM ROOF, PREFINISHED TO MATCH EXISTING. INCLUDE CLOSURES, GASKETS, CAULKING, FLASHING AND FASTENERS TO EFFECT WEATHERTIGHT INSTALLATION. CUT END OF SHEETS SQUARE AND CLEAN. PAINT CUT EDGES. STEEL SHEET, ZINC-COATED: TO ASTM A 446/A 446M-93, STRUCTURAL QUALITY GRADE A WITH Z275 COATING, UNPASSIVATED FOR PAINT FINISH.

9.0 INSULATION

.1 INSULATION SHALL CONFORM TO CSA A101, THERMAL INSULATION, MINERAL FIBRE, FOR BUILDINGS.
.2 SEE DRAWINGS FOR 'RSI' VALUES.
.3 RIGID INSULATION: STYROFOAM SM BY DOW CHEMICAL CANADA INC., OR CONSULTANT_ APPROVED EQUAL, EXTRUDED EXPANDED CLOSED_CELL POLYSTYRENE MEETING CAN/CGSB_51.20_M87 TYPE 4, WITH AGED RSI VALUE OF 0.87 PER 25 MM OF THICKNESS WHEN TESTED TO ASTM C 518_91. PROVIDE IN THICKNESS SHOWN ON THE DRAWINGS.
.4 WHERE EXPOSED ABOVE GRADE INSULATION TO BE FACED WITH 19 EXTERIOR GRADE PLYWOOD, JOINTS SEALED, AND CAPPED WITH PRE-FINISHED METAL FLASHING.
.5 INSULATION UNDER LOAD BEARING STRUCTURES AND FOUNDATIONS TO BE HIGH COMPRESSIVE STRENGTH STYROFOAM HI-60 OR EQUIVALENT.

10.0 SEALANTS GENERAL

SEALANTS SPECIFIED IN THIS SECTION SHALL CONFORM TO:
.1 CGSB SPECIFICATION 19-GP-5M, SEALING COMPOUND, ONE COMPONENT, ACRYLIC BASE, SOLVENT CURING.
.2 CGSB SPECIFICATION CAN/CGSB-19.24-M90, SEALING COMPOUND, MULTI-COMPONENT, CHEMICAL CURING.
.3 CGSB SPECIFICATION CAN/CGSB-19.13-M87, SEALING COMPOUND, ONE COMPONENT, SILICONE BASE, CHEMICAL CURING.

10.1 SEALANT PRODUCTS

.1 PRIMERS; TO BE OF A TYPE RECOMMENDED BY SEALANT MANUFACTURER FOR THE APPROPRIATE SEALANT AND CORRESPONDING SUBSTRATE.
.2 JOINT BACKING MATERIAL; JOINT BACKING MATERIAL SHALL BE COMPATIBLE WITH PRIMERS, SEALANTS, OUTSIZED 30 PERCENT, POLYETHYLENE, EXTRUDED CLOSED CELL FOAM, SHORE "A" HARDNESS 20, TENSILE STRENGTH 20.
.3 BOND BREAKER; BOND BREAKER, WHERE JOINT CONFIGURATION DOES NOT ALLOW FOR PROPER DEPTH/WIDTH RATIO WITH THE USE OF BACKER ROD (SEE CLAUSE 3.2.5) – A PRESSURE SENSITIVE TAPE, SUCH AS 3M NO. 226 OR NO.481, SHALL BE PLACED AT THE BACK OF THE JOINT WHICH WILL NOT BOND TO THE SEALANT.
.4 SEALANTS TYPE A; MULTI-COMPONENT SEALANTS TO MEET CGSB SPECIFICATION CAN/CGSB-19.24-M90, OR SINGLE COMPONENT SEALANT TO MEET CGSB SPECIFICATION CAN/CGSB-19.13-M87, TO BE USED FOR:
   - .1 INTERIOR AND EXTERIOR JOINTS AROUND PERIMETERS OF METAL DOOR INCLUDING THRESHOLDS AND SILLS.
   - .2 INTERIOR AND EXTERIOR JOINTS AROUND PERIMETERS OF LOUVRE FRAMES.
   - .3 EXTERIOR CONTROL JOINTS.
   - .4 ROOF FLASHINGS.
.5 SEALANTS TYPE B
   - .1 ACRYLIC SOLVENT RELEASE, ONE PART SEALANT, TO MEET CGSB SPECIFICATION 19-GP-5M, TO BE USED FOR ALL OTHER LOCATIONS WHERE CAULKING BEADS REMAIN EXPOSED.
.6 COLOURS OF SEALANT SHALL MATCH THE PREDOMINANT MATERIAL TO WHICH SEALANT IS APPLIED.
.7 JOINT CLEANER: XYLOL, METHYLETHYLEKETON OR NON-CORROSIVE TYPE RECOMMENDED BY SEALANT MANUFACTURER AND COMPATIBLE WITH JOINT FORMING MATERIALS.

10.2 SEALANT INSTALLATION

.1 EXAMINATION; VERIFY AT THE SITE THAT JOINTS AND SURFACES HAVE BEEN PROVIDED AS SPECIFIED UNDER THE WORK OF OTHER SECTIONS; AND THAT JOINT CONDITIONS WILL NOT ADVERSELY AFFECT EXECUTION, PERFORMANCE OR QUALITY OF COMPLETED WORK; AND THAT THEY CAN BE PUT INTO ACCEPTABLE CONDITION BY MEANS OF PREPARATION SPECIFIED IN THIS SECTION.
.2 APPLY SEALANTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, USING GUN WITH PROPER SIZE NOZZLE. USE SUFFICIENT PRESSURE TO FILL VOIDS AND JOINTS SOLID. SUPERFICIAL POINTING WITH SKIN BEAD IS NOT ACCEPTABLE.
.3 FORM SURFACE OF SEALANT WITH FULL BEAD, SMOOTH, FREE FROM RIDGES, WRINKLES, SAGS, AIR POCKETS, EMBEDDED IMPURITIES. NEATLY TOOL SURFACE TO A SLIGHT CONCAVE JOINT.
.4 CLEAN ADJACENT SURFACES IMMEDIATELY AND LEAVE WORK NEAT AND CLEAN. REMOVE EXCESS SEALANT AND DROPPINGS USING RECOMMENDED CLEANERS AS WORK PROGRESSES. REMOVE MASKING AFTER TOOLING OF JOINTS.

11.0 DOORS

.1 EXTERIOR DOORS TO CONFORM TO CAN/CGSB 82.5-M.
.2 EXTERIOR DOORS TO BE 18 GA., HOLLOW METAL DOORS WITH POLYEURETHANE FOAM INSULATED CORE AND THERMALY BROKEN FRAMES.
.3 DOOR FRAMES: EXTERIOR; 16GA HOLLOW METAL WITH THERMAL BREAKS, INTERIOR; 16GA HOLLOW METAL.
.3 INTERIOR DOORS TO BE HOLLOW METAL
.4 DOOR HARDWARE: SEE DOOR AND FRAME SCHEDULE
.5 LOCKSETS TO BE MANUFACTURED TO MATCH EXISTING WITH KEYING TO BE CONFIRMED WITH OWNER.

12.0 FINISHES

.1 GYPSUM BOARD INSTALLATION TO CONFORM TO CSA A82.31-M, GYPSUM BOARD APPLICATION.
2. STANDARD BOARD TO CAN/CSA-A82.27.
3. INSTALL FIRECODE 'C' GYPSUM BOARD AT FIRE RATED SEPARATIONS.

13.0 PAINTING

.1 FURNISH ALL MATERIALS AND EQUIPMENT AND PROVIDE ALL LABOUR REQUIRED TO COMPLETE THE PAINTING AND PROTECTIVE COATINGS SECTION OF THIS CONTRACT, INCLUDING THE SHOP AND FIELD PAINTING AND FINISHING OF BUILDING SURFACES SUCH AS WOOD, GYPSUM BOARD, METAL, AS WELL AS SPECIFIED ITEMS OF MECHANICAL AND ELECTRICAL, PIPING, CONDUIT, HANGERS, FITTINGS, AS WELL AS PIPE INSULATION COVERS. ALL OF THE WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE PAINTING SCHEDULE WHICH IS INCLUDED HEREIN.
.2 THE PAINT AND OTHER PAINTER'S MATERIALS SHALL BE AS MANUFACTURED BY PITTSBURGH PAINT, OR APPROVED EQUAL, WHICH CONFORMS TO CGSB SPECIFICATION 1-GP-72.
.3 FINISHING SHALL NOT BE CARRIED OUT IN AREAS WHERE DUST IS BEING GENERATED OR IN UNCLEAN OR IMPROPERLY VENTILATED AREAS.
.4 NO EXTERIOR PAINTING SHALL BE UNDERTAKEN AT TEMPERATURES LOWER THAN 10 DEG C OR IMMEDIATELY FOLLOWING RAIN, FROST OR DEW.
.5 NO INTERIOR PAINTING SHALL BE UNDERTAKEN AT TEMPERATURES LOWER THAN 10 DEG C, OR ON SURFACES WHERE CONDENSATION HAS OR WILL FORM DUE TO PRESENCE OF HIGH HUMIDITY AND LACK OF ADEQUATE VENTILATION.
.6 COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS IN EVERY RESPECT AS TO ENVIRONMENTAL CONDITIONS UNDER WHICH PAINT AND RELATED MATERIALS MAY BE APPLIED.
.7 PREPARATION OF ALL SURFACES
   - .1 PREPARATION FOR THIS WORK SHALL CONSIST OF CLEANING OFF LOOSE MATERIAL, REMOVING ALL DUST, DIRT, GREASE, RUST AND OTHER EXTRANEOUS MATTER WHICH WOULD IMPAIR THE WORK, AND LEAVING ALL SURFACES CLEAN AND SUITABLE FOR THE APPLICATION OF THE MATERIALS HEREIN SPECIFIED.
   - .2 ALL WORK SHALL BE RUBBED OR SANDED SMOOTH BEFORE PAINTING.

14.0 LABORATORY FURNITURE

.1 LABORATORY FURNITURE; CANADIAN INSTITUTIONAL FURNITURE CO. OR CONSULTANT APPROVED EQUAL.
.2 LABORATORY FURNITURE: STANDARD BASE CABINETS AND STORAGE UNITS OF HIGH PRESSURE LAMINATE CONSTRUCTION EQUAL TO CIF, QUADRIX II. DIMENSION AND CONFIGURATION OF BASE AND UPPER CABINETS AS DETAILED ON THE DRAWINGS.
.3 HARDWARE: EQUAL TO CIF STANDARDS. INCLUDE FLUSH FINGER PULLS FOR DOORS AND DRAWERS.
.4 CAST EPOXY TOP; CAST EPOXY RESIN TOP CAST OF SOLID, HOMOGENEOUS BLEND OF THERMOSETTING RESIN, COMPLETELY OVEN-CURED DURING PROCESSING. COUNTERTOP THICKNESS 25mm, TOP FRONT EDGE WATERFALL. COUNTERTOPS FOR WALL-TYPE BASE CABINETS TO INCLUDE INTEGRAL SPLASHBACK TO HEIGHT 152 MM, THICKNESS 25mm. COLOURS AS SELECTED BY CONSULTANT FROM MANUFACTURER'S STANDARDS. FABRICATE COUNTERTOP AND SPLASHBACK TO SUIT DIMENSION OF BASE UNITS. CUT HOLES FOR FITTINGS, ACCESSORIES AND EQUIPMENT. ROUND OR CHAMFER EXPOSED EDGES AND CORNERS OF CUTOUTS.
.5 STAINLESS STEEL SINK AND FAUCETS SPECIFIED UNDER MECHANICAL.

15.0 FRP FLOORING

.1 FRP FLOORING; CHEMPOSITE FLOORING AND COVER SYSTEM AS MANUFACTURED BY CHEMPOSITE, DELTA, BRITISH COLUMBIA. TELEPHONE 604-946-7688.
.2 PROVIDE FRP FLOORING AND SUPPORTS TO AREAS AS INDICATED ON THE ARCHITECTURAL AND PROCESS DRAWINGS.
.3 PROVIDE DETAILED SHOP DRAWINGS INDICATING SUPPORT CONSTRUCTION AND ATTACHMENT TO EXISTING GRATING FLOOR AND TO TANKS.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER P.010
DILLON CONSULTING LIMITED

Nunavut

DILLON CONSULTING

No.	ISSUED FOR	DATE	BY
4	ISSUED FOR TENDER - REVISED	03/2009	TC
3	ISSUED FOR TENDER	01/09/09	TC
1	ISSUED FOR CLIENT REVIEW	06/25/08	WCD
0	CONCEPTUAL DESIGN	04/25/08	TC

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APPROVED: GS	
DATE: JANUARY 2009	
SCALE: AS NOTED	

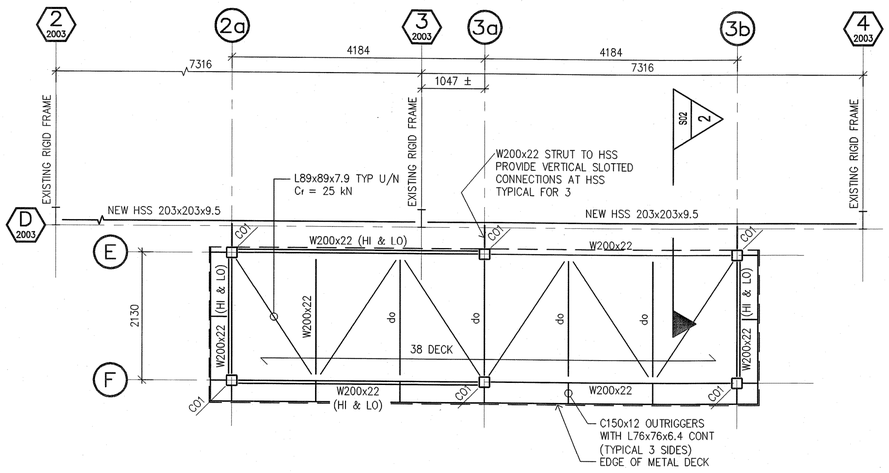
PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

PROJECT NO. 08-8979

ARCHITECTURAL
GENERAL NOTES, SPECIFICATIONS

SHEET NO. A05

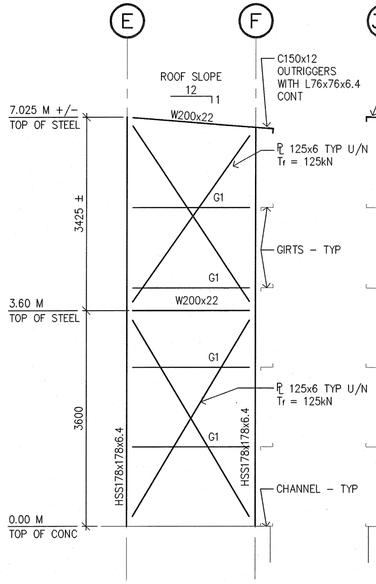
DILLON CONSULTING LIMITED, 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE 519-438-6192



FRAMING PLAN

SCALE: 1:50

C01 HSS178x178x6.4



FRAMING ALONG LINE '2A'

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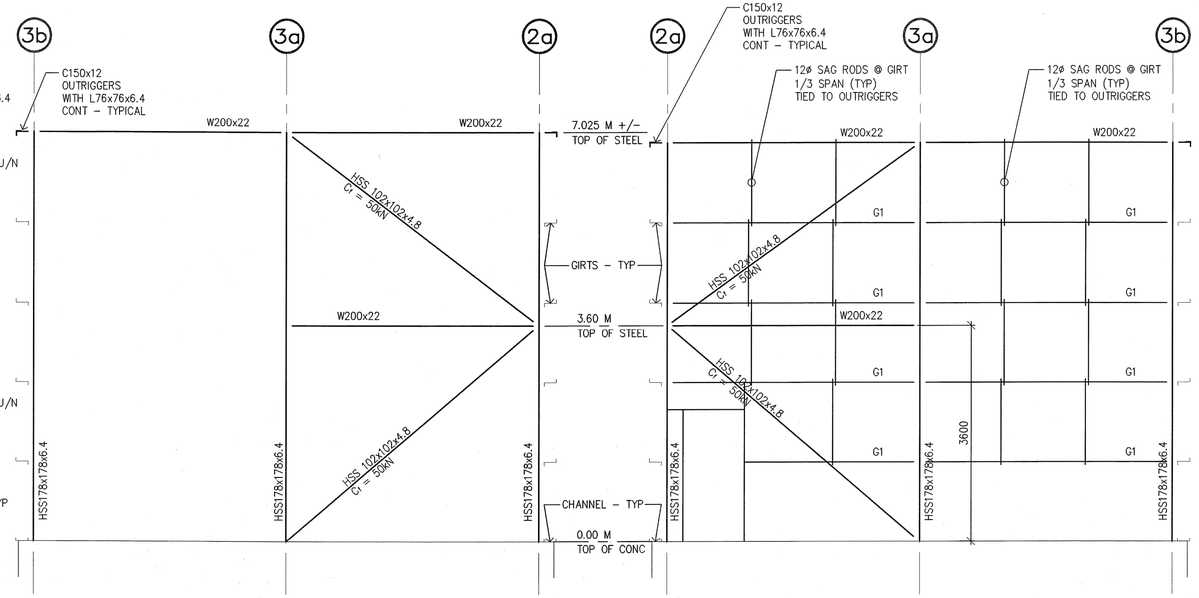


FRAMING ALONG LINE 'E'

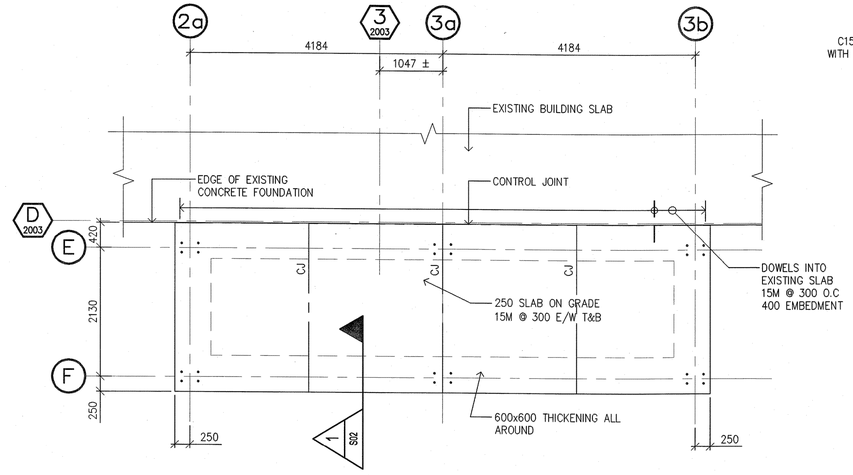
SCALE: 1:50

G1 Z 203x6.3 COLD FORMED GIRT BY CANAM

NOTE: WALL BRACING TO BE INSTALLED CENTERED ON THE GRIDLINES.

FRAMING ALONG LINE 'F'

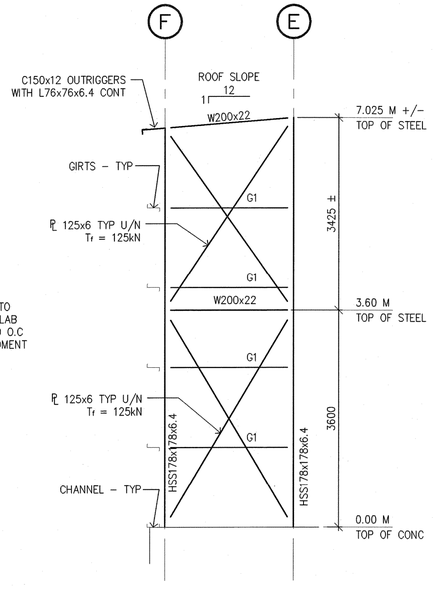
SCALE: 1:50



FOUNDATION PLAN

SCALE: 1:50

TOP OF NEW SLAB TO MATCH
TOP OF EXISTING SLAB



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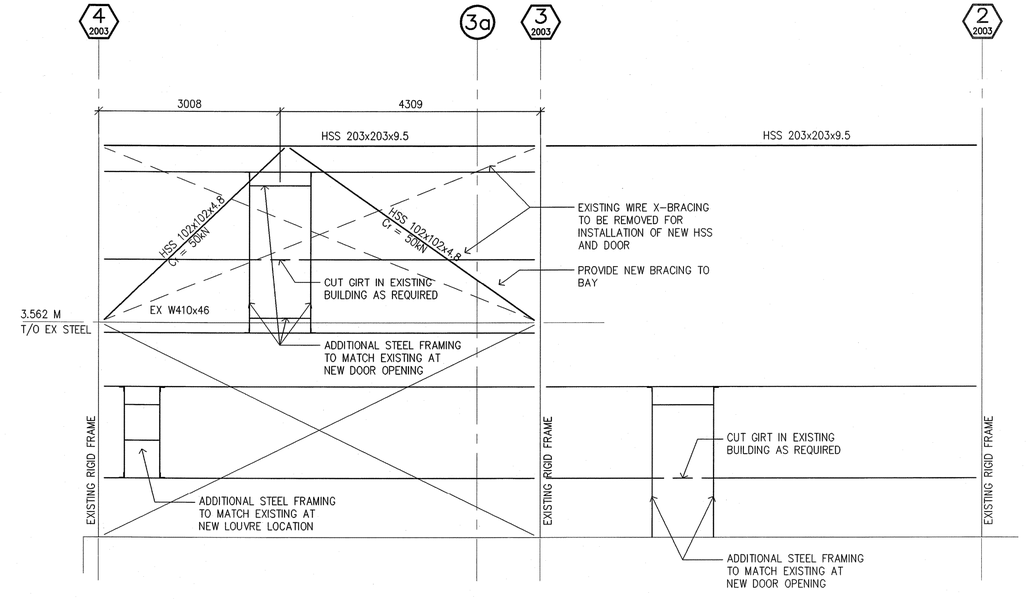

FRAMING ALONG EXISTING LINE 'D'

SCALE: 1:50

CONSTRUCTION
NORTH

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THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER P.010 2/09
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3	ISSUED FOR TENDER	03/26/09	TC
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DESIGN: TB	REVIEWED BY: TC
DRAWN: PDR	CHECKED BY: LT
APPROVED: GS	
DATE: JANUARY 2009	
SCALE: AS NOTED	

PANGNIRTUNG WASTE WATER TREATMENT PLANT
MODIFCATIONS

PROJECT NO. 08-8979

STRUCTURAL
FOUNDATION PLAN
STRUCTURAL STEEL PLAN & ELEVATIONS

SHEET NO. S01

GENERAL NOTES

1.0 GENERAL

1 ALL WORK SHALL CONFORM TO THE 2005 NATIONAL BUILDING CODE.
2 ALL WORK TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE LEGISLATION AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS.
3 THE CONTRACTOR SHALL AS PART OF HIS WORK CHECK AND VERIFY ALL DIMENSIONS AND ELEVATIONS AND REPORT ANY DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH CONSTRUCTION.
4 SAFEGUARD AND PROTECT ALL EXISTING STRUCTURES, SERVICES AND UTILITIES WHICH MAY BE AFFECTED BY THE WORK OF THIS CONTRACT.
5 STAIRWELL SHALL NOT BE HEATED ABOVE 0 DEG. C.
6 READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DRAWINGS, SPECIFICATIONS AND PERTINENT DOCUMENTS. IN PARTICULAR NOTE THAT THE STRUCTURAL DRAWINGS ARE NOT INDEPENDENT OF THE ARCHITECTURAL, MECHANICAL OR ELECTRICAL DRAWINGS AND ARE NOT TO BE SEPARATED FOR TENDERING OR DETAILING PURPOSES.

2.0 EXCAVATION AND BACKFILL

1 CONCRETE FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON ENGINEERED FILL HAVING A GEOTECHNICAL RESISTANCE OF; ULS = 100 kPa, SLS = 75 kPa
THESE GEOTECHNICAL RESISTANCE ARE TO BE VERIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. GEOTECHNICAL ENGINEER TO VERIFY SEISMIC SITE CLASSIFICATION.
2 ALL EXCAVATIONS SHALL BE COMPLETELY DEWATERED DURING CONSTRUCTION TO PREVENT UPLIFT OF THE STRUCTURE. KEEP EXCAVATION DEWATERED TO, AT LEAST, 300mm BELOW LOWEST ELEVATION OF EXCAVATION.
3 PLACE ALL CONCRETE IN THE DRY.
4 CONTINUOUSLY PROTECT THE BOTTOM OF EXCAVATION AND BASE SLAB FROM DAMAGE DUE TO FROST AND GROUNDWATER PRESSURE.
5 SUB-BASE TO BE INSPECTED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING ANY ENGINEERED FILL.
6 BACKFILL TO BE PLACED IN HORIZONTAL LIFTS FOR FULL WIDTH OF EXCAVATION AS SHOWN AND COMPACTED TO THE MINIMUM DRY DENSITY (AS A PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY) AS TABULATED BELOW AT OR NEAR OPTIMUM MOISTURE CONTENT BEFORE THE NEXT LIFT IS PLACED.

LOCATION	MATERIAL	LIFT THICKNESS	DRY DENSITY
ENGINEERED FILL	WELL GRATED 25mm CRUSHED	150 mm	100%

7 INSPECTION AND TESTING FOR COMPACTION SHALL BE PERFORMED BY A GEOTECHNICAL ENGINEER PRIOR TO PLACING ANY CONCRETE.
8 SURPLUS EXCAVATED MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS ARRANGED FOR BY THE CONTRACTOR.
9 CONTINUOUSLY PROTECT THE BOTTOM OF THE EXCAVATION AND ALL FOUNDATIONS ON THE GROUND FROM DAMAGE DUE TO FROST AND GROUNDWATER PRESSURE.

3.0 CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO CSA STANDARD CAN/CSA-A23.1-04 "CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION" AND ITS REFERENCE PUBLICATIONS.
2. PLACE ALL CONCRETE IN THE DRY.
3. CONCRETE TO BE:
CLASS C-2
4% ± 7% AIR ENTRAINMENT
MAX. 80mm SLUMP
W/C RATIO 0.45
30 MPa MIN 28 DAY COMPRESSIVE STRENGTH.
4. ALL EXPOSED EDGES OF CONCRETE WALLS, COLUMNS, SLABS AND BEAMS TO HAVE 20mm CHAMFER OR AS DIRECTED.
5. CONCRETE FORMWORK AND FALSEWORK MATERIALS SHALL CONFORM TO CSA A23.1-04.
6. THE USE OF EARTH FORMS IS NOT PERMITTED.
7. DO NOT BACKFILL AGAINST STRUCTURES UNTIL CONCRETE HAS REACHED ITS 28 DAYS STRENGTH.
8. CURING AND PROTECTION OF CONCRETE FOR HOT, COLD AND DRY WEATHER CONDITIONS TO BE CARRIED OUT IN ACCORDANCE WITH CAN/CSA-A23.1-04.
9. CONCRETE COVER TO REINFORCEMENT
SLAB ON GRADE / PERIMETER THICKENING
TOP; 50 mm
BOTTOM; 75 mm
SIDES; 50mm
10. REINFORCING STEEL MUST BE REVIEWED BY THE ENGINEER PRIOR TO PLACING CONCRETE.

4.0 REINFORCEMENT

1. PERFORM REINFORCING WORK IN ACCORDANCE WITH CSA A23.1-04.
2. DOWEL EPOXY: USE HIT HY150 INJECTION ADHESIVE ANCHOR SYSTEM AS MANUFACTURED BY HILTI CANADA LIMITED OR CONSULTANT APPROVED EQUAL.
3. ALL REINFORCING TO BE DEFORMED BARS CONFORMING TO CSA G30.18 GRADE 400.
4. ALL REINFORCING TO BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE RSIC MANUAL OF STANDARD PRACTICE.
5. CONTINUOUS AND TEMPERATURE REINFORCING BARS SHALL BE LAPPED 24 BAR DIAMETERS OR 450 mm MINIMUM AT SPLICE OR CORNER LOCATIONS. TERMINATE CONTINUOUS BARS AT NON-CONTINUOUS ENDS WITH STANDARD HOOK.
6. REINFORCING IN FOOTINGS, SLABS ON GRADE, AND OTHER CONCRETE MEMBERS EXPOSED TO WEATHER SHALL BE SUPPORTED BY SOLID PRECAST CONCRETE CHAIRS OR MASONRY BLOCKS.
7. ALL SLAB-ON-GRADE REINFORCING TO BE CHAIRED IN MAXIMUM 1200 x 1200 mm GRID PATTERN.
8. DOWELS ARE TO BE TIED IN PLACE PRIOR TO POURING CONCRETE "WET DOWELING" OF ANY REINFORCING STEEL IS NOT PERMITTED.
9. DO NOT FIELD BEND OR FIELD WELD REINFORCEMENT EXCEPT WHERE INDICATED BY THE CONSULTANT.
10. SUBMIT SHOP DRAWINGS INCLUDING PLACING OF REINFORCEMENT. INDICATE ON SHOP DRAWINGS, BAR BENDING DETAILS, LISTS, QUANTITIES OF REINFORCEMENT, SIZES, SPACINGS LOCATIONS OF REINFORCEMENT AND MECHANICAL SPLICES IF APPROVED BY THE CONSULTANT, WITH IDENTIFYING CODE MARKS TO PERMIT CORRECT PLACEMENT WITHOUT REFERENCE TO STRUCTURAL DRAWINGS. PREPARE REINFORCEMENT DRAWINGS IN ACCORDANCE WITH "REINFORCING STEEL MANUAL OF STANDARD PRACTICE" BY REINFORCING STEEL INSTITUTE OF CANADA.

5.0 STRUCTURAL STEEL

1 PERFORM STRUCTURAL STEEL WORK, DESIGN DETAILS AND CONNECTIONS IN ACCORDANCE WITH CAN/CSA-S16-01.
2 ALL FABRICATION AND WELDING SHALL CONFORM TO CSA W59-M89 (R1998) AND BE PERFORMED BY A COMPANY CERTIFIED BY AND WELDERS QUALIFIED IN ACCORDANCE WITH CSA W47.1-92 (R1998) FOR DIVISION 1 OR DIVISION 2.1.
3 FILLET WELDS SHALL NOT BE LESS THAN 5 mm.
4 WELDING ELECTRODES TO BE "BASIC" LOW HYDROGEN TYPE TO CSA W48 SERIES, COMPATIBLE WITH STEEL TO BE WELDED.
5 STRUCTURAL SHAPES TO CSA G40.21-04, GRADE 350W.
6 STRUCTURAL PLATES TO CSA G40.21-04, GRADE 300W (MINIMUM).
7 HOLLOW STRUCTURAL SECTIONS TO CAN/CSA G40.21-04, GRADE 350W, CLASS C.
8 COLD FORMED STEEL SECTIONS TO CAN/CSA-S136-01 (ASTM A50 STEEL).
9 HIGH TENSILE BOLTS, NUTS AND WASHERS TO ASTM A325-00 MIN. 20mm DIAMETER. ANCHOR BOLTS TO CAN/CSA G40.21-04 GRADE 300W.
10 MAKE SHOP CONNECTIONS WITH HIGH-TENSILE BOLTS OR WELDING. FIELD CONNECTIONS BETWEEN STEEL MEMBERS SHALL BE MADE WITH HIGH-TENSILE BOLTS WHERE POSSIBLE.
11 SUBMIT SHOP DRAWINGS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER, REGISTERED IN NUNAVUT AND EXPERIENCED IN DESIGN OF STRUCTURAL STEEL CONNECTIONS.
12 SHOP PRIMER SHALL BE IN ACCORDANCE WITH CAN/CGSB-1.40-M89.
13 PRIOR TO PAINTING ALL STRUCTURAL STEEL SHALL BE CLEANED OF LOOSE MILL SCALE, RUST AND DELETERIOUS MATTER AND PREPARED IN ACCORDANCE WITH CISC AND SSPC.
14 CLEAN WITH MECHANICAL BRUSH AND TOUCH-UP SHOP PRIMER TO BOLTS, WELDS AND BURNED OR SCRATCHED SURFACES AT COMPLETION OF ERECTION.
15 GROUT BED UNDER BASE PLATES TO BE 35 MPa NON-SHRINK GROUT.
16 ALL CONNECTIONS SHALL BE DESIGNED AND DETAILED BY THE STEEL FABRICATOR UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS.
17 ALL BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS IN EACH CONNECTED PIECE AND BE DESIGNED AS BEARING-TYPE CONNECTION WITH THREADS INCLUDED IN THE SHEAR PLANE, UNLESS NOTED OTHERWISE.
18 MISCELLANEOUS STEEL NOT DETAILED OR SHOWN ON THE DRAWINGS, SUCH AS STAIRS, RAILINGS, AWNINGS AND NON-STRUCTURAL ARCHITECTURAL STEEL SHALL BE DESIGNED AND DETAILED TO RESIST LOADS AND OTHER EFFECTS TO THE REQUIREMENTS OF THE 2005 NATIONAL BUILDING CODE. SUBMIT SHOP DRAWINGS STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER, REGISTERED IN NUNAVUT FOR ALL MISCELLANEOUS METALS.
19 CUTTING OF THE STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES IS PROHIBITED.
20 PROVIDE ADEQUATE TEMPORARY BRACING OF THE STRUCTURE TO RESIST LOADS AND ERECTION STRESSES DURING CONSTRUCTION. DESIGN OF TEMPORARY BRACING IS THE STRUCTURAL STEEL CONTRACTOR'S RESPONSIBILITY.
21 STRUCTURAL STEEL FABRICATION AND INSTALLATION MUST BE INSPECTED BY AN INDEPENDENT TESTING AGENCY, WITH REPORTS SUBMITTED TO THE CONSULTANT PRIOR TO CONCEALMENT.

6.0 WOOD

1 ALL WOOD FRAMING AND REINFORCING WORK SHALL BE PERFORMED IN ACCORDANCE WITH CSA-086.1-01.
2 LUMBER TO CSA-0141-91 (R2004), SPECIES SPF#2 OR BETTER, S-DRY.
3 PLYWOOD TO CSA 0121-M1978 (R2003), DOUGLAS FIR PLYWOOD.
4 THROUGH BOLTS AND NUTS TO ASTM A307.

7.0 FASTENING

1 ALL NAILS TO CSA B111-1994 (R2003).
2 NAILING TO NBCC, TABLE 9.23.3.4 EXCEPT AS SPECIFIED BELOW.
3 NAILING TO PLYWOOD SHEATHING: 2½" COMMON WIRE (3.25mmø) 150 SPACING ALONG SUPPORTED PANEL EDGES AND 300 SPACING ALONG INTERMEDIATE MEMBERS.
4 NAILING TO BLOCKING: 2-3" COMMON WIRE (3.66mm ø) AT A SPACING OF 150 THROUGH EACH PLY, STAGGERED.
5 CONNECTION OF STUDS TO TOP AND BOTTOM SUPPORTS AND BUILT-UP BEAMS TO STUDS: SIMPSON LS30 ADJUSTABLE ANGLE WITH 10d x 1.5" NAILS INTO SINGLE PLY MEMBERS AND 10d x 3.0" NAILS INTO MULTI-MEMBERS, 6 NAILS TOTAL PER ANGLE.
6 ALL BOLTS TO ASTM A307.

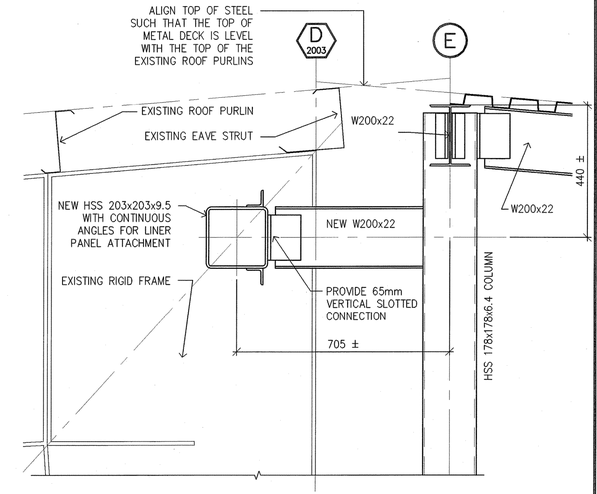
8.0 STEEL DECK

1 PERFORM STEEL DECK WORK IN ACCORDANCE WITH CSA S136-01 AND THE CANADIAN SHEET STEEL BUILDING INSTITUTE (CSSBI) STANDARDS FOR STEEL ROOF DECK, 10M-86.
2 DESIGN DECK IN ACCORDANCE WITH REQUIREMENTS OF THE 2005 NATIONAL BUILDING CODE TO SAFELY SUPPORT LOADING SHOWN OR IMPLIED.
3 STEEL ROOF DECK SHALL BE 38mm ZINC-COATED STEEL DECK WITH FLUTES ON 150mm CENTERS, FORMED OF STEEL SHEETS CONFORMING TO ASTM A653M SQ, GRADE 230 AND SHALL BE RD 938 BY VICWEST STEEL OR CONSULTANT APPROVED EQUAL, HAVING A MINIMUM BASE STEEL NOMINAL THICKNESS OF 0.76mm.
4 ERECTION OF STEEL DECK SHALL BE PERFORMED BY THE MANUFACTURER OR HIS APPOINTED AGENT, UNDER THE MANUFACTURER'S SUPERVISION.
5 ALL STEEL DECK CLOSURES TO BE FILLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6 DEFLECTION UNDER SPECIFIED LIVE LOAD NOT TO EXCEED 1/360 OF SPAN.
7 SUBMITTED SHOP DRAWINGS TO BE STAMPED AND SIGNED BY QUALIFIE PROFESSIONAL ENGINEER REGISTERED OR LICENSED IN NUNAVUT.
8 INDICATE DECK PLAN, PROFILE, DIMENSIONS, BASE STEEL THICKNESS, METALLIC COATING DESIGNATION, CONNECTIONS TO SUPPORTS AND SPACINGS, PROJECTIONS, OPENINGS, REINFORCEMENT DETAILS AND ACCESSORIES.
9 WHERE POSSIBLE, SPAN DECK OVER FOUR OR MORE STRUCTURAL SUPPORTS (3 CONTINUOUS SPANS).
10 COVER PLATES, CELL CLOSURES AND FLASHINGS TO BE STEEL SHEET WITH MINIMUM BASE STEEL THICKNESS OF 0.91 mm. METALLIC COATING SAME AS DECK MATERIAL.
11 PRIMER TO BE ZINC RICH, READY MIX TO CAN/CGSB-1.181.
12 STRUCTURAL STEEL WORK TO BE DONE IN ACCORDANCE WITH CAN/CSA-S136-01.
13 WELDING TO BE DONE IN ACCORDANCE WITH CSA W59, EXCEPT WHERE SPECIFIED OTHERWISE.
14 COMPANIES TO BE CERTIFIED UNDER DIVISION 1 OR 2.1 OF CSA W47.1 FOR FUSION WELDING OF STEEL AND/OR CSA W55.3 FOR RESISTANCE WELDING.
15 ERECT STEEL DECK AS INDICATED AND IN ACCORDANCE WITH CSA S136-01 AND IN ACCORDANCE WITH REVIEWED ERECTION DRAWINGS.
16 LAP ENDS TO 50 mm MINIMUM.
17 IMMEDIATELY AFTER DECK IS PERMANENTLY SECURED IN PLACE, TOUCH UP METALLIC COATED TOP SURFACE WITH COMPATIBLE PRIMER WHERE BURNED BY WELDING.
18 NO REINFORCEMENT REQUIRED FOR OPENINGS CUT IN DECK WHICH ARE SMALLER THAN 150 mm SQUARE. FRAME DECK OPENINGS WITH ANY ONE DIMENSION BETWEEN 150 TO 300 mm AS RECOMMENDED BY MANUFACTURER, EXCEPT AS OTHERWISE INDICATED. FOR DECK OPENINGS WITH ANY ONE DIMENSION GREATER THAN 300 m AND FOR AREAS OF CONCENTRATED LOAD, REINFORCE IN ACCORDANCE WITH STRUCTURAL FRAMING DETAILS, EXCEPT AS OTHERWISE INDICATED.

9.0 DESIGN DATA

CRITERIA (POST DISASTER STRUCTURE):
SNOW: Ss = 2.9 kPa Sr = 0.2 kPa
Is = 1.25 ULS, 0.9 SLS
WIND Q50 = 0.75 kPa Q10 = 0.39 kPa
Iw = 1.25 ULS, 0.75 SLS
NET FACTORED UPLIFT = 2.17 kPa

SEISMIC; SITE CLASS - "D"
Is = 1.50 ULS
Sa (0.2) = 0.491
Sa (0.5) = 0.219
Sa (1.0) = 0.093
Sa (2.0) = 0.027
METHOD OF ANALYSIS: EQUIVALENT STATIC FORCE METHOD
BASE SHEAR = 45kN EACH DIRECTION
LATERAL DEFLECTIONS = H/500 FOR STOREY DRIFT.



SECTION 2/S01
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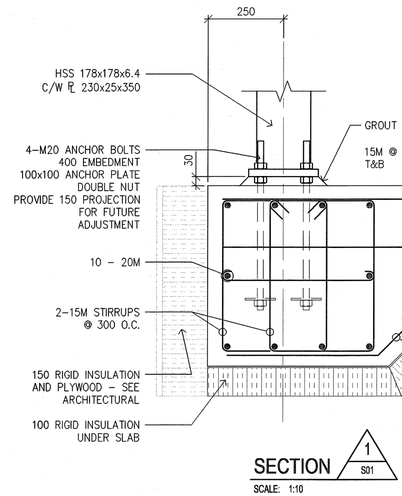

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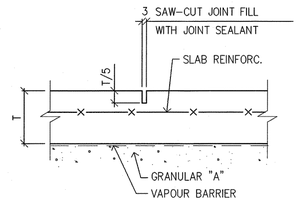
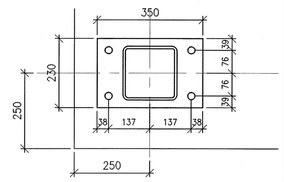


CONTROL JOINT - SLAB ON GRADE
SCALE: NOT TO SCALE



PLAN - BASE PLATE
SCALE: 1:10

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REGISTERED PROFESSIONAL ENGINEER S.F. VERSTEEGEN LICENSEE 12/24/2009 NWT/NU

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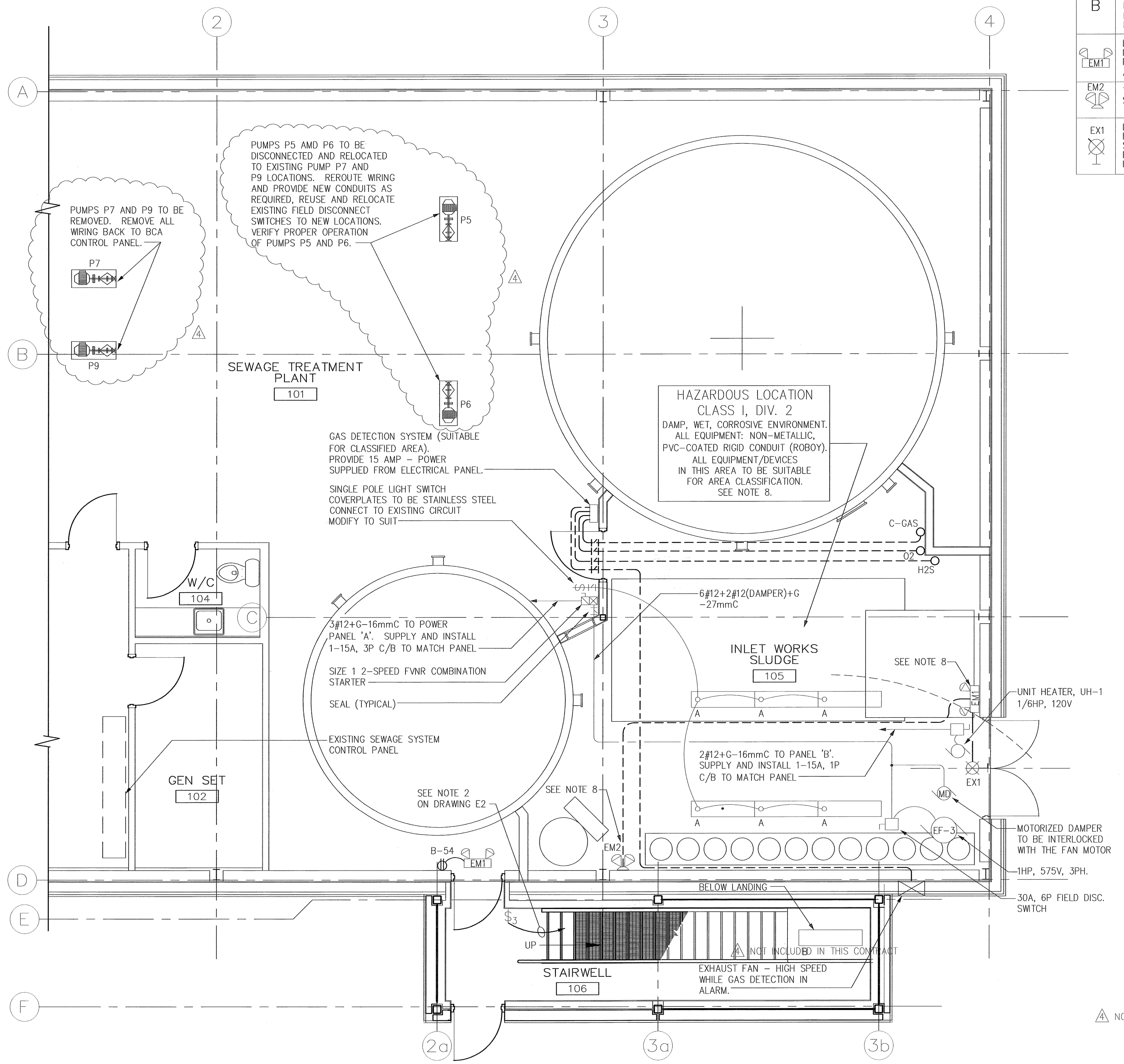
DESIGN TB | REVIEWED BY TC
DRAWN PDR | CHECKED BY LT
APPROVED GS
DATE JANUARY 2009
SCALE AS NOTED

PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

STRUCTURAL
GENERAL NOTES, SPECIFICATIONS SECTIONS AND PLAN - BASE PLATE

PROJECT NO. 08-8979
SHEET NO. S02

CONSTRUCTION NORTH



NOT INCLUDED IN THIS CONTRACT

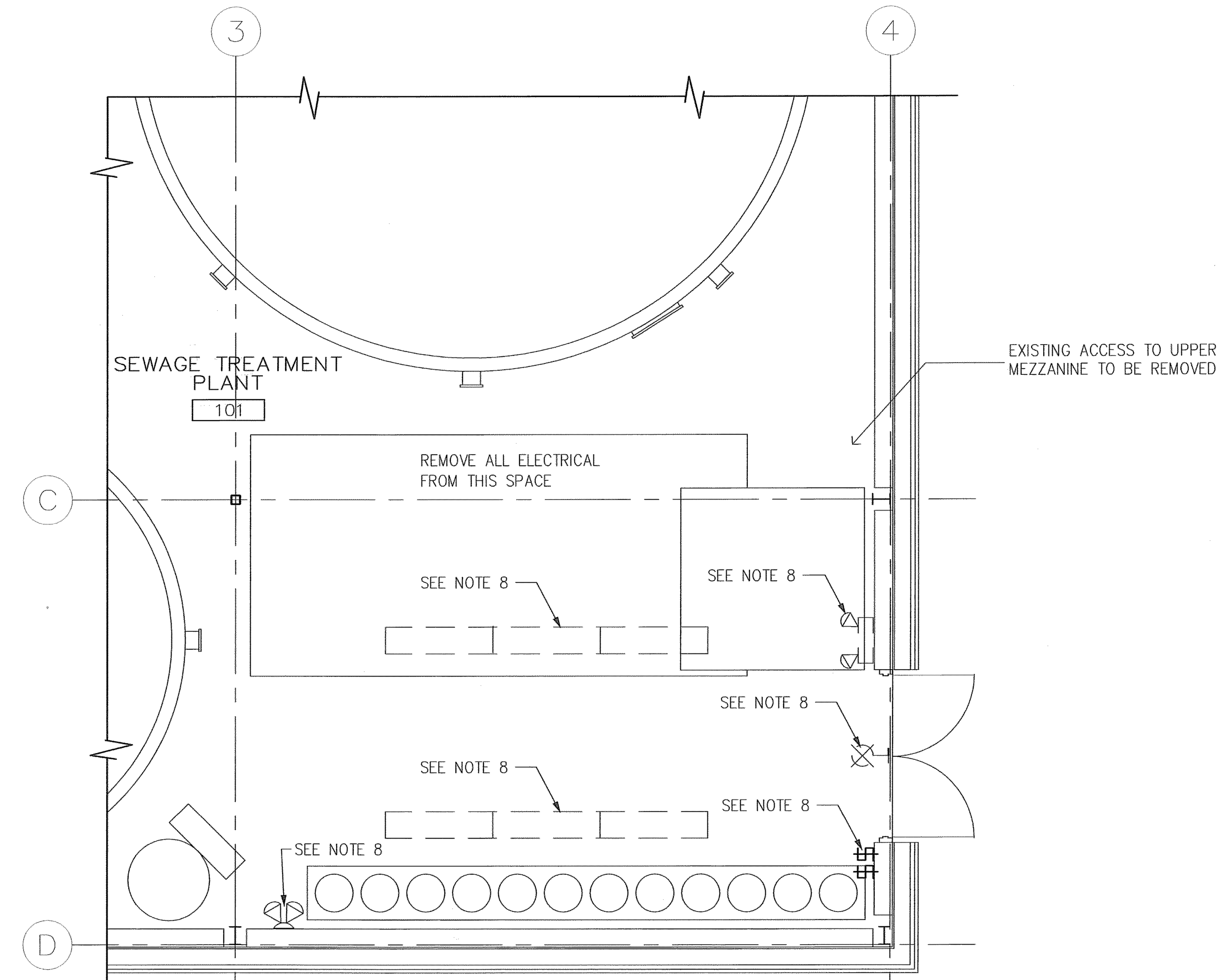
NEW LOWER FLOOR PLAN - LIGHTING AND POWER

SCALE: 1:50

LIGHTING FIXTURE SCHEDULE			
TYPE	DESCRIPTION	MODEL	LAMP
A	1219mm – 2 LAMPS FLUORESCENT FIXTURE, VAPOURTIGHT, SUITABLE FOR CLASS 1 DIV. 2 AREAS, CORROSION RESISTANT PORCELAIN ENAMEL BODY C/W ACRYLIC LENS AND INTEGRAL 120V T8 ELECTRONIC BALLAST. SURFACE MOUNTED.	DAYBRITE – VTSERIES CAT # VTPT232CA120 OR REVIEWED EQUAL	32W/T8
B	1219mm – 2 LAMPS FLUORESCENT FIXTURE, INDUSTRIAL IMPACT RESISTANT FIBREGLASS–REINFORCED HOUSING C/W HIGH IMPACT LENS, FULLY GASKETED S/S LATCHES AND 120V T8 ELECTRONIC BALLAST, LOW TEMEPERATURE.	LITHONIA CAT. No. DM232AR120GEB101S OR REVIEWED EQUAL	32W/T8
EM1	EMERGENCY LIGHTING BATTERY AND CHARGER UNIT, IMPACT RESISTANT, FIBREGLASS–REINFORCED POLYESTER HOUSING, SUITABLE FOR CLASS 1 DIV. 2 AREAS C/W 2–12W/12V HALOGEN LAMP HEADS.	LITHONIA – Z SERIES CAT. No. Z12120–H1212–VM–SRS OR REVIEWED EQUAL	12W/12V HALOGEN
EM2	TWIN LAMP REMOTE EMERGENCY LIGHTING HEADS, SUITABLE FOR CLASS I DIV. 2 AREAS	LITHONIA – ELA SERIES CAT. No. ELA–T–Z OR REVIEWED EQUAL	12W/12V PAR36
EX1	LED EXIT LIGHTING UNIT, IMPACT RESISTANT FIBREGLASS–REINFORCED POLYESTER HOUSING, SUITABLE FOR CLASS 1 DIV. 2 AREAS, SINGLE FACE, RED LETTERS ON STENCIL FACE, GRAY HOUSING, 120V INPUT VOLTAGE.	LITHONIA – LZ SERIES CAT. No. LZ–S–1–R–120 OR REVIEWED EQUAL	

ELECTRICAL NOTES:

1) ALL WORK CARRIED OUT SHALL CONFORM TO THE LATEST EDITION OF CANADIAN ELECTRICAL CODE 2006 – 20th EDITION, NUNAVUT FIRE MARSHALL OFFICE, FIRE MARSHALL TECHNICAL BULLETINS AND GN GBPG – II EDITION, DECEMBER '05.
2) WORK TO BE PERFORMED BY TRADES PERSON HOLDING A VALID ELECTRICIANS LICENSE REGISTERED WITH THE MINISTRY OF LABOUR IN THE NORTHWEST TERRITORIES / NUNAVUT.
3) CONTRACT DRAWINGS DO NOT SHOW COMPLETE SITE CONDITIONS. TAKE ACCURATE DIMENSIONS AND VERIFY ONSITE. REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE FLOOR PLANS AND DIMENSIONS.
4) SUBMIT TO CONSULTANT FOR APPROVAL THREE COPIES OF SHOP DRAWINGS INDICATING MANUFACTURERS, AND SUPPLIERS NAME CATALOGUE, MODEL NUMBER, DETAILS OF CONSTRUCTION, ACCURATE DIMENSIONS, CAPACITIES, PERFORMANCE, JOB NUMBER AND PROJECT NAME. ALL MATERIAL SHALL BE CSA APPROVED.
5) CONTRACTOR SHALL CONTACT OTHER UTILITIES BEFORE INSTALLATION TO PREVENT DAMAGE TO EXISTING UNDERGROUND SERVICES.
6) WIRING SHALL BE COPPER RW90 (RWU90 FOR UNDERGROUND) WITH 600V INSULATION AND RATED MINUS 40 DEG C. THE MINIMUM WIRE SIZE SHALL BE No 12 AWG UNLESS SPECIFIED OTHERWISE.
7) CONTRACTOR SHALL REVIEW LOCATION AND SERVICE SIZE REQUIRED FROM MECHANICAL EQUIPMENT BEFORE INSTALLATION OF WIRING AND CONDUIT TO DISTRIBUTION PANEL. REFER TO MECHANICAL DRAWINGS.
8) CONTRACTOR SHALL REMOVE EXISTING LIGHTING, WIRING AND CONDUIT AS INDICATED ON DRAWINGS TO OUTSIDE OF CLASSIFIED AREA. REVIEW CONDITIONS OF EXISTING WIRING AND RECONNECT TO NEW LIGHTS AND OTHER EQUIPMENT MAINTAIN CIRCUIT. PROVIDE JUNCTION BOX AND SEAL IN CONDUIT BEFORE ENTERING CLASSIFIED AREA.
9) REFER TO ARCHITECTURAL DRAWINGS FOR WORK OUTSIDE OF CLASSIFIED AREA.
10) PROVIDE ADDITIONAL 15A. SINGLE POLE BREAKERS FOR ADDITIONAL LOADS AS INDICATED.
11) PROVIDE A GAS DETECTION SYSTEM INCLUDING SENSORS FOR H2S, COMBUSTIBLE GASES AND OXYGEN AND CONTROL PANEL. PROVIDE POWER TO THE PANEL – PROVIDE CONDUIT AND WIRING TO SENSORS. CONTROL PANEL TO GENERATE AN ALARM SIGNAL ALARM INFORM OF DRY CONTACT, TO BE WIRED TO TWO SPEED EXHAUST FAN CONTROLLER; EXHAUST FAN SHALL OPERATE AT HIGH SPEED WHILE SYSTEM ON ALARM. "GENERAL MONITORS" IS AN ACCEPTABLE MANUFACTURER.



EXISTING LOWER FLOOR PLAN - DEMOLITION

SCALE: 1:50

REGISTERED PROFESSIONAL ENGINEER — LICENSEE — N.W.T. — 2009-03-26

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER P 010
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1	ISSUED FOR CLIENT REVIEW	06/30/08	WCD
0	CONCEPTUAL DESIGN	04/25/08	TC

DESIGN: SAI — REVIEWED BY: RBP
DRAWN: JPM — CHECKED BY: RBP
APPROVED: GS
DATE: JANUARY 2009
SCALE: NOTED

PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFICATIONS

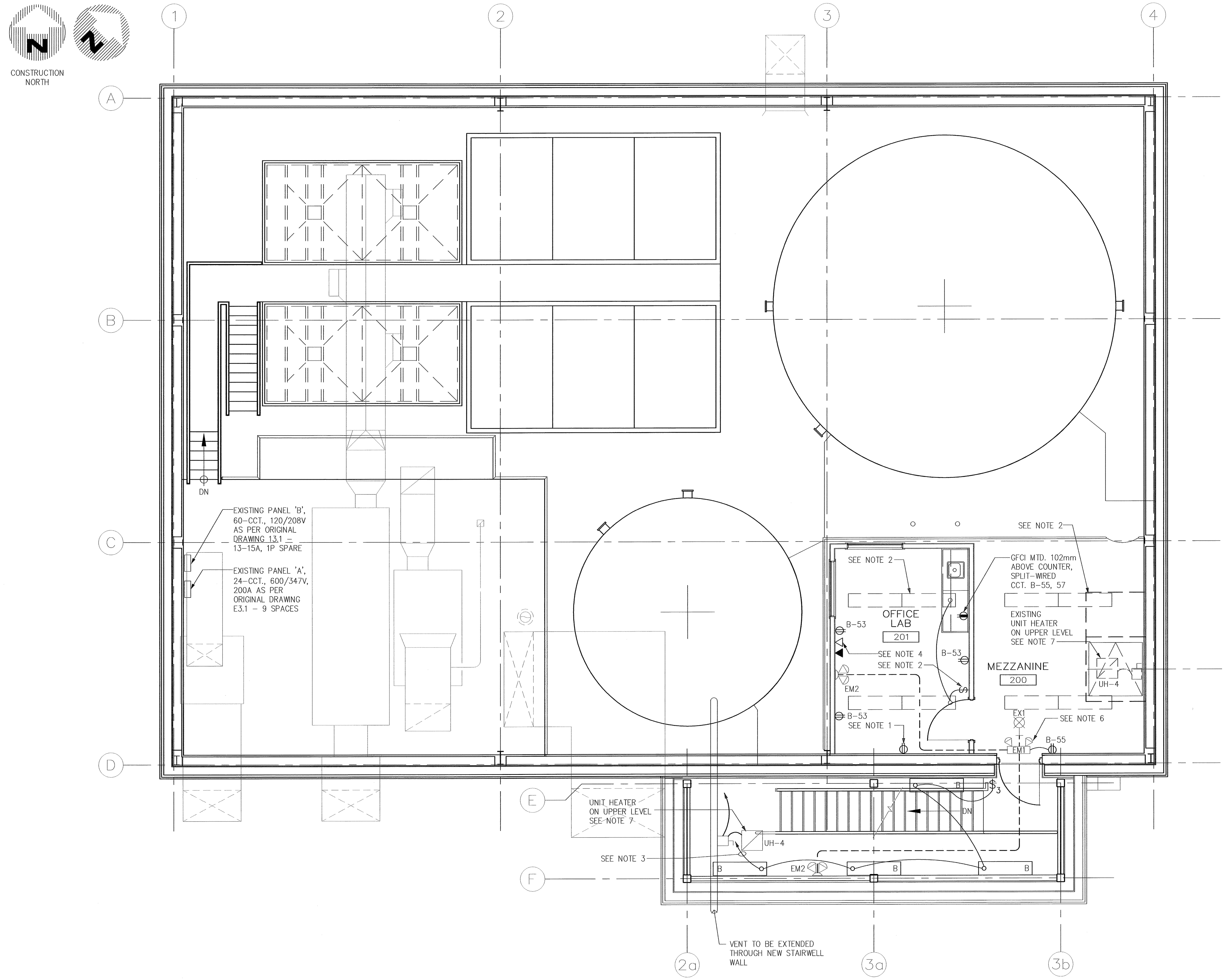
ELECTRICAL

PARTIAL LOWER LEVEL DEMOLITION, LIGHTING AND POWER PLANS

PROJECT NO. 08-8979

SHEET NO. **E01**

DILLON CONSULTING LIMITED, 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE 519-438-6192



UPPER LEVEL FLOOR PLAN - LIGHTING AND POWER

SCALE: 1:50

NOTES:

1. INSTALL NEW RECEPTACLES, WIRING IN RIGID STEEL CONDUIT. WIRE RECEPTACLES TO SPARE CIRCUIT B-53 IN PANEL 'B' AND UPDATE DIRECTORY.
2. CONTRACTOR SHALL RELOCATE EXISTING LIGHTING TO ACCOMMODATE INSTALLATION OF NEW WALL. CONNECT WIRING IN RIGID STEEL CONDUIT TO NEW LIGHT SWITCH FROM EXISTING LIGHTING IN LAB AREA. ALTER EXISTING WIRING TO LIGHTING OVER MEZZANINE TO CONTINUE WORKING AND MAINTAIN POWER SUPPLY. CONNECT TO NEW LIGHT SWITCH AT BOTTOM OF STAIRWAY.
3. INSTALL WIRING IN RIGID STEEL CONDUIT TO NEW LIGHTING IN STAIRWAY. CONNECT WIRING TO SPARE CIRCUIT IN PANEL 'B' AND UPDATE DIRECTORY.
4. INSTALL DATA OUTLET. RUN WIRING IN RIGID STEEL CONDUIT TO BUILDING NETWORK SYSTEM. COORDINATE WITH BUILDING NETWORK STAFF.
5. CONTRACTOR SHALL REVIEW LOCATIONS OF EXISTING CEILING FANS TO ACCOMMODATE INSTALLATION OF NEW WALL. RELOCATE FANS IF REQUIRED AND MAINTAIN POWER SUPPLY.
6. INSTALL WIRING IN CONDUIT FROM PANEL 'B' CIRCUIT 55 TO NEW RECEPTACLE FOR EXIT SIGN/ EMERGENCY LIGHT. INSTALL 15 AMP LOCK-ON BREAKER IN PANEL AND UP DATE PANELBOARD DIRECTORY
7. CONTRACTOR SHALL RELOCATE EXISTING UNIT HEATER No. 4 INTO NE STAIRWELL. REROUTE EXISTING WIRING IN CONDUIT OR INSTALL NEW AS REQUIRED TO OPERATE NEW LOCATION OF UNIT HEATER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS.

SWITCHES

SPECIFICATION GRADE, TOGGLE TYPE, 15 AMPS, 120 VOLT, BACK AND SIDE WIRED, CHROME-PLATED YOKE, SILVER CADMIUM OXIDE CONTACTS, SWITCH MECHANISM ON NEOPRENE CUSHION.
MANUFACTURER: HUBBELL 1201 OR EQUIVALENT

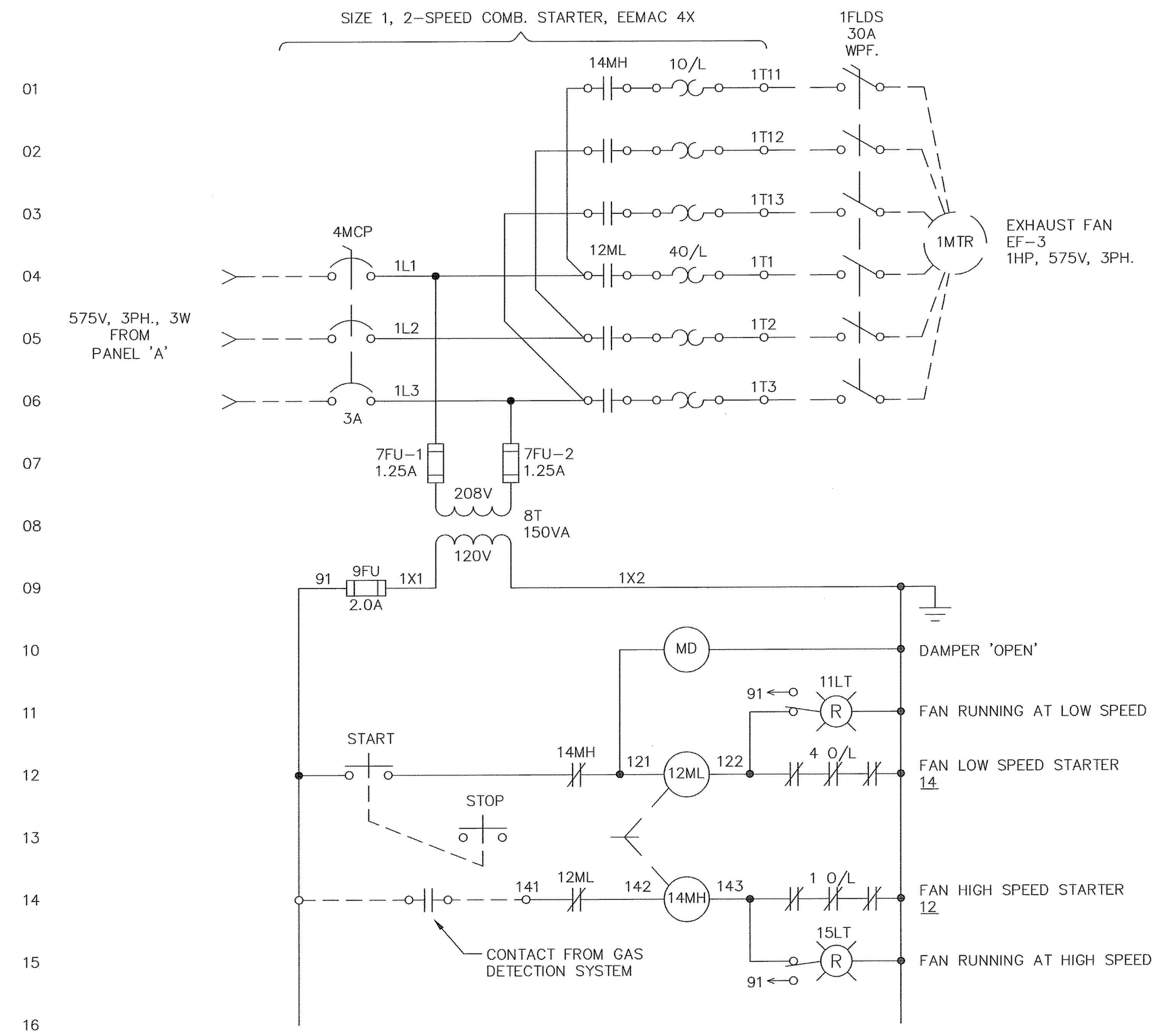
LOCATE SWITCHES ON LATCH SIDE OF DOOR, 1400mm ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.

RECEPTACLES

SPECIFICATION GRADE, 15 AMP, 125 VOL, AC, 'U' GROUND PARALLEL BLADE SLOTS, TRIPLE WIRING CONTACTS, DOUBLE GROUNDING TERMINALS, BREAK-OFF FEATURE FOR SEPARATE FEEDS, BUILT-IN STRAP IN PLASTIC MOULDED BODY AND BACK AND SIDE TERMINALS.
MANUFACTURER: HUBBELL 5262 OR EQUIVALENT

COVERPLATES

STAINLESS STEEL, VERTICALLY BRUSHED, 1mm THICK COVERPLATED FOR WIRING DEVICES MOUNTED IN FLUSH MOUNTED OUTLET BOXES.



EF-3 CONTROL SCHEMATIC

SCALE: N.T.S.

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APPROVED: GS
DATE: JANUARY 2009
SCALE: NOTED

PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFICATIONS

ELECTRICAL
UPPER LEVEL LIGHTING AND POWER PLANS

PROJECT NO. 08-8979

SHEET NO. **E02**

CONSTRUC

NORTH

SPRAYWASH FILTER WT=APPROX. 50Kg

SPRAY WASH PRESSURE TANK WT=APPROX 200Kg

OUTLINE HOUSEKEEPING PAD 100MM THICKNESS TYPICAL SLUDGE PUMPS

CLARIFIER SUMP W/ CAPPED 50ø DRAIN (TYP)

PIPING SUPPORTED AT UNDERSIDE OF SERVICE WALKWAY ABOVE

OUTLINE HOUSEKEEPING PAD PAD HEIGHT TO BE APPROX 125MM THICKNESS TO MATCH MAIN FEED SUCTION TANK CONNECTION CENTER LINE AT EQUALIZATION TANK TYP FEED PUMPS

19ø HWS & HWR TO 10ø KITEC HEAT TRACE TUBING FOR OUTFALL PIPING.

OUTFALL 200ø

OUTFALL 100ø

OVERFLOW 100ø

CONCRETE PIPE STAND (TYP. SEE DETAILS)

SPRAY WASH WATER TANK WT=APPROX. 1250Kg

100MM THK HOUSEKEEPING PAD

P8 SLUDGE PUMP

P10 SLUDGE PUMP

P7 SLUDGE PUMP

P9 SLUDGE PUMP

P5 MAIN FEED PUMP

P6 MAIN FEED PUMP

P15 SLUDGE PUMP

P16 FILTRATE PUMP

SEE NOTES

50ø PVC SLUDGE

50ø PVC SLUDGE

50ø SLUDGE

100ø PVC

100ø BYPASS

50ø SPRAY WASH

MAIN FEED 75ø

CONCRETE PIPE STAND (TYPICAL) SEE DETAILS

EQUALIZATION TANK (1)

SLUDGE TANK (1)

COORDINATE CONNECTION WITH AERATION GRID REQUIREMENTS

DECANT 50ø

100ø VENT

SCREENED SEWAGE 100ø

325x325 ACCESS HATCH ON SCREEN COMPACTOR AT APPROX 2000MM AFF ENSURE CLEAR ACCESS

100ø PUMPED SANITARY

100ø PVC TRUCK DSCHG

DIV 16 RACK

SCREEN CONTROL PANEL SEE DIV 16

STRUCTURAL STEEL PIPE STANDS. SEE STRUCTURAL DWG.

APPROXIMATE LOCATION OF STEEL PIPE HANGERS. SEE STRUCTURAL DWGS.

50ø SPRAY SCREEN WASH — PVC
65ø 52kPa AIR — STEEL
100ø MAIN BYPASS — PVC
150ø 52kPa AIR — STEEL
LOCATED AT APPROX MEZZANINE HEIGHT
PROVIDE STRUCTURAL STEEL HANGERS FROM MEZZANINE STRUCTURE AND COMMON TRAPEZE HANGER FOR PIPING

DISCHARGE LINE AT APPROX 600MM AFF PROVIDE CONCRETE PIPE STAND AND TRIP HAZARD WARNING. SEE SPEC DETAIL.

SEWAGE TRUCK DISCHARGE CONNECTION TERMINATE WITH CAMLOCK FITTING TO SUIT LOCAL TRUCK REQUIREMENTS C/W CAP AND CHAIN. SEE DETAILS.

AS REQUIRED

SECURE DISCHARGE LINE TO BLDG STRUCTURE SEE STRUCTURAL DWGS FOR DETAILS

MAGENTIC FLOW METER ON DISCHARGE LINE RISER

RAW/SCREENED SEWAGE TANK (1)

DROP PIPING TO BELOW SERVICE WALKWAY

BL2 EQUALIZATION TANK BLOWER

BL1 EQUALIZATION TANK BLOWER

BL3 SLUDGE TANK BLOWER

BL4 SLUDGE TANK BLOWER

100MM THICK HOUSEKEEPING PAD TYPICAL ALL BLOWERS

PUMP SERVICE AREA

RISE RAW SEWAGE PUMP DISCHARGE TO UNDERSIDE OF MEZZANINE

PIPING AND VALVES SUPPORTED AT UNDERSIDE OF MEZZANINE

DROP 100ø RAW SEWAGE DISCHARGE DOWN TO SCREENING COMPACTOR AND CONNECT TO 150ø INLET WITH TEE AND FLANGED CONNECTION

PUMP SERVICE AREA

1 FLOOR PLAN, LOWER

SCALE:

NOTES:

1) DISCONNECT PUMPS P7 AND P9, P5 AND P6.
2) CONNECT PUMPS P5 AND P6 RELOCATED TO POSITION OF P7 AND P9. MODIFY/RELOCATE POWER SUPPLY FROM POSITION P5 AND P6 TO P7 AND P9. KEEP POWER FEED OF PUMPS FROM THEIR ORIGINAL LOCATION. MODIFY/REPLACE CONDUIT AND WIRE AS NECESSARY.
3) MAINTAIN/RELOCATE EXISTING DISCONNECT SWITCHES.

⚠ NOT INCLUDED IN THIS CONTRACT

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REGISTERED PROFESSIONAL ENGINEER W.C.H. DeGAGNE LICENSEE N.W.T.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES PERMIT NUMBER P 010 DILLON CONSULTING LIMITED

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DATE	JANUARY 2009
SCALE	

PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFICATIONS

PROJECT NO. 08-8979

ELECTRICAL

FLOOR PLAN - LOWER LEVEL MODICATIONS

SHEET NO. **E03**

DILLON CONSULTING LIMITED, 130 DUFFERIN AVENUE, LONDON, ONTARIO, N6A 5R2, PHONE 519-438-6192

ELECTRICAL SPECIFICATION

1. GENERAL CONDITIONS

1.1. MATERIALS: NEW (UNLESS OTHERWISE NOTED). UNUSED, BEST OF THEIR RESPECTIVE KINDS AND FREE FROM DEFECTS AS INDICATED ON THE DRAWINGS. BASIS OF QUALITY SHALL BE LATEST STANDARDS OF CSA, FEDERAL SPECIFICATIONS OR OTHER ACCEPTABLE STANDARDS.

1.2. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF WORK ONLY.

1.3. CONTRACTOR SHALL BE HELD TO HAVE EXAMINED THE SITE FOR HIS WORK BEFORE HAVING SUBMITTED HIS PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING THE COURSE OF THE CONTRACT.

1.4. CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER TRADES.

1.5. CONTRACTOR SHALL VERIFY ALL MEASUREMENTS AT SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.

1.6. ALL WORK SHALL BE INSTALLED READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIRS.

1.7. ALL WORK AND EQUIPMENT TO BE FULLY GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF FINAL PAYMENT AND ACCEPTANCE.

1.8. ALL CUTTING, PATCHING AND REPAINTING IN CONNECTION WITH THIS TRADE SHALL BE DONE BY THIS CONTRACTOR.

1.9. STORE CONSTRUCTION MATERIALS IN SPACES DESIGNATED BY OWNER.

1.10. REMOVE RUBBISH FROM PREMISES AS OFTEN AS NECESSARY OR AS DIRECTED.

1.11. ALL WORK AND EQUIPMENT SHALL BE CLEANED TO THE SATISFACTION OF THE OWNER BEFORE TURNING SAME OVER TO THE OWNER.

1.12. THIS CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS AND OBTAIN ALL PERMITS AND CERTIFICATES OF APPROVAL REQUIRED IN CONNECTION WITH ALL WORK UNDER THIS CONTRACT. HE SHALL COMPLY WITH ALL LAWS, ORDINANCES, RULES AND REGULATIONS OF THE NATIONAL BUILDING CODE OF CANADA, THE CE CODE 2006, AND AUTHORITIES HAVING JURISDICTION.

1.13. EQUIPMENT AND MATERIALS FOR WHICH CANADIAN STANDARDS ASSOCIATION (CSA) PROVIDES PRODUCT LISTING SERVICE, SHALL BE LISTED AND BEAR THE LISTING MARK.

1.14. WORK SHALL PROCEED ONLY ON A SCHEDULE APPROVED BY THE OWNER, AND ALL WORK SHALL BE COORDINATED WITH THE BUILDING'S WORK SCHEDULE TO MINIMIZE INCONVENIENCE AND DISTURBANCE.

2. SCOPE OF WORK

2.1. WORK SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING:

- RE-USE/RELOCATION AND/OR REPLACEMENT OF WIRING DEVICES AND RECEPTACLES.
- EXTENDING OF POWER WIRING AND BRANCH CIRCUIT WIRING.
- PROVIDE NEW VOICE/DATA WIRING AND CONNECTORS.
- COMPLETE WIRING FROM POINT OF INTERCEPTION TO WIRING DEVICES AND OTHER ELECTRICAL EQUIPMENT AS SHOWN ON THE PLANS, OR AS SPECIFIED HEREIN.
- REMOVALS AND ALTERATIONS/RELOCATIONS.
- COMPLETE BONDING AND GROUNDING OF ELECTRICAL SYSTEM AS PER CODE.

3. CONDUITS, FASTENERS, FITTINGS, AND CONNECTORS.

3.1. DRAWINGS DO NOT SHOW ALL CONDUITS. THOSE SHOWN ARE IN DIAGRAMMATIC FORM ONLY.

3.2. THE WIRING FOR ELECTRIC RECEPTACLES INCLUDING OUTLETS FOR MISCELLANEOUS DEVICES AND FOR ELECTRIC POWER, SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED COMPLETE FROM THE POINT OF SERVICE CONNECTION TO ALL OUTLETS INDICATED ON DRAWINGS.

3.3. VOICE/DATA CABLES AND POWER WIRES SHALL BE IN SEPARATE CONDUIT.

4. WIRE AND CABLE (POWER AND COMMUNICATIONS)

4.1. POWER WIRES SHALL BE STRANDED COPPER WITH 600V INSULATION TYPE RW90, T90 NYLON (#12 AWG MINIMUM)

4.2. NO SPLICES OR JOINTS SHALL BE PERMITTED IN EITHER FEEDERS OR BRANCHES EXCEPT AT OUTLETS OR ACCESSIBLE TERMINAL, SPLICE OR PULL/JUNCTION BOXES.

4.3. VOICE/DATA CABLES SHALL BE CAT-6 CABLES AND SHALL BE TERMINATED WITH RJ 45 CONNECTORS AND JACKS.

(COORDINATE WITH THE CLIENT'S I.T. DEPARTMENT FOR FURTHER INSTRUCTION)

5. IDENTIFICATION OF WIRES

5.1. ALL WIRE SHALL BE IDENTIFIED BY CIRCUITS IN ALL BOXES AND OTHER ENCLOSURES.

5.2. THE CIRCUIT DESIGNATIONS SHALL MATCH ORIGINAL CIRCUITS OF THE RELOCATED ELECTRICAL DEVICES. TAGS SHALL BE ATTACHED TO WIRES SO THAT THEY WILL BE READILY VISIBLE.

5.3. BRADY, B-500 VINYL CLOTH WIRE AND TERMINAL MARKERS SHALL BE USED FOR ALL WIRE IDENTIFICATION OR APPROVED EQUAL.

5.4. THE CONTRACTOR SHALL MATCH THE COLOUR-CODING THAT IS BEING USED IN THE BUILDING - ANY DEVIATION DUE TO LIMITED QUANTITIES OF CABLE, MAY BE PERMITTED UPON WRITTEN APPROVAL BY THE CONSULTANT AND/OR OWNER.

	PHASE
BLACK	A
RED	B
BLUE	C
WHITE	NEUTRAL
GREEN	GROUND

6. BONDING AND GROUNDING

6.1. METAL RACEWAYS, METAL ENCLOSURES OF ELECTRICAL DEVICES AND EQUIPMENT, LIGHTING SWITCHES ENCLOSURES AND OTHER EQUIPMENT SHALL BE COMPLETELY BONDED AND GROUNDED IN AN APPROVED MANNER.

6.2. PROVIDE ALL HARDWARE REQUIRED FOR COMPLETE GROUNDING AND BONDING SYSTEM.

7. SHOP DRAWINGS

7.1. PRIOR TO THE ORDERING OF ELECTRICAL EQUIPMENT, THIS CONTRACTOR SHALL SUBMIT SIX (6) COPIES OF SHOP DRAWINGS TO THE ENGINEER FOR THE SAME, ALL FOR REVIEW. EQUIPMENT SHALL NOT BE RELEASED FOR SHIPMENT UNTIL THIS REVIEW HAS BEEN OBTAINED.

8. MATERIALS

8.1. DUPLEX OUTLETS SHALL BE EQUIVALENT TO HUBBELL #5262-IV.

8.2. 120 VOLT TOGGLE SWITCHES SHALL BE EQUIVALENT TO HUBBELL #1200-IV SERIES.

8.3. COVERPLATES SHALL BE STAINLESS STEEL IN FINISHED AREAS, PRESSED STEEL IN UNFINISHED AREAS, AND PVC IN WET OR EXTERIOR AREAS.

8.4. FOR CLASS I DIV. 2 AREAS - ALL RECEPTACLES, SWITCHES, OUTLET BOXES SHALL BE APPROVED FOR AREA CLASSIFICATION.

8.5. PROVIDE SEALS ON ALL CONDUITS ENTERING CLASS I DIV. 2 AREAS AS PER CEC CURRENT EDITION.

8.6. ALL CONDUIT SHALL BE RIGID GALVANIZED STEEL WITH THREADED FITTINGS.

8.7. 600V STARTER SHALL BE SIZE 1, FULL VOLTAGE NON REVERSING, COMBINATION MCP TYPE, WITH 150VA CONTROL TRANSFORMER, PUSHBUTTONS AND PILOT LIGHTS MOUNTED ON FRONT COVER, NEMA 4X ENCLOSURE.

8.8. FOR LIGHTING FIXTURES, EMERGENCY AND EXIT LIGHTING, REFER TO SCHEDULE.

9. SHUTDOWNS

9.1. INTERRUPTION OF POWER AND AUXILIARY SYSTEMS SHALL BE COORDINATED WITH THE BUILDING ENGINEER AND SUCH OUTAGES SHALL OCCUR ONLY DURING PREARRANGED ACCEPTABLE TIMES. THE EXISTING BUILDING SHOULD NOT BE LEFT WITHOUT THE USE OF LIGHTING, POWER, ETC, EXCEPT FOR FINAL CONNECTIONS, WHICH SHALL BE PERFORMED AT A TIME CONVENIENT TO THE OWNER. ANY INTERRUPTION OF SERVICE SHALL BE DONE AT A TIME DESIGNATED BY THE BUILDING REPRESENTATIVE AND SHALL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT PRICE.

10. FINAL CLEANUP AND FIELD TESTS.

10.1. AFTER COMPLETION OF THE ENTIRE ELECTRICAL INSTALLATION:

A. BEFORE FINAL ACCEPTANCE WILL BE GRANTED, THE CONTRACTOR SHALL CLEAN ALL LIGHTING SWITCHES, DEVICE PLATES, SERVICE FITTINGS AND OTHER ITEMS FURNISHED UNDER THIS CONTRACT, AND SHALL ENSURE THAT IDENTIFICATIONS AND MARKINGS OF EQUIPMENT, CABLES, AND OTHER ITEMS ARE COMPLETED.

B. THE CONTRACTOR SHALL REPAIR OR REPLACE, AS DIRECTED BY THE CONSULTANT AND/OR OWNER, AT NO ADDITIONAL COST, ANY ITEMS DAMAGED DUE TO INSTALLATION, RELOCATION OR REINSTALLATION.

C. IN ADDITION TO OTHER TESTS WHICH MAY BE REQUIRED IN THE VARIOUS OTHER DISCIPLINES, PERFORM FIELD TESTS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE, TO DEMONSTRATE THE RELIABILITY OF THE ELECTRICAL INSTALLATION. GIVE THE OWNER AT LEAST 48 HOURS ADVANCED NOTICE OF SUCH TESTS. THE FOLLOWING FIELD TESTS SHALL BE PERFORMED BY THE CONTRACTOR:

- OPERATE ALL ELECTRICAL EQUIPMENT FOR A PERIOD OF 24 HOURS, UNLESS OTHERWISE DIRECTED BY THE CONSULTANT OR OWNER.
- TEST ALL WIRES AND CABLE INSTALLED UNDER THIS CONTRACT TO ENSURE THAT THEY ARE NOT DAMAGED, GROUNDED, NOR FAULTY.
- CONDUCT CONTINUITY TESTS IN ALL VOICE AND DATA CABLES.
- SHOULD THE FOREGOING TESTS REVEAL ANY DEFECTS, PROMPTLY CORRECT SUCH DEFECTS AND RE-RUN THE TESTS UNTIL THE ENTIRE INSTALLATION IS SATISFACTORY IN ALL RESPECTS.

11. RECORD DRAWINGS

11.1. THE CONTRACTOR SHALL KEEP CAREFUL RECORD OF ANY AND ALL CHANGES MADE DURING THE PROGRESS OF THE INSTALLATION, AND AT THE CONCLUSION THEREOF SHALL PREPARE A SET OF RECORD REPRODUCIBLE DRAWINGS INDICATING THE "AS-BUILT" MANNER OF INSTALLATION OF ALL ELECTRICAL WORK, WHICH SHALL BE TURNED OVER TO THE OWNER.

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DATE: JANUARY 2009	
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PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

ELECTRICAL
GENERAL NOTES AND SPECIFICATIONS

PROJECT NO. 08-8979

SHEET NO. E04

MECHANICAL LEGEND

—DCW—	DOMESTIC COLD WATER
—DHW—	DOMESTIC HOT WATER
—DHWR—	DOMESTIC HOT WATER RECIRCULATION
———	STORM DRAIN
———	SANITARY DRAIN
———	VENT
SLOPE 1/8" PER. FT. ——→	PITCH (INDICATES SLOPE DOWN)

	ELBOW TOWARD
	ELBOW AWAY
	TEE TOWARD
	TEE AWAY
	CROSS
	LATERAL
	ELBOW
	REDUCING ELBOW
	TEE
	CHECK VALVE
	STRAINER
	PUMP
(PI)	PRESSURE GAUGE
(TI)	THERMOMETER
	GATE VALVE
	BUTTERFLY VALVE
	GLOBE VALVE
	BALL VALVE
(CV)	CONTROL VALVE
	BALANCING VALVE
	AIR VENT
	ANGLE VALVE
	PRESSURE RELIEF VALVE
	STOP AND CHECK VALVE
	THREE WAY VALVE
	UNION
	CAP
	FLANGE

CO	CLEANOUT
RWL	RAINWATER LEADER
IE	INVERT ELEVATION
	F.D. – FLOOR DRAIN WITH TRAP
	FLOOR MOUNTED FLUSH VALVE WATER CLOSET
	WALL MOUNTED WATER CLOSET
	LAVATORY
	SERVICE SINK
	WALL MOUNTED URINAL
	STALL URINAL

EXHAUST FAN SCHEDULE

MARK	QUANTITY	TYPE	CAPACITY	S.P.	FAN R.P.M.	MOTOR H.P.	DRIVE	VOLTAGE	REMARKS
EF-3	1	CENTRIFUGAL	600 L/s (HIGH) 300 L/s (LOW)	0.4 kPa	1750	1	BELT	575/3/60	GREENHECK MODEL BSQ-140HP C/W EXPLOSION PROOF MOTOR, TWO-SPEED OPERATION. EPOXY COATED & RATED FOR WASTEWATER ENVIRONMENT.

AIR DIFFUSER AND REGISTER SCHEDULE

MARK	AIR FLOW	SIZE	REMARKS
SD-1	80 L/s	24" SQ.	E.H. PRICE 8" N.D. / 24 x 24 / SCD / 31 / 3C / B12 LAB/OFFICE S.A. DIFFUSER
RR-1	80 L/s	12" x 6"	E.H. PRICE 12 x 6 / 530 / F / L / B12 LAB/OFFICE R.A. REGISTER
RR-2	600 L/s	24" x 12"	E.H. PRICE 24 x 12 / 730 / F / L / B12 STAINLESS STEEL – BAG ROOM TRANSFER GRILL
ER-1	600 L/s	24" x 12"	E.H. PRICE 24 x 12 / 730 / F / L / B12 STAINLESS STEEL – BAG ROOM EXHAUST GRILL
SR-1	600 L/s	24" x 12"	E.H. PRICE 24 x 12 / 720D / F / L / B12 STAINLESS STEEL – BAG ROOM REGISTER

UNIT HEATER SCHEDULE

MARK	CAPACITY	WATER FLOW RATE	WATER P.D.	MOTOR H.P.	R.P.M.	VOLTAGE	REMARKS
UH-9	21 MBH	0.15 L/s	0.18 kPa	1/6	1140	115/1/60	TRANE MODEL P-42 VERTICAL HOT WATER UNIT HEATER C\W OPTIONAL AIR DIFFUSER AND EXPLOSION PROOF MOTOR. EPOXY COATED & RATED FOR WASTEWATER ENVIRONMENT.

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APPROVED:
DATE: JANUARY 2009
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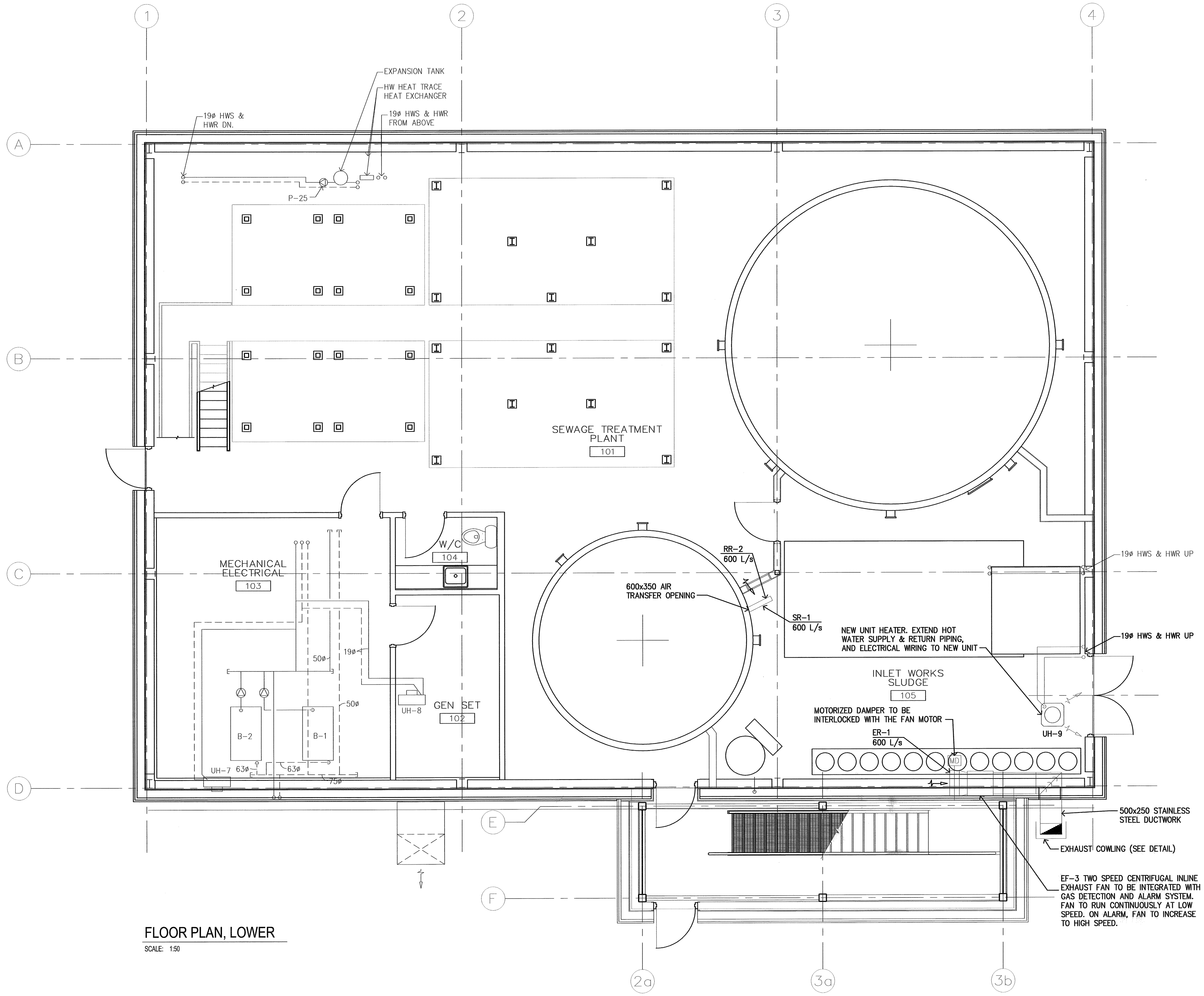
PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

PROJECT NO. 08-8979

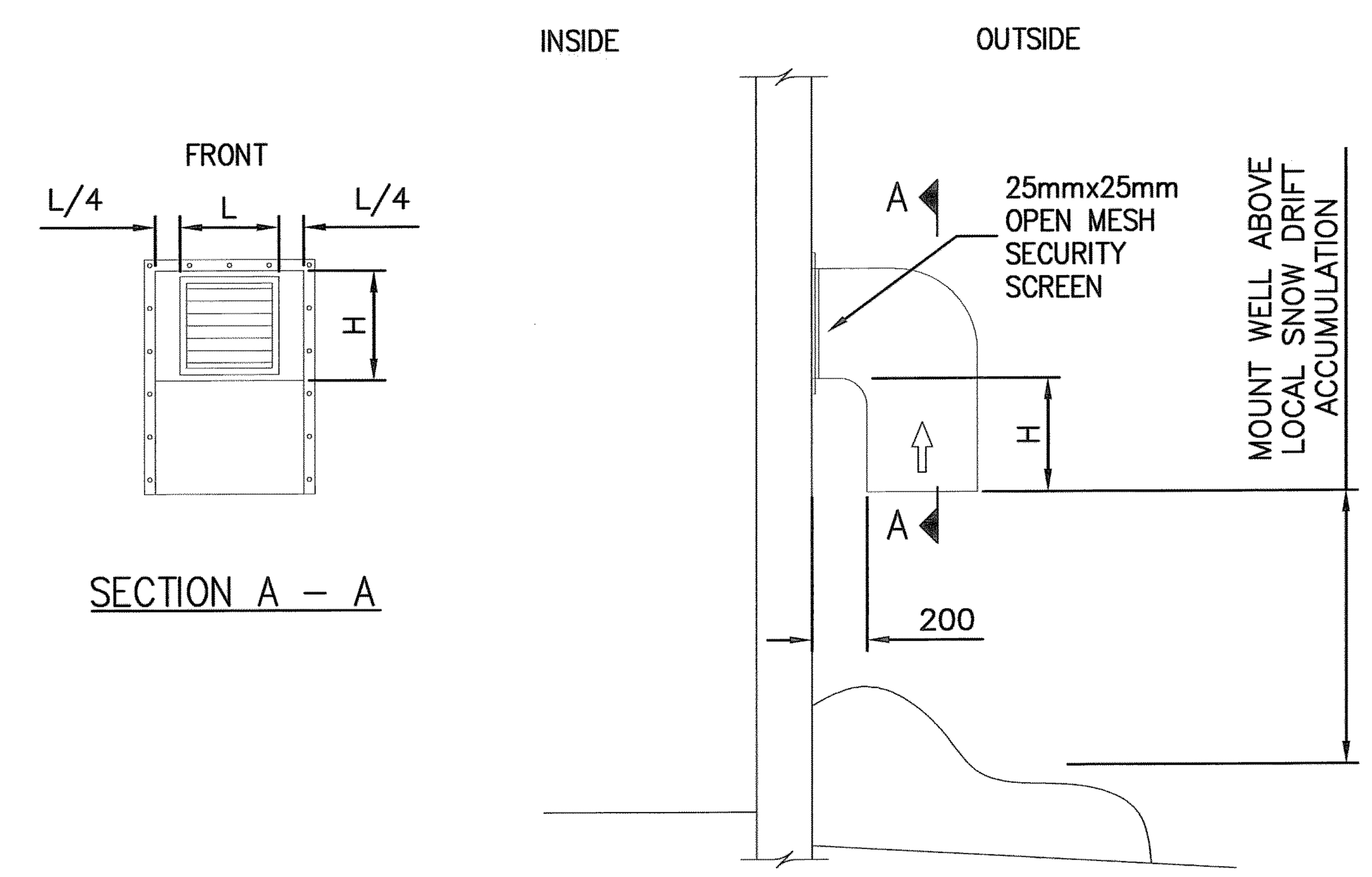
MECHANICAL LEGEND

SHEET NO. **M01**



FLOOR PLAN, LOWER

SCALE: 1:50



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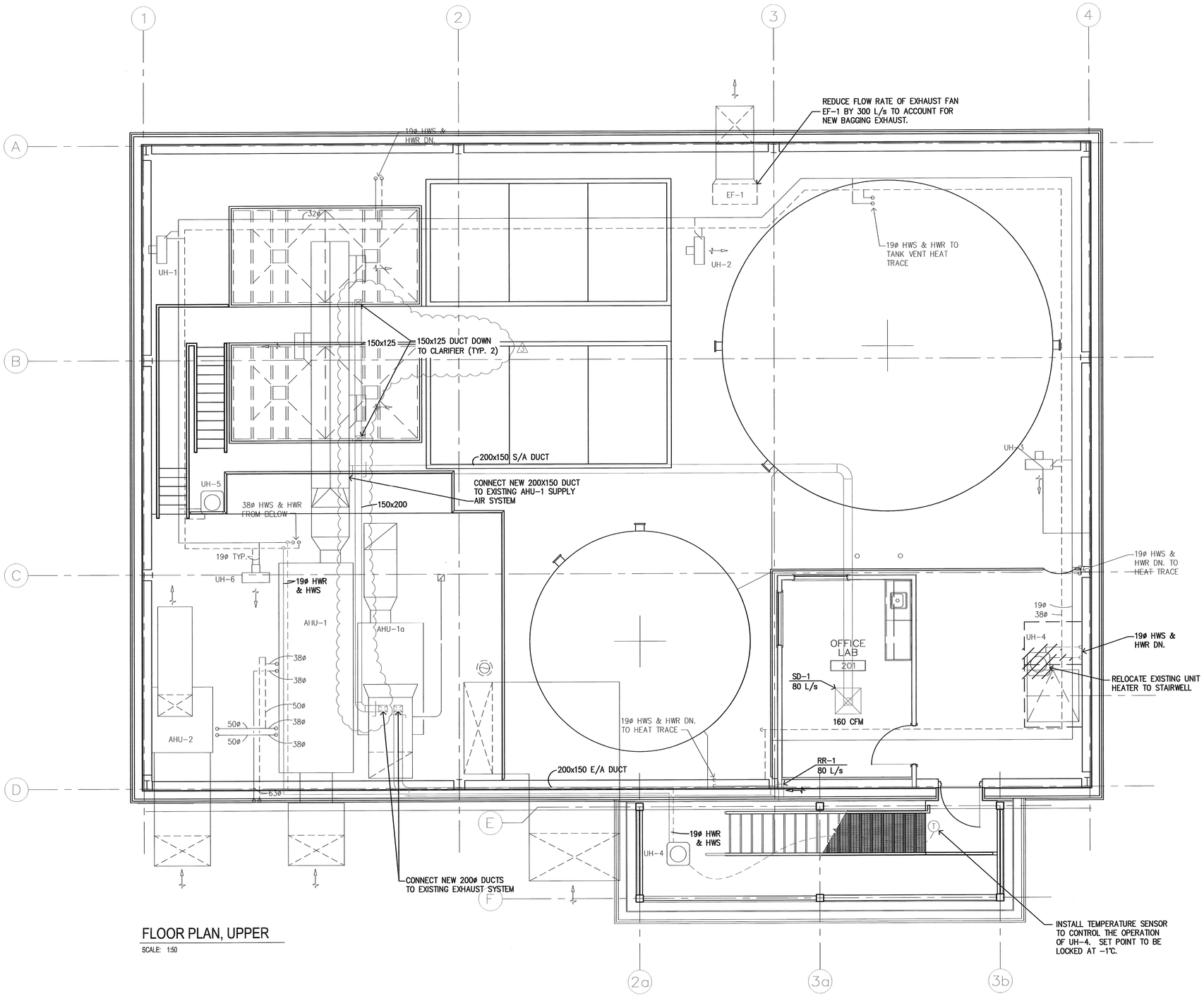
PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

MECHANICAL

LOWER LEVEL HVAC PLAN

PROJECT NO. 08-8979

SHEET NO. **M02**



FLOOR PLAN, UPPER

SCALE: 1:50

△3 NOT INCLUDED IN THIS CONTRACT

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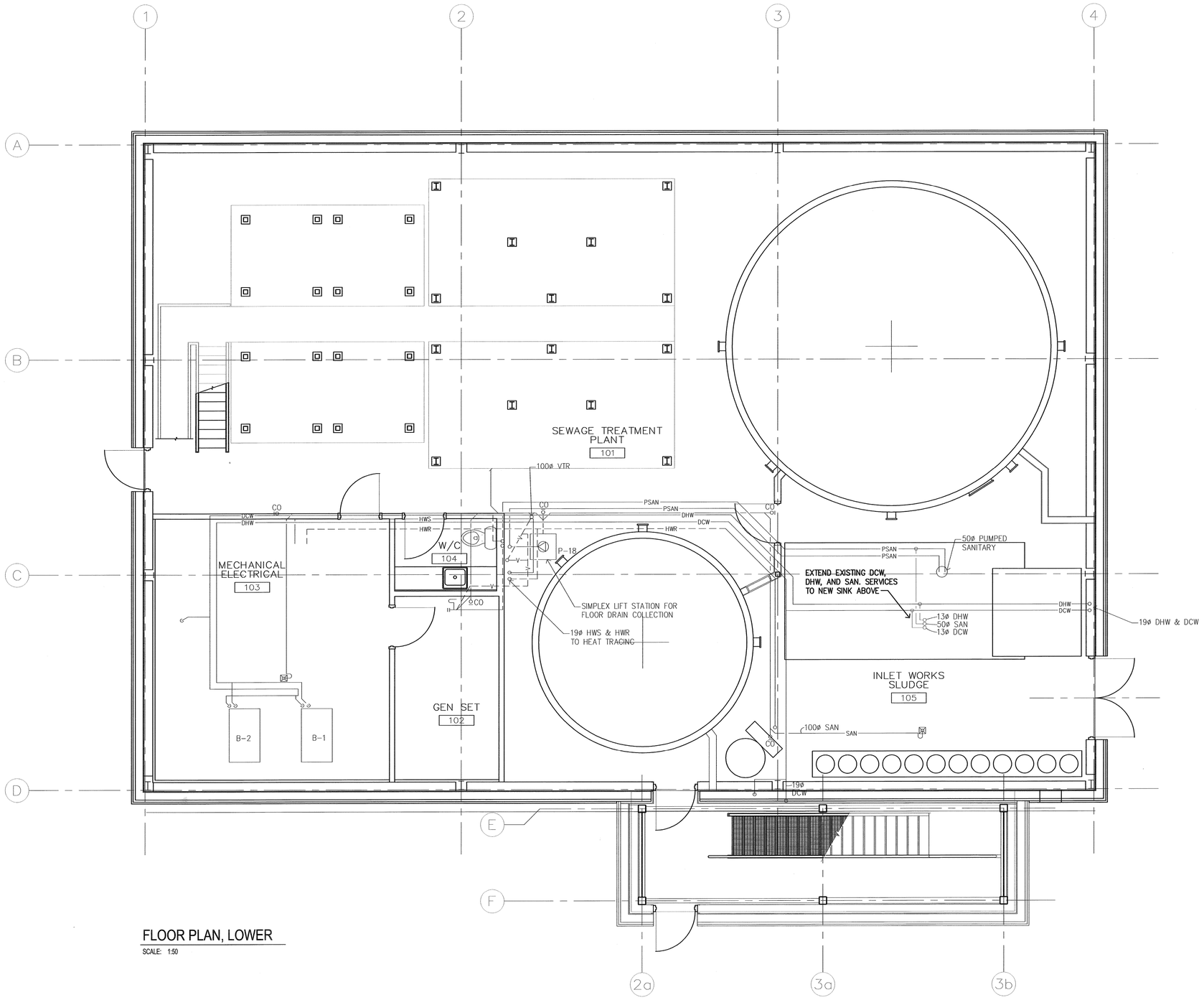
PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

PROJECT NO. 08-8979

MECHANICAL

UPPER LEVEL HVAC PLAN

SHEET NO. M03



FLOOR PLAN, LOWER

SCALE: 1:50

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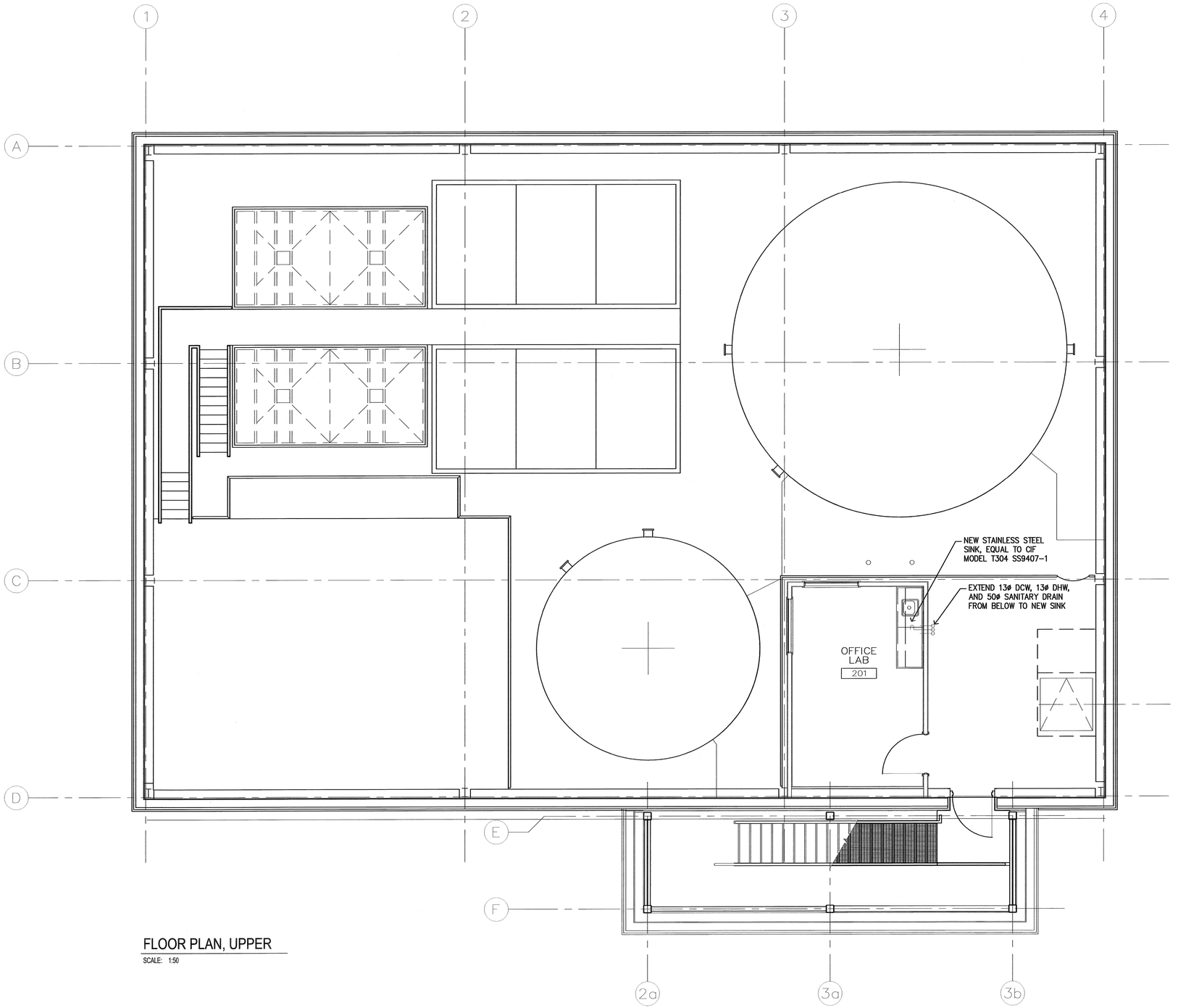
PANGNIRTUNG WASTE WATER TREATMENT PLANT
MODIFCATIONS

PROJECT NO. 08-8979

MECHANICAL
LOWER LEVEL
PLUMBING PLAN

SHEET NO. M04



FLOOR PLAN, UPPER

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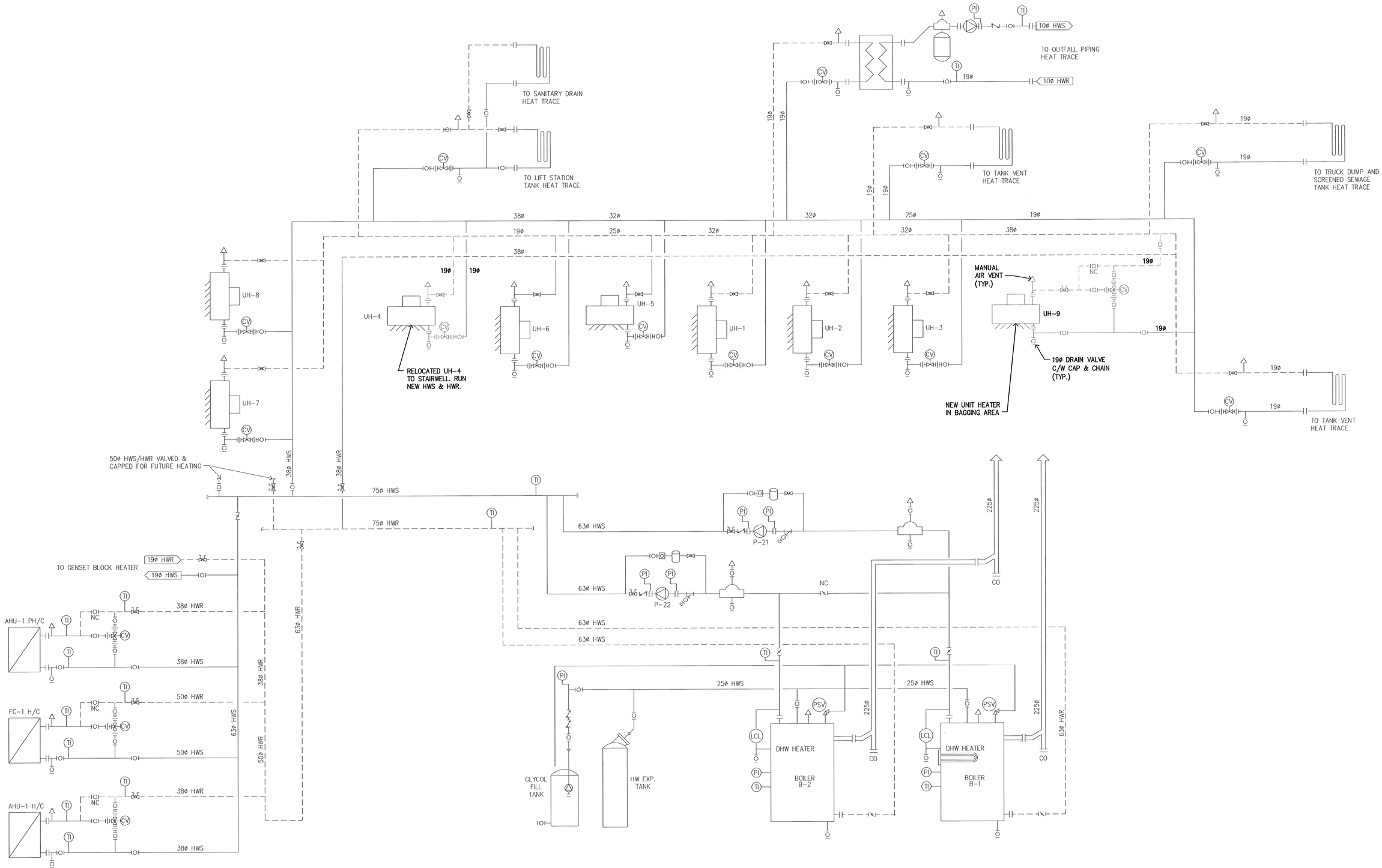
PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

PROJECT NO. 08-8979

MECHANICAL

UPPER LEVEL PLUMBING PLAN

SHEET NO. **M05**



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PANGNIRTUNG WASTE WATER TREATMENT PLANT MODIFCATIONS

PROJECT NO. 08-8979

MECHANICAL

HOT WATER SCHEMATIC

SHEET NO. **M06**