Stanley

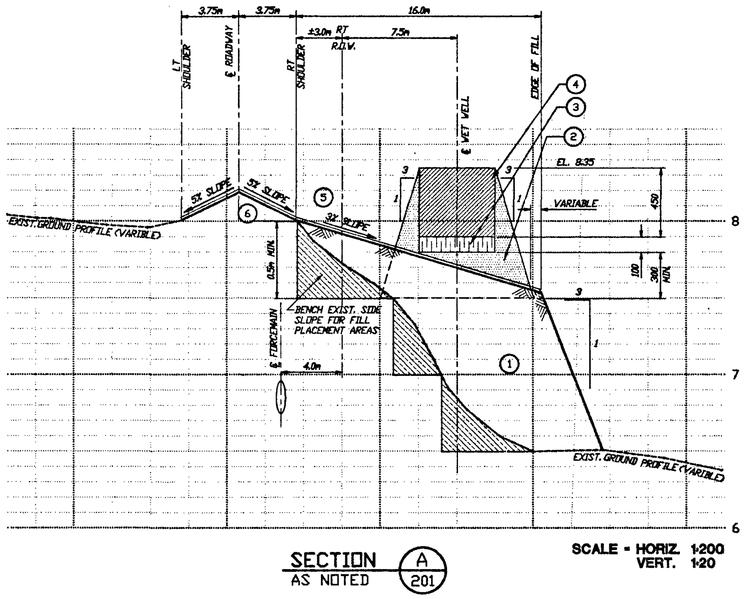
Northwest Territories Public Works & Services

RANKIN INLET
SEWAGE DISPOSAL FACILITIES

JOHNSTON COVE LIFT STATION

Project No. 93-5505

CAD FILE NAME: J:\PSHN\LIFT-S\INKS95161.DWG
DATE PLOTTED: 1995 May 16, 3:48 PM

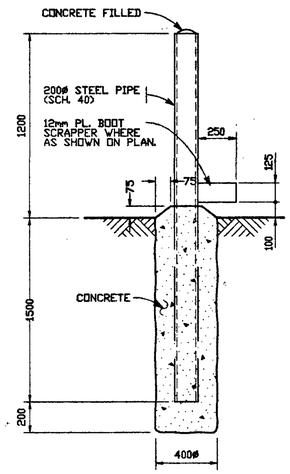


SECTION A 201
AS NOTED

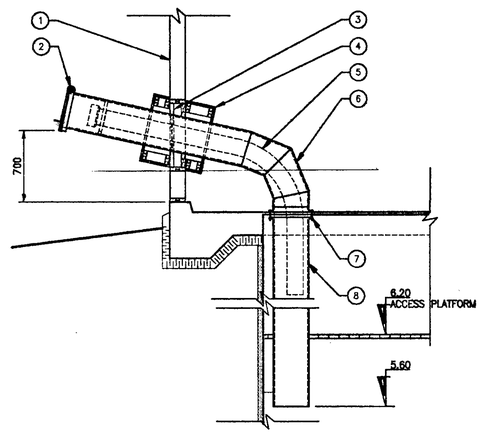
SCALE - HORIZ. 1:200
VERT. 1:20

KEYNOTES:

1. IMPORTED GRANULAR FILL COMPACTED TO 97% S.P.D. 75mm TOP SIZE.
2. 300mm OF 25mm MINUS GRANULAR BASE COMPACTED TO 98% S.P.D.
3. 100mm HI-40 BOARD INSULATION BELOW LIFT STATION FLOOR SLAB.
4. 200 THK. SLAB W/ 450 DIA. EDGE THICKENINGS SEE DWG. 203 FOR EXACT CONFIGURATION.
5. 50mm OF 19mm MINUS CRUSHED GRAVEL COMPACTED TO 98% S.P.D.
6. EXISTING GROUND, BLADE SMOOTH



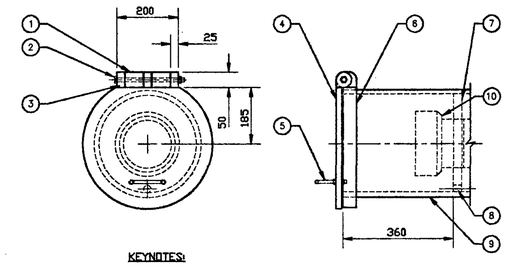
TYP. BOLLARD DETAIL
N.T.S.



KEYNOTES:

1. LIFT STATION WALL.
2. HDPE COVER SEE UNLOAD POINT DETAIL.
3. DOUBLE 38x235 BLOCKING CUT TO MATCH PIPE ANGLE
4. BLOCKING CUT TO MATCH PIPE ANGLE C/W GASKETED PENETRATION SEALED TO VAPOUR BARRIER ON INSIDE OF WALL GASKETED FLASHING ON OUTSIDE WALL, INSULATED.
5. 150mmø HOSE C/W KAMLOK ADAPTORS BY OTHERS.
6. 90° ELBOW CUT TO MATCH PIPE ANGLE AND WET WELL PENETRATION.
7. HDPE FLANGE TO STEEL FLANGE C/W S.S. HARDWARE.
8. 350mmø SCH. 40 STEEL DROP PIPE.

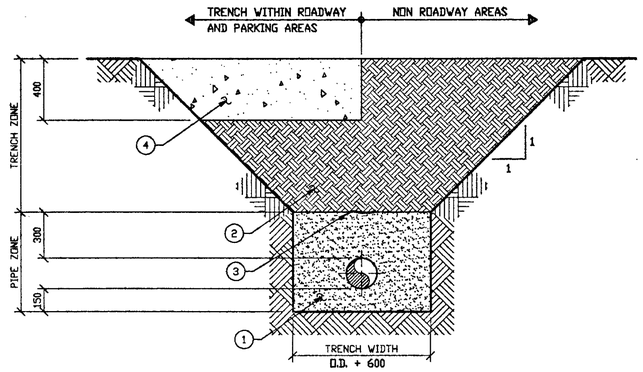
SEWAGE TRUCK UNLOADING POINT
1:30



KEYNOTES:

1. 2-60x25 HDPE LUGS
2. 13mmø S.S. HINGE BOLT 250 LG.
3. 3-50x25 HDPE LUGS
4. 425mmø x15mm HDPE COVER C/W LUGS
5. 115x100x9.5mmø S.S. HANDLE SECURELY FASTENED
6. HDPE FLANGE MACHINE FLAT TO ACCOMODATE LUG
7. 25mm THK HDPE STOP DISK HOT GAS WELDED TO 300ø PIPE C/W 170mmø CENTRE HOLE
8. 10mmø DRAIN SLOT AT BOTTOM OF STOP DISK
9. 300mmø HDPE PIPE
10. 150mmø HOSE C/W KAMLOCK ADAPTORS BY OTHERS

TRUCK UNLOADING POINT DETAILS
1:XX



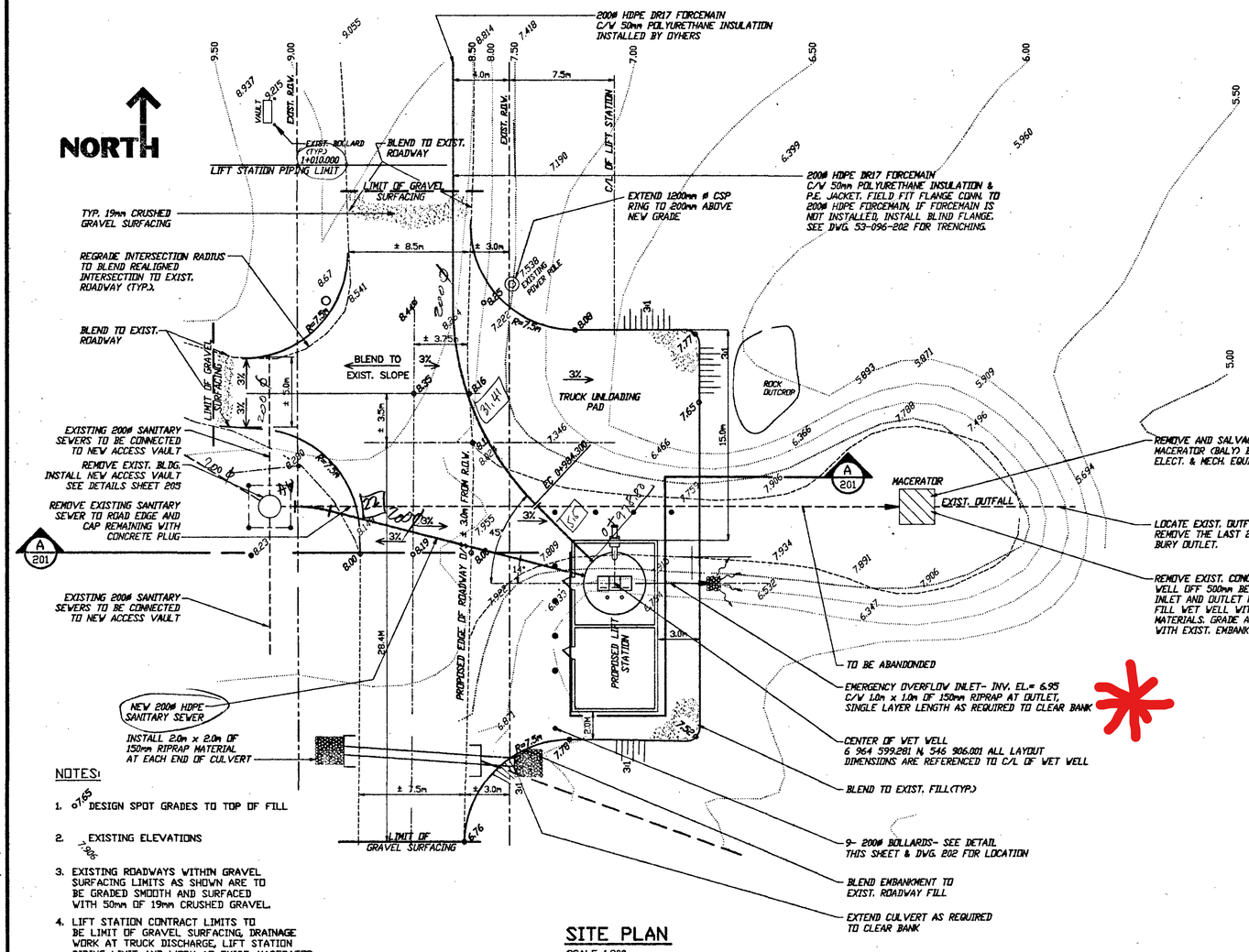
NOTES

1. NO FROZEN BEDDING OR BACKFILL
2. O.D.= PIPE DIA. PLUS INSULATION THICKNESS

KEYNOTES

1. 9.5mm MINUS BEDDING SAND COMPACTED TO 95% S.P.D.
2. 75mm MINUS CRUSHED ROCK OR SELECTED NATIVE BACKFILL MATERIAL COMPACTED TO 95% S.P.D.
3. RED MARKER TAPE
4. 25mm MINUS CRUSHED GRAVEL COMPACTED TO 97% S.P.D.

TYPICAL PIPING BEDDING AND BACKFILL
1:20



NOTES:

1. 0.165 DESIGN SPOT GRADES TO TOP OF FILL
2. 7.996 EXISTING ELEVATIONS
3. EXISTING ROADWAYS WITHIN GRAVEL SURFACING LIMITS AS SHOWN ARE TO BE GRADED SMOOTH AND SURFACED WITH 50mm OF 19mm CRUSHED GRAVEL.
4. LIFT STATION CONTRACT LIMITS TO BE LIMIT OF GRAVEL SURFACING, DRAINAGE WORK AT TRUCK DISCHARGE, LIFT STATION PIPING LIMIT AND WORK AT EXIST. MACERATOR.

SITE PLAN
SCALE 1:200

CONSULTANT

PERMIT & PROFESSIONAL STAMPS

NOTES

1. ROCK ELEVATION AT CENTER OF WET WELL IS 5.46m.
2. MACERATOR BUILDING TO BE MOVED INTACT TO DPW YARD.
3. EXISTING BUILDING AT LOCATION OF NEW ACCESS VAULT TO BE CONNECTED TO NEW 200mmø HDPE SEWER IN 1995. REMOVE AND REPLACE BUILDING IN 1996 WITH NEW ACCESS VAULT.
4. EXISTING BUILDING TO BE DISPOSED OF AS DIRECTED BY THE ENGINEER IN 1996.

Change	Date	Description	Chkd
	MAY 23 1995	ISSUED FOR TENDER	W.D.
	APR 12 1995	CLIENT REVIEW	W.D.
	JAN 14 1994	CLIENT REVIEW	S.J.S

REVISIONS

Northwest Territories Public Works & Services

Design	S.J.S
Drawn	L.B.L
Approved	Director

Project Title

RANKIN INLET SEWAGE DISPOSAL FACILITIES

Drawing Title

JOHNSTON COVE LIFT STATION

SITE PLAN AND GRADING, TRUCK DISCHARGE DETAILS

Scale

D.P.W. Project No.	Date
93-5505	01/14/94

Drawing No.	Revision
53-086-201	0

CADD FILE NAME: J:\P93\09\LIFT-STN\53086201.DWG
DATE PLOTTED: 1995 May 19, 9:17 a.m.

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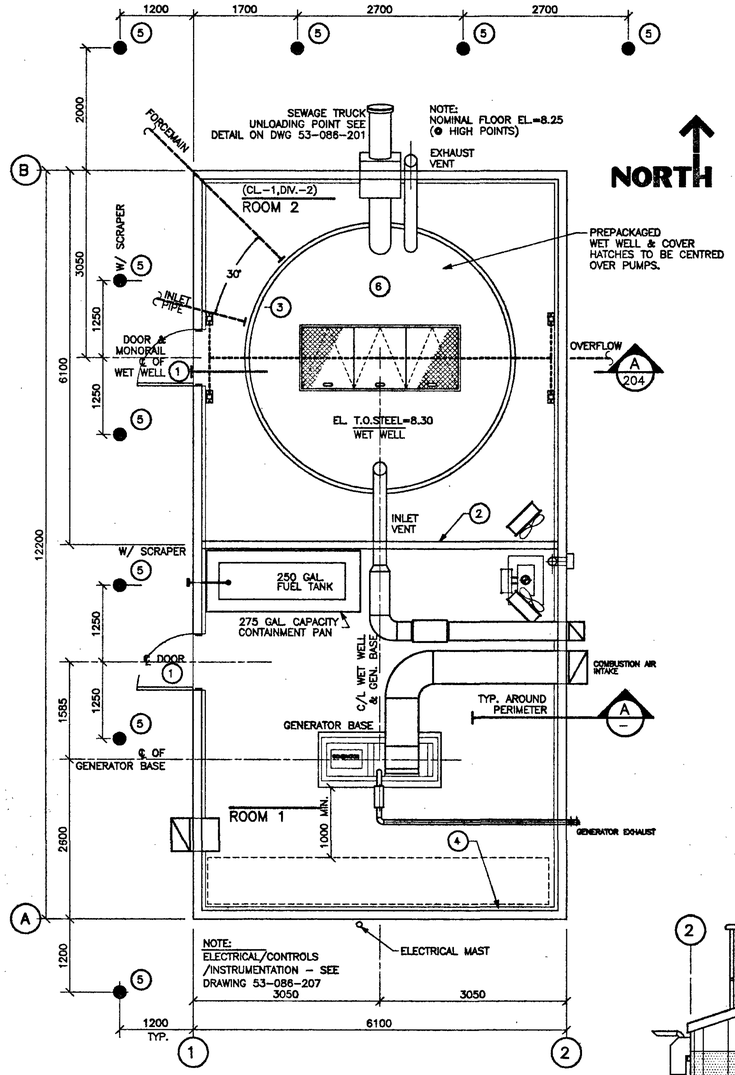
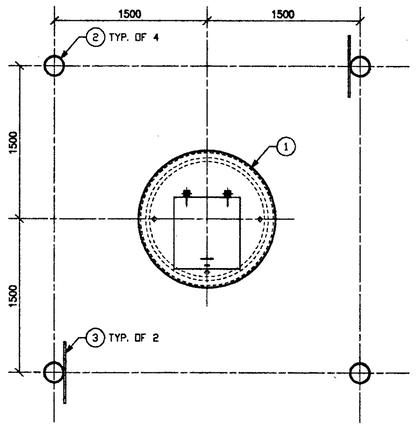


PLAN KEYNOTES:

1. DOOR- 914x2134x45 INSULATED H. METAL C/W THERMALLY BROKEN P.S.F. HARDWARE: BUTTS- STANLEY 1 1/2 PR., FF6179, 152x101, NRP, C32D; LATCH- RICHARD WILCOX MDL123 REFRIG. LATCH; THRESHOLD- K.N. CROWDER CT48, ALUM.; DOOR BOTTOM- K.N. CROWDER CT54, ALUM.; WEATHER STRIPPING- PEMKO 303AS, ALUM.; BACK CHECK- MALLORY 1225; HOLD OPEN- MALLORY 1220 (REMOVABLE)
2. INTERIOR PARTITION-(1 HR. F.R.R.) 38x92 STEEL STUDS @ 400 O.C. CLAD W/ 16mm FIREGUARD EA FACE & FINISH W/ METAL CLADDING TO MATCH LINER PANELS, CAULK ALL JOINTS OF METAL CLADDING.(FULL HT. WALL)
3. 1TON MONORAIL & SUPPORT ASSEMBLY- SEE DWG. 203
4. 20mm x 2440 H, M.D.F. PLYWOOD SCREWED TO WALL @ 300 O.C. ALONG HORIZ. GIRTS & PAINTED TO MATCH LINER.
5. 200ø CONC. FILLED PIPE BOLLARD- SEE DETAIL ON DWG. 201 & AT LOCATIONS INDICATED BOLLARD TO HAVE FOOT SCRAPER.
6. PREPACKAGED WET WELL & COVER (NOM. 4270ø)

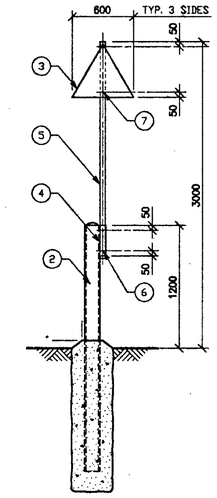
FLOOR PLAN
SCALE: 1:50



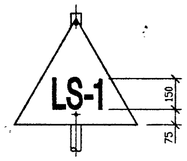
BUMPER POST LOCATIONS PLAN

NOTES
1. BUMPER POST WITH MARKER TO BE PLACE NEAREST TO ROAD (TYPICAL)
2. BUMPER POSTS SLEEVES AND MASTS TO BE PAINTED AFTER FABRICATION

KEYNOTES
1. ACCESS VAULT C/W HATCH
2. 200mm DIA. STD. STEEL PIPE BUMPER POST EPOXY COATED AND FILLED WITH CONCRETE
3. 3mm THICK STEEL PLATE SIGN PAINTED RED WITH WHITE LETTERS. LETTERS TO BE 150m HIGH.
4. 65mm DIA. x 300mm LG. STD. STEEL PIPE SLEEVE WELDED TO POST C/W 2-11mm DIA. DRILLED HOLES
5. 50mm DIA. STD. STEEL PIPE MAST C/W 2-11mm DIA. DRILLED HOLES FOR STEEL PLATE SIGN
6. 2-10mm DIA. x 90 LG. GALVANIZED STEEL BOLTS THROUGH SLEEVE AND MAST
7. 2-11mm DIA. DRILLED HOLES FOR 2-10mm DIA. x 75mm LG. GALVANIZED STEEL BOLTS

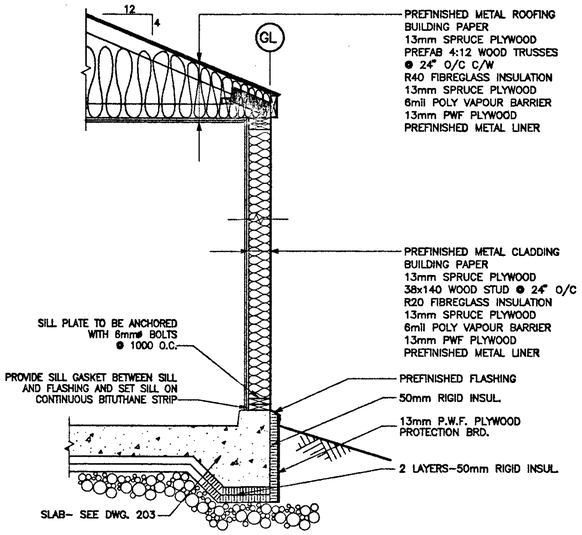


POST DETAIL



LIFT STATION ACCESS VAULT No.1 PLATE SIGN DETAIL

ACCESS VAULT BUMPER POST/MARKER DETAIL
N.T.S.



A 202 SECTION
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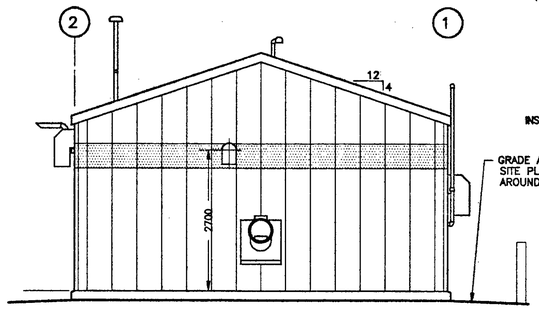
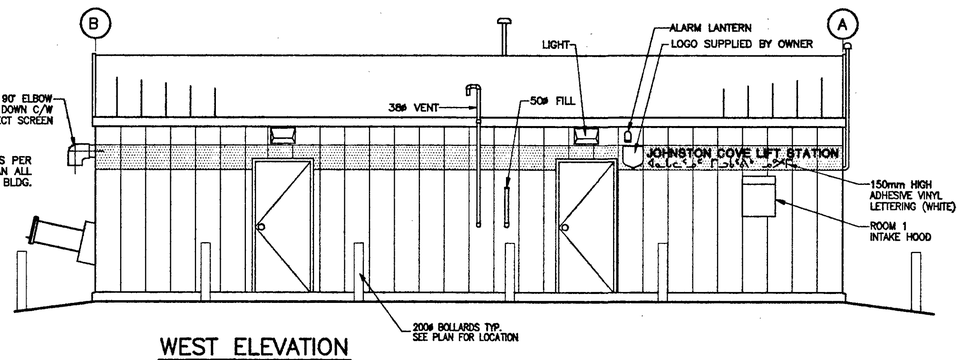


NORTH ELEVATION
SCALE: 1:50



WEST ELEVATION
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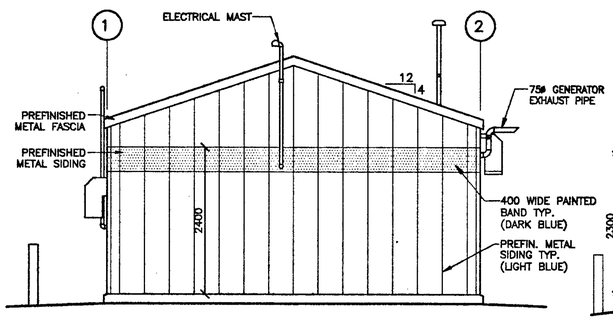

SOUTH ELEVATION
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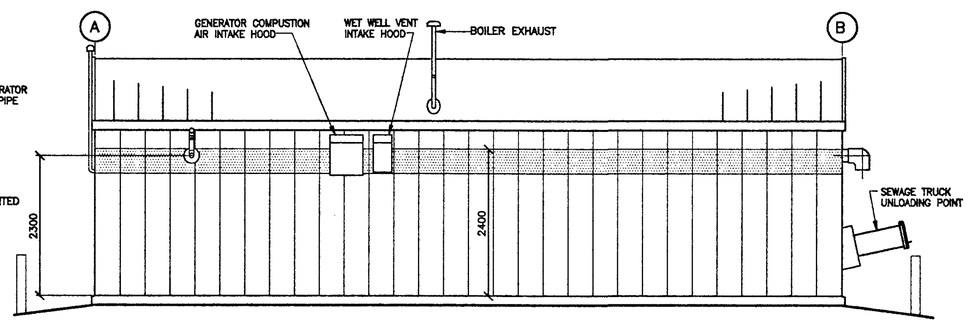

EAST ELEVATION
SCALE: 1:50

CONSULTANT

REGISTERED PROFESSIONAL ENGINEER C. D. ANDERSON 7885 NWT

REGISTERED PROFESSIONAL ENGINEER P 023 STANLEY ASSOCIATES ENGINEERING LTD

PERMIT & PROFESSIONAL STAMPS

Change	Date	Description	Chkd
	MAY 23 1995	ISSUED FOR TENDER	W.O.
	APR 12 1995	CLIENT REVIEW	W.O.
	JAN 1994	CLIENT REVIEW	SJS

REVISIONS

Northwest Territories Public Works & Services

Design SJS
Drawn LBL
Approved Director

Project Title
RANKIN INLET SEWAGE DISPOSAL FACILITIES

Drawing Title
JOHNSTON COVE LIFT STATION

ARCHITECTURAL FLOOR PLAN AND ELEVATIONS

Scale

D.P.W.	Project No.	Date
	93-5505	04/04/94

Drawing No. 53-086-202 Revision 0

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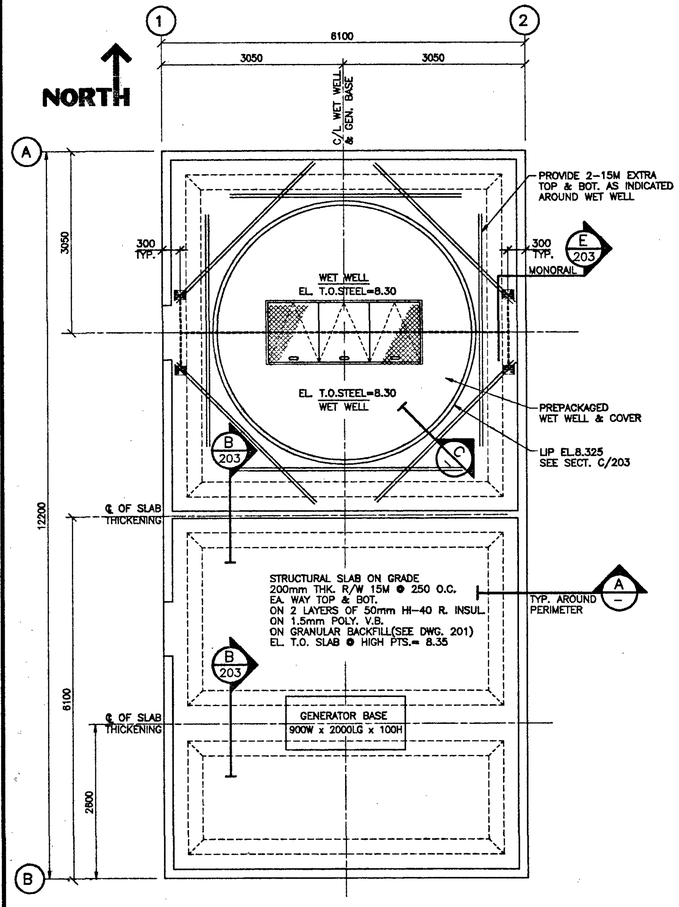
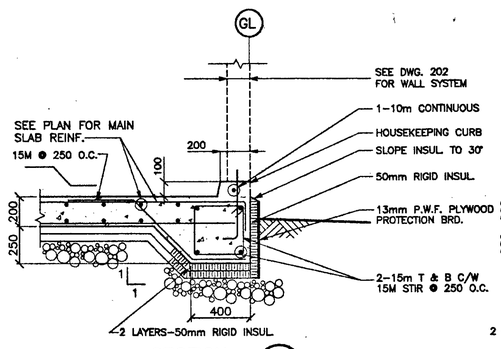


FOUNDATION PLAN
SCALE: 1:50



SECTION A 203
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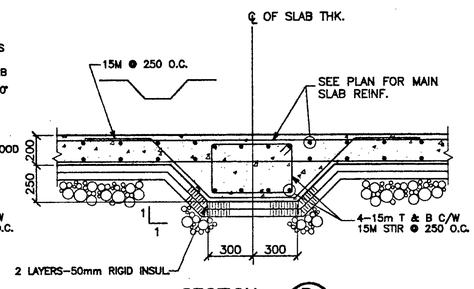

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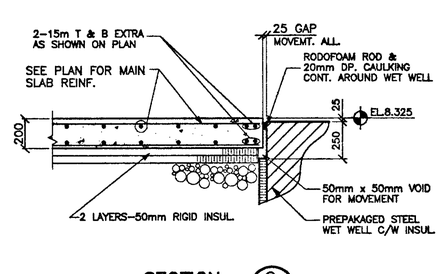

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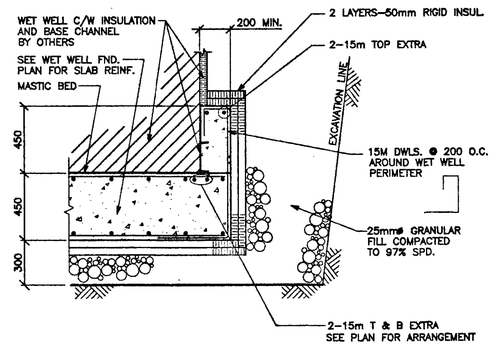

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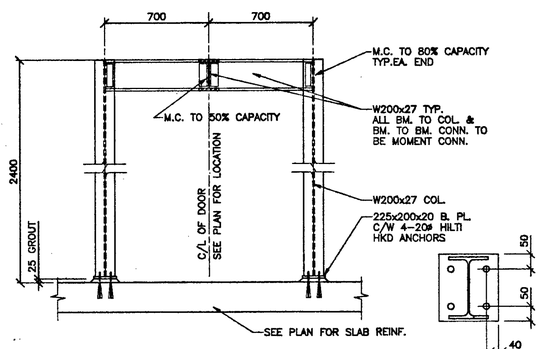

SECTION E 203
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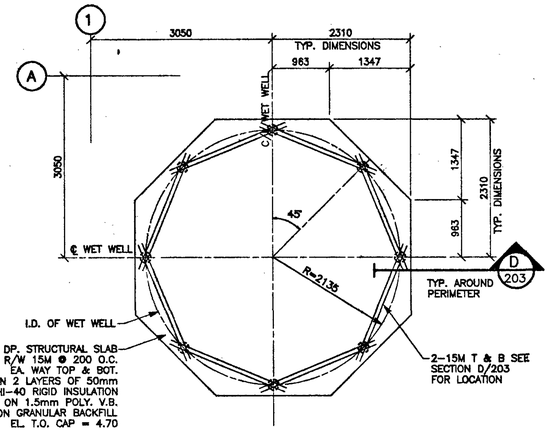
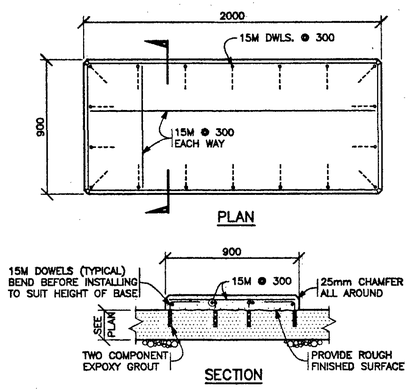


WET WELL FOUNDATION PLAN
SCALE: 1:50



TYPICAL HOUSEKEEPING PAD
1:20

GENERAL NOTES:

1.0 CODES: NATIONAL BUILDING CODE OF CANADA 1990 (SECTION G)

2.0 MISCELLANEOUS

.1 ALL DIMENSIONS ON STRUCTURAL DRAWINGS MUST BE CHECKED AGAINST ELECTRICAL AND MECHANICAL DRAWINGS BEFORE PROCEEDING WITH WORK.

3.0 DESIGN LOADS (SPECIFIED):

.1 Ss= 2.8 KPa, Sr= 0.2 KPa
.2 ROOF LOAD (MECHANICAL EQUIPMENT) SEE DRAWINGS
.3 ELECTRICAL & MECHANICAL LOADS - 0.3 KPa + ADDITIONAL LOADS AS SHOWN ON DRAWINGS.
.4 WIND = 1/30= 0.46

4.0 FOUNDATIONS

.1 TO BE FOUNDED ON GRANULAR MATERIAL. FOOTINGS MUST NOT REST ON ANY ORGANIC MATERIAL OR UNCONTROLLED FILL. BOTTOMS OF FOOTING EXCAVATION TO BE THROUGHLY CLEANED OF LOOSE OR SOFT MATERIAL. ANY LOOSE OR SOFT MATERIAL SHOULD BE REPLACED WITH COMPACTED GRANULAR BACKFILL.

5.0 EXCAVATION AND BACKFILL

.1 SEE SPECIFICATIONS.

6.0 CONCRETE

.1 COMPRESSIVE STRENGTHS:
a) ALL CONCRETE - 30 MPa
.2 CEMENT: TYPE 10, UNLESS NOTED OTHERWISE. TYPE 50 FOR ALL CONCRETE BELOW GRADE.
.3 SLUMP: 75mm, AIR ENTRAINMENT 5%-7% (FOR SLAB ON GRADE MAX. AIR ENTRAINMENT 2%) AGGREGATE SIZE: 20mm MAX., CONC. TESTING: TO BE RETAINED BY OWNER.
.4 WINTER CONCRETE AND HOT WEATHER CONCRETE PROTECTION TO CSA CAN3-A23.1-M77.
.5 ALL EXPOSED CORNERS SHALL HAVE A 20mm CHAMFER.
.6 CONCRETE COVERS:
.7 CONTRACTOR TO SUBMIT CONSTRUCTION JOINT AND CONTROL JOINT LAYOUT FOR ENGINEERS APPROVAL.
.8 COORDINATE WITH MECHANICAL & ELECTRIAL FOR LOCATIONS OF ALL INSERTS, CONDUITS, SLEEVES AND OTHER ITEMS TO BE CAST IN CONCRETE.

BAR LOCATION	BAR SIZE	COVER
IN CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL BARS	75mm
IN SLABS OR WALLS NOT EXPOSED TO EARTH OR WEATHER (DRY CONDITION)	35M OR SMALLER	20mm
IN CONCRETE EXPOSED TO EARTH, WEATHER OR WATER	15M OR SMALLER	40mm
	20M OR LARGER	50mm

7.0 REINFORCING STEEL

.1 REINFORCEMENT TO CSA G30.12-M1977, GRADE 400.
.2 DETAILING, PLACING, SPLICING AND SUPPORTS TO CONFORM TO CSA CAN3-A23.1-M90 AND CSA CAN3-A23.3-M84. ALL LAPS TO BE CLASS 'C'.
.3 CARRY HORIZONTAL BARS AROUND CORNERS IN WALLS WITH CLASS 'C' SPLICE, .
.4 SCHEDULE OF MATERIAL CUTTING, BENDING AND PLACING OF ALL REINFORCEMENT SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR REVIEW.
.5 IN AREAS ADJACENT TO SLAB OPENINGS PROVIDE ADDITIONAL BARS TO MATCH BARS INTERRUPTED BY THE OPENING. IN ADDITION PROVIDE 2-15M x 1200 LG.* TOP AND BOTTOM DIAGONAL BARS AT OPENING CORNERS.

8.0 STRUCTURAL STEEL

.1 ALL STRUCTURAL STEEL SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH CSA S16.1 M90.
.2 ALL STRUCTURAL STEEL SHALL CONFORM TO CSA G40.21 GRADE 44 KSI.
.3 ANCHOR BOLTS SHALL BE ASTM A307.
.4 BOLTS, NUTS AND WASHERS TO ASTM A325-88.
.5 ALL WELDING TO CSA W59-M1984.
.6 GALVANIZING TO CSA G164 M81.

9.0 WOOD FRAMING

.1 FRAMING AND BOARD LUMBER TO SECTION 9.3.2 OF NATIONAL BUILDING CODE 1990.
.2 PLYWOOD - CANADIAN SOFTWOOD PLYWOOD (CSP): TO CSA-0151-M1978 STANDARD CONSTRUCTION.
.3 BUILDING PAPER TO CGSB-CAN2-51.32M77 SINGLE PLY. ASPHALT IMPREGNATED.
.4 ALL FRAMING TO BE DONE IN ACCORDANCE TO SECTION 6 OF NATIONAL BUILDING CODE 1990.
.5 ALL WOOD PLATES TO BE TREATED WITH WOOD PERSERVATIVE - COLORED - NAPTHANATE OR 5% PENTACHLOROPPHENOL SOLUTION REPELLANT PRESERVATIVE.

CONSULTANT

PERMIT & PROFESSIONAL STAMPS

STANLEY ASSOCIATES ENGINEERING LTD.

NOTE:

1. ROCK EXCAVATION FOR WET WELL TO BE PAID TO A MAXIMUM OF 300mm BELOW BASE OF WET WELL FOUNDATION SLAB INSULATION.

Change	Date	Description	Chkd
	MAY 23 1995	ISSUED FOR TENDER	W.O.
	APR 12 1995	CLIENT REVIEW	W.O.
	JAN 1994	CLIENT REVIEW	SJS

REVISIONS

Northwest Territories Public Works & Services

Design	IP
Drawn	LBL
Approved	
Director	

Project Title

RANKIN INLET SEWAGE DISPOSAL FACILITIES

Drawing Title

JOHNSTON COVE LIFT STATION

FOUNDATION PLAN AND SECTIONS

Scale		
D.P.W.	Project No.	Date
	93-5505	04/04/94
Drawing No.		Revision
53-086-203		0

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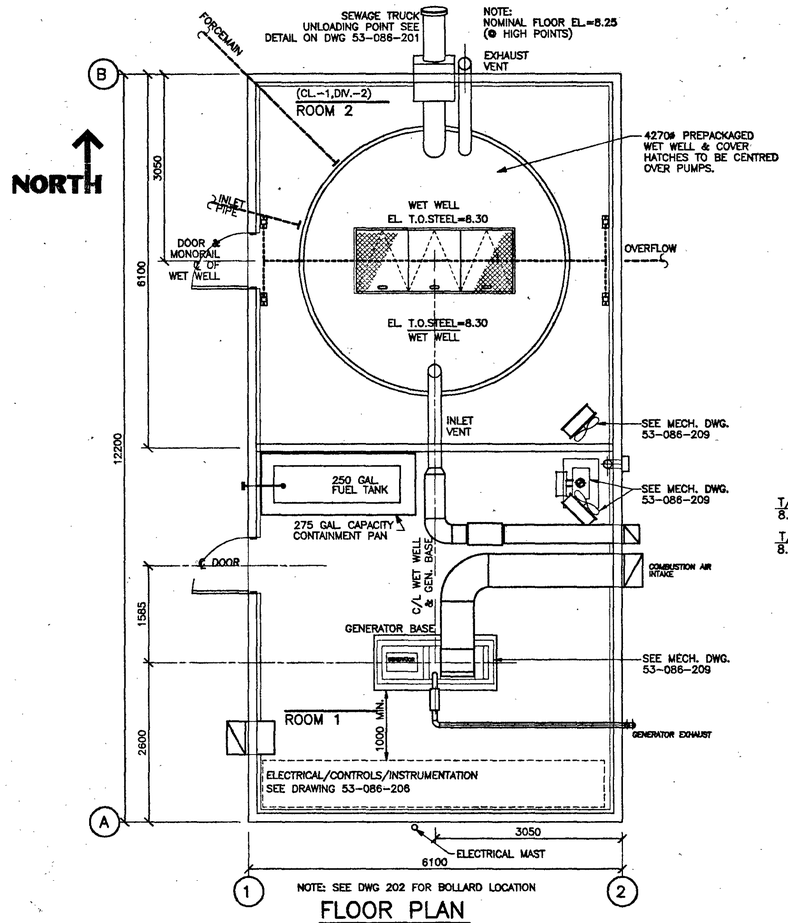
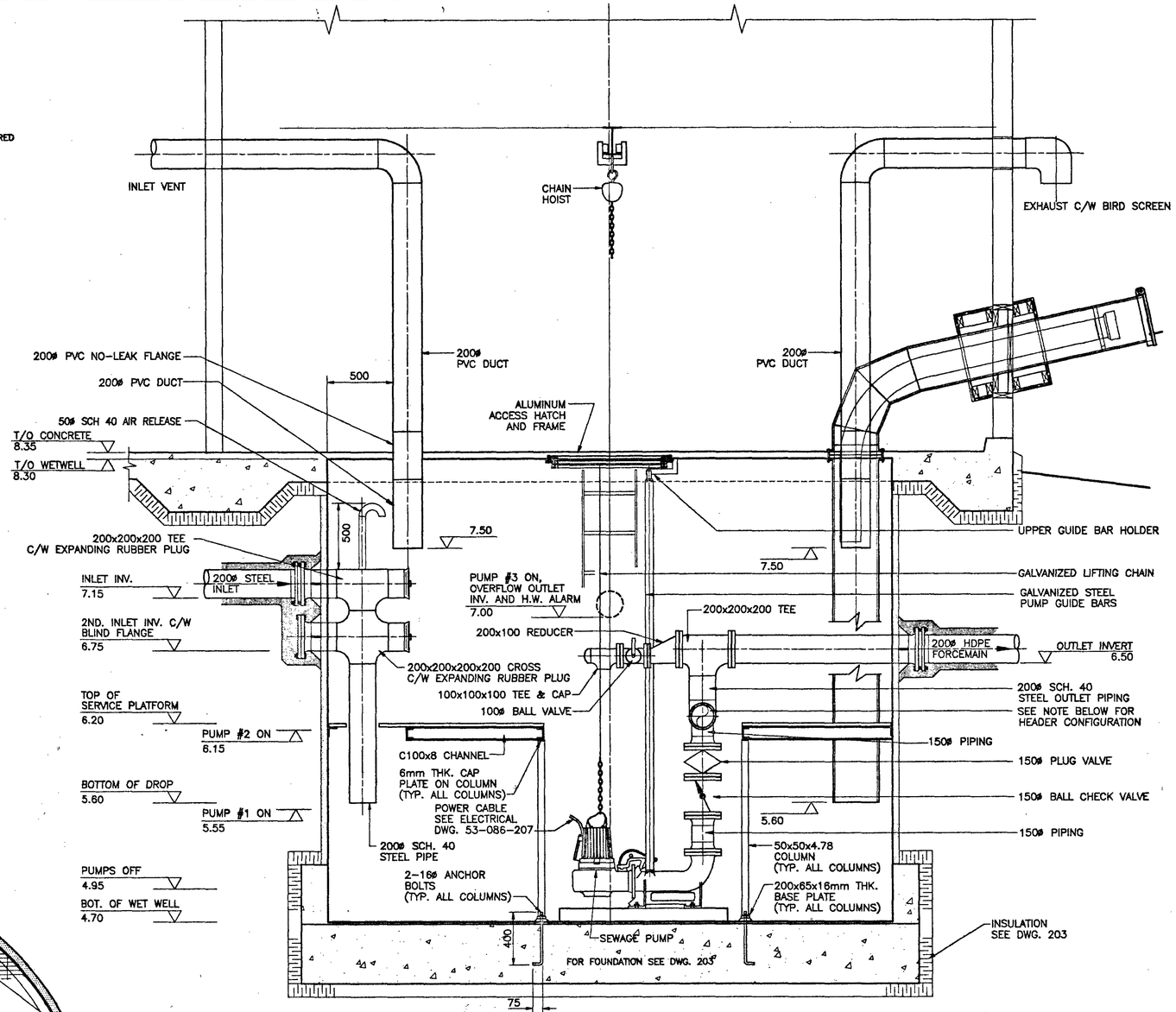
DATE PLOTTED: 1995 May 19, 9:28 a.m.



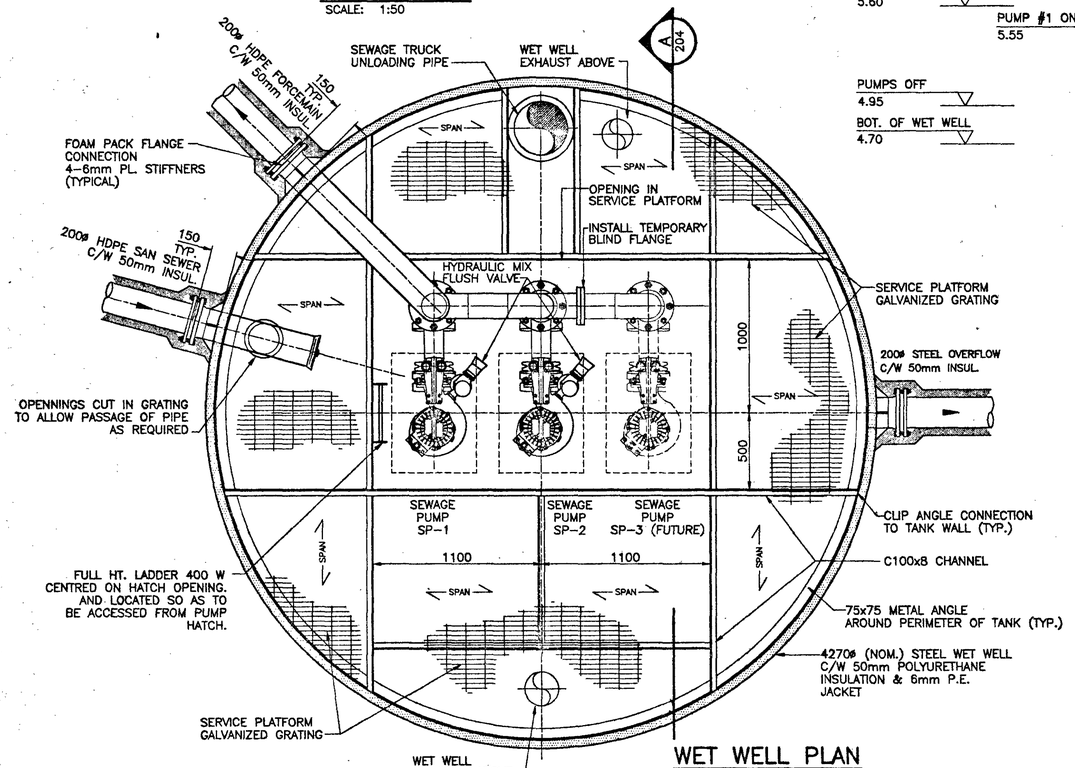
FLOOR PLAN

SCALE: 1:50



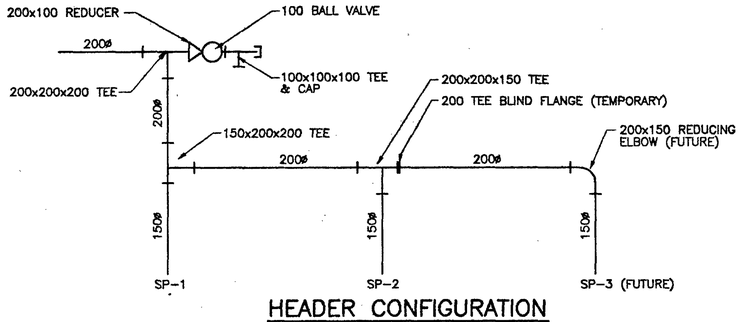
A/204 SECTION – MECHANICAL EQUIPMENT

SCALE: 1:20



WET WELL PLAN

SCALE: 1:20



HEADER CONFIGURATION

N.T.S.

CAD FILE NAME : J:\P9349\LIFT-STN\53086204.DWG
DATE PLOTTED : 1995 May 18, 4:31 p.m.

CONSULTANT

PERMIT & PROFESSIONAL STAMPS

NOTES:

1. PREPACKAGED LIFT STATION EQUIPMENT TO BE SUPPLIED:
   - STEEL WET WELL C/W INSULATION AND PE JACKET. SUPPLIER TO DETERMINE STEEL THICKNESS.
   - PUMPS, RAILS AND LIFT CHAINS
   - PROCESS PIPING, VALVES AND FITTINGS.
   - WET WELL COVER AND HATCHES.
   - CONTROL BULBS AND CONTROLS (SEE ELECTRICAL DWG.)
   - WET WELL LIGHT.
   - VENTING, HEATING AND BLOWER EQUIPMENT
2. ALL PIPING CONNECTIONS AND FITTINGS TO BE INSULATED WITH FOAM PACKS.

Change	Date	Description	Chkd
	MAY 23 1995	ISSUED FOR TENDER	W.O.
	APR 12 1995	CLIENT REVIEW	W.O.
	JAN 1994	CLIENT REVIEW	SJS

REVISIONS

Northwest Territories Public Works & Services

Design	SJS
Drawn	LBL
Approved	
Director	

Project Title

RANKIN INLET SEWAGE DISPOSAL FACILITIES

Drawing Title

JOHNSTON COVE LIFT STATION

PROCESS SECTIONS & DETAILS

Scale		
D.P.W.	Project No.	Date
	93-5505	01/14/94
Drawing No.		Revision
53-086-204		0

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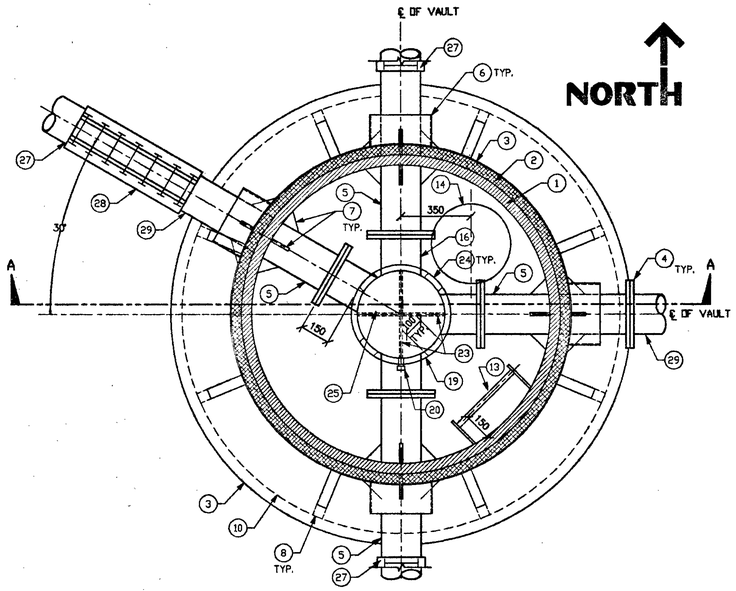
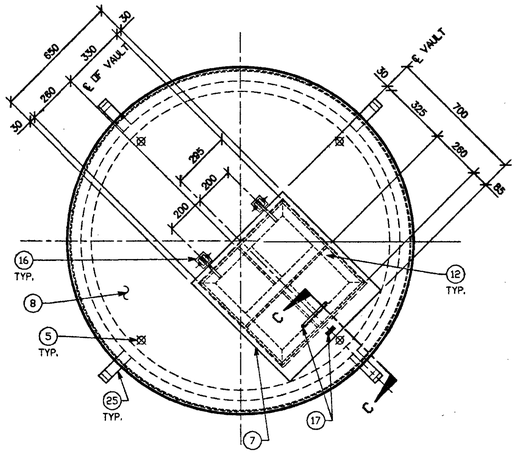
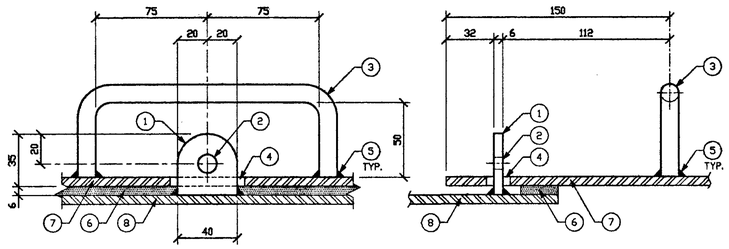


LIFT STATION ACCESS VAULT - SECTION A-A



ACCESS HATCH FRAMING PLAN



FRONT VIEW

SIDE VIEW

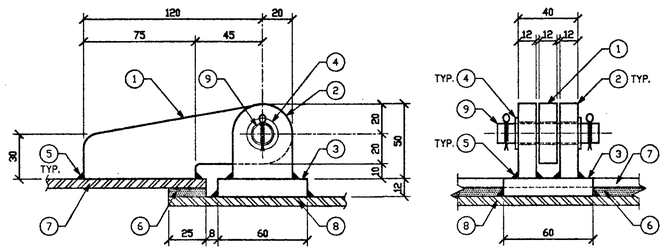
NOTES

1. ACCESS VAULT LID & HATCH ANGLE FRAMING ARE NOT SHOWN FOR CLARITY. FOR DETAIL REFER TO FRAMING PLAN AS PER DETAIL
2. ALL WELDS AND ABRASIONS TO BE REPAIRED WITH TWO COATES OF GALVCON.

KEYNOTES

1. 6mm THK. GALV. STEEL STAPLE
2. 12.5mm DIA. DRILLED HOLE FOR PADLOCK
3. 12.5mm DIA. GAVL. STEEL BAR LIFTING HANDLE
4. 50mmx15mm SLOT HOLE
5. 6mm FILLET WELD ALL AROUND (TYP.)
6. 25mm WIDE x 6mm THK. RUBBER GASKET MASTIC TO UNDERSIDE OF HATCH COVER (TYPICAL 4 SIDES)
7. 6mm THK. GALV. STEEL PLATE ACCESS HATCH COVER
8. 6mm THK. GALV. STEEL PLATE VAULT LID

HASP & LIFTING HANDLE DETAIL 2/205
1:2



SIDE VIEW

REAR VIEW

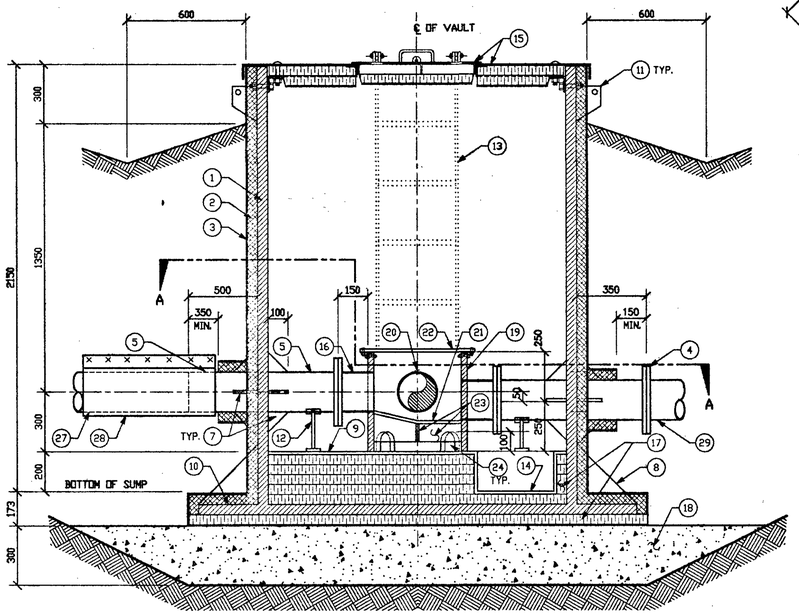
NOTES

1. ACCESS VAULT LID & HATCH ANGLE FRAMING ARE NOT SHOWN FOR CLARITY. FOR DETAIL REFER TO FRAMING PLAN AS PER DETAIL.
2. ALL WELDS AND ABRASIONS TO BE REPAIRED WITH TWO COATES OF GALVCON.

KEYNOTES

1. 12mm THK. GALV. STEEL HINGE ARM C/W HOLE FOR 13mm DIA PIN
2. 12mm THK. GALV. STEEL HINGE ARM SUPPORT C/W HOLE FOR 13mm DIA. PIN (TYPICAL OF 2)
3. 60mm x 60mm x 12mm THK. GALV. STEEL BASE PLATE
4. GAVL. STEEL WASHER (TYP.)
5. 6mm FILLET WELD ALL AROUND
6. 25mm WIDE x 6mm THK. RUBBER GASKET MASTIC TO UNDERSIDE OF HATCH COVER (TYPICAL 4 SIDES)
7. 6mm THK. GALV. STEEL PLATE ACCESS HATCH COVER
8. 6mm THK. GALV. STEEL PLATE VAULT LID
9. 13mm DIA. GALV. STEEL PIN C/W 2 COTTER PIN

ACCESS HATCH COVER HINGE DETAIL 3/205
1:2

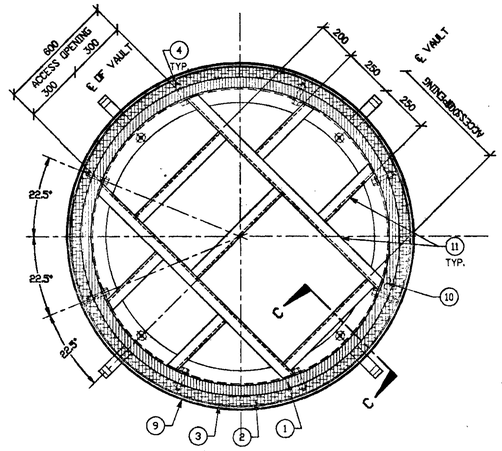


LIFT STATION ACCESS VAULT - SECTION B-B

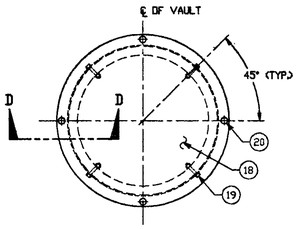
KEYNOTES

1. 1600mm DIA. HDPE PIPE DR 32.5
2. 50mm SPRAY ON URETHANE FOAM INSULATION
3. 6mm POLYETHYLENE JACKET
4. FLANGE TO FLANGE CONNECTION C/W FOAM PACK JOINT INSULATION
5. 200 DIA. HDPE DR 17 PIPE WELD TO VAULT
6. 50mm SPRAY ON URETHANE INSULATION AND 6mm PE JACKET WELD PIPE JACKET TO VAULT JACKET
7. 15mm HDPE STIFFENER (TYP. OF 8 SEE SECTION A-A)
8. 52mm HDPE STIFFENER (TYP. OF 8 SEE SECTION A-A)
9. 15mm HDPE FLOOR (SLOPE FLOOR TO SUMP), WELD TO VAULT
10. 52mm HDPE BASE, WELD TO VAULT
11. 52mm HDPE LIFTING HOOK (TYP. OF 4) SEE FRAMING PLANS FOR DETAIL
12. GRINNEL PIPE SUPPORT
13. BUILT UP HDPE LADDER 400mm WIDE (IN FOREGROUND C/W RUNGS @ 300 O.C. FIX TO HDPE VAULT
14. 15mm HDPE x 400mm DIA. SUMP
15. ACCESS VAULT LID C/W ACCESS HATCH FOR DETAILS SEE FRAMING PLANS
16. 200mm DIA. DR 17 PIPE C/W STUB END AND BACK UP RING
17. 50mm THK. BOARD BUILT UP INSULATION
18. 25mm MINUS GRANULAR BASE COURSE @ 97% S.P.D.
19. 300mm DIA. DR 17 PIPE ON END
20. 25mm DIA. NPT COUPLING C/W CAP THREADED INTO CLEANOUT BARREL
21. MOLDED 15mm THK. POLY BENCH WELD TO CLEANOUT BARREL, WATER TIGHT
22. POLY LID COVER SEE CLEANOUT LID FRAMING PLAN
23. 15mm THK. POLY CROSS SUPPORT EACH WAY WELD TO BARREL
24. OPENING IN WALL BARREL SEE CUT-OUT DETAIL (4 REQ'D)
25. BOTTOM OF BENCH ROUNDING
26. TOP OF BENCH ROUNDING
27. EXISTING 200mm DIA. SANITARY SEWER
28. WRAP AROUND S.S. REPAIR CLAMP 750 LG. -3 REQ.
29. 200Ø HDPE DR17 OUTFALL LINE

LIFT STATION ACCESS VAULT - SECTIONS
1:15

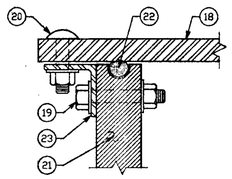


CLEANOUT ACCESS VAULT LID FRAMING PLAN



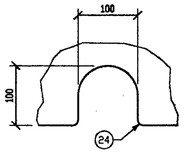
CLEANOUT LID FRAMING PLAN

SCALE 1:10



SECTION D-D

SCALE 1:2



CUT-OUT DETAIL

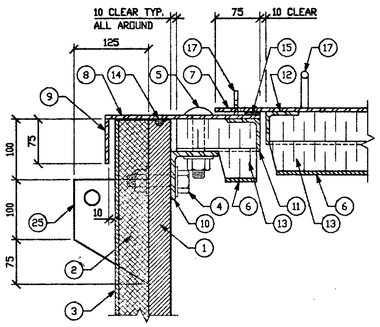
SCALE 1:5

NOTES

1. FOR CLEANOUT ACCESS VAULT LID FRAMING PLAN 6mm THK. GALV. STEEL PLATE LID NOT SHOWN FOR CLARITY.
2. ALL WELDS AND ABRASIONS TO BE REPAIRED WITH TWO COATS OF GALVCON.

KEYNOTES

1. 1600mm DIA. HDPE DR 32.5 VAULT WALL
2. 50mm SPRAY ON URETHANE FOAM INSULATION
3. 6mm POLYETHYLENE JACKET
4. 19mm DIA. GALV. NUT, BOLT & WASHER (8 REQ'D) SEE ACCESS VAULT LID FRAMING PLAN FOR ARRANGEMENT
5. 19mm DIA. GALV. NUT, CARRIAGE BOLT & WASHER (4 REQ'D) SEE ACCESS HATCH FRAMING PLAN FOR ARRANGEMENT
6. 6mm POLYETHYLENE COVER (BOTTOM ONLY)
7. 6mm THK. GALV. STEEL PLATE ACCESS HATCH COVER
8. 6mm THK. GALV. STEEL PLATE VAULT LID
9. 6mm THK. x 75mm DEEP GALV. STEEL BAND, WELD TO LID
10. 75x75x8 GALV. ROLLED ANGLE CONTINUOUS ALL AROUND AND BOLTED TO 1600 DIA. HDPE VAULT
11. 55x55x6 GALV. ANGLE WELDED TO LID SEE LID FRAMING PLAN
12. 55x55x6 GALV. ANGLE WELDED TO HATCH SEE ACCESS COVER FRAMING PLAN
13. 50mm THK. 206kPa. BOARD INSULATION 2 LAYERS CUT TO FIT AND TAPER AROUND PERIMETER AS SHOWN
14. 12.5mm DIA. RUBBER GASKET IN ROUTERED SLOT CONTINUOUS ALL AROUND WEATHER TIGHT
15. 25mm WIDE x 6mm THK. RUBBER GASKET, MASTIC TO UNDERSIDE OF HATCH COVER (TYP. 4 SIDES). GASKET TO BE RESILENT AT -45° C
16. ACCESS HATCH COVER HINGE (TYP. OF 2/PER) SEE DETAIL-3
17. ACCESS HATCH COVER HASP & LIFTING HANDLE SEE DETAIL-2
18. 578mm DIA. x 15mm THK. POLY COVER BOLT TO COVER
19. 12mm DIA. GALV. NUT, BOLT & WASHER (4 REQ'D) SEE CLEANOUT LID FRAMING PLAN FOR ARRANGEMENT
20. 12mm DIA. GALV. NUT, CARRIAGE BOLT & WASHER (4 REQ'D) CLEANOUT LID FRAMING PLAN FOR ARRANGEMENT
21. 500mm DIA. DR 17 PIPE WALL
22. 12.5mm ROUNDED GASKET ROUTERED INTO CLEANOUT BARREL. SILICON IN PLACE
23. 35x35x4 ANNULAR GALV. ROLLED ANGLE CONTINUOUS AND BOLTED TO CLEANOUT BARREL WALL PERIMETER
24. BOTTOM END CLEANOUT BARREL CUT-OUT WITH ROUNDED CORNERS AS SHOWN (4 REQ'D SEE SECTION A-A)
25. 52mm HDPE LIFTING HOOK (TYP. OF 4) C/W 25mm DIA. HOLE WELDED TO VAULT

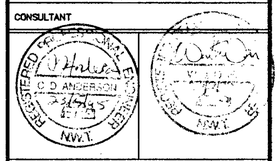


SECTION C-C

SCALE 1:5

ACCESS VAULT LID, ACCESS HATCH & CLEANOUT LID FRAMING PLANS, SECTION AND DETAIL 1/205
1:5 U.N.O.

CONSULTANT



PERMIT & PROFESSIONAL STAMPS

NOTES

1. ACCESS VAULT TO BE SUPPLIED AND INSTALLED IN 1996.
2. VAULT PIPE ELEVATIONS AND ANGLES REPRESENT THE INTENT OF THE DESIGN ONLY. CONTRACTOR TO CONFIRM ELEVATIONS AND ANGLES OF EXISTING STAINLESS STEEL LINES IN THE FIELD IN 1995.

Change	Date	Description	Chkd
	MAY 23 1995	ISSUED FOR TENDER	W.O.
	APR 12 1995	CLIENT REVIEW	W.O.
	JAN 1994	CLIENT REVIEW	S.S.

REVISIONS

Northwest Territories Public Works & Services

Design	SJS/CDA
Drawn	PTP
Approved	
Director	

Project Title

RANKIN INLET SEWAGE DISPOSAL FACILITIES

Drawing Title

JOHNSTON COVE LIFT STATION

ACCESS VAULT PLANS, SECTIONS AND DETAILS

Scale

D.P.W.	Project No.	Date
	93-5505	

Drawing No.	Revision
53-086-205	0

CADD FILE NAME : J:\P9349\LIFT-STN\5386205.DWG
DATE PLOTTED : 1995 May 19, 9:21 a.m.

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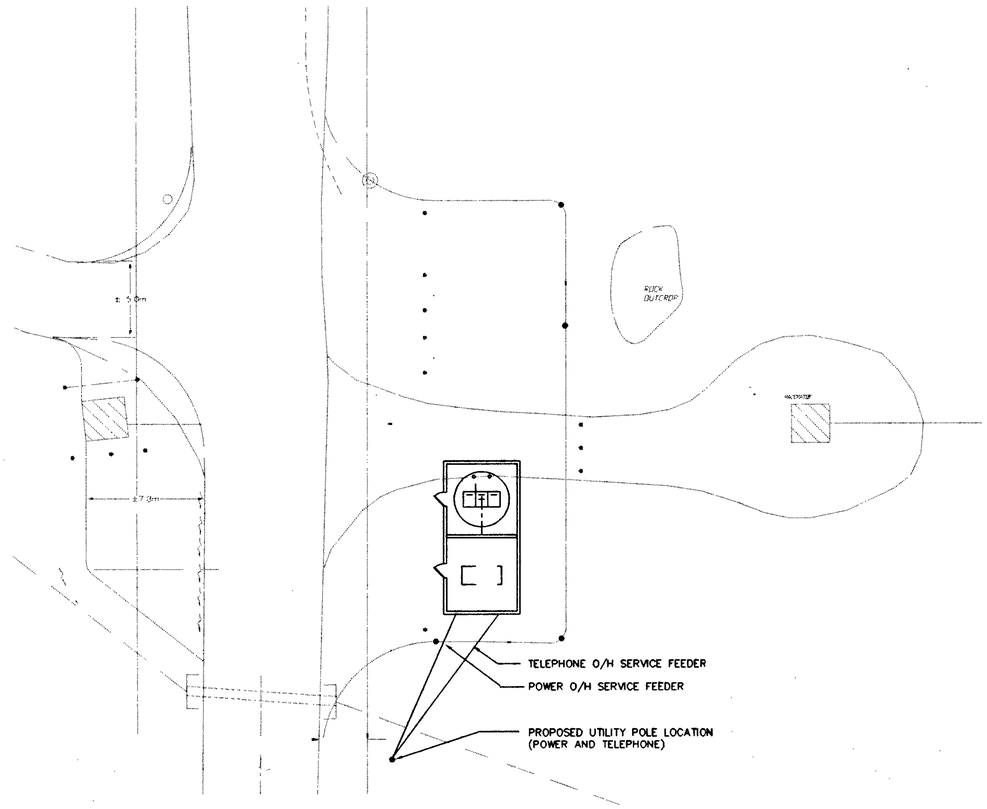
NORTH



SITE PLAN

SCALE 1:200

SYMBOL LEGEND

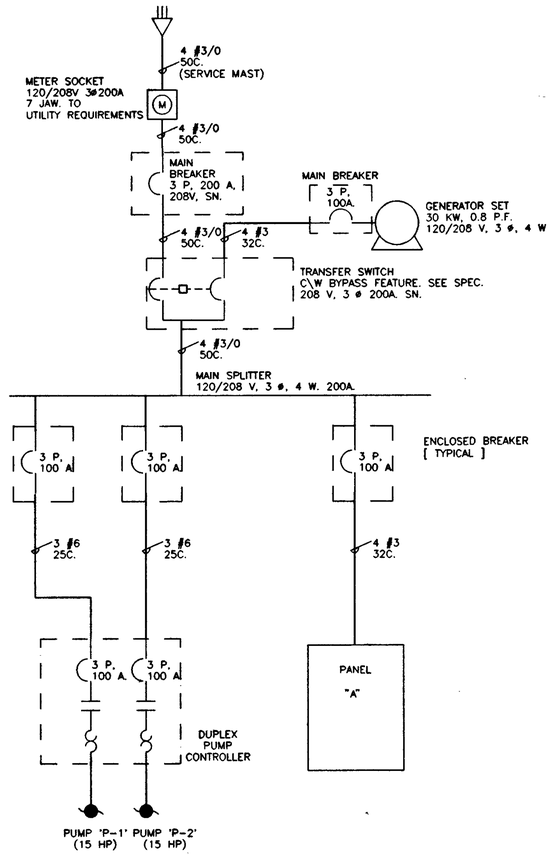
- SURFACE MOUNTED FLUORESCENT LUMINAIRE
- SURFACE MOUNTED INCADESCENT LUMINAIRE
- WALL MOUNTED H.I.D. LUMINAIRE
- LINE VOLTAGE TOGGLE SWITCH
- (F1) LUMINAIRE DESIGNATION
- PHOTOCELL
- MOTOR CONNECTION
- MOTOR DISCONNECT SWITCH
- FUSE
- (T) THERMOSTAT
- (T) THERMOSTAT C/W REMOTE BULB
- DUPLEX RECEPTACLE
- W.P. DUPLEX RECEPTACLE [WEATHER PROOF]
- JUNCTION BOX
- EMERGENCY LIGHTING BATTERY PACK C/W INTEGRAL HEADS
- REMOTE EMERGENCY LIGHTING HEAD SINGLE OR DOUBLE AS INDICATED
- CONDUIT STUB
- SURFACE MOUNTED CONDUIT
- CONDUIT MOUNTED UNDER GROUND
- 'EYS' EXPLOSION PROOF SEAL

PANEL SCHEDULE

PANEL A	LOCATION	VOLTAGE	PHASE	WIRE	MAIN	MAIN BKR.	INT. CAP.(RMS SYM.)	CIRCUITS	MOUNTING	FEEDER
	xx	120/208	3	4	100A	–	10,000 AMP	30	SURFACE	–

NOTES: BREAKERS FOR CCT #8 TO BE PAINTED RED. PROVIDE LOCKING DEVICE ON BREAKER.

LOADS(KVA) A	B	C	DESCRIPTION	POLE	AMP	CCT. No.	ø A B C	CCT. No.	AMP	POLE	DESCRIPTION	LOADS(KVA) A	B	C
			INTERIOR LIGHTS	1	15	1		2	15	1	H.W. CIRC. PUMP P-3			
			EXTERIOR LIGHTS	1	15	3		4	15	1	FAN COIL UNIT			
			ROOM #1 CONV. RECEPT'S.	1	15	5		6	15	1	SPARE			
			EXTERIOR RECEPT.	1	15	7		8	15	1	U.P.S. UNIT			
			ROOM #2 CONV. RECEPT.	1	15	9		10	15	1	BOILER			
			UNIT HEATERS	1	15	11		12	15	1	GENERATOR BLOCK HEATER			
			EXTERIOR LTG. CONTROL CCT.	1	15	13		14	15	1	BATTERY CHARGER			
			TEL. BOARD RECEPT.	1	15	15		16	15	1	EM. LTG. BATTERY PACK			
				1	15	17		18						
				1	15	19		20						
				1	15	21		22						
						23		24						
						25		26						
						27		28						
						29		30						



POWER DISTRIBUTION – SINGLE LINE SCHEMATIC

SCALE: N.T.S.

CONSULTANT

A. D. Williams Engineering Ltd.
Consulting Engineers
1100 CN Tower, 10004 – 104 Avenue
Edmonton, Alberta T5J 0K1
Ph. (403) 424-2593 Fax. (403) 425-1520

PERMIT & PROFESSIONAL STAMPS

Change	Date	Description	Chkd
	04/12/95	ISSUED FOR TENDER	G.J.A.
	01/14/94	CLIENT REVIEW	R.O.H.

REVISIONS

Northwest Territories Public Works & Services

Design G.J.A.
Drawn R.O.H./G.A.
Approved
Director

Project Title

RANKIN INLET
SEWAGE DISPOSAL
FACILITIES

Drawing Title

JOHNSTON COVE LIFT STATION
ELECTRICAL: SITE PLAN, SINGLE
LINE DIAGRAM AND SYMBOL LEGEND

Scale

D.P.W. Project No. 93-5505 Date 02/15/94

Drawing No. 53-086-206 Revision 0

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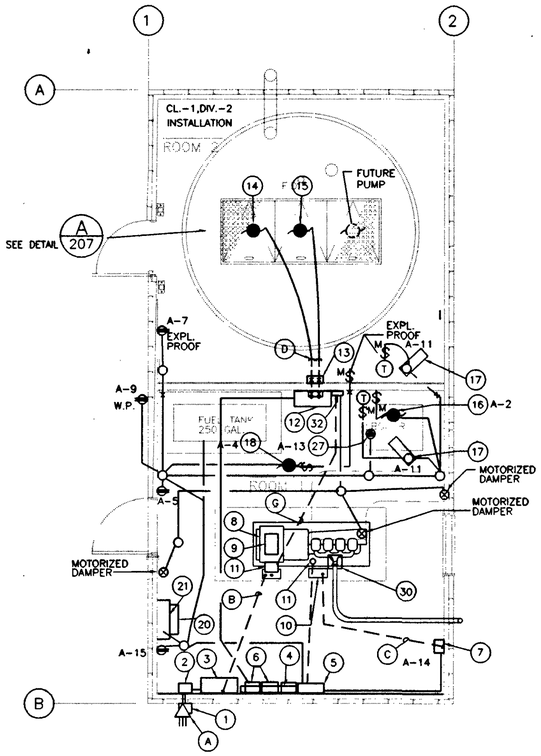
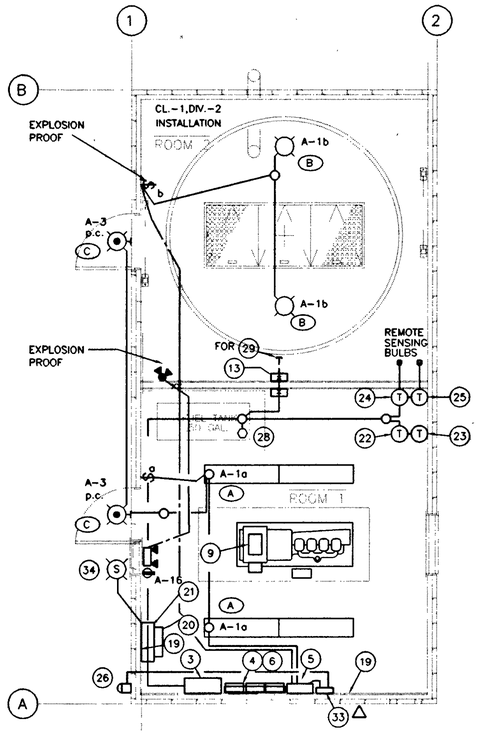


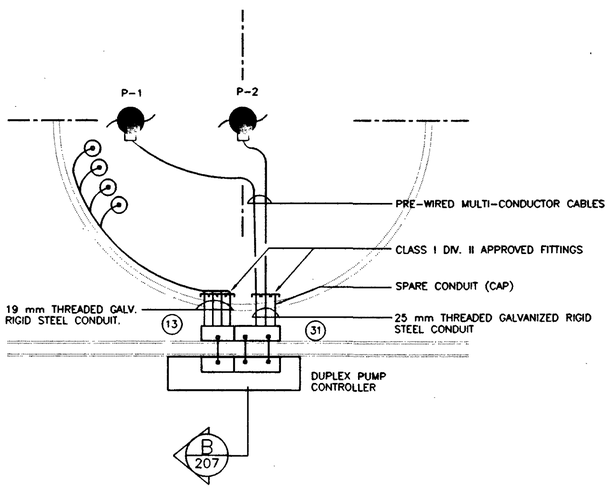
FLOOR PLAN – POWER

SCALE: 1:50



FLOOR PLAN – LIGHTING AND SYSTEMS

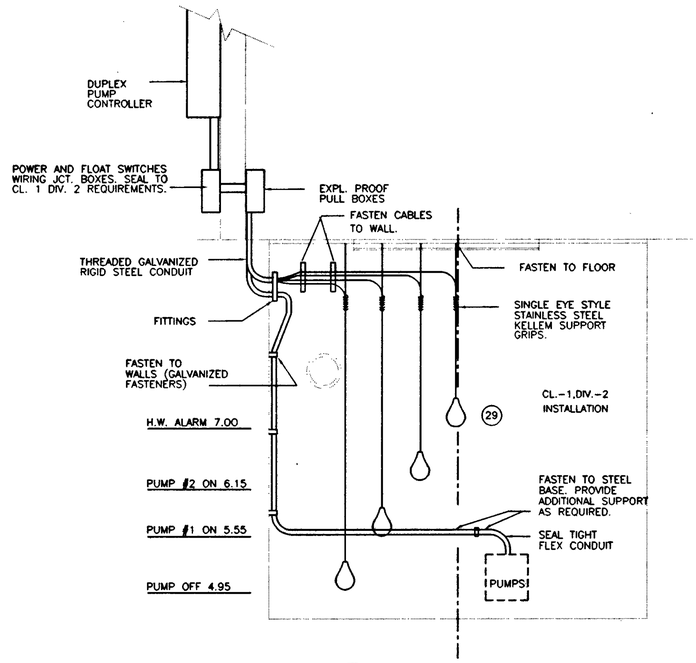
SCALE: 1:50



PLAN VIEW

SCALE: N.T.S.

DETAIL A 207



SECTION B 207

SCALE: N.T.S.

KEYNOTES:

1. WEATHER PROOF METER SOCKET
2. MAIN BREAKER
3. TRANSFER SWITCH
4. MAIN SPLITTER
5. PANEL 'A'
6. ENCLOSED BREAKERS FOR P–1, P–2 & PNL. "A".
7. BATTERY CHARGER [CCT. A–14]
8. GENERATOR UNIT
9. ENGINE CONTROL PANEL
10. BATTERY
11. BLOCK HEATER (CCT.A–12)
12. DUPLEX PUMP CONTROLLER
13. 200 X 200 X 100 JUNCTION BOX C/W TERMINAL STRIP. BOX RATED FOR CLASS 1, DIV. 2, HAZARDOUS AREA. TERMINAL STRIP TYPE WIELAND 'WK 6/U' OR EQUAL.
14. PUMP 'P–1'
15. PUMP 'P–2'
16. PUMP 'P–3' 1/3 HP. 120V [CCT. A–2]
17. UNIT HEATERS [CCT. A–11]
18. FAN COIL UNIT FRACT–HP–120V PROVIDE MANUAL STARTER (EXPLOTION PROOF). COORDINATE INTERLOCKING WITH DIVISION 15 PORVIDE DISCONNECT (CCT–A–4)
19. 19 mm PLYWOOD BACK BOARD G.I.C.
20. ALARM CONTROL PANEL
21. UPS UNIT [CCT. A–8]
22. BUILDING LOW TEMP. THERMOSTAT #1
23. BUILDING HIGH TEMP. THERMOSTAT #1 (REVERSE ACTING)
24. BUILDING LOW TEMP. THERMOSTAT #2
25. BUILDING HIGH TEMP. THERMOSTAT #2 (REVERSE ACTING)
26. PHOTO–CELL
27. BOILER [CCT. A–10]
28. MAIN FUEL TANK LOW LEVEL ALARM SWITCH
29. HIGH WATER LEVEL ALARM FLOAT SWITCH
30. MUFFLER
31. EXPLOSION PROOF CLASS 1 DIV. 2 [POWER] JUNCTION BOX.
32. MOTORIZED DAMPER CONTROL PANEL
33. EXTERIOR LIGHTING CONTROL CABINET
34. ALARM SYSTEM STROBE LIGHT MOUNT ON ROOF

A. OVERHEAD SERVICE MAST – POWER

B. 19 C. INTERCONNECTION BETWEEN ENGINE CONTROL PANEL AND TRANSFER SWITCH

C. 13 C. INTERCONNECTION BETWEEN DC OUTPUT ON BATTERY CHARGER AND BATTERY

D. RIGID CONDUIT STUB IN WELL (SEE DETAIL)

E. 50 C. OVERHEAD SERVICE MAST – TELEPHONE

F. NOT USED

G. GENERATOR VENTILATION SYSTEM SIGNAL WIRING

CONSULTANT

95.05.27
THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS & GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT TO PRACTICE
A. D. WILLIAMS ENGINEERING LTD.

A. D. Williams Engineering Ltd.
Consulting Engineers
1100 CN Tower, 10004 – 104 Avenue
Edmonton, Alberta T5J 0K1
Ph. (403) 424–2393 Fax. (403) 425–1520

PERMIT & PROFESSIONAL STAMPS

Change	Date	Description	Chkd
	04/12/95	ISSUED FOR TENDER	G.J.A.
	JAN /94	CLIENT REVIEW	R.O.H.

REVISIONS

Northwest Territories Public Works & Services

Design G.J.A.
Drawn G.J.A.
Approved
Director

Project Title

RANKIN INLET
SEWAGE DISPOSAL
FACILITIES

Drawing Title

JOHNSTON COVE LIFT STATION
ELECTRICAL: FLOOR PLAN
AND DETAILS

Scale AS NOTED

D.P.W. Project No.	Date
93–5505	01/14/94
Drawing No. 53–086–207	Revision 0

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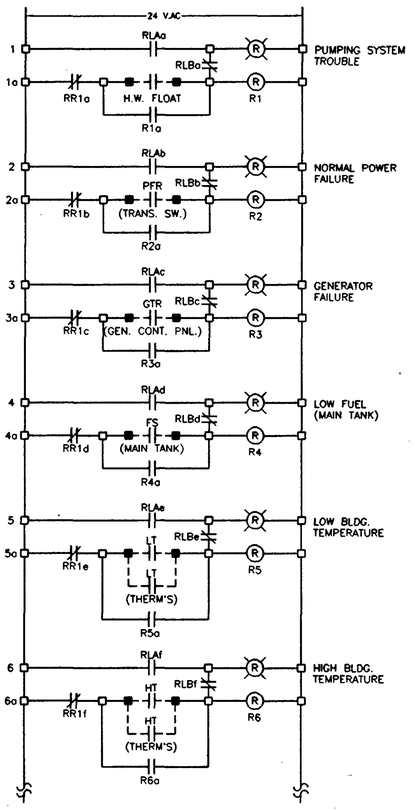
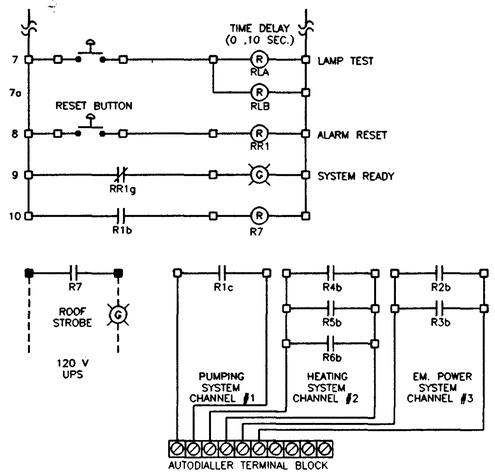


MONITORING / ALARM WIRING DIAGRAM

SCALE: N.T.S.



MONITOR / ALARM SYSTEM FIELD INTERCONNECTION DIAGRAM

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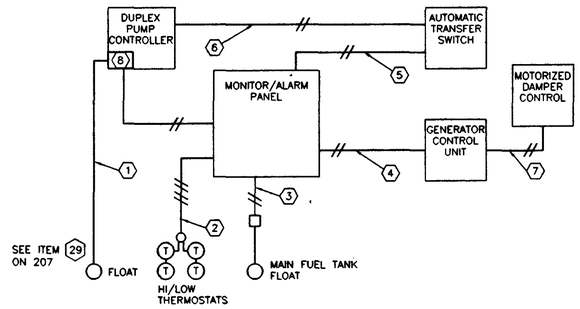
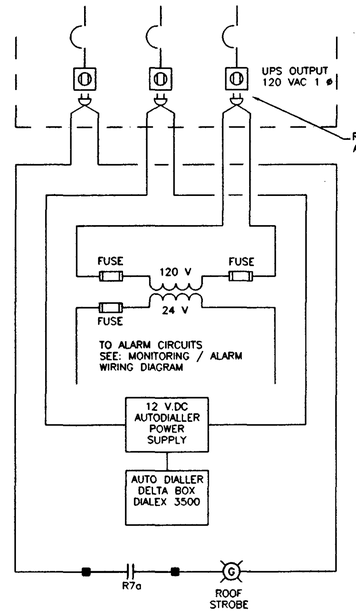


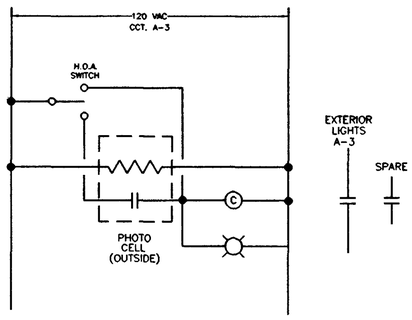
CABLE SCHEDULE:

1. HIGH WATER ALARM
2. HIGH & LOW TEMP ALARM
3. LOW FUEL ALARM
4. GENERATOR FAILURE
5. NORMAL POWER FAILURE
6. "EMERGENCY POWER MODE" SIGNAL TO ALLOW ONLY ONE PUMP TO OPERATE.
7. COMBUSTION AIR DAMPER OPERATION
8. INTRINSICALLY SAFE MODULE IN DUPLEX PUMP CONTROLLER.

UPS CIRCUIT POWER SCHEMATIC

SCALE: N.T.S.

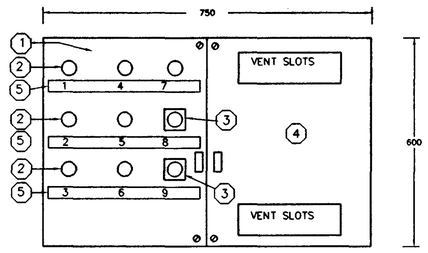




EXTERIOR LIGHTING CONTROL SCHEMATIC

SCALE: N.T.S.

NOTE: ALL EQUIPMENT TO BE MOUNTED IN A CSA 1 ENCLOSURE. C\W A HINGED LOCKABLE DOOR. PILOT LIGHT AND H.O.A. SWITCH TO BE MOUNTED ON FACE OF DOOR.



LEGEND

1. SURFACE MOUNTED STEEL ENCLOSURE C/W PIANO HINGES, LOCKABLE LATCHES, HOLD-IN SCREWS ON LATCH SIDE OF DOORS. TERMINAL STRIPS FOR ALL CONNECTIONS, PLASTIC WIRING DUCTS, VENTED EQUIPMENT SECTION. INTERNAL BARRIERS FOR VOLTAGE SEPARATION. BAKED ENAMEL PAINT: WHITE INTERIOR, ASA 61 GREY EXTERIOR.
2. 24VOLT AC LONG LIFE INDICATING LAMPS FLUSH MTD. RED LENS: ALARM; GREEN LENS: SYSTEM READY.
3. MOMENTARY CONTACT PUSH BUTTONS, FLUSH MTD.
4. EQUIPMENT COMPARTMENT INCLUDING ALL RELAYS, AUTO DIALLER AND 120V. POWER SUPPLY.
5. LAMACOID NAMEPLATES
   - 1 : HIGH WATER LEVEL
   - 2 : UTILITY POWER FAILURE
   - 3 : GENERATOR TROUBLE
   - 4 : LOW DIESEL
   - 5 : LOW BUILDING TEMPERATURE
   - 6 : HIGH BUILDING TEMPERATURE
   - 7 : SYSTEM READY [GREEN]
   - 8 : SYSTEM RESET BUTTON
   - 9 : LAMP TEST BUTTON

MONITOR / ALARM SYSTEM ANNUNCIATOR PANEL DETAIL

SCALE: N.T.S.

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THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS AND GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
P 053
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A. D. Williams Engineering Ltd.
Consulting Engineers
1100 CN Tower, 10004 - 104 Avenue
Edmonton, Alberta T5J 0K1
Ph. (403) 424-2393 Fax. (403) 425-1520

PERMIT & PROFESSIONAL STAMPS

Change	Date	Description	Chkd
	04/12/95	ISSUED FOR TENDER	G.J.A.
	JAN /94	CLIENT REVIEW	R.O.H.

REVISIONS

Northwest Territories Public Works & Services

Design G.J.A.
Drawn G.J.A.
Approved
Director

Project Title
RANKIN INLET SEWAGE DISPOSAL FACILITIES

Drawing Title
JOHNSTON COVE LIFT STATION ELECTRICAL: WIRING DIAGRAMS AND SCHEMATICS

Scale AS NOTED
D.P.W. Project No. 93-5505
Date 01/14/94
Drawing No. 53-086-208
Revision 0

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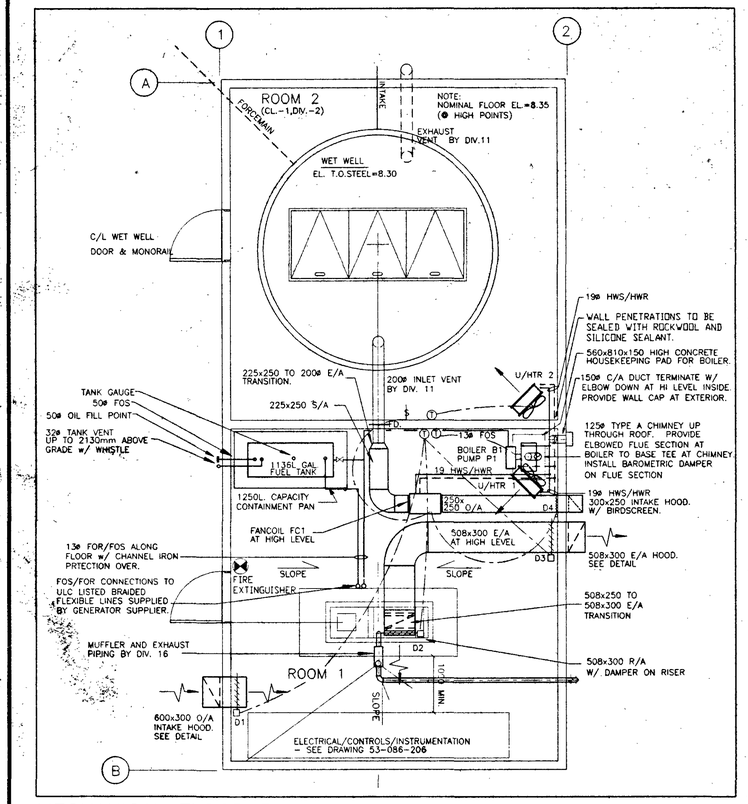
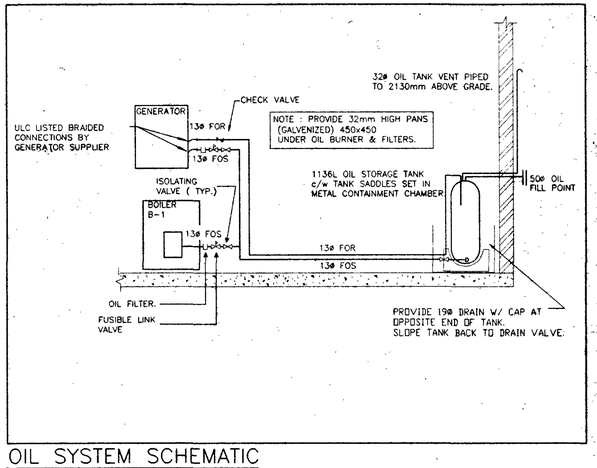


MECHANICAL FLOOR PLAN

SCALE: 1:50



OIL SYSTEM SCHEMATIC

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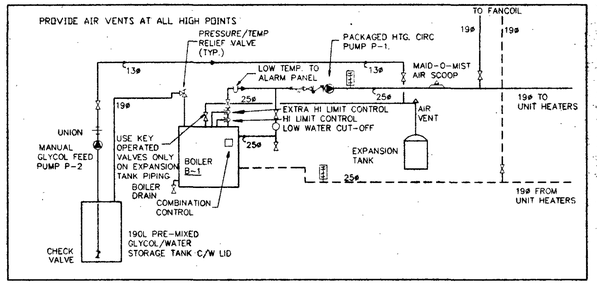

HEATING SYSTEM SCHEMATIC

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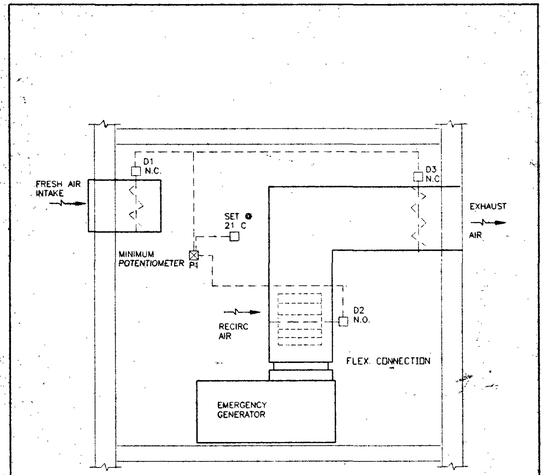
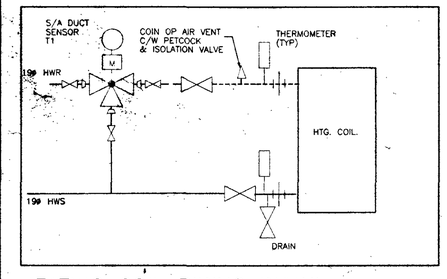


GENERATOR AIR SYSTEM SCHEMATIC

SCALE: N.T.S.

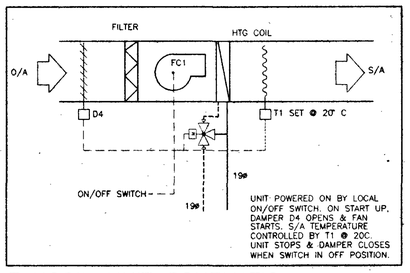
EMERGENCY GENERATOR VENTILATION CONTROL SEQUENCE

1. ON GENERATOR START-UP, DAMPER D2 REMAINS FULLY OPEN. DAMPER D1 OPENS TO MIN. SETTING TO PROVIDE COMBUSTION AIR. D3 REMAINS CLOSED.
2. TEMPERATURE SENSOR MAINTAINS SET POINT (21°C) BY MODULATING ALL THREE DAMPERS.
3. MINIMUM POSITION ON D1 SET BY POTENTIOMETER P1 MAINTAINING MINIMUM FRESH AIR
4. ON UNIT SHUT DOWN D1 & D3 CLOSE FULLY.



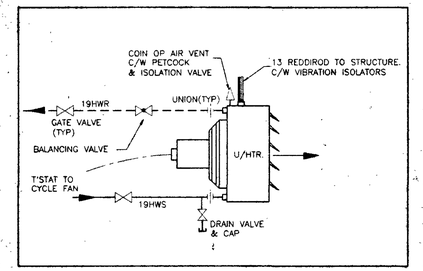
HEATING COIL PIPING DETAIL

SCALE: N.T.S.



FANCOIL UNIT SCHEMATIC

SCALE: N.T.S.



UNIT HEATER PIPING DETAIL

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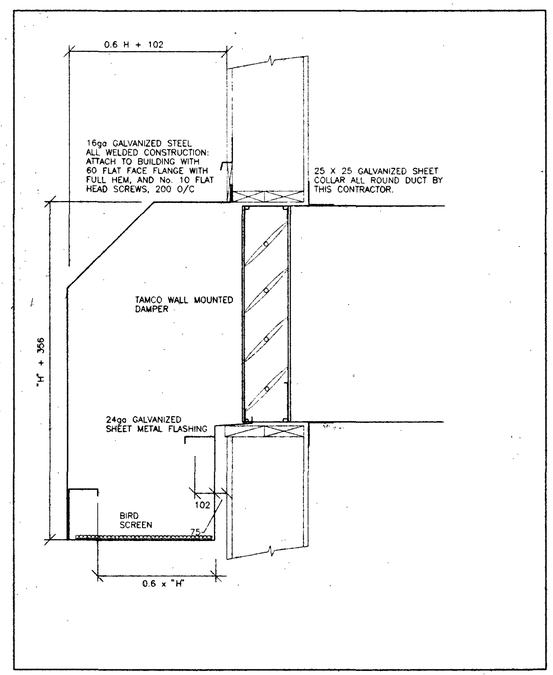

AIR SYSTEM HOOD DETAIL

SCALE: 1:50

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REGISTERED PROFESSIONAL ENGINEER IAN M. DRINNAN N.W.T.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER P 221
THORN ENGINEERING, DIVISION OF THORN LIMITED

Change	Date	Description	Chkd
-	APR 1995	REVISIONS	R.C.
-	JAN 1995	CLIENT REVIEW	S.S.

REVISIONS

Northwest Territories Public Works & Services

Design	R.C.C.
Drawn	R.C.C.
Approved	
Director	

Project Title

RANKIN INLET
SEWAGE DISPOSAL
FACILITIES

Drawing Title

JOHNSTON COVE LIFT STATION
MECHANICAL PLANS AND
DETAILS

Scale 1:50 (0, 500, 1500, 2500mm)

D.P.W. Project No. 93-5505 Date

Drawing No. 53-086-209 Revision 0

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DATE PLOTTED: 1994 September 09, 4:33 p.m.