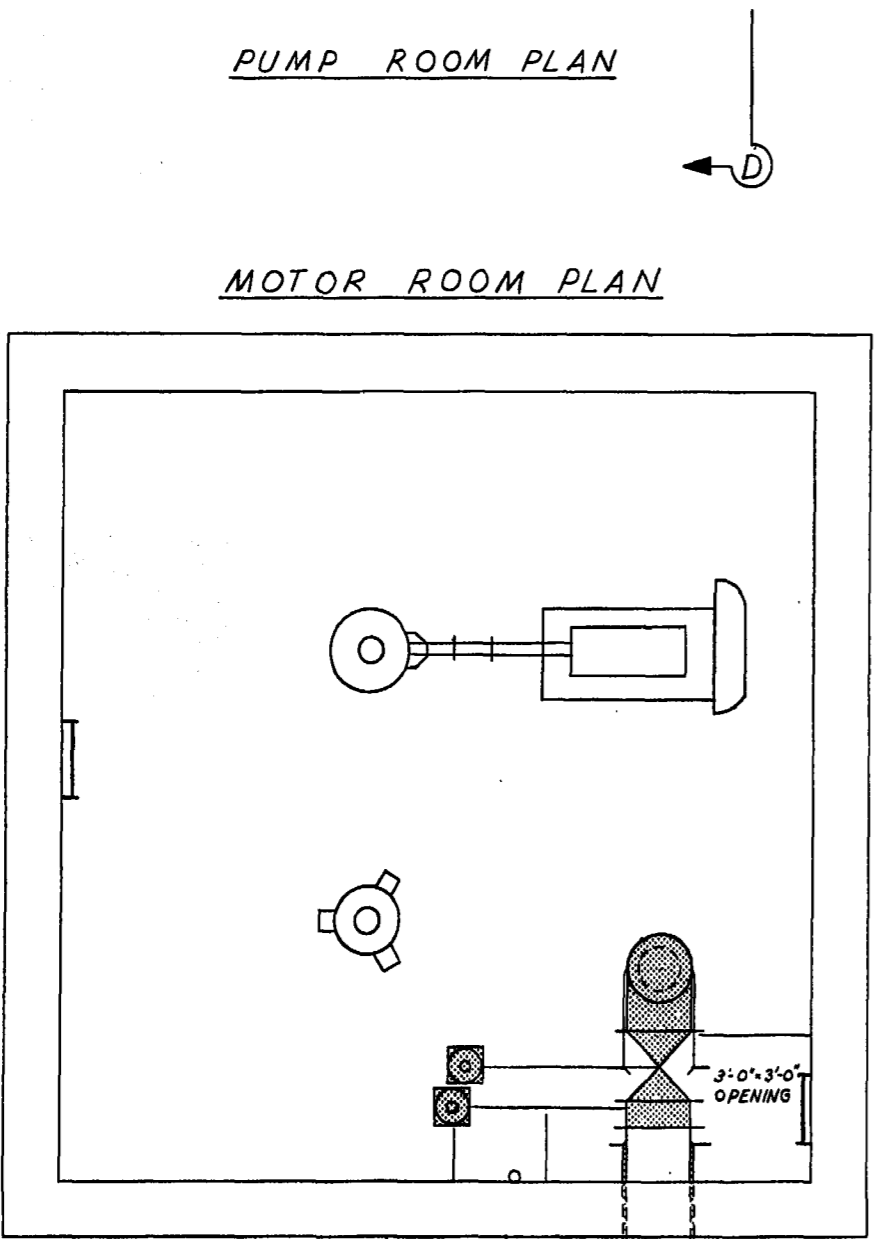


PUMP ROOM PLAN



MOTOR ROOM PLAN

EXISTING ASPHALT FILL
APPROX. EL. 761.0'

BREAK OUT EXISTING
CONCRETE - PRIOR
TO REPOURING CONC.
OR GROUTING, COAT ALL
SURFACES WITH AN
APPROVED "EPOXY"

EXISTING 16" A.C. FORCEMAIN

INV. EL. APPROX.
747.3'

WOOD BLOCK SHIMS
ON FLAT SIDE

12" THICK CONC. SUPPORT
SLAB - POUR AGAINST
UNDISTURBED SOIL

EXISTING MAIN
ELEC. PANEL

EXISTING
HANDRAIL

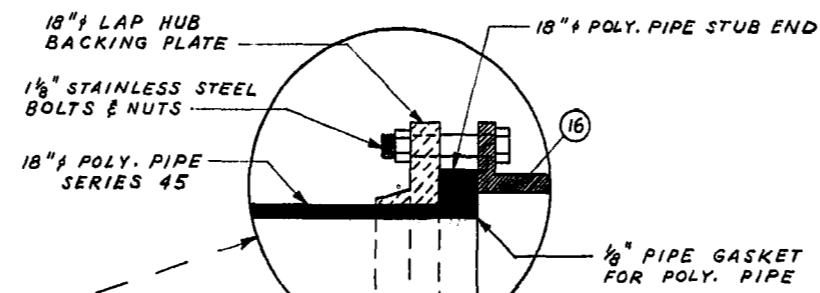
MAIN HYDRO SUPPLY CABLE

SEC. "D" - "D"

NOTE:

1. FOR DETAILS OF EXISTING STATION PIPING
REFER TO WARDROP DRAWING M1.

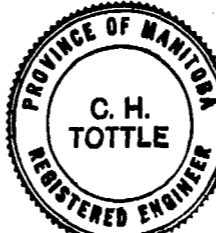
2. THE CONTRACTOR SHALL REMOVE THE NECESSARY
EXISTING PIPING AND SUPPLY AND INSTALL NEW
PIPING SHOWN THUS:



DETAIL OF SPECIAL FLANGE
ASSEMBLY FOR POLY. PIPE ALT.
N.T.S.

LIST OF NEW MATERIALS				
No.	DESCRIPTION	SIZE	QUANTITY	DETAIL DWS. No.
1	NEW IMPELLER	AS SPECIFIED	2	
2	8" x 10" C.I. REDUCER - FLG. TO VICT.		2	
3	10" - STYLE # 341 VICT - FLANGE		2	
4	10" - CHECK VALVE - FLANGED		2	
5	10" - FLANGED GATE VALVE		2	
6	16" - 90° C.I. BASE ELBOW		2	
7	10" x 16" C.I. FLANGED INCREASER	3'-0"	1	
8	16" - FLANGED C.I. PIPE	AS REQUIRED	1	
9	16" x 16" x 18" C.I. TEE - VICT. - FLG. - VICT.		1	
10	16" - 90° C.I. ELBOW - FLG. TO VICT.		1	
11	16" - FLANGED GATE VALVE			
	9W CONVERTO - GEAR OPERATOR			
	5 EXTENSION STEM		1	
13	16" C.I. FILLER PIECE - FLG. TO VICT.	0'-8"	1	
12	18" - C.I. FLANGED FILLER PIECE	0'-6"	1	
14	18" - FLANGED GATE VALVE			
	9W CONVERTO - GEAR OPERATOR			
	5 EXTENSION STEM		1	
15	18" - FLANGED C.I. PIPE 9W			
	CONC. RING (AS SHOWN)	3'-0"	1	
16	18" - FLANGED C.I. ELBOW	75° 00'	1	
17	(A) 18" SERIES 45 POLYETHYLENE PIPE OR (B) 18" CLASS 100 AC PIPE OR (C) 18" TH. CLASS 22 C.I. PIPE (WITH SUITABLE CONNECTIONS)			
18	LARGE ADJUSTABLE VALVE BOX WITH STD. METRO SEWAGE DISPOSAL COVER			S-224
19	# 6 STEEL REINF. BAR	5'-3" L.	4	
20	16" - STYLE # 44 VICTAULIC CPLG.		1	
21	18" - STYLE # 44 VICTAULIC CPLG.		1	

"CRANE" OR AN APPROVED EQUAL

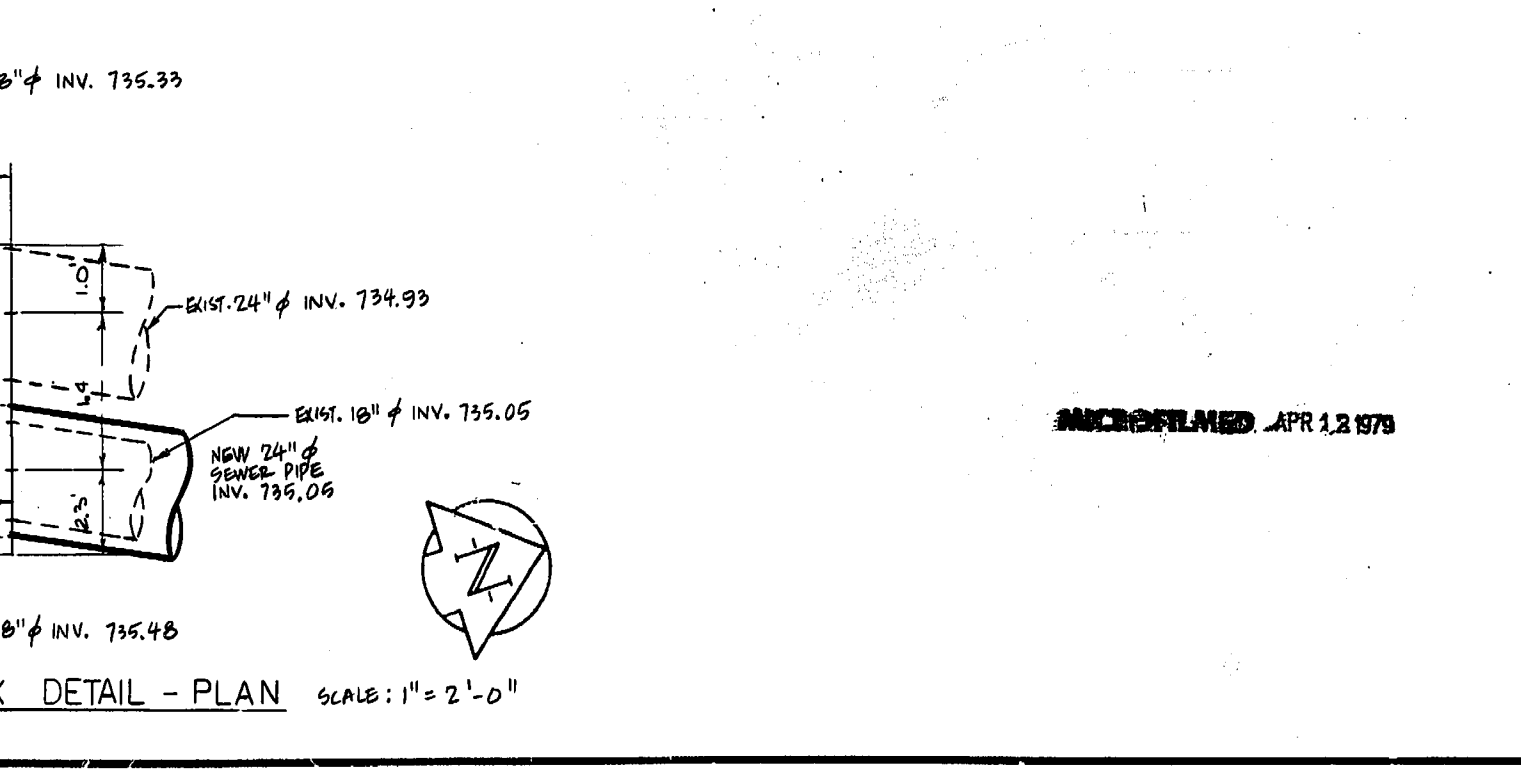
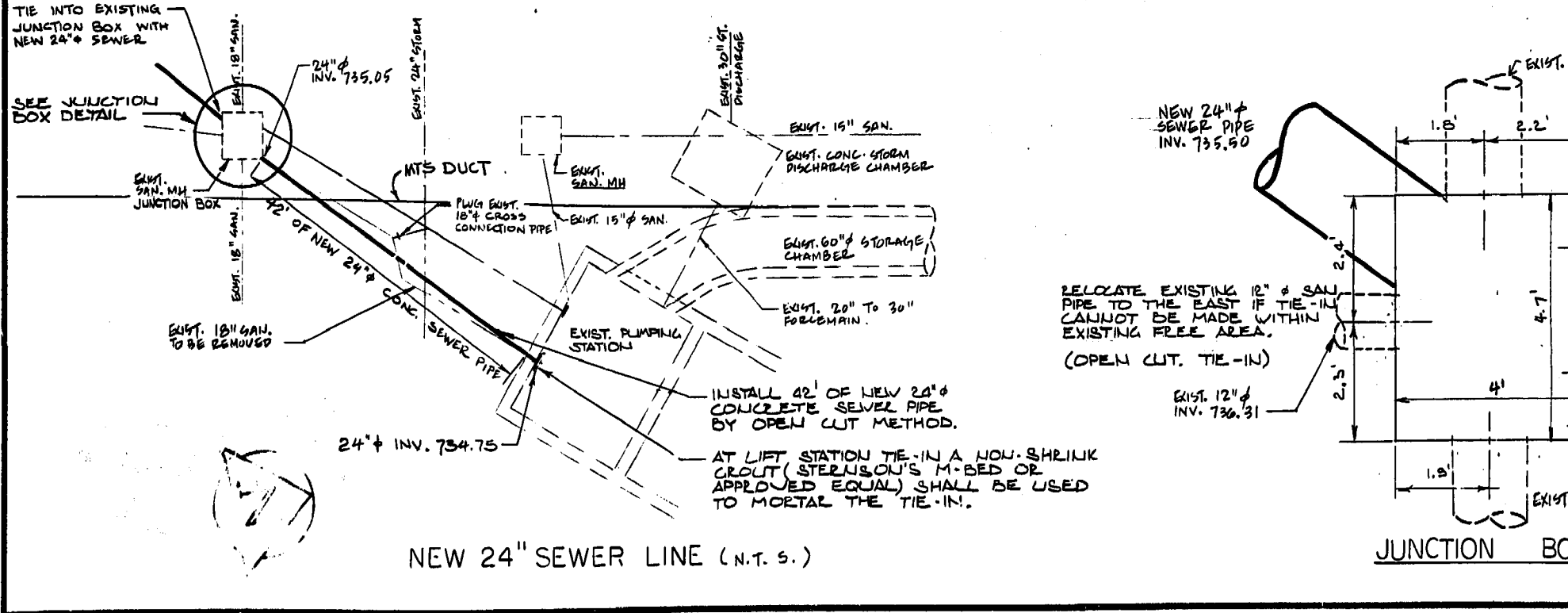
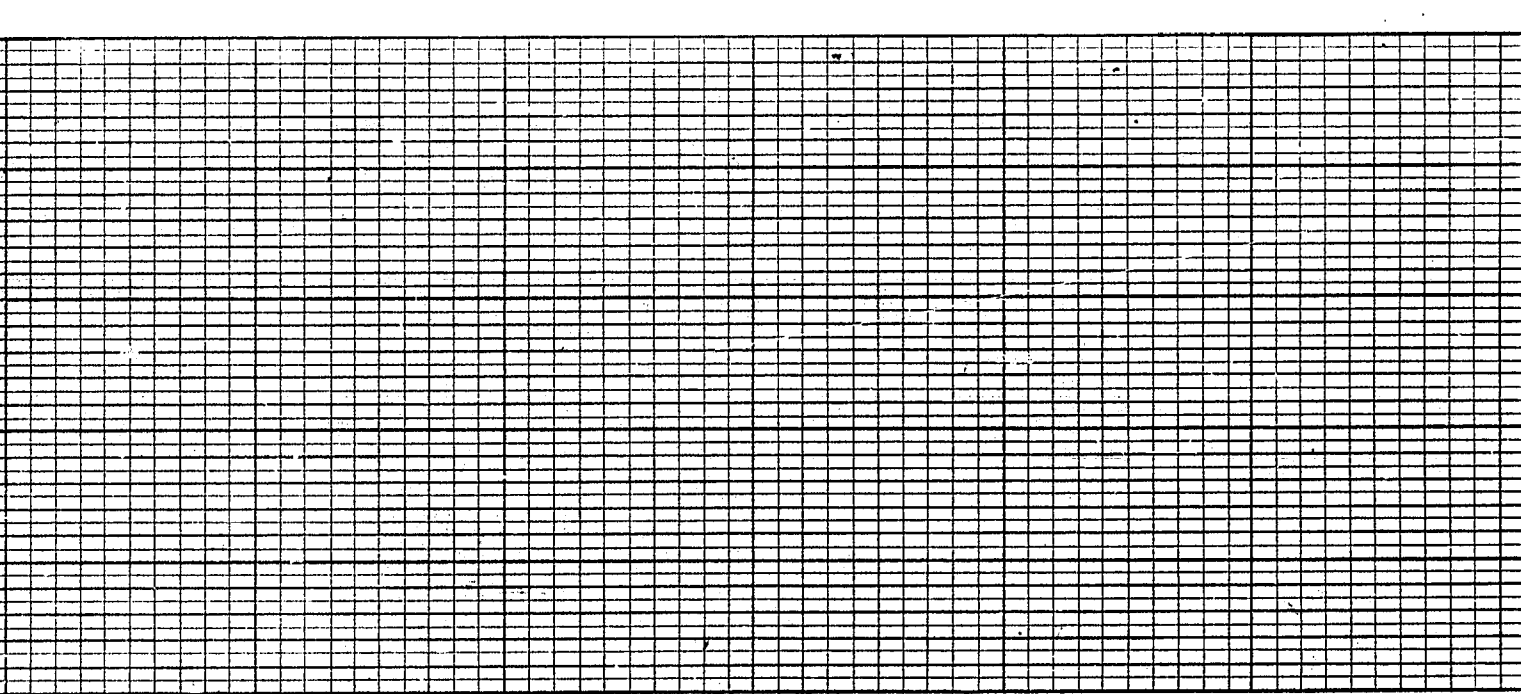
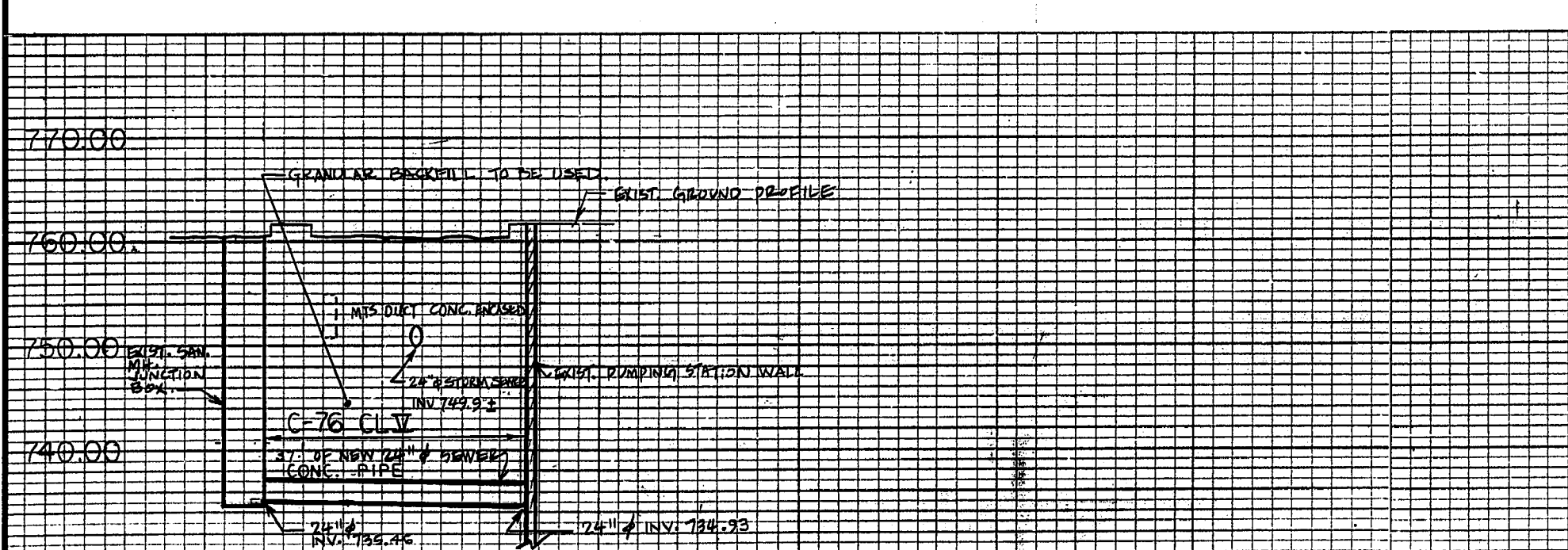
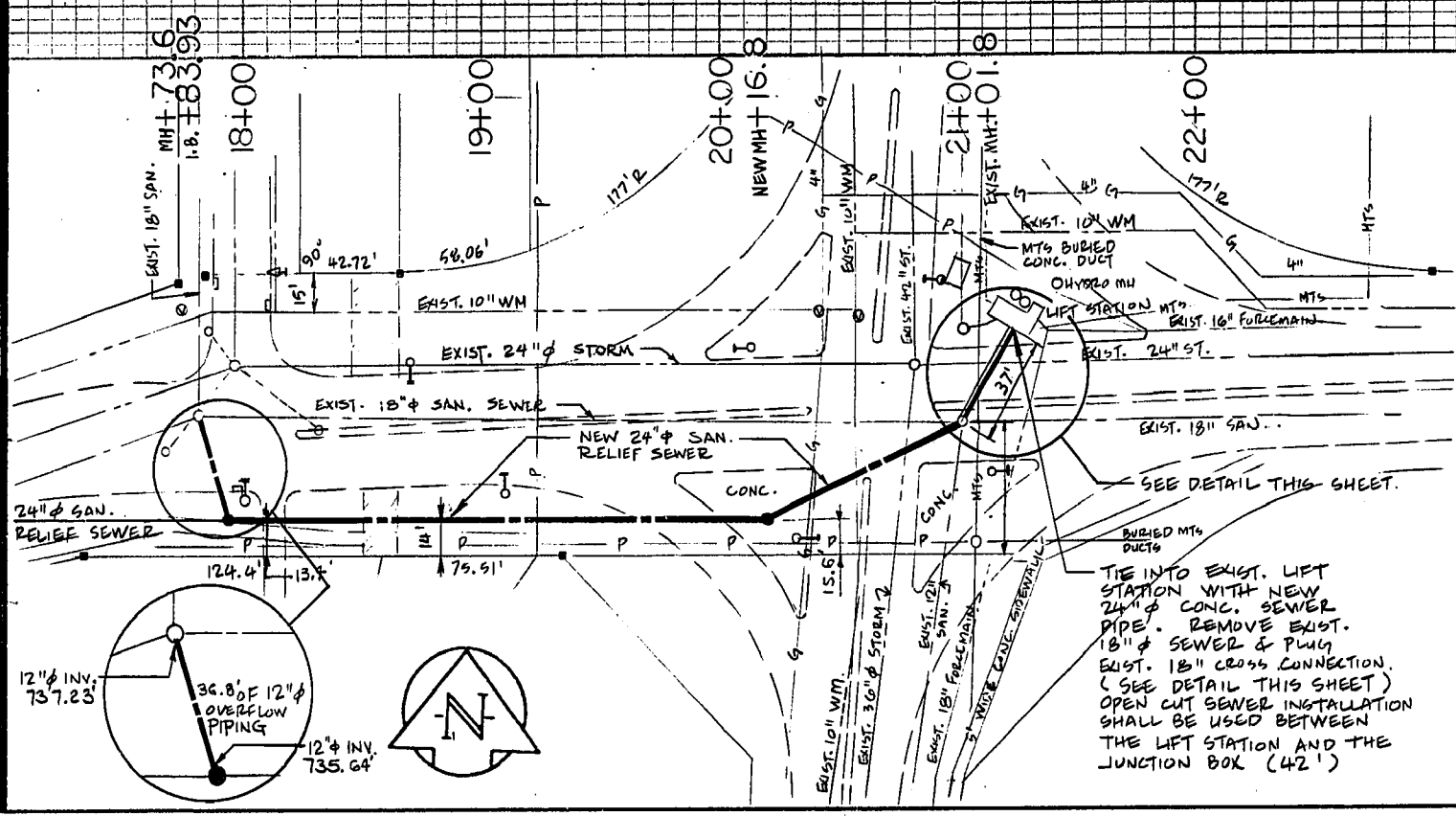
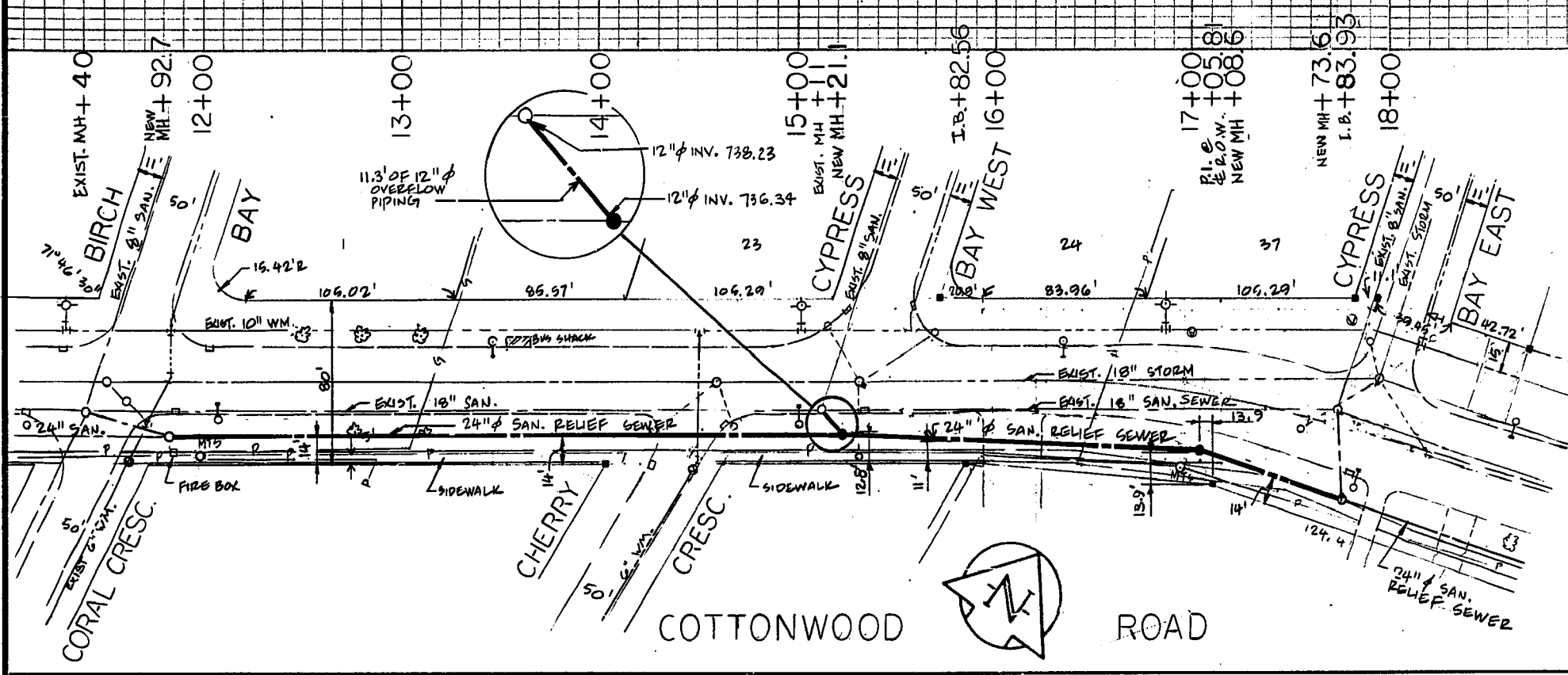
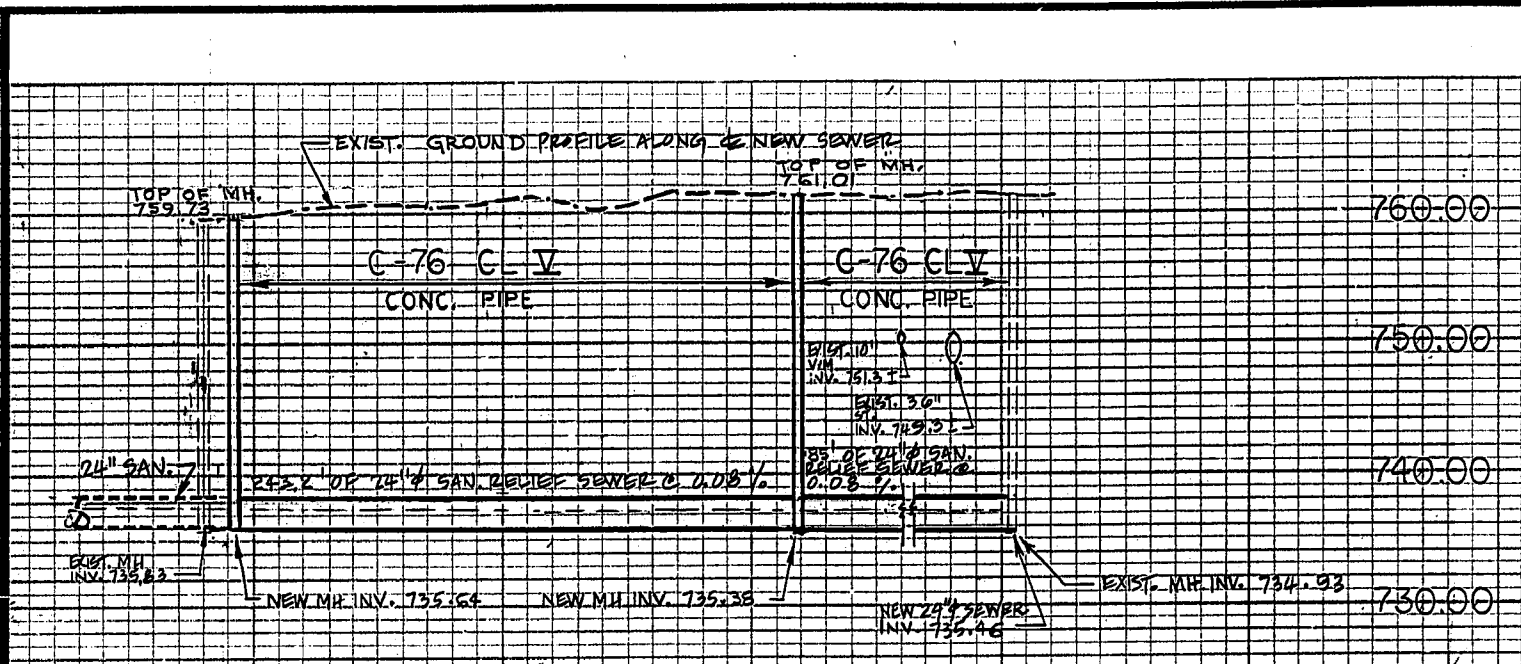
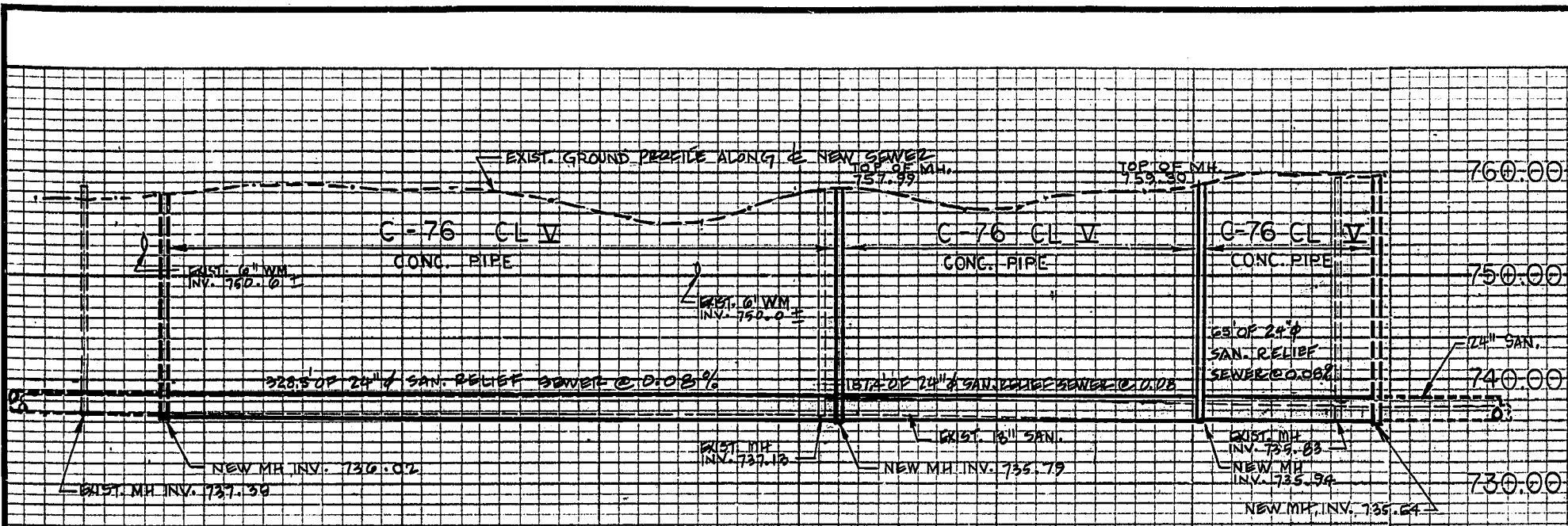


THE METROPOLITAN CORPORATION
OF GREATER WINNIPEG
**WATERWORKS & WASTE
DISPOSAL DIVISION**
A. PENMAN - DIRECTOR

SEWAGE DISPOSAL DEPT.
**WINDSOR PARK
SECONDARY & FORCEMAIN**
ALTERATIONS & ADDITIONS TO
EXISTING "WINDSOR PARK"
SEWAGE LIFT STATION

DESIGNED BY: *C. H. Tottle*
DRAWN BY: *W. A. C.* DATE: JUNE 1971
ENG. DES. BY: *Ken...*
ENG. BY: *...*
APPROVED BY: *...*

SCALE: 3/8" = 1'-0"
DRAWING NO. **713**



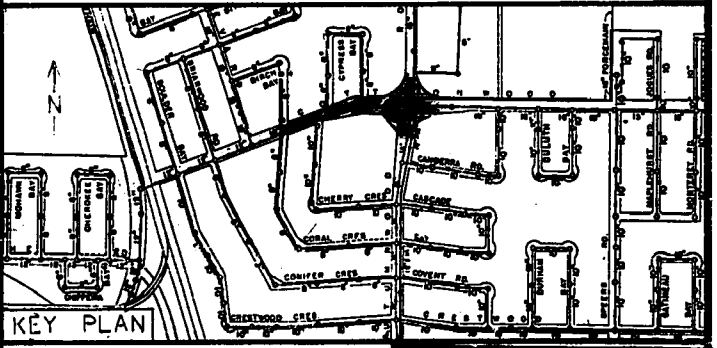
LEGEND

PROPOSED	EXISTING FEATURES	PROPOSED	EXISTING FEATURES
--- SANITARY SEWERS	--- TRAFFIC SIGNALS	--- P --- UNDERGROUND CABLES	--- WATERMANS VALVES
--- STORM SEWERS	--- POWER POLES	--- KIOSK (TRANSFORMER)	--- HYDRANTS
--- C.M.P. SEWERS	--- VALVES	--- ALUMINUM PINS	--- VALVE CHAMBER
--- FORCE MAINS	--- G.V. LINES	--- IRON BARS	--- ROAD EDGES, CURBS
--- DIRECTION OF FLOW	--- TRENCHES	---	--- CURB INLETS
--- MANHOLES	---	---	--- CURB INLET LEADS
--- CATCH BASINS	---	---	--- CULVERTS
--- CATCH BASIN LEADS	---	---	--- SIDEWALKS
--- FENCES	---	---	---

ALL ELEVATIONS ARE BASED ON GEODETIC DATUM (1929 ADJ.)
FIELD BOOK: 1026, 909 REG'D. PLAN

B.M. — ELEV. & DESCRIPTION:
759.86 PT. ON W. CONC. PILE ON ISLAND COMANCHE & ARCHIBALD.

- ADDITIONAL LEGEND:
- NOTE:
- CENTRE LINE OF RIGHT OF WAY CHAINAGE USED THROUGHOUT.
 - ALL NEW SEWER WORKS ON COTTONWOOD ROAD TO BE INSTALLED BY AUGERING OR CORING METHODS, UNLESS OTHERWISE SPECIFIED.
 - SHAFT LOCATIONS TO BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
 - WHERE PAVEMENT CUTS OCCUR DURING WINTER CONSTRUCTION, A TEMPORARY 8" LAYER OF 3/4" CRUSHED LIMESTONE SHALL BE PLACED OVER THE GRANULAR SHAFT BACKFILL TO MATCH EXISTING GRADES. FINAL PAVEMENT RECONSTRUCTION SHALL BE PERFORMED WHEN WEATHER PERMITS.
 - ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES DURING SEWER CONSTRUCTION.
 - MAXIMUM PERMISSIBLE SHAFT WIDTH SHALL BE 6.0'. SHAFT LENGTH SHALL BE AS REQUIRED. ALL SHAFTS TO HAVE GRANULAR BACKFILL.



AS - BUILT

DATE	FB. NO.	PAGE
MARCH 1977	1039	4 & 12

APPROVED BY: *[Signature]*
WATERWORKS, WASTE & DISPOSAL DIVISION

2	AS - BUILT COMPLETED	
7	ISSUED FOR CONSTRUCTION	DEC 11/76 WRD
0	ISSUED FOR APPROVAL	NOV 26/76 WRD
NO. DESCRIPTION	DATE	BY
REVISIONS		

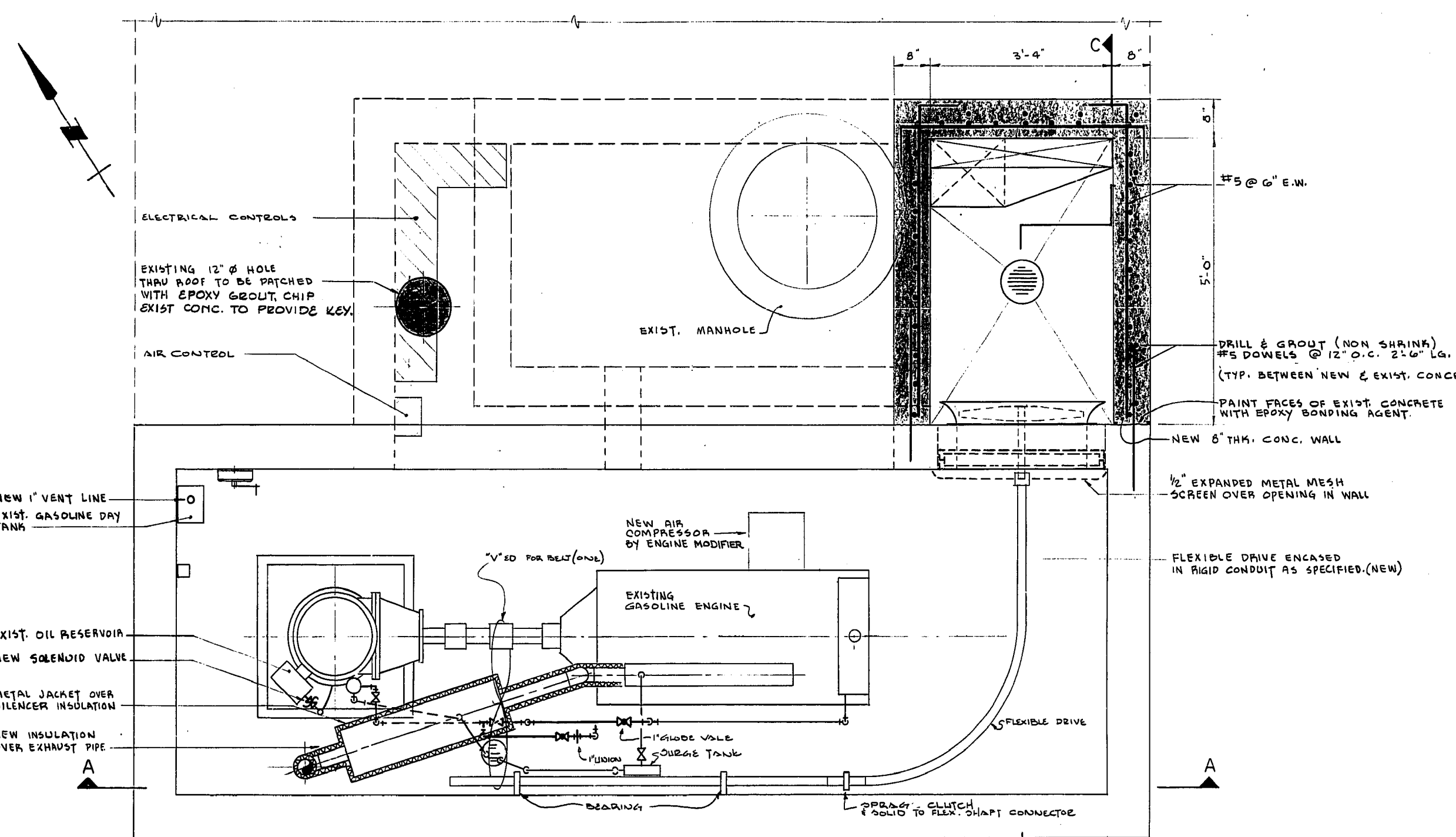
CITY OF WINNIPEG
WATERWORKS, WASTE & DISPOSAL DIVISION

W. L. WARDROP & ASSOCIATES LTD.
ENGINEERING CONSULTANTS
WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON

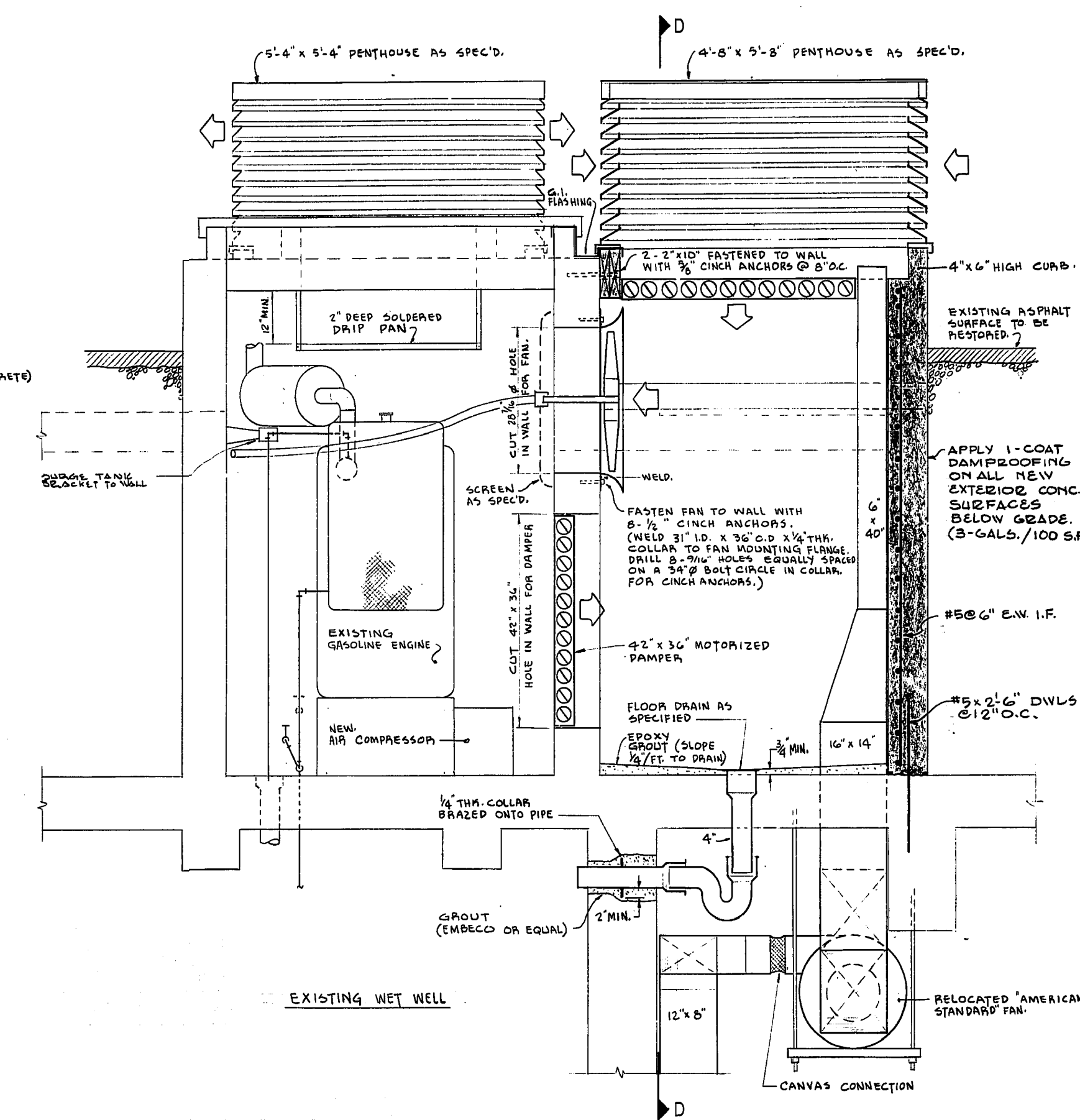
WINDSOR PARK
SANITARY RELIEF SEWER
COTTONWOOD RD. - BIRCH BAY TO AUTUMNWOOD DR.

DESIGNED BY: <i>[Signature]</i>	DRAWN BY: <i>[Signature]</i>	CHECKED BY: <i>[Signature]</i>
APPROVED BY: <i>[Signature]</i>		
SCALE: VERT: 1" = 10'	DATE: Nov. 1976	
HORIZ: 1" = 50'		
DRAWING NO: 77012-01-2	REV: 2	

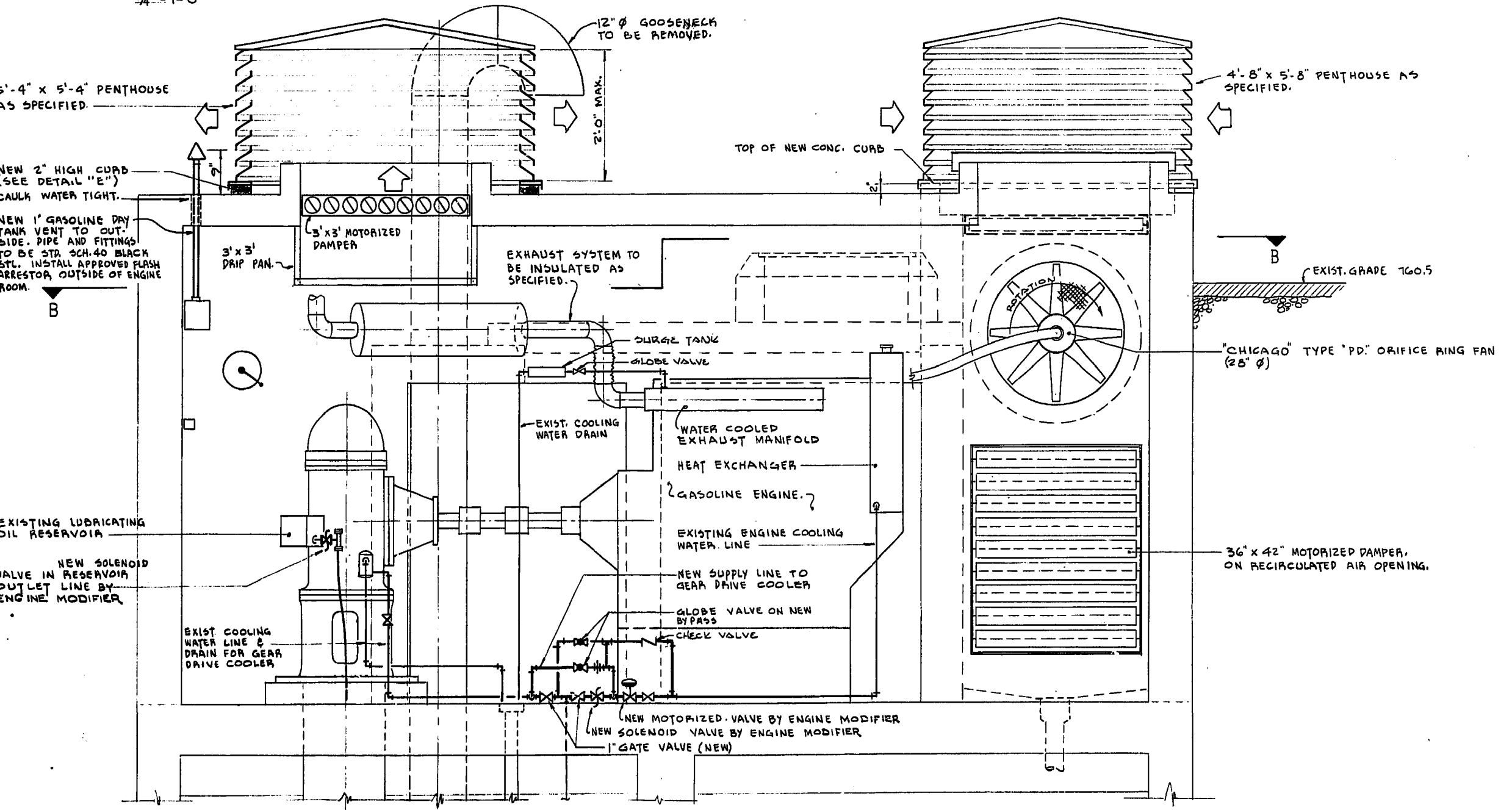
MICROFILMED APR 12 1978



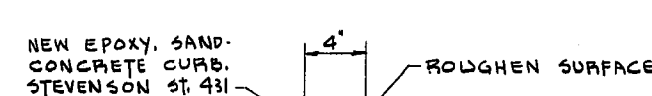
PLAN B-B
3/4" = 1'-0"



SECTION C-C
3/4" = 1'-0"



SECTION A-A
3/4" = 1'-0"



DETAIL "C"
3" = 1'-0"

NOTES

- ALL CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.
- LAP WALL BARS 2'-0" AT SPLICES
- CONCRETE PROTECTION FOR REINFORCING SHALL BE 2 1/2" MIN.
- USE ALKALI-SULPHATE RESISTING CEMENT THROUGHOUT.
- HOLES IN EXIST. CONCRETE TO BE CUT BY BREAKING OUT BETWEEN 1" Ø HOLES DRILLED 3" O.C.

W. L. Wardrop
 CITY OF ST. BONIFACE
 CITY ENGINEER



AS-BUILT

NO.	DESCRIPTION	DATE	BY
REVISIONS			

CITY OF ST. BONIFACE

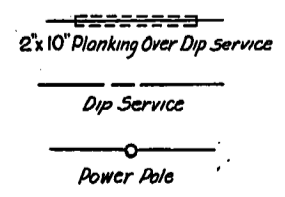
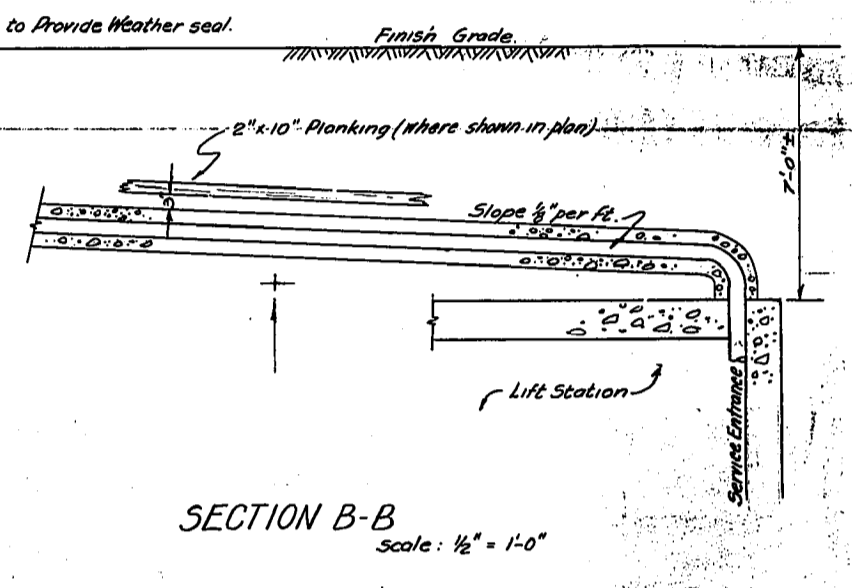
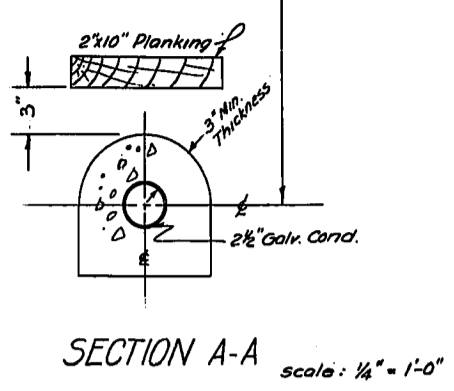
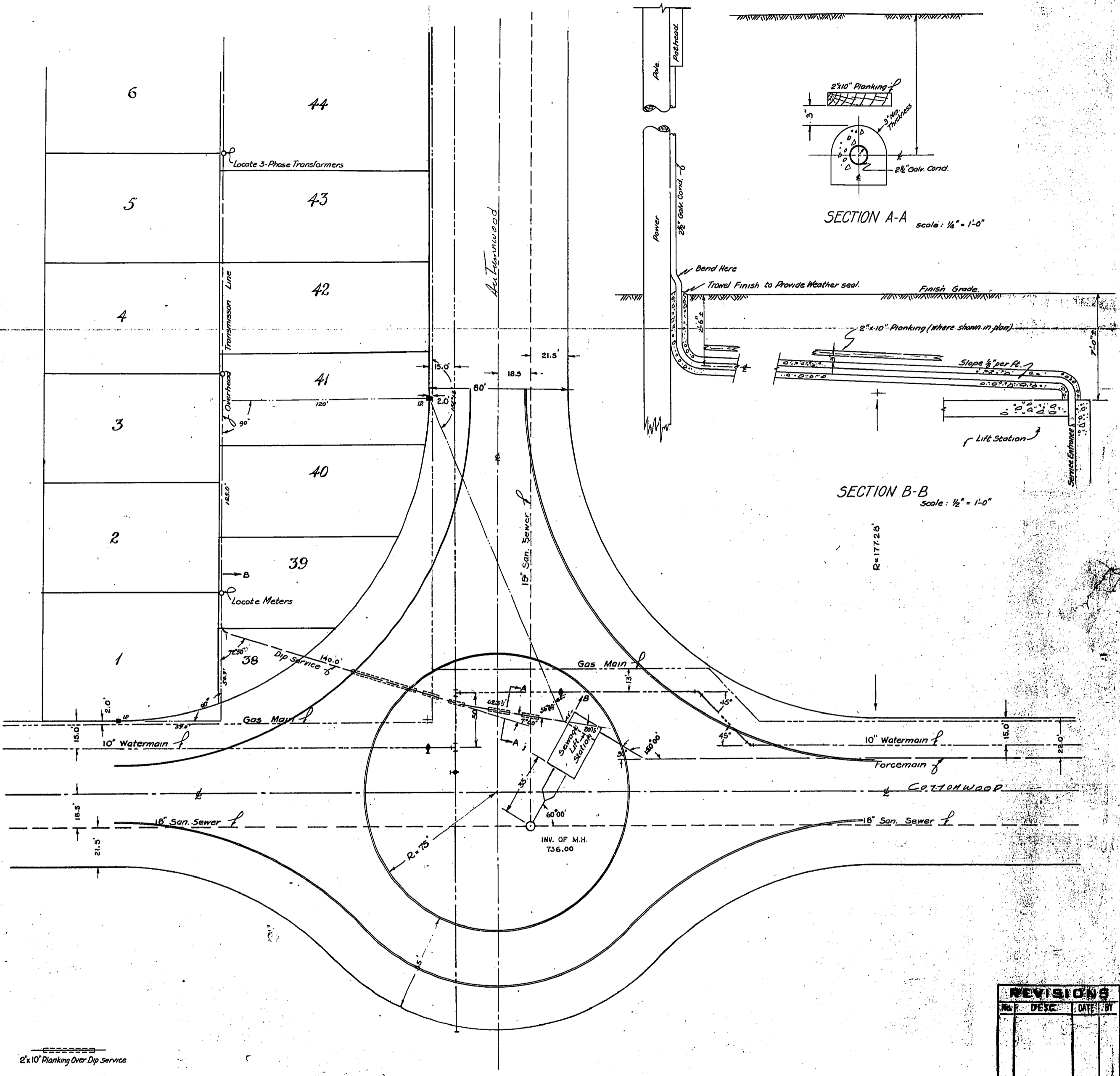
W. L. WARDROP & ASSOCIATES LTD.
 ENGINEERING CONSULTANTS
 WINNIPEG - FORT WILLIAM - REGINA

MECHANICAL & STRUCTURAL MODIFICATIONS

WINDSOR PARK SEWAGE LIFT STATION

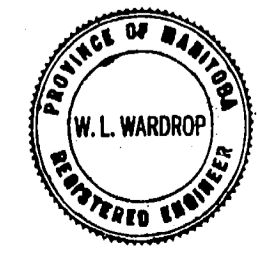
SCALE: AS SHOWN	APPROVED BY: <i>[Signature]</i>
DESIGNED BY: L.R.P.	DATE: DEC. 1969
DRAWN BY: L.W.S.	PROJECT NO. 69001-4
CHECKED BY: <i>[Signature]</i>	DRAWING NO. 69001-02-AM

MICROFILMED APR 12 1979



REVISIONS			
No.	DESC.	DATE	BY

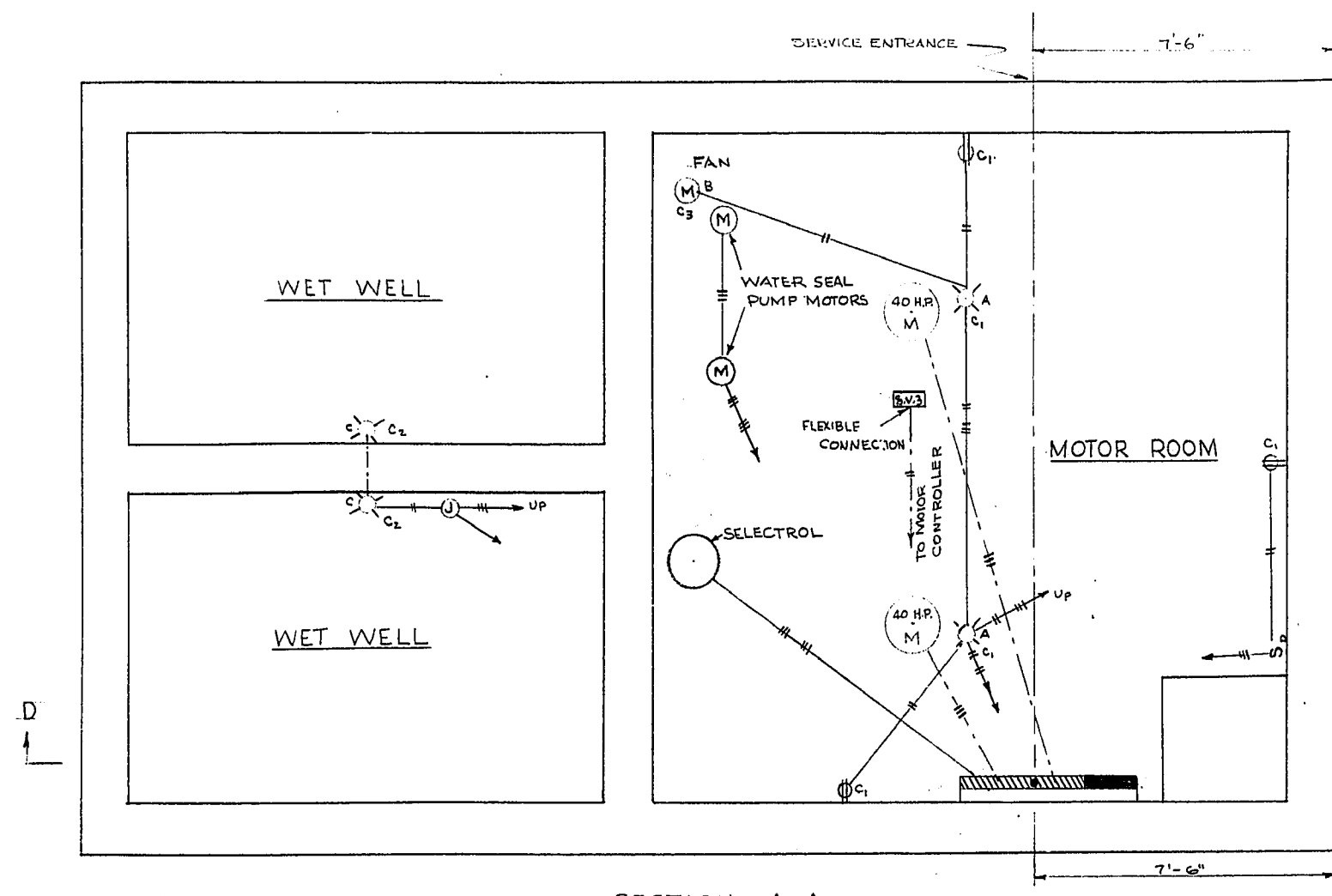
MICROFILMED APR 12 1979



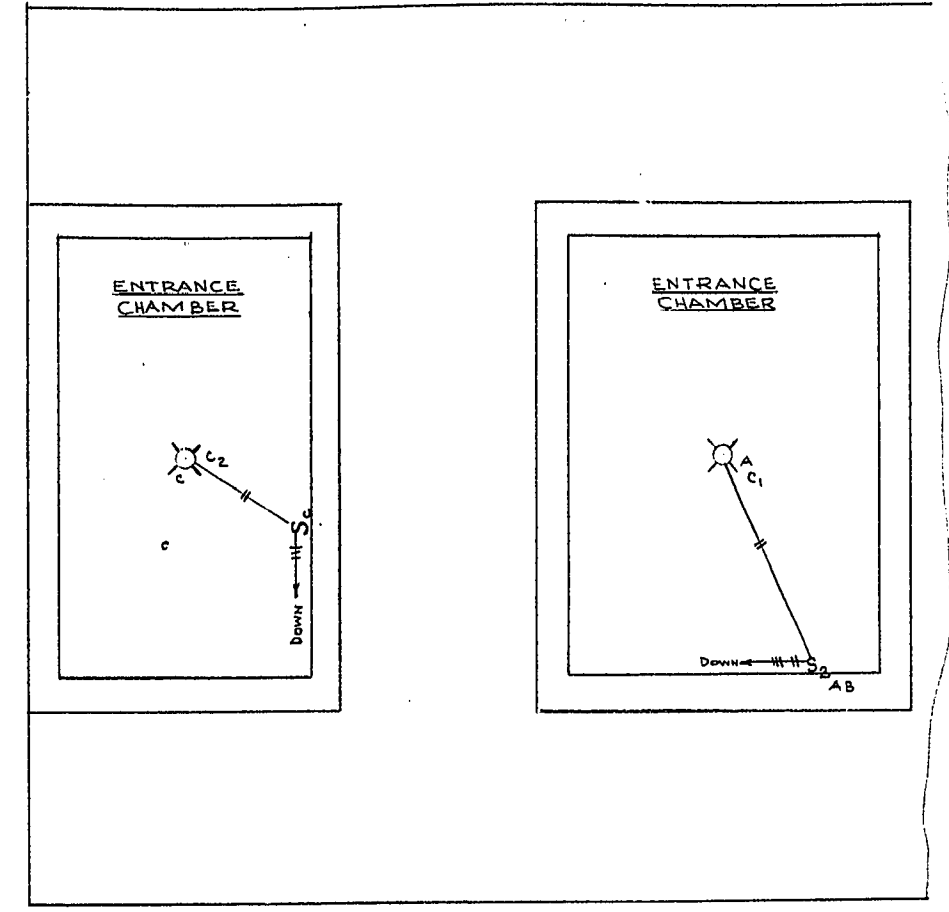
W. L. WARDROP & ASSOCIATES
 ENGINEERING CONSULTANTS
 WINNIPEG CANADA

LADCO DEVELOPMENT
 ST. BONIFACE MANITOBA
 LOCATION & DETAILS OF DIP SERVICE TO LIFT STN

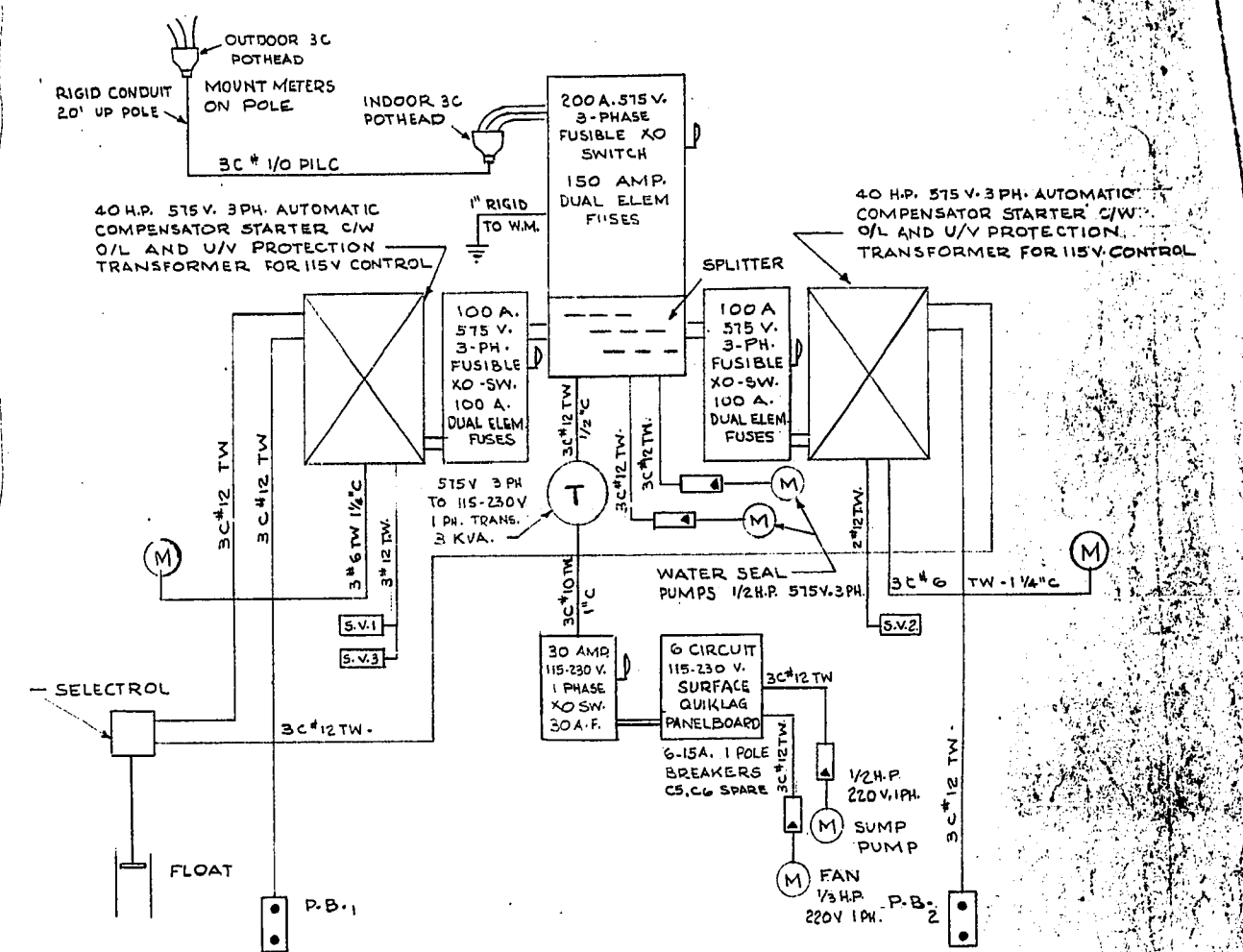
Scale: 1" = 30' Date: Nov. 2/1979
 Designed By: W.L.W. Project No. 5521
 Drawn By: R.D. Drawing No.
 Checked By: W.L.W. E-2



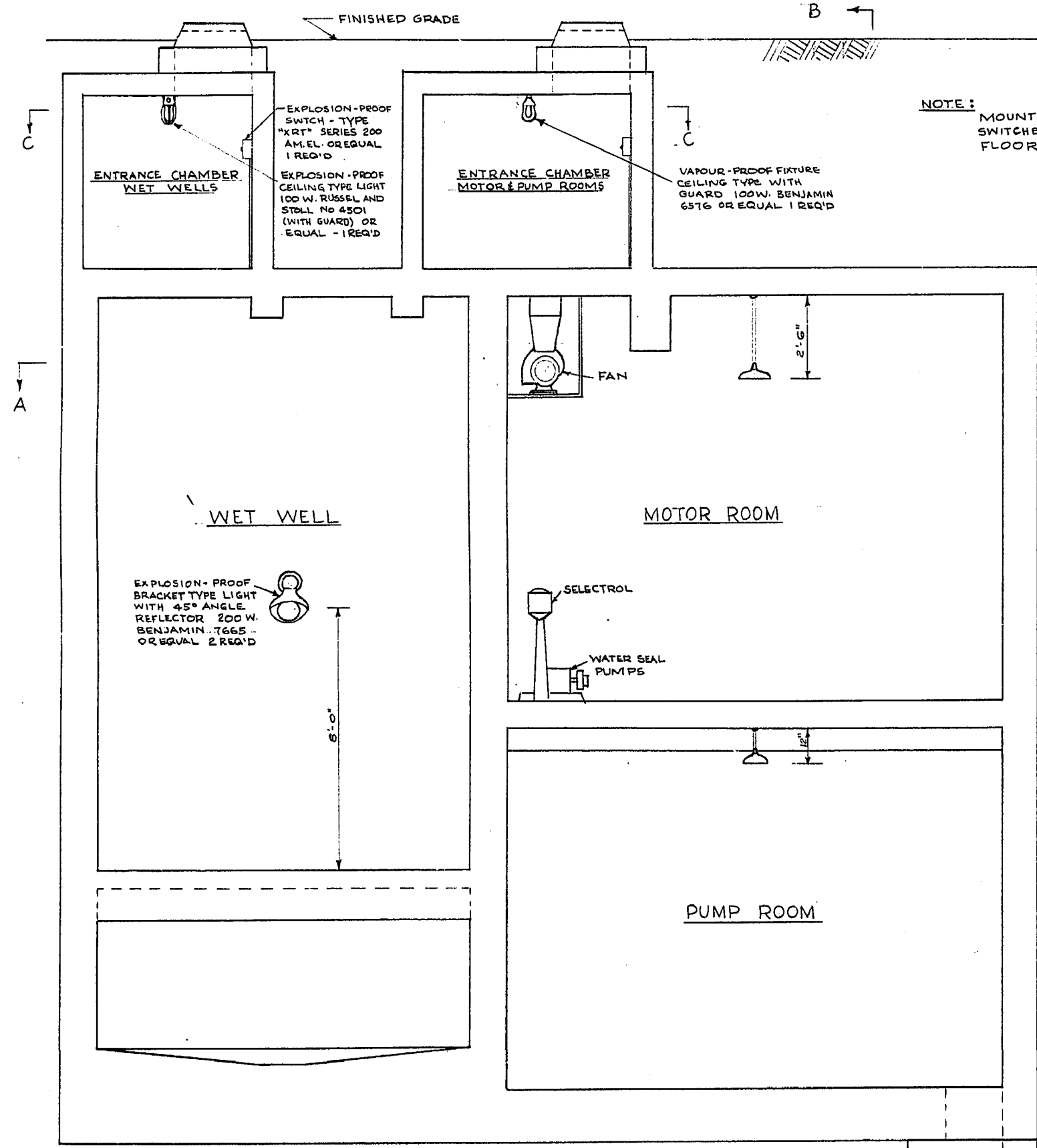
SECTION A-A



SECTION C-C

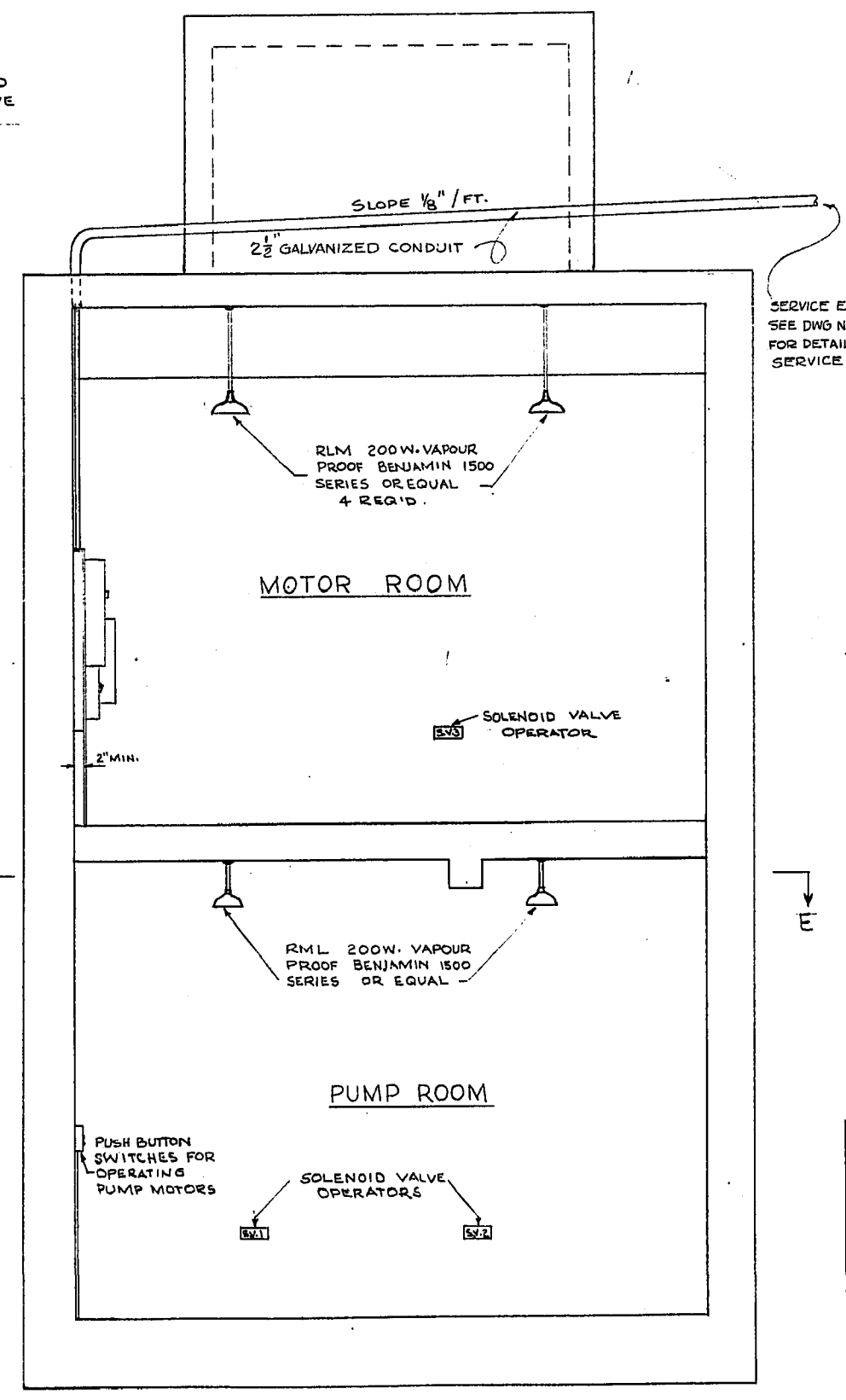


SCHEMATIC LAYOUT OF ELECTRICAL DISTRIBUTION

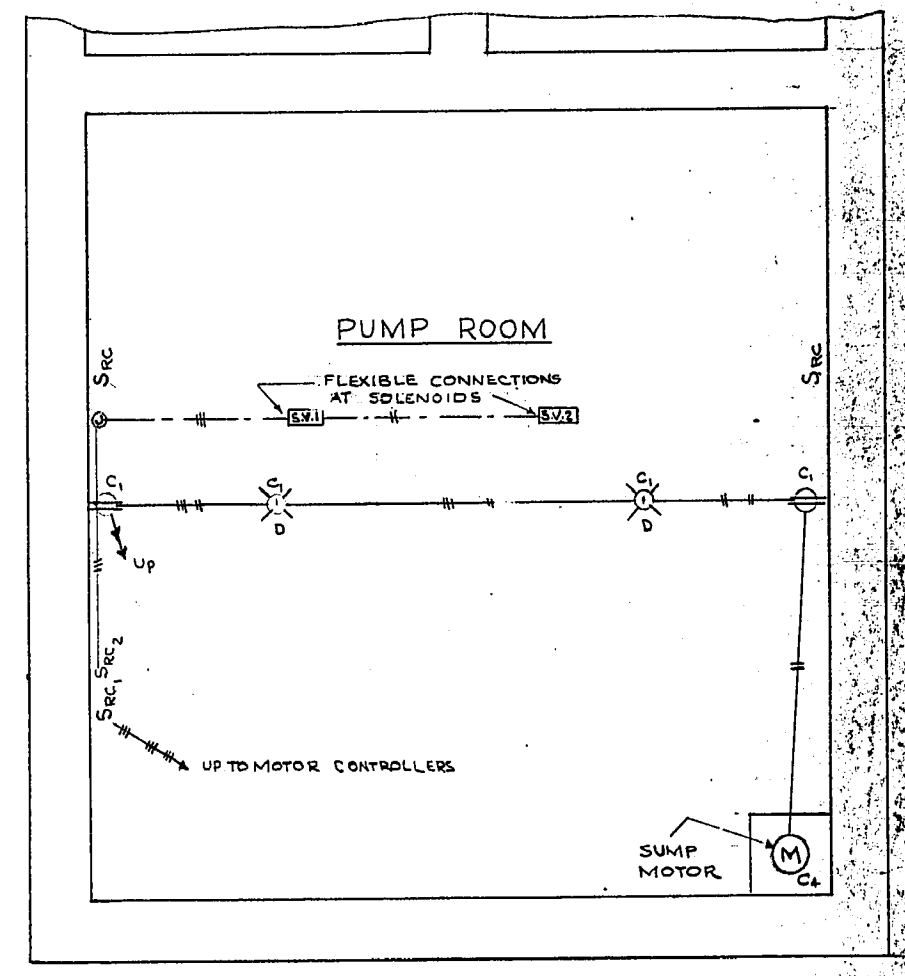


SECTION D-D

NOTE: MOUNT OUTLETS AND SWITCHES 4'-0" ABOVE FLOOR LEVEL



SECTION B-B



SECTION E-E

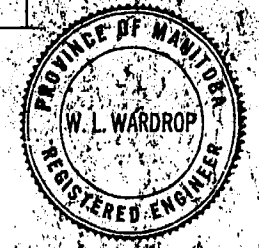
MICROFILMED APR 12 1979

SYMBOLS

○	LIGHT FIXTURE INCANDESCENT
Src	REMOTE CONTROL SWITCH
□	PUSH BUTTON - SAME AS SRC
⊗	MOTOR CONTROL SWITCH c/w O/L & U/V
⊕	SOLENOID VALVE OPERATOR
⊙	MOTOR
S	SWITCH
⊖	DUPLEX OUTLET-POLARIZED

REVISIONS

NO.	DESC.	DATE	BY
1	3C #1/0 PILC CHANGED TO 3C #1/0 PILC	8/1/55	R.B.
2	SERVICE ENTRANCE TO BE CHANGED	Do	R.B.

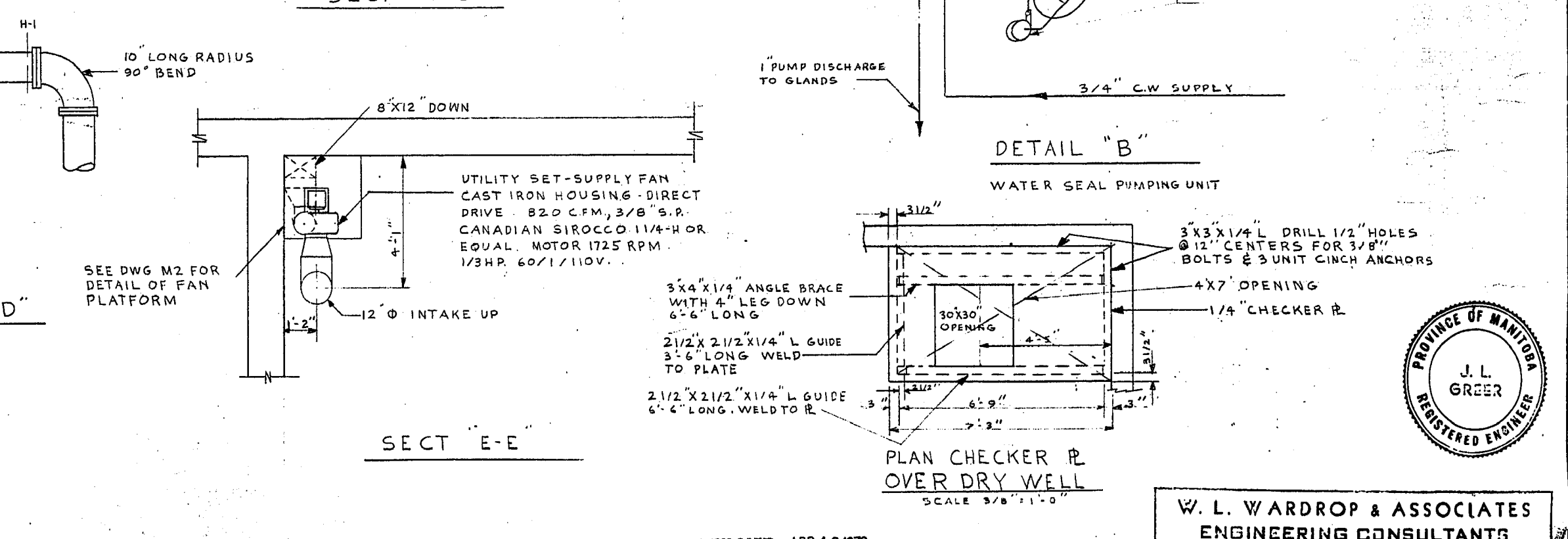
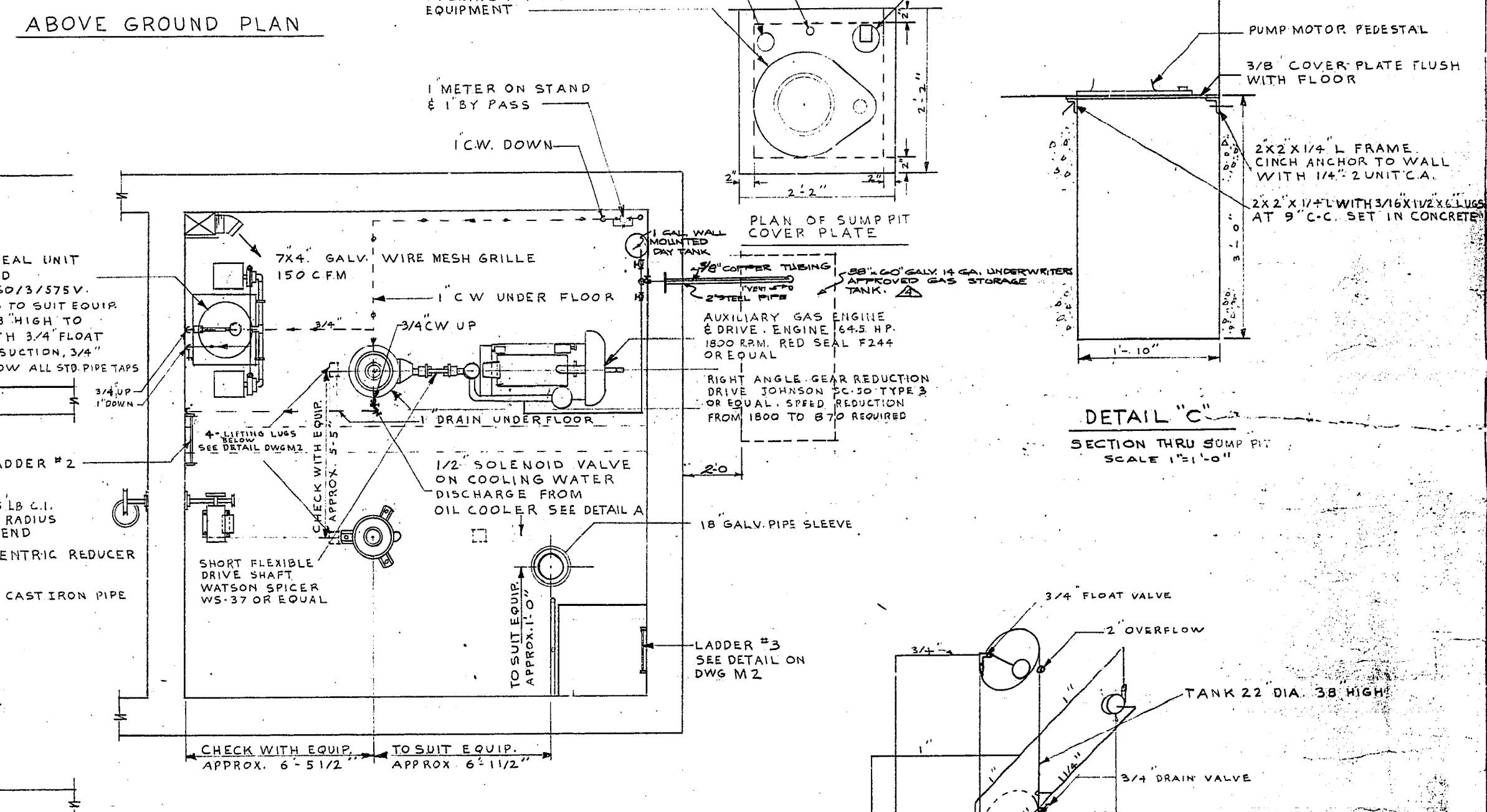
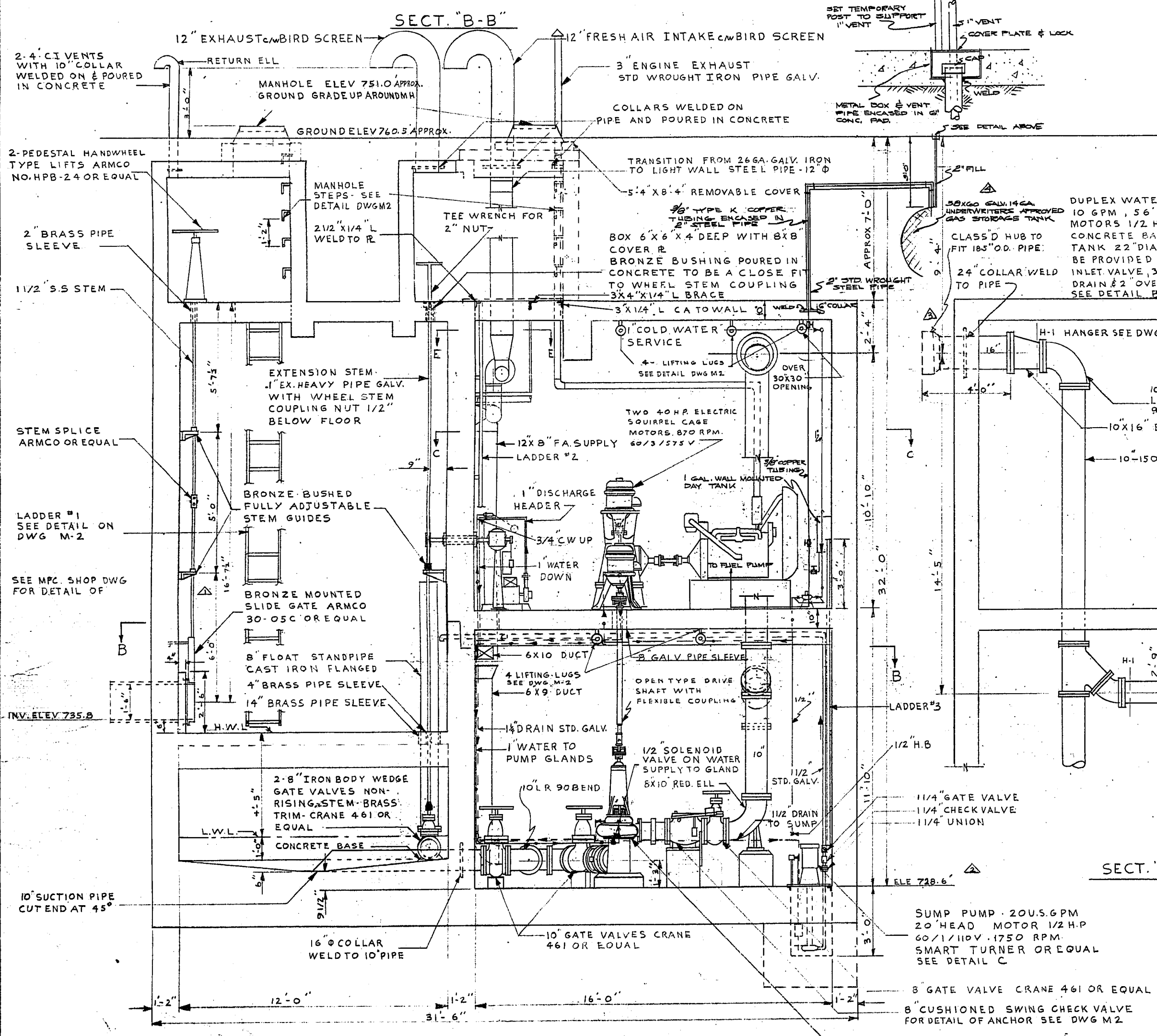
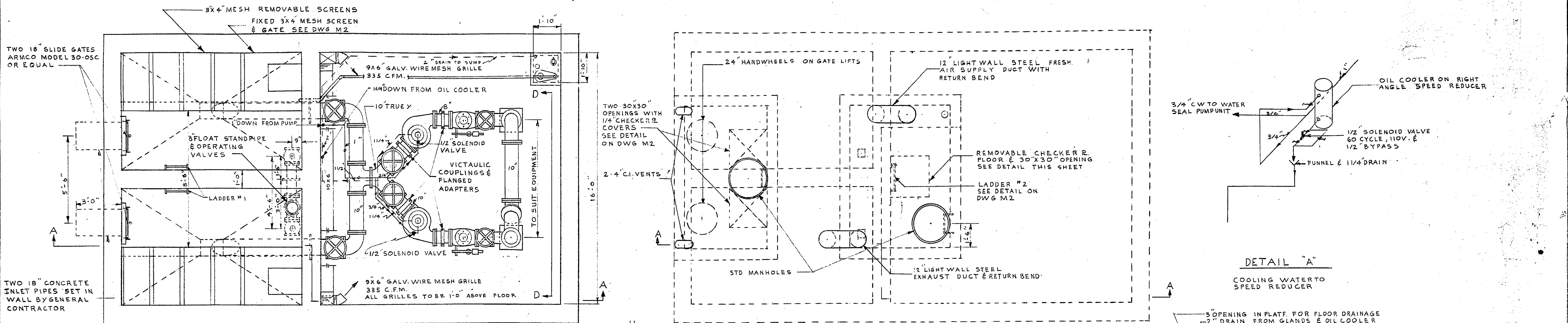


W. L. WARDROP & ASSOCIATES
ENGINEERING CONSULTANTS
WINNIPEG CANADA

LADCO DEVELOPMENT - ST. BONIFACE

ELECTRICAL DETAILS
SEWAGE LIFT STATION

Scale: 3/8" = 1'-0" Date: JULY 15, 1955
 Designed By: W.L.W. Project No. 5321
 Drawn By: W.L.W. Drawing No. 101
 Checked By:



W. L. WARDROP & ASSOCIATES
ENGINEERING CONSULTANTS
MANITOBA CANADA

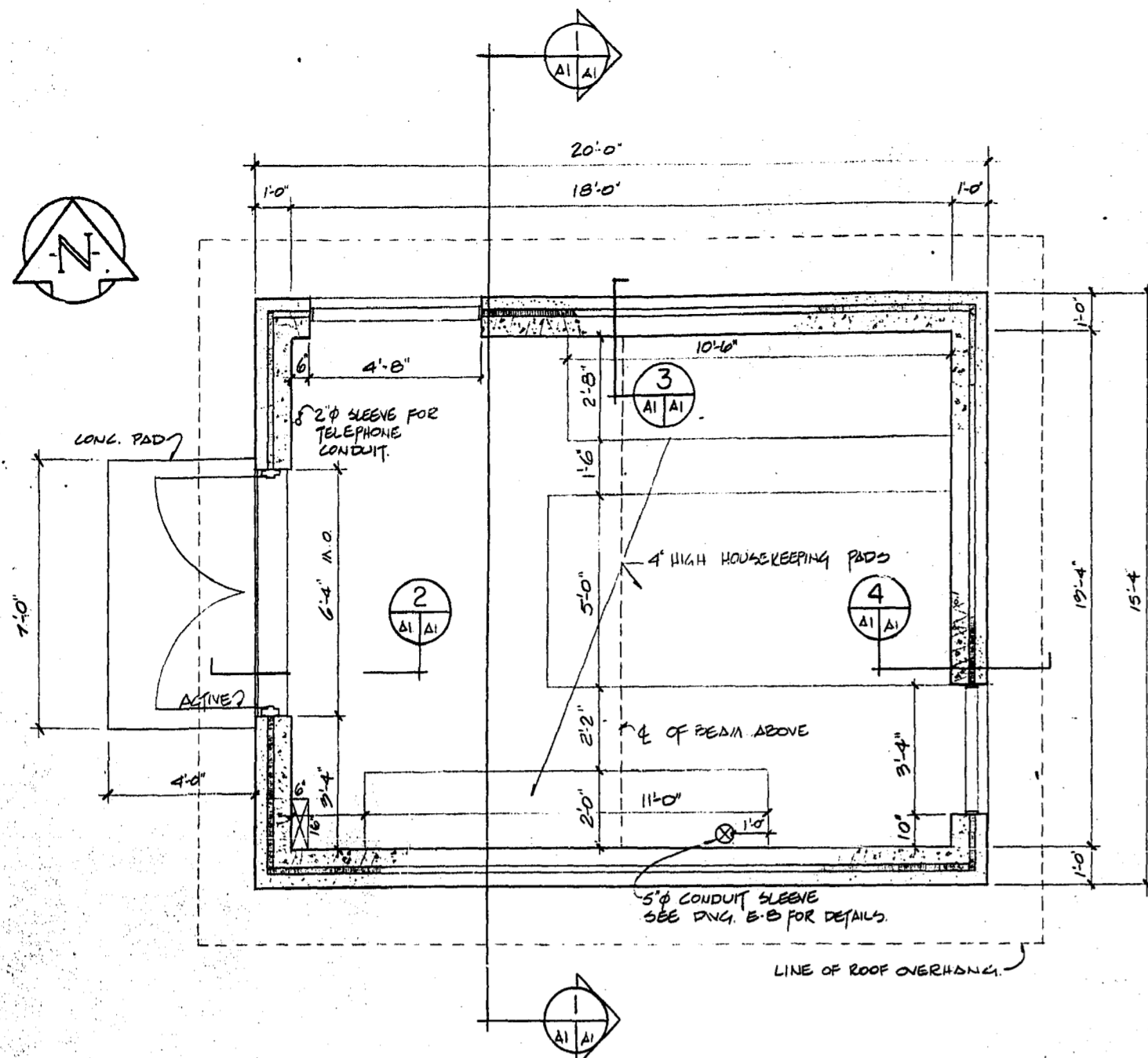
LADCO DEVELOPMENT
ST. BONIFACE MANITOBA
MECHANICAL LAYOUT OF
SEWAGE LIFT STATION

Scale: 3/8" = 1'-0" Date: JULY 16/55

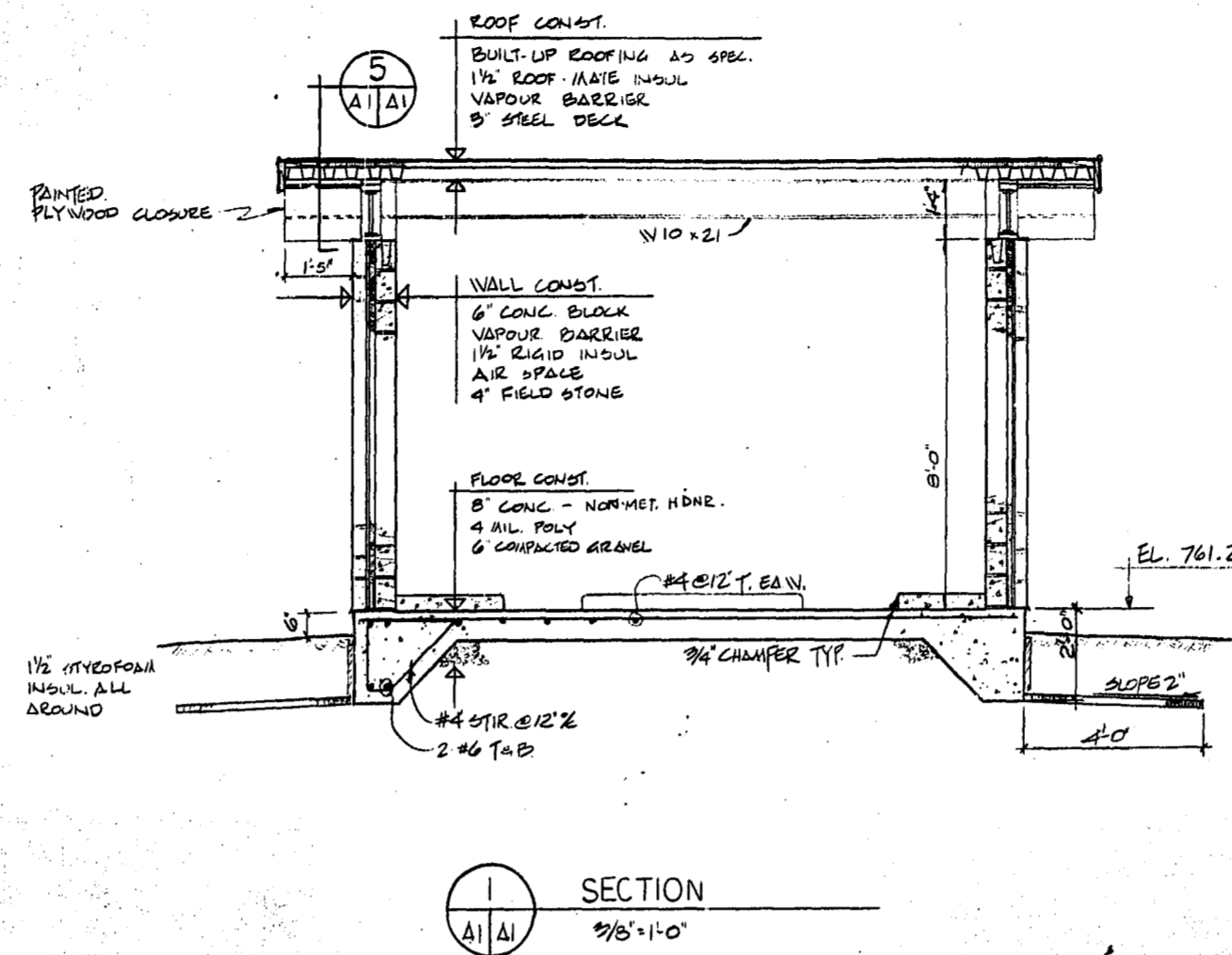
Drawn By: J.L.G. Drawing No: M-1
Checked By: W.L.W. Project No: 5521 968

NO.	DESC.	DATE	BY
1	DIMENSION AND APPROVAL	SEP 21/55	JLG
2	CHD.	SEP 21/55	JLG
3	REVISION	10/10/55	JLG
4	CORRECTIVE WORK	4/17/56	JLG

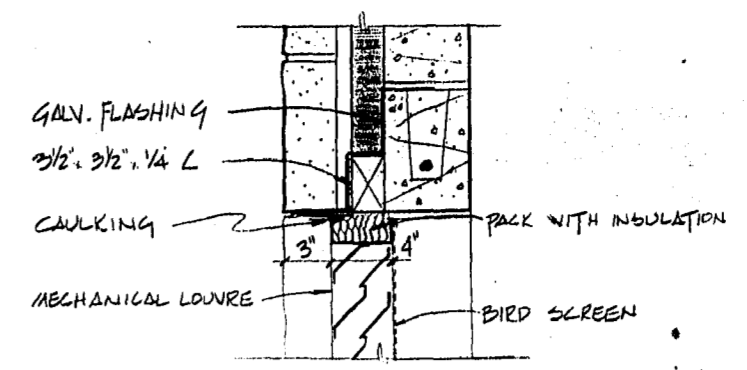
MICROFILMED APR 13 1979



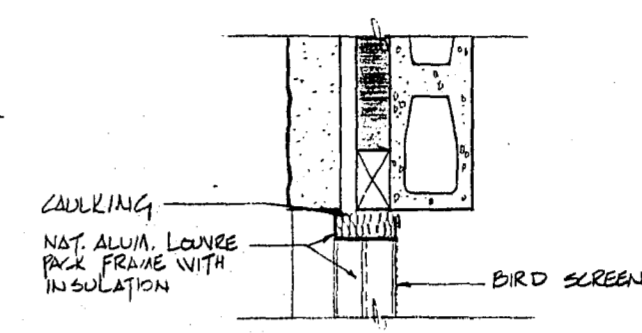
FLOOR PLAN
1/8"=1'-0"



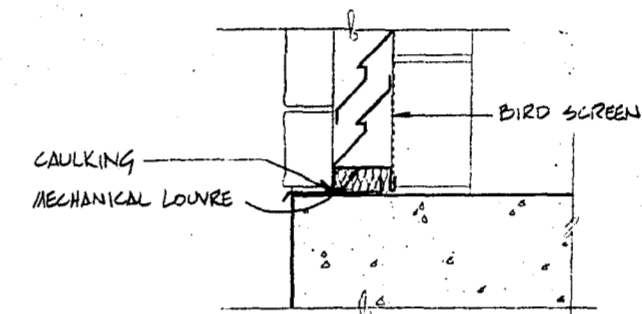
SECTION
1/8"=1'-0"



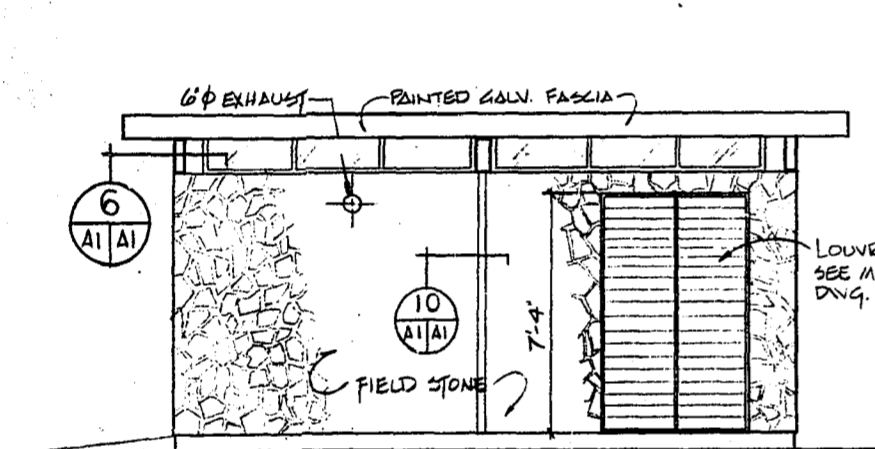
7 HEAD DETAIL
1/2"=1'-0"



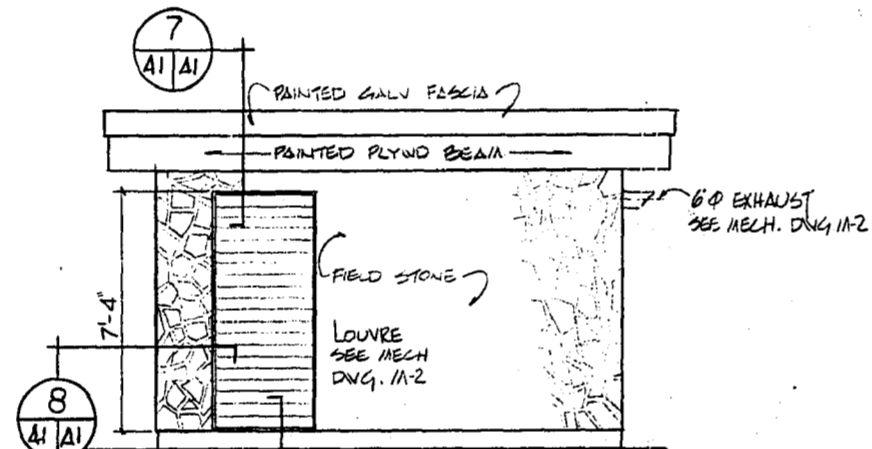
8 JAMB DETAIL
1/2"=1'-0"



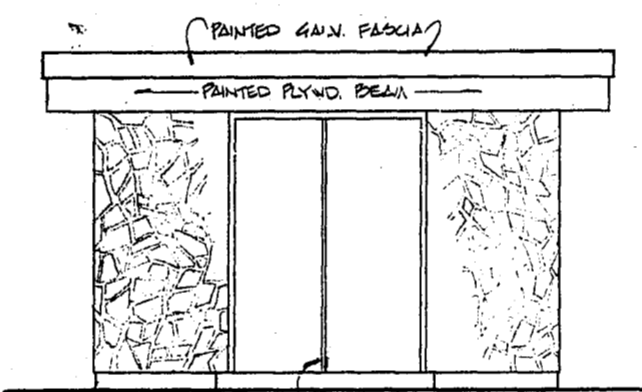
9 SILL DETAIL
1/2"=1'-0"



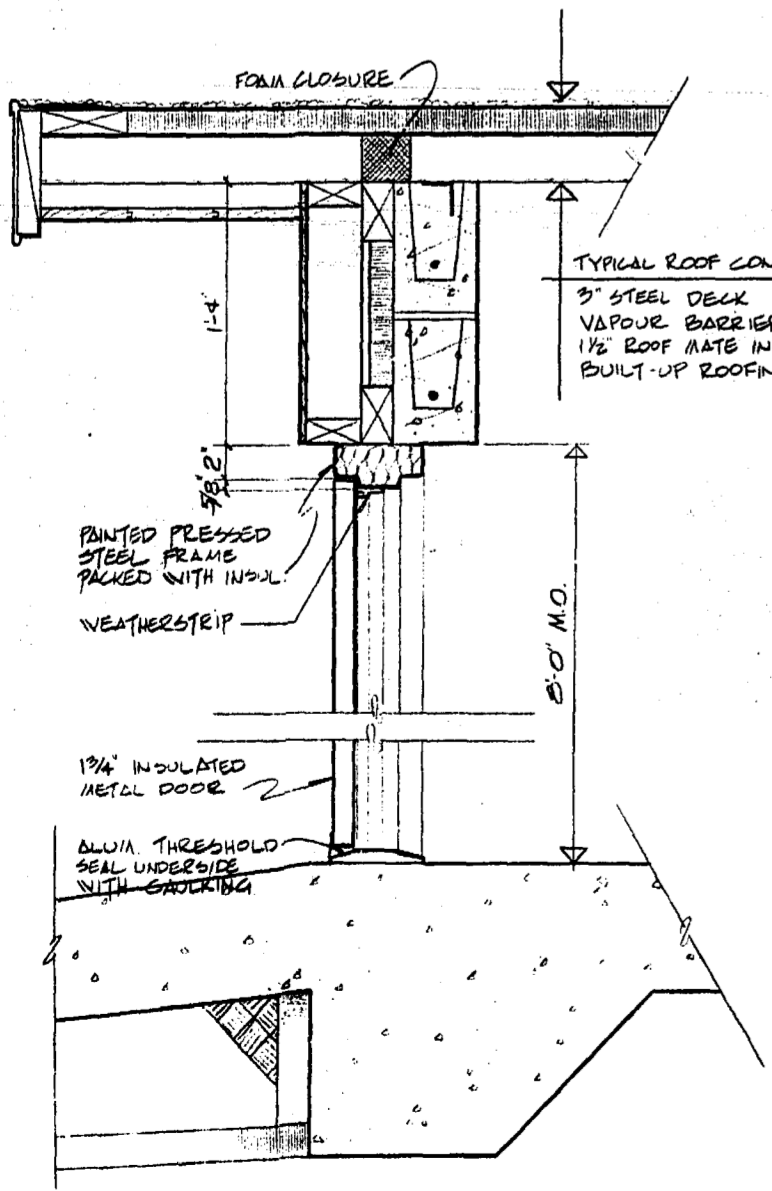
NORTH ELEVATION (SOUTH SIMILAR)
1/4"=1'-0"



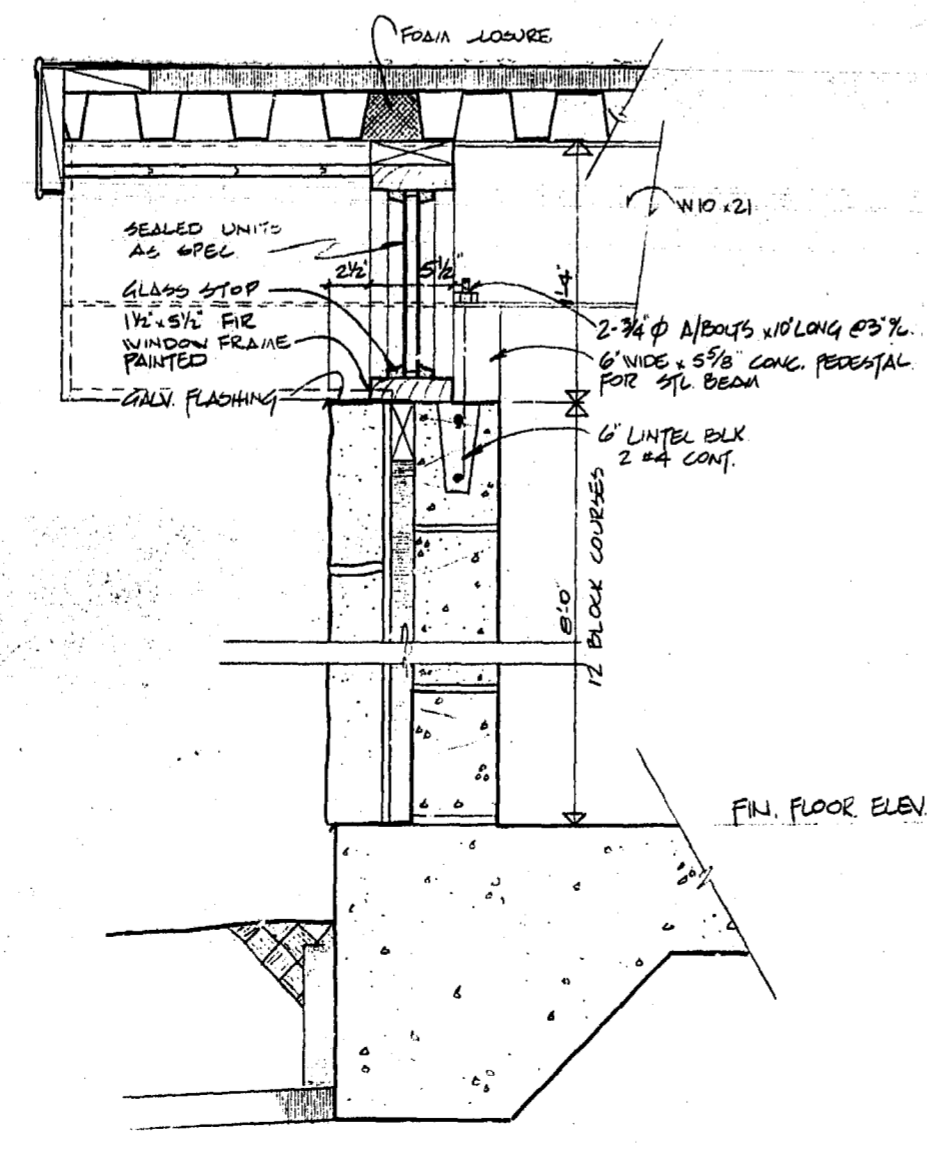
EAST ELEVATION
1/4"=1'-0"



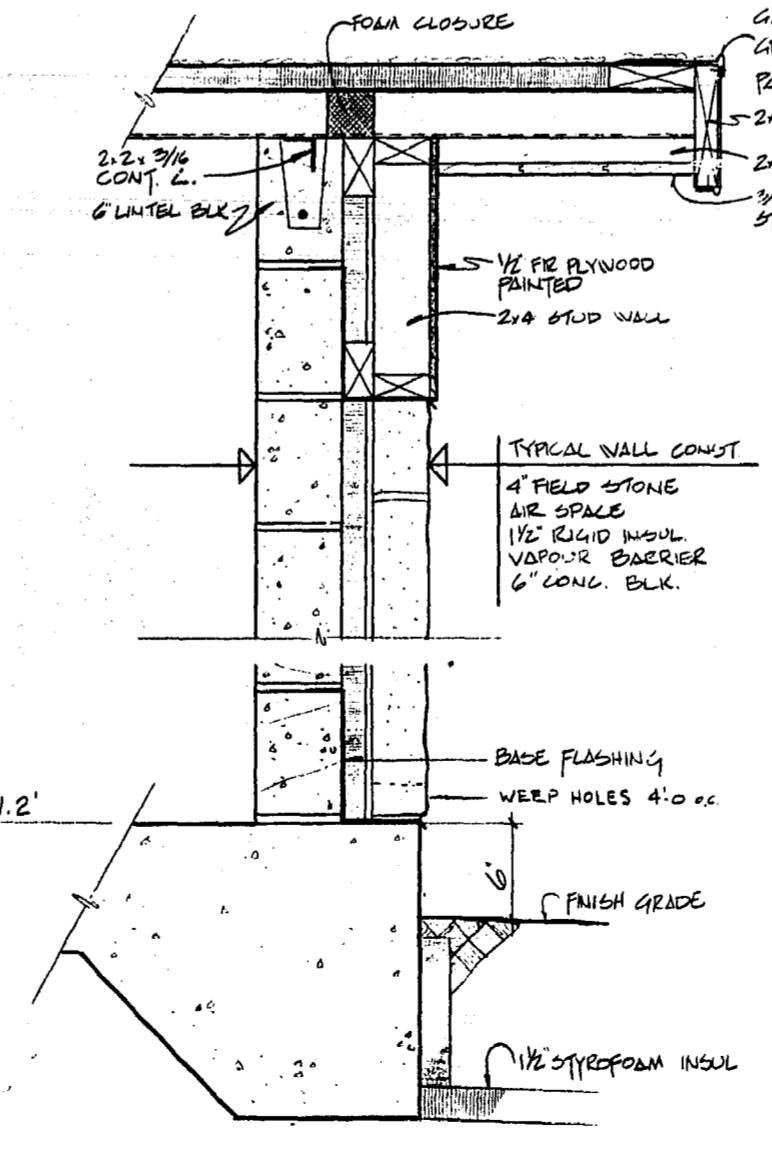
WEST ELEVATION
1/4"=1'-0"



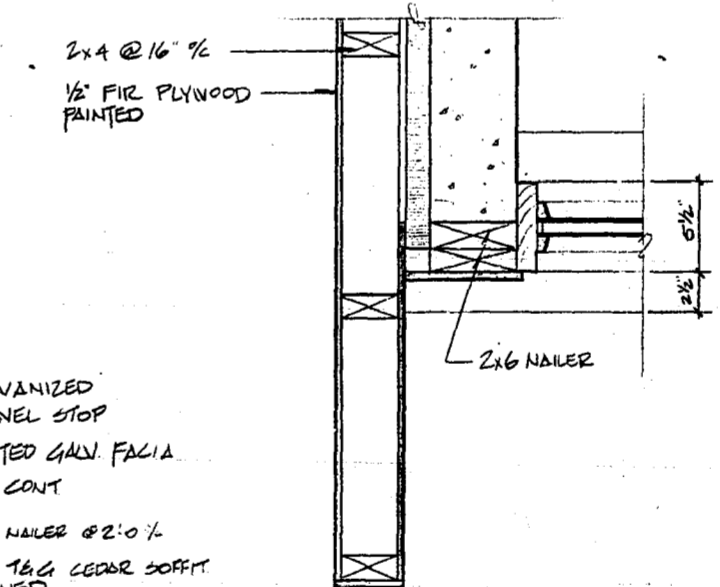
2 SECTION
1/2"=1'-0"



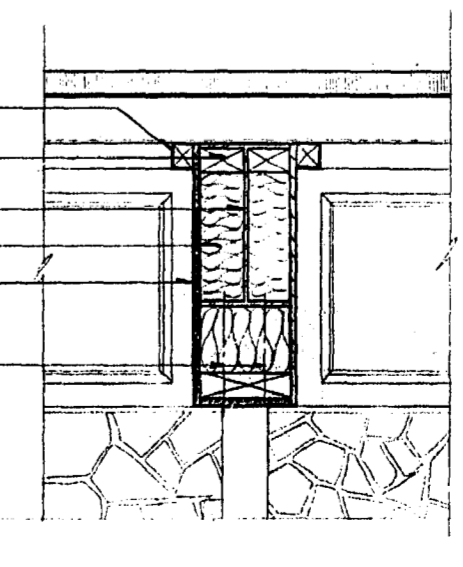
3 SECTION
1/2"=1'-0"



4 SECTION
1/2"=1'-0"



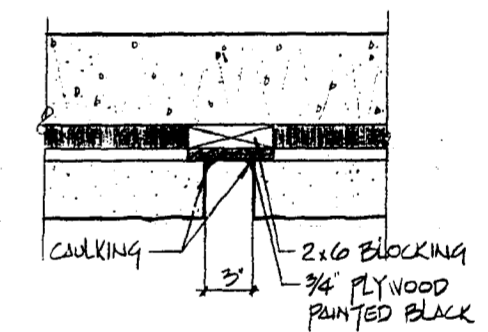
6 DETAIL
1/2"=1'-0"



5 DETAIL
1/2"=1'-0"

1. Materials
 Concrete - Minimum compressive strength at 28 days 3000 psi
 Maximum aggregate size 3/4"
 Maximum slump 4 - inch
 Air content 6 ± 1%
 Cement - Type I Portland Cement
- Minimum Concrete Cover -
 Unformed concrete in contact with earth 3"
 Formed concrete in contact with earth 2"
 Slabs 3/4"
- Reinforcing Steel -
 Intermediate Grade deformed bars conforming to
 CSA G30.12 - 1972 Grade 40
2. Concrete Finishes
 Interior concrete slabs and bases shall have steel
 trowel finish.
 All exposed edges to have a 3/4" chamfer.

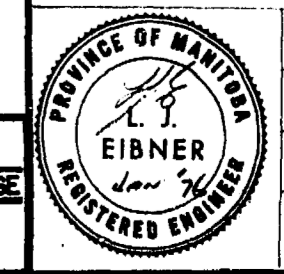
- NOTES:
 1. REFER TO DRAWING E7 FOR CONCRETE TRANSFORMER BASE
 DETAILS BY BUILDING CONTRACTOR.
2. HARDWARE LIST
 3 PAIR F.B.D. 191 C15 BUTTS 1/2" x 4 (NRP)
 1 ONLY G51 PD x PLY/NET x 3/2 D. x TAD LOCK SET
 2 ONLY 1-3/4 x C15 DOOR STOPS
 2 ONLY H3 1251 x 12" C15 FLUSH EXT BOLTS
 3. FOR LOCATIONS OF MECHANICAL AND ELECTRICAL
 OPENINGS REFER TO MECHANICAL AND ELECTRICAL
 DRAWINGS.

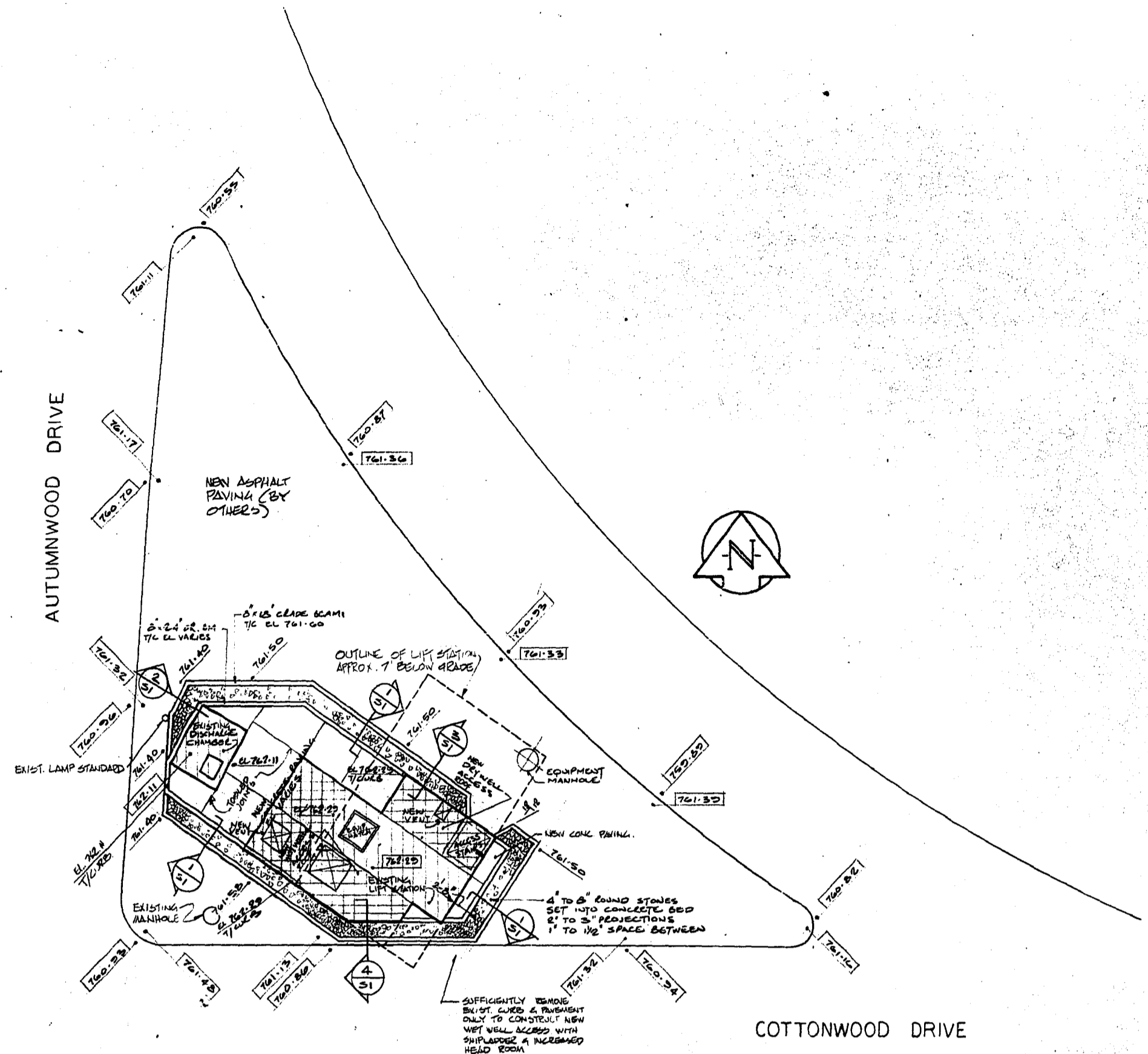


10 SECTION
1/2"=1'-0"

NO.	DESCRIPTION	DATE
REVISIONS		
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5		
W.L. WARDROP & ASSOCIATES LTD. ENGINEERING CONSULTANTS WINNIPEG • THUNDER BAY • REGINA • SASKATOON • EDMONTON		
WINDSOR PARK LIFT STATION NEW GENERATING STATION PLAN, ELEVATIONS, SECTIONS, & DETAILS		
DESIGNED BY:	DRAWN BY:	CHECKED BY:
J.K.	D.A.	J.B.
APPROVED BY:	DATE: DEC 1/75	
SCALE: AS SHOWN		REV
DRAWING NO: 76012-04-A1		REV

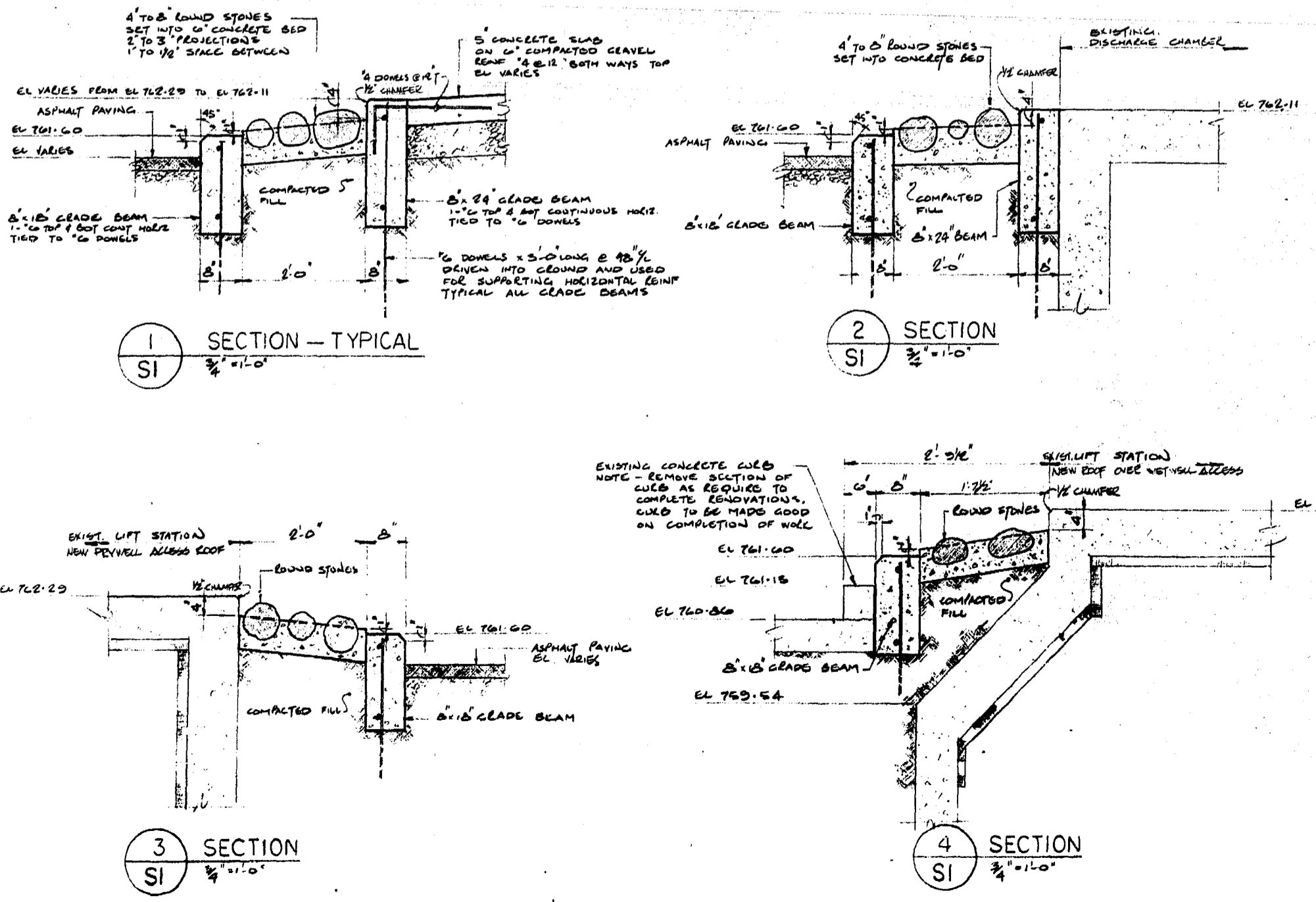
AS-BUILT
 DATE: FEB. NO. PAGE
 76012



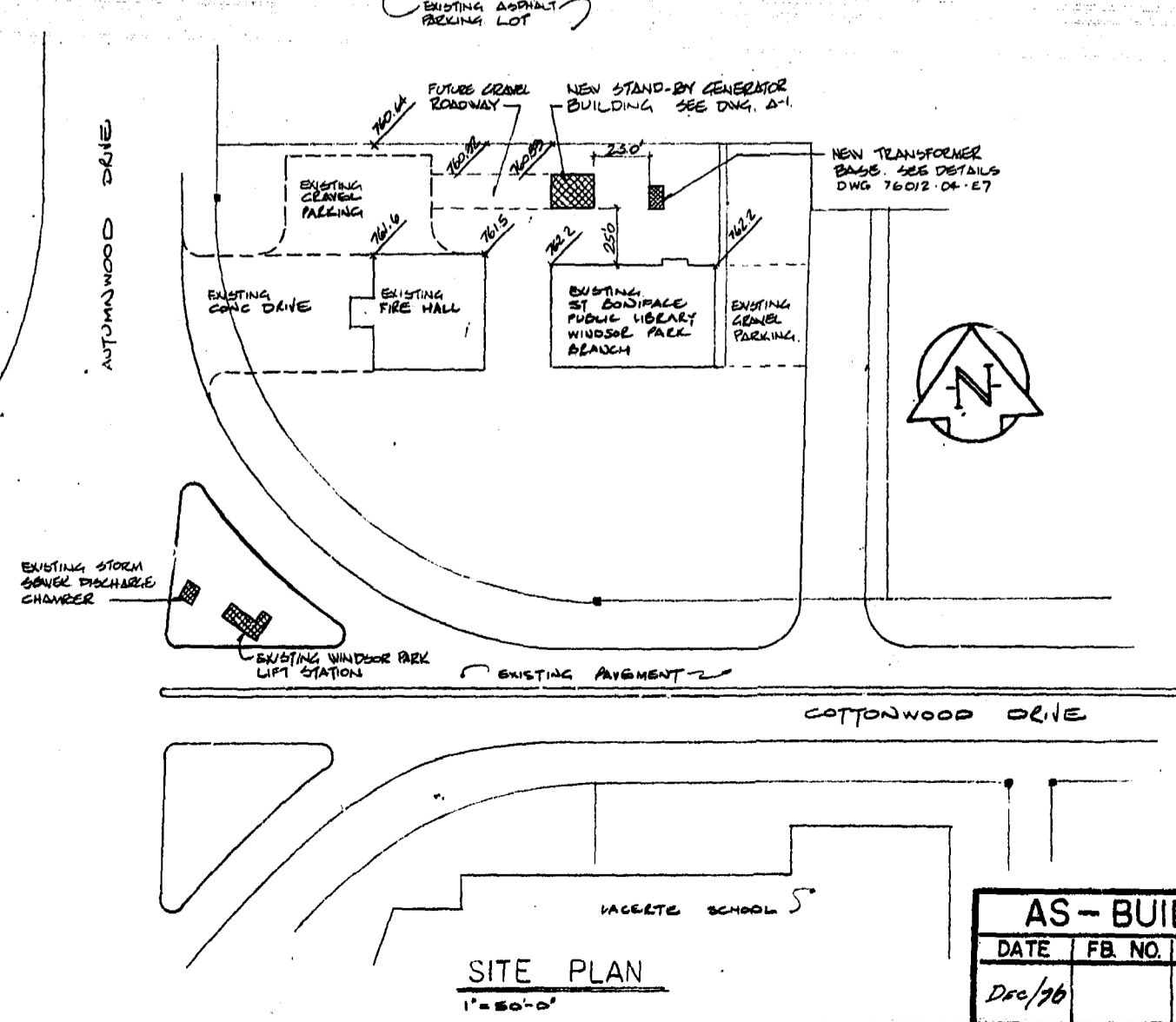


PLAN OF LIFT STATION SITE
1"=10'-0"

EXISTING ELEVATIONS SHOWN THIS $\frac{1}{2}$ "=1'-0"
 NEW ELEVATIONS SHOWN THIS $\frac{1}{2}$ "=1'-0"
 EXISTING CONC. HATCHED $\parallel\parallel$
 NEW CONC. CONSTRUCTION CROSS-HATCHED $\times\times$

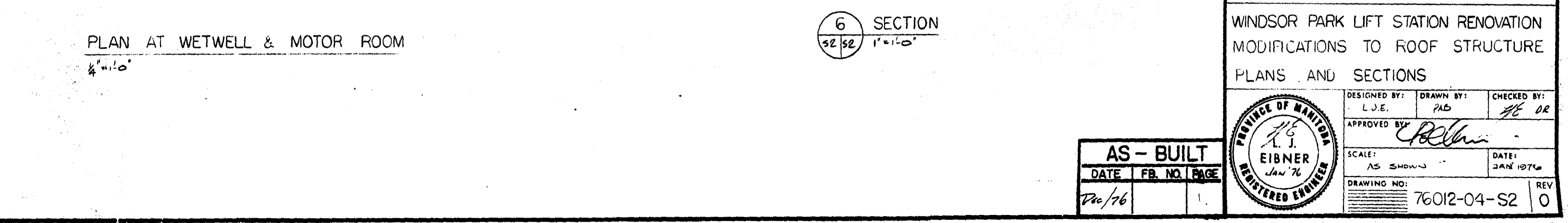
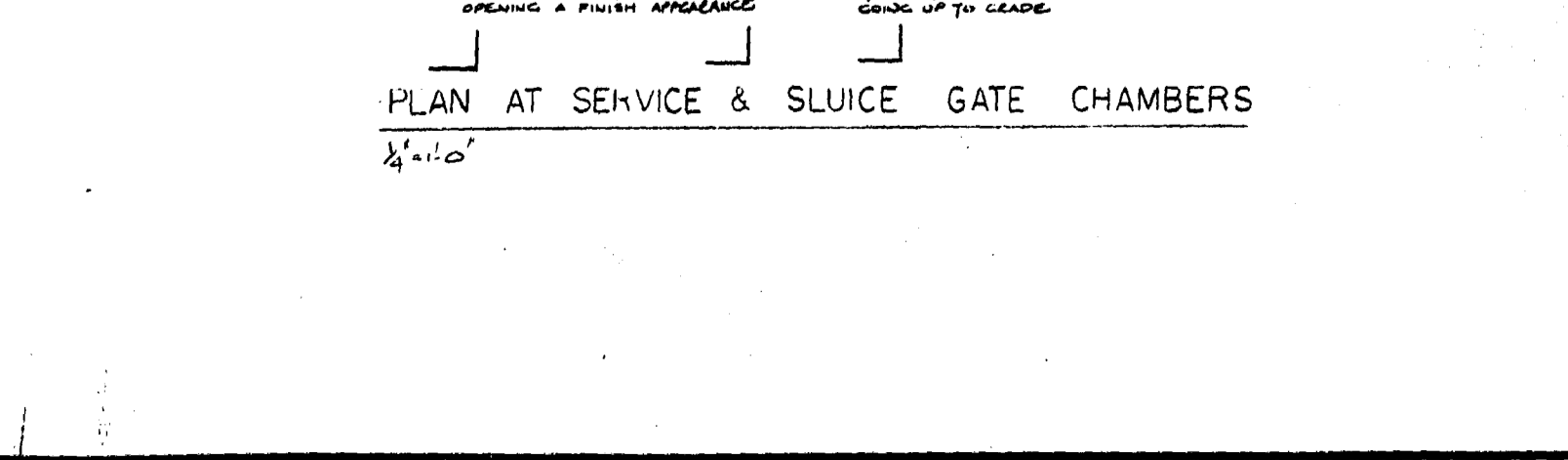
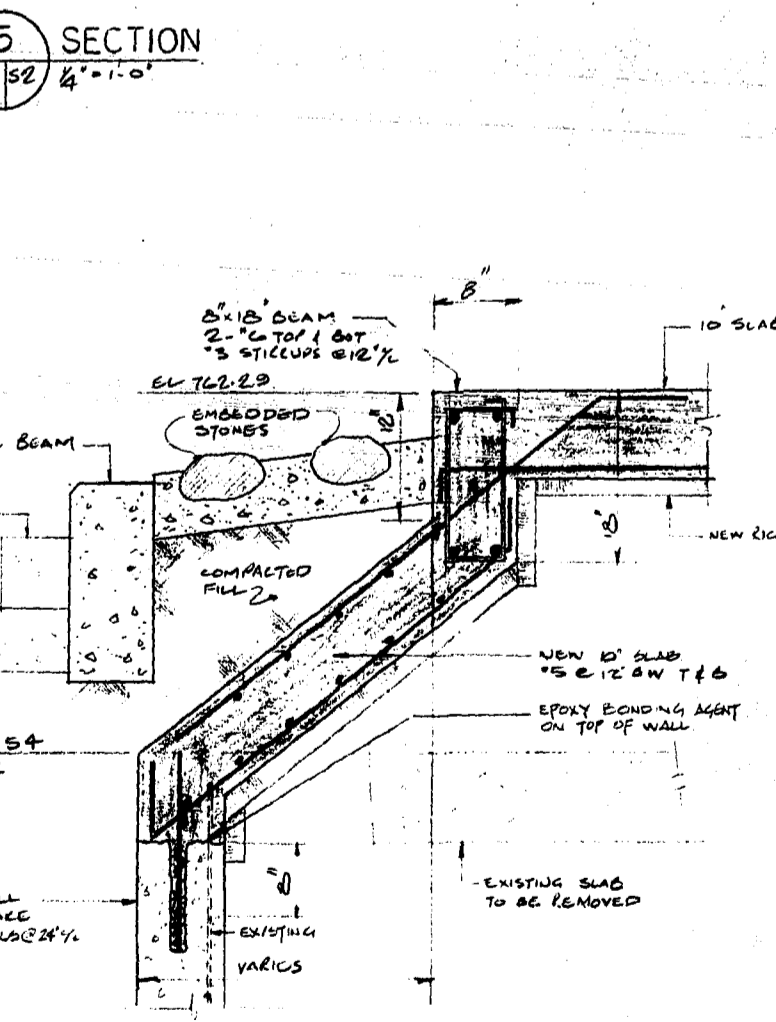
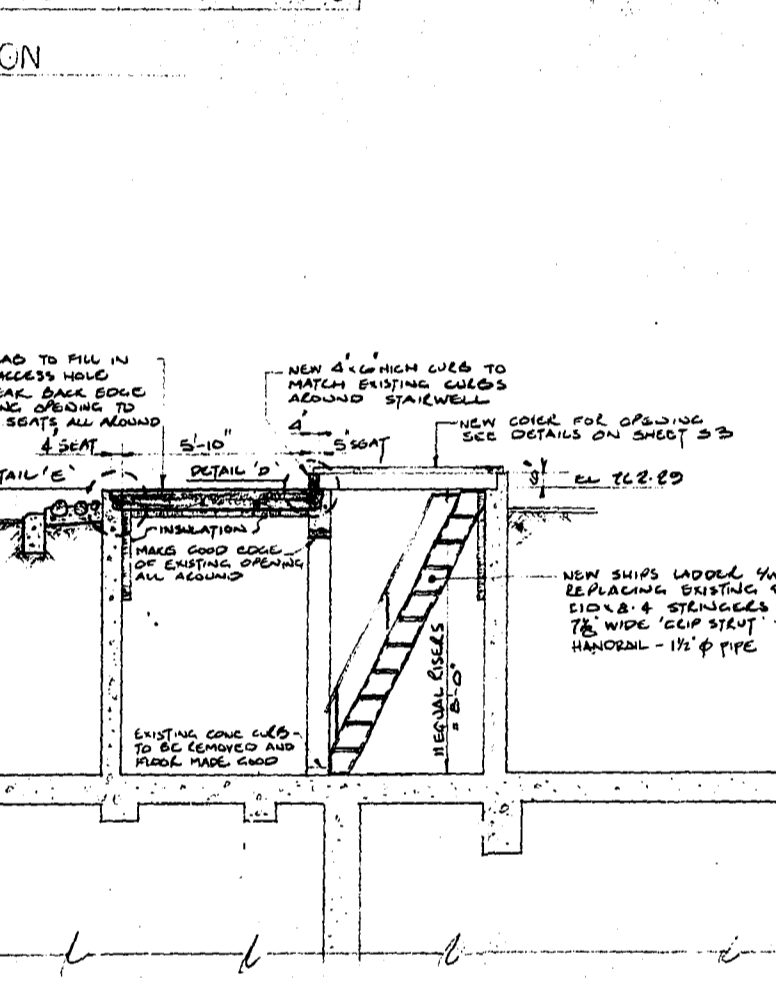
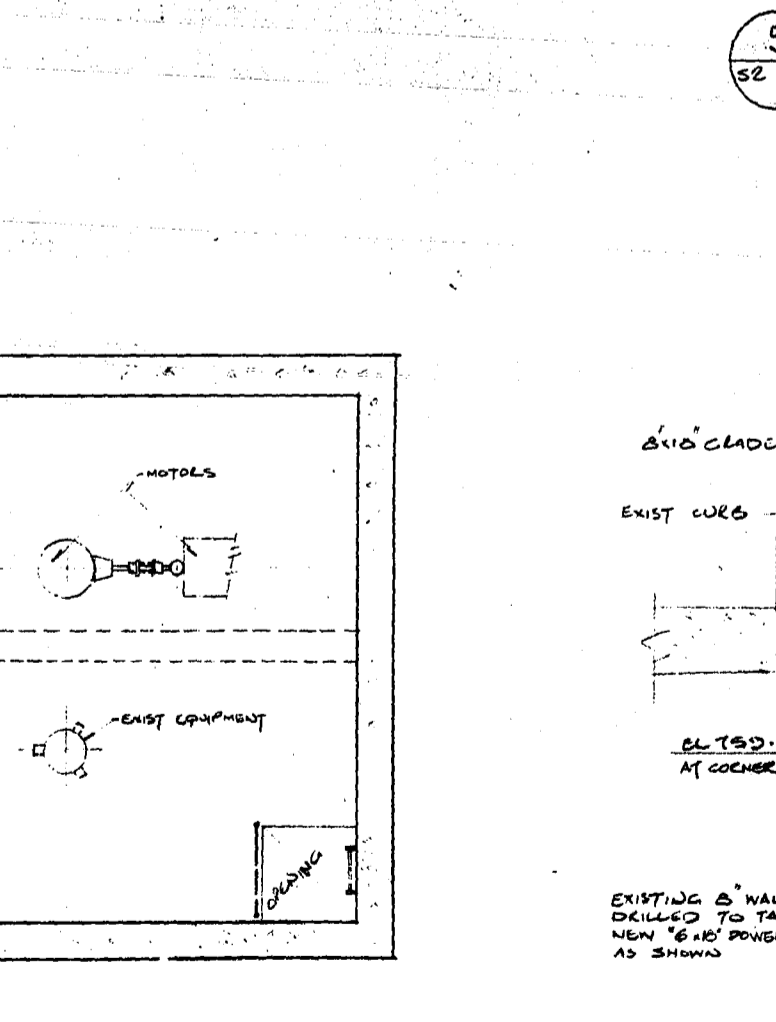
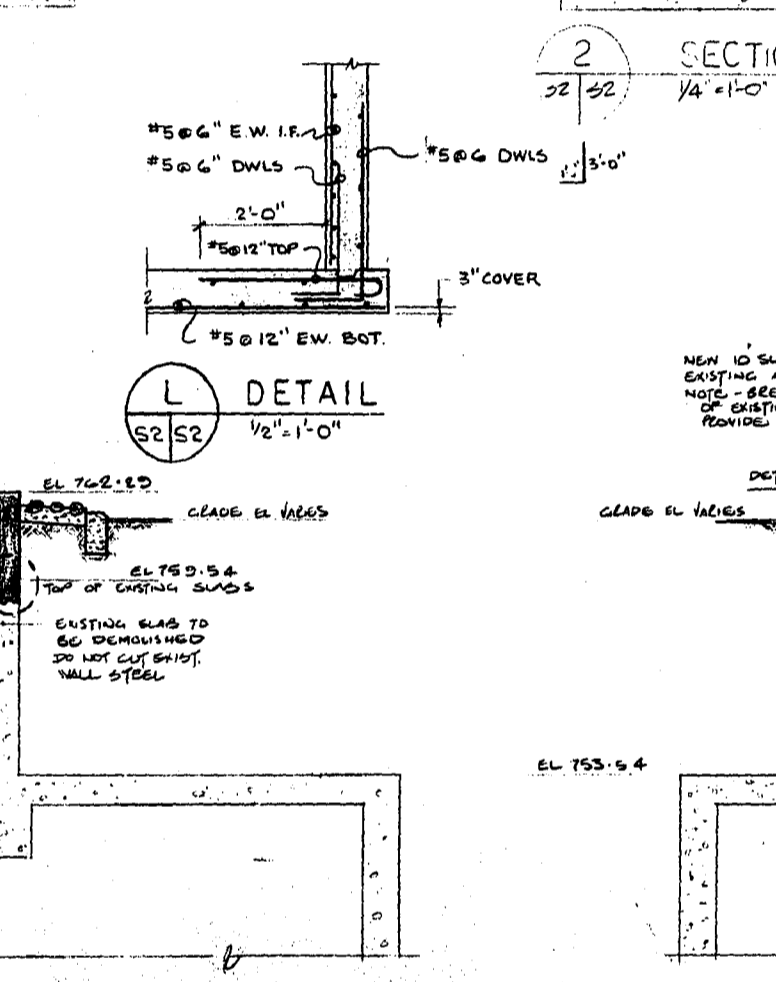
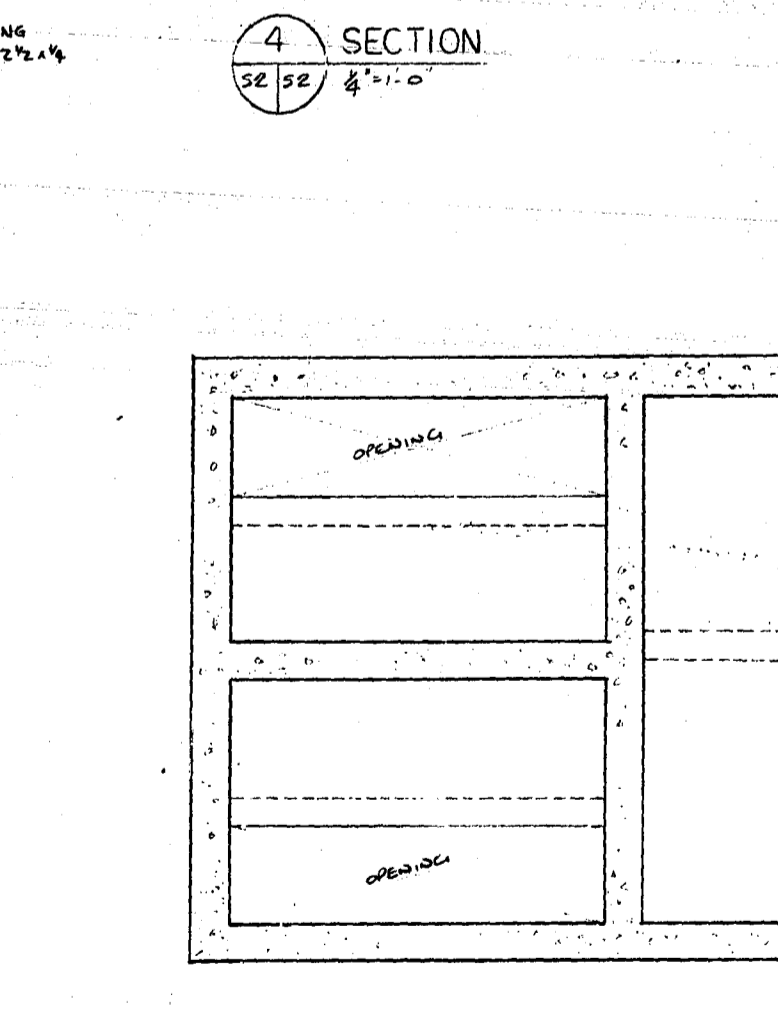
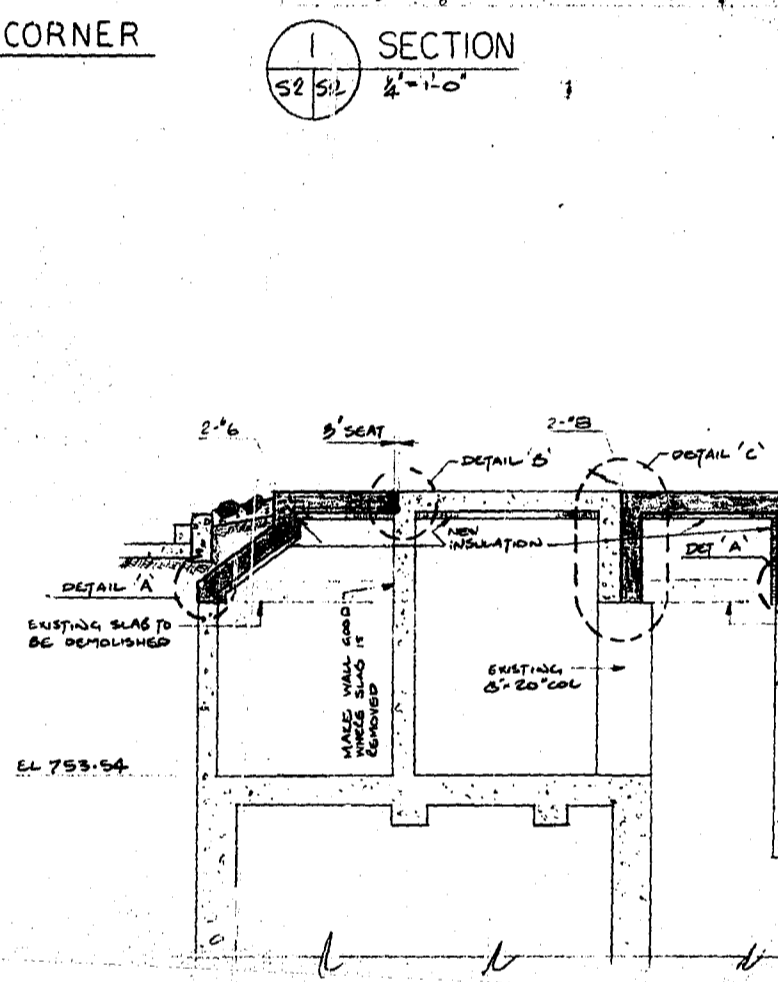
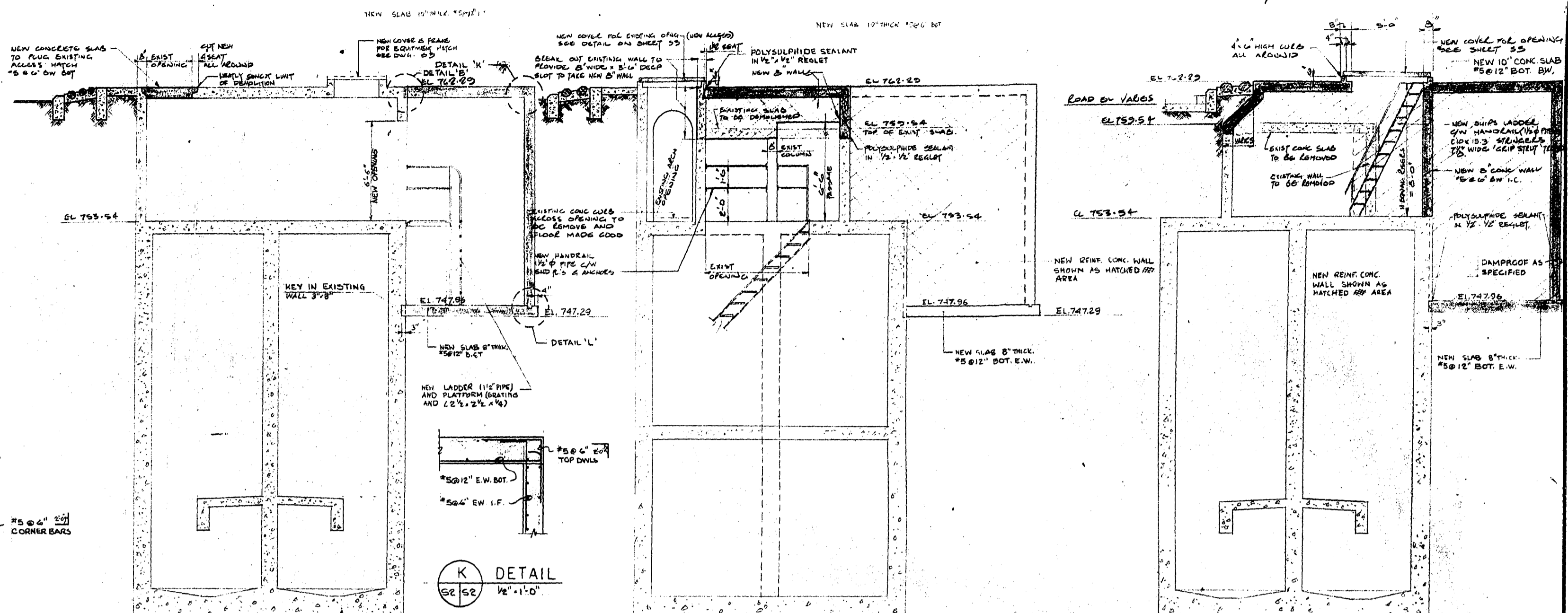
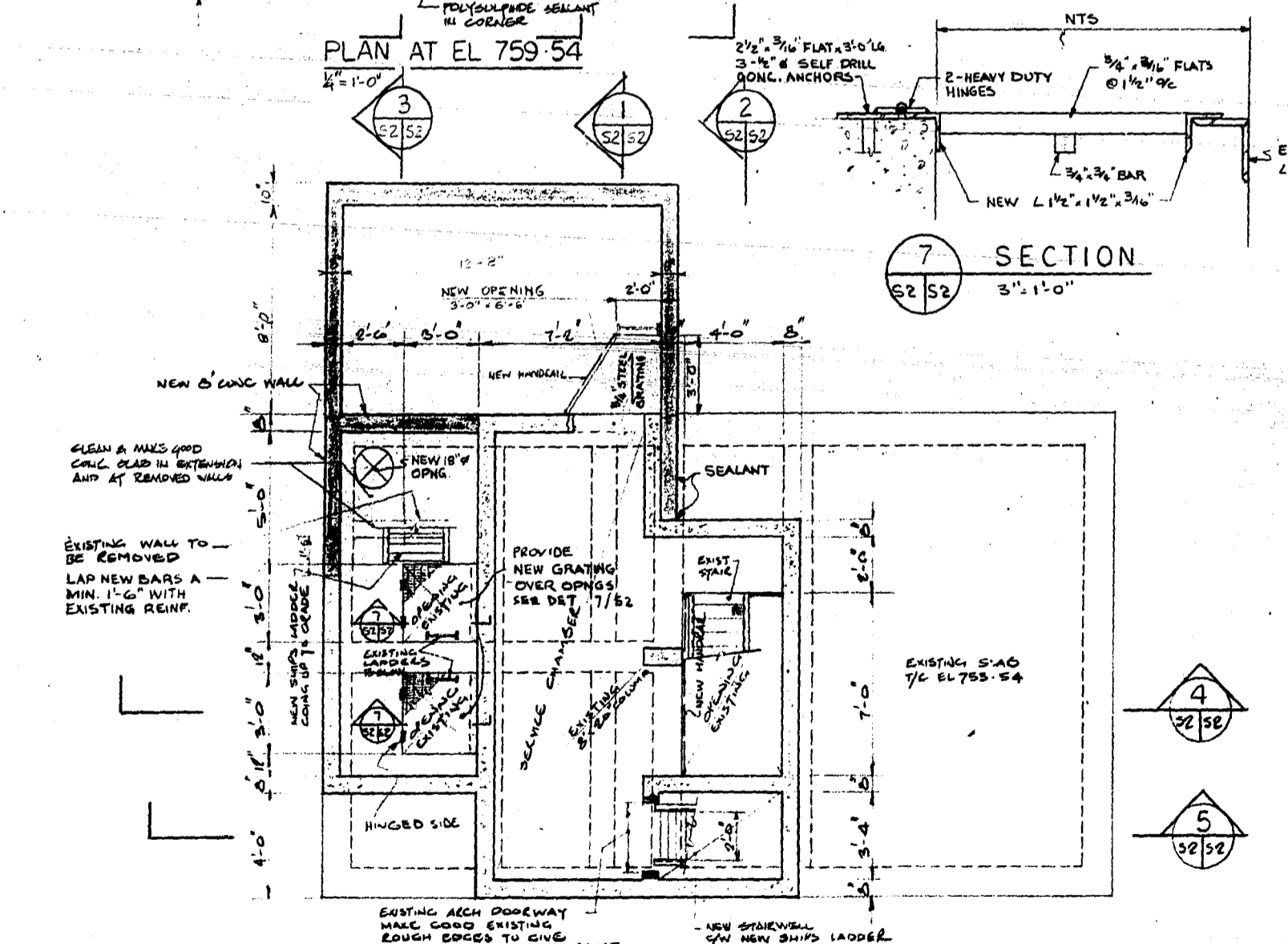
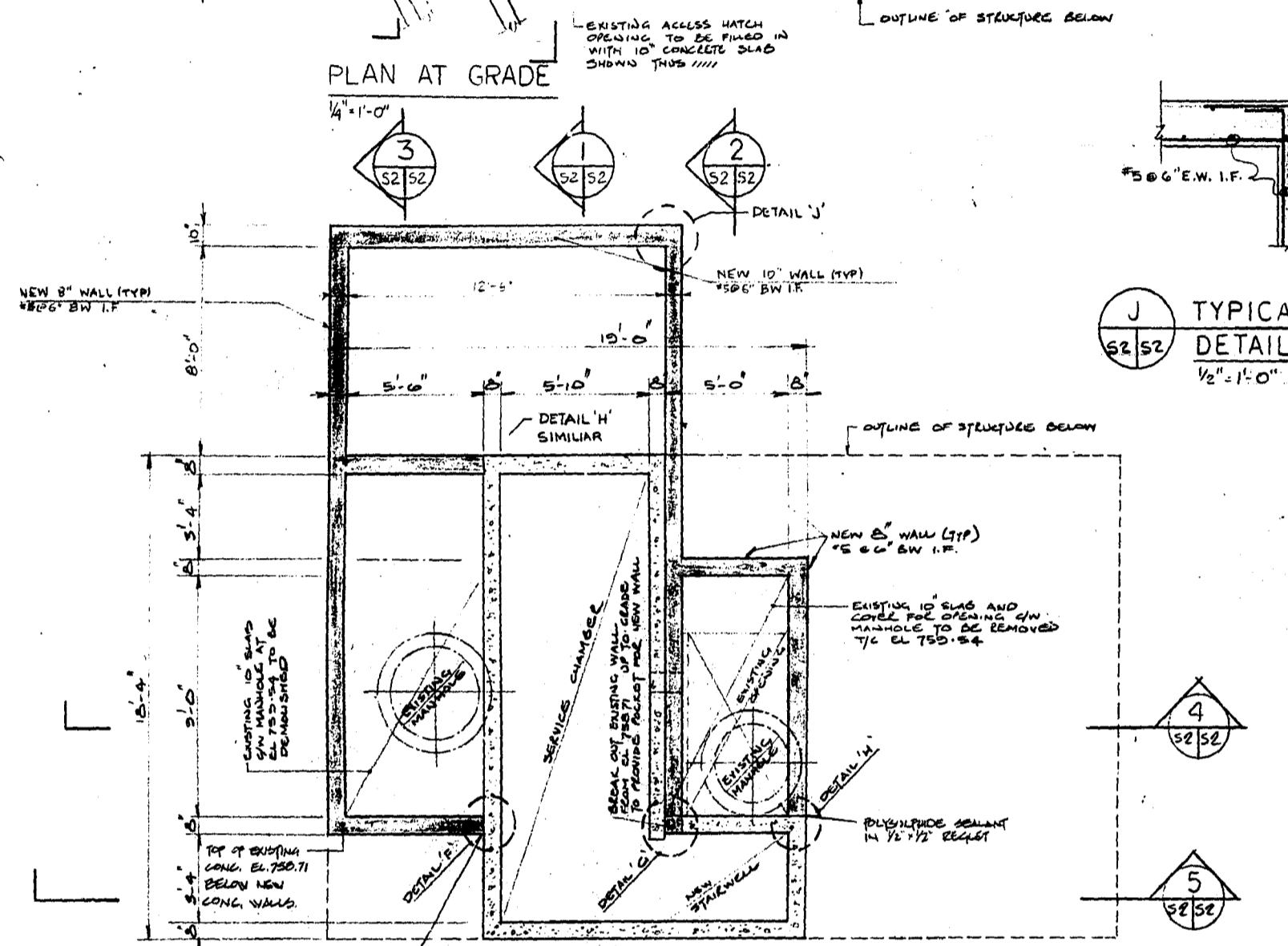
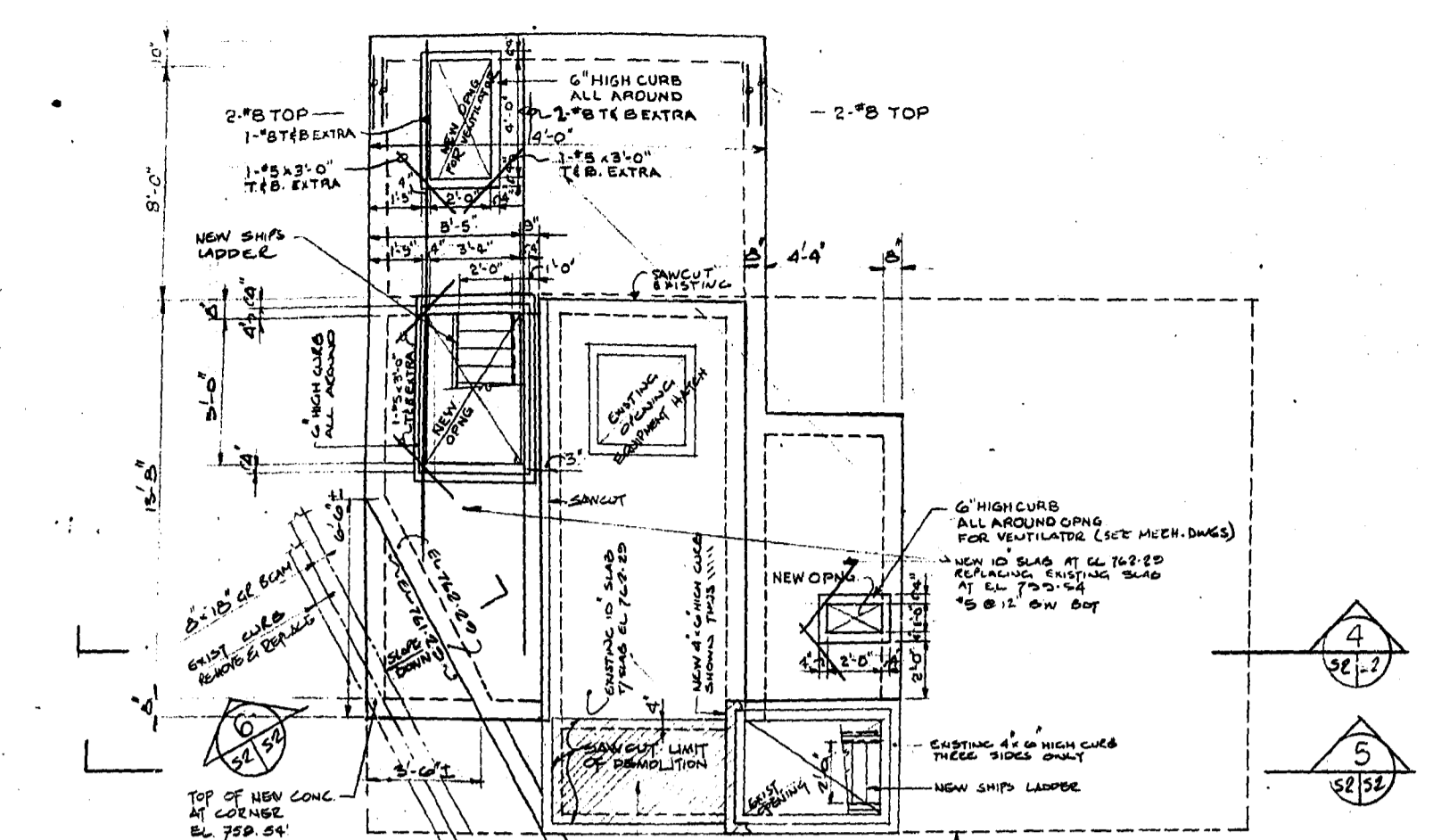


REFERENCE DRAWINGS
 W.L.W. CONTRACT DRAWINGS
 NO. 5581 - ORIGINAL WETWELL & DRYWELL 1955
 NO. 6340 - STORM PUMP ADDITION & DISCHARGE CHAMBER 1964
 NO. 68001-04 - VENTILATION EQUIP. ADDITION 1969



NO.	DESCRIPTION	DATE	BY
REVISIONS			
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5			
WINDSOR PARK LIFT STATION RENOVATION SITE PLAN PAVING AND CURB SECTIONS & DETAILS			
DESIGNED BY:	L.S.C.	DRAWN BY:	P.A.E.
APPROVED BY:		CHECKED BY:	M. DR.
SCALE:	AS SHOWN	DATE:	JAN 1976
DRAWING NO.:	76012-04-SI	REV.	0

AS-BUILT
 DATE: FEB. NO. 1 PAGE
 Dec/76

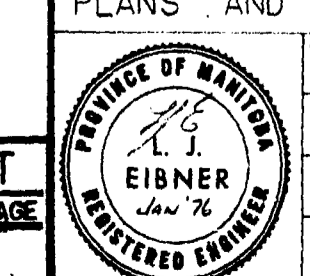


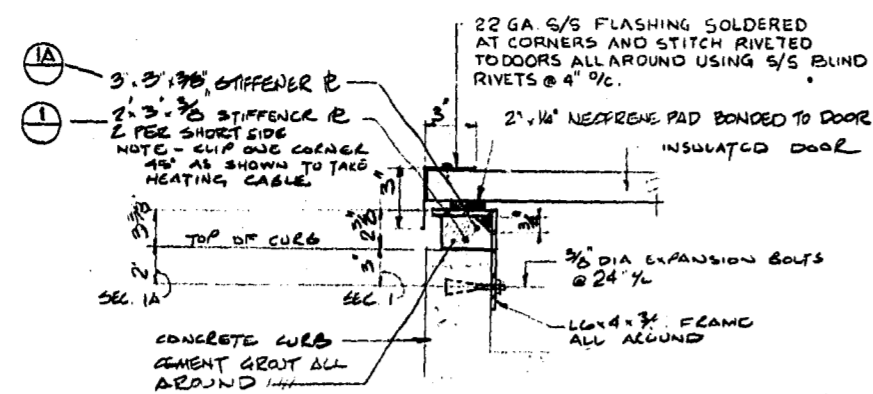
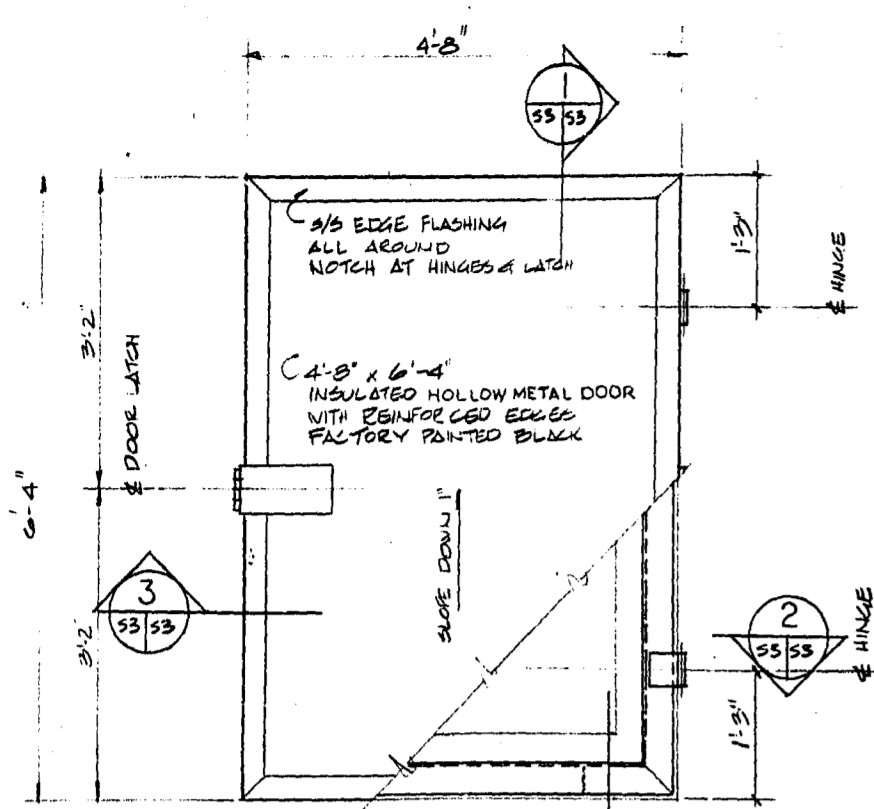
1. Materials
- Concrete - Minimum compressive strength at 28 days 3000 psi
Maximum aggregate size 3/4"
Maximum slump 4 - inch
Air content 6 ± 1%
Cement - Type I Portland Cement
 - Minimum Concrete Cover -
Uniformed concrete in contact with earth 3"
Formed concrete in contact with earth 2"
All other surfaces 1-1/2"
Slabs and Walls 3/4"
 - Reinforcing Steel -
Intermediate Grade deformed bars conforming to
CSA G30.12 - 1972 Grade 40
 - Concrete Finishes
All concrete shall have a wood float finish.

- NOTES:
1. DETAILS A TO H INCLUSIVE ON DWG. S-3
 2. SEE MECHANICAL & ELECTRICAL DWGS FOR ADD'L OPNS IN CONC.

NO. DESCRIPTION	DATE BY
REVISIONS	
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5	
W. L. WARDROP & ASSOCIATES LTD. ENGINEERING CONSULTANTS WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON	
WINDSOR PARK LIFT STATION RENOVATION MODIFICATIONS TO ROOF STRUCTURE PLANS AND SECTIONS	
DESIGNED BY: L.J.E.	CHECKED BY: J.F. DR
DRAWN BY: PAB	DATE: JAN 76
APPROVED BY: [Signature]	DRAWING NO: 76012-04-S2
SCALE: AS SHOWN	REV: 0

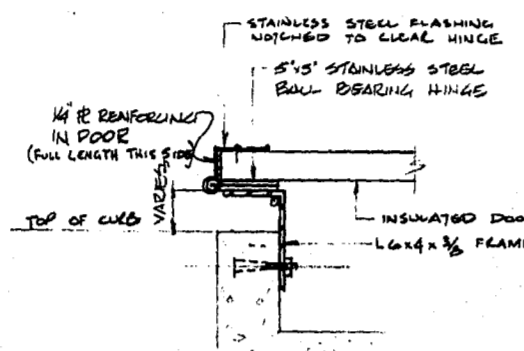
AS - BUILT
DATE: FEB 76





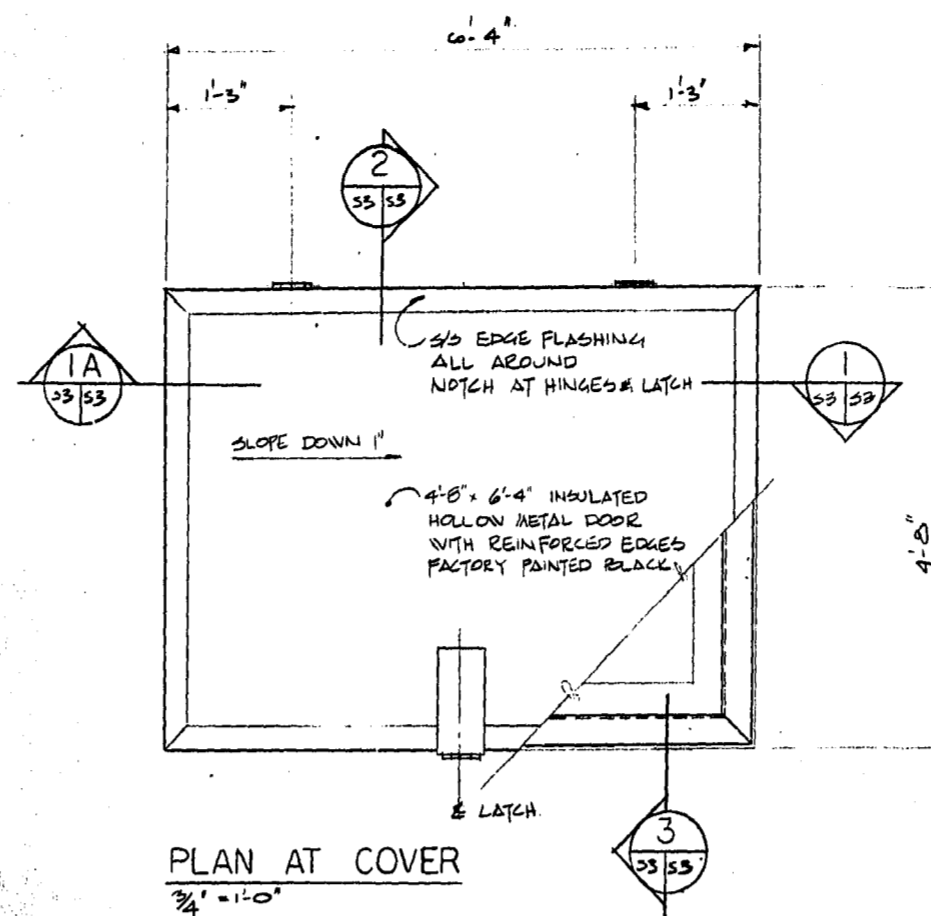
1 TYPICAL CURB DETAIL 1/2" x 1'-0"

1A SIMILAR - EXCEPT STIFFENER @ 2" PITCH

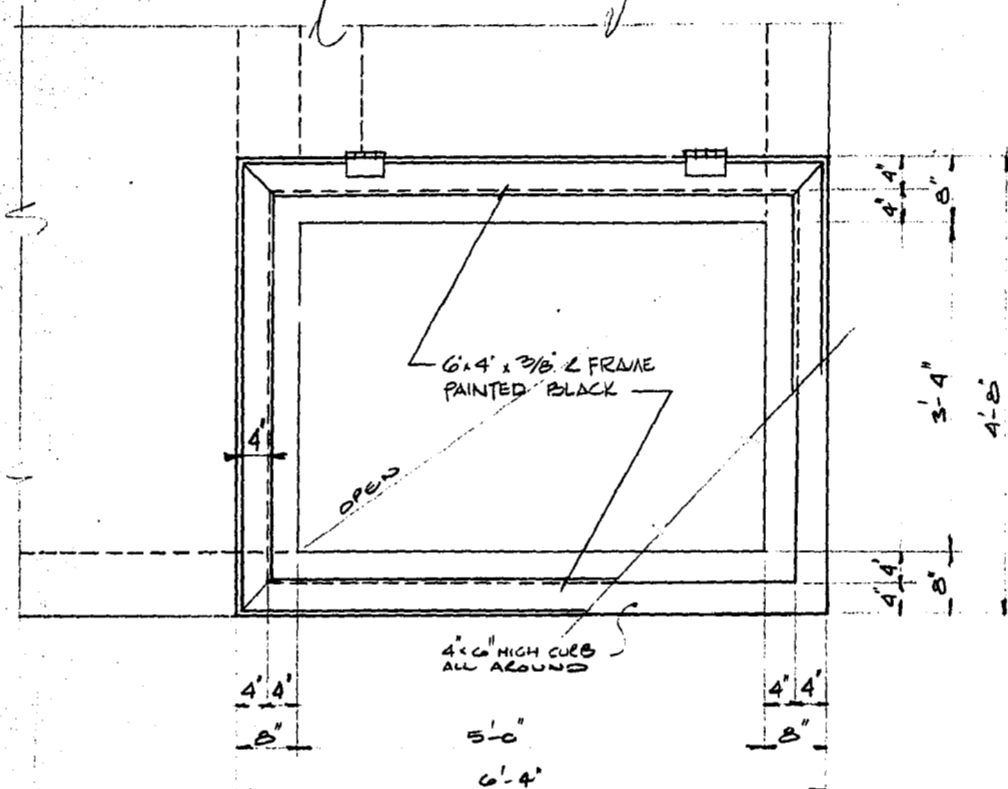


2 HINGE DETAIL 1/2" x 1'-0"

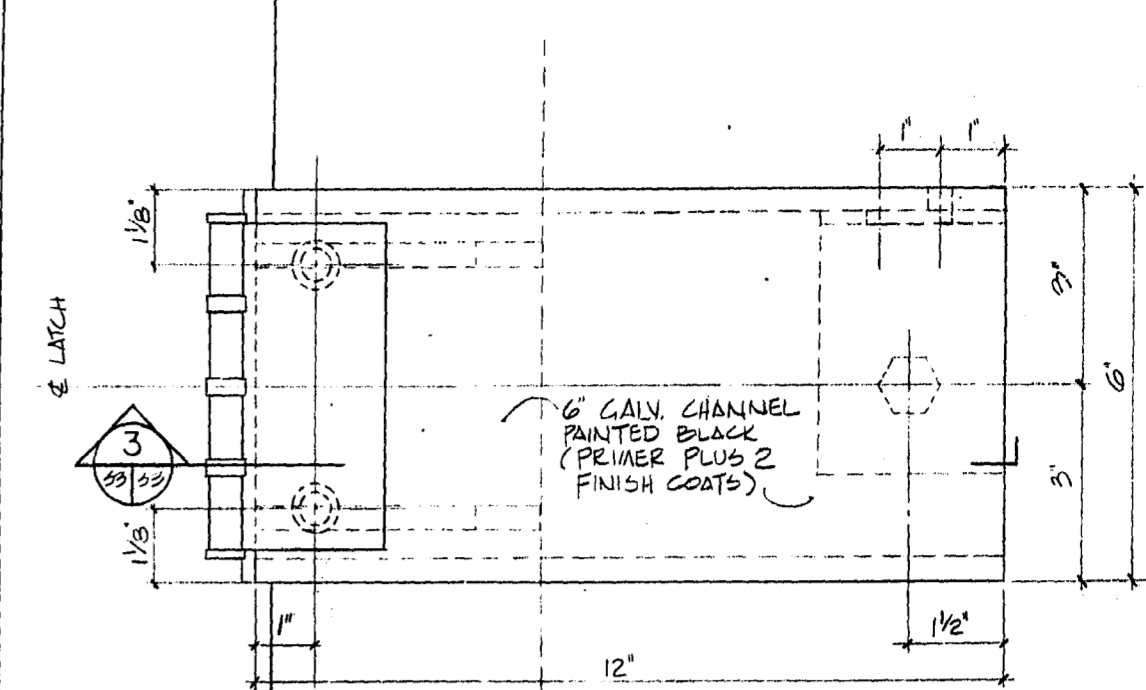
NOTE: DRYWELL & WETWELL FRAMES ARE THE SAME EXCEPT FOR STIFFENERS WITH RESPECT TO LATCH.



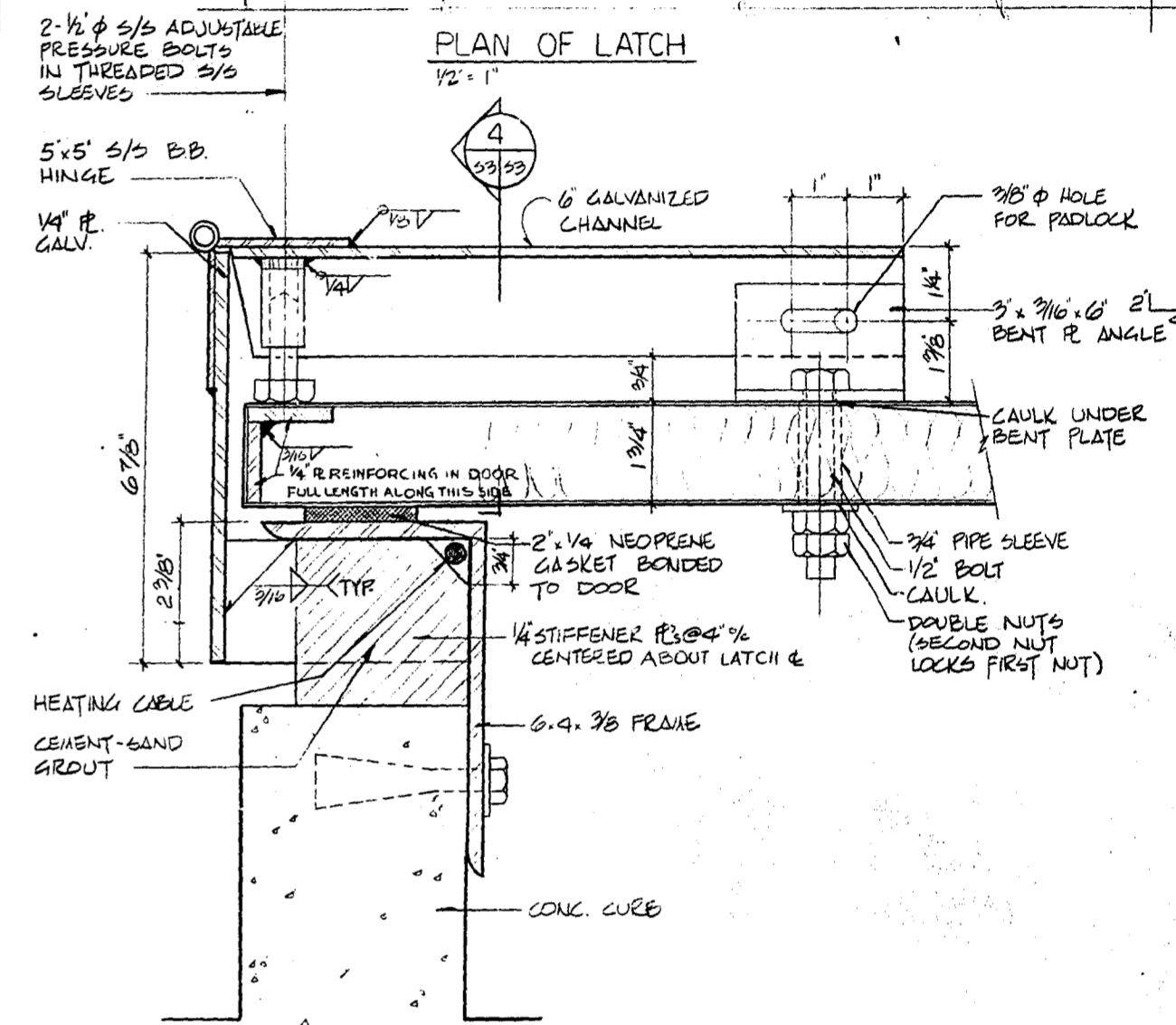
PLAN AT COVER 3/4" x 1'-0"



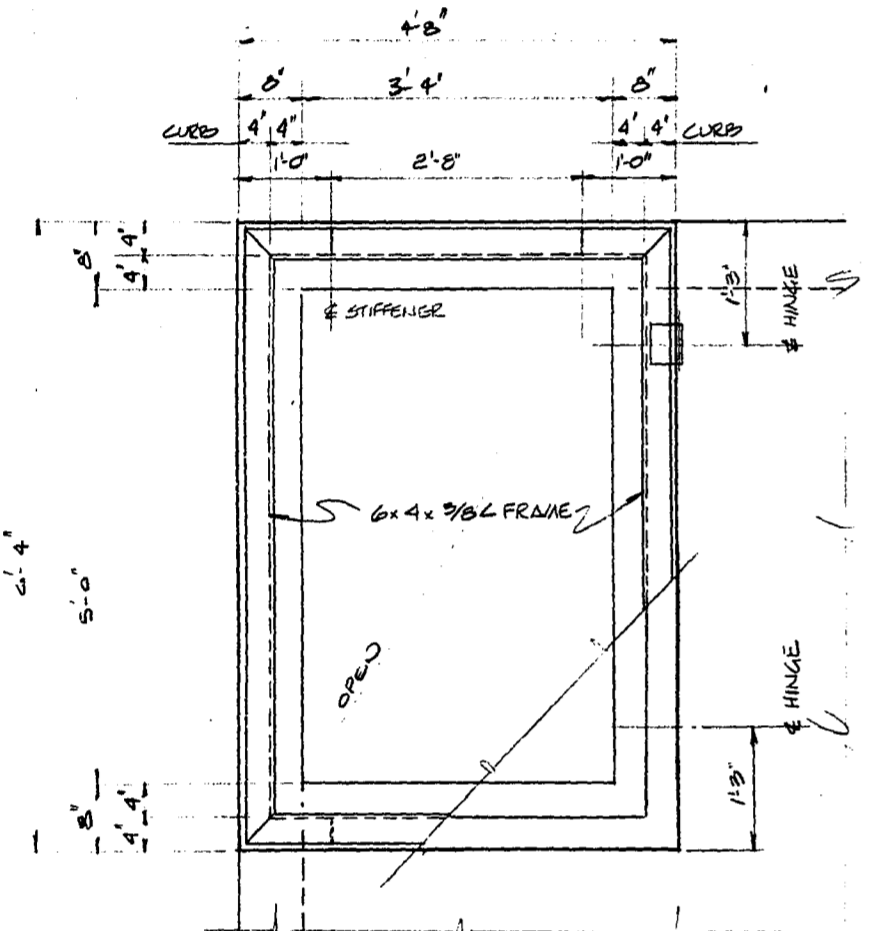
PLAN AT FRAME DRYWELL ACCESS DOOR 3/4" x 1'-0"



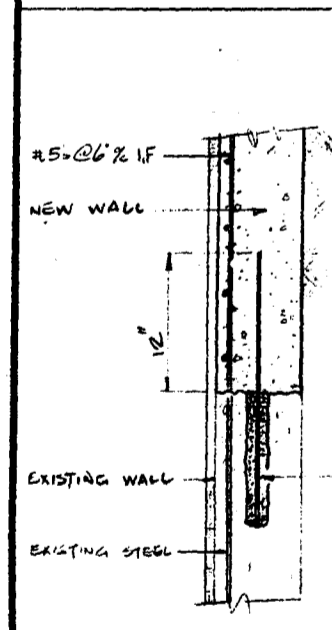
PLAN OF LATCH 1/2" x 1'-0"



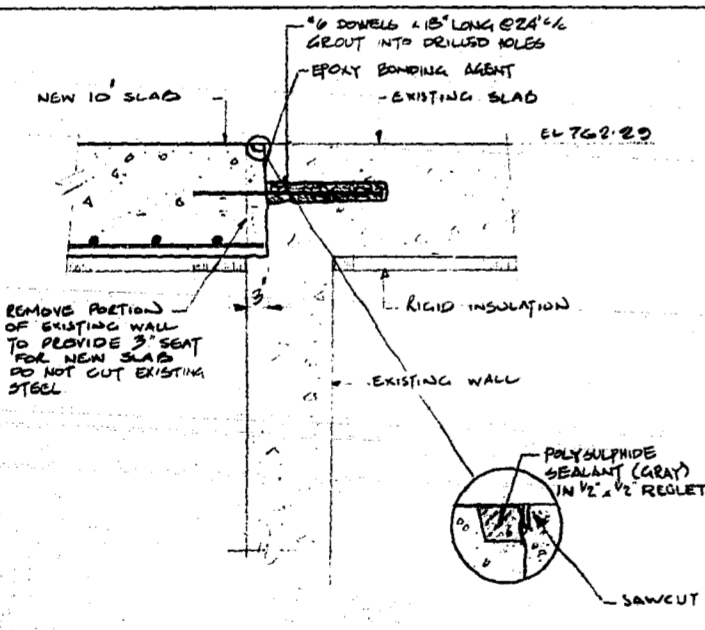
3 SECTION 1/2" x 1'-0"



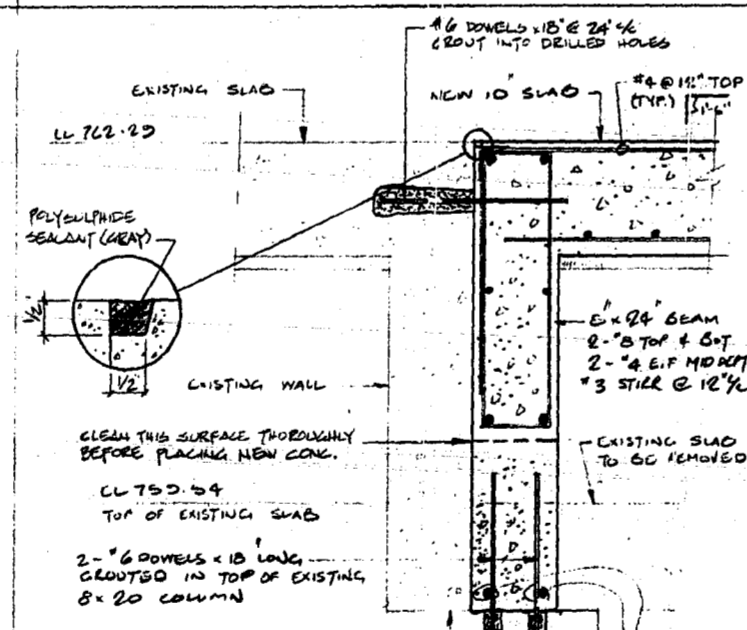
PLAN AT FRAME WETWELL ACCESS DOOR 3/4" x 1'-0"



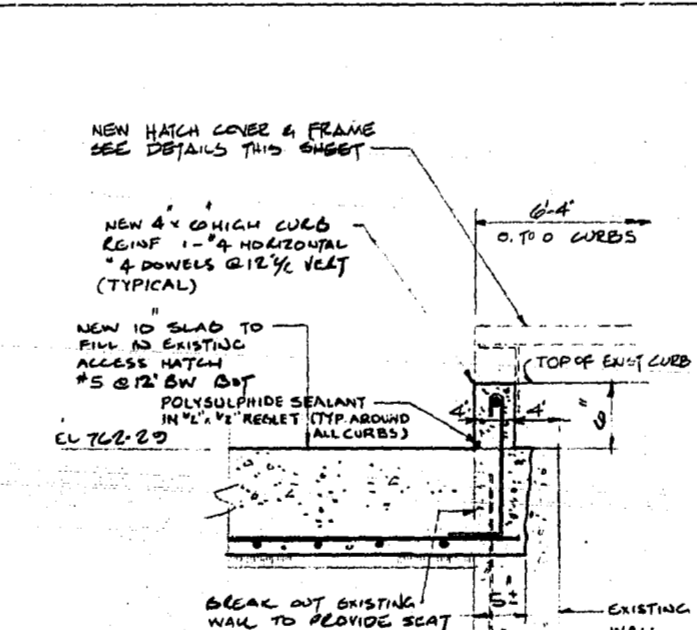
A DETAIL 1" x 1'-0"



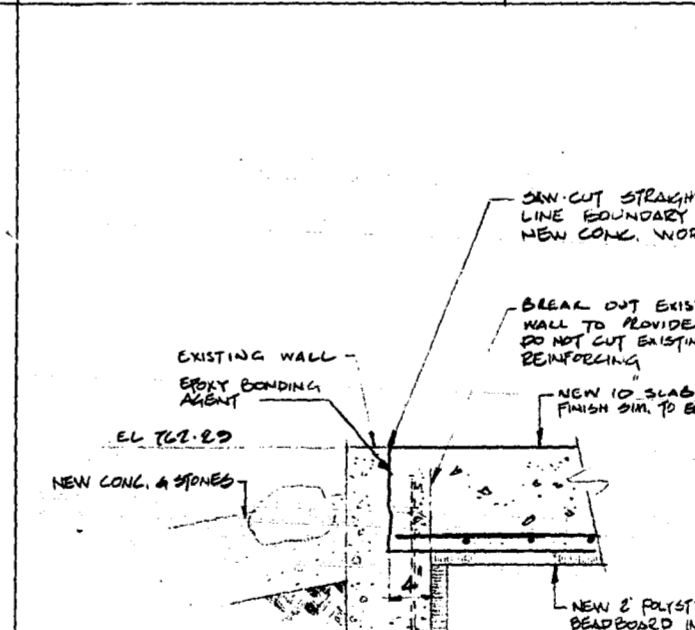
B DETAIL 1" x 1'-0"



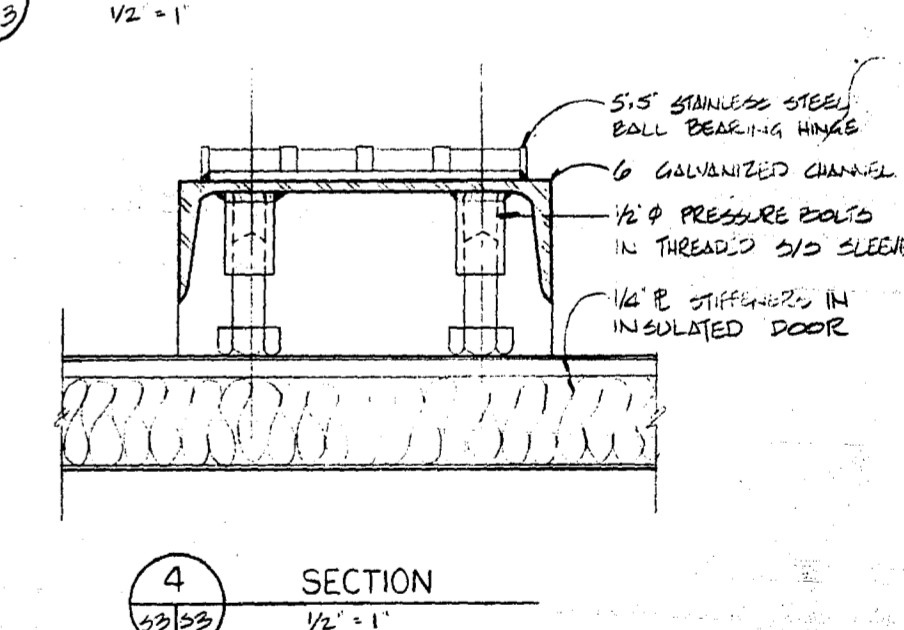
C DETAIL 1" x 1'-0"



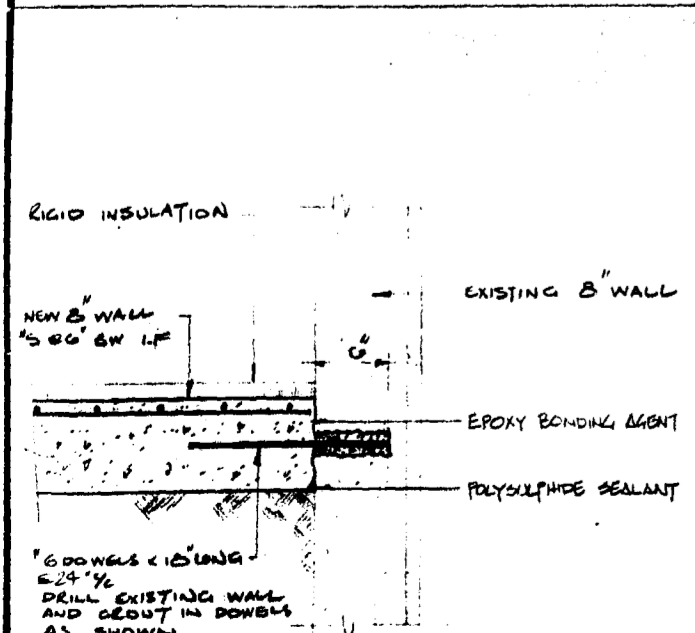
D DETAIL 1" x 1'-0"



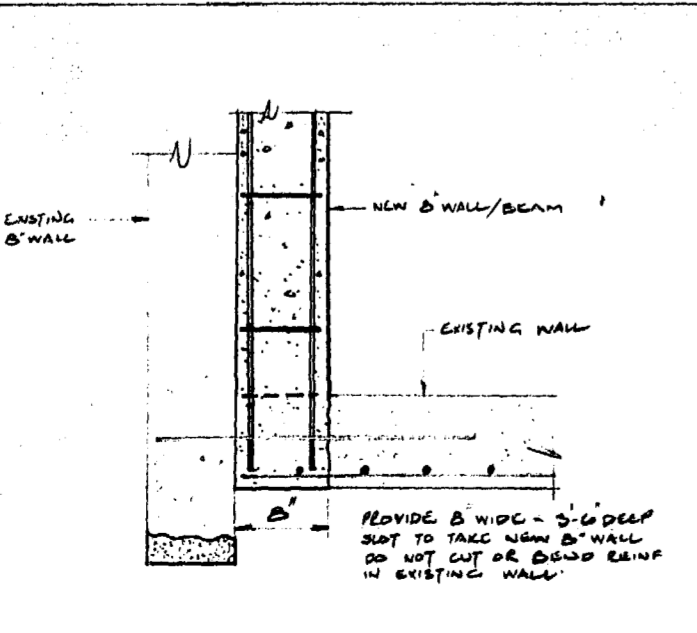
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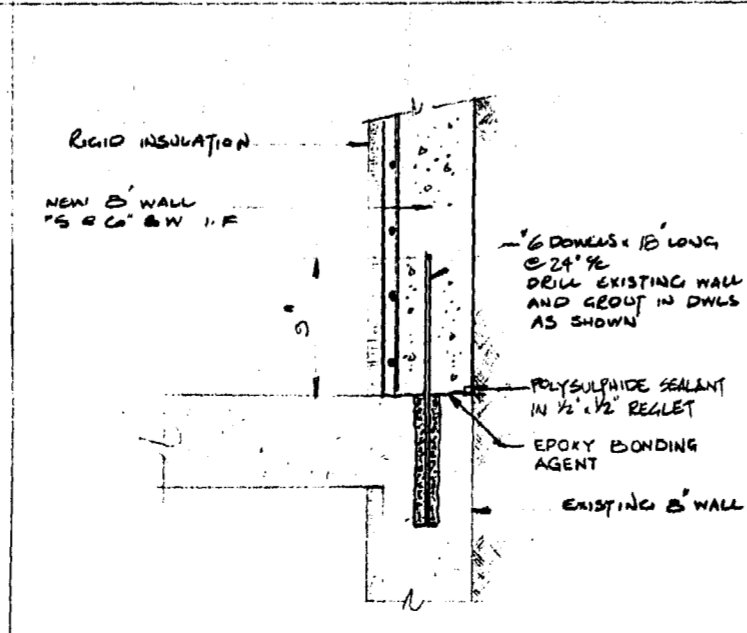
4 SECTION 1/2" x 1'-0"



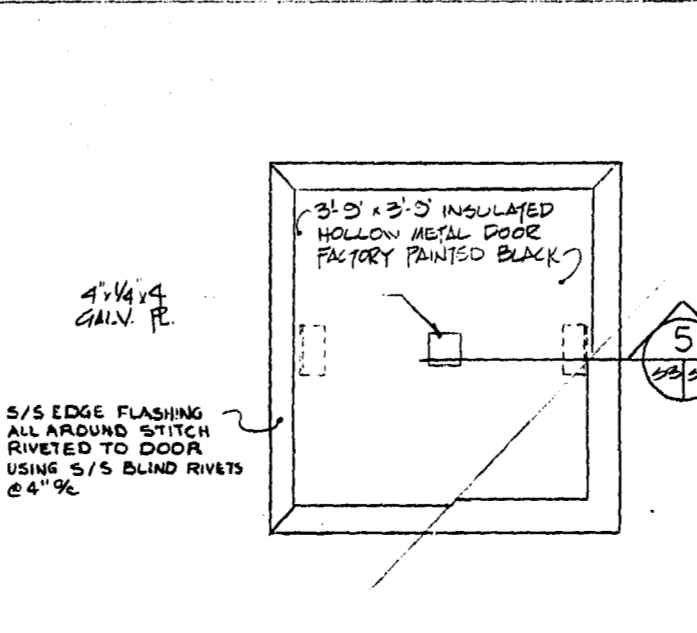
F DETAIL 1" x 1'-0"



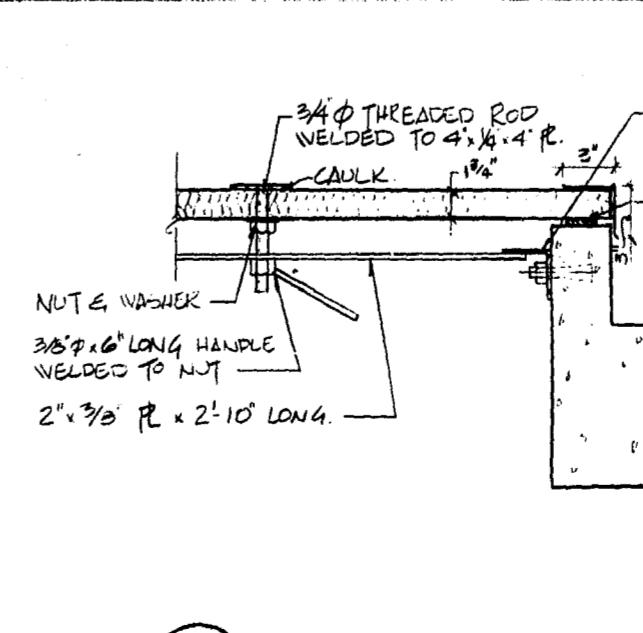
G DETAIL 1" x 1'-0"



H DETAIL 1" x 1'-0"



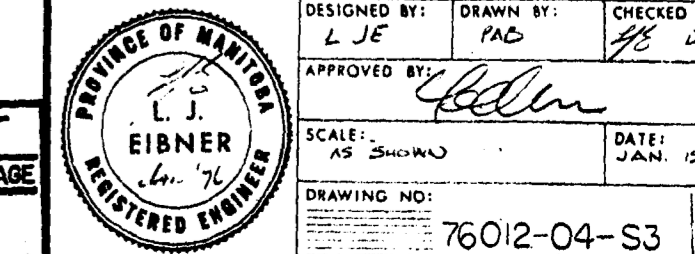
PLAN OF EQUIPMENT HATCH 3/4" x 1'-0"

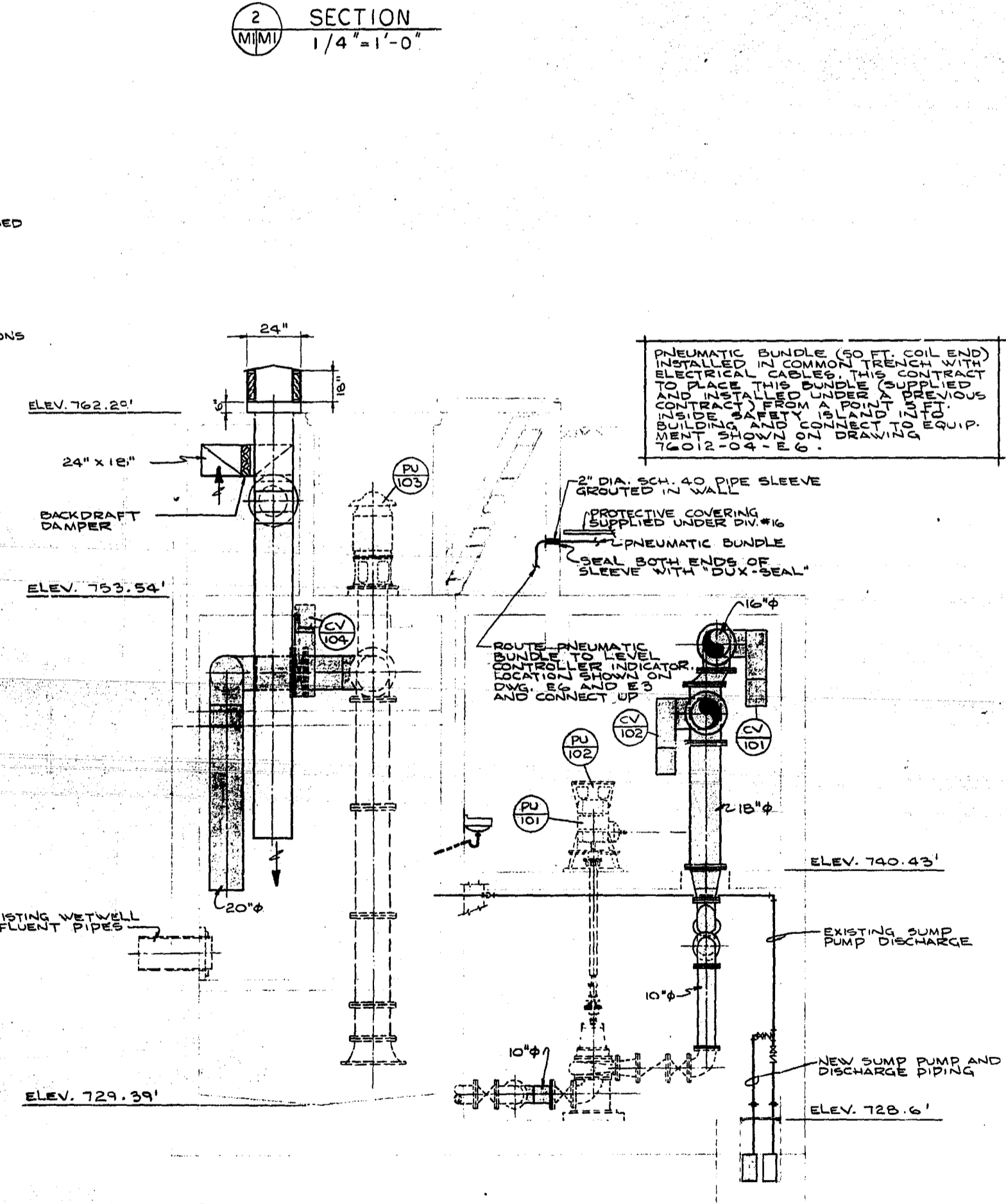
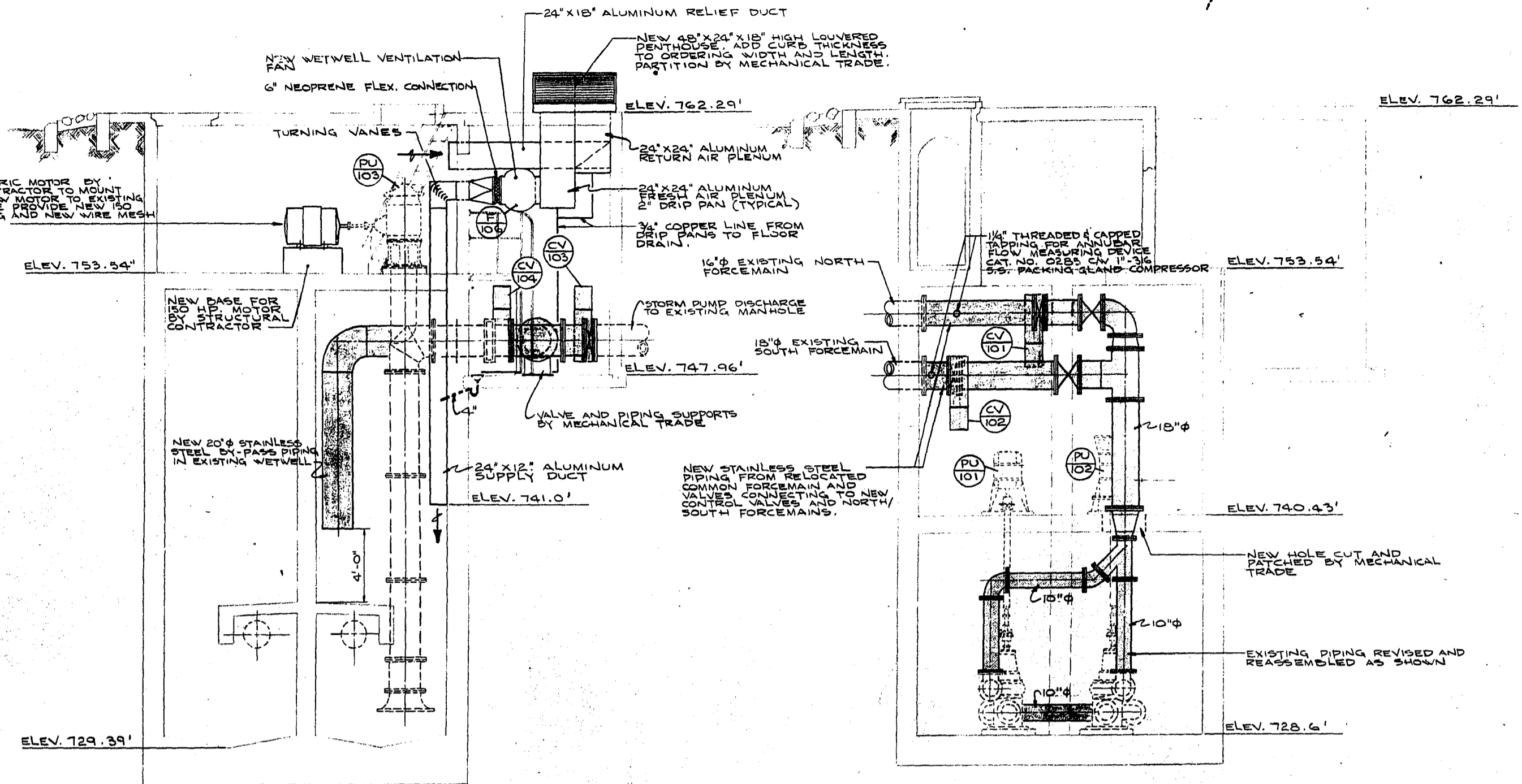
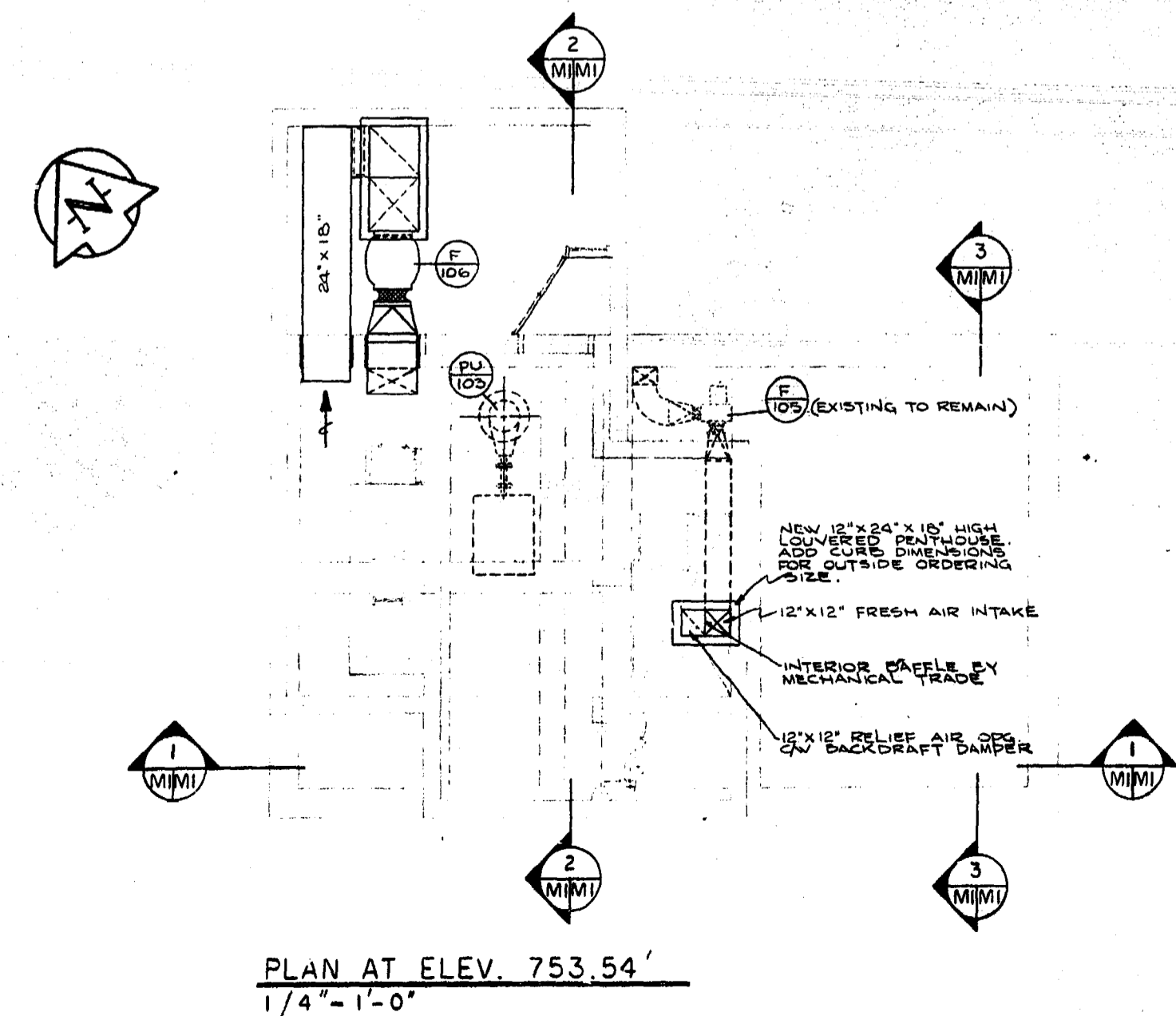
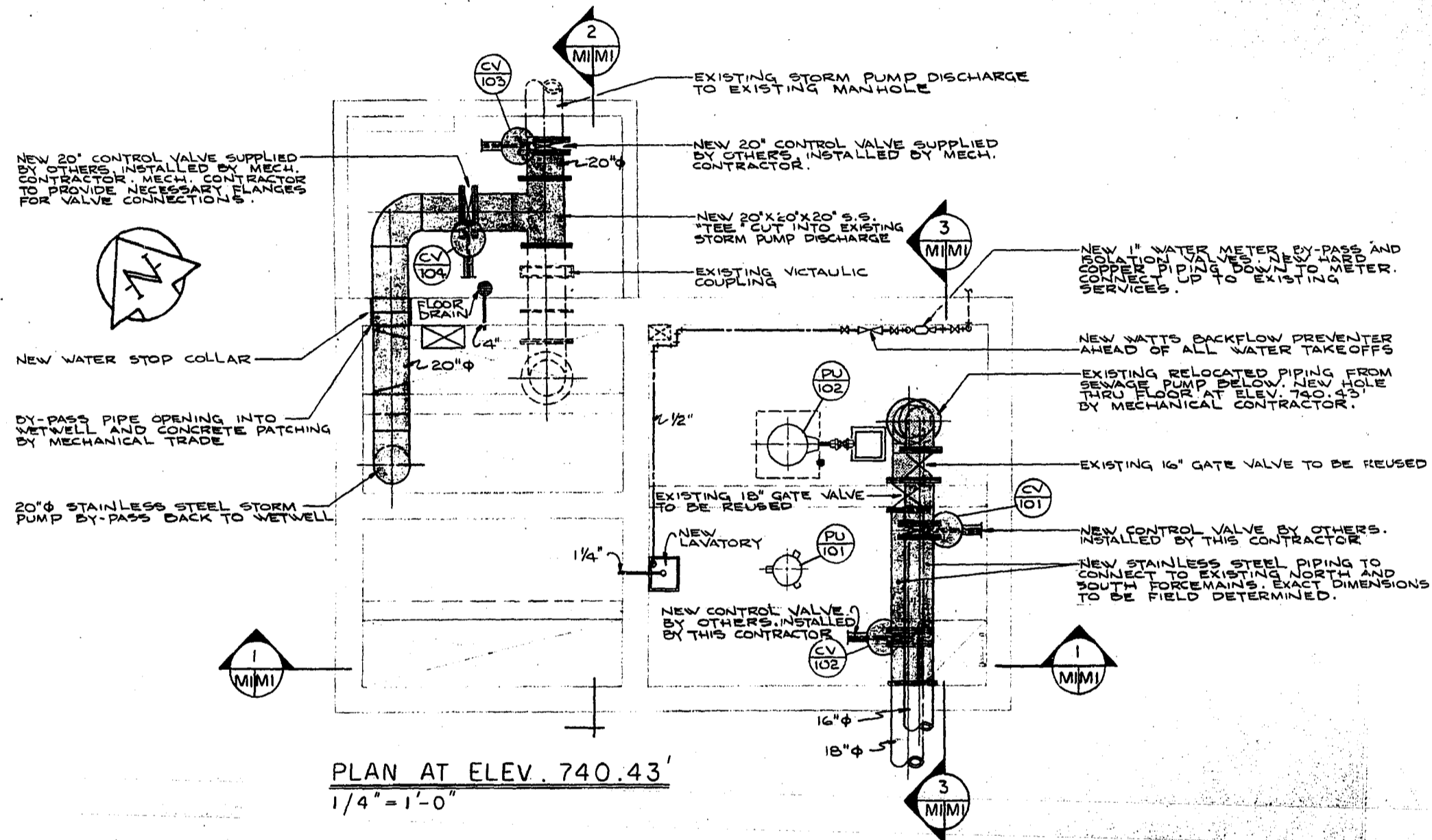
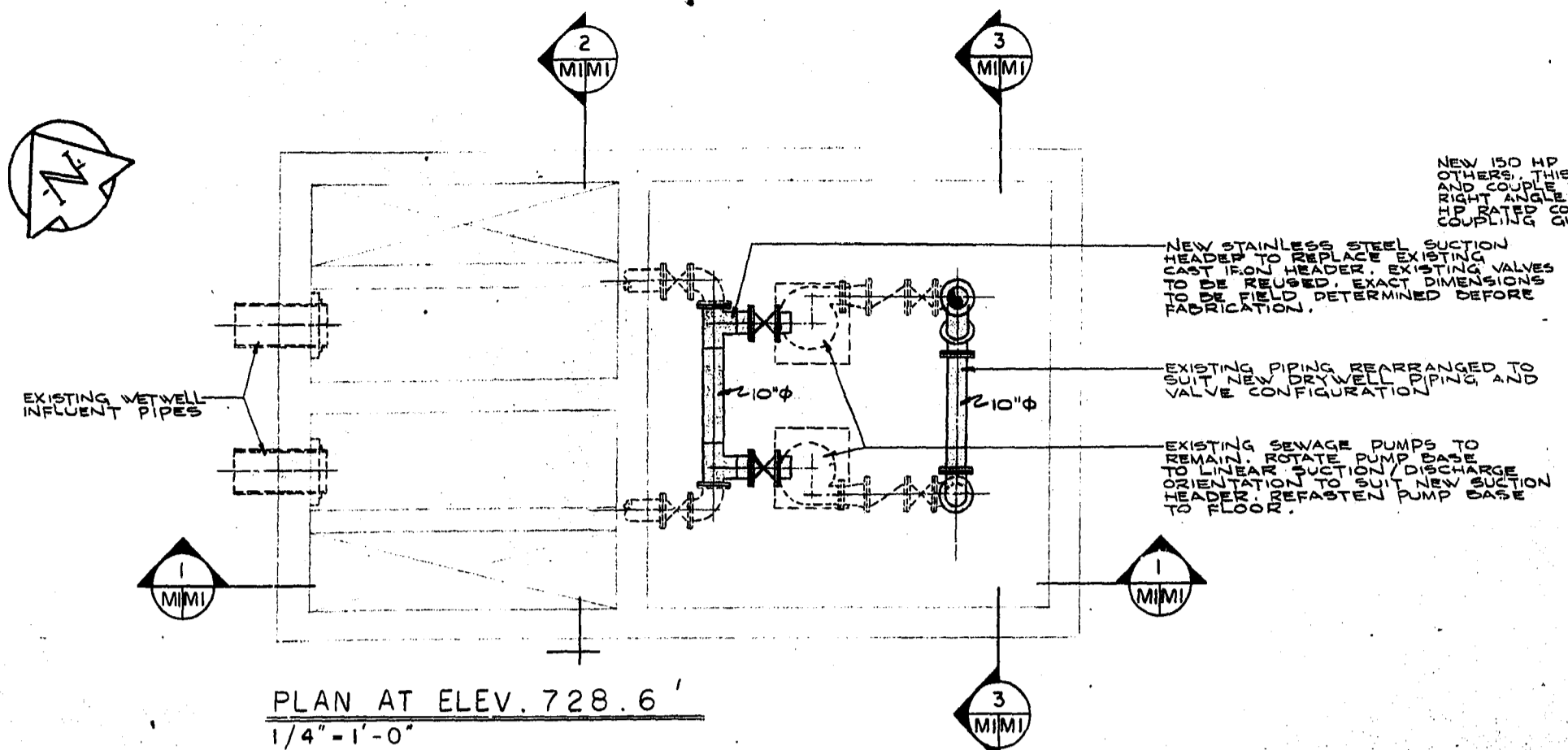


5 SECTION 1/2" x 1'-0"

NO.	DESCRIPTION	DATE	BY
REVISIONS			
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5			
W.L. WARDROP & ASSOCIATES LTD. ENGINEERING CONSULTANTS WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON			
WINDSOR PARK LIFT STATION RENOVATION MODIFICATION TO ROOF STRUCTURE DETAILS AND SECTIONS			
DESIGNED BY:	DRAWN BY:	CHECKED BY:	
L. J. EIBNER	1/10	J. B. DE	
APPROVED BY:			
SCALE: AS SHOWN		DATE: JAN. 1976	
DRAWING NO:	76012-04-S3		REV
			0

AS-BUILT	
DATE: Dec/76	PAGE: 1





SECTION 1
1/4" = 1'-0"

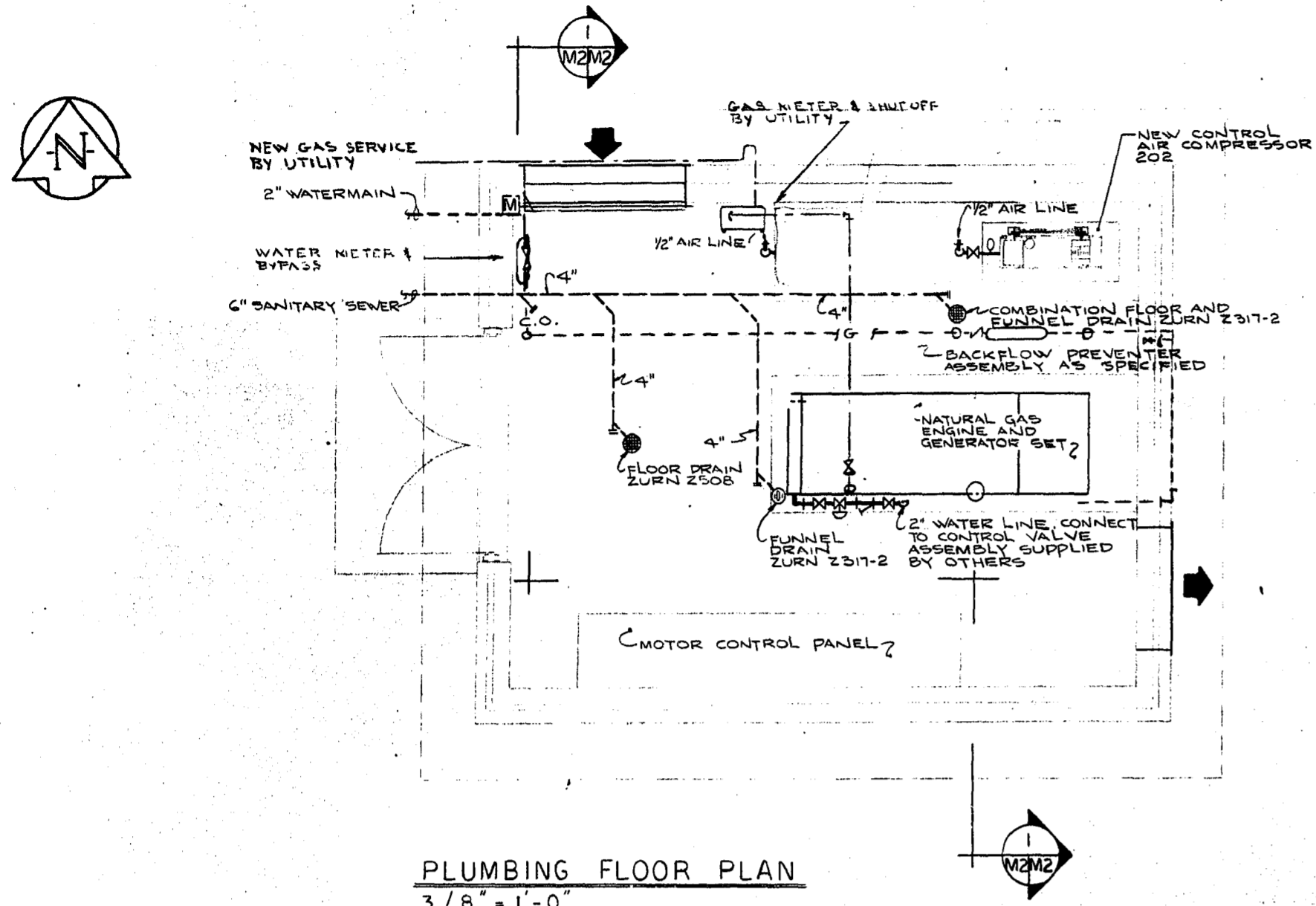
SECTION 3
1/4" = 1'-0"

SYMBOL LEGEND

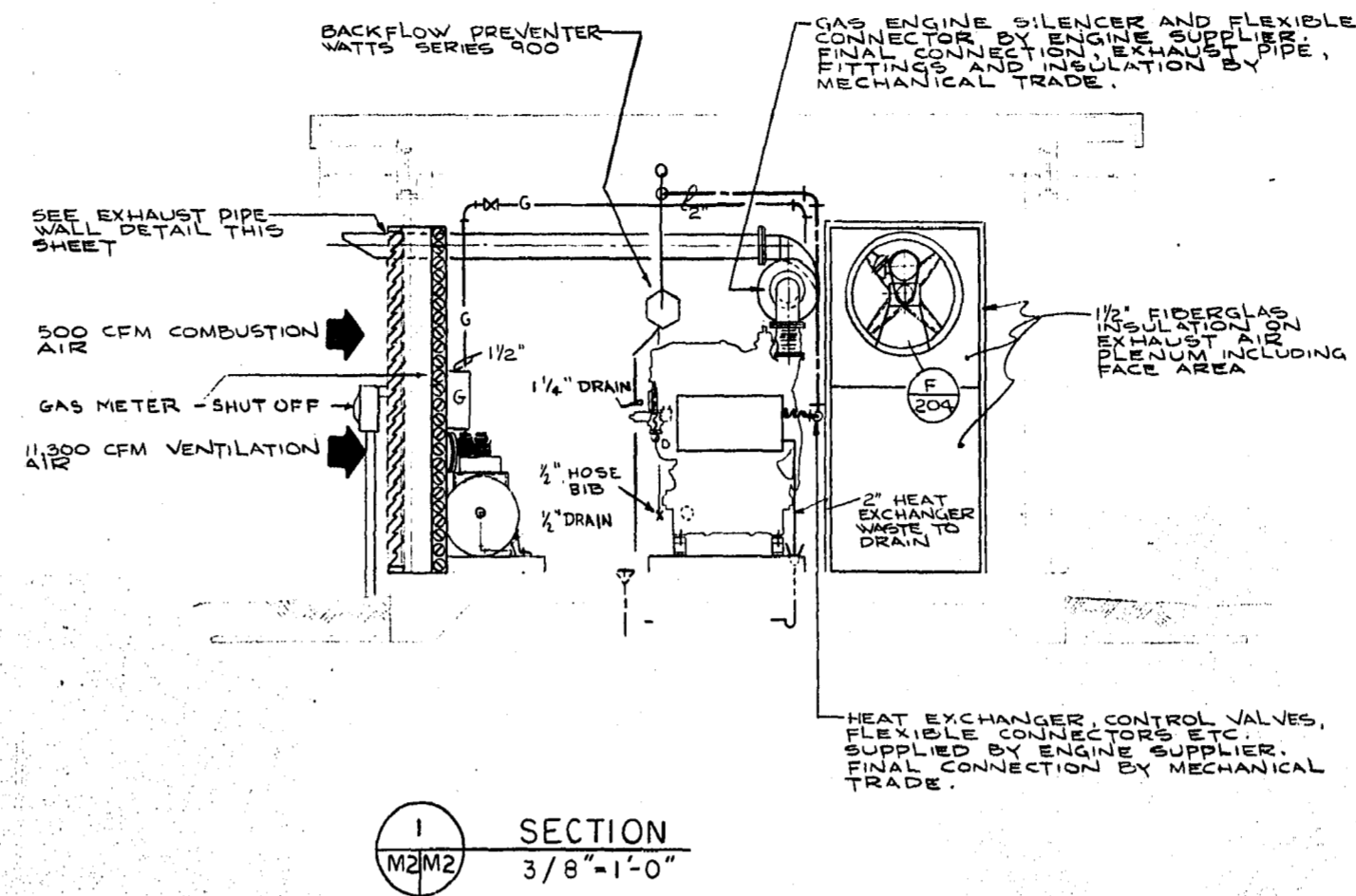
(PU)	PUMP
(CV)	CONTROL OR PILOT OPERATED VALVE
(F)	FAN
(Solid line)	NEW PIPE
(Dashed line)	EXISTING RELOCATED PIPE
(Dotted line)	EXISTING
(---)	COLD WATER
(-G-)	GAS

NO. DESCRIPTION	DATE	BY
REVISIONS		
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5		
WINDSOR PARK LIFT STATION RENOVATION		
EXISTING LIFT STATION RENOVATIONS AND MODIFICATIONS		
DESIGNED BY: <i>W.P.</i>	DRAWN BY: V.J. HEWITT	CHECKED BY: <i>W.P.</i>
APPROVED BY: <i>W.P.</i>		
AS - BUILT		DATE: JAN. 1976
DATE: Dec/76	FB. NO. PAGE	SCALE: AS SHOWN
DRAWING NO: 76012-04-M-1		REV: 0

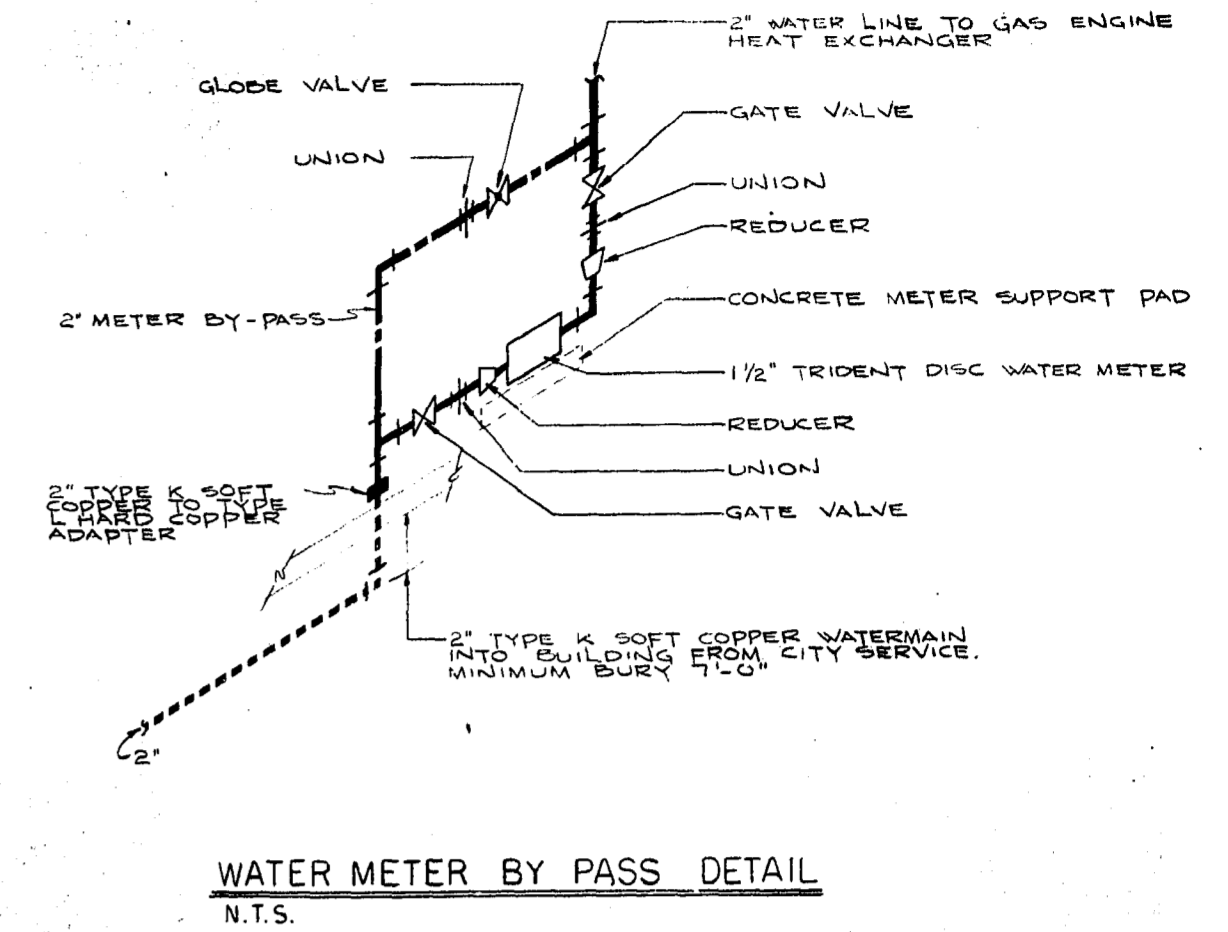
REFER TO DRAWING E-6 FOR AIR PIPE REQUIREMENTS AND ROUTING.



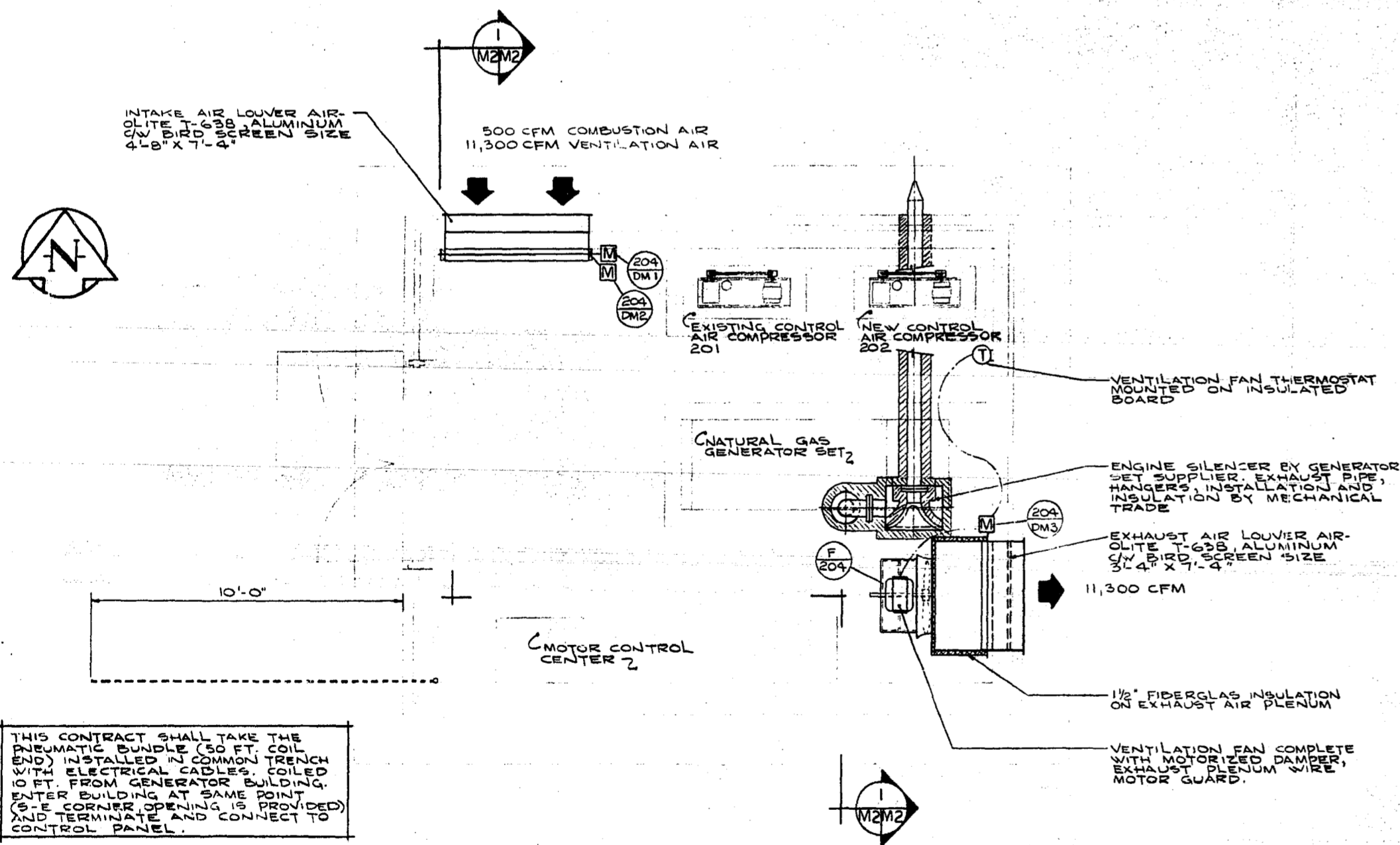
PLUMBING FLOOR PLAN
3/8" = 1'-0"



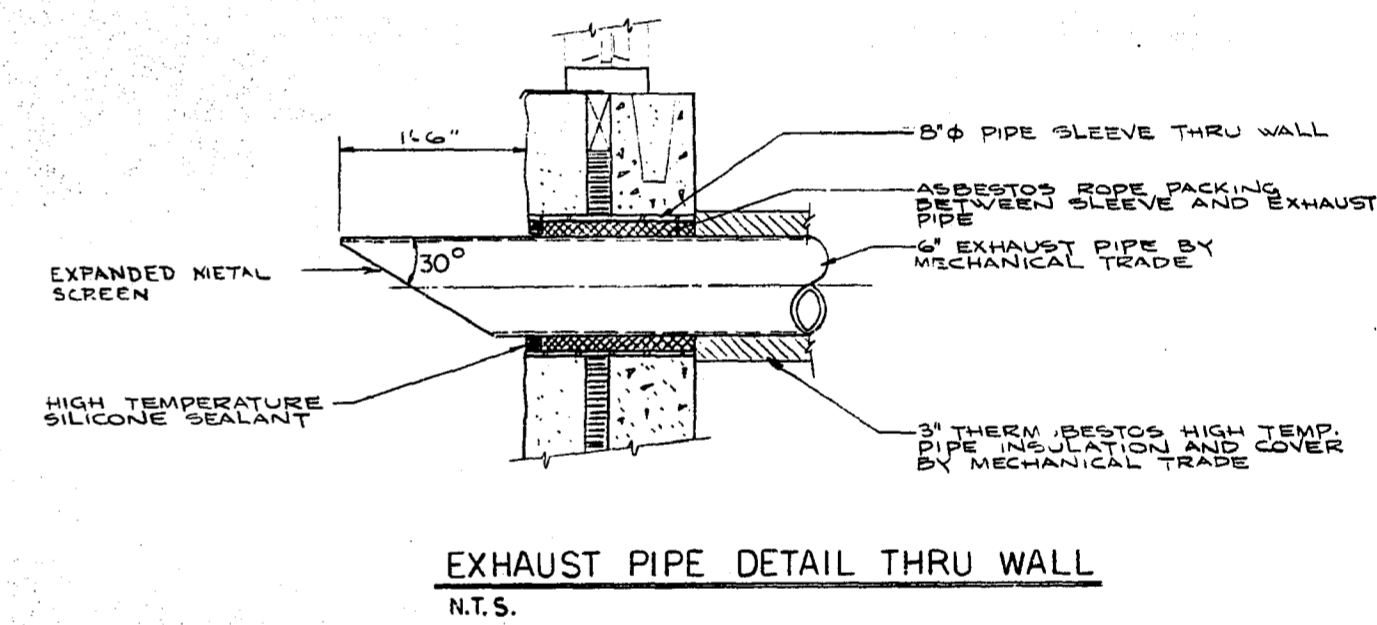
SECTION
3/8" = 1'-0"



WATER METER BY PASS DETAIL
N.T.S.

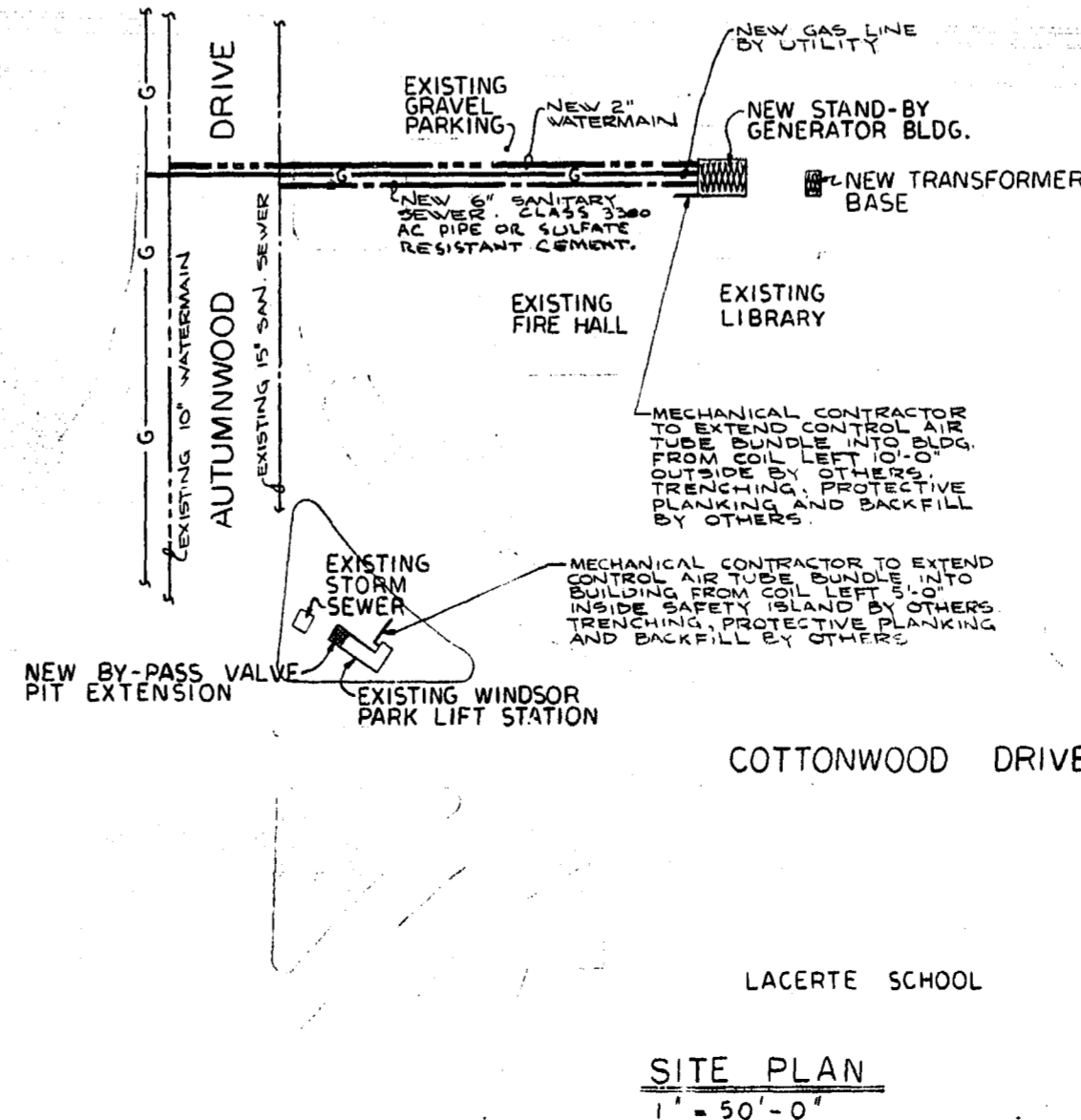


VENTILATION FLOOR PLAN
3/8" = 1'-0"



EXHAUST PIPE DETAIL THRU WALL
N.T.S.

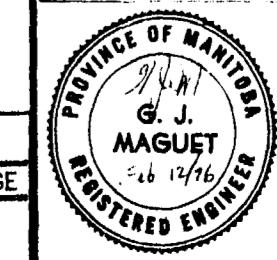
THIS CONTRACT SHALL TAKE THE PNEUMATIC BUNDLE (50 FT. COIL END) INSTALLED IN COMMON TRENCH WITH ELECTRICAL CABLES, COILED 10 FT. FROM GENERATOR BUILDING. ENTER BUILDING AT SAME POINT (S-E CORNER OPENING IS PROVIDED) AND TERMINATE AND CONNECT TO CONTROL PANEL.

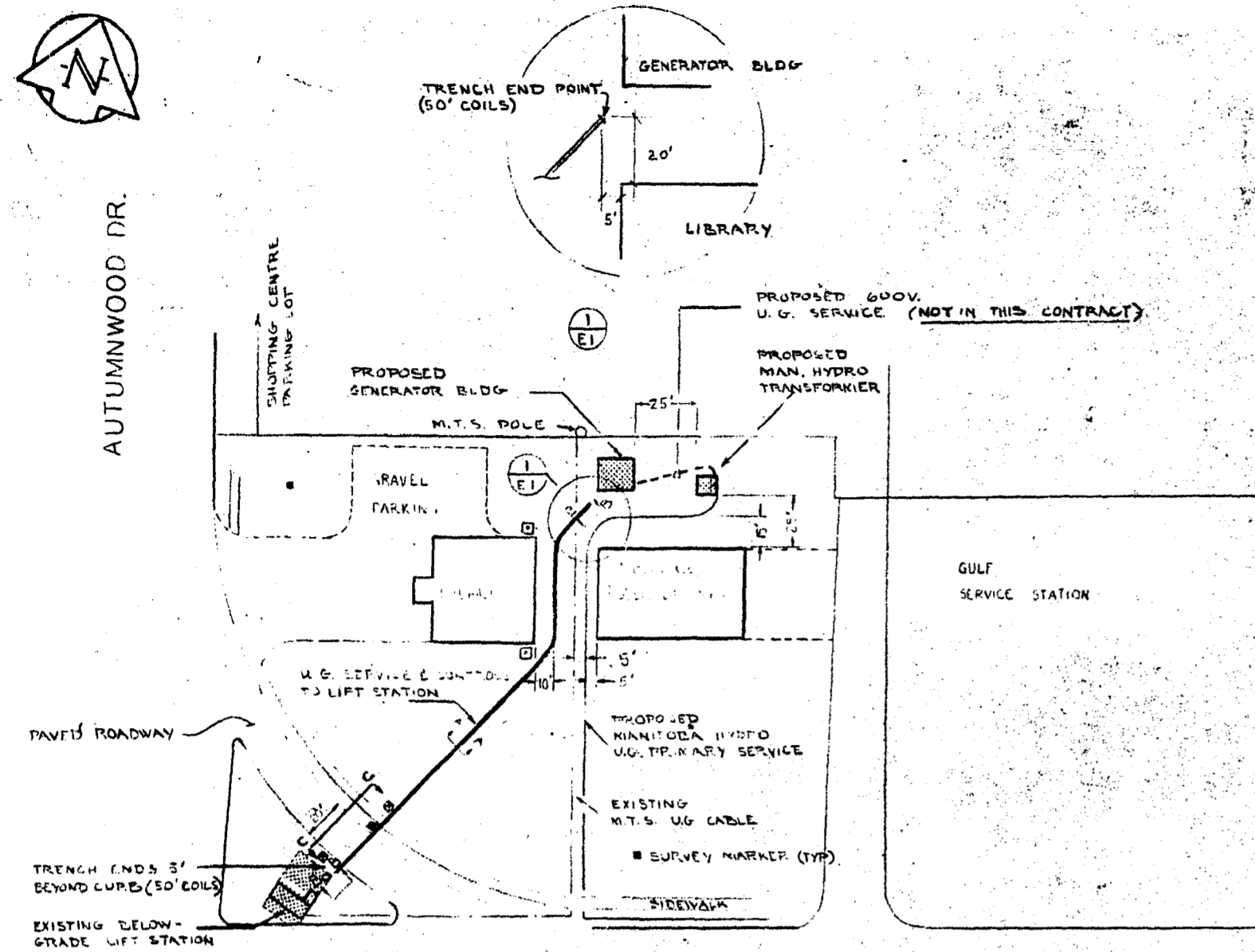


SITE PLAN
1" = 50'-0"

NO.	DESCRIPTION	DATE	BY
1	GENERAL REVISIONS	JAN 86	MD
REVISIONS			
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5			
W. L. WARDROP & ASSOCIATES LTD. ENGINEERING CONSULTANTS WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON			
WINDSOR PARK LIFT STATION STAND-BY GENERATOR BUILDING PLUMBING AND VENTILATION FLOOR PLANS			
DESIGNED BY:	V. J. HEWITT	CHECKED BY:	MD
APPROVED BY:	<i>[Signature]</i>	DATE:	JAN. 1976
SCALE:	AS SHOWN	DRAWING NO.:	76012-04-M2
DATE:	FB NO.	PAGE:	REV 0

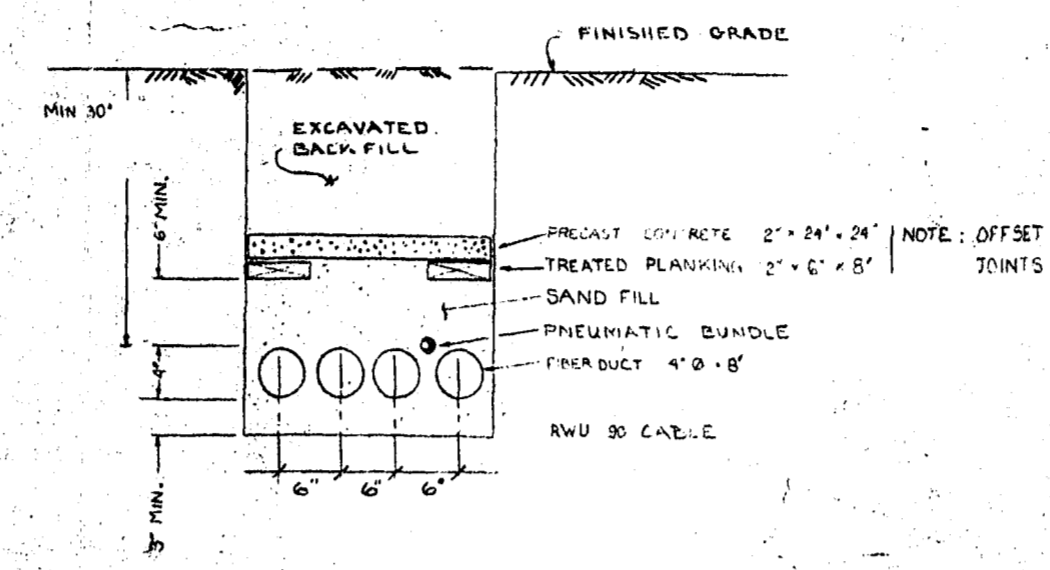
AS - BUILT
DATE FB NO. PAGE
Pa/76





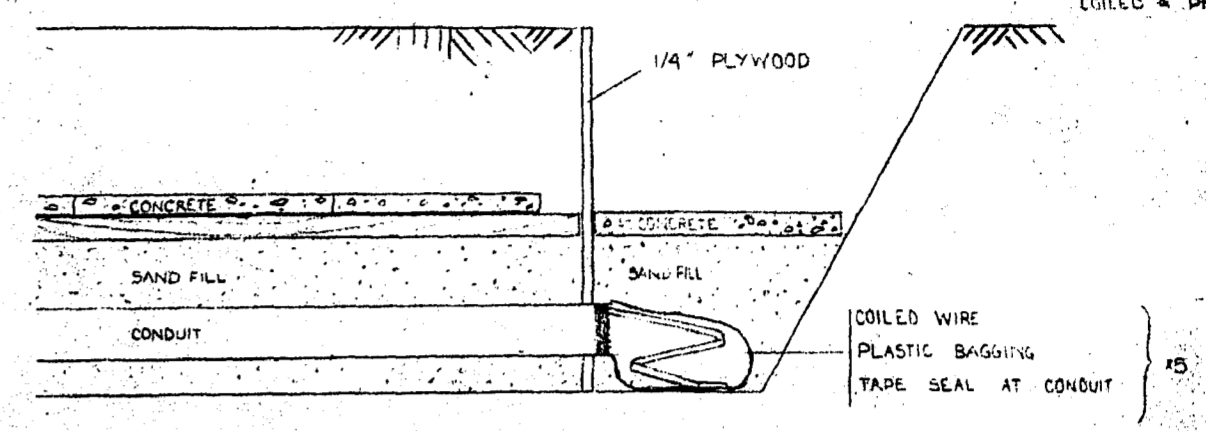
ELECTICAL SITE PLAN
1" = 50'

- CABLE MARKER MOUNTED ON CURBING WALL
- CABLE MARKER AT GRADE



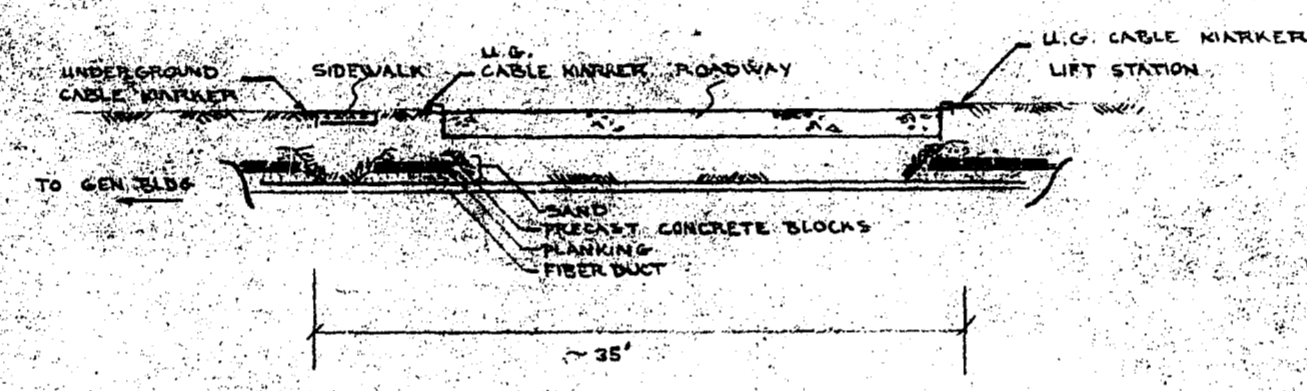
A-A TRENCHING DETAIL N.T.S.

NOTE:
SEE 'WIRE TABLE' AT RIGHT FOR PLACEMENT OF CONDUCTORS



B-B TRENCH TERMINATION DETAIL N.T.S.

NOTE:
CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION OF BOTH THE UNDERGROUND SYSTEM AND TUBING FROM THE GENERATOR BUILDING TO THE LIFT STATION. BETWEEN POINTS SHOWN ON DRAWINGS, THE CONTRACTOR SHALL COORDINATE WITH THE OWNER TO SCHEDULE THIS INSTALLATION TO ENSURE THAT THE CABLE AND TUBING IS NOT LEFT EXPOSED AND SUBJECT TO PHYSICAL DAMAGE. THE CONTRACTOR SHALL LEAVE DESIGNATED LENGTHS COILED & PROTECTED AS SHOWN.

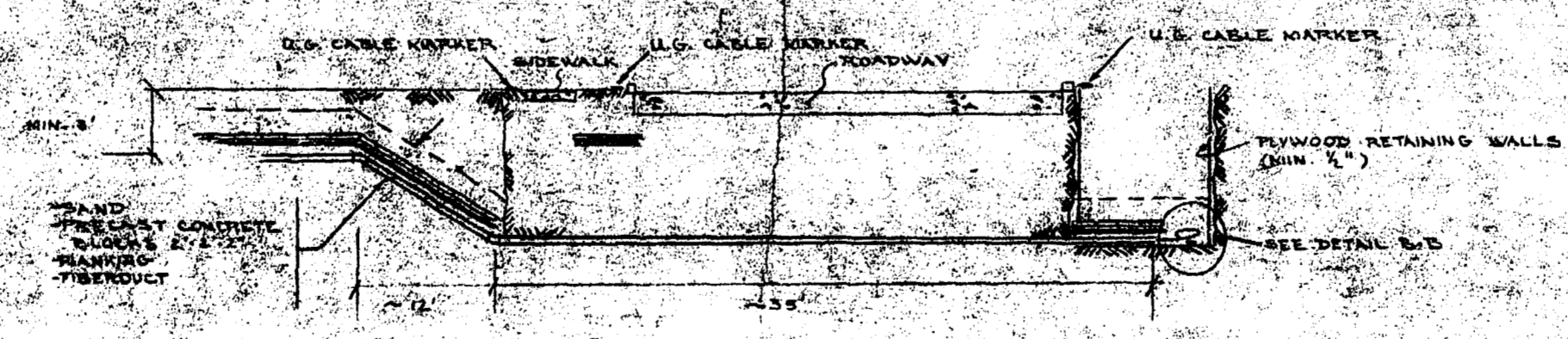


C-C ROADWAY AUGERING N.T.S.

	(A)	(B)	(C)	(SPARE)
A. STORM PUMP	3-2/0			RWU 90
B. SANITARY PUMPS	6-#6			
VENT. FAN	2-#12			
SUMP PUMPS	4-#10			
HEATERS	3-#8			
C. CONTROL	10-#12			
SPARE				

SYSTEM GROUND - CONDUIT A - 2/0 BARE COPPER

WIRE TABLE



C-C ROADWAY AUGERING
OPTION-DEEP TRENCHING-AUGERING UNDER FROST

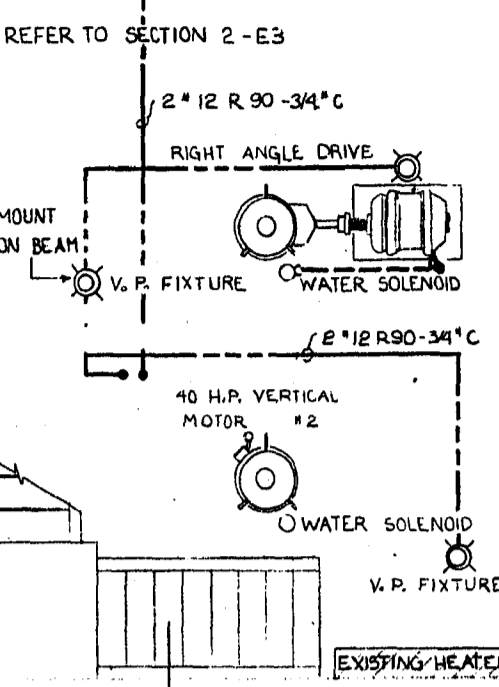
NOTE:
COMPLETION OF TRENCHING & WIRING UNDER SEPARATE CONTRACT
IE: ROADWAY TO LIFT STATION

NO.	DESCRIPTION	DATE	BY
REVISIONS			
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5			
WINDSOR PARK LIFT STATION RENOVATION			
TRENCHING			
DESIGNED BY JES	DRAWN BY KML	CHECKED BY VJB	
APPROVED BY 			
SCALE: AS NOTED	DATE: 12/75		
DRAWING NO: 170204-E1			

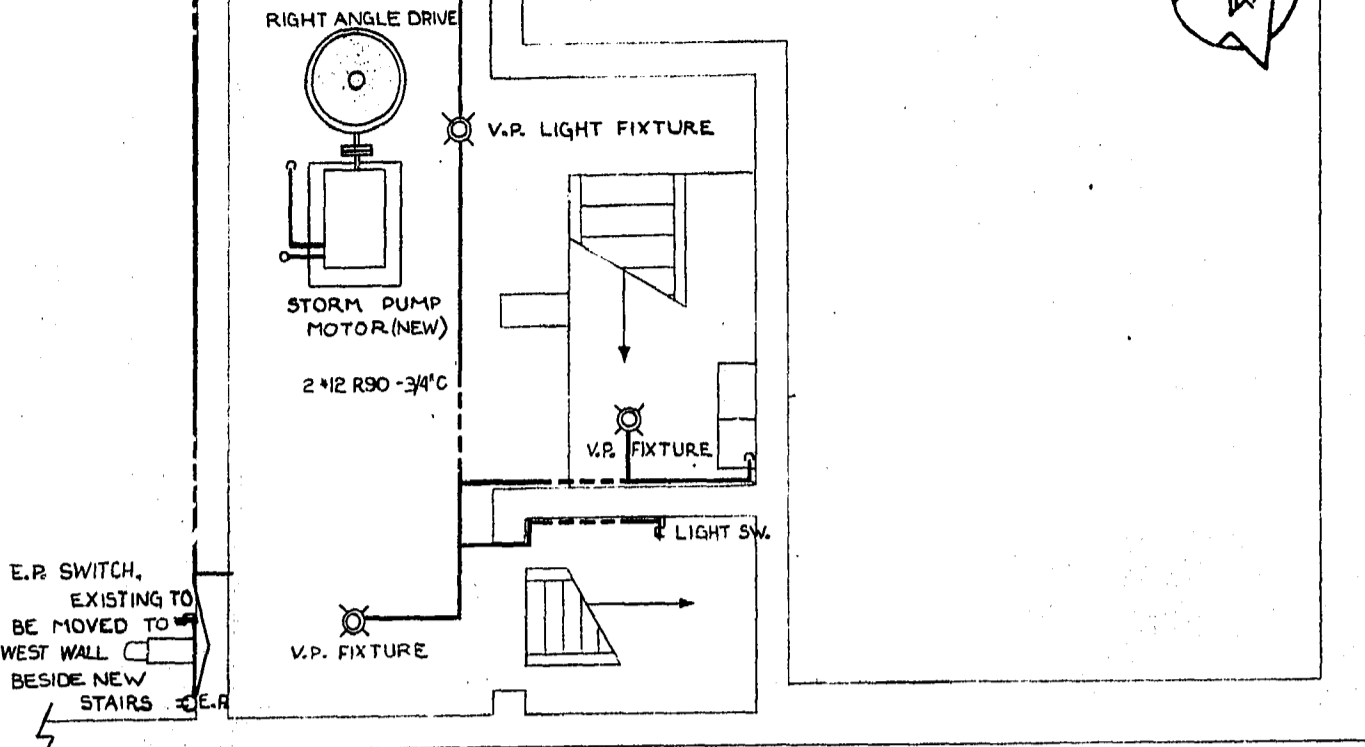
SEE NEW ADDITION PLAN VIEW
DETAIL C

2
E3/E3

E.P. MOTOR
DISCONNECT SW. (NEW)
EXISTING HEATER
VENTILATION
FAN (EXISTING) # 105
REFER TO SECTION 2-E3

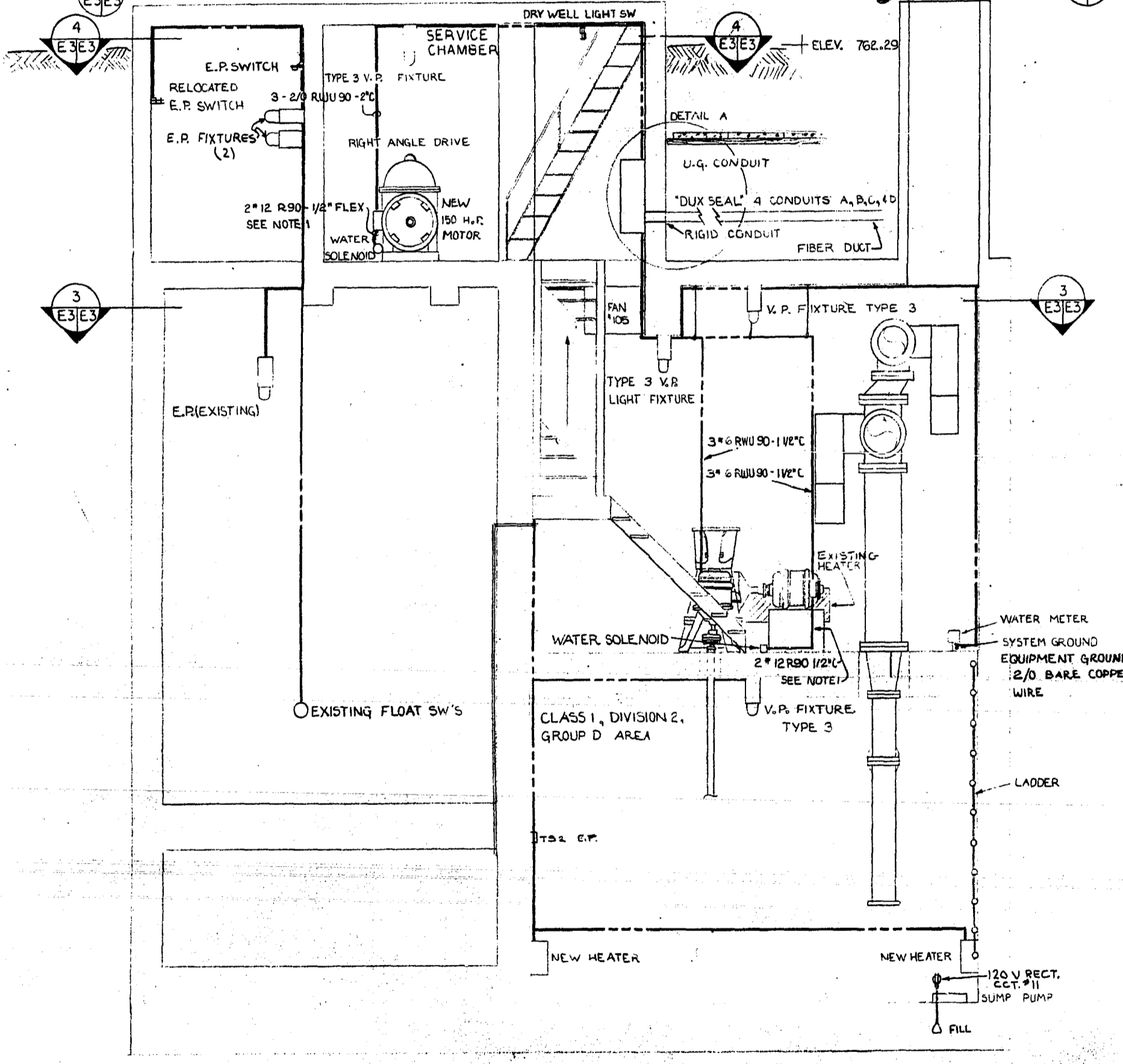


TYPICAL E.P. SE.
OUTLET FOR
FLOAT SWITCH
IN WET WELL



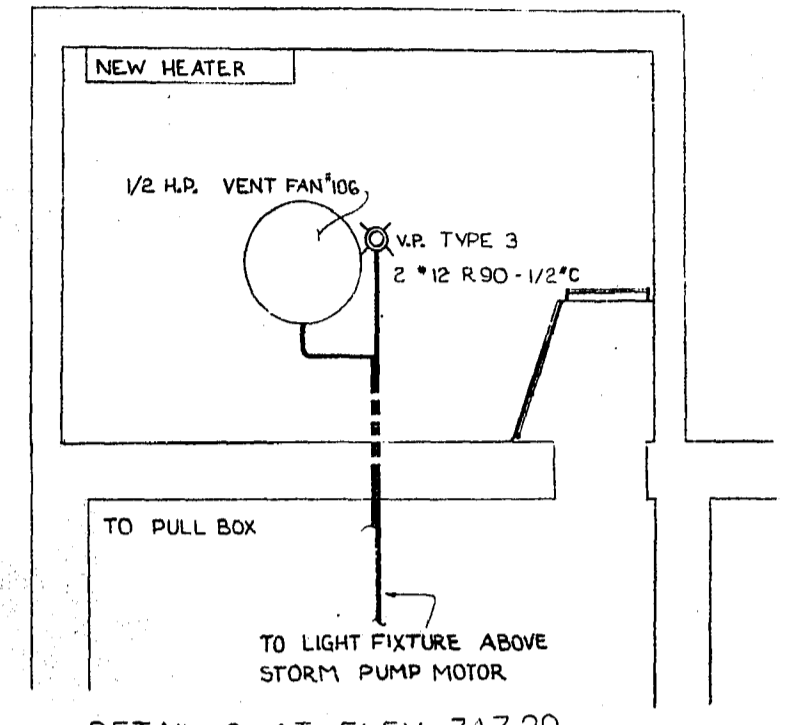
PLAN AT ELEV. 753.54

PLAN AT ELEV. 740.43

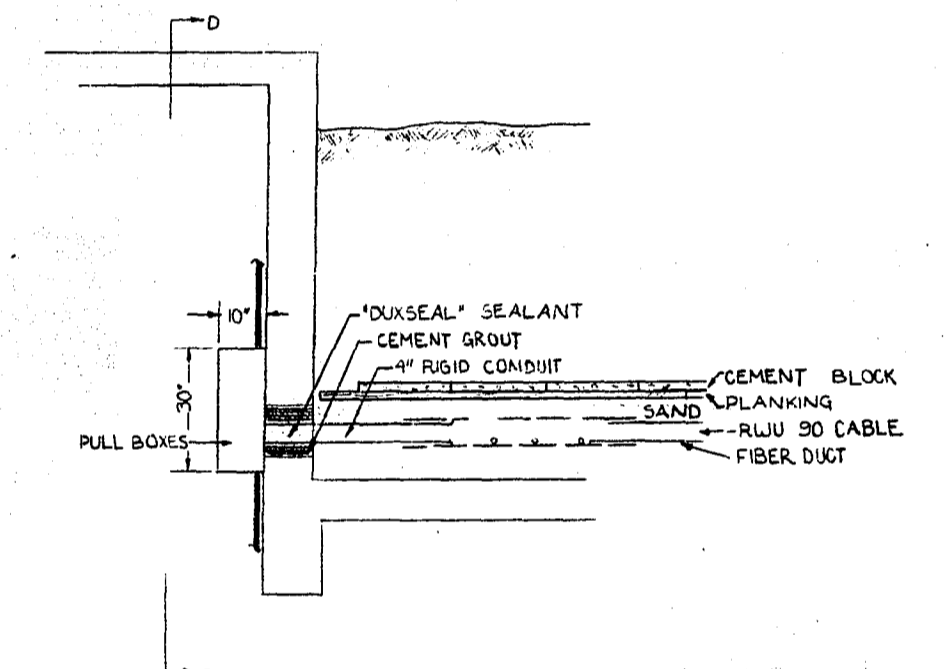


1
E3/E3
SECTION
SCALE 3/8\"/>

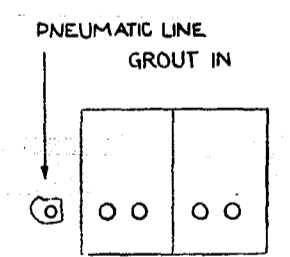
2
E3/E3
SECTION
SCALE 3/8\"/>



DETAIL C AT ELEV. 747.29
SCALE 3/8\"/>



DETAIL A
SCALE 3/8\"/>

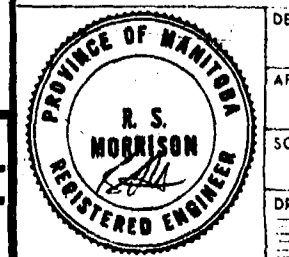


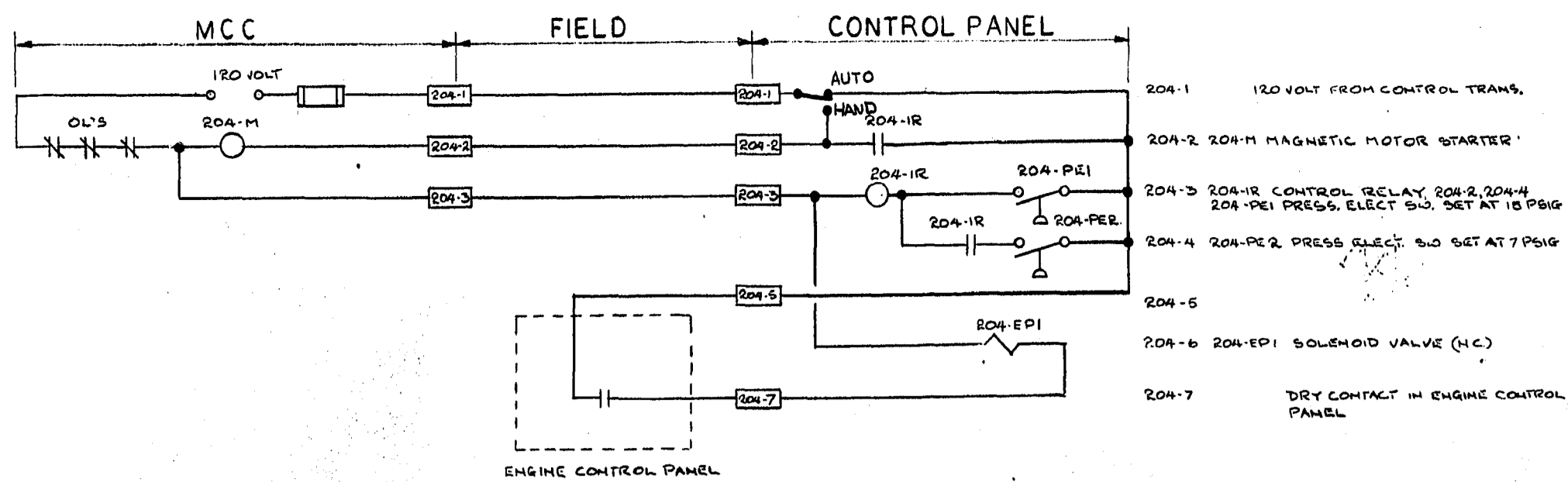
D-D SECTION
SCALE 3/8\"/>

- NOTE:
1. INSTALL EXPLOSION PROOF INLINE FUSES TO SOLENOIDS
 2. REMOVE EXISTING CONDUIT AS DIRECT BY OWNERS REPRESENTATIVE

NO.	DESCRIPTION	DATE	BY
1	REVISED TO DATE	JAN 88	ND
REVISIONS			
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5			
W. L. WARROP & ASSOCIATES LTD ENGINEERING CONSULTANTS <small>WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON</small>			
WINDSOR PARK LIFT STATION RENOVATION			
LIFT STATION LAYOUT & DETAILS			
DESIGNED BY:	TBS	DRAWN BY:	KFM
CHECKED BY:			
APPROVED BY:	<i>[Signature]</i>		
SCALE:	3/8\"/>		
DATE:	1/76		
DRAWING NO.:	76012-04-E3	REV.	0

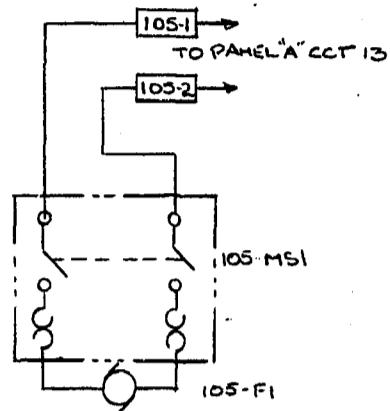
AS-BUILT
DATE: 1/76
FB. NO. PAGE



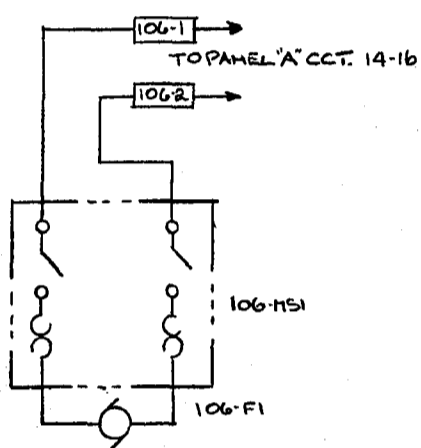


- 204-1 120 VOLT FROM CONTROL TRANS.
- 204-2 204-M MAGNETIC MOTOR STARTER
- 204-3 204-1R CONTROL RELAY, 204-2, 204-4
204-1R PRESS. ELECT SW. SET AT 15 PSIG
- 204-4 204-1R PRESS. ELECT. SW. SET AT 7 PSIG
- 204-5
- 204-6 204-EP1 SOLENOID VALVE (H.C.)
- 204-7 DRY CONTACT IN ENGINE CONTROL PANEL

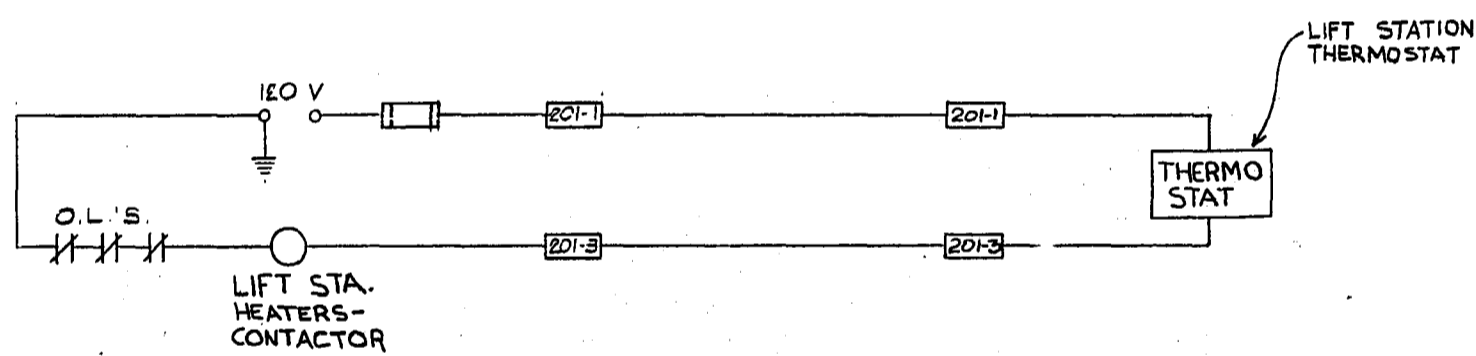
ENGINE CONTROL PANEL



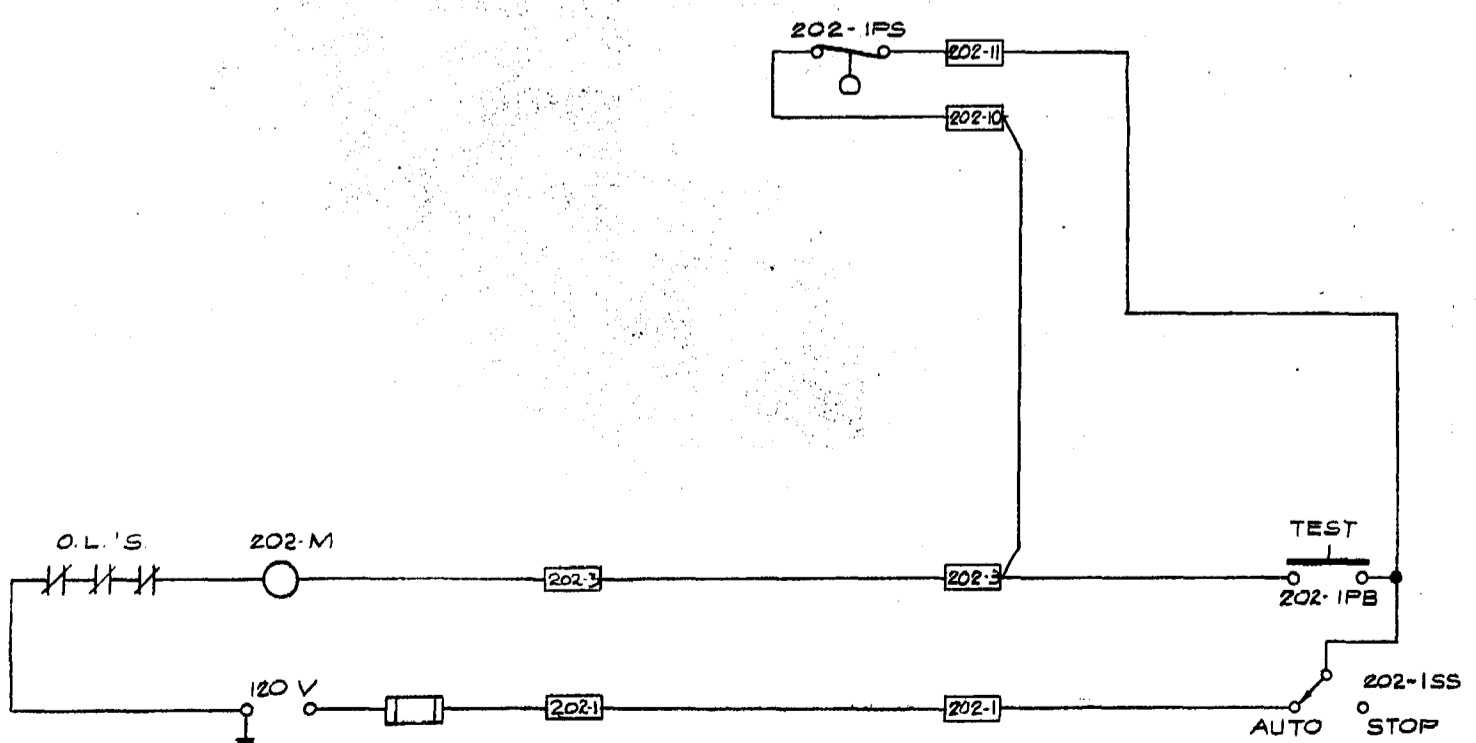
- 105-1 120V SUPPLY
- 105-2
- 105-3
- 105-4 105-MS1 MANUAL MOTOR STARTER
- 105-5
- 105-6 105-F1 FAN MOTOR



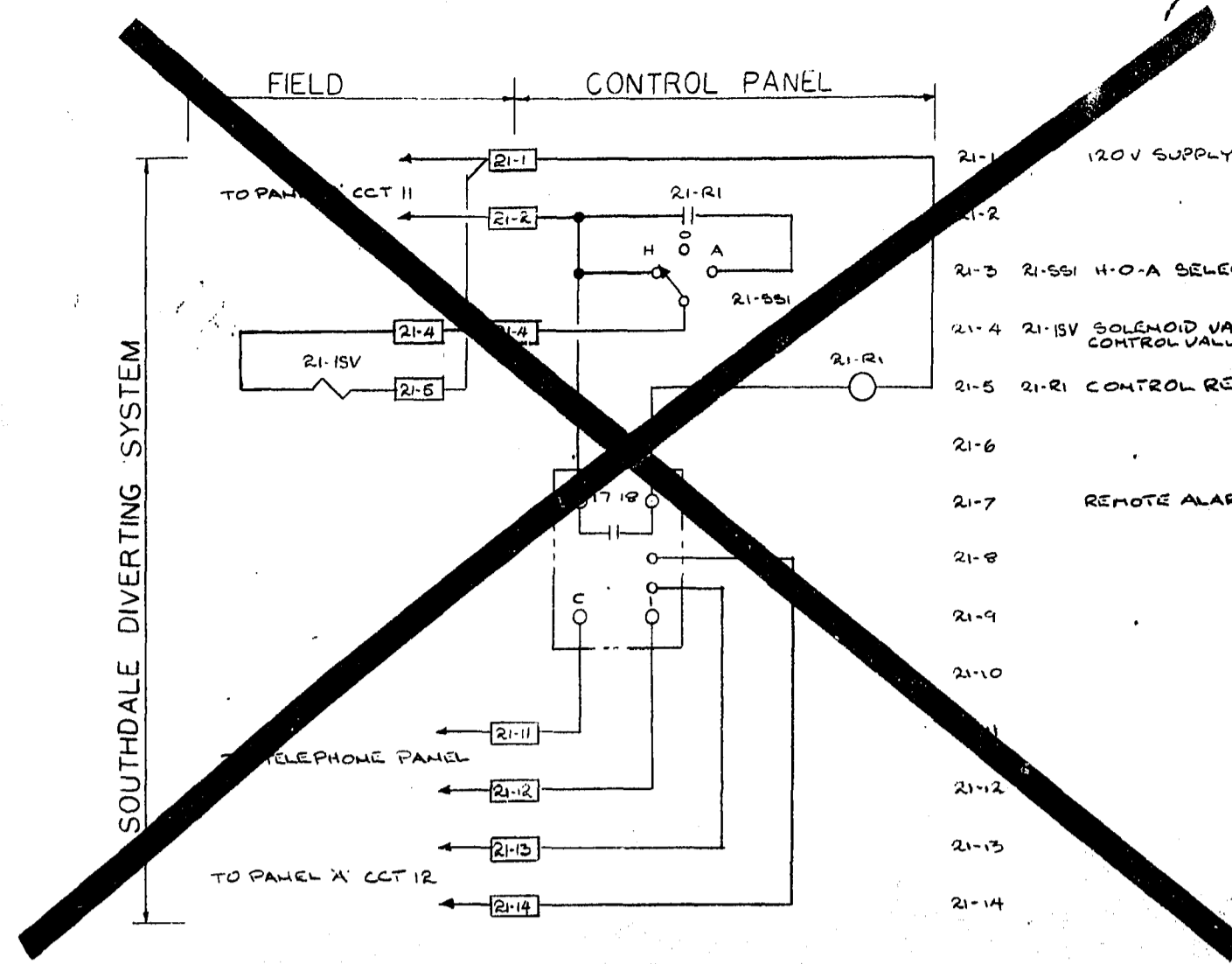
- 106-1 240V SUPPLY
- 106-2
- 106-3
- 106-4 106-MS1 MANUAL MOTOR STARTER
- 106-5
- 106-6 106-F1 FAN MOTOR



- 201-1 "120V" FROM CONTROL TRANSFORMER
- 201-2
- 201-3
- 201-4
- 201-5
- 201-6
- 201-7
- 201-8
- 201-9
- 201-10
- 201-11



- 202-11 "202-1PS" PRESS. SW. "CYCLE 2ND DUTY COMPRESSOR"
- 202-10
- 202-9
- 202-8
- 202-7
- 202-6
- 202-5
- 202-4 "202-IPB" TEST PUSH BUTTON
- 202-3 "202-M" COMPRESSOR STARTER (201-4, 201-5)
- 202-2
- 202-1 "202-15S" "AUTO-STOP" SELECTOR SWITCH
120 VOLT FROM CONTROL TRANSFORMER



- 21-1 120V SUPPLY
- 21-2
- 21-3 21-5S1 4-0-A SELECTOR SW
- 21-4 21-15V SOLENOID VALVE PERMIT CONTROL VALVE OPERATION
- 21-5 21-1R CONTROL RELAY (21-2, 20-24)
- 21-6
- 21-7 REMOTE ALARM RECEIVER
- 21-8
- 21-9
- 21-10
- 21-11
- 21-12
- 21-13
- 21-14

VENT FAN #105

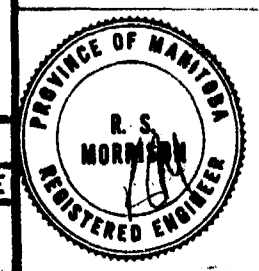
VENT FAN #106

LIFT STN. HEATERS

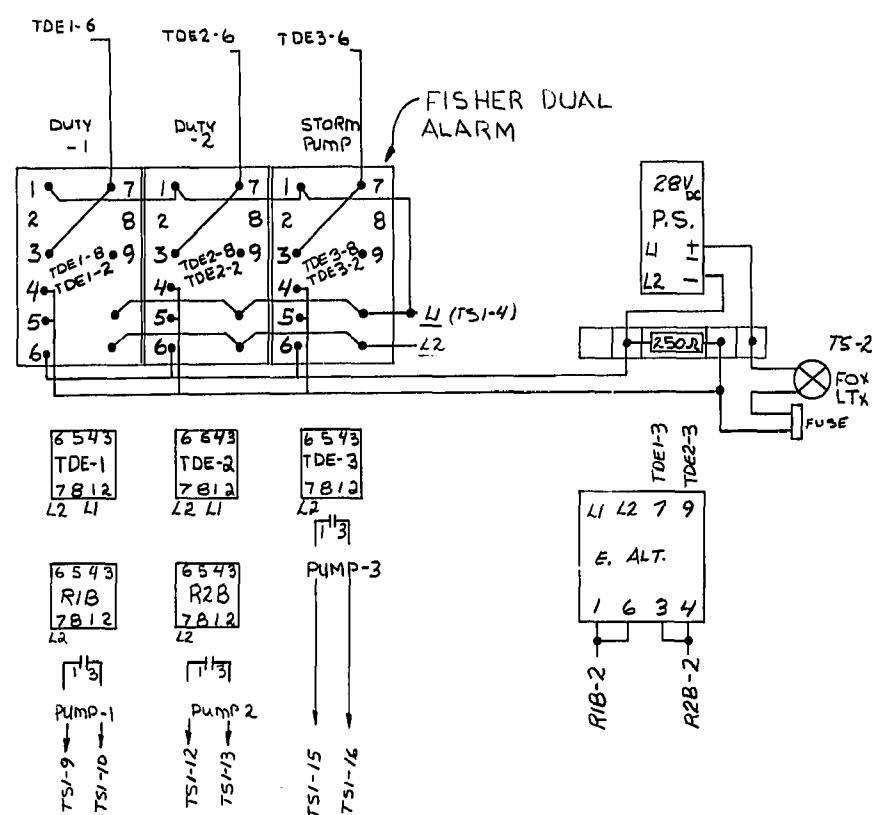
AIR COMPRESSOR #202

1 REVISED TO DATE		30.86 MD
NO.	DESCRIPTION	DATE BY
REVISIONS		
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5		
W.L. WARDROP & ASSOCIATES LTD. ENGINEERING CONSULTANTS WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON		
WINDSOR PARK LIFT STATION RENOVATION CONTROL SCHEMATICS, AIR COMP., VENTILATION, & SANITARY		
DESIGNED BY: JH	DRAWN BY: KFM	CHECKED BY: [Signature]
APPROVED BY: [Signature]	SCALE: N.T.S.	DATE: 1/76
DRAWING NO: 76012-04-E4		REV: 0

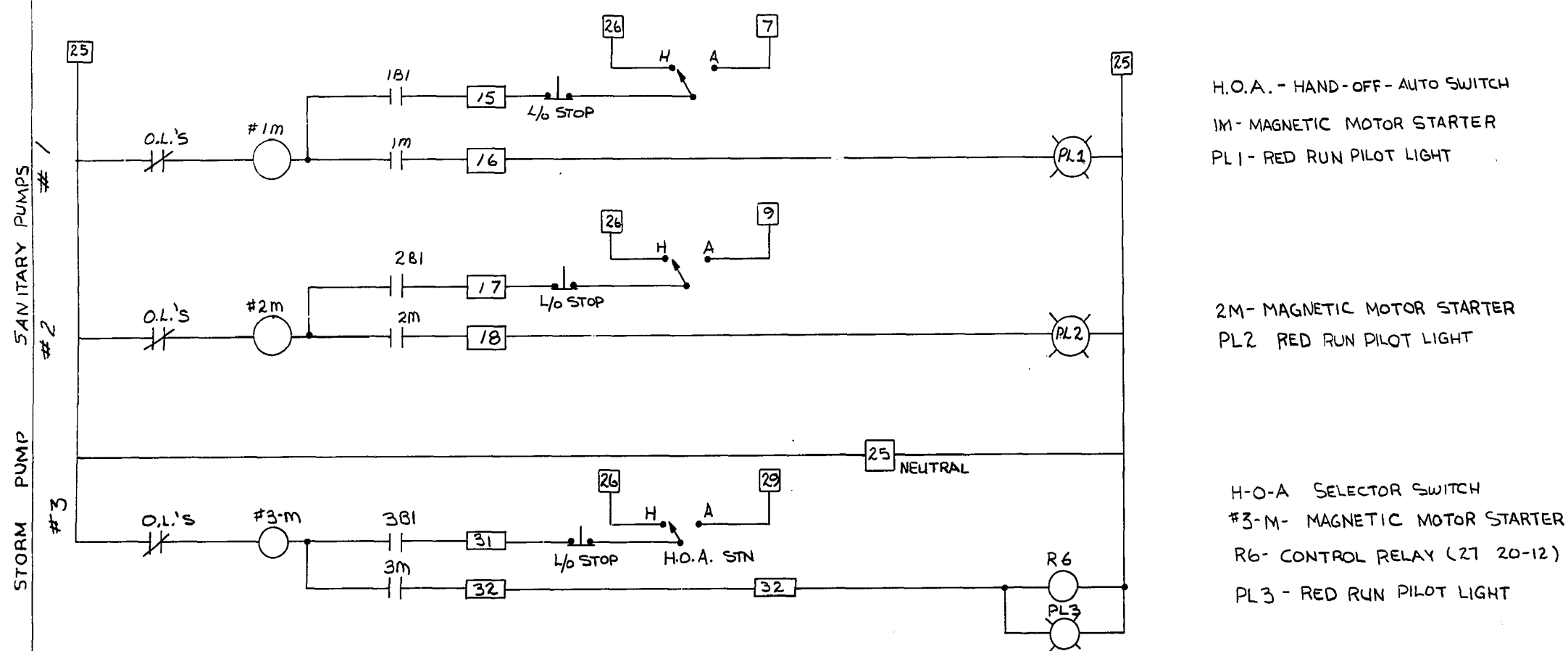
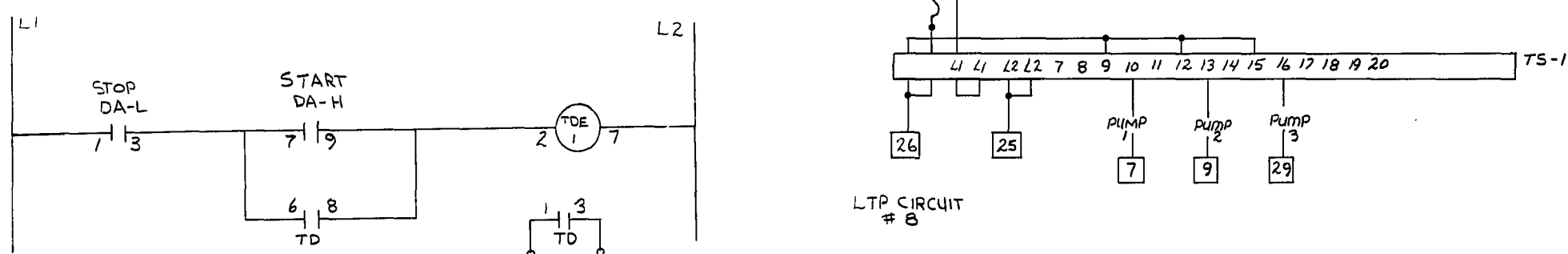
AS-BUILT
DATE: 7/76
FR. NO. []
PAGE []



CONTROL PANEL



CONCEPT - DUAL ALARM UNIT CONTROL, TYPICAL



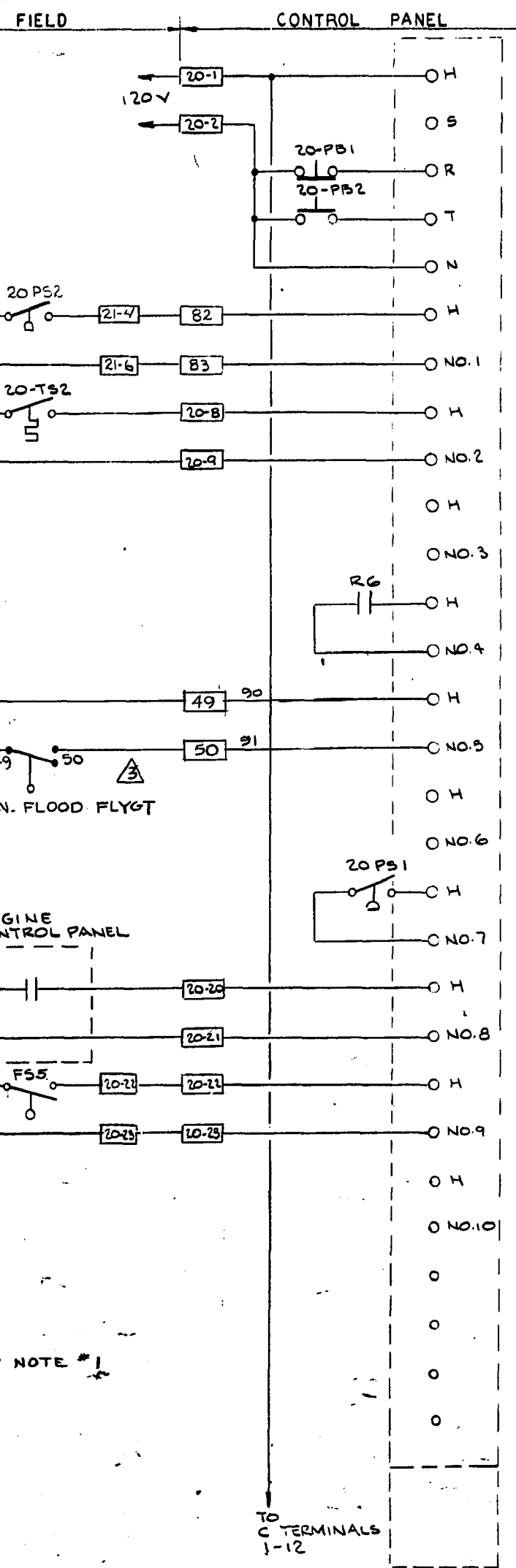
H.O.A. - HAND-OFF-AUTO SWITCH
 M - MAGNETIC MOTOR STARTER
 PL1 - RED RUN PILOT LIGHT

2M - MAGNETIC MOTOR STARTER
 PL2 - RED RUN PILOT LIGHT

H.O.A. SELECTOR SWITCH
 #3-M - MAGNETIC MOTOR STARTER
 R6 - CONTROL RELAY (21 20-12)
 PL3 - RED RUN PILOT LIGHT

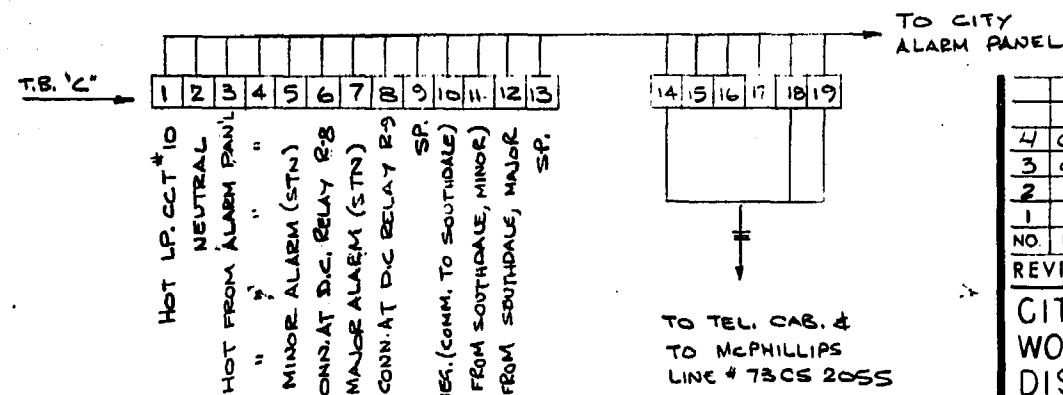
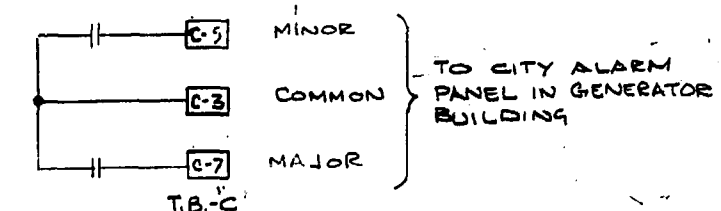
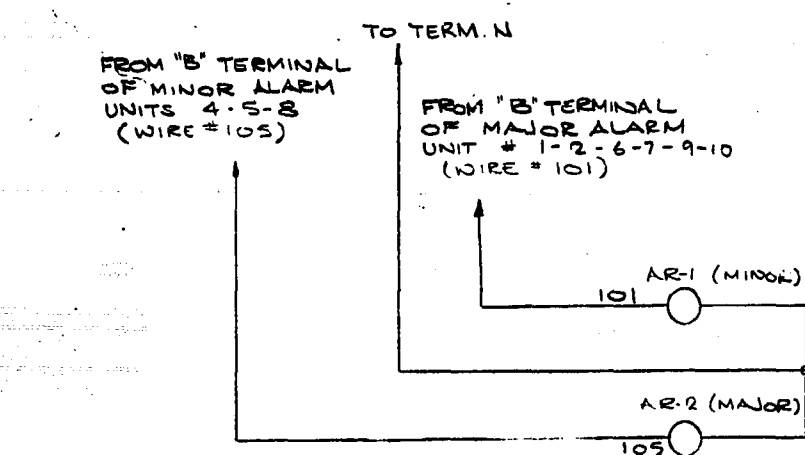
OPERATING FROM LTP CIRCUIT #11

NOTE
 SEE WINDSOR PARK ALARM
 DWG. L-5-20



- 20-1 120 VOLT SUPPLY FROM PANEL 'A' CCT. #10
- 20-2
- 20-3 20-PB1 - ACKNOWLEDGE PUSH-BUTTON
- 20-4 20-PB2 - "TEST" PUSH-BUTTON
- 20-5
- 20-6 20-PS2 PRESS SW. SET @ 50 PSIG
- 20-7 NO.1 - "LIFT STATION LOW AIR ALARM"
- 20-8 20-TS2 - TEMPERATURE SENSOR CLOSSES WHEN GEN. BLDG TEMP DROPS TO 50°F
- 20-9 NO.2 - "GEN. BLDG LOW TEMP. ALARM"
- 20-10
- 20-11 NO.3 - SPARE
- 20-12
- 20-13 NO.4 - "STORM PUMP RUNNING" ALARM
- 20-14
- 20-15 NO.5 - "STATION FLOOD (MAJOR)"
- 20-16
- 20-17 NO.6 - SPARE
- 20-18 20-PS1 - PRESSURE SWITCH SET AT 65 PSIG
- 20-19 NO.7 - "LOW AIR PRESSURE" ALARM
- 20-20 DRY CONTACT IN ENGINE CONTROL PANEL CLOSSES WHEN ENGINE RUNNING
- 20-21 NO.8 - "GENERATOR RUNNING" ALARM
- 20-22 FS-5 - FLOAT SWITCH CLOSSES ON WET WELL HIGH LEVEL
- 20-23 NO.9 - "WET WELL HIGH LEVEL" ALARM
- 20-24
- 20-25 NO.10 SPARE
- 20-26
- 20-27 NO.11 SPARE ALARM POINTS
- 20-28
- 20-29 NO.12

* NOTE #1



NO.	DESCRIPTION	DATE	BY
1	GEN. REV.	8/26/76	JMS
2	GEN. REVISION	1/31/78	RS
3	GEN. REV.	8/26/76	JMS
4	CONTROL PANEL ANNUNCIATOR REVISIONS	JAN 86	MD

CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 DISTRICT 5

W.L. WARDROP & ASSOCIATES LTD
 ENGINEERING CONSULTANTS
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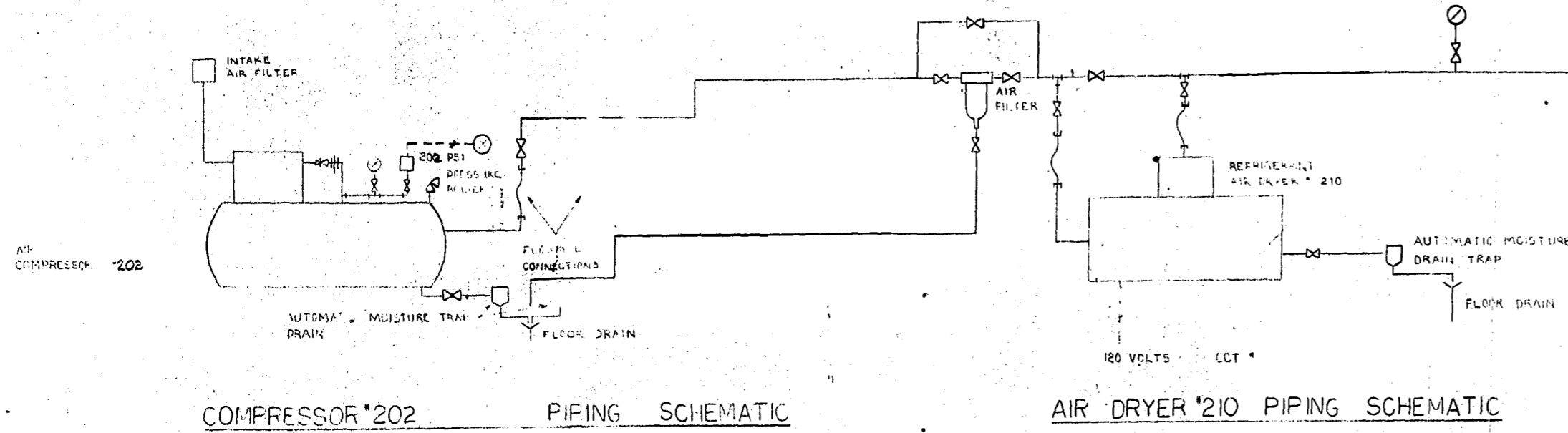
WINDSOR PARK LIFT STATION RENOVATION

CONTROL SCHEMATICS
 PUMP CONTROL AND ANNUNCIATION

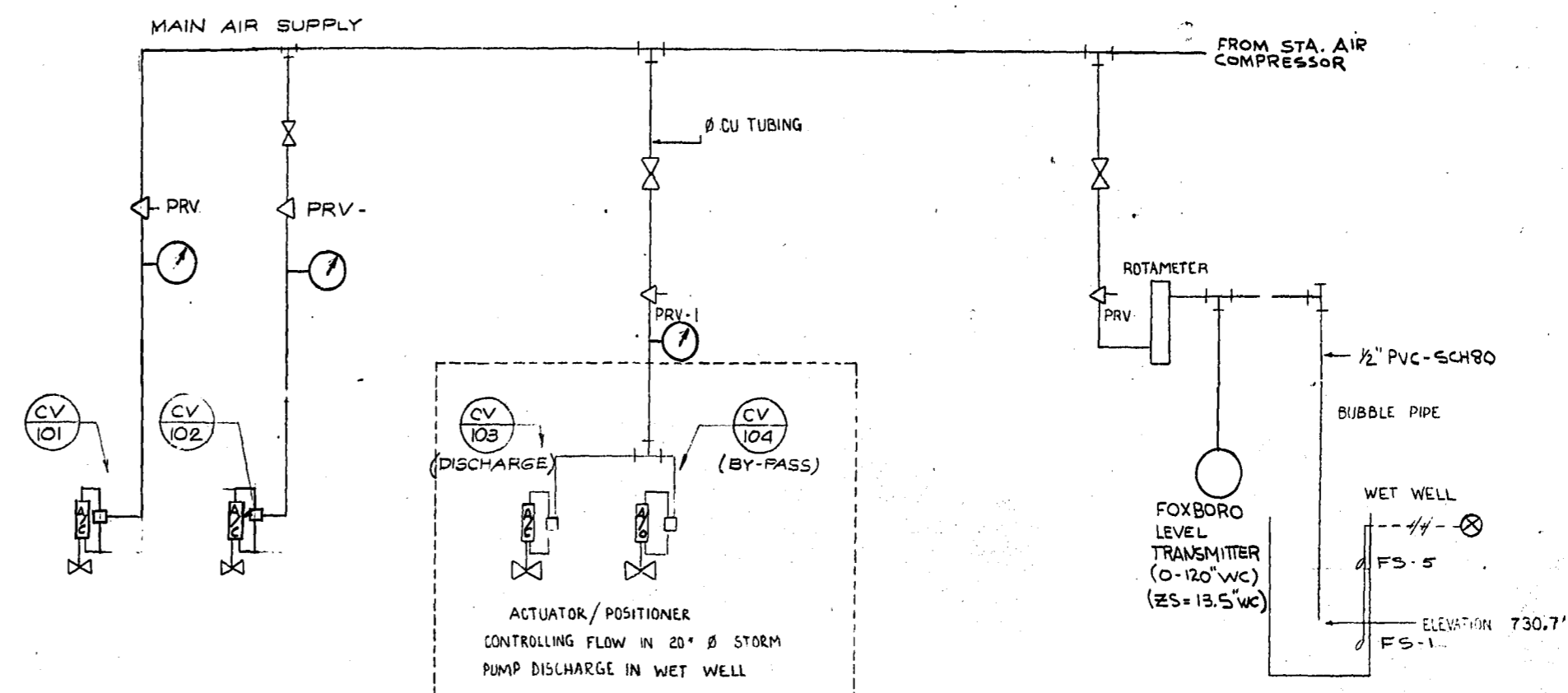
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APPROVED BY: [Signature]	DATE: 1/76	REV: 0
SCALE: N.T.S.	DRAWING NO: 76012-04-E5	REV: 0

AS-BUILT
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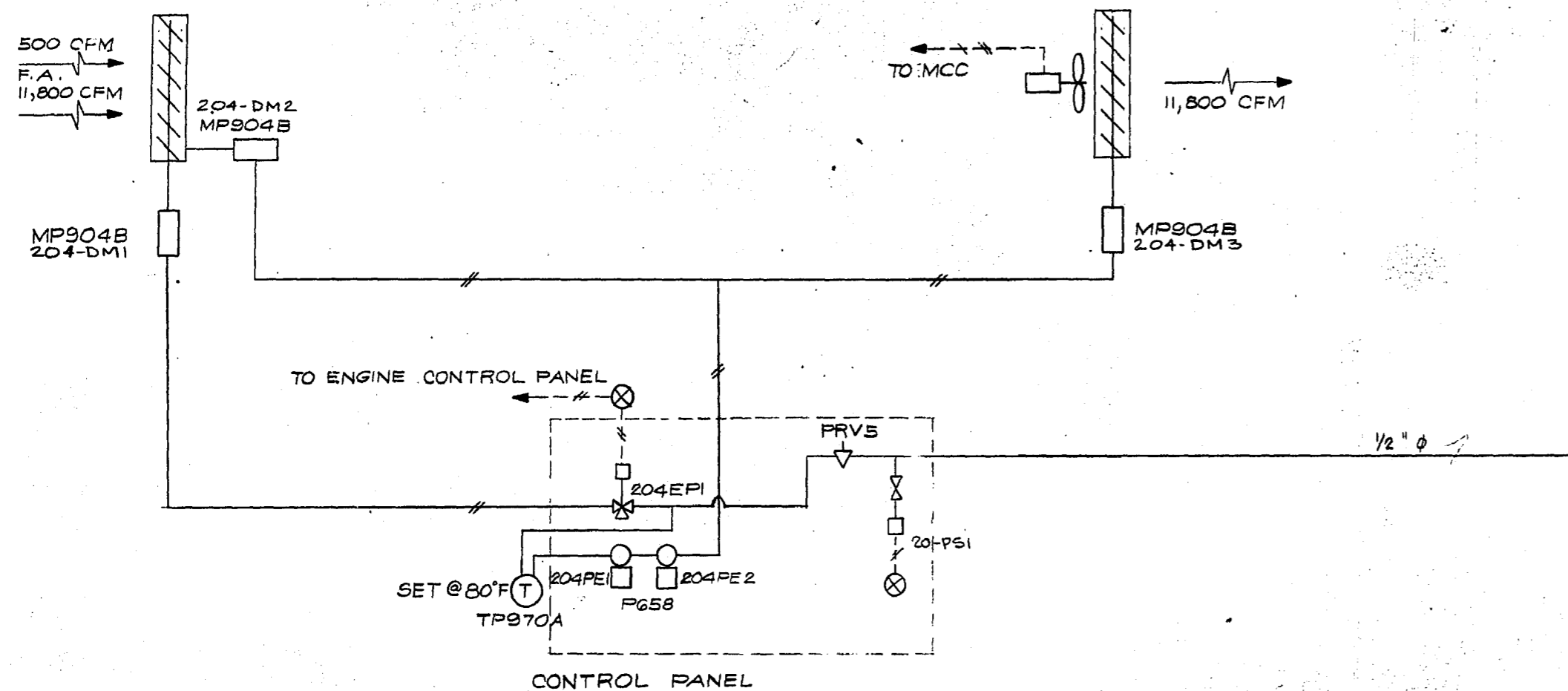


GENERATOR BLDG. CONTROL AIR SYSTEM

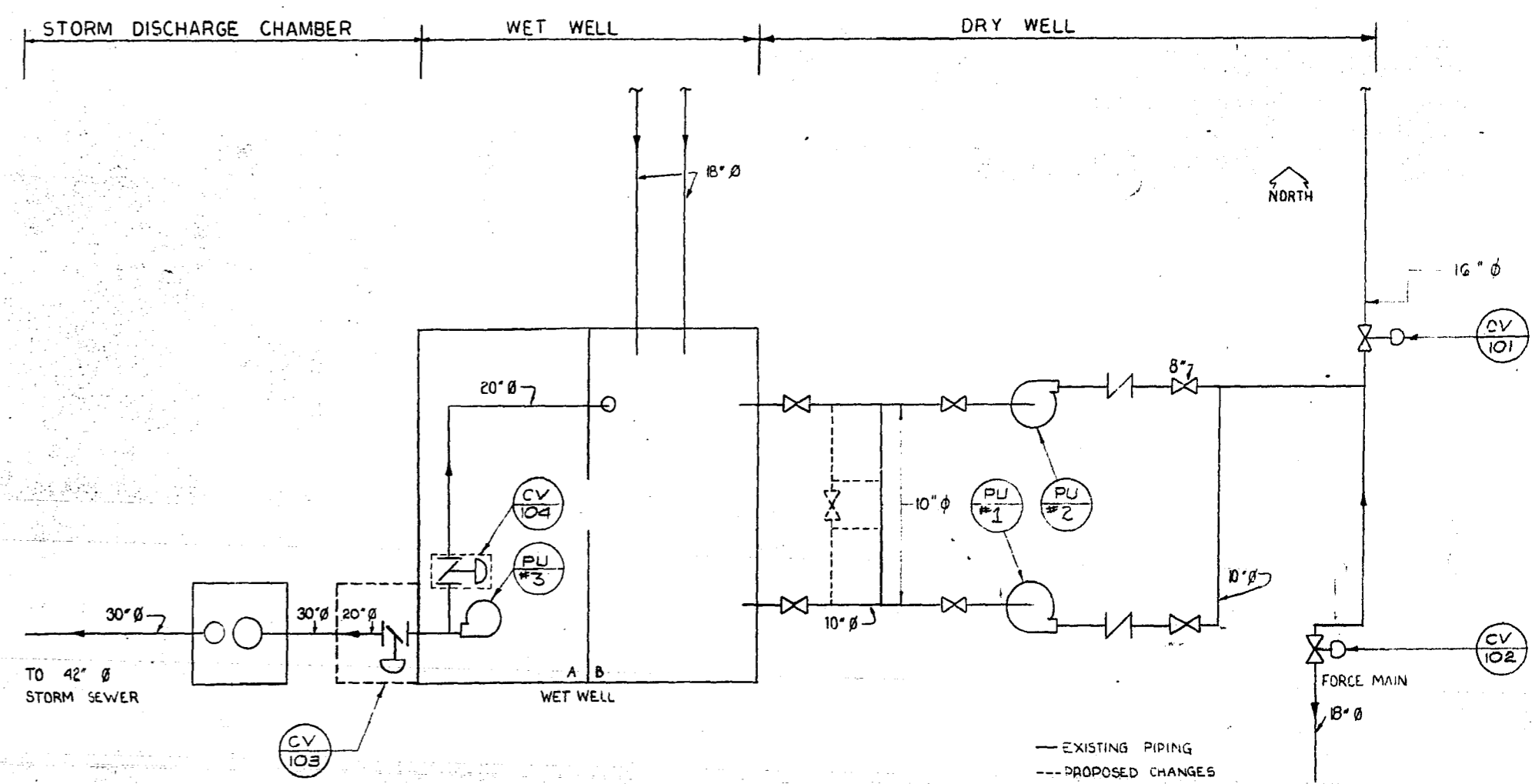


LIFT STATION PNEUMATIC SYSTEM

⊗ REFER TO SCHEMATICS DWG. #E5
 ⊙ " " " " #E4



GENERATOR BLDG. VENTILATION DIAGRAM



STATION FLOW CHART

DIVISION OF RESPONSIBILITY

	SECTION 15		SECTION 16		OWNER SUPPLIED	REMARKS
	SUPPLY	MOUNT	SUPPLY	MOUNT		
ELECTRIC HEATERS			X	X	X	EXISTING UNITS TO BE RE-USED
THERMOSTATS, PNEUMATIC	X	X				
THERMOSTAT, ELECTRIC			X	X	X	
MOTOR CONTROL CENTRE			X	X	X	
LIGHT FIXTURES			X	X	X	
TRENCHING & WIRE (TO STATION)					X	SHORT SECTION INTO BLDG. SECT. 16
AIR COMPRESSOR	X	X			X	1-NEW, 1-EXISTING RELOCATED
PNEUMATIC BUNDLE (BURIED)					X	SHORT SECT. INTO BLDG. BY SECT. 15
DAMPERS	X	X				
DAMPER MOTORS	X	X				
LIGHT SWITCHES			X	X	X	
MOTOR DISCONNECT SWITCHES			X	X	X	
FLOAT SWITCHES			X	X	X	ROD ACTIVATED FOR SUMP PUMPS
FLOAT SWITCHES	X	X	X	X	X	TILT TYPE - WET WELL/MAN HOLE
PRESSURE SWITCHES	X	X			X	
LEVEL CONTROLLER	X	X				
AIR PRESSURE REGULATORS	X	X				
ROTO METER	X	X				
CONTROL VALVES	X	X			X	
SOLENOID VALVES	X	Y			X	
CONTROL PANEL			X	X	X	
REFRIGILITER	X	X			X	
DESICCANT DRYER	X	X			X	
CONTROL VALVES, ACTUATORS & POSITIONERS					X	
PNEUMATIC PIPING	Y	Y				
GENERATOR UNIT			X	X	X	SECT. 15 TO CONNECT WATER, GAS & EXHAUST
GENERATOR EXHAUST SILENCER			X	X	X	
TRANSFORMER (600-120V/240V)			X	X	X	
ISOPH MOTOR		X				
LIGHTING PANEL BOARD			Y	X	X	
VENT. FANS	X	Y				UNIT 105 IN STATION IS EXISTING.
MAIN SERVICE ENTRANCE			X	X	X	
SLEEVES						BY STRUCT. SEE ELECT. & MECH. DWGS.

FLOAT & PRESSURE SWITCH SCHEDULE

NO.	RANGE	DUTY	CONTACT		SIGNAL LEVEL	PROCESS
			N.O.	N.C.		
		SANITARY PUMPS STOP	X		11.2 / 54"	
		1ST DUTY SANITARY PUMP	X	X	13.0 / 60"	
		2ND DUTY SANITARY PUMP	X	X	15.0 / 90"	
		STORM PUMP STOP	X		18.0 / 66"	
		STORM PUMP START	X	X	18.0 / 66"	
202-PS	0-150	AIR COMPRESSOR	X	X	85 & 70	
204-PS1	0-150	LOW CONTROL AIR PRESS. ALARM	X		65	
FS1		LOW WET WELL ALARM	X	X	730.0'	S.P.D.T.
FS5		HIGH WET WELL ALARM	X	X	738.0'	
FS-2		SUMP PUMP STOP	X		6"	
FS-3		1ST DUTY SUMP PUMP START	X	X	15"	

1 REVISED TO DATE JAN 86 MD

NO. DESCRIPTION DATE BY

REVISIONS

CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION
 DISTRICT 5

W.L. WARDROP & ASSOCIATES LTD.
 ENGINEERING CONSULTANTS
 WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON

WINDSOR PARK LIFT STATION RENOVATION

CONTROL DIAGRAMS &
 DIVISION OF RESPONSIBILITY

DESIGNED BY: B.S. DRAWN BY: KFM CHECKED BY: [Signature]

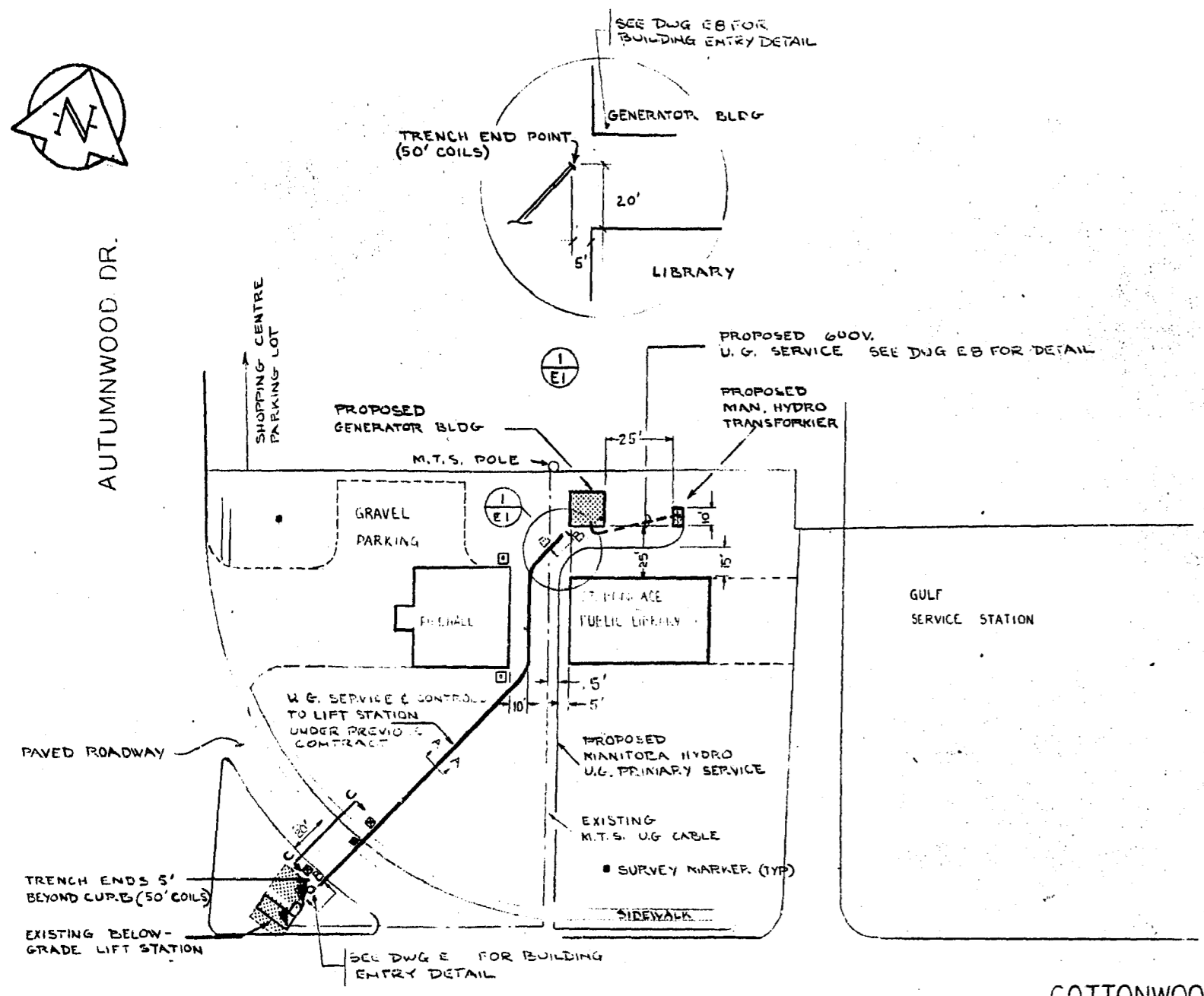
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DRAWING NO: 76012-04-E6 REV: 0

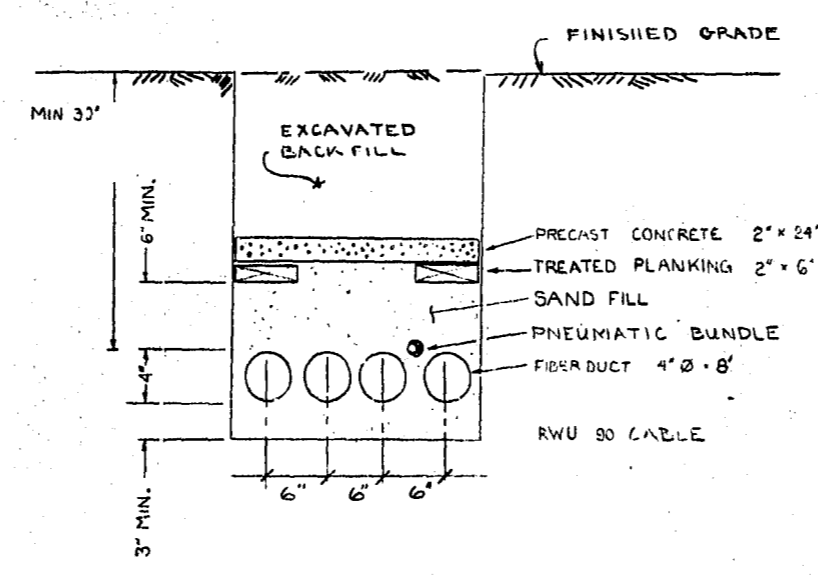
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 DATE: 7/06

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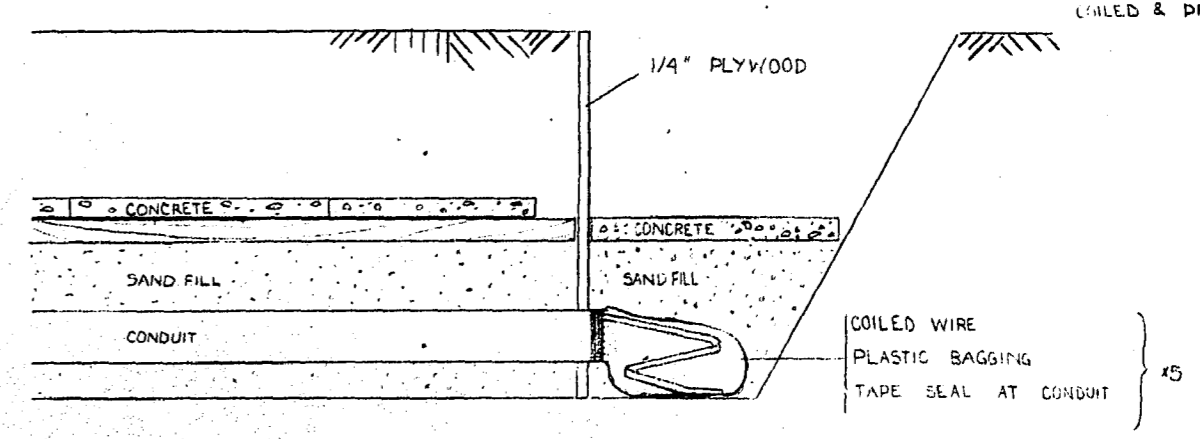
ELECTRICAL SITE PLAN
1" = 50'

Ⓛ CABLE MARKER MOUNTED ON BUILDING WALL
Ⓜ CABLE MARKER AT GRADE



A-A TRENCHING DETAIL
(PROVIDED UNDER PREVIOUS CONTRACT)
N.T.S.

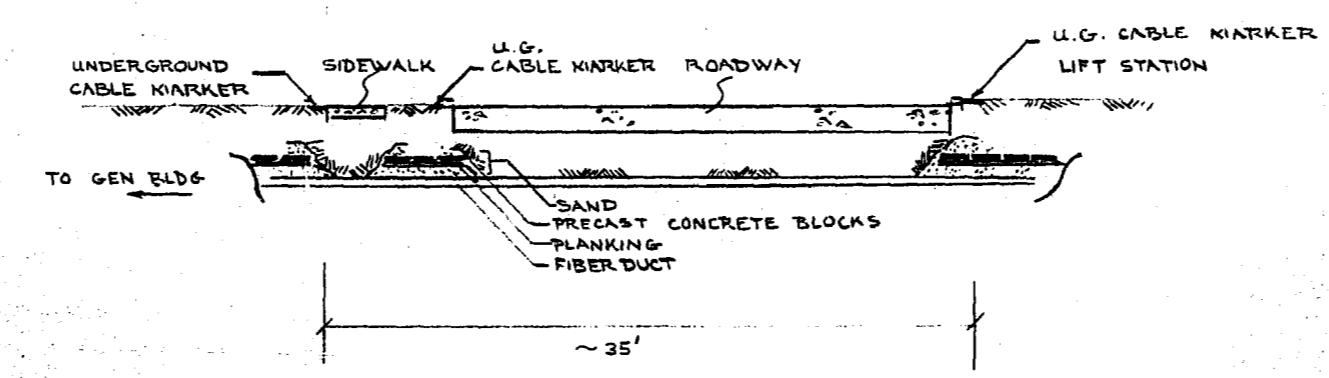
NOTE:
SEE 'WIRE TABLE' AT RIGHT FOR PLACEMENT OF CONDUCTORS



B-B TRENCH TERMINATION DETAIL
(PROVIDED UNDER PREVIOUS CONTRACT)
N.T.S.

NOTE: CONTRACTOR WILL BE RESPONSIBLE FOR THE INSTALLATION OF BOTH THE UNDERGROUND SYSTEM AND TUBING FROM THE GENERATOR BUILDING TO THE LIFT STATION BETWEEN POINTS SHOWN ON DRAWINGS. THE CONTRACTOR SHALL CO-ORDINATE WITH THE OWNER TO SCHEDULE THIS INSTALLATION TO ENSURE THAT THE SCHEDULE IS NOT LEFT EXPOSED AND SUBJECT TO PHYSICAL DAMAGE. THE CONTRACTOR SHALL LEAVE DESIGNATED LENGTHS UNWOUND & PROTECTED AS SHOWN

COTTONWOOD RD.

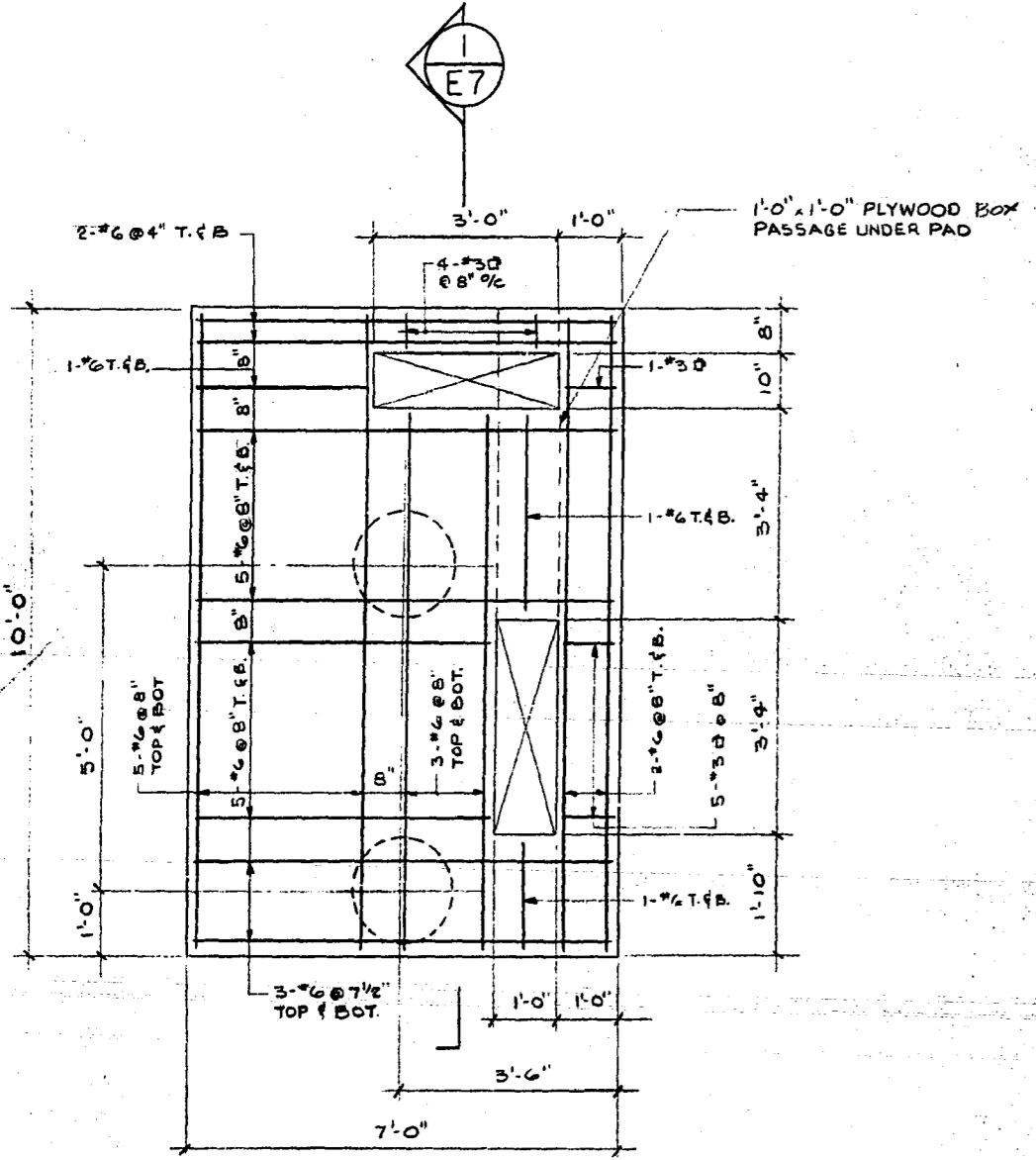


C-C ROADWAY AUGERING
(PROVIDED UNDER PREVIOUS CONTRACT)
N.T.S.

	(A)	(B)	(C)	(SPAN)
A	STORM PIPES	3" x 2'0"		RWU 90
B	SANITARY PUMPS	6" x 6"		
	VENT. FAN	2" x 12"		
	SUMP PUMPS	4" x 10"		
	HEATERS	3" x 8"		
C	CONTROL & SPARE	16" x 12"		

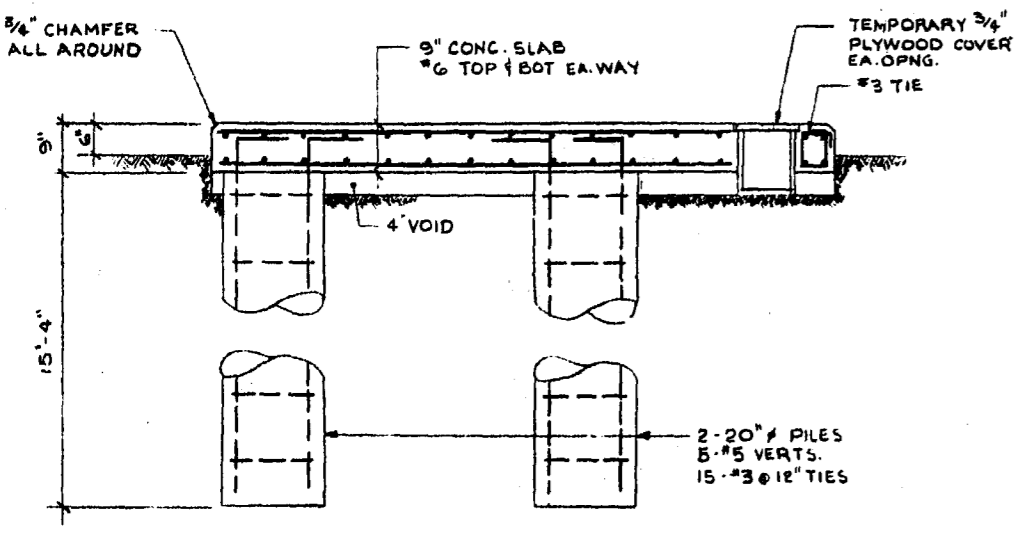
SYSTEM GROUND - CONDUIT A - 2/0 BARE COPPER

WIRE TABLE
(PROVIDED UNDER PREVIOUS CONTRACT)

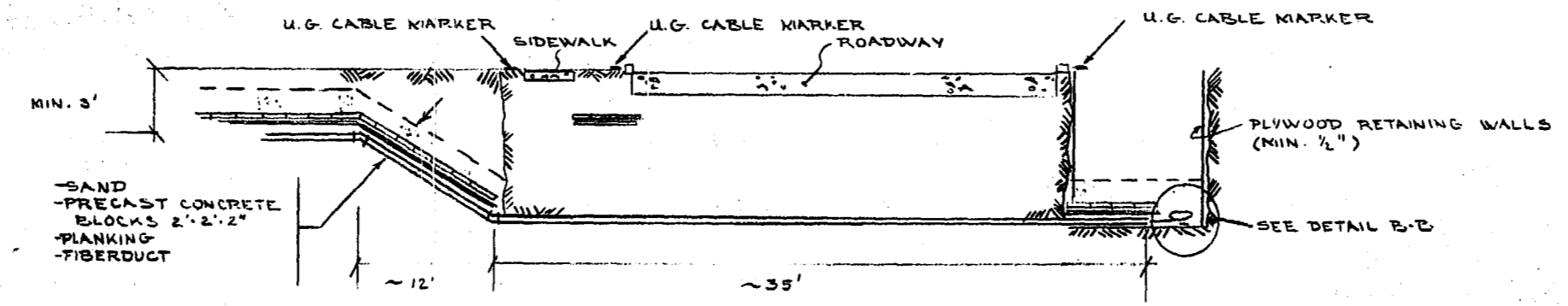


PLAN OF TRANSFORMER PAD
1/2" = 1'-0"

TRANSFORMER PAD CONSTRUCTION TO BE CARRIED OUT BY BUILDING CONTRACTOR.



SECTION E7
1/2" = 1'-0"

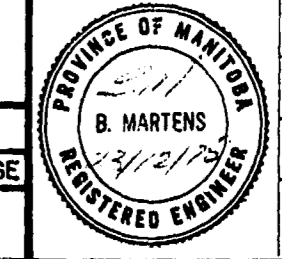


C-C ROADWAY AUGERING
OPTION - DEEP TRENCHING - AUGERING UNDER FROST
(PROVIDED UNDER PREVIOUS CONTRACT)

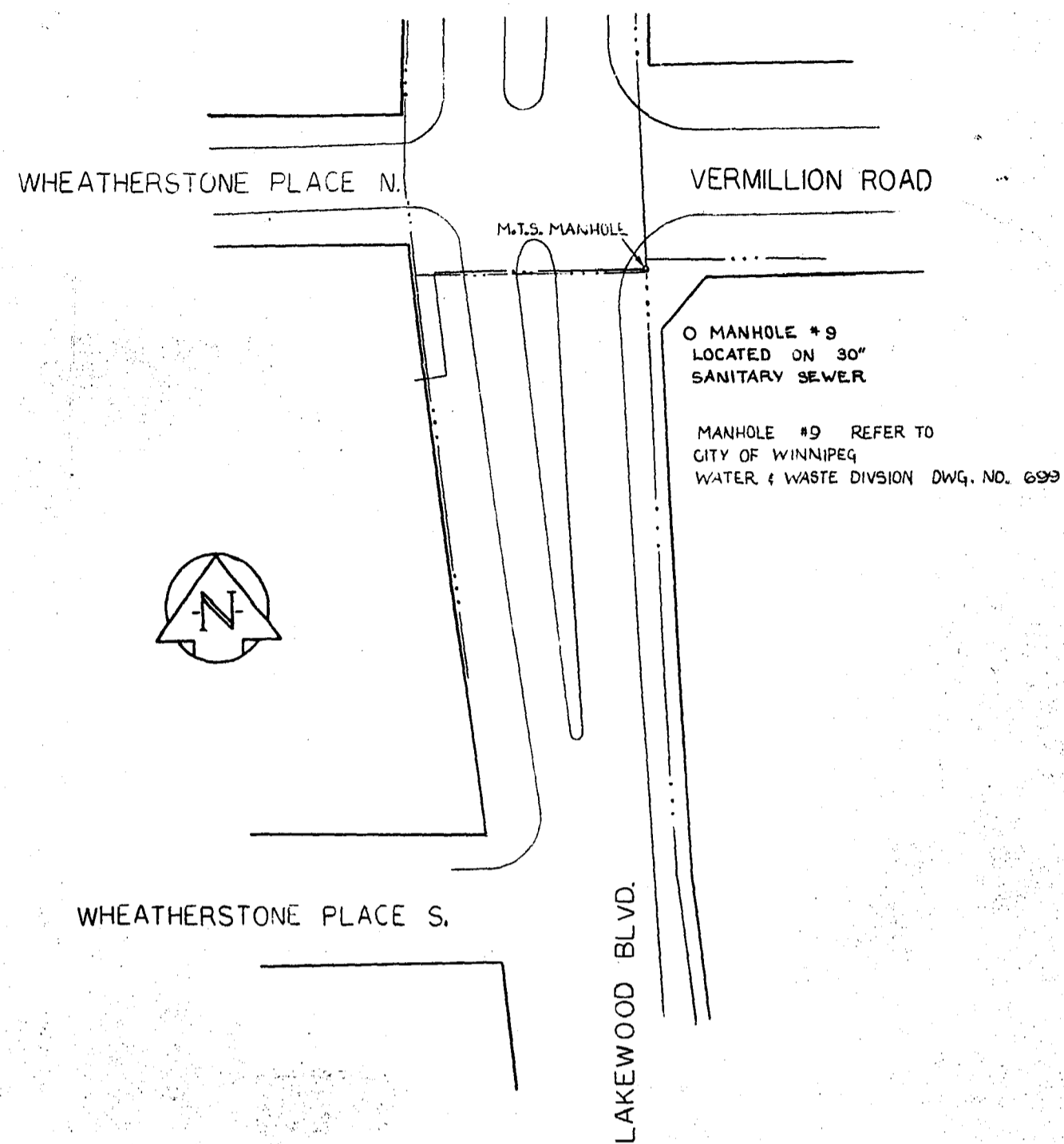
NOTE
COMPLETION OF TRENCHING & WIRING UNDER SEPARATE CONTRACT
IE: ROADWAY TO LIFT STATION

1	ISSUED FOR ELECTRICAL	QUOTE NO. 67141 01/76	KFM
0	ISSUED FOR GENERATOR BUILDING QUOTE, NOSTRIN 01/76		KFM
NO.	DESCRIPTION	DATE	BY
REVISIONS			
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5			
W.L. WARDROP & ASSOCIATES LTD. ENGINEERING CONSULTANTS WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON			
WINDSOR PARK LIFT STATION RENOVATION			
SITE PLAN & TRANSFORMER PAD DETAILS			
DESIGNED BY:	EKS	DRAWN BY:	KML
CHECKED BY:			
APPROVED BY:	<i>B. Martens</i>		
SCALE:	A-S NOTED	DATE:	12/75
DRAWING NO.:	76012-04-E7	REV	1

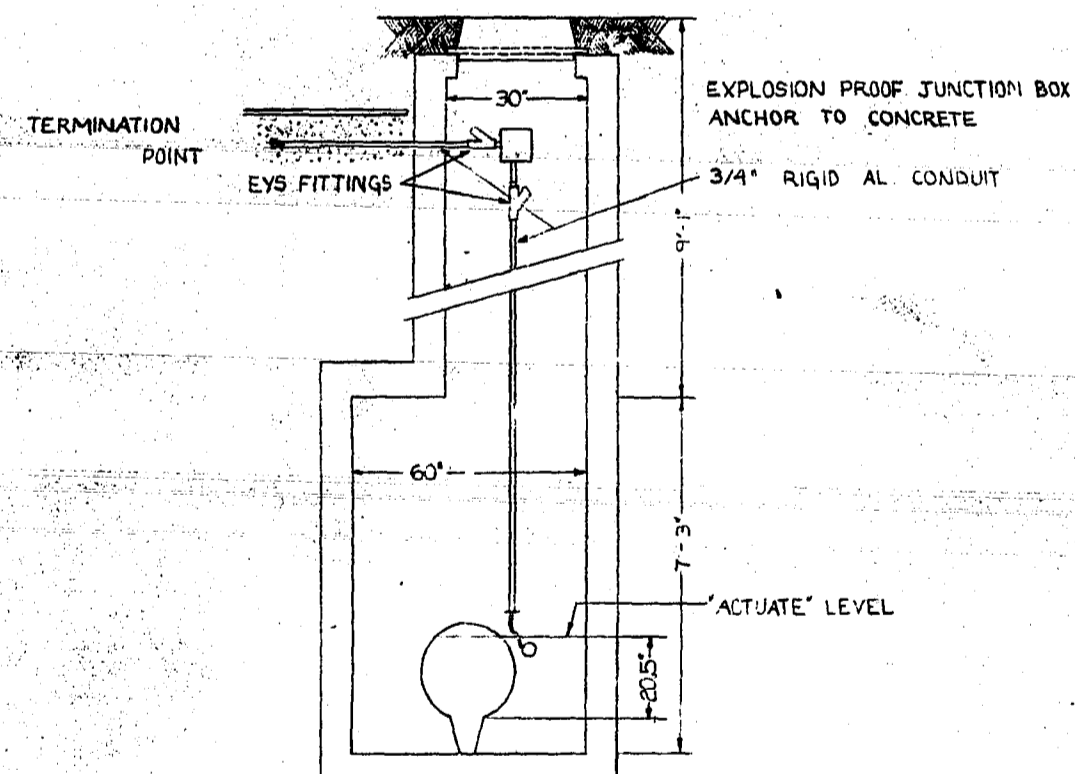
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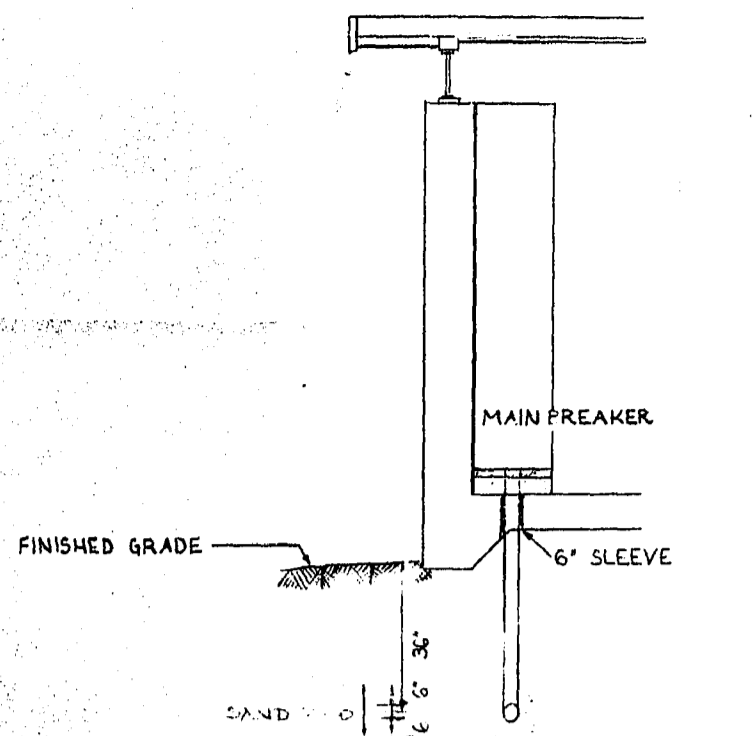
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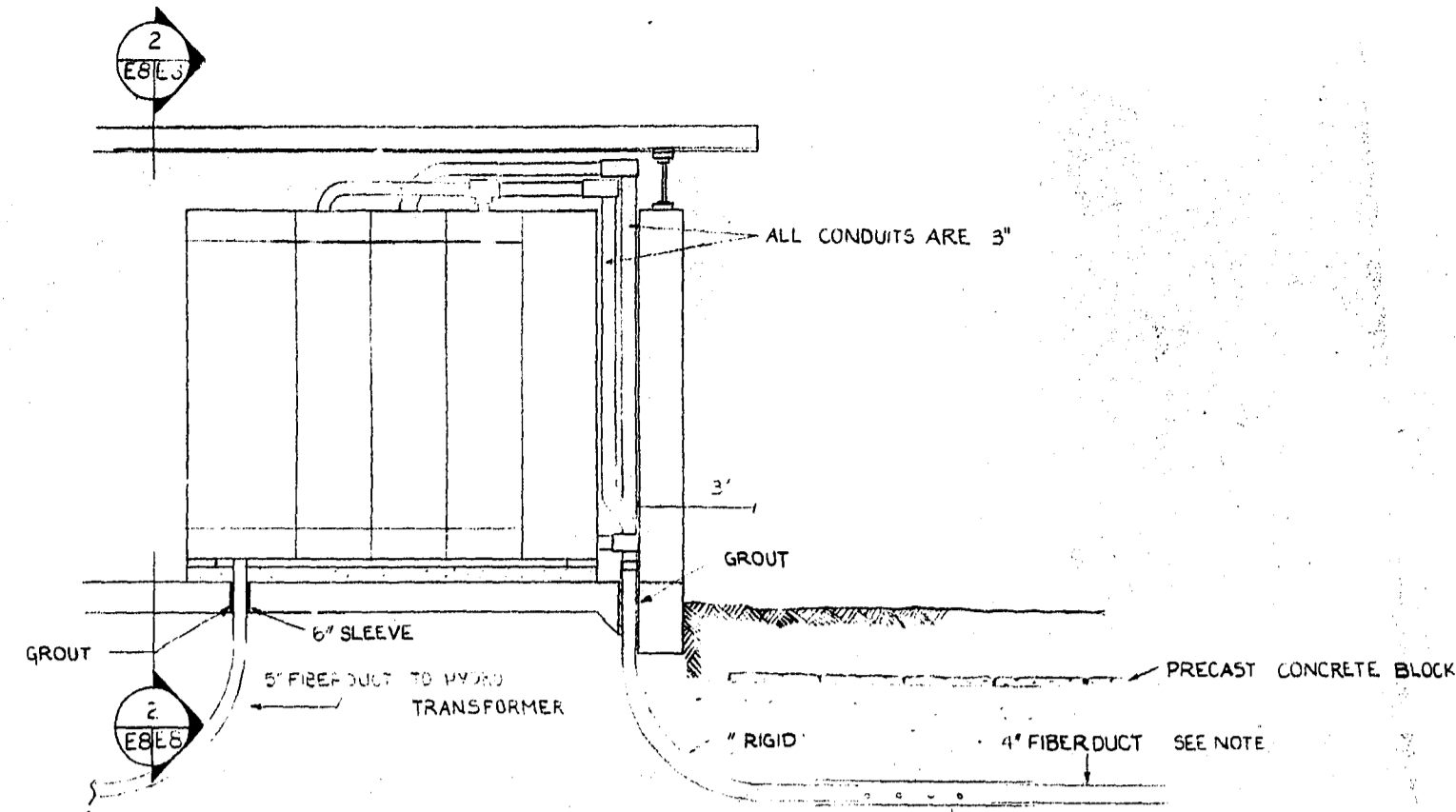
SITE PLAN OF REMOTE SENSOR
SCALE 1" = 40'



DETAIL OF FLOAT SWITCH IN MANHOLE #9
SCALE 3/8" = 1"

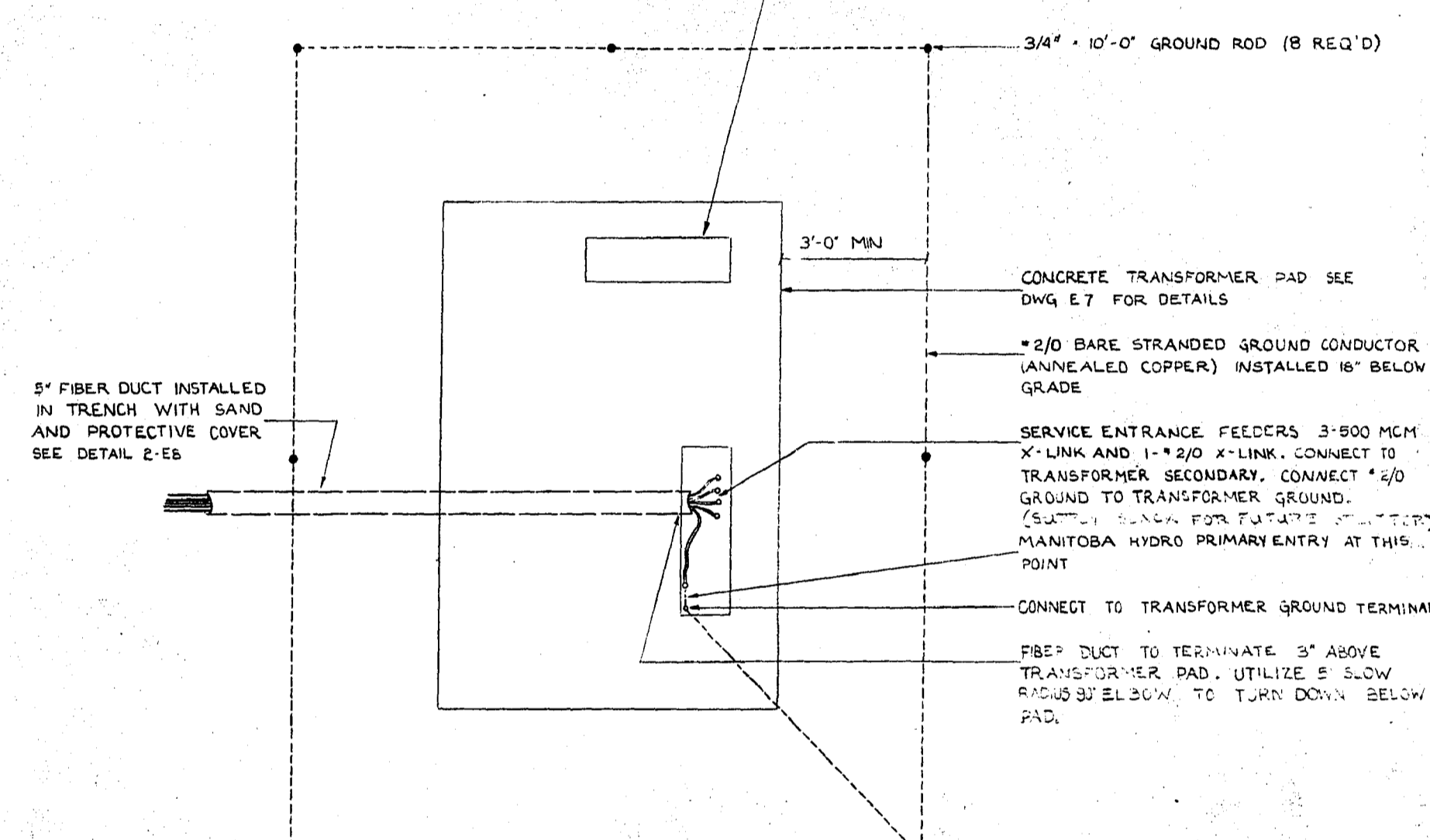


2
E8
HYDRO ENTRANCE DETAIL
SCALE 3/8" = 1"

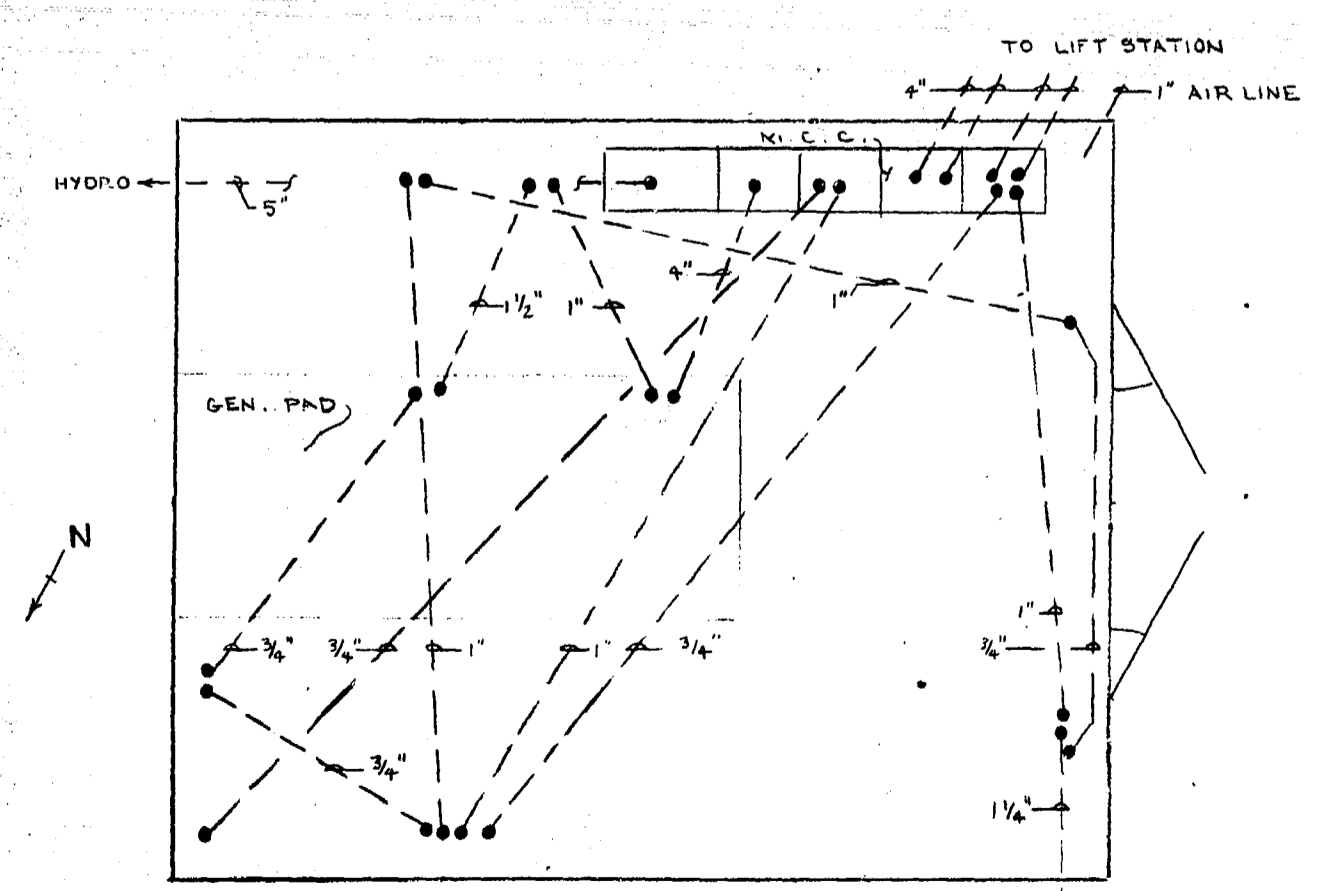


3
E8
FEEDER TRENCH ENTRANCE DETAIL
SCALE 3/8" = 1"

NOTE: UNDER A SEPARATE CONTRACT, THE FIBER DUCT TO THE LIFT STATION W/V CABLES HAD BEEN INSTALLED TO WITHIN 10'-0" OF THE BUILDING UNDER THIS CONTRA. THIS TUCT IS TO BE EXTENDED AS SHOWN. THIS OPENING FOR FUTURE SPLITTER BOX. NO USE AT PRESENT.



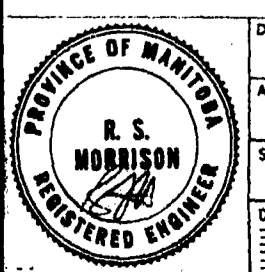
TRANSFORMER CONNECTION & GROUND DETAIL
SCALE 1/2" = 1"



GENERATOR BUILDING
SLAB CONDUIT LAYOUT

NO.	DESCRIPTION	DATE	BY
REVISIONS			
CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION DISTRICT 5			
W. L. WARDROP & ASSOCIATES LTD. ENGINEERING CONSULTANTS WINNIPEG • THUNDER BAY • REGINA • BARRIE • EDMONTON			
WINDSOR PARK LIFT STATION RENOVATION			
MISCELLANEOUS DETAILS			
DESIGNED BY:	DRAWN BY:	CHECKED BY:	
APPROVED BY:			
SCALE:	AS NOTED	DATE:	1/76
DRAWING NO:	76012-04-E8	PAGE:	10

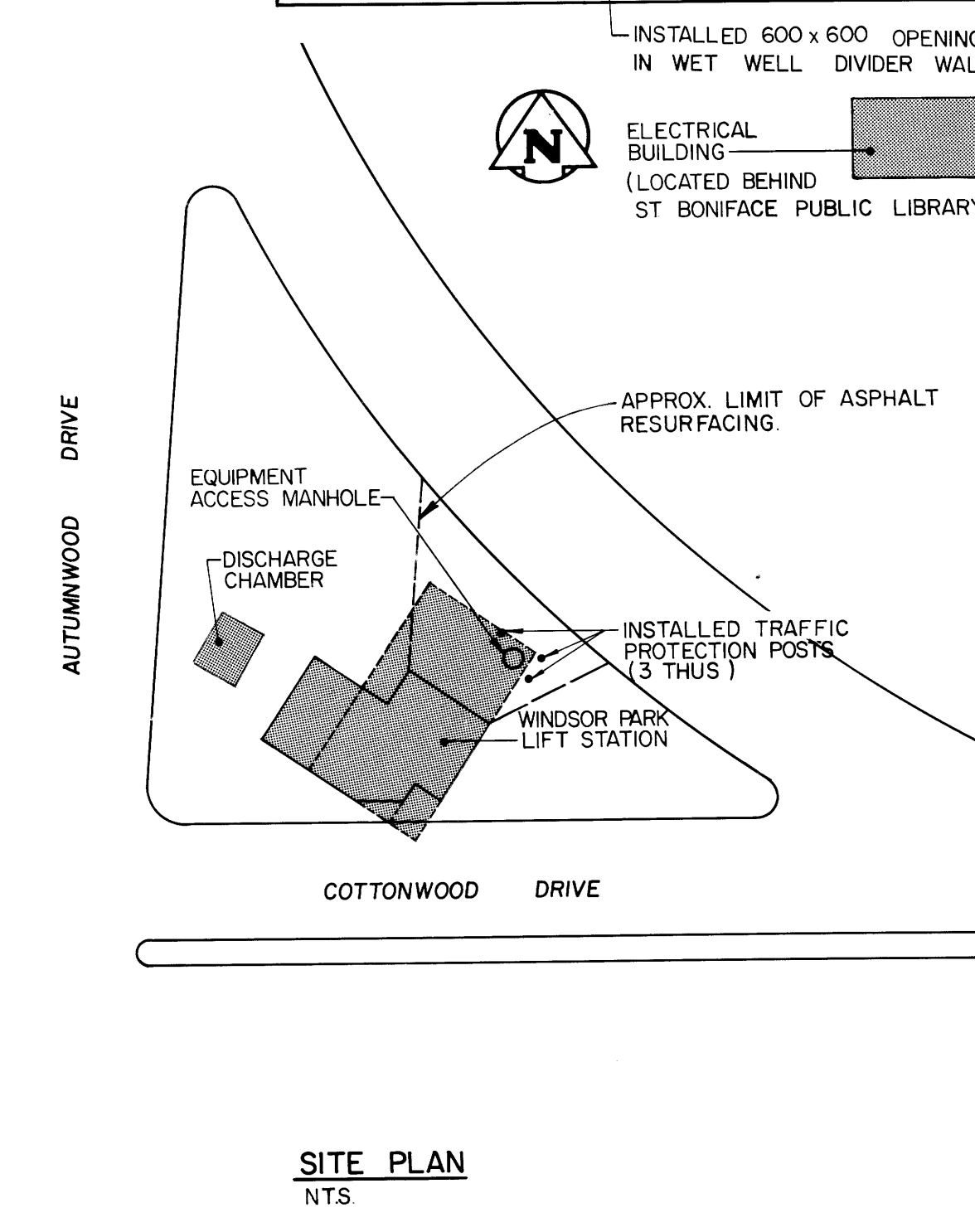
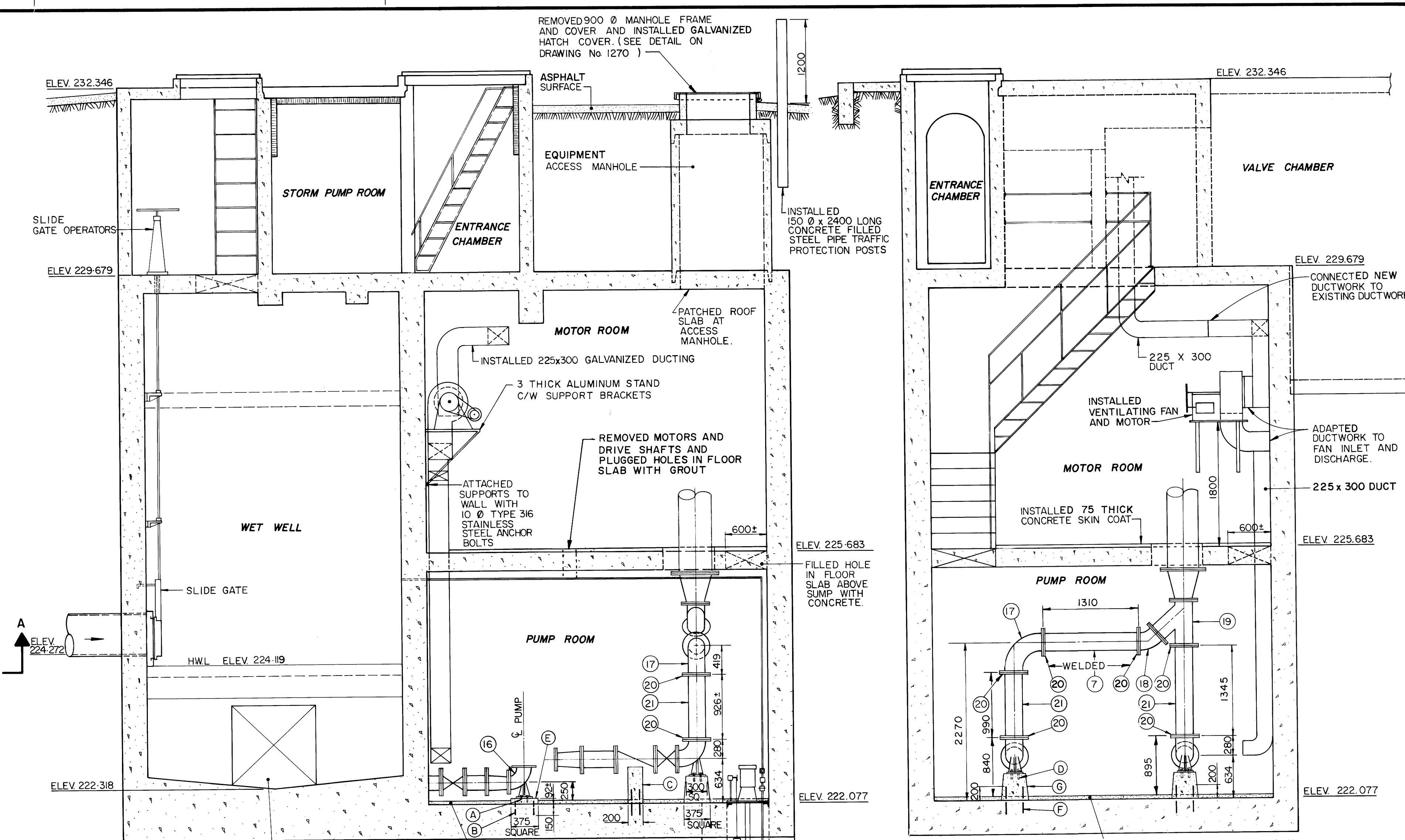
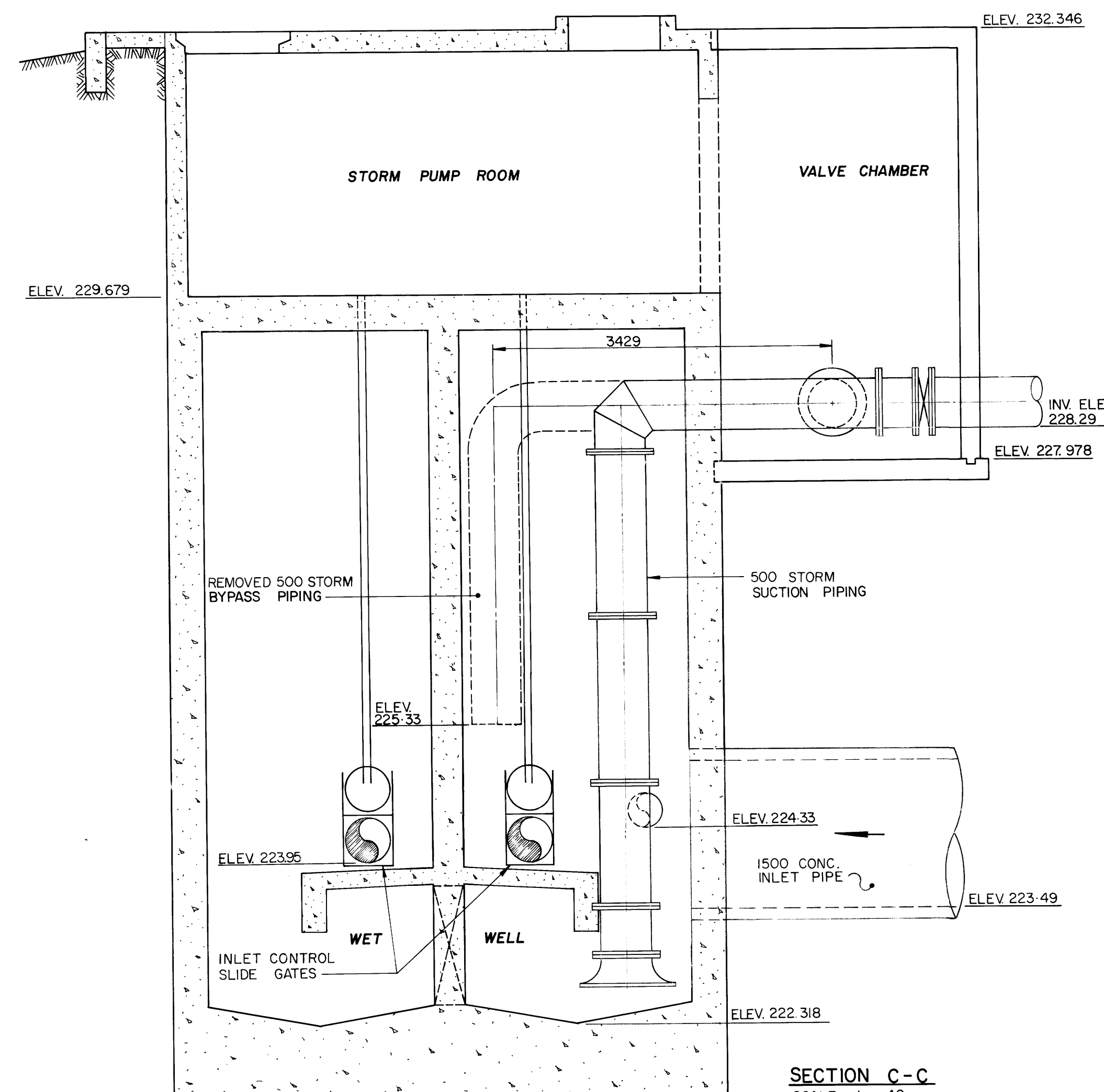
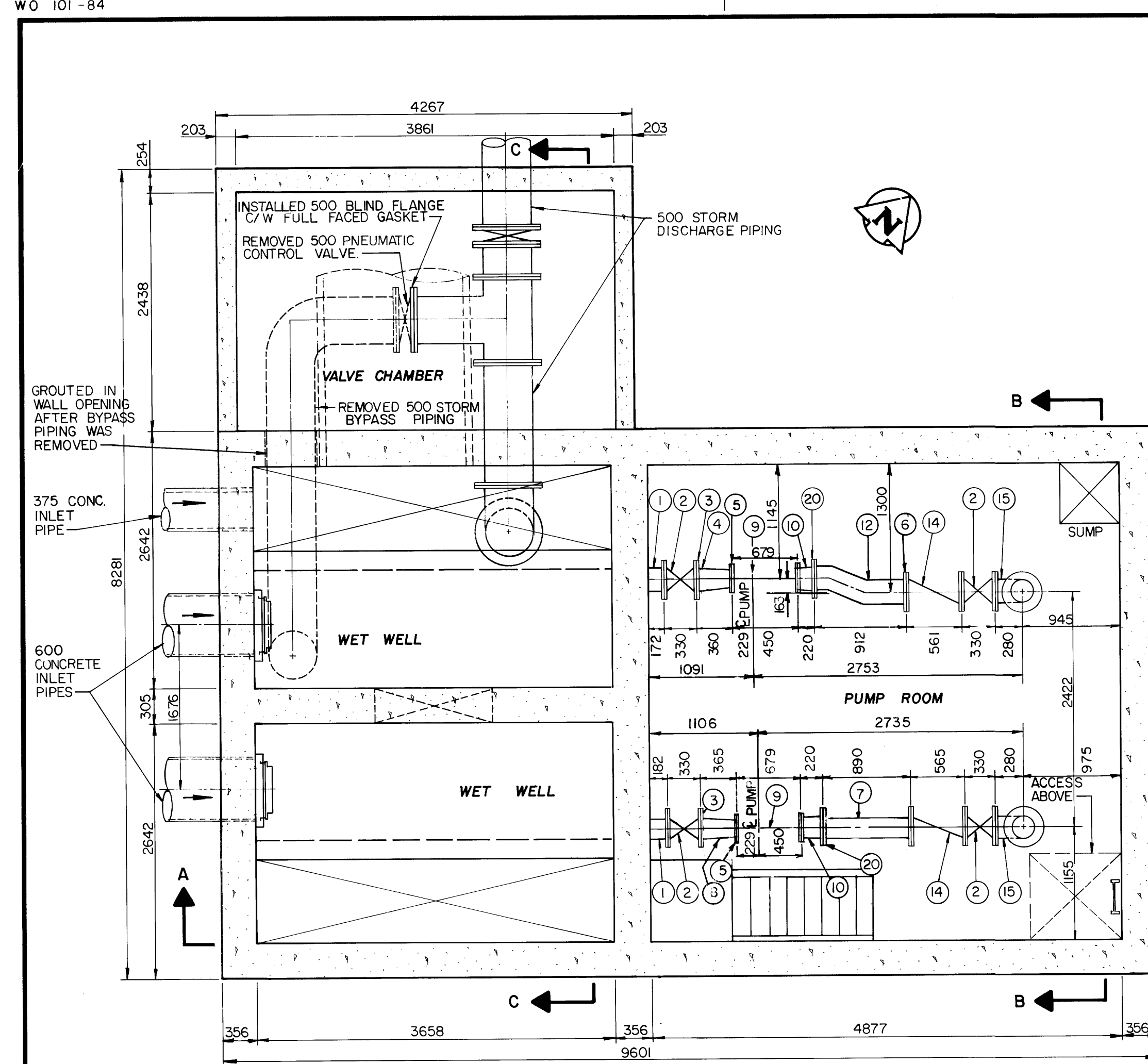
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DATE: Dec/76
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MICROFILMED OCT 23 1987

1050

file # SP10374
1209
REF. or DRAWING No. DETAILS



- NOTES:**
- A INSTALLED 4-20 DIAMETER TYPE 316 STAINLESS STEEL ANCHOR BOLTS PER BASE
 - B INSTALLED 6-15M DOWELS 200 LONG PER PEDESTAL
 - C INSTALLED CONCRETE VALVE SUPPORT (TYPICAL)
 - D INSTALLED 4-23 DIAMETER TYPE 316 STAINLESS STEEL ANCHOR BOLTS PER BASE
 - E INSTALLED CONCRETE PUMP PEDESTALS (TYPICAL)
 - F INSTALLED 6-15M DOWELS 400 LONG PER SUPPORT
 - G INSTALLED CONCRETE PIPE SUPPORT (TYPICAL)

LIST OF MATERIALS				
ITEM	DESCRIPTION	ENDS	LENGTH	QUANTITY
1	250 CAST IRON INLET PIPING	FLANGED	AS SHOWN	2
2	250 CAST IRON GATE VALVE	FLANGED	330	4
3	250 VICTAULIC STYLE 341 FLANGE			2
4	250 x 200 REDUCER ANT. 4ES	GROOVED	152	1
5	200-150 LB. SLIP-ON WELDING FLANGE			2
6	250 No. 50 GRUVLOK FIG. 7012 FLANGE			2
7	250 SCHEDULE 40 STEEL FILLER PIPE	FLANGED	AS SHOWN	
8	250 x 200 CAST IRON CONCENTRIC REDUCER	FLANGED & GROOVED	305	1
9	PUMPEX KP 203-3250 SUBMERSIBLE PUMP	FLANGED	AS SHOWN	2
10	250 x 200 SCHEDULE 40 STEEL PIPE BOTH ENDS WELDED FLANGES		365	2
12	250 SCHEDULE 40 STEEL PIPE WELDED 1 PIECE	FLANGED	912	1
14	250 CAST IRON SWING CHECK VALVE	FLANGED	561	2
15	250 STANDARD RADIUS 90° BASE ELBOW	FLANGED	AS SHOWN	2
16	200 STANDARD RADIUS 90° BASE ELBOW	FLANGED	AS SHOWN	2
17	250 LONG RADIUS 90° ELBOW	FLANGED	AS SHOWN	1
18	250 - 45° ELBOW	FLANGED		1
19	250 x 250 x 250 CAST IRON 45° LATERAL	FLANGED		1
20	250 - 150 LB. STEEL SLIP-ON WELDING FLANGE			2
21	250 SCHEDULE 40 STEEL FILLER PIPE	PLAIN	AS SHOWN	2

AS-CONSTRUCTED
INSPECTION SURVEY DATE: 02-05-79
TECHNICAL SERVICES
WATERWORKS, WASTE & DISPOSAL DEPARTMENT

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

B.M. ELEV.					
DESIGNED BY	TJW	CHECKED BY	RMG	DATE	
DRAWN BY	TM	APPROVED BY		DATE	
HOR. SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION		DATE	May 18, 1989
NO. REVISIONS		DATE		BY	
2	REV'D LIST OF MATERIALS	03/92	EN		
1	REV'D TO AS BUILT	12/90	EN		
DATE	JANUARY 1989				

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION

WINDSOR PARK
LIFT STATION UPGRADING
PLAN AND SECTIONS

CITY DRAWING NUMBER
SHEET 1 OF 3
1269

CONSULTANT DRAWING NO.

REGISTERED ENGINEER
GRILING
1985

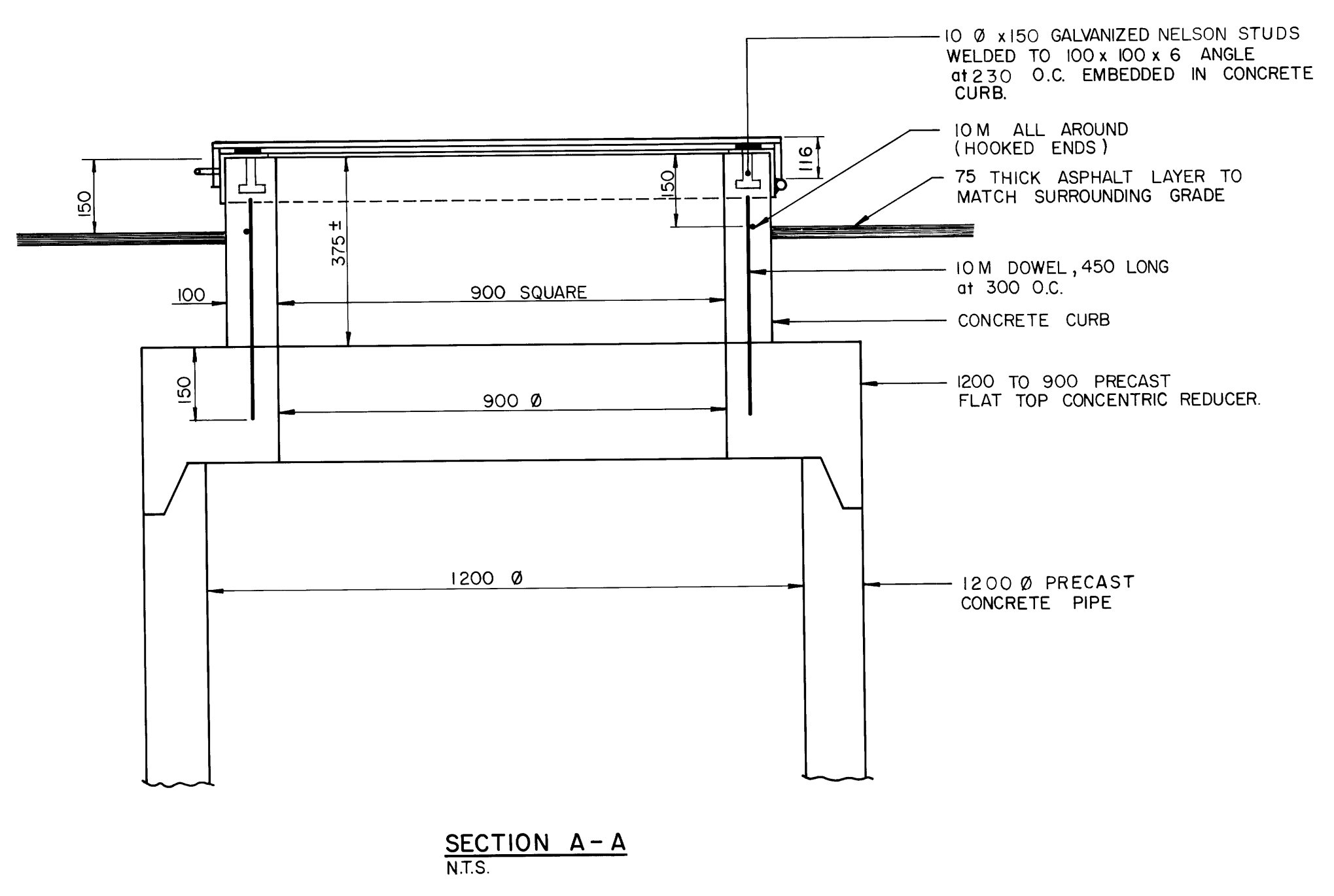
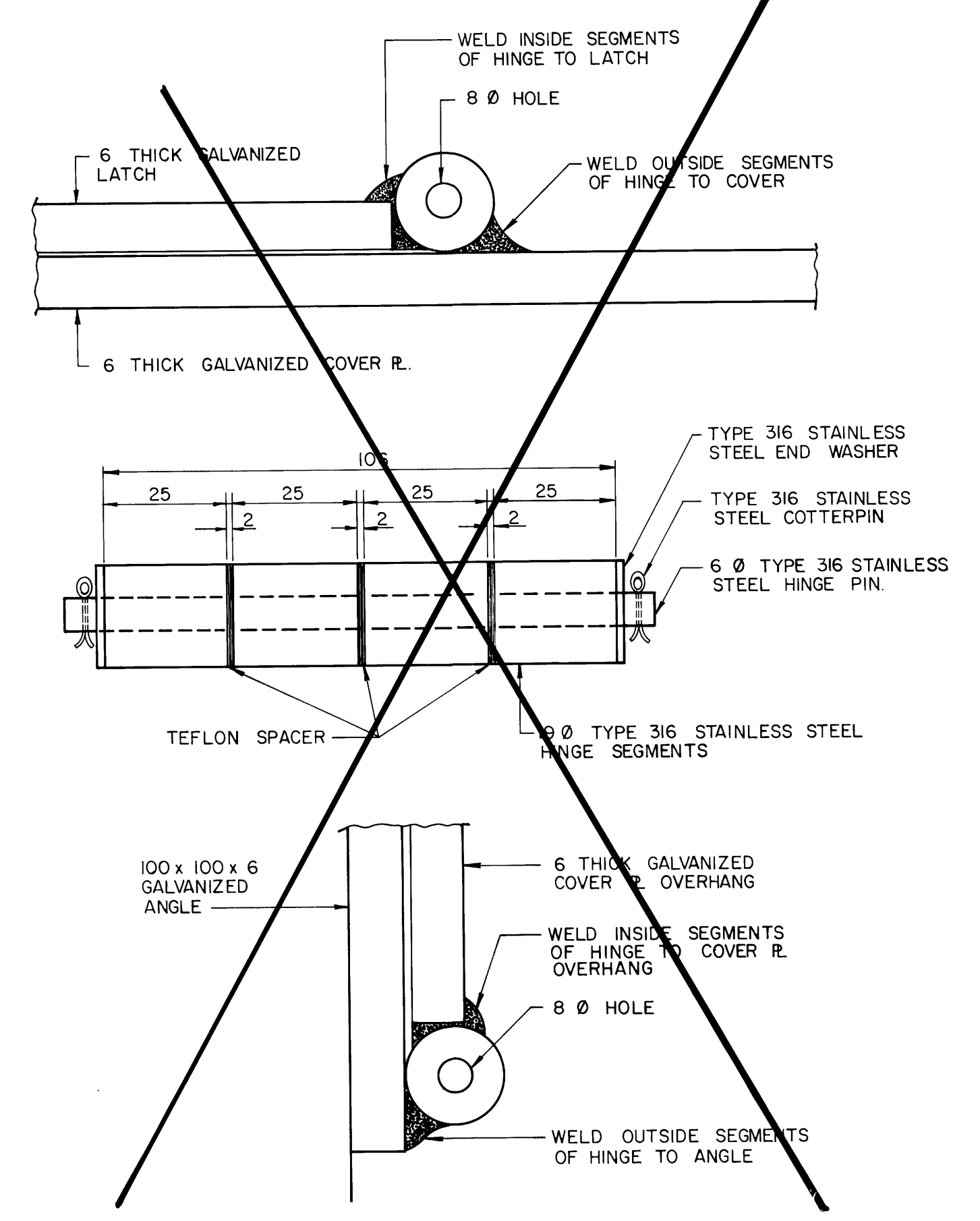
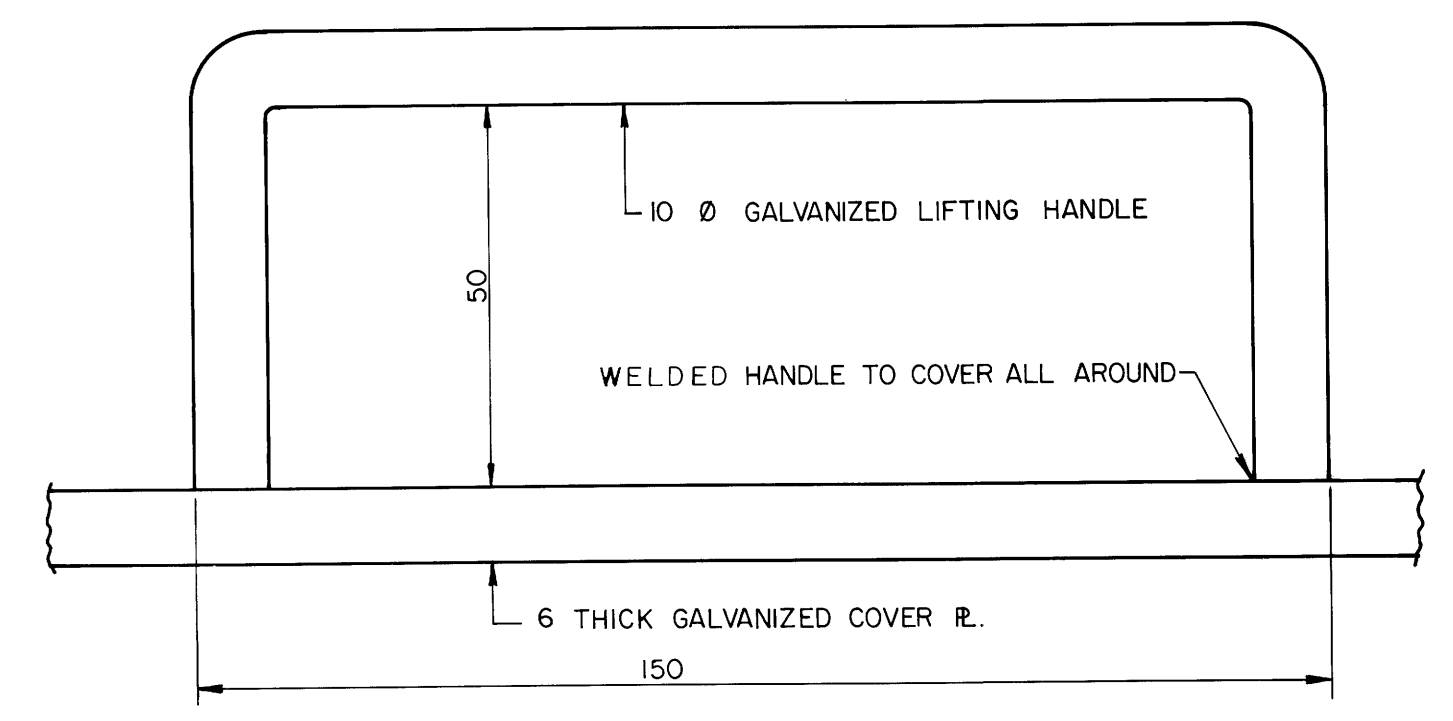
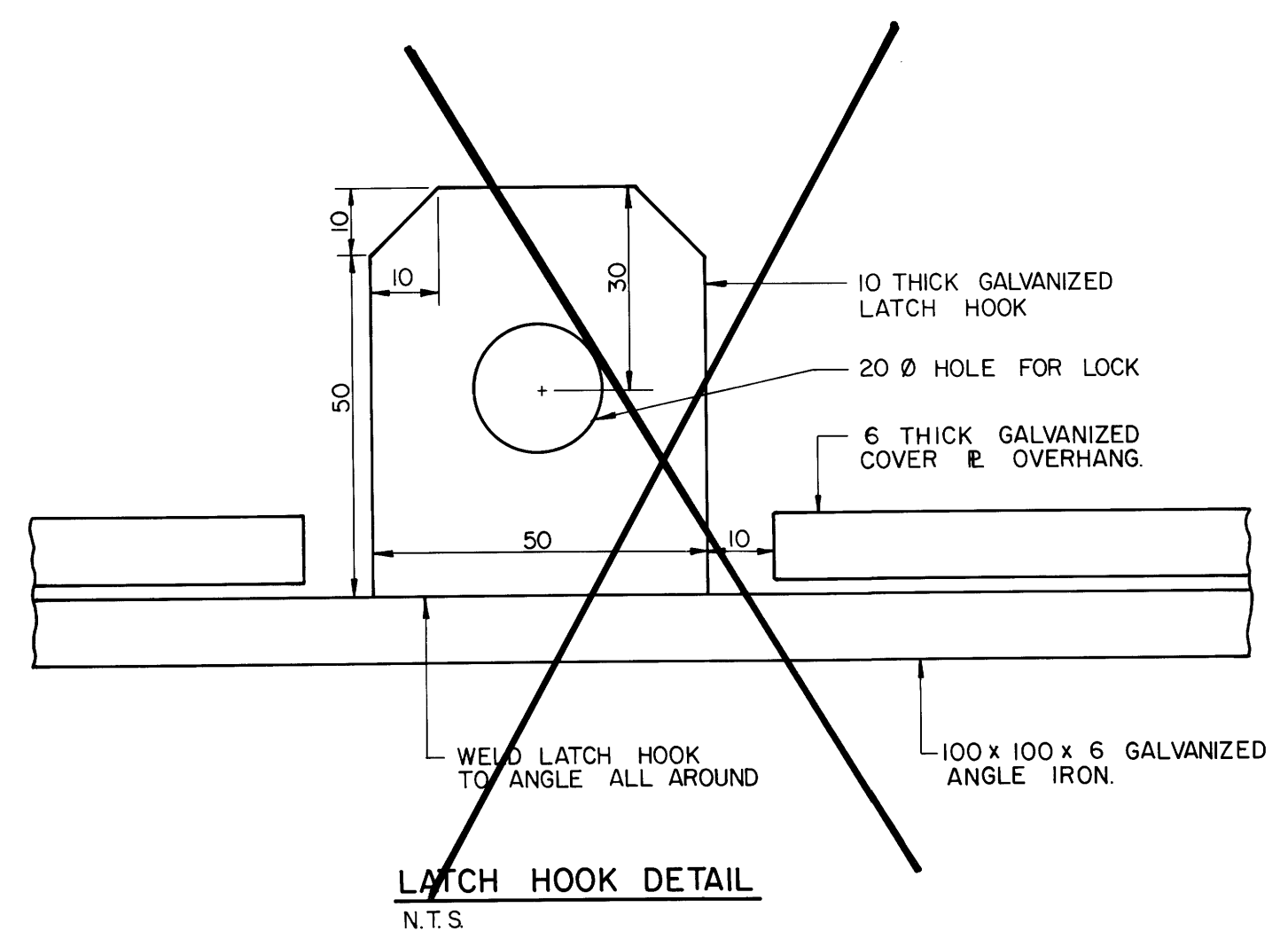
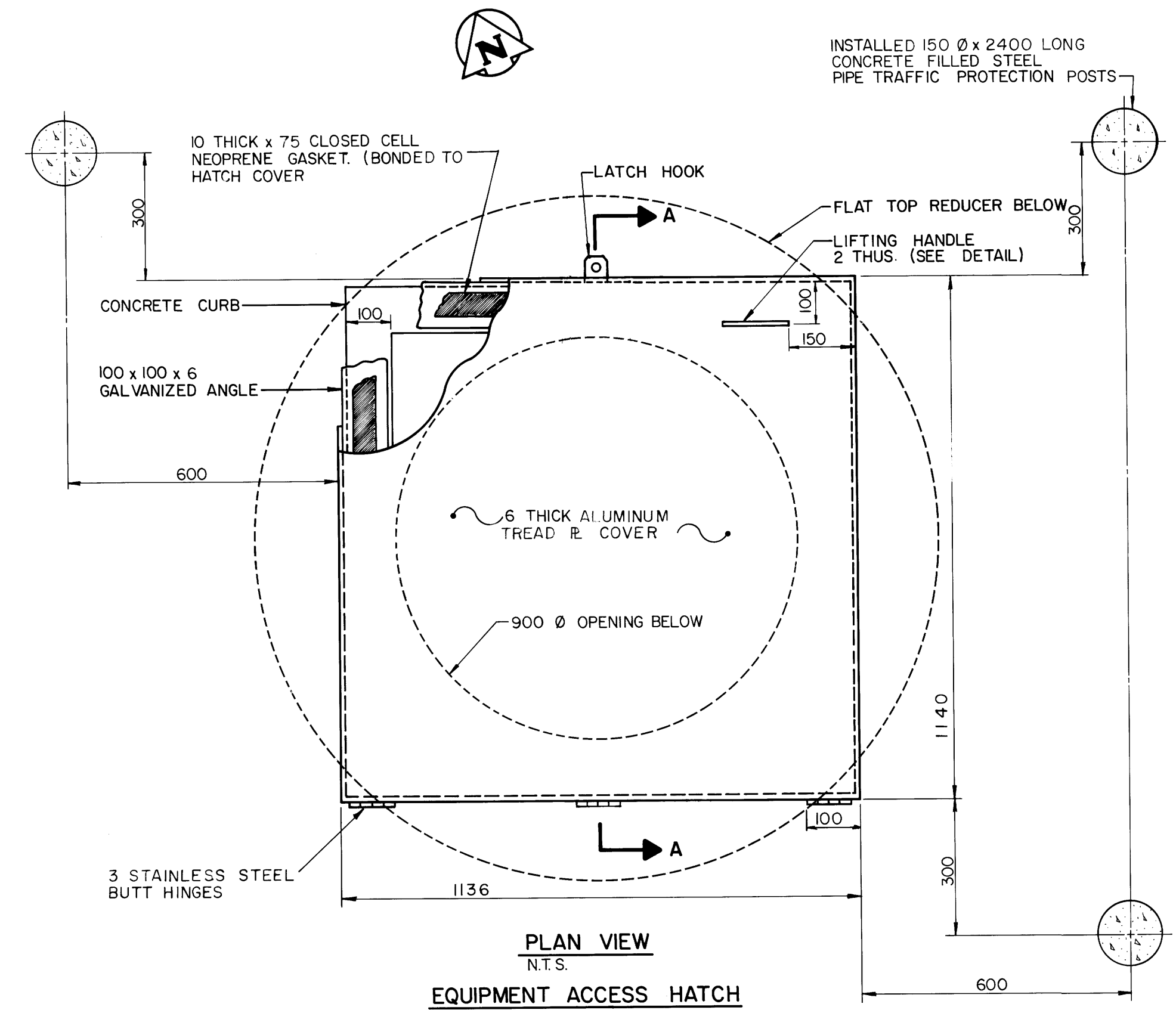
3130110300

SP10375

1610

REF. or DRAWING No. DETAILS

3130110300



NOTE: SEE MANUFACTURER'S DRWG. 4071 FOR HATCH DETAIL

AS-CONSTRUCTED

INSPECTION SURVEY

TECHNICAL SERVICES

DATE

WATERWORKS, WASTE & DISPOSAL DEPARTMENT

METRIC

WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

B.M. ELEV.				THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION		CITY DRAWING NUMBER 1270	
	DESIGNED BY	TJW		CHECKED BY	RMG		WINDSOR PARK LIFT STATION UPGRADING DETAILS
	DRAWN BY	TM		APPROVED BY	<i>[Signature]</i>		
	HOR. SCALE	AS SHOWN		RELEASED FOR CONSTRUCTION	<i>[Signature]</i>		
NO. REVISIONS	DATE	BY	DATE	JANUARY 1989	DATE	May 18, 1989	

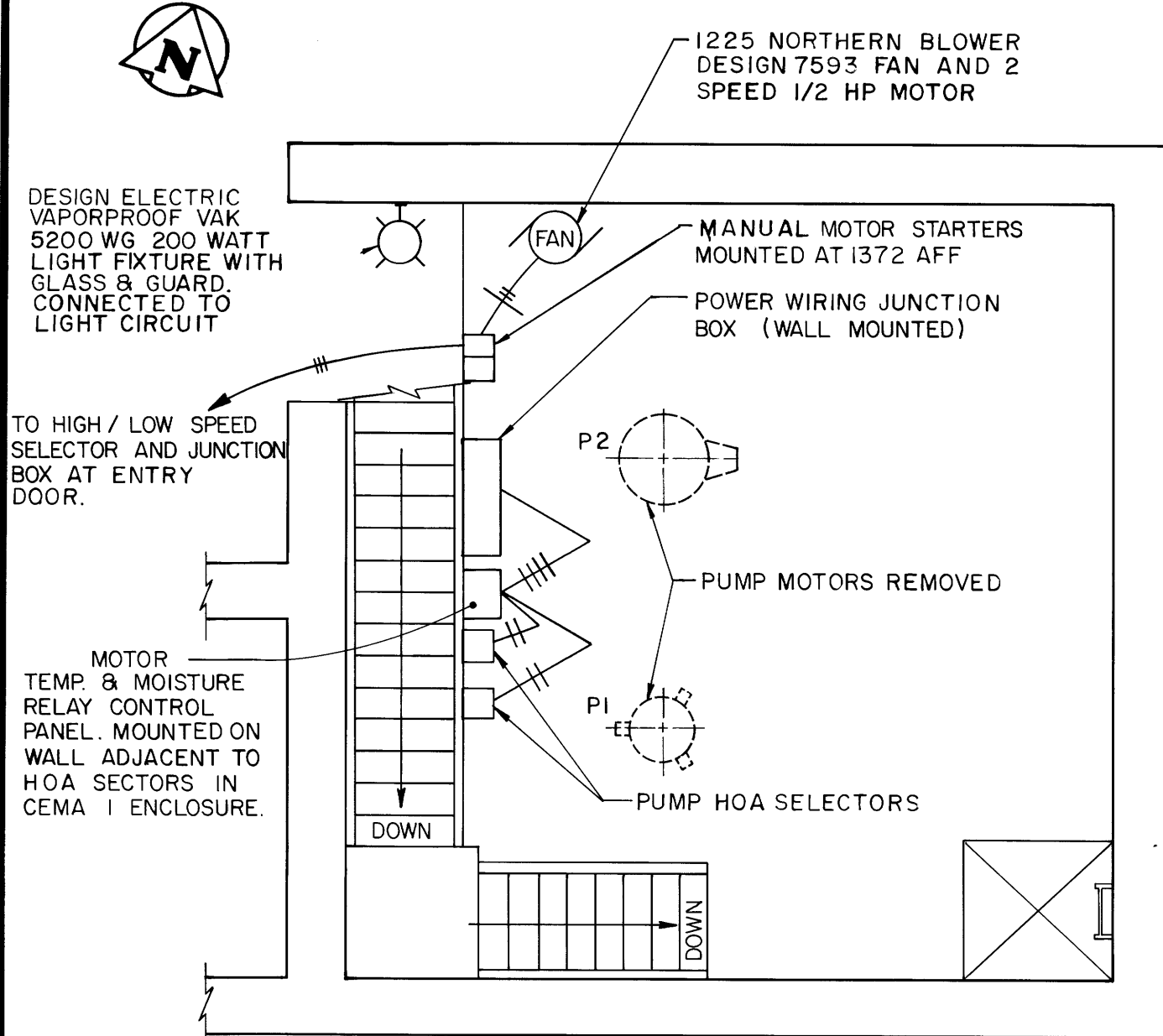
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file # SP10376

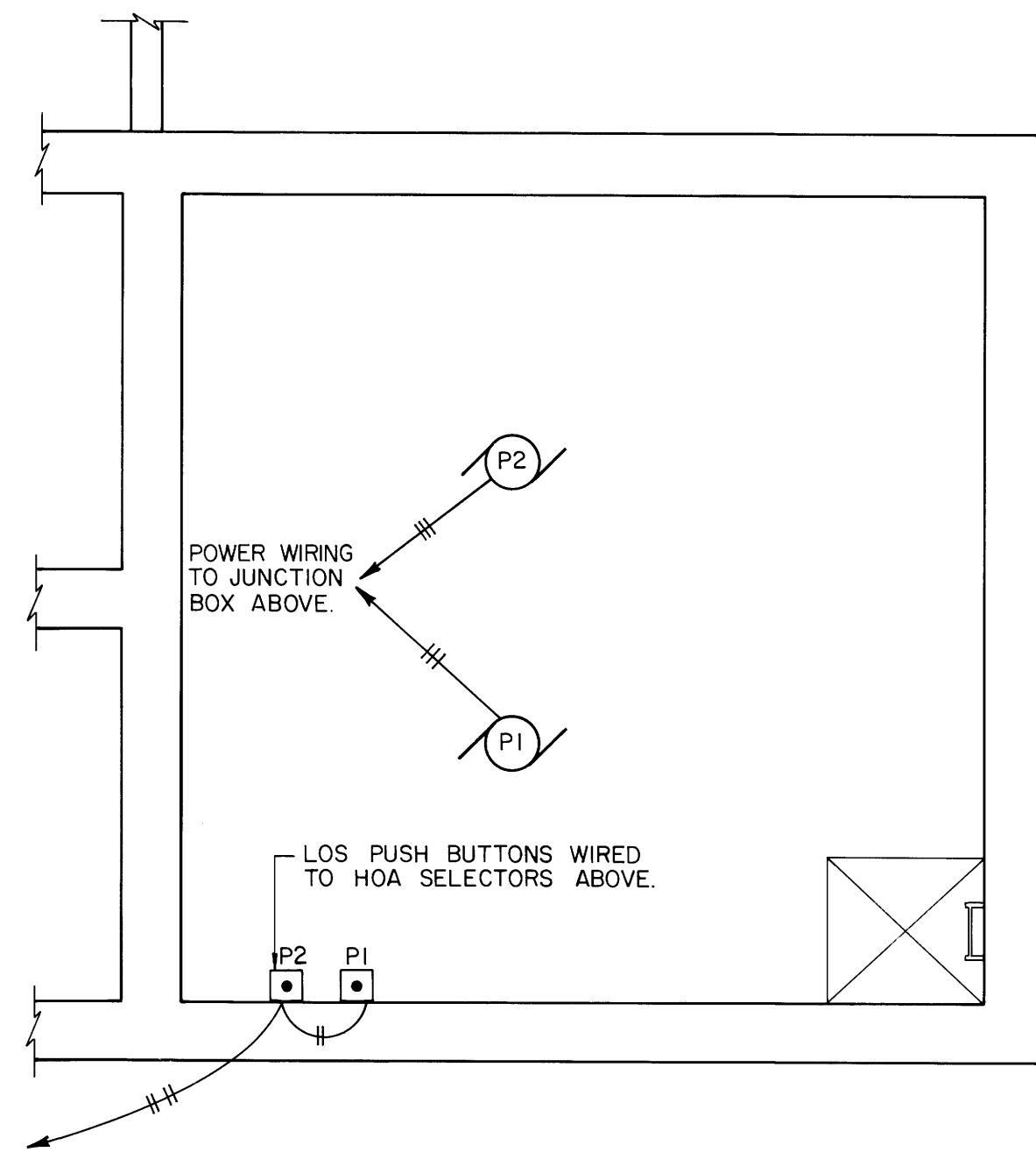
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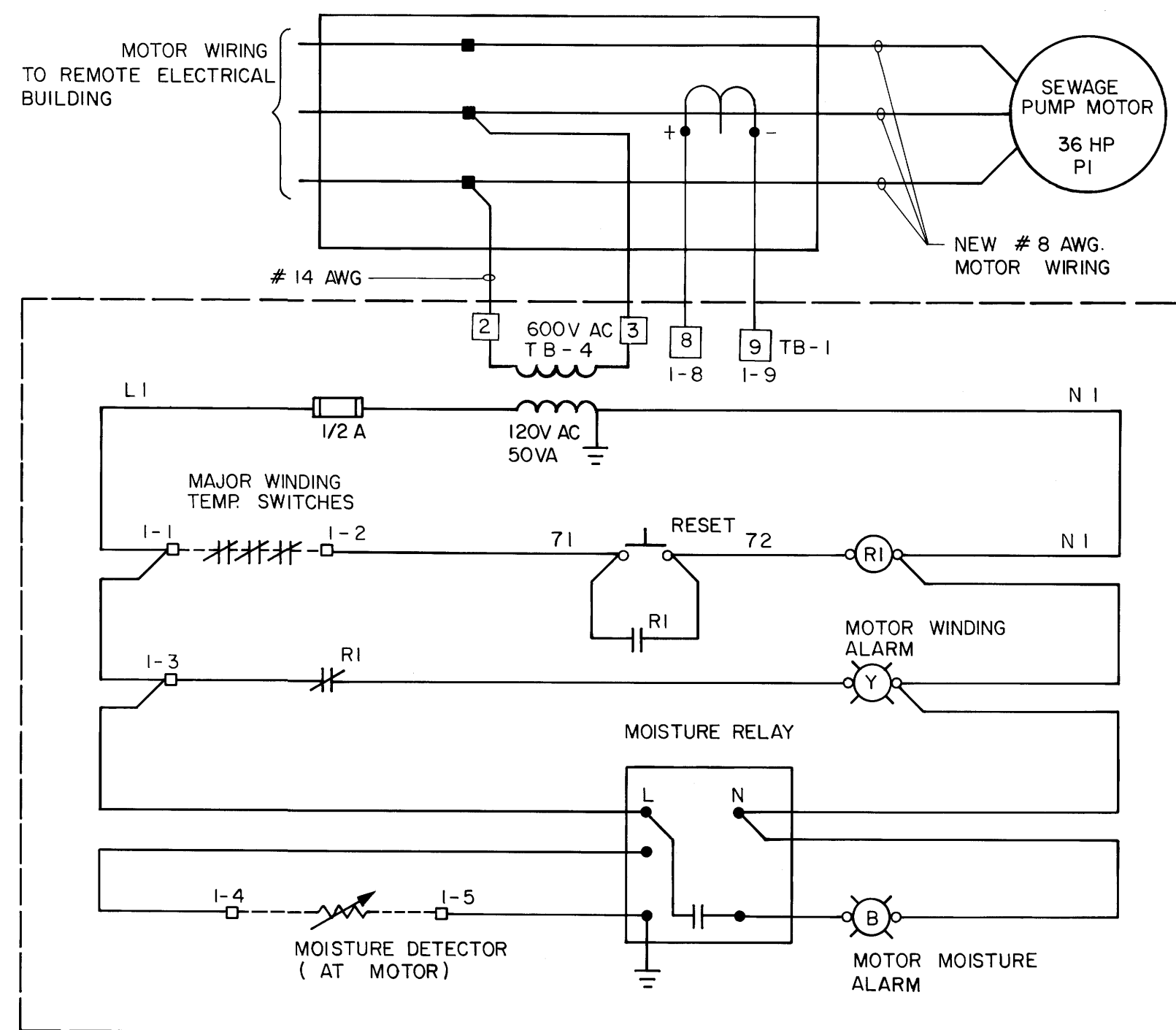
DETAILS



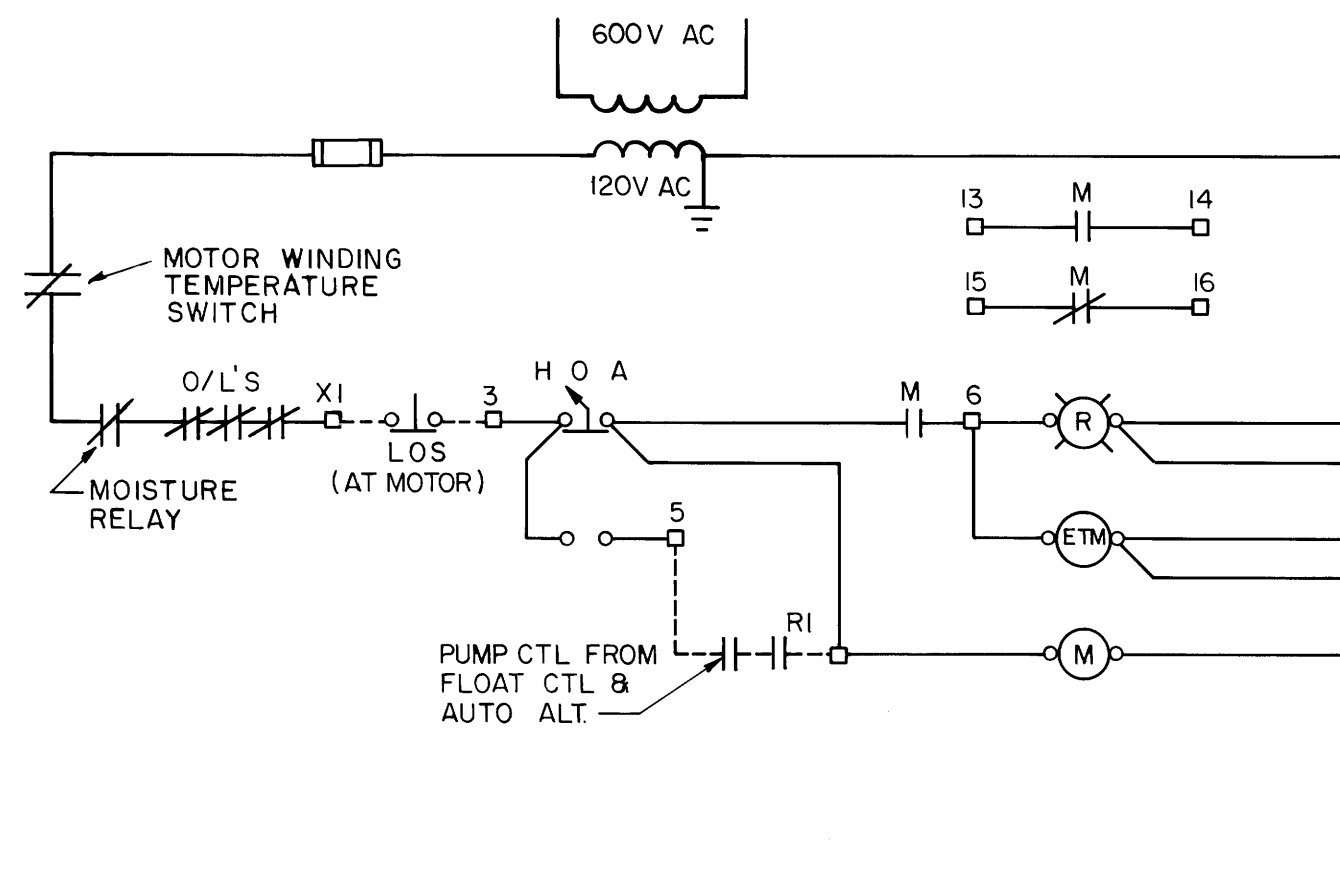
MOTOR FLOOR PLAN N.T.S.



PUMP FLOOR PLAN N.T.S.



SEWAGE PUMP ALARM CIRCUIT TYPICAL FOR P1 & P2

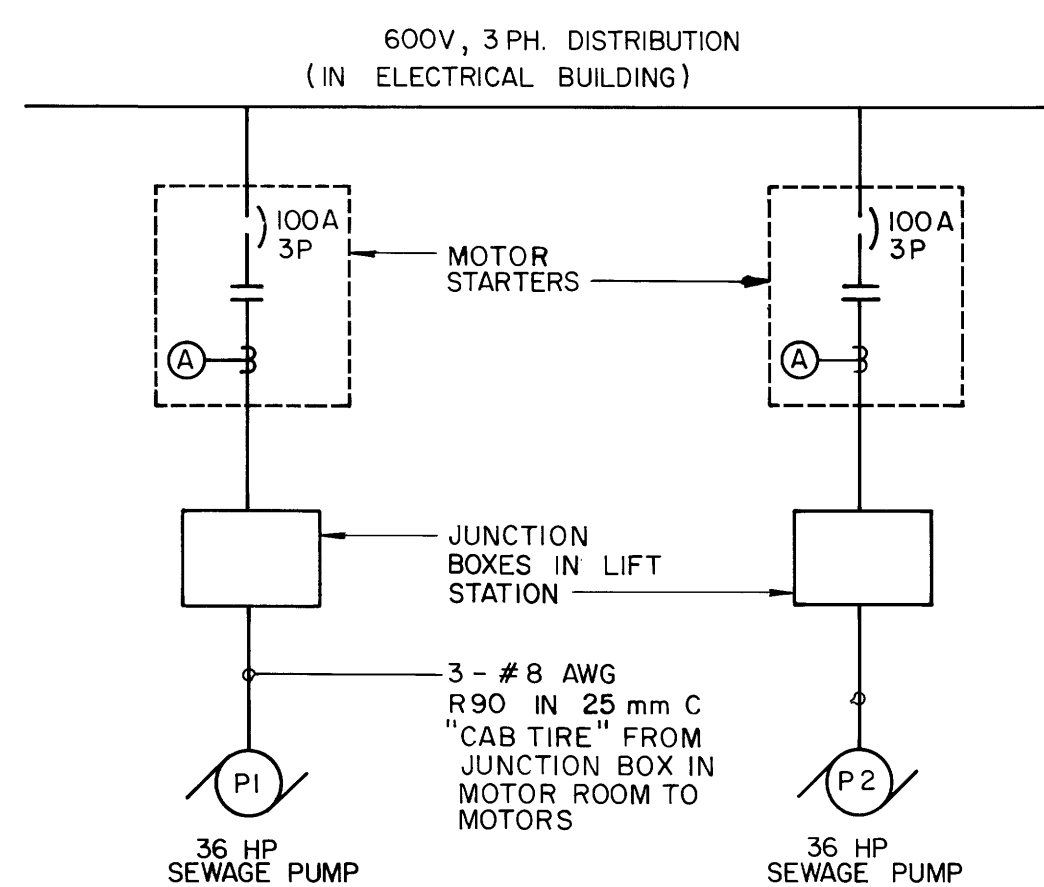


SEWAGE PUMP CONTROL CIRCUIT TYPICAL FOR P1 & P2

NOTES:

ALL WIRING IS COPPER

MOTOR STARTERS FOR SEWAGE PUMPS IN ELECTRICAL BUILDING WERE RE-USED. PROVIDED NEW OVERLOADS. SIZED TO ACTUAL MOTOR RATED NAMEPLATE CURRENT. INSTALLED AMMETER ON STARTER DOOR. INSTALLED AMMETER CT & B PHASE. INSTALLED ELAPSE TIME METER (ETM) ON STARTER DOOR.



SINGLE LINE DIAGRAM N.T.S.

LEGEND:

- Fluorescent Fixtures
- Incandescent Fixture
- Duplex Receptacle
- Single Receptacle
- Wiring Run - 2 Wires in Conduit Surface Mounted
- Pushbutton (LOS)
- Thermostat
- Motor Outlet
- Single Pole Switch
- Modulating Damper Motor

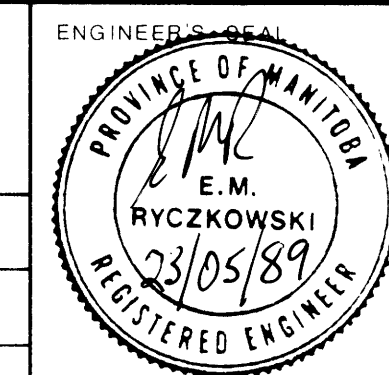


METRIC

WHOLE NUMBERS INDICATE MILLIMETRES

DECIMALIZED NUMBERS INDICATE METRES

8 M ELEV					
DESIGNED BY	ER	CHECKED BY	ER		
DRAWN BY	TM	APPROVED BY			
HOR SCALE	AS SHOWN	RELEASED FOR CONSTRUCTION			
NO REVISIONS	DATE	BY	DATE	JANUARY 1989	DATE MAY 18, 1989



<p>THE CITY OF WINNIPEG</p> <p>WORKS AND OPERATIONS DIVISION</p>		CITY DRAWING NUMBER
<p>WINDSOR PARK</p> <p>LIFT STATION UPGRADING</p> <p>ELECTRICAL</p>		SHEET 3 OF 3
		1271

file # SP10376

file #
FM 10108

1281

REF. or DRAWING No.

DETAILS

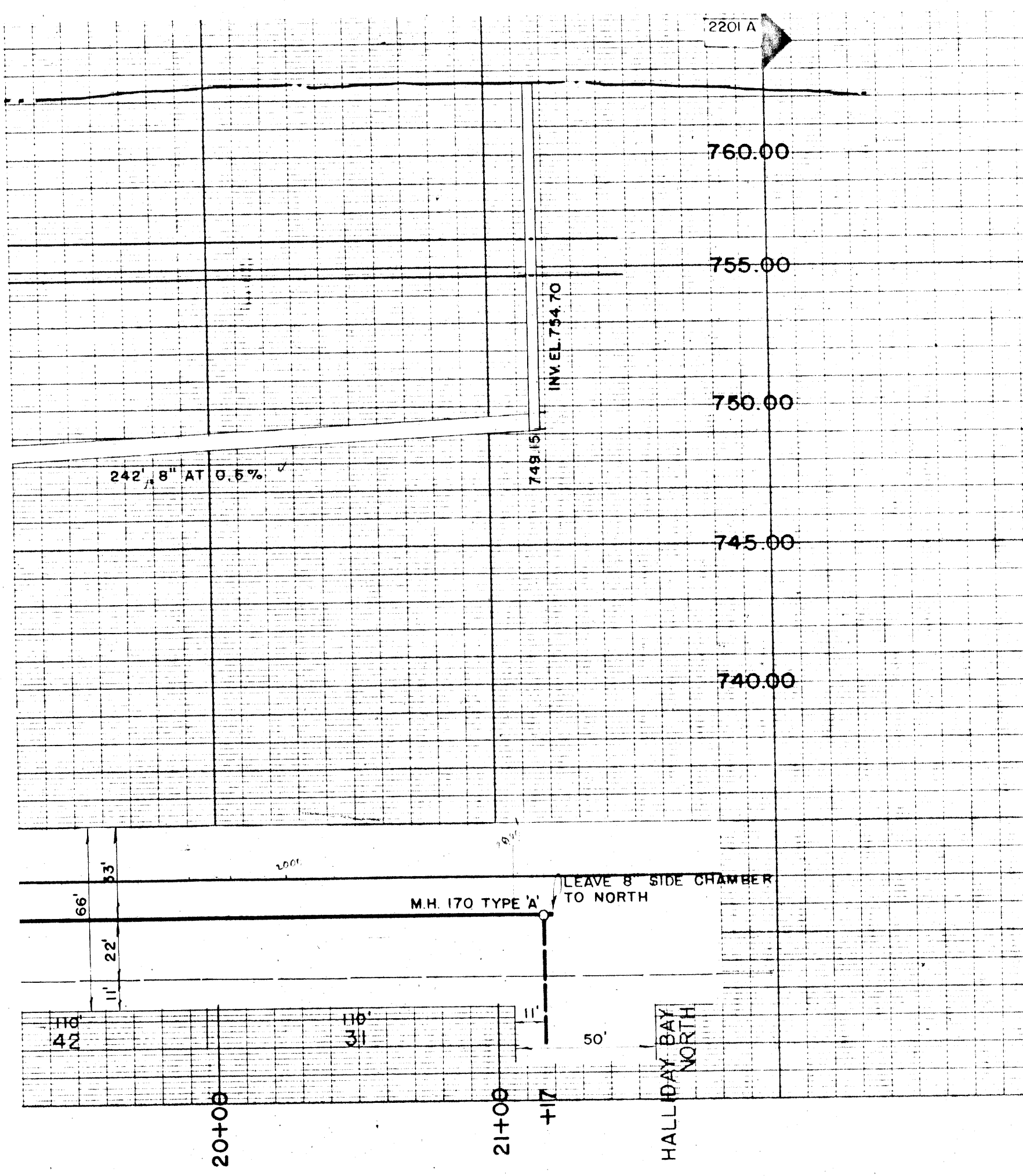
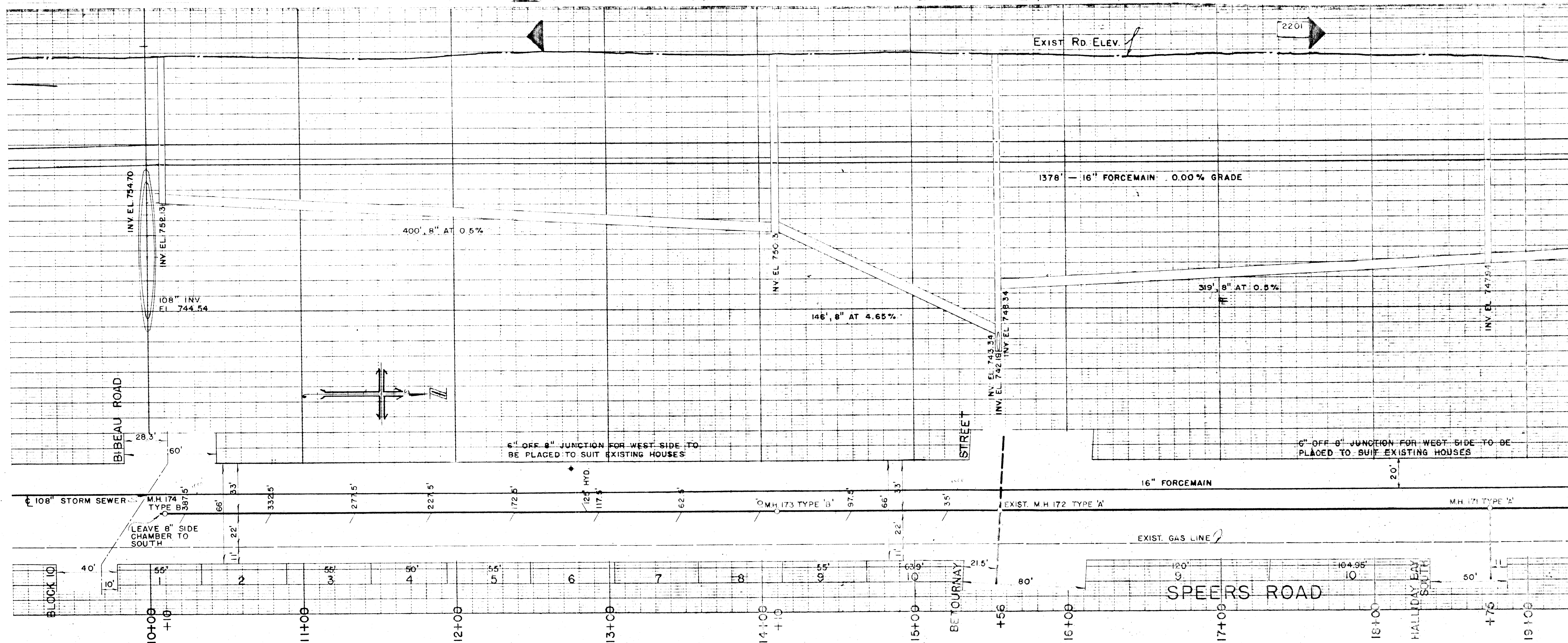


FOR INFORMATION ONLY

THE CITY OF WINDSOR
WORKS AND OPERATIONS DIVISION

WINDSOR PARK LIFT STATION
PLAN/PROFILE OF SANITARY SEWER
AND FORCEMAIN ON SPEERS ROAD
COTTONWOOD TO HALLIDAY (N)

file # FM 1010



BILL OF MATERIAL
 1117 - LIN. FT. 8" SEWER PIPE
 4 - M.H. COVERS & FRAME
 47.5 - VERT. FT. OF M.H.
 9 - 8" OFF 8" HOUSE CONNECTION
 1 - 4" OFF 8" HYD. CONNECTION

LEGEND
 - - - PROPOSED SEWER
 - - - EXIST. SEWER
 ○ PROPOSED M.H.
 ○ EXIST. M.H.
 --- PROPOSED HOUSE CONNECTION
 + PROPOSED HYD.

ALL ELEVATIONS ARE BASED ON GEODETIC DATUM (G.D. 82) ADJUSTMENT 1
 B.M. - SPIKE IN TELEPHONE POLE IN SOUTH EAST CORNER OF ELIZABETH'S SPEERS HOS
 GEODETIC ELEVATION - 761.61

W.L. WARDROP & ASSOCIATES
 ENGINEERING CONSULTANTS
 WINNIPEG CANADA

LADCO DEVELOPMENT
 ST. BONIFACE MANITOBA

PLAN & PROFILE OF SANITARY SEWER & FORCE MAIN
 ON SPEERS RD., COTTONWOOD-HALLIDAY (N)

SCALE: HORIZ. 1"=40', VERT. 1"=8'
 DESIGNED BY: G.R.D. PROJECT NO. 5823
 DRAWN BY: C.E.P. DRAWING NO. S-134
 CHECKED BY: [Signature]

FOR INFORMATION ONLY

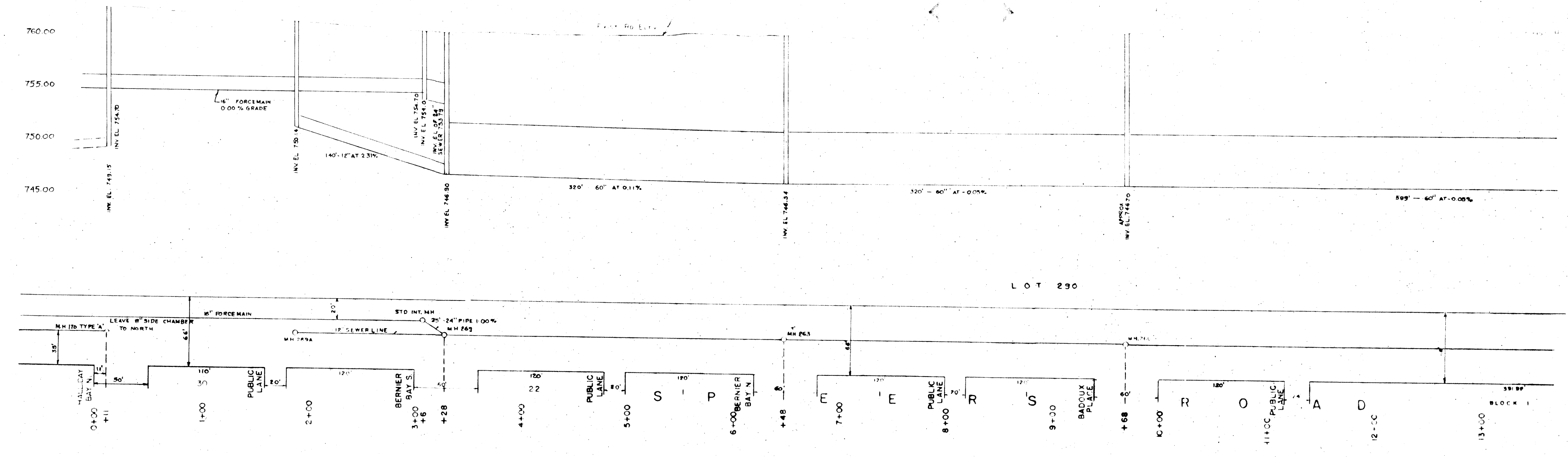
THE CITY OF WINNIPEG
 WORKS AND OPERATIONS DIVISION

WINDSOR PARK LIFT STATION
 PLAN/PROFILE OF SANITARY SEWER
 AND FORCE MAIN ON SPEERS ROAD
 COTTONWOOD TO HALLIDAY (N)

FM 10110

REF. or DRAWING NO. 1200

DETAILS



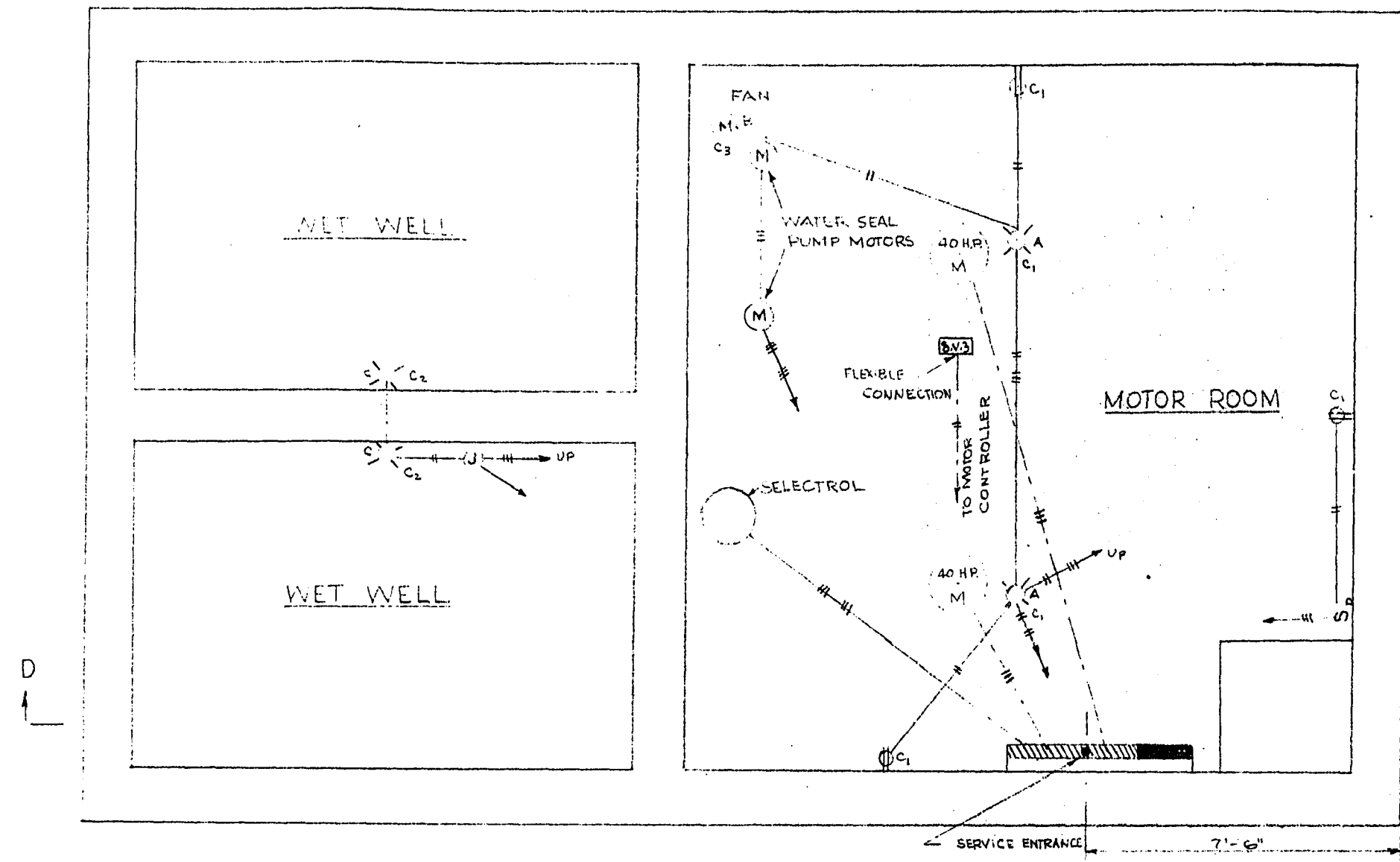
FOR INFORMATION ONLY

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION

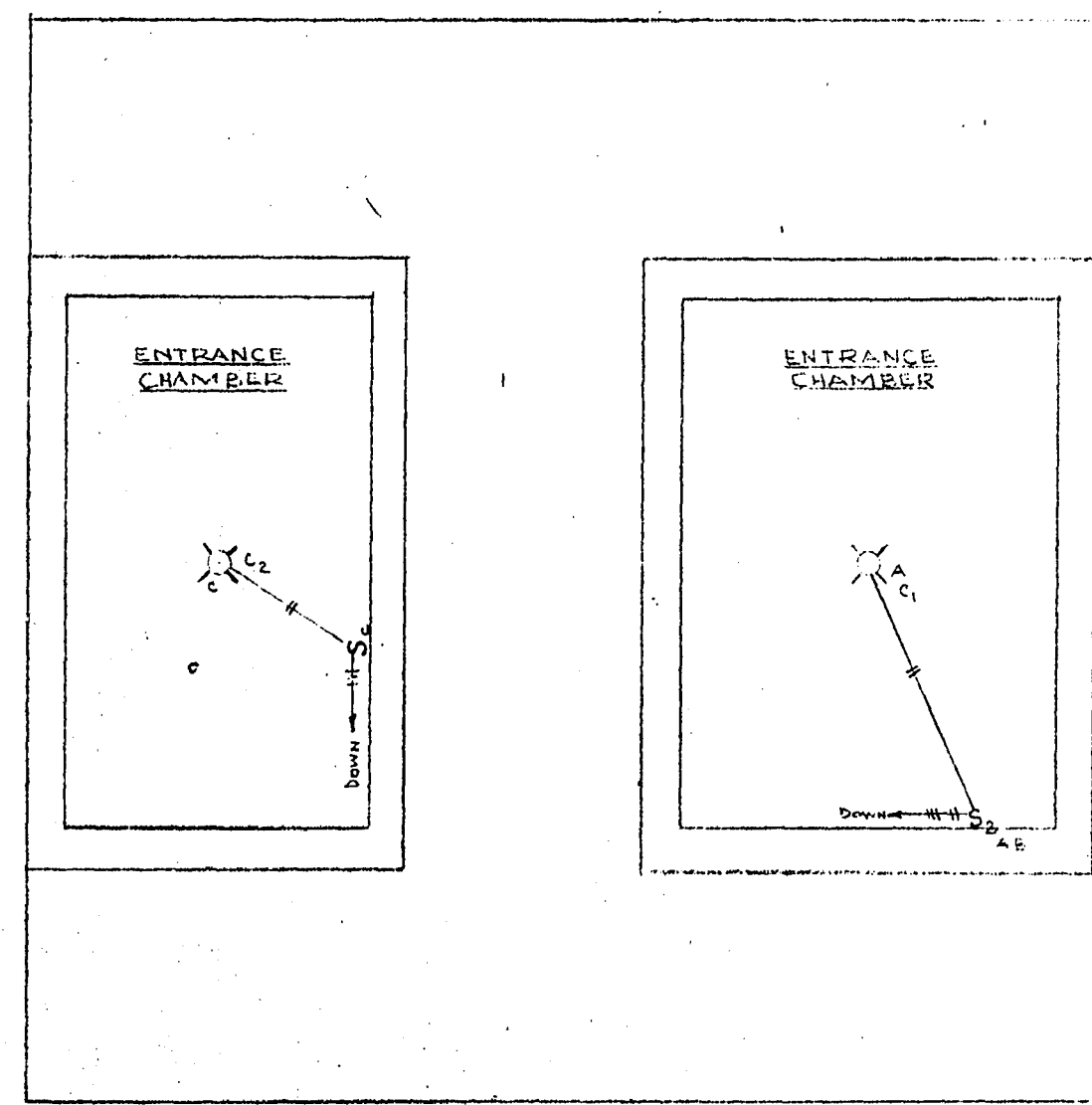
WINDSOR PARK LIFT STATION
PLAN / PROFILE OF SANITARY SEWER
AND FORCE MAIN ON SPEERS ROAD
COTTONWOOD TO HALLIDAY (N)

1283

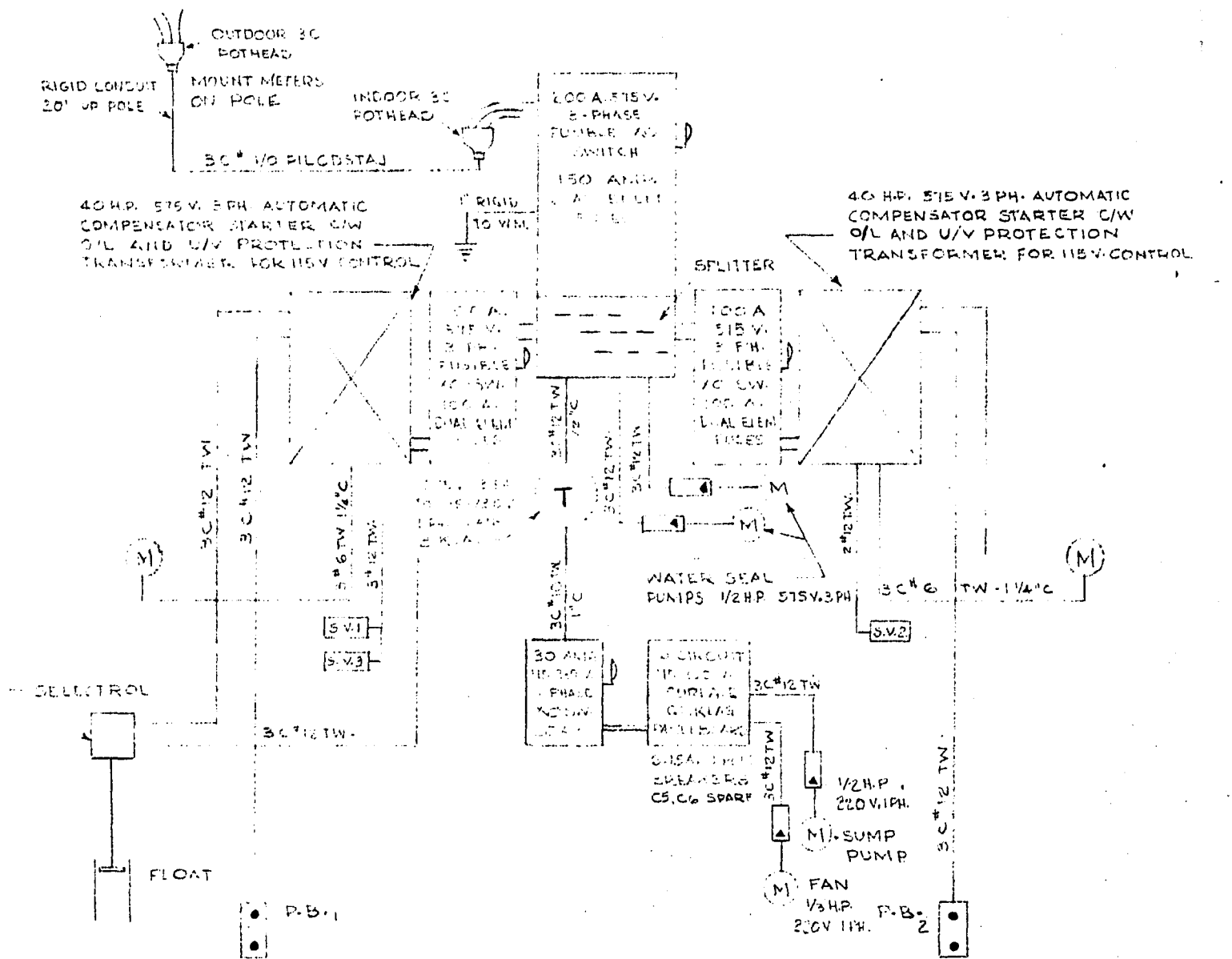
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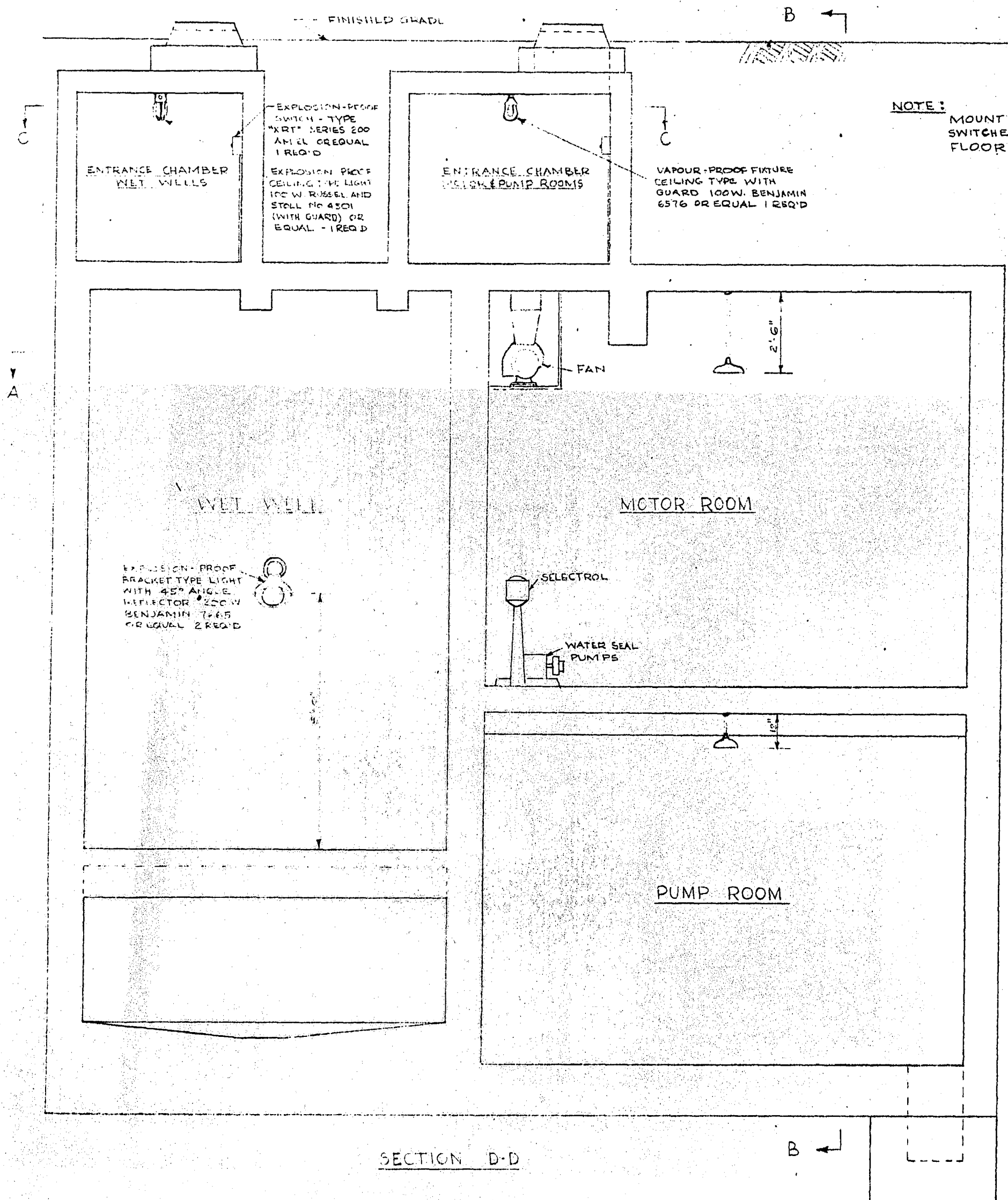
SECTION A-A



SECTION C-C

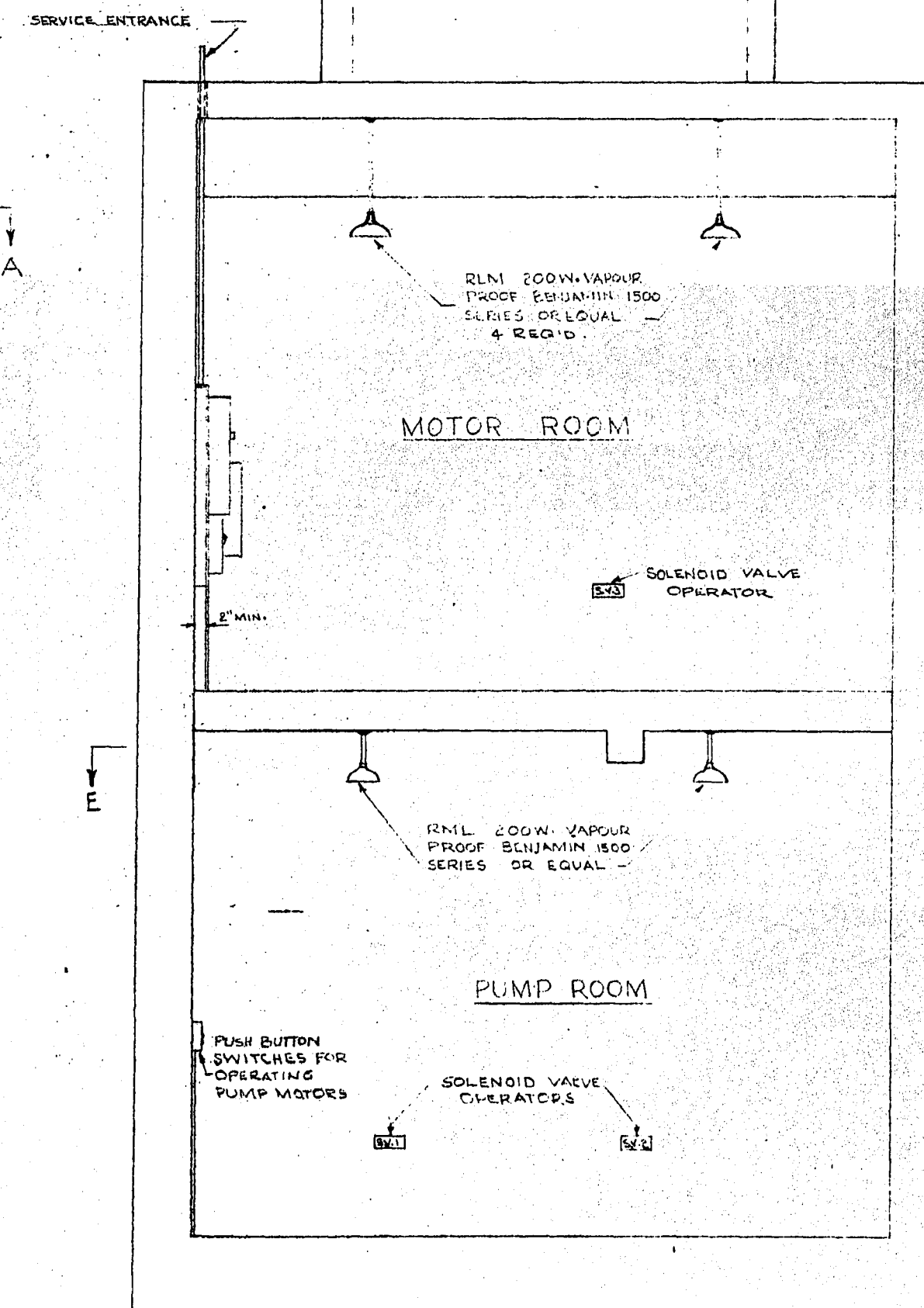


SCHEMATIC LAYOUT OF ELECTRICAL DISTRIBUTION

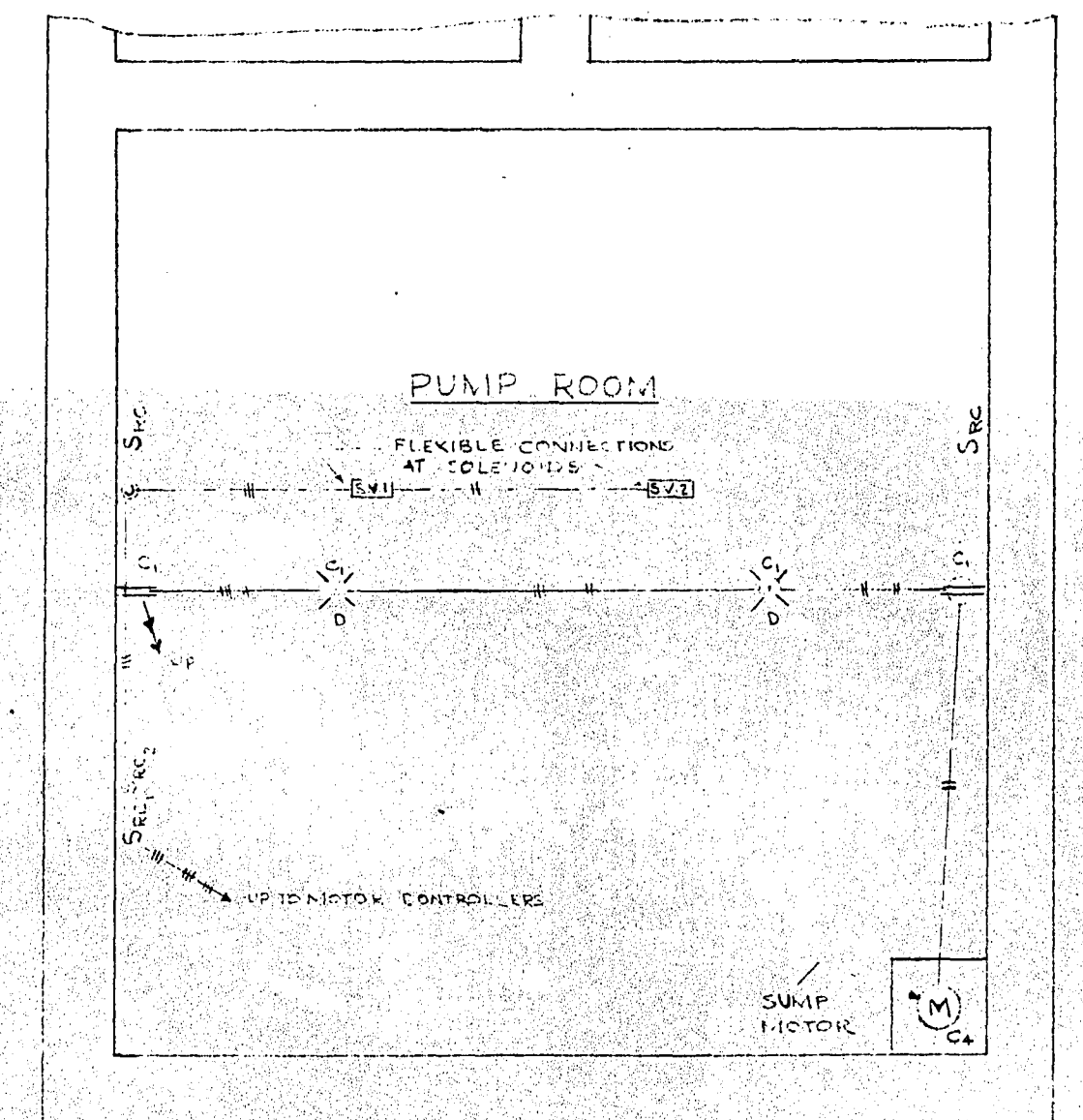


SECTION D-D

NOTE: MOUNT OUTLETS AND SWITCHES 4'-6" ABOVE FLOOR LEVEL.



SECTION B-B



SECTION E-E

SYMBOLS

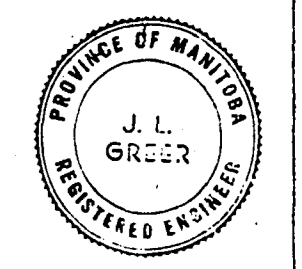
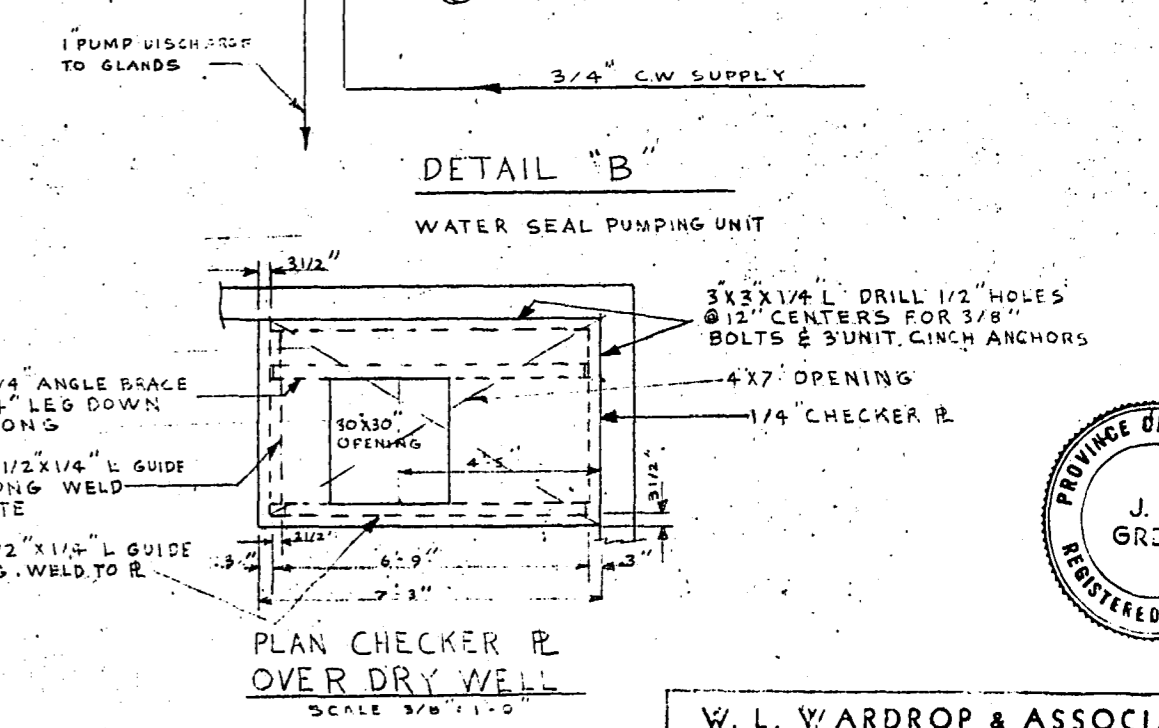
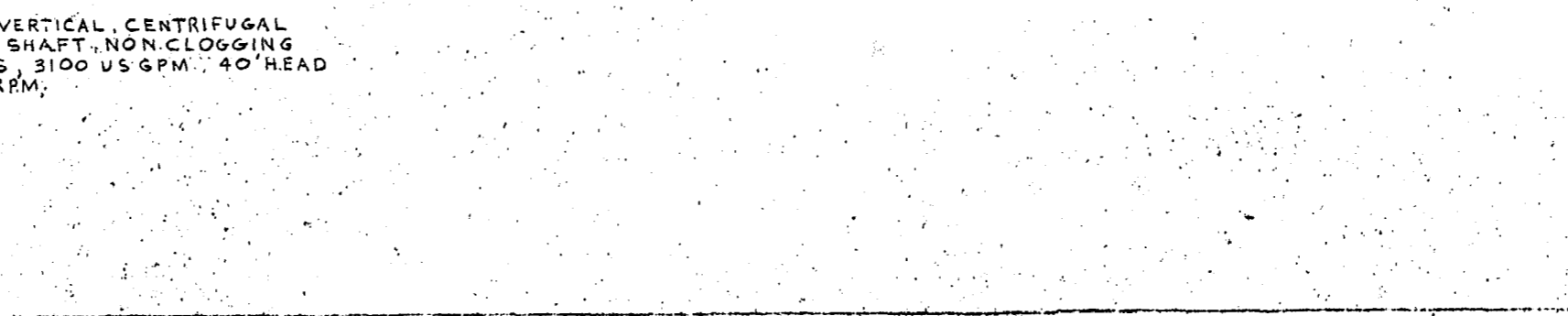
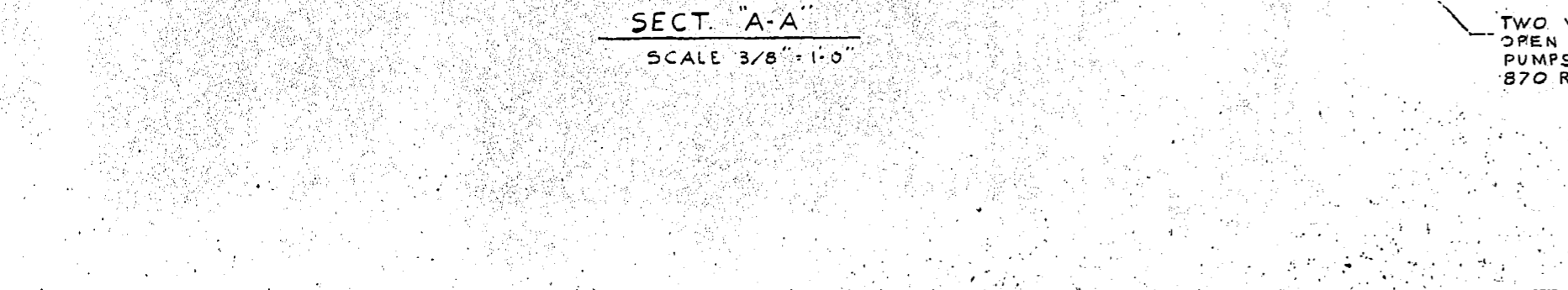
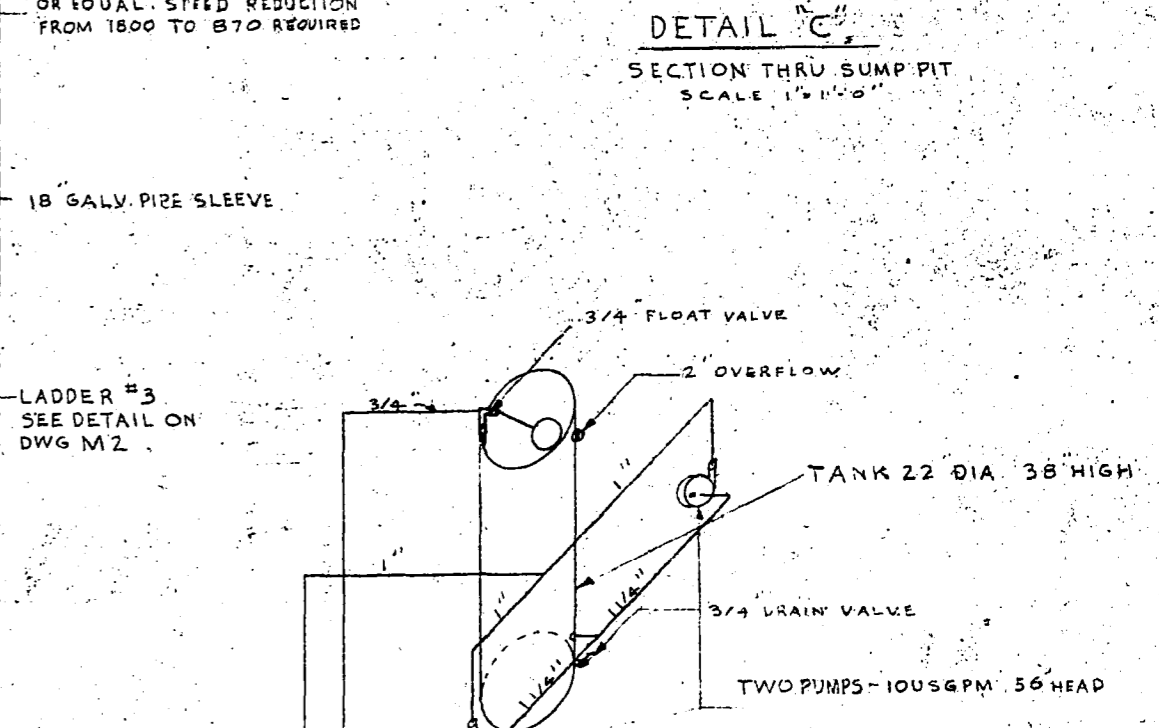
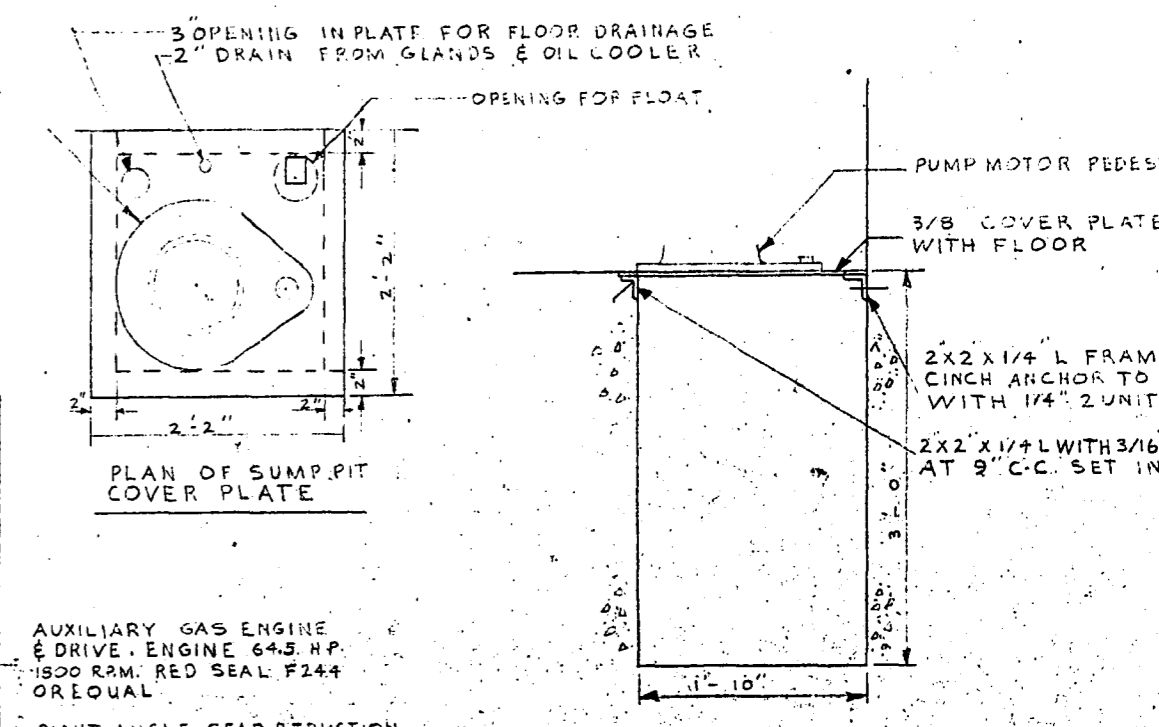
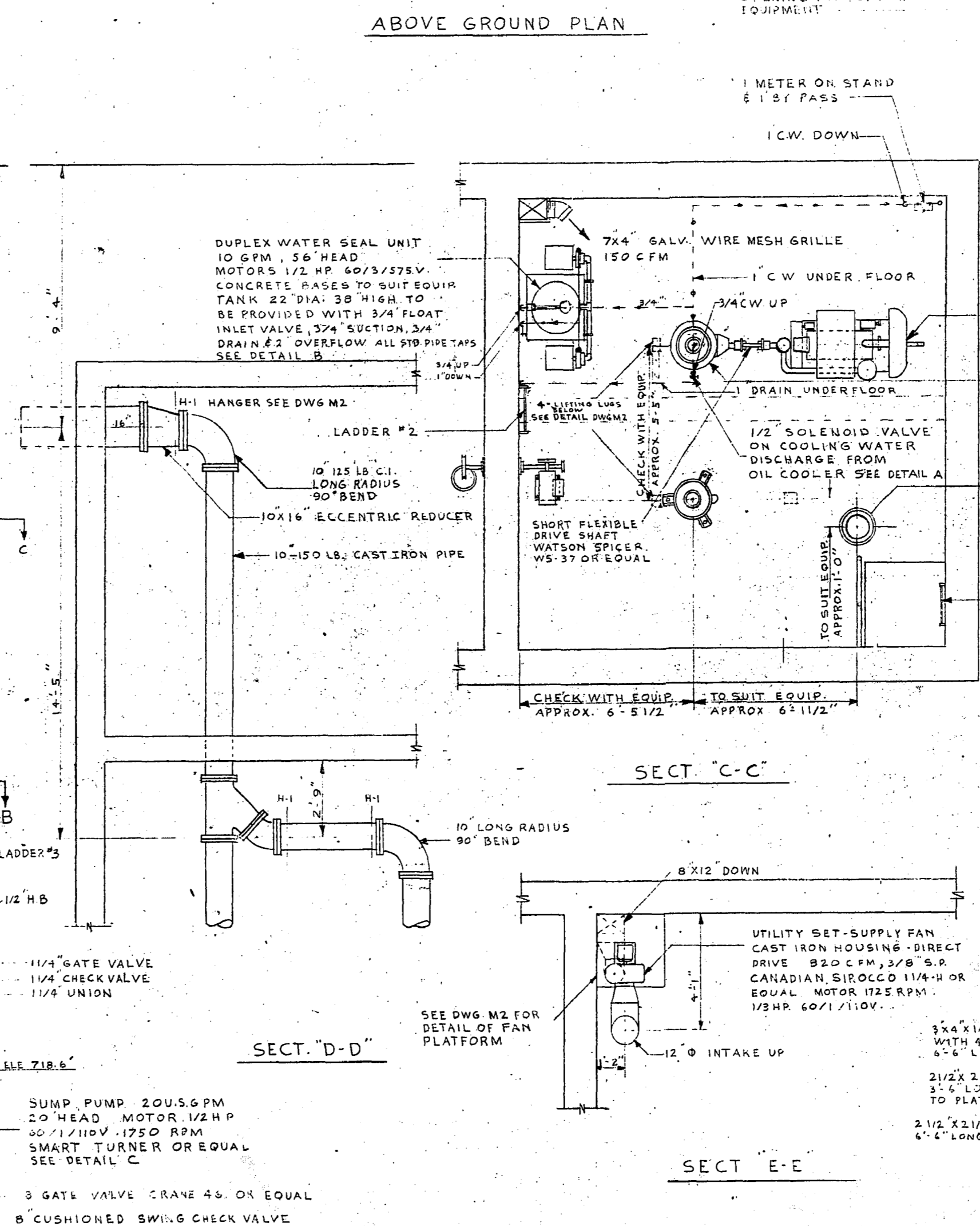
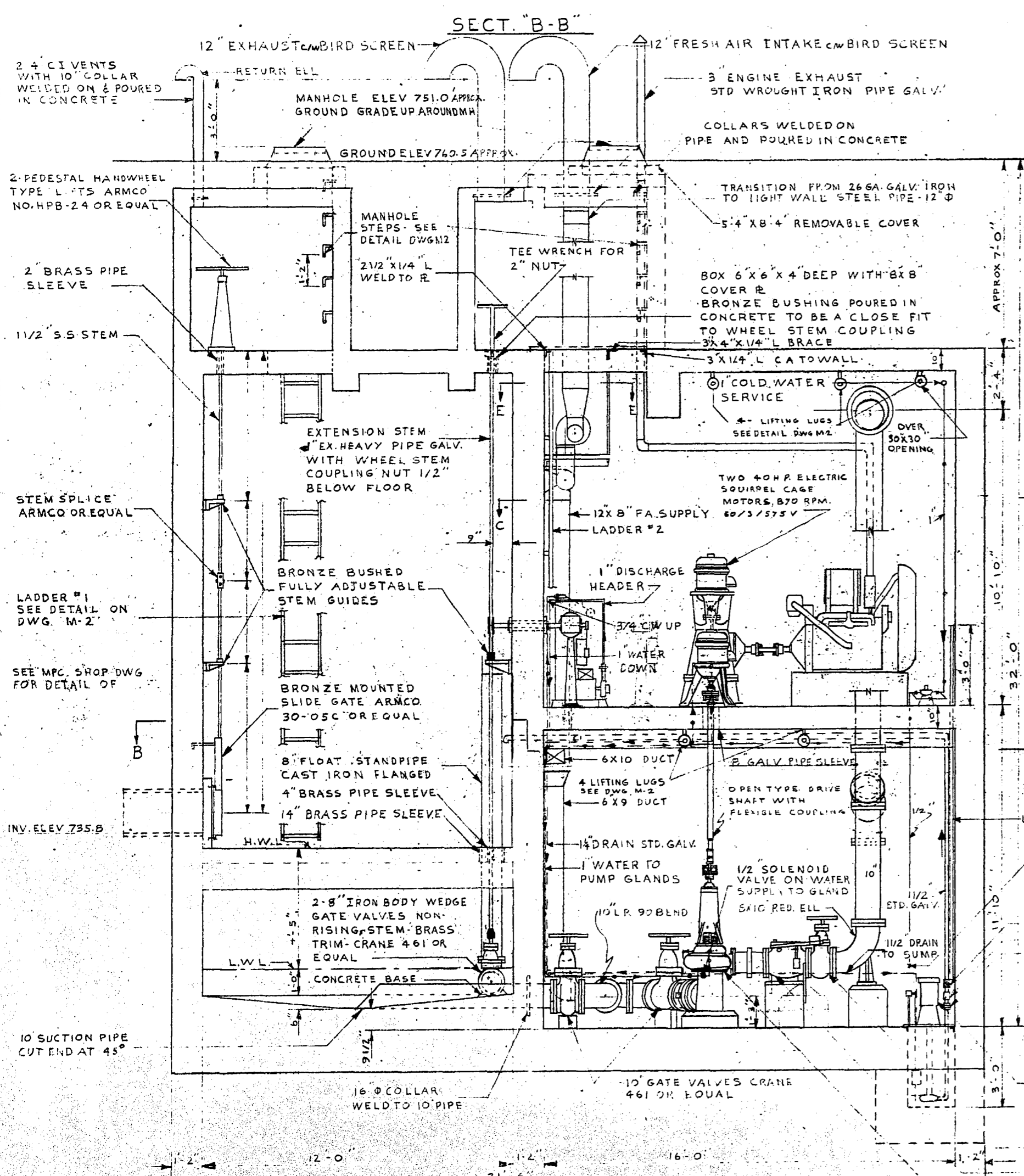
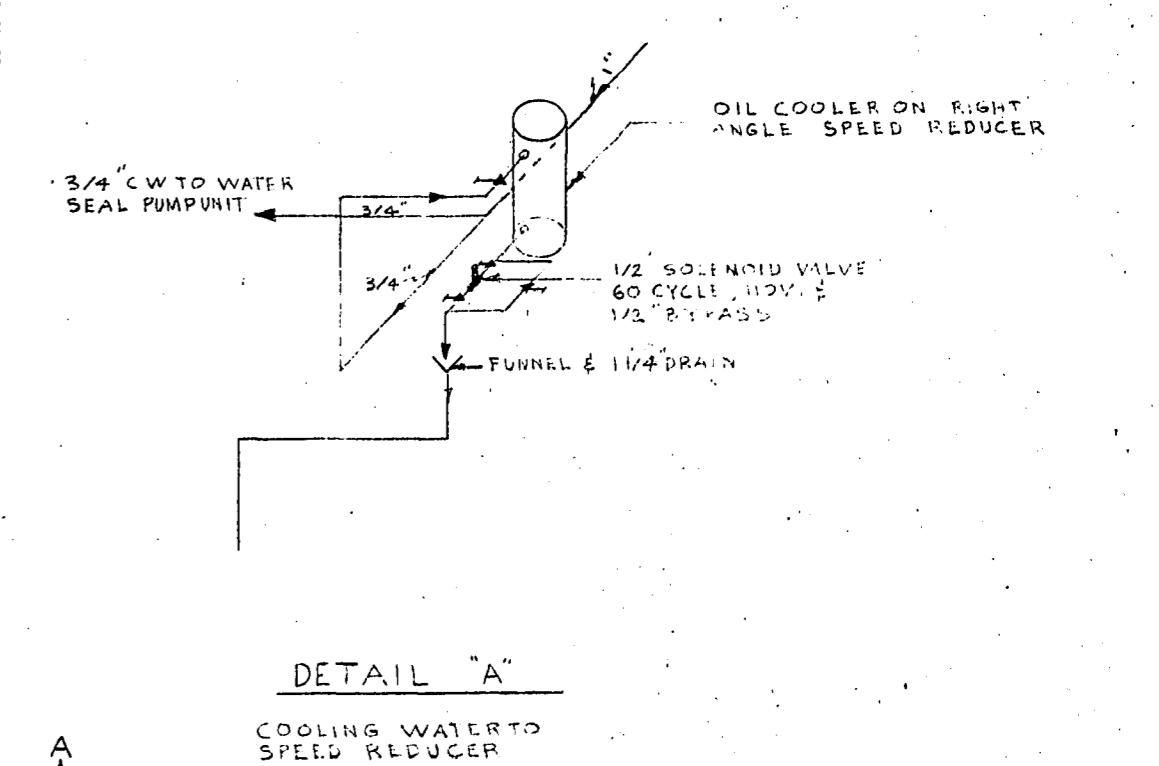
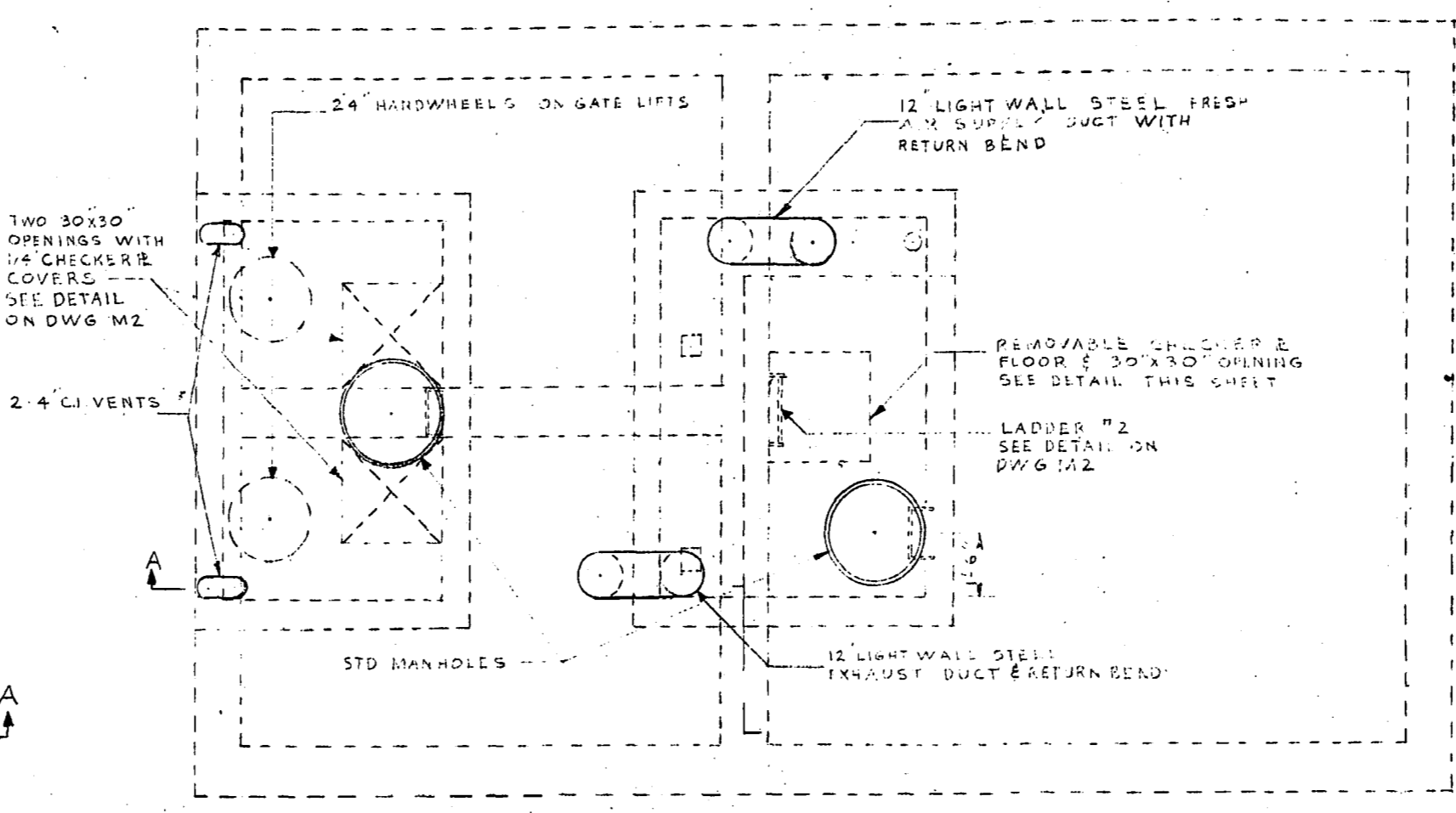
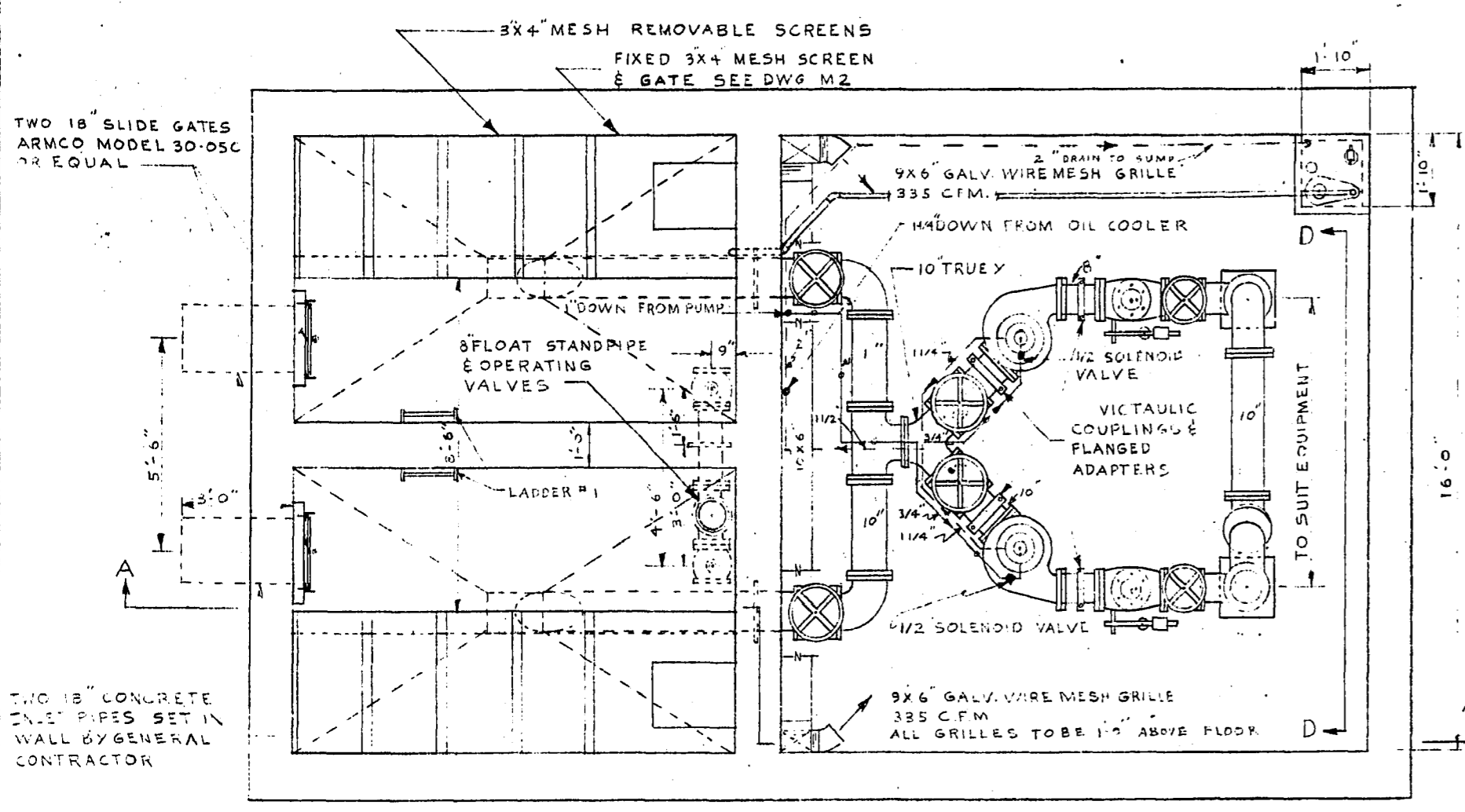
	LIGHT FIXTURE INCANDESCENT
	RC REMOTE CONTROL SWITCH
	P.B. PUSH BUTTON - SAME AS S.C.
	M.C. MOTOR CONTROL SWITCH
	S.V. SOLENOID VALVE OPERATOR
	M. MOTOR
	S. SWITCH
	O. OUTLET - POLARIZED



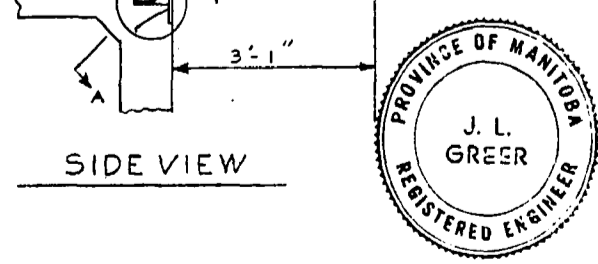
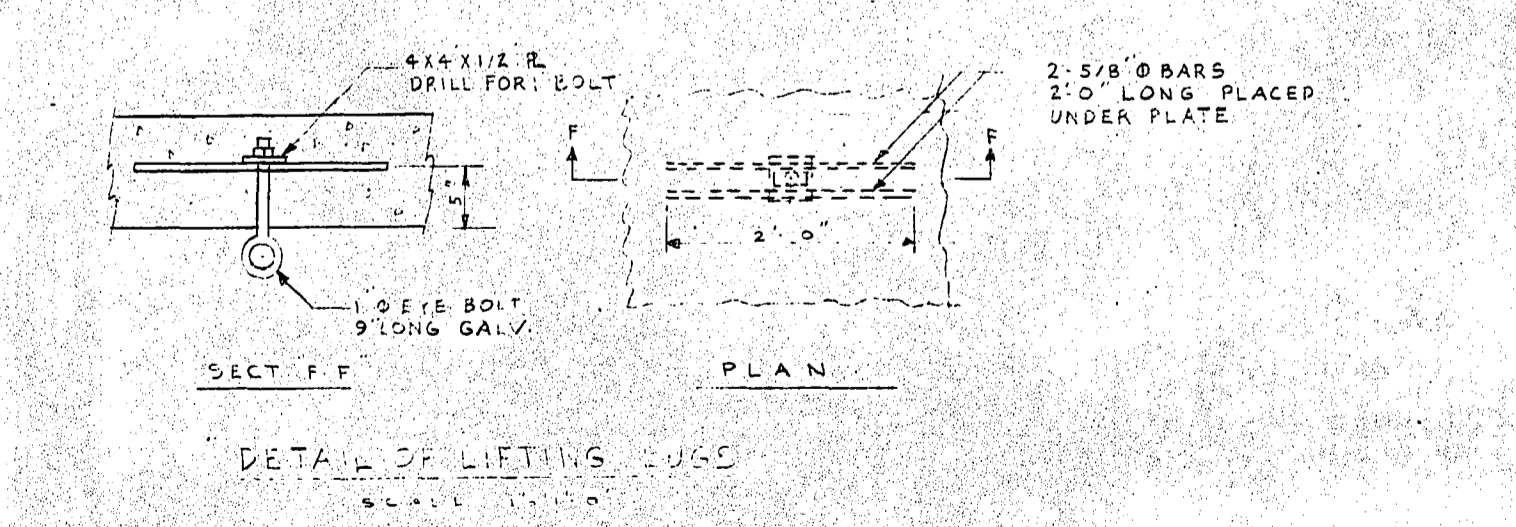
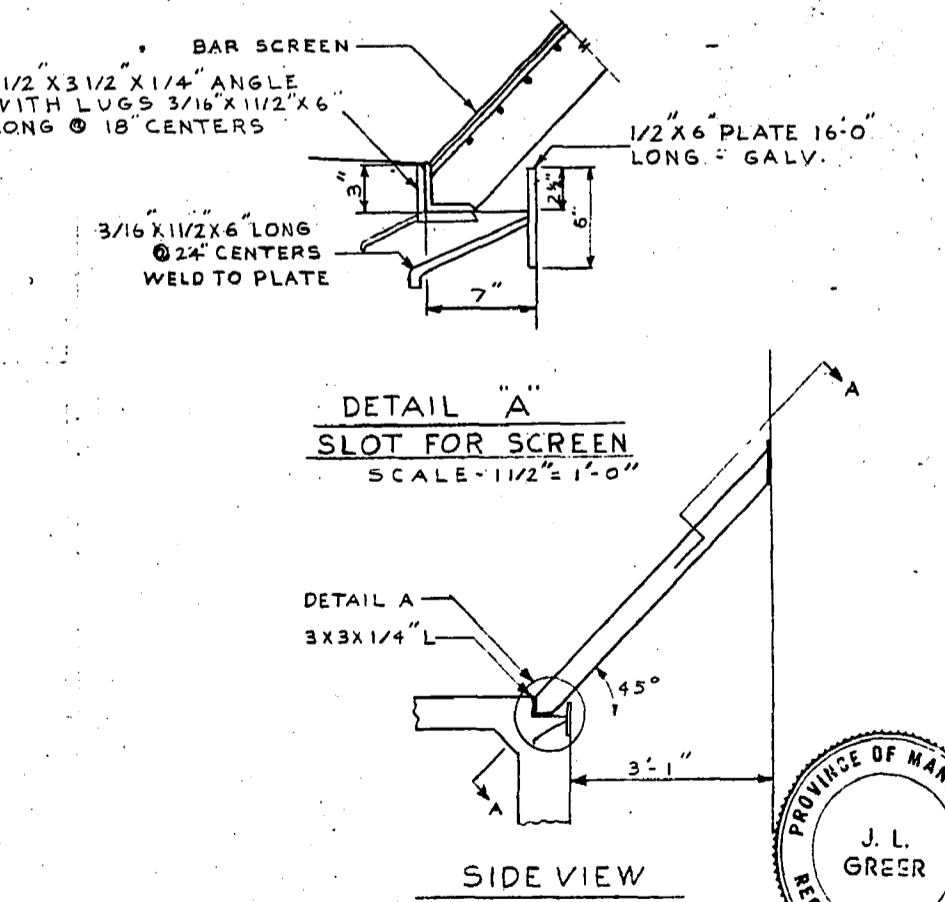
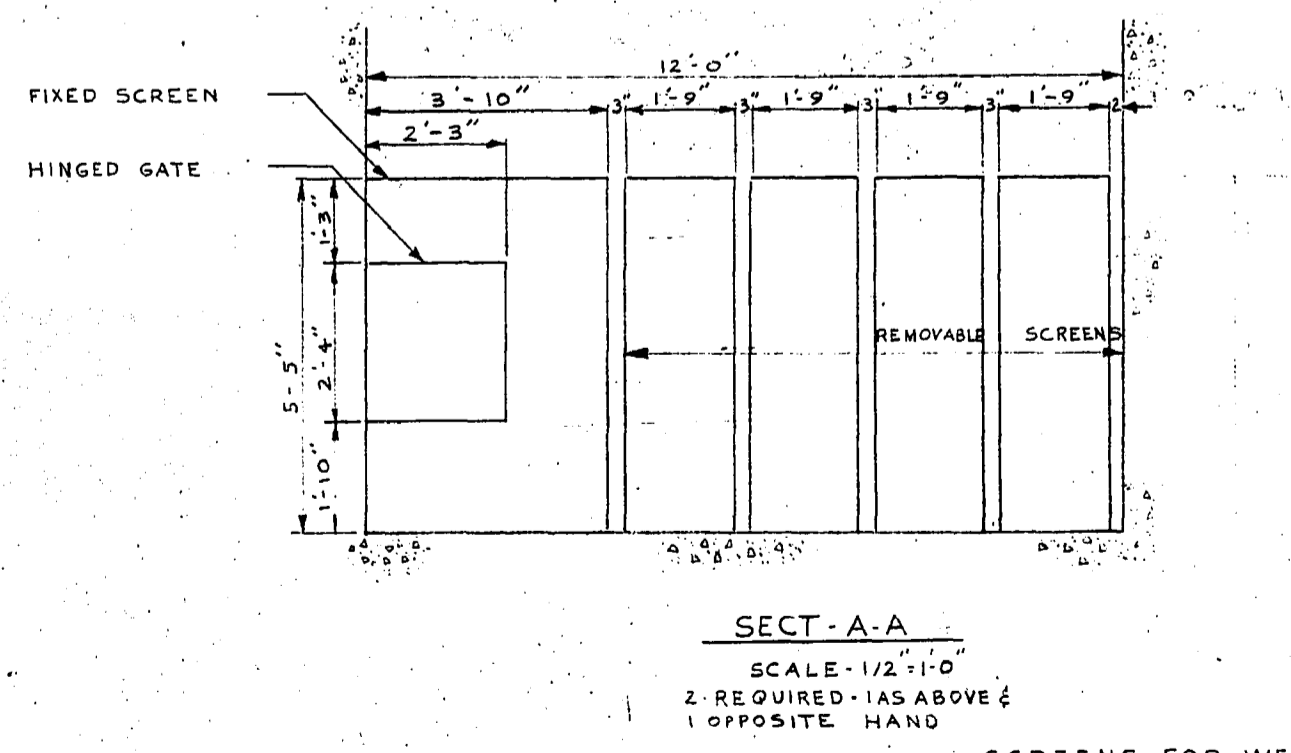
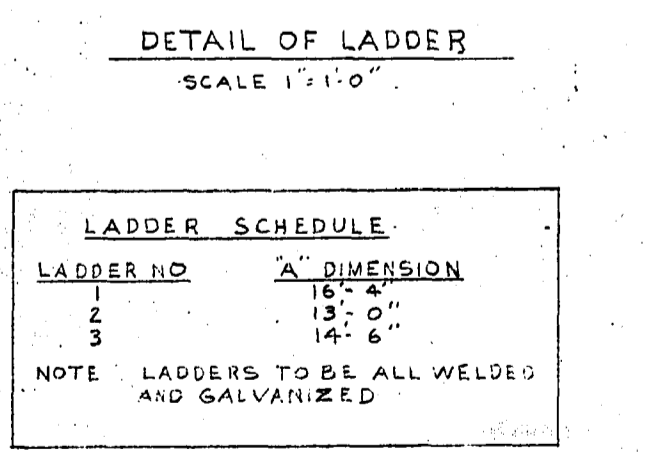
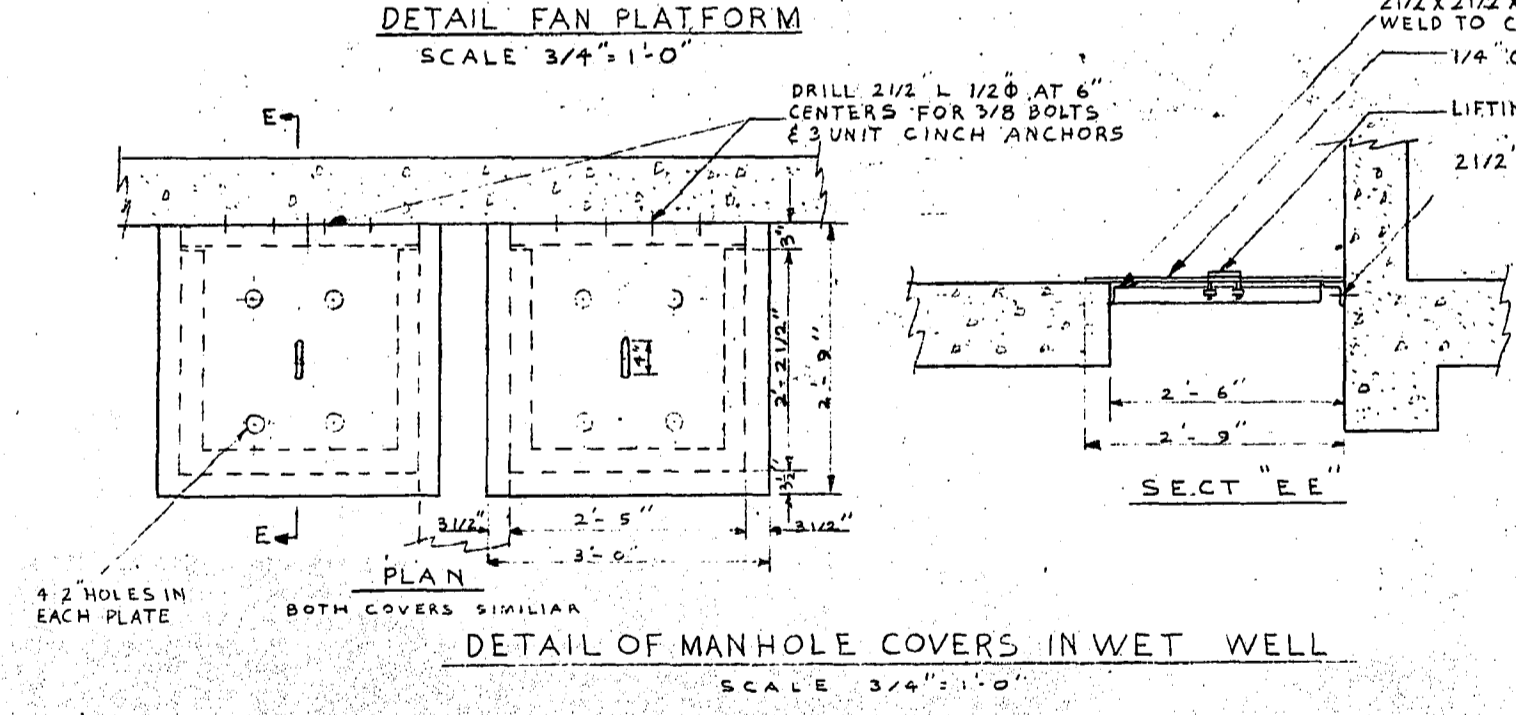
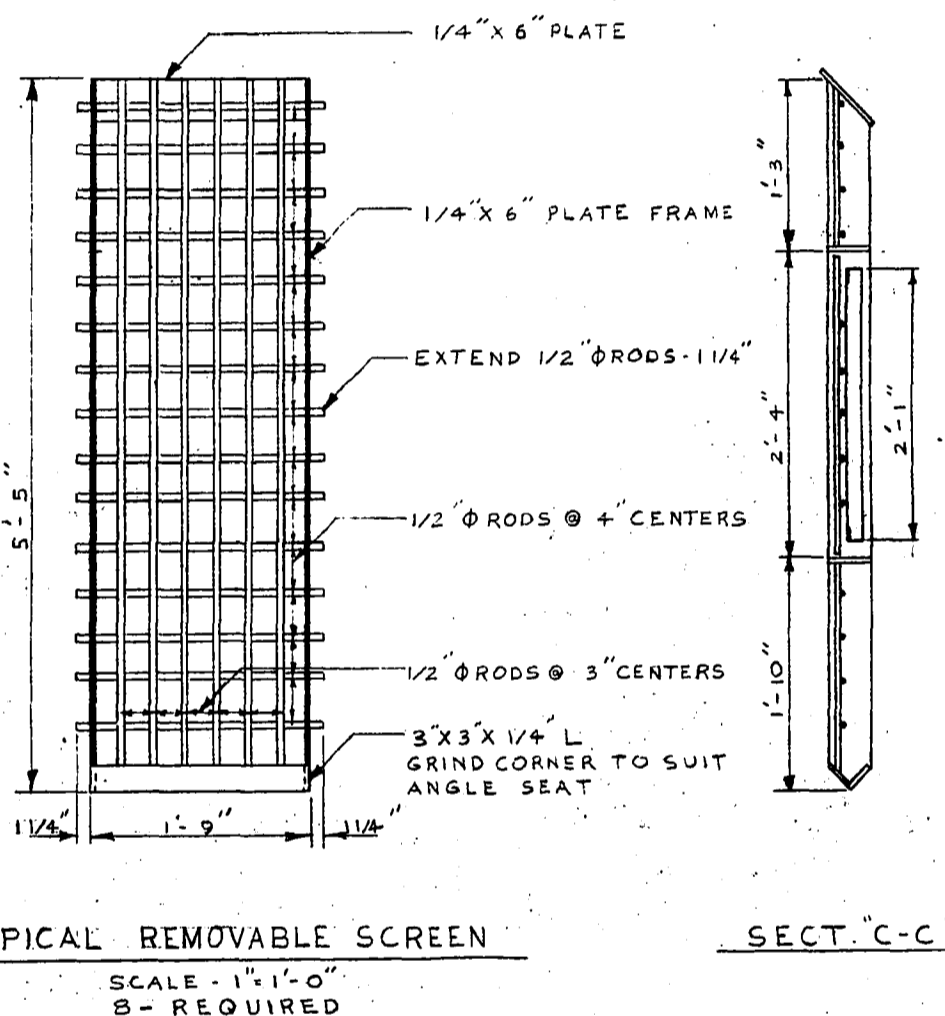
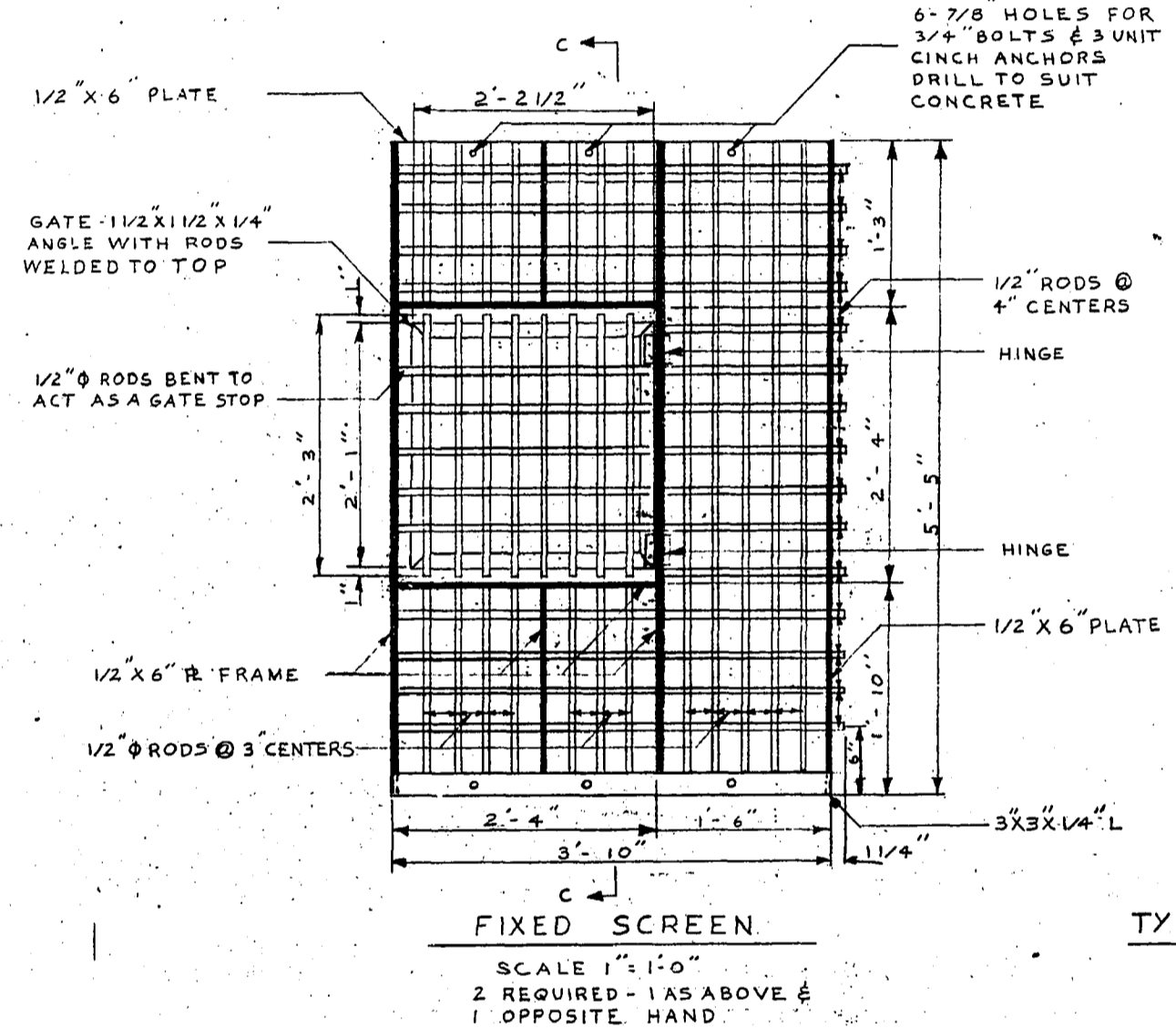
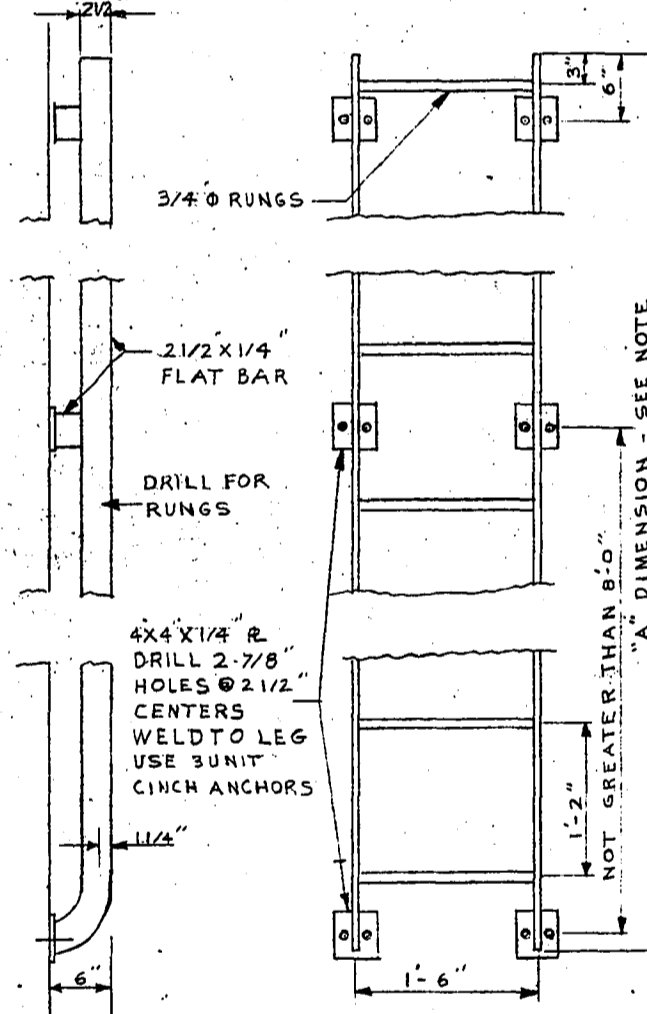
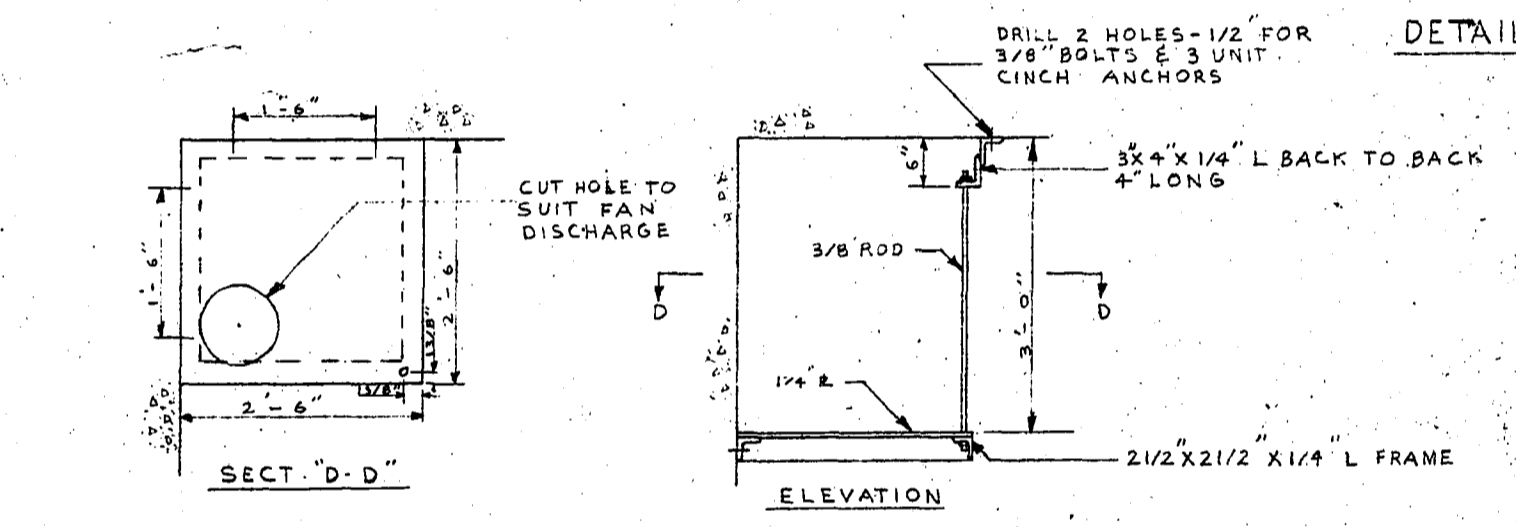
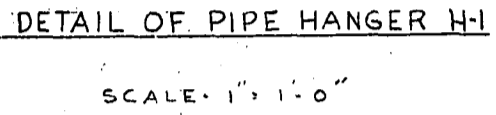
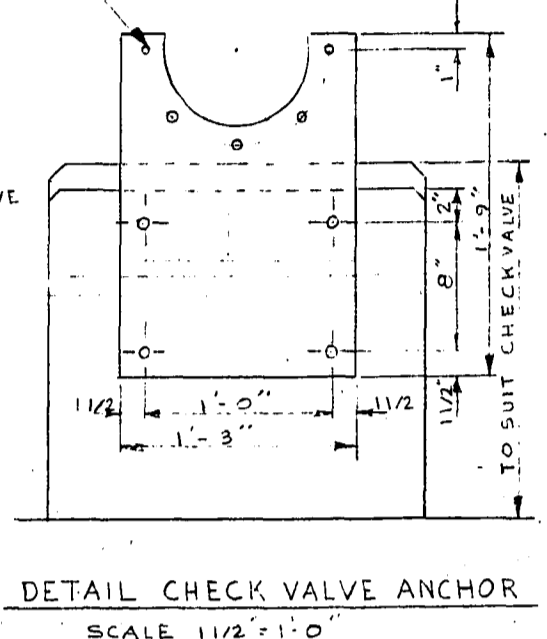
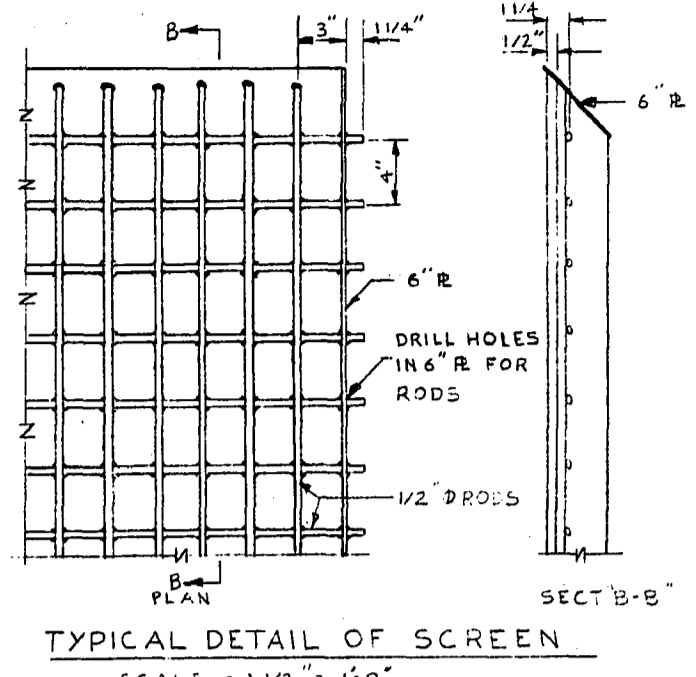
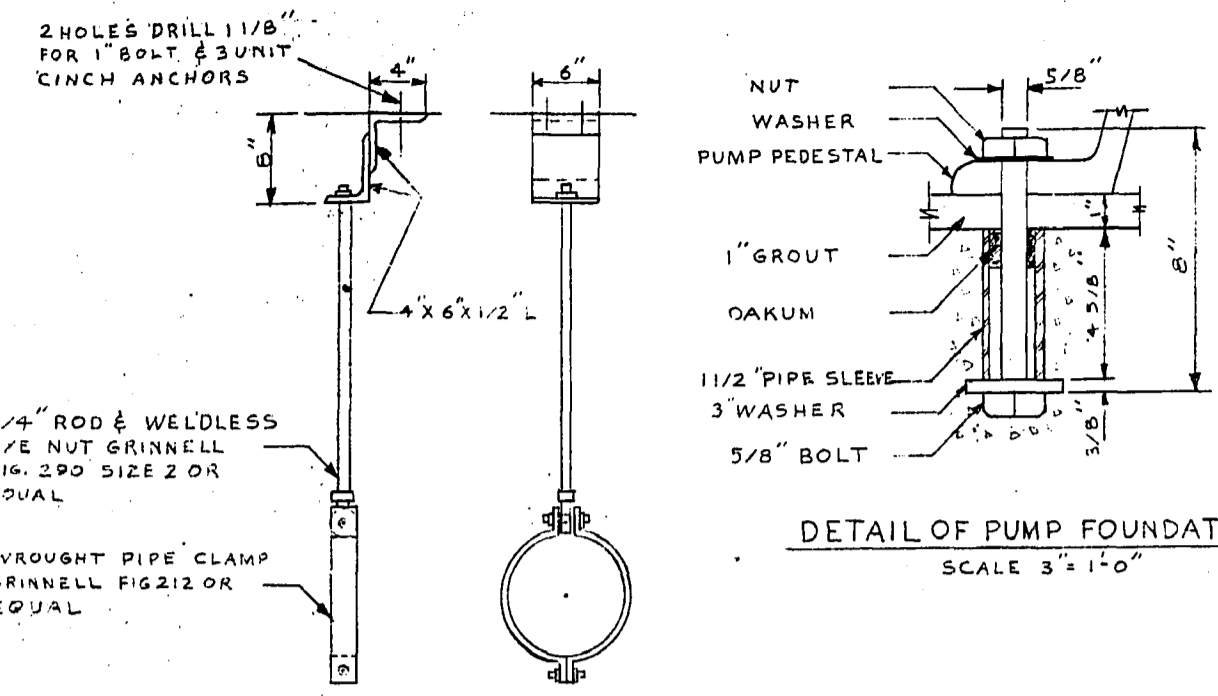
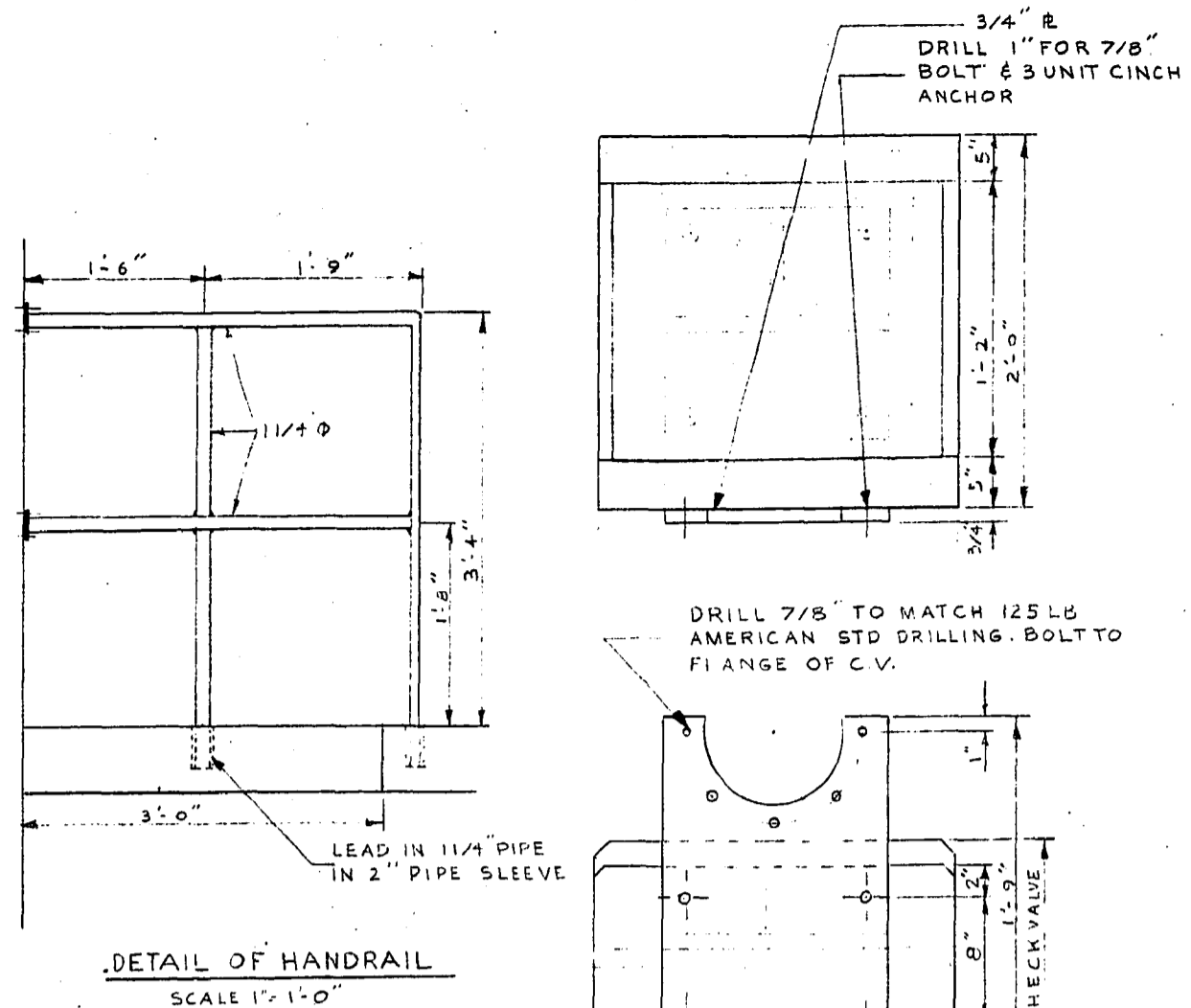
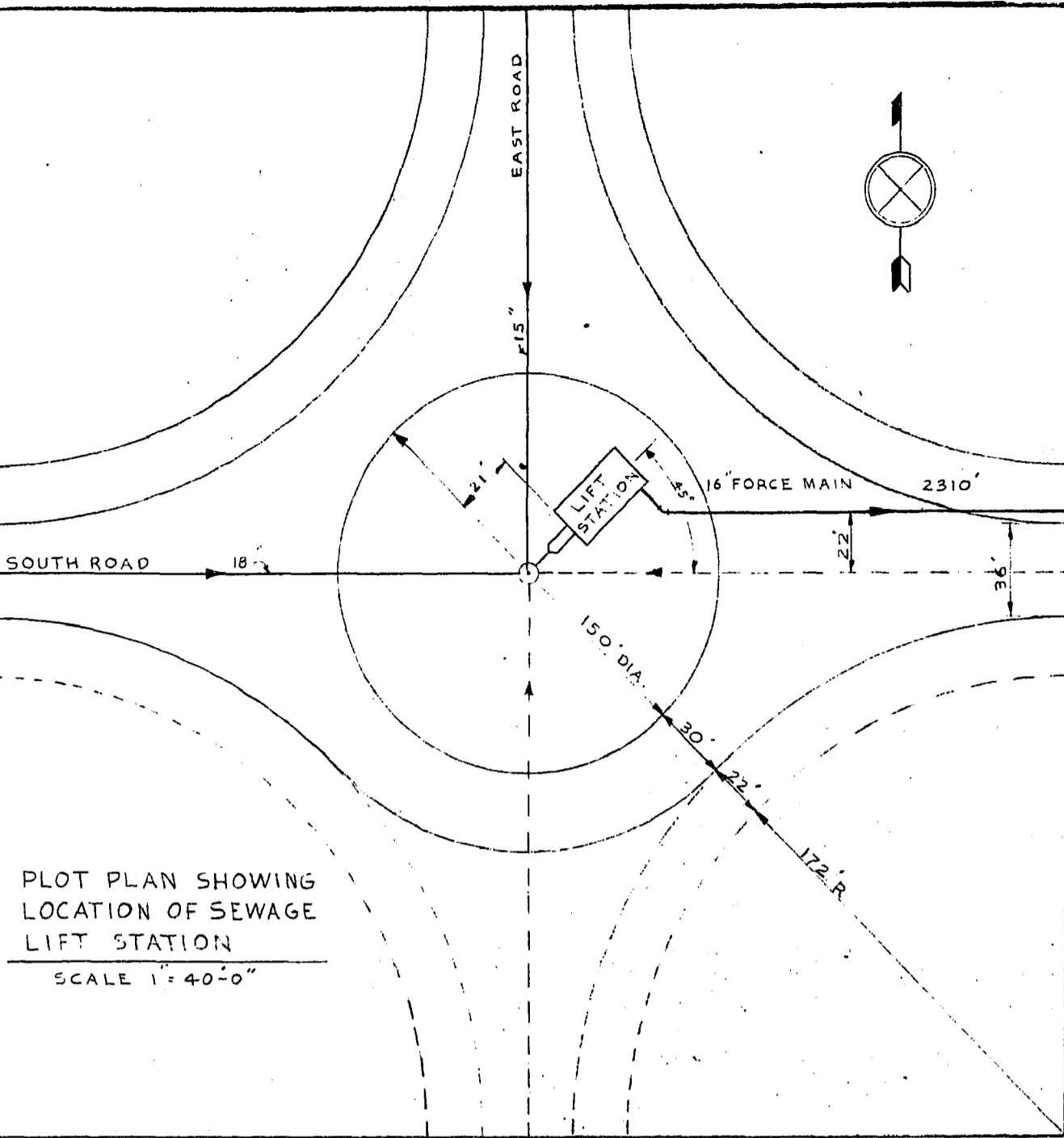
W. L. WARDROP & ASSOCIATES
ENGINEERING CONSULTANTS
WINNIPEG CANADA

LADCO DEVELOPMENT - ST. BONIFACE
MECHANICAL DETAILS
SEWAGE LIFT STATION

Scale: 3/8" = 1'-0"	Date: JULY 15, 1955
Designed By: W.L.W.	Project No. 5501
Drawn By: V.L.W.	Drawing No. 4151
Checked By:	

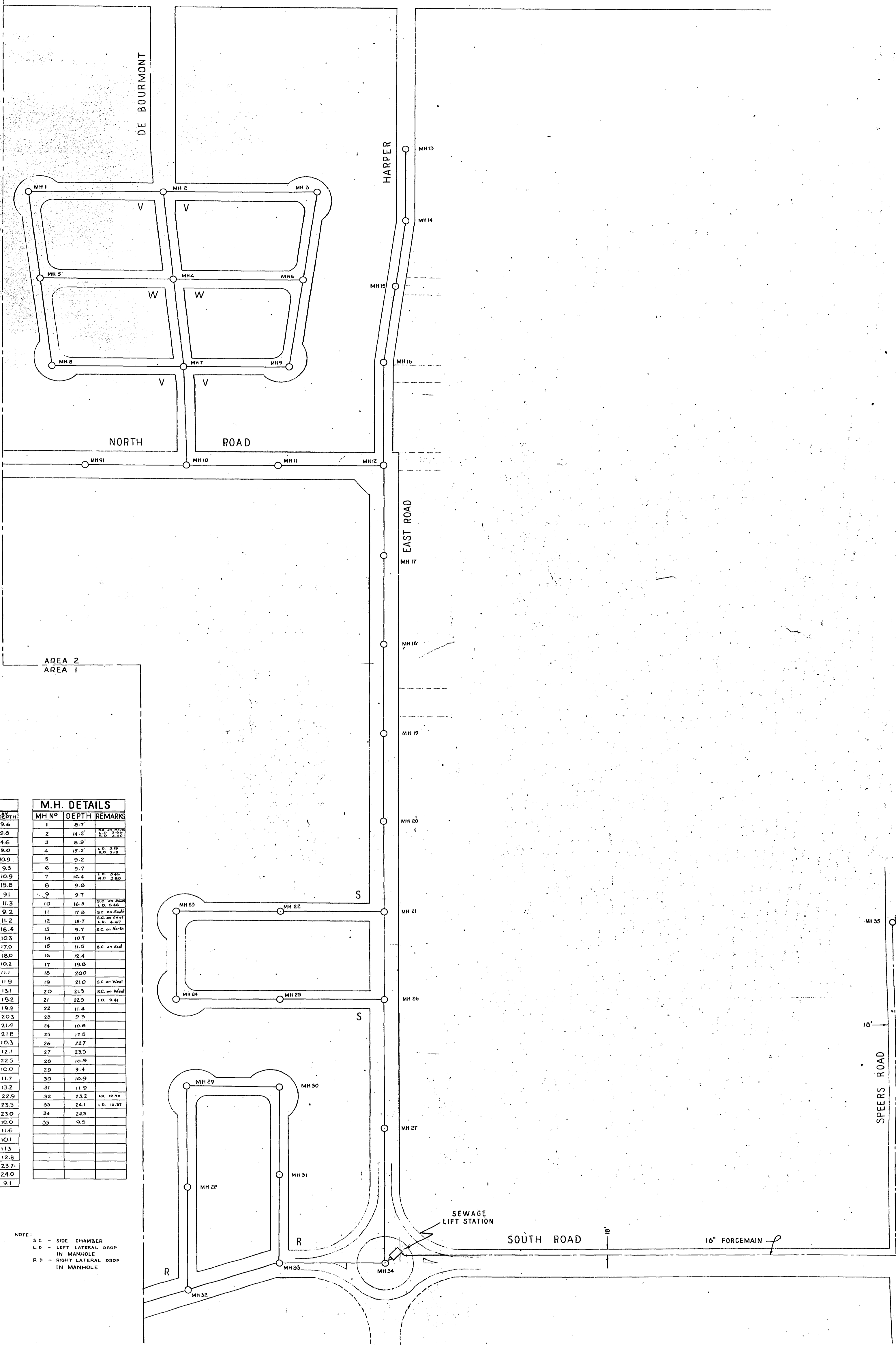
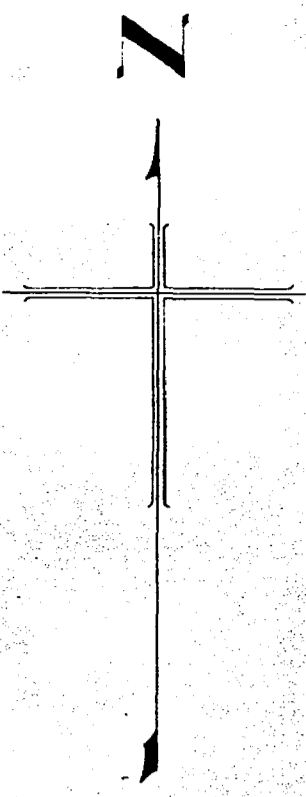


W. L. WARDROP & ASSOCIATES ENGINEERING CONSULTANTS	
LADCO DEVELOPMENT ST. BONIFACE MANITOBA MECHANICAL LAYOUT OF SEWAGE LIFT STATION	
Scale: B/B = 1"=0'	Date: JULY 16/55
Drawn By: J.L.G.	Checked By: W.L.W.
Project No: 5521	4152



W. L. WARDROP & ASSOCIATES
ENGINEERING CONSULTANTS
WINNIPEG CANADA
LADCO DEVELOPMENT
ST BONIFACE MANITOBA
DETAILS OF SEWAGE LIFT STATION
Scale: AS NOTED Date: JULY 1975
Drawn By: J. L. G. Drawing No.
Checked By: W. L. W. 5521

ELIZABETH ROAD



INSTALLATION DETAILS

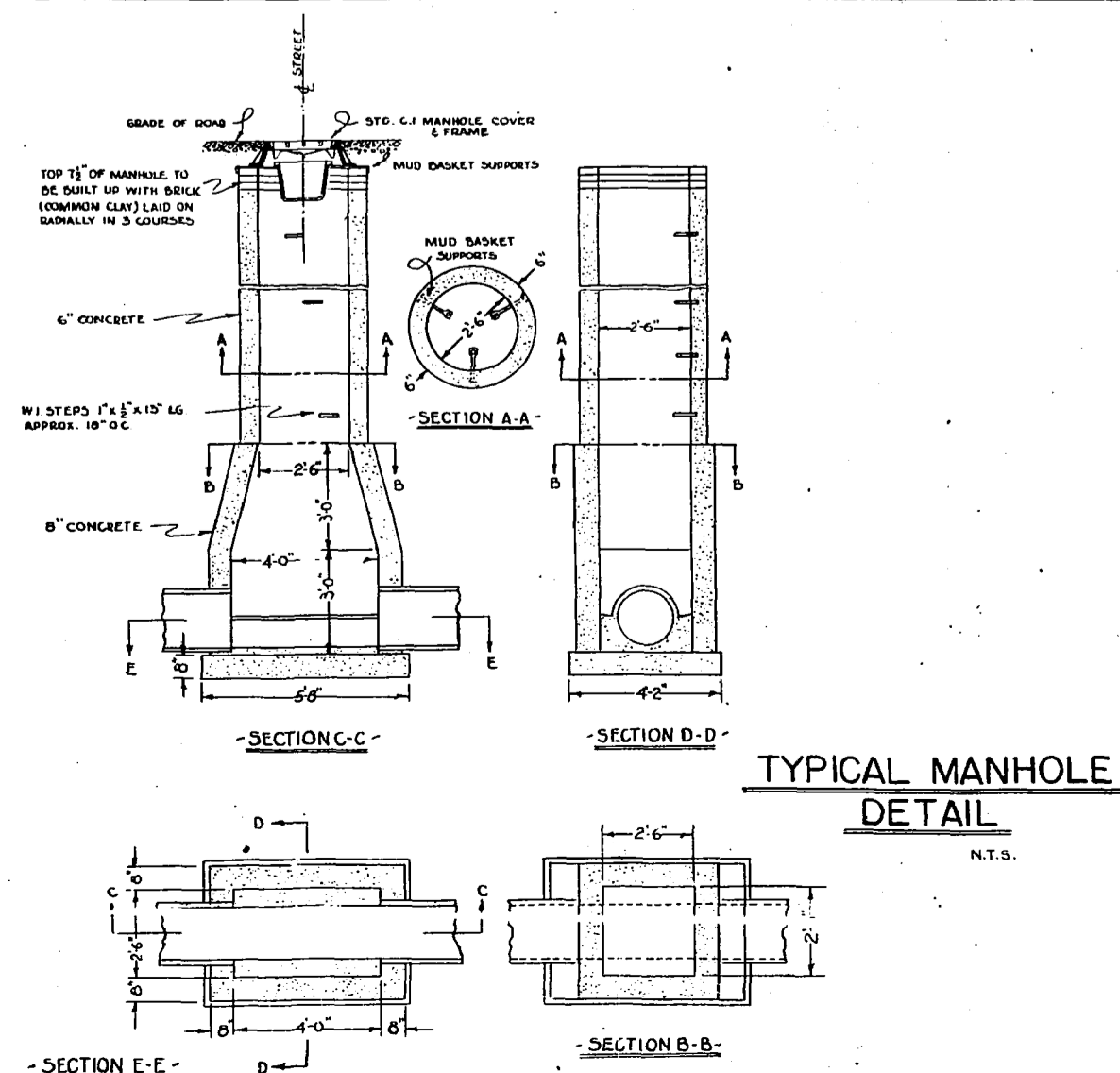
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1	2	8"	366	0.50	750.50	748.64	1.86
3	2	8"	430	0.50	750.50	748.64	1.86
2	4	12"	250	0.30	745.00	744.25	0.75
1	5	8"	250	0.50	750.50	748.25	1.25
5	4	8"	362	0.50	749.25	747.44	1.81
3	6	8"	255	0.50	750.50	749.22	1.28
6	4	8"	355	0.50	749.22	747.44	1.78
4	7	12"	250	0.30	744.25	743.50	0.75
5	8	8"	250	0.50	750.00	748.75	1.25
8	7	8"	358	0.50	748.75	746.96	1.79
6	9	8"	252	0.50	750.00	748.74	1.26
9	7	8"	288	0.30	748.74	747.50	1.24
7	10	12"	285	0.30	743.30	742.64	0.66
MH 91	10	8"	275	0.30	749.50	748.12	1.38
10	11	12"	250	0.30	742.64	741.89	0.75
11	12	12"	285	0.30	741.89	741.03	0.86
13	14	8"	200	0.50	750.00	748.00	2.00
14	15	8"	190	0.50	749.00	748.00	1.00
15	16	8"	230	0.50	748.00	746.90	1.10
16	12	8"	290	0.50	746.90	745.85	1.05
12	17	15"	264	0.20	740.78	740.25	0.53
17	18	15"	265	0.20	740.25	739.72	0.53
18	19	15"	263	0.20	739.72	739.19	0.53
19	20	15"	250	0.20	739.19	738.69	0.50
20	21	15"	260	0.20	738.69	738.17	0.52
23	22	8"	292	0.50	750.50	749.04	1.46
22	21	8"	295	0.50	749.04	747.56	1.48
25	26	15"	250	0.20	738.17	737.67	0.50
23	24	8"	250	0.50	750.50	749.25	1.25
24	25	8"	292	0.50	749.25	747.79	1.46
25	26	8"	295	0.50	747.79	746.33	1.46
26	27	15"	370	0.20	737.67	736.95	0.72
27	28	15"	370	0.20	736.95	736.19	0.76
MH 27	32	18"	200	0.15	737.26	736.64	0.62
29	28	8"	217	0.50	750.50	749.12	1.38
28	32	8"	217	0.50	750.12	747.74	2.38
30	30	8"	250	0.50	750.50	749.25	1.25
30	31	8"	243	0.50	749.25	748.03	1.22
31	33	8"	242	0.50	748.03	746.82	1.21
32	33	10"	260	0.15	736.84	736.45	0.39
33	34	10"	290	0.15	736.45	736.00	0.45
35	LIFT STN	16"	2296	0.00	752.70	750.50	2.20

M.H. DETAILS

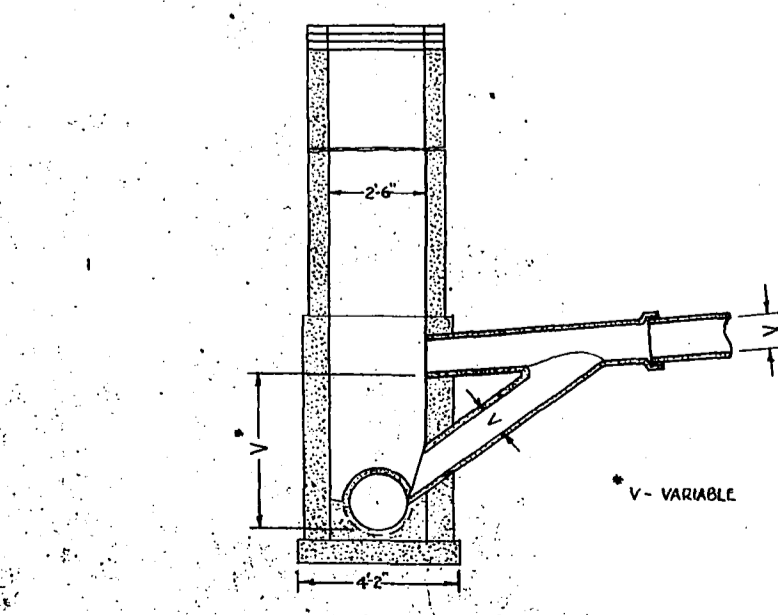
MH NO.	DEPTH	REMARKS
1	8.7	
2	14.2	
3	8.9	
4	15.2	1.0 3.18
5	9.2	
6	9.7	
7	16.4	1.0 3.50
8	9.8	
9	9.7	
10	16.3	1.0 3.50
11	17.8	1.0 3.50
12	18.7	1.0 3.50
13	9.7	
14	10.7	
15	11.5	1.0 3.50
16	12.4	
17	19.8	
18	20.0	
19	21.0	1.0 3.50
20	21.5	1.0 3.50
21	22.5	1.0 3.50
22	11.4	
23	9.3	
24	10.8	
25	12.5	
26	22.7	
27	23.5	
28	10.9	
29	9.4	
30	10.9	
31	11.9	
32	23.2	1.0 3.50
33	24.1	1.0 3.50
34	24.3	
35	9.5	

NOTE: SEWER PROFILES FOR CONSTRUCTION PURPOSES TO BE ISSUED AT A LATER DATE.
SEWERS TO BE PLACED AT INTERSECTIONS OF STREET UNLESS SHOWN OTHERWISE.
PRIMARY BENCHMARK: TOP OF BRASS CAP SET IN CONCRETE WINGWALL AT N.E. COR. OF TRANS. CAN. HWY. BRIDGE EL. 762.66

NOTE: S.C. - SIDE CHAMBER
L.D. - LEFT LATERAL DROP
R.D. - RIGHT LATERAL DROP
IN MANHOLE



TYPICAL MANHOLE DETAIL



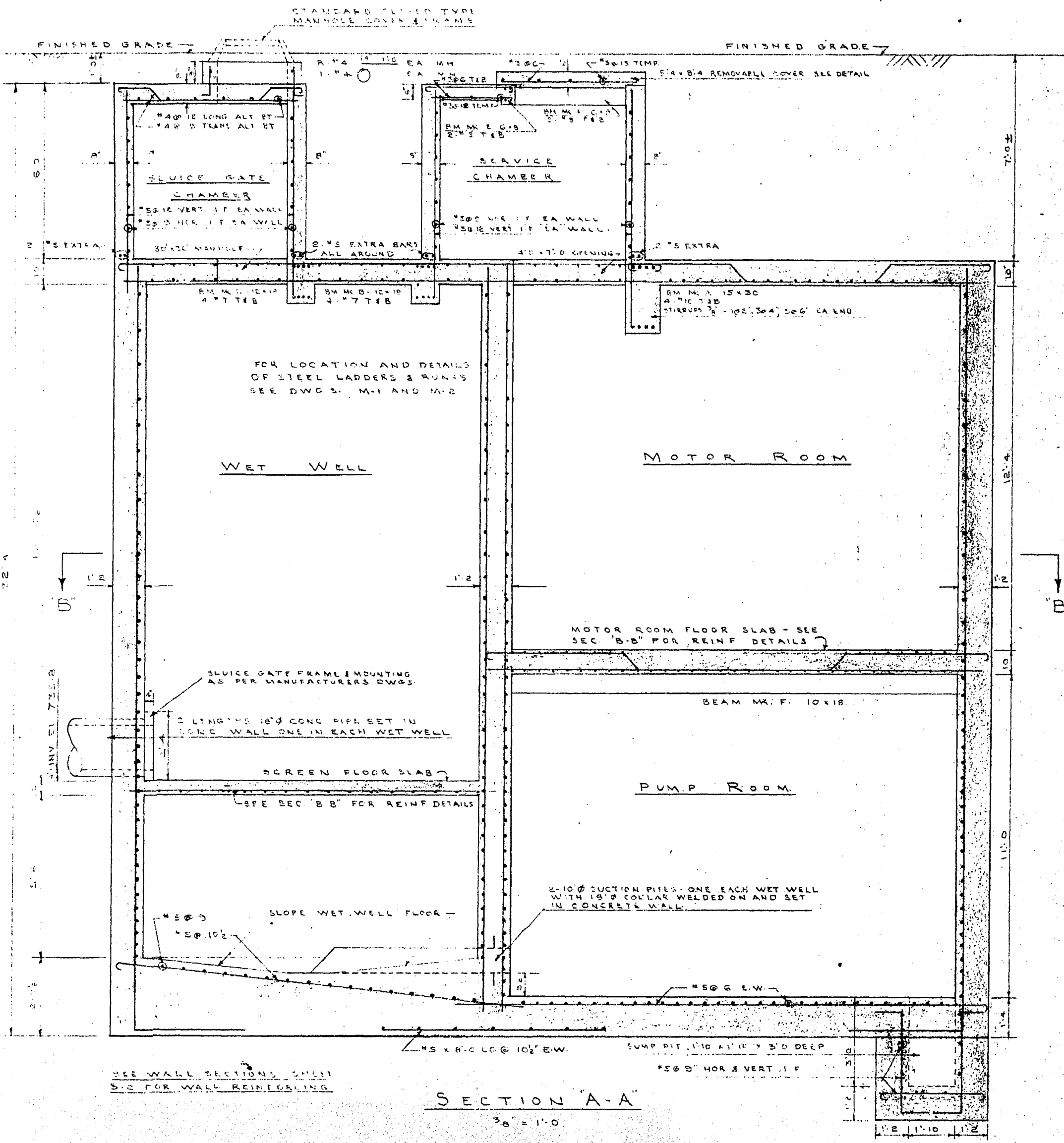
TYPICAL DROP MANHOLE DETAIL

W. L. WARDROP & ASSOCIATES
ENGINEERING CONSULTANTS
WINNIPEG CANADA

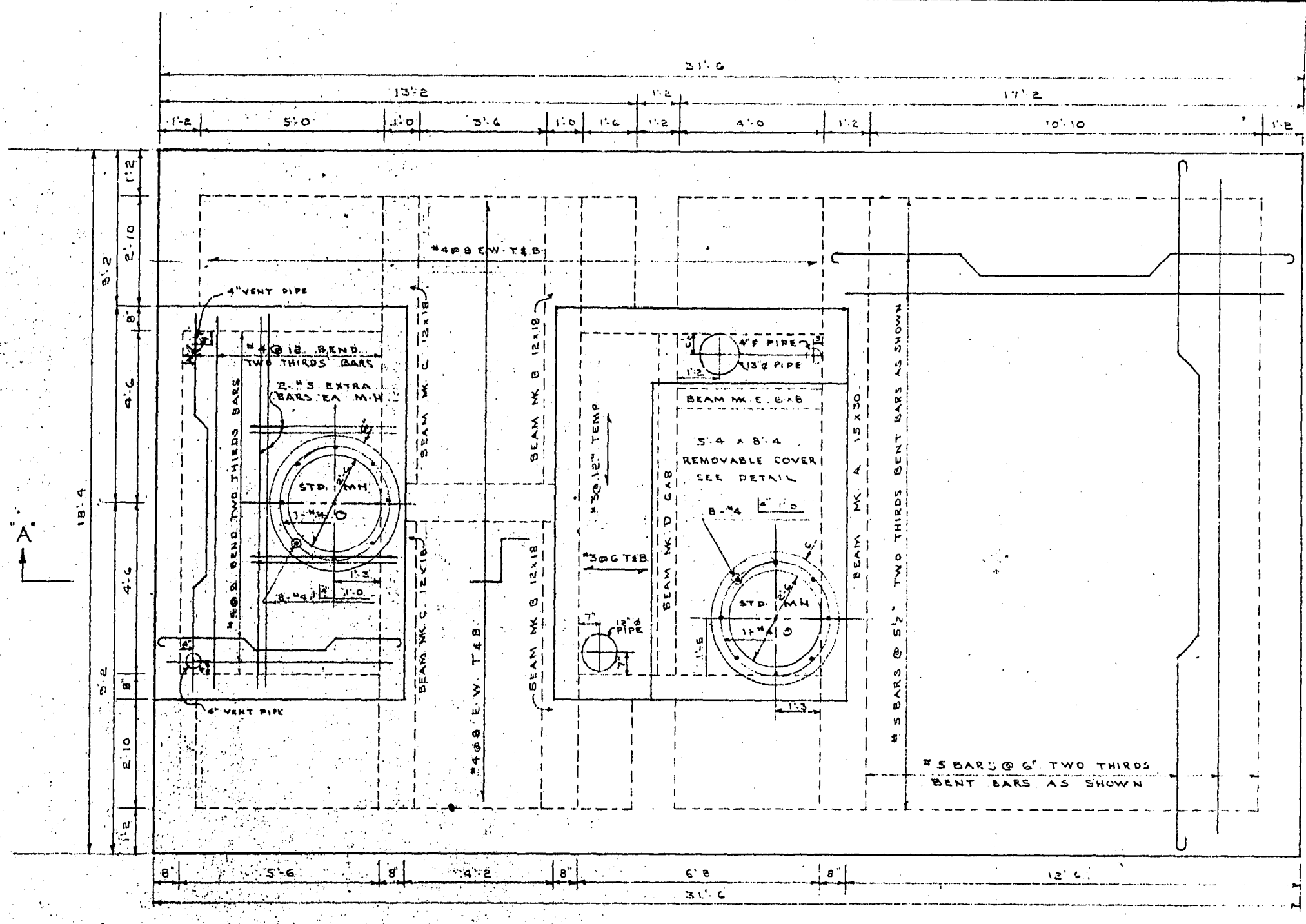
LADCO DEVELOPMENT
ST. BONIFACE MANITOBA
PLAN DETAILS OF SAN. SW. FORCEMAIN AREA 2

Scale: 1" = 100' Date: 11/7/55
Drawn By: G. BAKER
Checked By: G. DUNNIN
Project No.: 5521

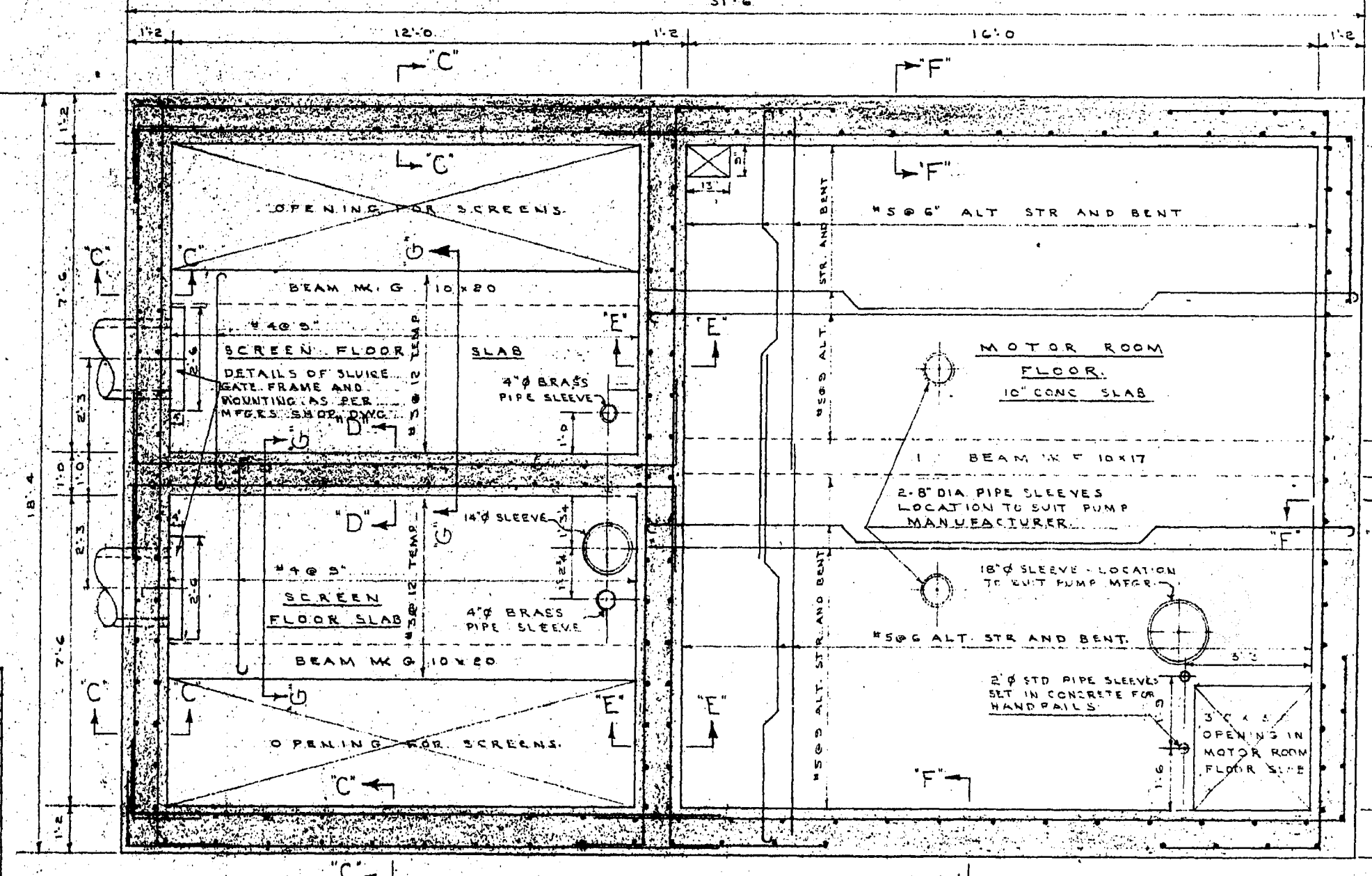
4155
M.D. & C. WILSON



SECTION A-A
3/8" = 1'-0"

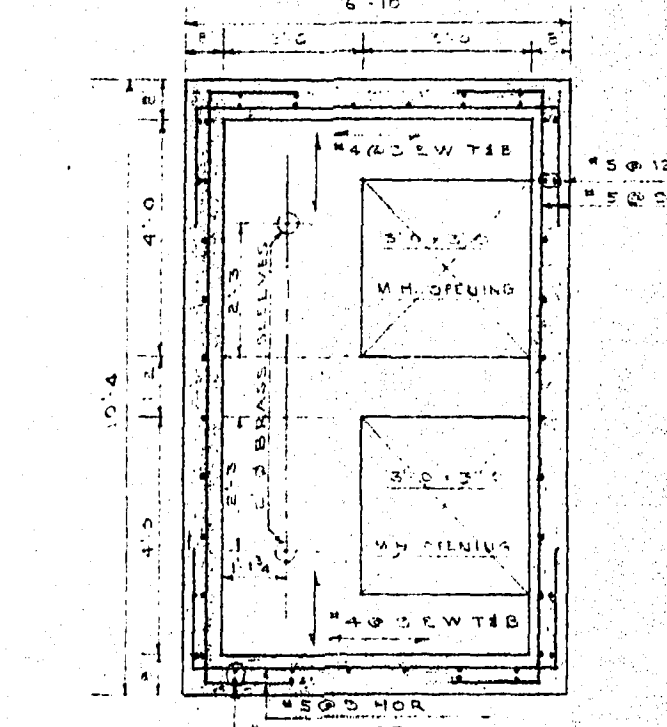


ROOF PLAN
3/8" = 1'-0"

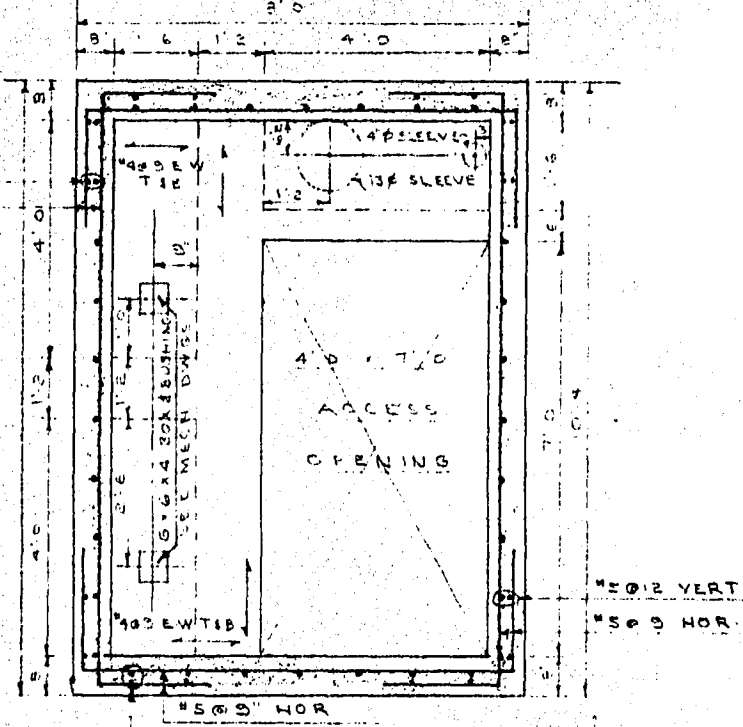


SECTION B-B
3/8" = 1'-0"

BEAM	SIZE	REINFORCING		REMARKS	STIRRUPS
		LONGITUDINAL	TRANSVERSE		
A	15 30	#4	#4	HOOK BOTH ENDS	18" DIA. SPACING FROM SUPPORT
B	12 18	#4	#4	HOOK BOTH ENDS	18" DIA. SPACING FROM SUPPORT
C	12 18	#4	#4	HOOK BOTH ENDS	18" DIA. SPACING FROM SUPPORT
D	6 8	#4	#4	HOOK BOTH ENDS	18" DIA. SPACING FROM SUPPORT
E	6 8	#4	#4	HOOK BOTH ENDS	18" DIA. SPACING FROM SUPPORT
F	10 15	#4	#4	HOOK BOTH ENDS	18" DIA. SPACING FROM SUPPORT
G	10 20	#4	#4	HOOK BOTH ENDS	18" DIA. SPACING FROM SUPPORT



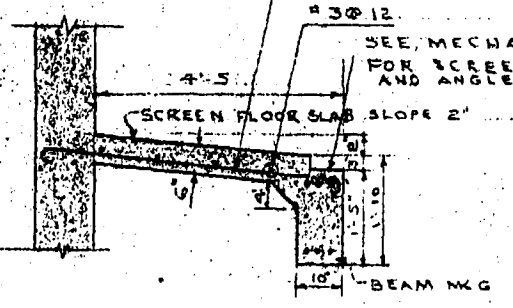
SLUICE GATE CHAMBER
FLOOR PLAN
3/8" = 1'-0"



SERVICE CHAMBER
FLOOR PLAN
3/8" = 1'-0"

- NOTES:
- (1) ALL CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.
 - (2) REINFORCING STEEL SHALL BE INTERMEDIATE GRADE DEFORMED.
 - (3) LAP WALL BARS 40 DIA. AT SPICES. CONCRETE PROTECTION FOR REINFORCEMENT BARS 2 IN. SLABS - ROOF & BOTTOM 2" OTHER 1 1/2" WALLS 2 IN.
 - (4) REINFORCE ALL OPENINGS WITH #4 BARS ADDITIONAL ON ALL SIDES.
 - (5) TERMINATE NON CONTINUOUS ENDS OF BENT BARS 1' TOP BARS IN SLABS WITH A STANDARD HOOK.
 - (6) USE ALKALI-SULPHATE RESISTING CEMENT THROUGHOUT.
 - (7) SEE MECHANICAL DRAWINGS FOR LOCATIONS AND DETAILS OF ALL SLEEVES, INSERTS, FRAMES, LADDERS, ETC. TO BE PLACED IN CONCRETE.

SEE WALL SECTIONS SHEET 5/2 FOR WALL REINFORCING



SECTION G-G
3/8" = 1'-0"

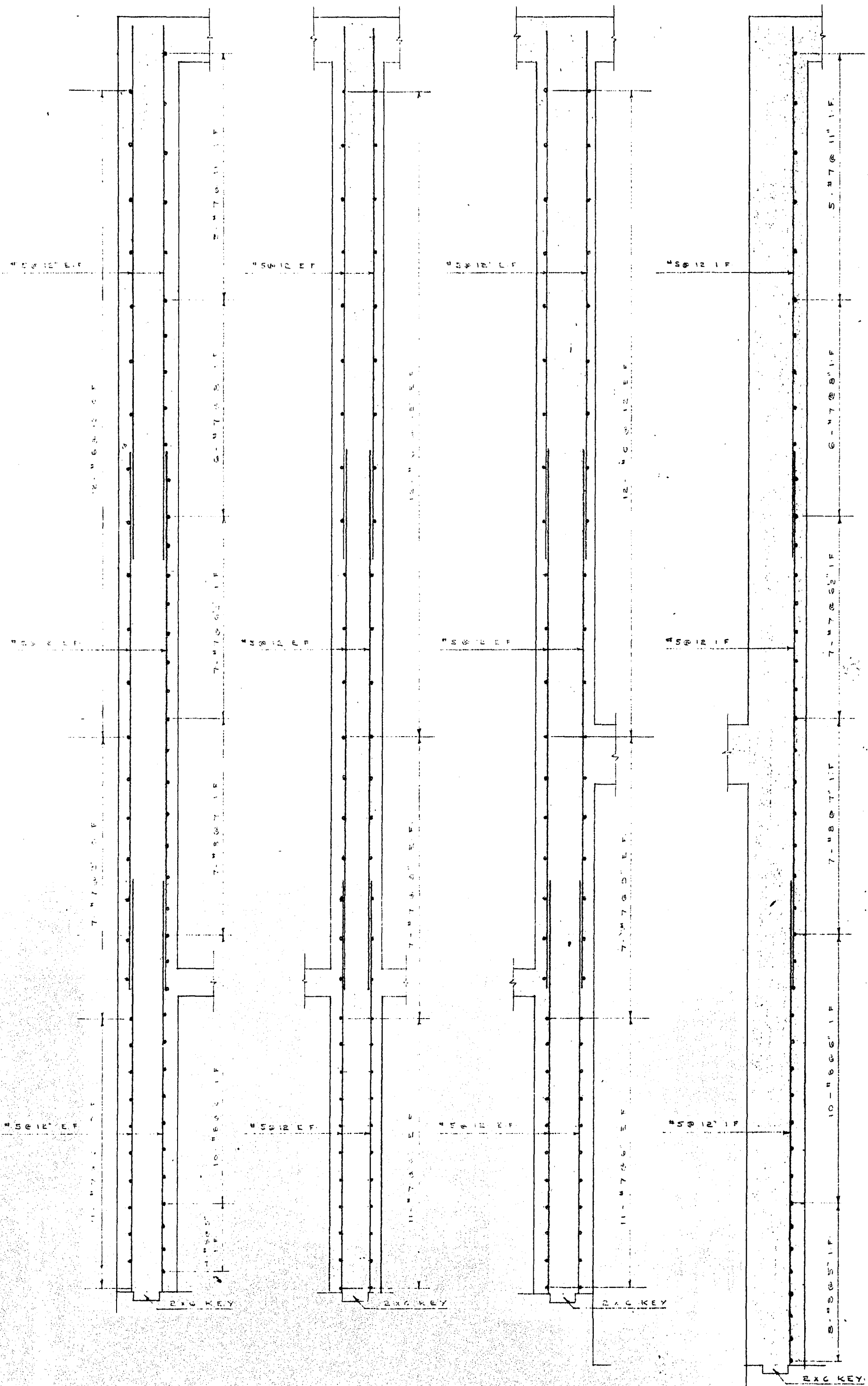
W. L. WARDROP & ASSOCIATES
ENGINEERING CONSULTANTS
WINNIPEG CANADA

LADCO DEVELOPMENT
ST. BONIFACE MANITOBA
STRUCTURAL LAYOUT
SEWAGE LIFT STATION

Scale: AS SHOWN Date: JULY 10/55
Designed By: R.W. MCK Project No. 5521
Drawn By: R.W. MCK Drawing No. 4159 ST
Checked By: W.L.W.

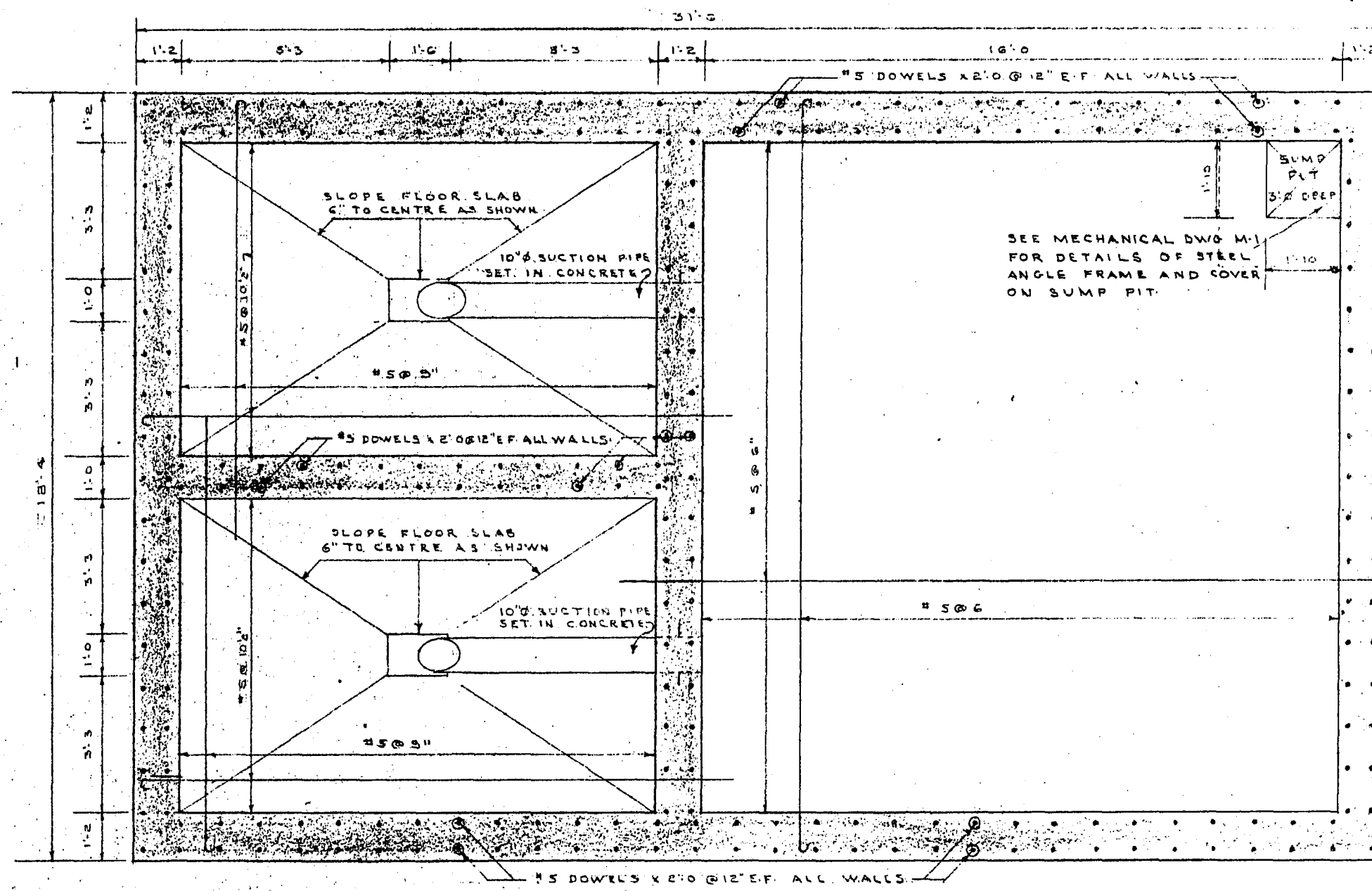
PROVINCE OF MANITOBA
R. W. MCKNIGHT
REGISTERED ENGINEER

FILE # SP10669

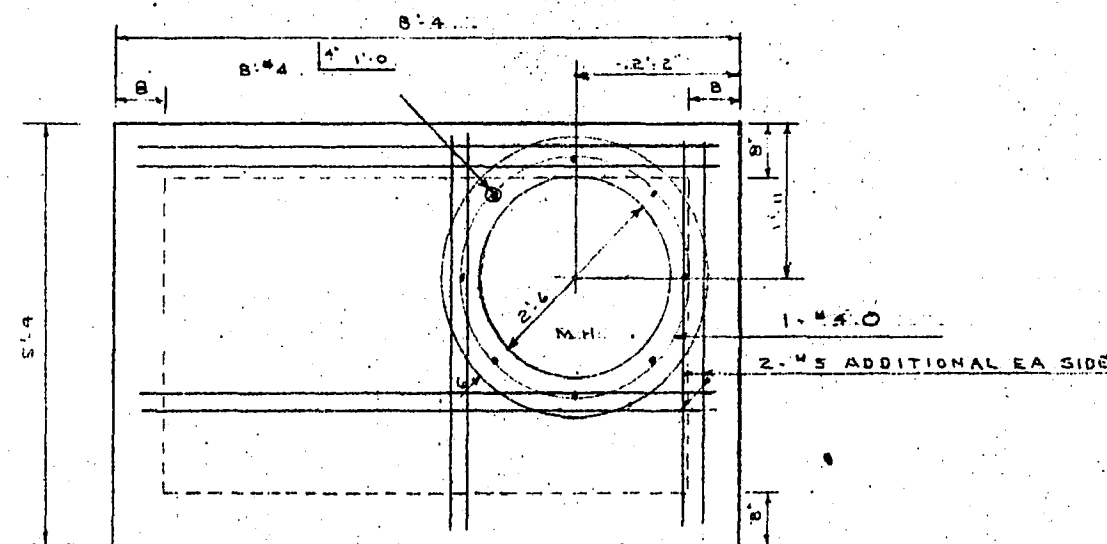


SECTION C-C SECTION D-D SECTION E-E SECTION F-F

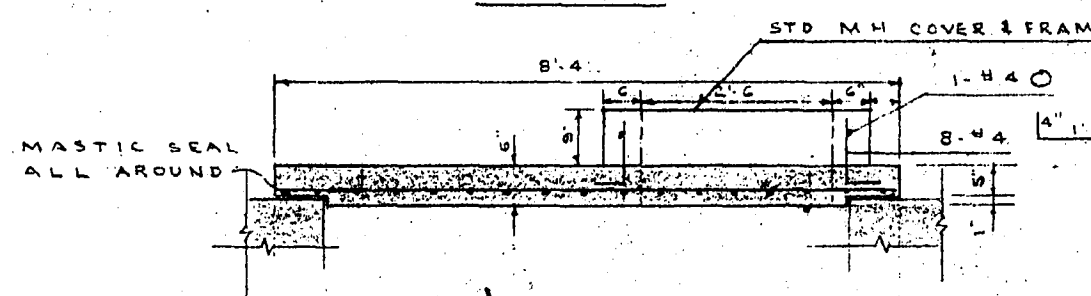
WALL SECTIONS SHOWING REINFORCING STEEL DETAILS
SCALE 3/4" = 1'-0"



PLAN OF FLOOR SLAB
3/8" = 1'-0"



PLAN



SECTION

REMOVABLE SLAB DETAILS

SCALE 1/2" = 1'-0"

- NOTES:**
- (1) ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI @ 28 DAYS
 - (2) REINFORCING STEEL SHALL BE INTERMEDIATE GRADE DEFORMED
 - (3) LAP WALL BARS 40 DIA. AT SPLICES
 - (4) CONCRETE PROTECTION FOR REINFORCEMENT: SLABS - HOOF & BOTTOM 2" OTHERS 1"
 - (5) REINFORCE ALL OPENINGS WITH 2-#5 BARS ADDITIONAL ON ALL SIDES
 - (6) TERMINATE NON-CONTINUOUS ENDS OF BENT BARS & TOP BARS IN SLABS WITH A STANDARD HOOK
 - (7) USE ALKALI SULPHATE RESISTING CEMENT THROUGHOUT
 - (8) SEE MECHANICAL DRAWINGS FOR LOCATIONS AND DETAILS OF ALL SLEEVES, INSERTS, FRAMES, LADDERS, ETC. TO BE PLACED IN CONCRETE

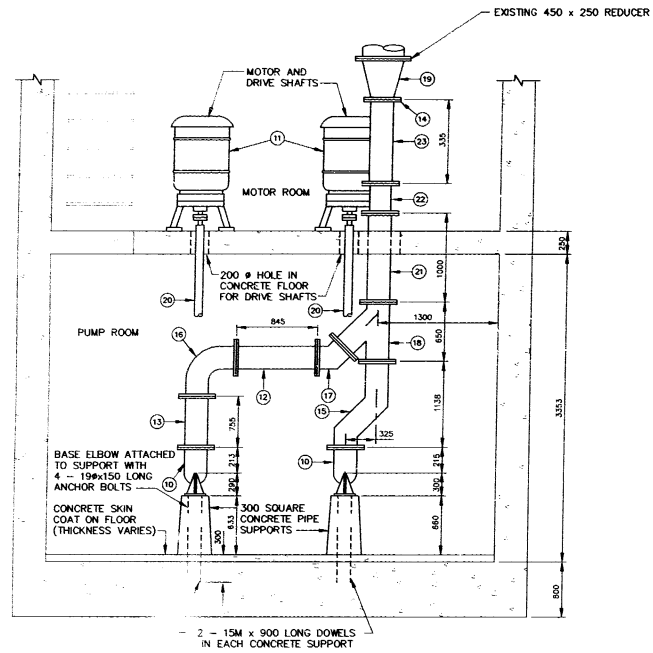
W. L. WARDROP & ASSOCIATES
ENGINEERING CONSULTANTS
WINNIPEG CANADA

LADCO DEVELOPMENT
ST BONIFACE MANITOBA
CONCRETE DETAILS
SEWAGE LIFT STATION

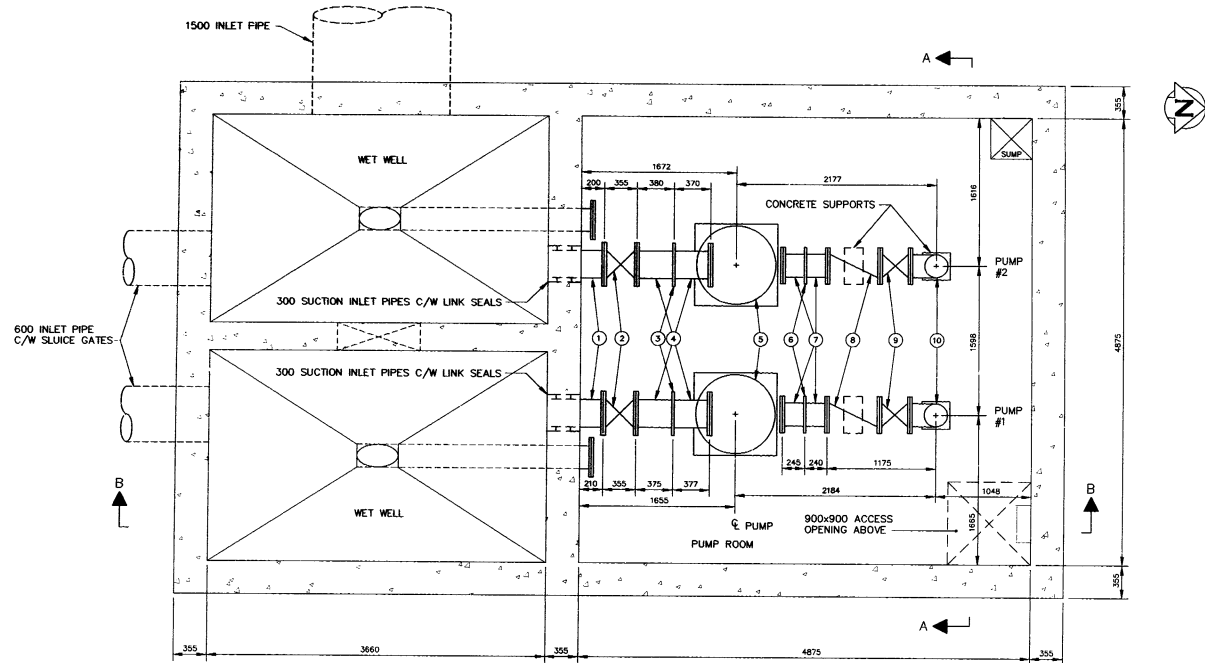
Scale: AS SHOWN	Date: JULY 19, 1955
Designed By: R. W. MCK	Project No. 5521
Drawn By: R. W. MCK	Drawing No. 4160 ST 2
Checked By: W. L. W.	



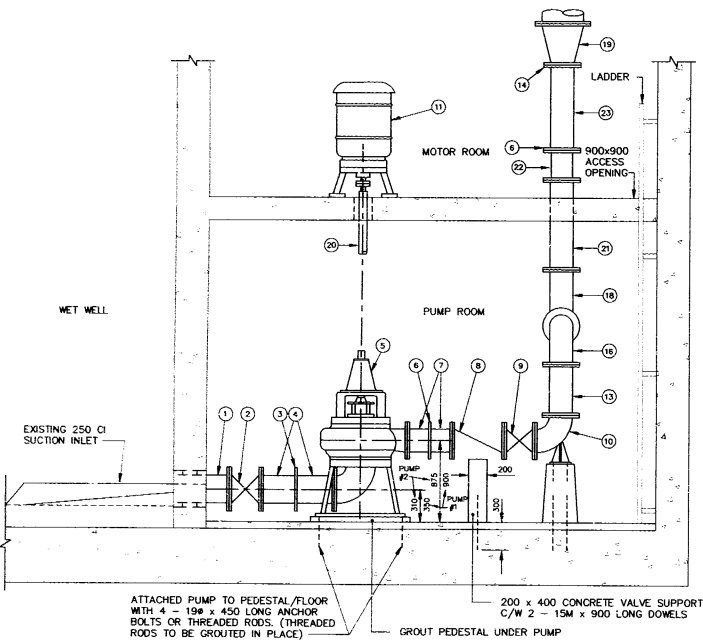
FILE # SP 18670



SECTION A-A
SCALE 1:30



PLAN VIEW PUMP ROOM
SCALE 1:30



SECTION B-B
SCALE 1:30

LIST OF MATERIAL				
ITEM	DESCRIPTION	ENDS	LENGTH	QUANTITY
1	300 Ø INLET PIPE C/W LINK SEAL	FL x PE	605	2
2	300 Ø GATE VALVE (RISING STEM)	FLANGED	355	2
3	300 Ø "VICTAULIC" ROUST-A-BOUT STYLE 99N	-	-	2
4	300 Ø FILLER PIPE	FL x PE	-	4
5	AURORA 210 L/S (3300 US gpm) PUMPS	FLANGED	-	2
6	250 Ø "VICTAULIC" ROUST-A-BOUT STYLE 99N	-	-	6
7	250 Ø FILLER PIPE	FL x PE	-	4
8	250 Ø SWING CHECK VALVE	FLANGED	565	2
9	250 Ø GATE VALVE	FLANGED	330	2
10	250 Ø CI 90° BASE ELBOW	FLANGED	280	2
11	60 HP 1150 RPM US ELECTRIC MOTORS	-	-	2
12	250 Ø FILLER PIPE	FL x PE	845	1
13	250 Ø FILLER PIPE	FL x PE	755	1
14	250 Ø GRUVOX FLANGE	-	-	1
15	250 Ø STEEL FILLER PIPE C/W 2-45° ELBOWS (FABRICATED STEEL)	FLx FL	-	1
16	250 Ø LONG RADIUS 90° ELBOW	FLANGED	420	1
17	250 Ø CI 45° ELBOW	FLANGED	165	1
18	250x250x250 CI 45° LATERAL WYE	FLANGED	-	1
19	400 x 250 CI REDUCER	FLANGED	450	1
20	HOLLOW STEEL DRIVE SHAFT	-	-	2
21	250Ø FILLER PIPE	FL x FL	1000	1
22	250Ø ROSEMOUNT FLOWMETER	-	-	1
23	250Ø FILLER PIPE	FL x PE	335	1

NOTES:

- LENGTHS SHOWN FOR PIPING ARE FACE TO FACE AND DO NOT INCLUDE GASKET THICKNESS.
- GASKETS ARE 3 mm THICK, FULL FACED, CLOTH INSERTED RUBBER.
- ALL FLANGE NUTS AND BOLTS TO BE HIGH STRENGTH STEEL
- ALL PIPE IS SCHEDULE 80 STEEL.
- FLANGED FITTINGS CONFORM TO ANWWA C110
- ALL FLANGES ARE WELDED INSIDE AND OUT IN ACCORDANCE WITH ANWWA C-207 CLASS D.
- ALL ANCHOR BOLTS ARE TYPE 316 SS KWIK BOLT STUD ANCHOR.
- BONDING AGENT IS ACRYL-STIX.

METRIC
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES

AS-CONSTRUCTED

Febina *K. O'Brien* 98.09.25
CONTRACT ADMINISTRATION DRAFTING & GRAPHIC SERVICES DATE

WATER AND WASTE DEPARTMENT

B.M. ELZV.	
ENTERED IN LBIS	
CONSTRUCTION COMPLETION DATE	97-10-01
DESIGNED BY	TW
CHECKED BY	JE
DRAWN BY	TM
APPROVED BY	
HOR. SCALE	AS NOTED
VERTICAL	
RELEASED FOR CONSTRUCTION	
1. AS-CONSTRUCTED	98.08 SG
NO. REVISIONS	DATE BY
	DATE DECEMBER 1996

CITY OF WINNIPEG
WATER AND WASTE
ENGINEERING DIVISION

DESIGNED BY: TW
CHECKED BY: JE
DRAFTED BY: TM
APPROVED BY: [Signature]
HOR. SCALE: AS NOTED
VERTICAL: [Blank]
RELEASED FOR CONSTRUCTION: [Blank]

ENGINEER'S SEAL
PROVINCE OF MANITOBA
ORIGINAL STAMPED BY
K.D. LOUDFOOT
P. ENG.
97/03/03
REGISTERED PROFESSIONAL ENGINEER

PD 97-41
PLOT DATE: 98-09-23
ACAD V13

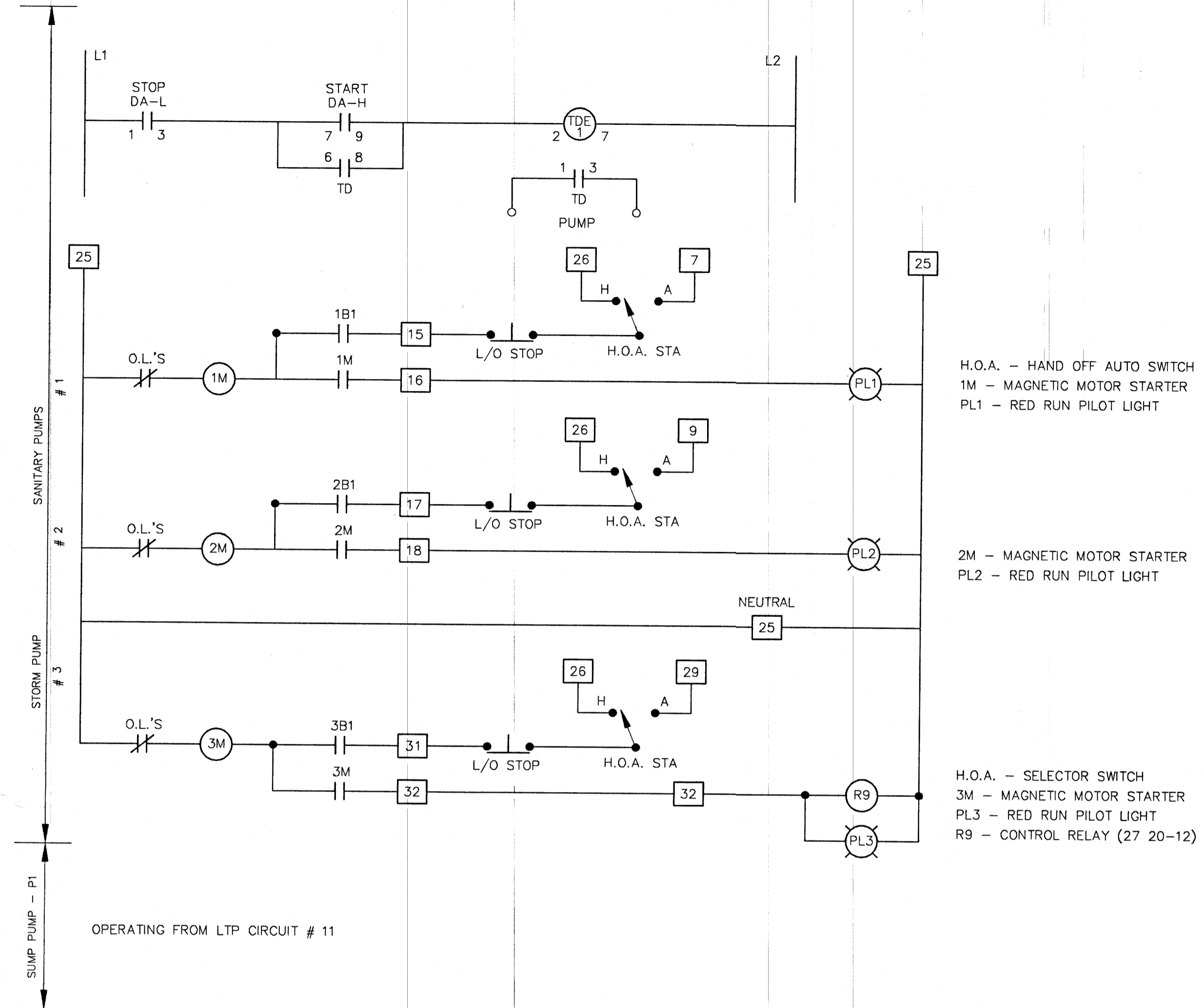
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

WINDSOR PARK WASTEWATER
PUMPING STATION
PUMP REPLACEMENT
PLAN AND SECTIONS

CITY DRAWING NUMBER
SHEET OF
4171

D:\DRAWINGS\WASTEWTR\SEWMP\4174 Non Jul 07 15:00:10 1997

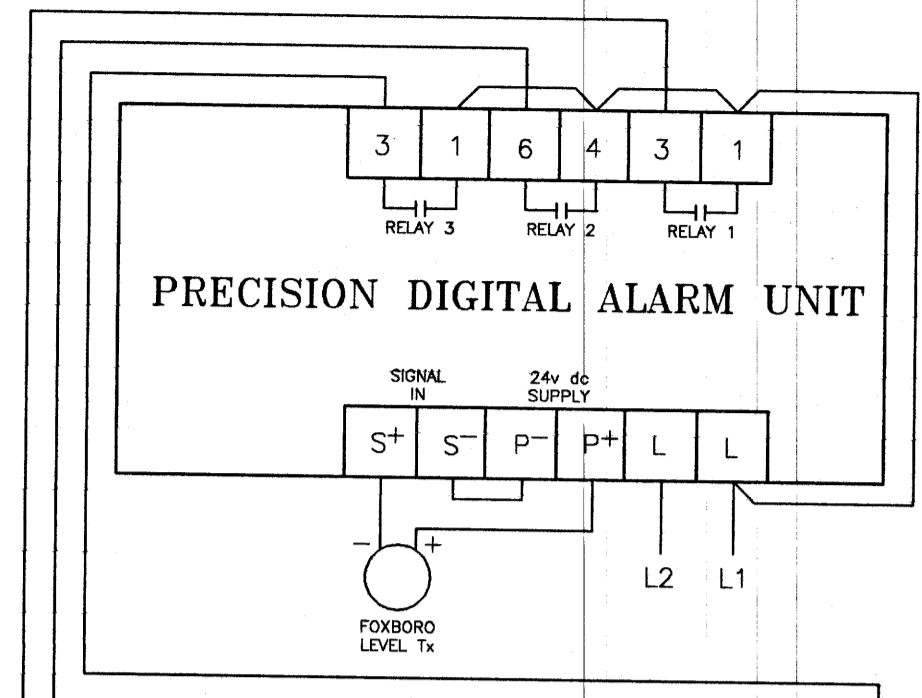
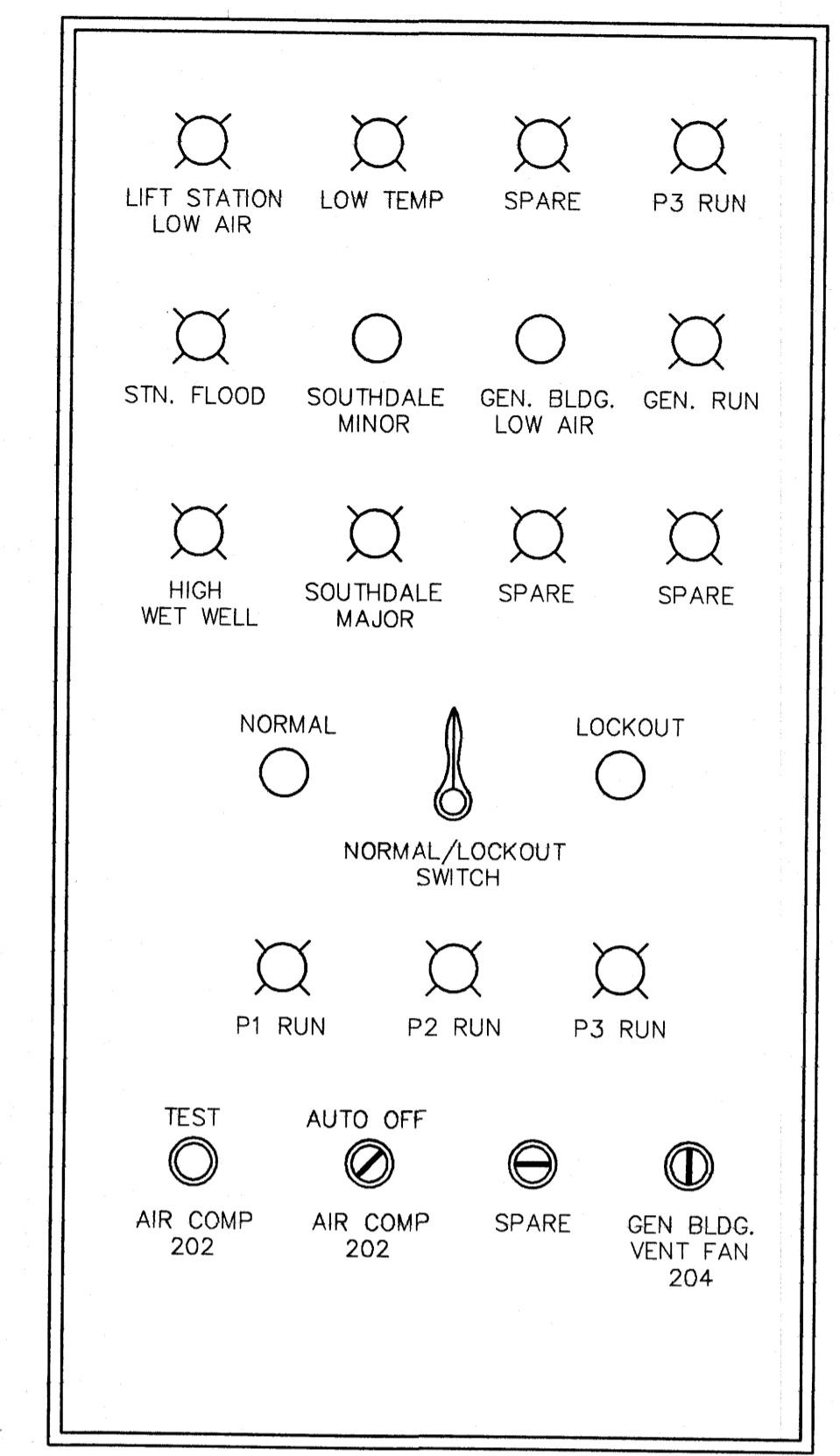
CONCEPT - DUAL ALARM UNIT CONTROL (TYPICAL)



OPERATING FROM LTP CIRCUIT # 11

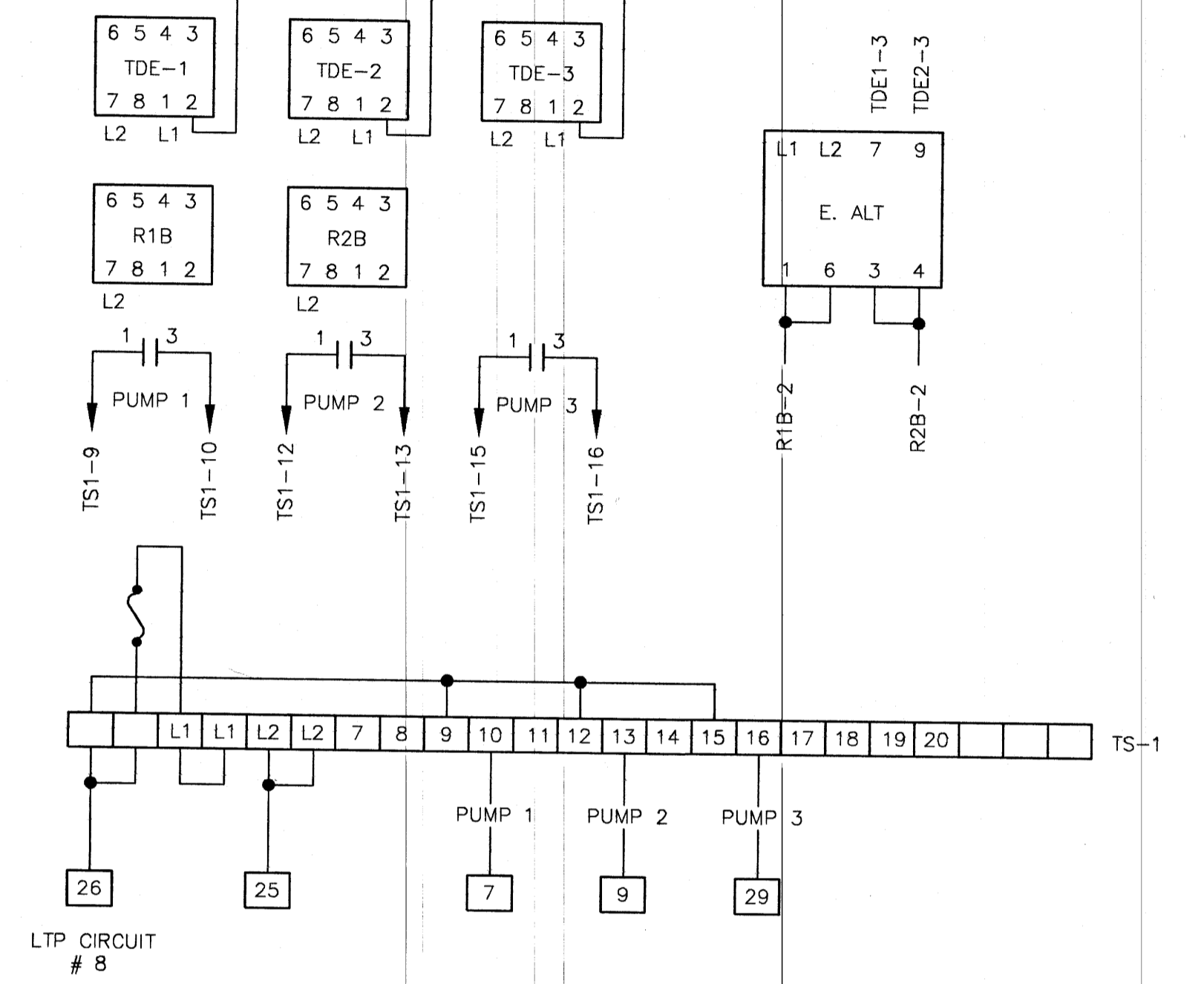
TB 2 -	1 - LOW AIR HOT	TB 2 -	25 - CCT 10	TB 2 -	49 - BLACK 5
	2 - LOW AIR RETURN		26 - CCT 12		50 - WHITE 5
	3 - STATION FLOOD HOT		27 - 10/12 NEUTRAL		51 - SHIELD
CABLE # 1	4 - STATION FLOOD RETURN		28 - CCT 21		52 - BLACK 6
1 - 8	5 - HIGH WET WELL HOT		29 - CCT 23		53 - WHITE 6
	6 - HIGH WET WELL RETURN		30 - 21/23 NEUTRAL		54 - SHIELD
	7 - SPARE		31 - SPARE		55 - BLACK 7
	8 - SPARE		32 - SPARE		56 - WHITE 7
	9 - CCT 13		33 - P1 RUN INDICATION		57 - SHIELD
	10 - CCT 15		34 - P2 RUN INDICATION		58 - BLACK 8
CABLE # 2	11 - 13/15 NEUTRAL		35 - P3 RUN INDICATION		59 - WHITE 8
1 - 8	12 - CCT 14		36 - SPARE		60 - SHIELD
	13 - CCT 16		37 - BLACK 1		61 - SPARE
	14 - CCT 18		38 - WHITE 1		62 - SPARE
	15 - CCT 20		39 - SHIELD		63 - SPARE
	16 - 18/20 NEUTRAL		40 - BLABK 2		64 - SPARE
	17 - CCT 9		41 - WHITE 2		65 - SPARE
	18 - CCT 11		42 - SHIELD		
	19 - 9/11 NEUTRAL		43 - BLACK 3		
CABLE # 4	20 - CCT 6		44 - WHITE 3		
1 - 8	21 - CCT 8		45 - SHIELD		
	22 - 6/8 NEUTRAL		46 - BLACK 4		
	23 - INTERCOM		47 - WHITE 4		
	24 - INTERCOM		48 - SHIELD		

ALARM PANEL DOOR



	ON	OFF
P1	45%	15%
P2	50%	20%
P3	66%	25%

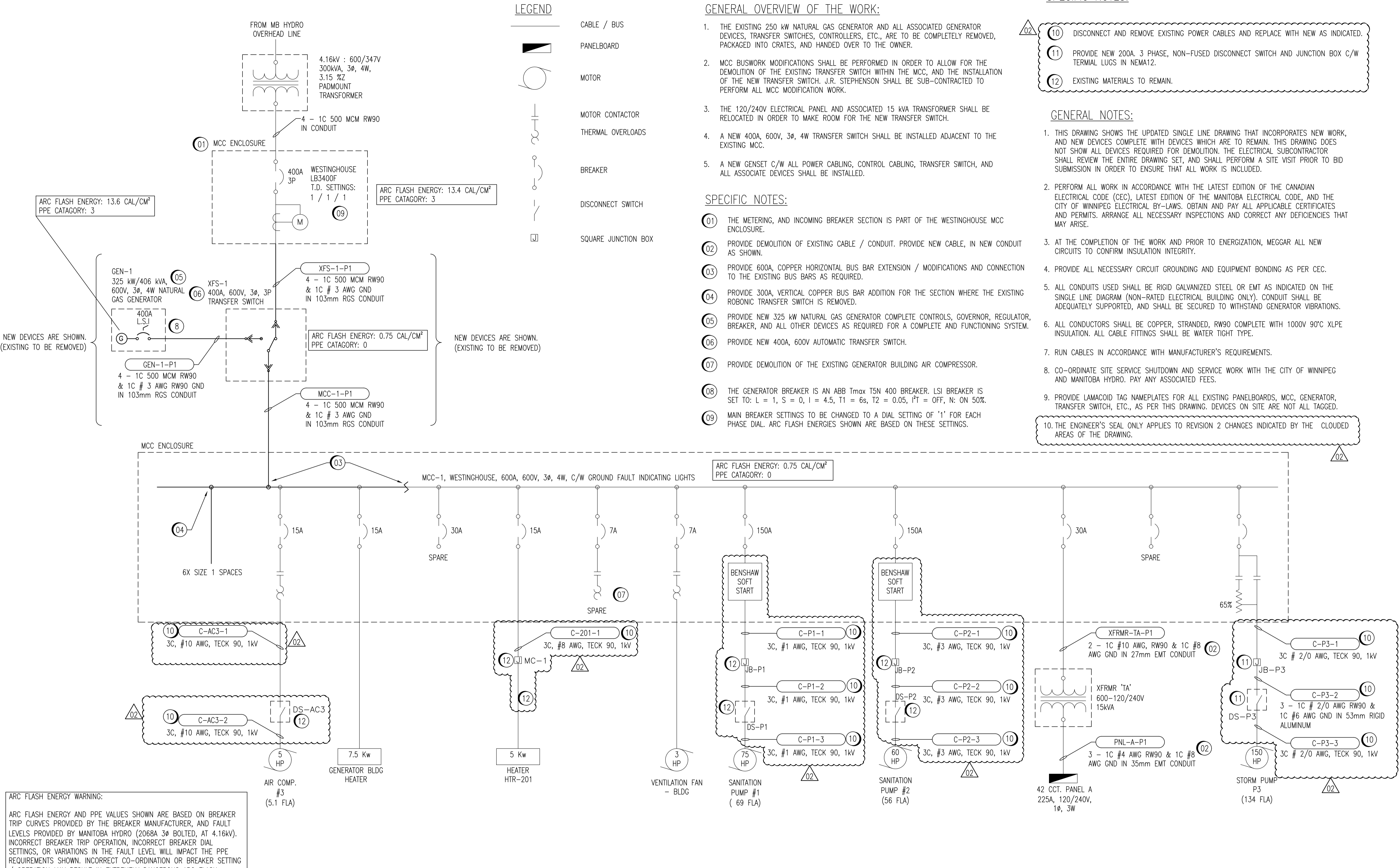
NOTE: PRECISION DIGITAL ALARM UNIT MUST HAVE FAILSAFE JUMPER J2 REMOVED FOR PROPER OPERATION OF RELAY CONTACTS



PANEL DIRECTORY

CCT # 1 - GEN. BUILDING LIGHT	14 - VENT FAN 106
2 - SOUTH WALL RECEPTACLE	15 - WET WELL LIGHTS
3 - WATER PIPE HEATER	16 - VENT FAN 106
4 - BATTERY CHARGER	17 - SPARE
5 - RECEPTACLE NORTH WALL	18 - STATION LIGHTS
6 - REFRIGERENT DRYER	19 - ENGINE EXERCISER
7 - SPARE	20 - STATION HATCH HEATER
8 - PUMPS 1, 2, 3 CONTROL	21 - SPARE
9 - SPARE	22 - INTERCOM PLUG
10 - ALARM PANEL	23 - SPARE
11 - SUMP PUMP	24 - ENGINE BLOCK HEATER
12 - SPARE	25 - TELEPHONE RECEPTACLE
13 - VENT FAN 105 - 2 SPEED	26 - SPARE

B.M. ELEV.	CITY OF WINNIPEG WATER AND WASTE ENGINEERING DIVISION	ENGINEER'S SEAL	THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION WATER & WASTE DEPARTMENT
DESIGNED BY PHILL PERKS	CHECKED BY PHILL PERKS	WINDSOR PARK LIFT STATION RENOVATION	SHEET OF
DRAWN BY TM	APPROVED BY	CONTROL SCHEMATICS	CITY DRAWING NUMBER
HOR. SCALE: VERTICAL: N.T.S.	RELEASED FOR CONSTRUCTION:	CONSULTANT DRAWING NO.	4174
1. ADDED DIGITAL ALARM DWG 97 07 CSN	DATE JANUARY 20, 1997	ORIGINAL DWG. # 1047	



ELECTRICAL SINGLE LINE DRAWING
 NTS

1044, 1046, 1048	SUPERCEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
06051-06052	MECHANICAL DRAWING SET
06090-06092	ELECTRICAL DRAWING SET
06044-06049	ELECTRICAL DRAWING SET
DRAWING NUMBER	REFERENCE DRAWINGS



GENERAL OVERVIEW OF THE WORK:

- THE EXISTING 250 kW NATURAL GAS GENERATOR AND ALL ASSOCIATED GENERATOR DEVICES, TRANSFER SWITCHES, CONTROLLERS, ETC., ARE TO BE COMPLETELY REMOVED, PACKAGED INTO CRATES, AND HANDED OVER TO THE OWNER.
- MCC BUSWORK MODIFICATIONS SHALL BE PERFORMED IN ORDER TO ALLOW FOR THE DEMOLITION OF THE EXISTING TRANSFER SWITCH WITHIN THE MCC, AND THE INSTALLATION OF THE NEW TRANSFER SWITCH. J.R. STEPHENSON SHALL BE SUB-CONTRACTED TO PERFORM ALL MCC MODIFICATION WORK.
- THE 120/240V ELECTRICAL PANEL AND ASSOCIATED 15 kVA TRANSFORMER SHALL BE RELOCATED IN ORDER TO MAKE ROOM FOR THE NEW TRANSFER SWITCH.
- A NEW 400A, 600V, 3Ø, 4W TRANSFER SWITCH SHALL BE INSTALLED ADJACENT TO THE EXISTING MCC.
- A NEW GENSET C/W ALL POWER CABLING, CONTROL CABLING, TRANSFER SWITCH, AND ALL ASSOCIATE DEVICES SHALL BE INSTALLED.

SPECIFIC NOTES:

- THE METERING, AND INCOMING BREAKER SECTION IS PART OF THE WESTINGHOUSE MCC ENCLOSURE.
- PROVIDE DEMOLITION OF EXISTING CABLE / CONDUIT. PROVIDE NEW CABLE, IN NEW CONDUIT AS SHOWN.
- PROVIDE 600A, COPPER HORIZONTAL BUS BAR EXTENSION / MODIFICATIONS AND CONNECTION TO THE EXISTING BUS BARS AS REQUIRED.
- PROVIDE 300A, VERTICAL COPPER BUS BAR ADDITION FOR THE SECTION WHERE THE EXISTING ROBONIC TRANSFER SWITCH IS REMOVED.
- PROVIDE NEW 325 kW NATURAL GAS GENERATOR COMPLETE CONTROLS, GOVERNOR, REGULATOR, BREAKER, AND ALL OTHER DEVICES AS REQUIRED FOR A COMPLETE AND FUNCTIONING SYSTEM.
- PROVIDE NEW 400A, 600V AUTOMATIC TRANSFER SWITCH.
- PROVIDE DEMOLITION OF THE EXISTING GENERATOR BUILDING AIR COMPRESSOR.
- THE GENERATOR BREAKER IS AN ABB Tmax T5N 400 BREAKER. LSI BREAKER IS SET TO: L = 1, S = 0, I = 4.5, T1 = 6s, T2 = 0.05, I²T = OFF, N: ON 50%.
- MAIN BREAKER SETTINGS TO BE CHANGED TO A DIAL SETTING OF '1' FOR EACH PHASE DIAL. ARC FLASH ENERGIES SHOWN ARE BASED ON THESE SETTINGS.

SPECIFIC NOTES:

- DISCONNECT AND REMOVE EXISTING POWER CABLES AND REPLACE WITH NEW AS INDICATED.
- PROVIDE NEW 200A, 3 PHASE, NON-FUSED DISCONNECT SWITCH AND JUNCTION BOX C/W TERMINAL LUGS IN NEMA12.
- EXISTING MATERIALS TO REMAIN.

GENERAL NOTES:

- THIS DRAWING SHOWS THE UPDATED SINGLE LINE DRAWING THAT INCORPORATES NEW WORK, AND NEW DEVICES COMPLETE WITH DEVICES WHICH ARE TO REMAIN. THIS DRAWING DOES NOT SHOW ALL DEVICES REQUIRED FOR DEMOLITION. THE ELECTRICAL SUBCONTRACTOR SHALL REVIEW THE ENTIRE DRAWING SET, AND SHALL PERFORM A SITE VISIT PRIOR TO BID SUBMISSION IN ORDER TO ENSURE THAT ALL WORK IS INCLUDED.
- PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE (CEC), LATEST EDITION OF THE MANITOBA ELECTRICAL CODE, AND THE CITY OF WINNIPEG ELECTRICAL BY-LAWS. OBTAIN AND PAY ALL APPLICABLE CERTIFICATES AND PERMITS. ARRANGE ALL NECESSARY INSPECTIONS AND CORRECT ANY DEFICIENCIES THAT MAY ARISE.
- AT THE COMPLETION OF THE WORK AND PRIOR TO ENERGIZATION, MEGGAR ALL NEW CIRCUITS TO CONFIRM INSULATION INTEGRITY.
- PROVIDE ALL NECESSARY CIRCUIT GROUNDING AND EQUIPMENT BONDING AS PER CEC.
- ALL CONDUITS USED SHALL BE RIGID GALVANIZED STEEL OR EMT AS INDICATED ON THE SINGLE LINE DIAGRAM (NON-RATED ELECTRICAL BUILDING ONLY). CONDUIT SHALL BE ADEQUATELY SUPPORTED, AND SHALL BE SECURED TO WITHSTAND GENERATOR VIBRATIONS.
- ALL CONDUCTORS SHALL BE COPPER, STRANDED, RW90 COMPLETE WITH 1000V 90°C XLPE INSULATION. ALL CABLE FITTINGS SHALL BE WATER TIGHT TYPE.
- RUN CABLES IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- CO-ORDINATE SITE SERVICE SHUTDOWN AND SERVICE WORK WITH THE CITY OF WINNIPEG AND MANITOBA HYDRO. PAY ANY ASSOCIATED FEES.
- PROVIDE LAMACOID TAG NAMEPLATES FOR ALL EXISTING PANELBOARDS, MCC, GENERATOR, TRANSFER SWITCH, ETC., AS PER THIS DRAWING. DEVICES ON SITE ARE NOT ALL TAGGED.
- THE ENGINEER'S SEAL ONLY APPLIES TO REVISION 2 CHANGES INDICATED BY THE CLOUDED AREAS OF THE DRAWING.

B.M. ELEV.	FIELD BOOK #:
POSTED TO LBIS	
DESIGNED BY D. GUEVARRA	CHECKED BY J. BOUCHARD
DRAWN BY F. AHMED	APPROVED BY J. BOUCHARD
02 ISSUED FOR CONSTRUCTION	23/11/17
01 RECORD DRAWING	09/03/06 EFB
00 ISSUED FOR CONSTRUCTION	08/01/18 AEO
NO. REVISIONS	DATE BY

KGS GROUP	
HOR. SCALE NTS	RELEASED FOR CONSTRUCTION
DATE 07/04/12	DATE
FILENAME: 06044-001_r02.dwg	

ENGINEER'S SEAL

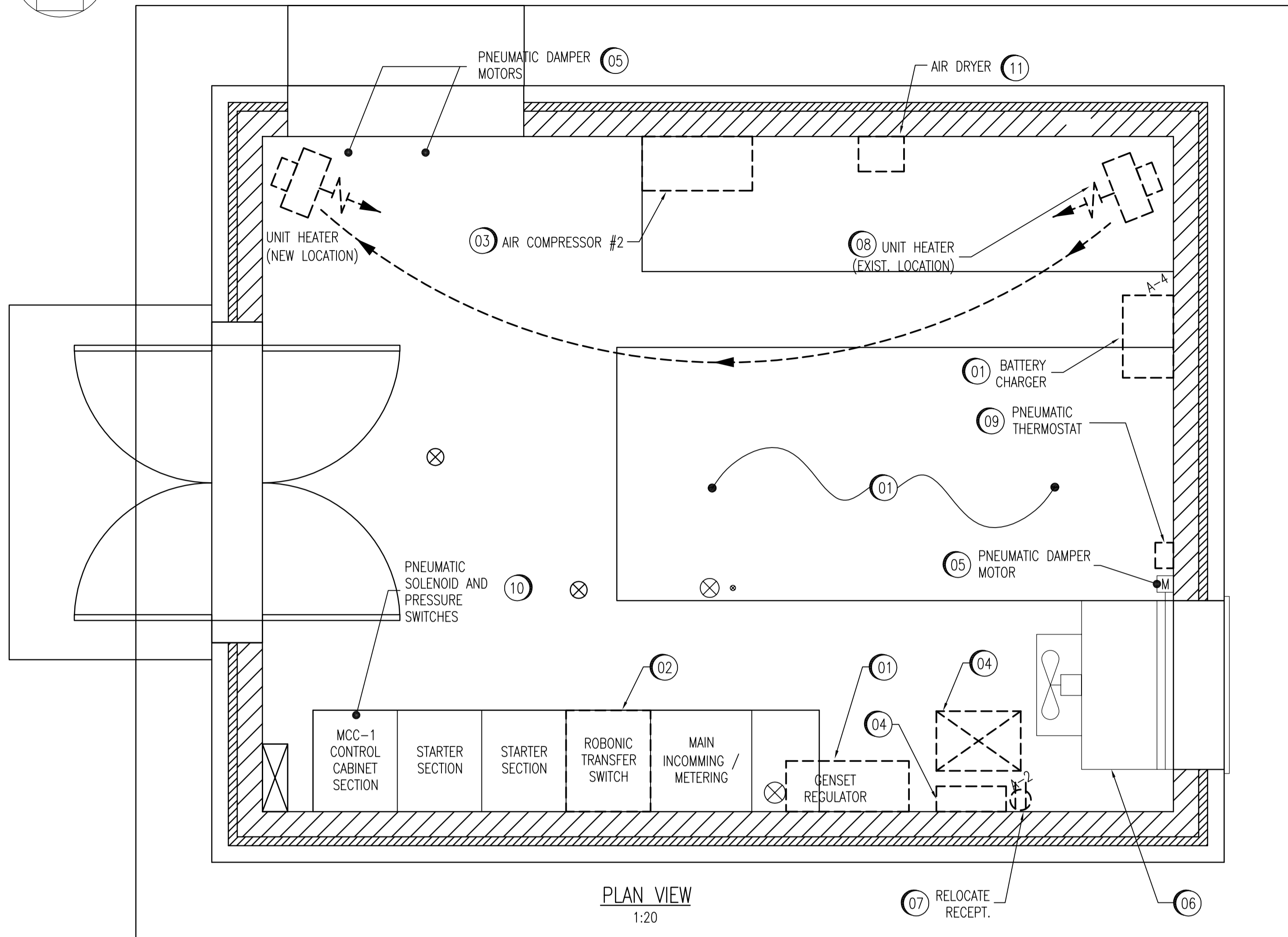
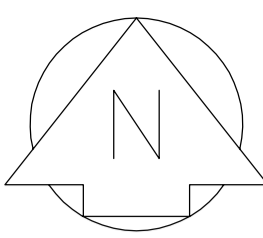
THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

WINDSOR PARK WASTEWATER PUMPING STATION
 GENERATOR UPGRADE
 DIAGRAM
 ELECTRICAL SINGLE LINE

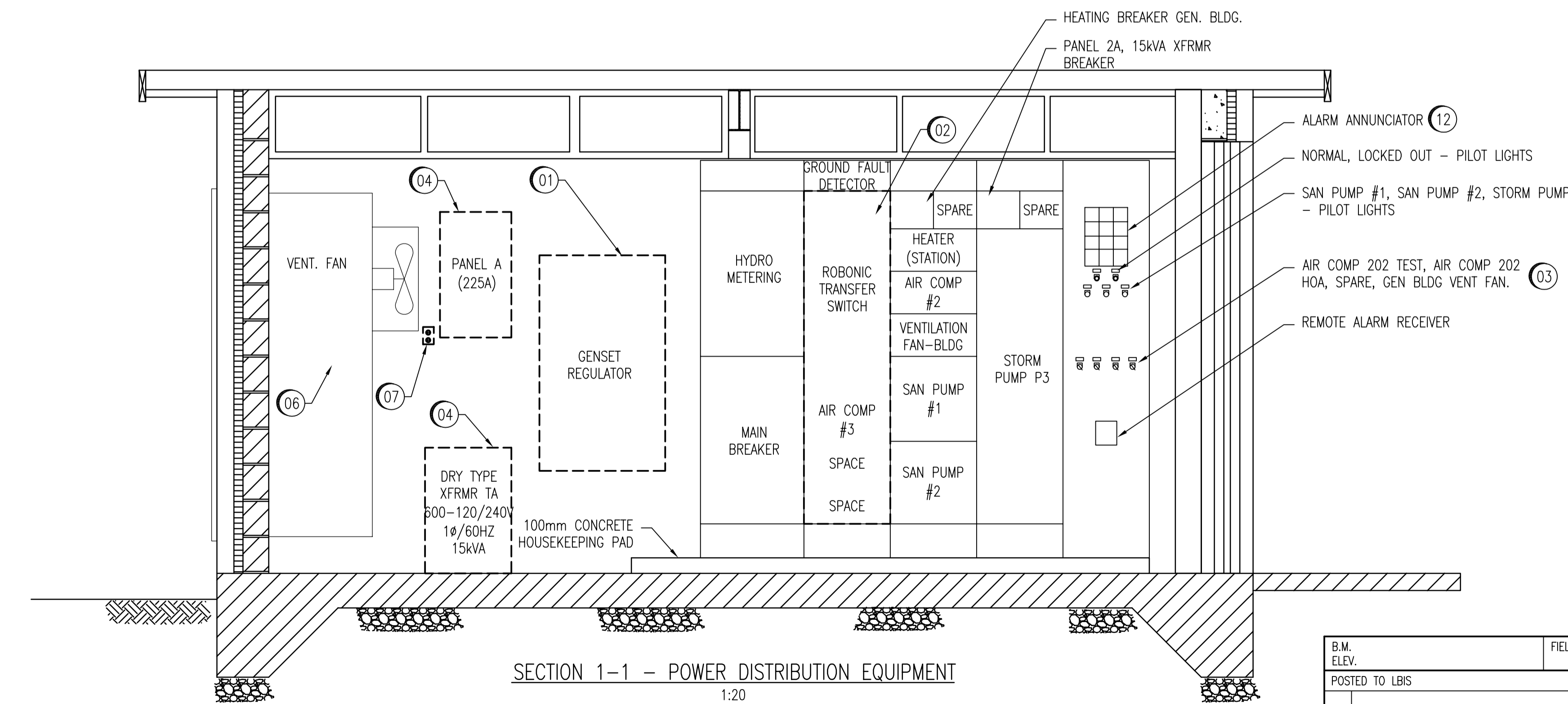
CITY DRAWING NUMBER: 06044

SHEET: 001 REV: 02 SIZE: D

BID OPPORTUNITY NO.



PLAN VIEW
1:20



SECTION 1-1 - POWER DISTRIBUTION EQUIPMENT
1:20

GENERAL OVERVIEW OF THE WORK:

1. THE EXISTING NATURAL GAS GENERATOR IS TO BE COMPLETELY REMOVED, AND REPLACED WITH A NEW NATURAL GAS GENERATOR. THE REMOVAL SHALL INCLUDE DISCONNECTING AND DISPOSING OF ALL CONTROL AND POWER CABLES TO THE GENERATOR, TO THE TRANSFER SWITCH, TO THE REGULATOR, AND FROM ANY GENERATOR RELATED CONTROL CABINET TO THE MCC MOUNTED CONTROLS / ALARM SECTION. THE ELECTRICAL SUBCONTRACTOR SHALL PROVIDE NEW CABLING FOR ALL GENERATOR RELATED DEVICES AS PART OF THE NEW GENERATOR PACKAGE. DO NOT RE-USE EXISTING POWER AND CONTROL CABLING.
2. THE TEMPORARY GENERATOR RENTED BY THE CITY OF WINNIPEG SHALL REMAIN ON SITE, AND CONNECTED AS LONG AS POSSIBLE IN ORDER TO ENSURE THAT BACKUP POWER IS MAINTAINED WHENEVER POSSIBLE. AS PART OF THE WORK, THE ELECTRICAL SUBCONTRACTOR SHALL DISCONNECT, AND REMOVE TEMPORARY GENERATOR CONNECTIONS, AND CABLING, AND SHALL TURN OVER THE TEMPORARY GENERATOR AND ASSOCIATED CABLING AND DEVICES TO THE CITY.
3. THE ELECTRICAL SUBCONTRACTOR SHALL PROVIDE A DETAILED WORK AND SHUTDOWN SCHEDULE TO THE CITY, AND TO THE CONTRACT ADMINISTRATOR FOR REVIEW, PRIOR TO ANY POWER SHUTDOWN. ALL ATTEMPTS MUST BE MADE TO MINIMIZE SHUTDOWN TIME, AND MINIMIZE THE TIME THAT A BACKUP GENERATOR IS NOT CONNECTED AT THE FACILITY. THE CITY RESERVES THE RIGHT TO REFUSE SHUTDOWN PROPOSALS SUBMITTED BY THE ELECTRICAL SUBCONTRACTOR, AND REQUIRE A DIFFERENT APPROACH TO THE WORK.

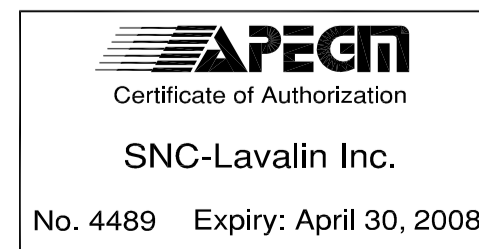
GENERAL NOTES:

1. PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE (CEC), LATEST EDITION OF THE MANITOBA ELECTRICAL CODE, AND THE CITY OF WINNIPEG ELECTRICAL BY-LAWS. OBTAIN AND PAY ALL APPLICABLE CERTIFICATES AND PERMITS. ARRANGE ALL NECESSARY INSPECTIONS AND CORRECT ANY DEFICIENCIES THAT MAY ARISE.

SPECIFIC NOTES:

- 01 PROVIDE DEMOLITION OF THE EXISTING 250 kW NATURAL GAS GENSET, INCLUDING THE GENSET CONTROLLER, REGULATOR, BREAKER, BAT. CHARGER, GOVERNOR, CABLING, AND CONDUIT, AND ALL OTHER ASSOCIATED EQUIPMENT.
- 02 PROVIDE DEMOLITION OF THE EXISTING GENERATOR ROBONIC TRANSFER SWITCH. PROVIDE ON-SITE BUS WORK MODIFICATIONS TO THE MCC SECTION IN ORDER TO EXTEND THE MCC BUS WORK INTO THIS SECTION (300 A VERTICAL BUS WORK, AND 600A HORIZONTAL). BUS WORK SHALL MATCH EXISTING BUSING WITHIN. THE INTENT IS THAT THIS SPACE SHALL BE MADE TO BE USEABLE TO FEED THE EXISTING AIR COMPRESSOR #3 STARTER, AND FOR FUTURE STARTERS, FUSED DISCONNECTS, ETC. THE EXISTING MCC MANUFACTURER IS WESTINGHOUSE, CLASS 11-350, STOCK ORDER NV-47509.
- 03 PROVIDE DEMOLITION OF COMPRESSOR 202 (ALSO KNOWN AS COMP. #2) CONTROLS AND INDICATION. REMOVE UNUSED CABLING. TAG CONTROLS AS "SPARE". PROVIDE DEMOLITION OF BUILDING VENTILATION FAN AND DAMPER CONTROLS. REMOVE UNUSED CABLING AND PROVIDE MODIFICATIONS TO THE MCC CONTROL AND ALARMS SECTION. TAG CONTROL ON PANEL DOOR AS "SPARE".
- 04 IF REQUIRED, RELOCATE THE EXISTING 225A, 120/240, 42 CCT. PANELBOARD (PANEL 2A) AND ASSOCIATED 15 kVA TRANSFORMER (XFRM TA) AND PROVIDE DEMOLITION OF THE EXISTING TRANSFORMER HOUSEKEEPING PAD. IF REQUIRED, PROVIDE NEW PAD FOR TRANSFORMER AT NEW LOCATION. PROVIDE NEW SOURCE CABLING FROM MCC. PROVIDE NEW, EXTEND OR ADJUST (AS REQUIRED) BRANCH CIRCUIT CABLING TO PANEL 2A. PROVIDE NEW, EXTEND OR ADJUST CONDUIT AS REQUIRED. PROVIDE ALL OTHER DEVICES AS REQUIRED IN ORDER TO ALLOW FOR PANEL AND TRANSFORMER RELOCATION.
- 05 PROVIDE DEMOLITION OF THE EXISTING PNEUMATIC DAMPER MOTORS. REMOVE ALL ASSOCIATED INSTRUMENTATION AIR LINES, AND ASSOCIATED DEVICES, VALVES, ACTUATORS, ETC. DAMPERS ARE TO REMAIN AND BE REUSED C/W NEW ELECTRIC ACTUATORS.
- 06 EXISTING BUILDING VENTILATION FAN.
- 07 RELOCATE EXISTING DUPLEX RECEPTACLE AND ASSOCIATED CABLING/CONDUIT. RELOCATION SHALL NOT INTERFERE WITH THE NEW LOCATION OF PANEL A.
- 08 RELOCATE THE EXISTING UNIT HEATER IN ORDER TO ACCOMMODATE MECHANICAL COMBUSTION AIR VENT. EXTEND CABLING AND CONDUIT AS REQUIRED.
- 09 PROVIDE DEMOLITION OF THE EXISTING PNEUMATIC THERMOSTAT AND ALL PNEUMATIC TUBING AND ASSOCIATED MATERIALS. REFER TO SUPERCEDED DRAWING SET 1044, 1046, 1048.
- 10 PROVIDE DEMOLITION OF THE EXISTING PNEUMATIC SOLENOID, PRESSURE SWITCHES, AND ALL PNEUMATIC TUBING AND CONNECTIONS.
- 11 PROVIDE DEMOLITION OF THE EXISTING AIR DRYER, WIRING, AND ALL ASSOCIATED DEVICES. MARK STARTER AS SPARE.
- 12 PROVIDE DEMOLITION OF PRESSURE SWITCH, ASSOCIATED WIRING TO LOW AIR PRESSURE ALARM. AND ALL PNEUMATIC TUBING. REMOVE LABEL AND MARK AS SPARE.

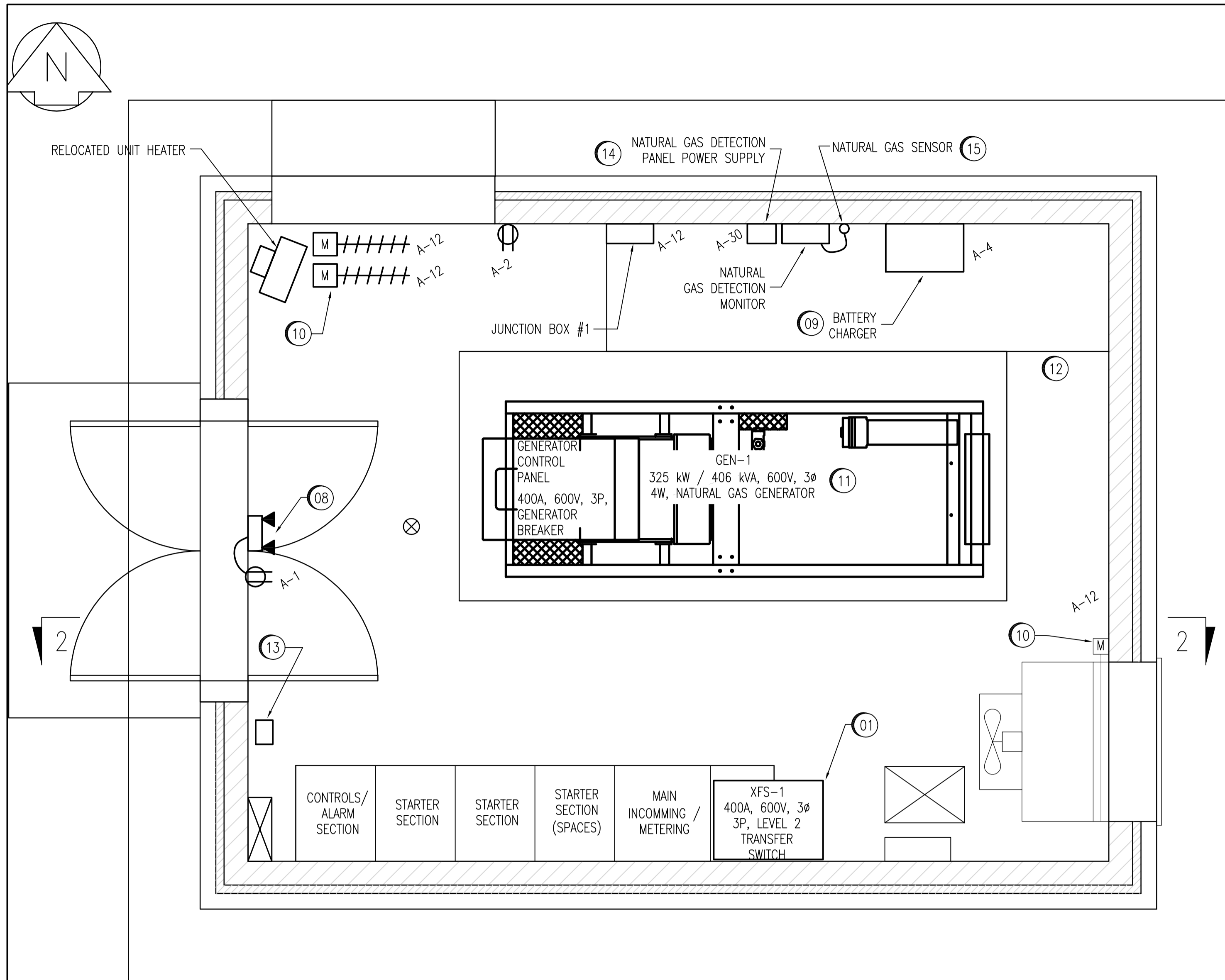
1044, 1046, 1048	SUPERCEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
06051-06052	MECHANICAL DRAWING SET
06090-06092	ELECTRICAL DRAWING SET
06044-06049	ELECTRICAL DRAWING SET
DRAWING NUMBER	REFERENCE DRAWINGS



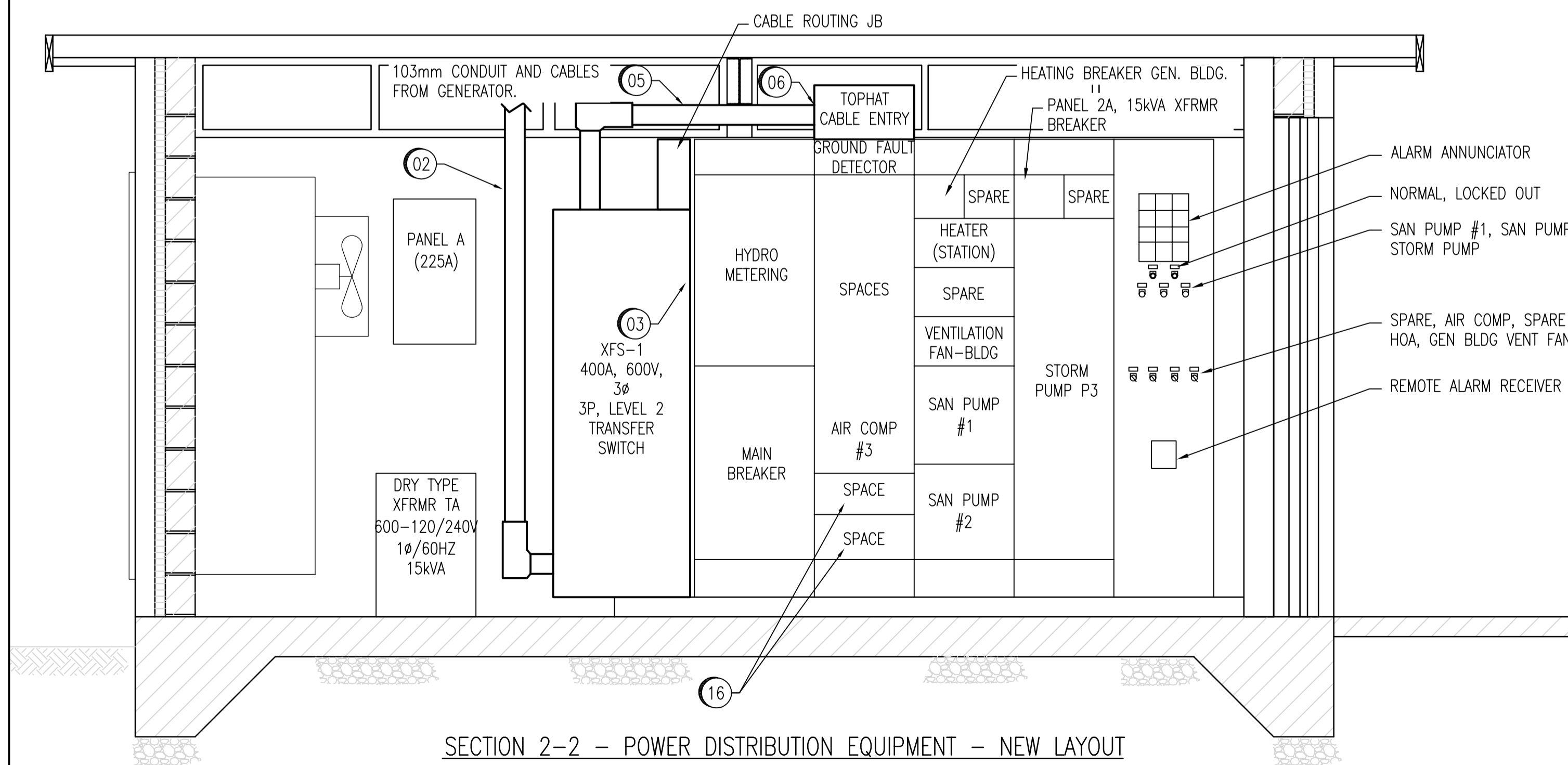
B.M. ELEV.	FIELD BOOK #:		SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080
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DESIGNED BY	D. BECKER	CHECKED BY	C. ASMUNDSON
DRAWN BY	D. BECKER	APPROVED BY	C. ASMUNDSON
HOR. SCALE	1:20	RELEASED FOR CONSTRUCTION	
VERTICAL	1:20	DATE	
01 RECORD DRAWING	09/03/06	DATE	07/04/12
00 ISSUED FOR CONSTRUCTION	08/01/18	DATE	
NO. REVISIONS	DATE	BY	FILENAME: 06045.dwg

ENGINEER'S SEAL
 ORIGINAL DRAWING SEALED BY:
 E. M. RYCKOWSKI
 SNC-LAVALIN
 2008/01/28
 REV. 00
 BID OPPORTUNITY NO. 66-2008

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT
WINDSOR PARK WASTEWATER PUMPING STATION
 GENERATOR UPGRADE
 PLAN AND SECTION
 ELECTRICAL BUILDING LAYOUT
 DEMOLITION
 CITY DRAWING NUMBER: 06045
 SHEET: 001
 REV: 01
 SIZE: D



PLAN VIEW - NEW LAYOUT
1:20



SECTION 2-2 - POWER DISTRIBUTION EQUIPMENT - NEW LAYOUT
NTS

GENERAL NOTES:

- PERFORM ALL WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE CANADIAN ELECTRICAL CODE (CEC), LATEST EDITION OF THE MANITOBA ELECTRICAL CODE, AND THE CITY OF WINNIPEG ELECTRICAL BY-LAWS. OBTAIN AND PAY ALL APPLICABLE CERTIFICATES AND PERMITS. ARRANGE ALL NECESSARY INSPECTIONS AND CORRECT ANY DEFICIENCIES THAT MAY ARISE.
 - AT THE COMPLETION OF THE WORK AND PRIOR TO ENERGIZATION, MEGGAR ALL NEW CIRCUITS TO CONFIRM INSULATION INTEGRITY.
 - PROVIDE ALL NECESSARY CIRCUIT GROUNDING AND EQUIPMENT BONDING AS PER CEC.
 - ALL CONDUITS USED SHALL BE RIGID GALVANIZED STEEL FOR INTERCONNECTIONS BETWEEN THE GENERATOR, TRANSFER SWITCH, AND MCC AND TRANSFER SWITCH. OTHER MISCELLANEOUS BRANCH CIRCUIT SHALL BE RUN IN EMT CONDUIT.
 - ALL CONDUCTORS SHALL BE COPPER, STRANDED, RW90 RUN IN CONDUIT, COMPLETE WITH 1000V 90°C XLPE INSULATION. ALL CABLE OR CONDUIT FITTINGS SHALL BE WATER TIGHT TYPE.
 - CO-ORDINATE SITE SERVICE SHUTDOWN AND SERVICE WORK WITH THE CITY OF WINNIPEG AND MANITOBA HYDRO. THE CITY OF WINNIPEG HAS STRICT GUIDELINES REGARDING DOWNTIME FOR THIS STATION.
 - CO-ORDINATE EXCAVATION WORK WITH ALL UTILITIES, AND WITH THE CITY OF WINNIPEG TO ENSURE THAT DAMAGE TO EXISTING SERVICES, OR SYSTEMS DOES NOT OCCUR. MAKE GOOD AND REPAIR ANY DAMAGES.
 - SUBCONTRACT THE SERVICES OF J.R. STEPHENSON TO PERFORM ALL MCC MEDICATIONS. ALL MODIFICATIONS SHALL BE DEPARTMENT OF LABOUR CERTIFIED. THE FOLLOWING WORK SHALL BE SUB-CONTRACTED TO J.R. STEPHENSON (RICHARD EARDLEY - 775-8561):
- MCC SECTION 1:
- REMOVE BUS ON SECONDARY OF HYDRO C.Ts
 - REMOVE WIREWAY
 - SUPPLY AND INSTALL NEUTRAL
 - SUPPLY AND INSTALL TWIN LUGS ON C.Ts
 - SUPPLY AND INSTALL BLANKING PLATES
- MCC SECTION 2:
- SUPPLY AND INSTALL TOP HAT
 - REMOVE ROBONIC TRANSFER SWITCH
 - SUPPLY AND INSTALL BUS (VERTICAL BUS) FOR STARTER IN BOTTOM OF CELL TO MAIN BUS
 - MODIFY MAIN BUS
 - SUPPLY AND INSTALL TWIN MAIN LUGS
 - SUPPLY AND INSTALL BLANKING PLATE(S)
 - REPAIR GROUND INDICATING LIGHTS.
 - CONNECT AIR COMP #3 STARTER BUS AND SPACES TO MCC BUS

SPECIFIC NOTES:

- PROVIDE NEW 400A, LEVEL 2 EMERGENCY POWER TRANSFER SWITCH. IF REQUIRED, PROVIDE NEW HOUSEKEEPING PAD.
- PROVIDE NEW 103mm RIGID GALVANIZED STEEL CONDUIT (C/A CABLING - REFER TO SINGLE LINE) FROM THE TRANSFER SWITCH TO THE GENERATOR. CONDUIT SHALL BE RUN ALONG THE CEILING, AND SHALL BE RUN DOWN FROM THE CEILING TO THE GENERATOR.
- PROVIDE NEW 103mm RIGID GALVANIZED STEEL CONDUIT AND CABLES FROM MCC TO TRANSFER SWITCH - NORMAL POWER INCOMING (REFER TO SINGLE LINE DRAWING).
- REMOVE EXISTING BREAKER. PROVIDE NEW BREAKER, SIZE AS SHOWN, TO MATCH THE EXISTING BREAKER TYPES, KAIC RATING, AND MANUFACTURER. THE EXISTING PANEL 2A IS A WESTINGHOUSE, NOB / NBA TYPE.
- PROVIDE NEW 103mm RIGID GALVANIZED STEEL CONDUIT AND CABLES FROM MCC TO TRANSFER SWITCH - MCC POWER (REFER TO SINGLE LINE DRAWING).
- PROVIDE MCC TOP HAT FOR POWER CABLE ENTRY INTO SECTION 2 OF THE EXISTING MCC. RE-CONFIGURE AND MODIFY EXISTING GROUND FAULT INDICATING LIGHTS.
- MODIFICATIONS TO THE EXISTING PANEL SCHEDULE IS SHOWN. PROVIDE NEW, COMPLETE, UPDATED TYPEWRITTEN PANEL DIRECTORY IN EXISTING PANELBOARD EXISTING SCHEDULES ARE TO REMAIN UNDERNEATH THE NEW SCHEDULE FOR FUTURE REFERENCE. TYPICAL.
- PROVIDE AN EMERGENCY BATTERY PACK COMPLETE WITH TWO REMOTE HEADS, LUMACELL RGS72-120V/2MT-9-AT. MOUNT BATTERY PACK ABOVE DOOR. PROVIDE DUPLEX RECEPTACLE ABOVE DOOR, AND PLUG BATTERY PACK INTO RECEPTACLE. RECEPTACLE SHALL BE CONNECTED TO THE LOCAL LIGHTING CIRCUIT.
- PROVIDE NEW BATTERIES, AND BATTERY CHARGER FOR NEW GENERATOR. PROVIDE NEW WIRING AND CONDUIT FROM PANEL 'A'.
- WIRE AND CONNECT NEW ELECTRIC MOTORIZED DAMPERS. TYPICAL.
- PROVIDE ELECTRICAL CABLING, CONDUIT, CONNECTIONS, ETC. FOR GENSET. REFER TO PANEL SCHEDULE, AND BLOCK DIAGRAM TO ELECTRICAL CONNECTION INFORMATION. CONNECTIONS AND INSTALLATION SHALL BE AS PER THE MANUFACTURER RECOMMENDATIONS.
- NEW LOCATION OF UNIT HEATER TO SUIT MECHANICAL SYSTEMS.
- WIRE AND CONNECT NEW THERMOSTAT.
- PROVIDE 50 WATT, 120 VAC : 24VAC POWER SUPPLY TRANSFORMER IN NEMA 4 BOX FOR POWER SUPPLY TO THE NATURAL GAS DETECTOR. PROVIDE ALL WIRING AND MATERIALS FOR THE NATURAL GAS DETECTION SYSTEM AS REQUIRED FOR A COMPLETE AND FUNCTIONING INSTALLATION.
- NATURAL GAS SENSOR MOUNTED AT HIGH LEVEL, 300mm FROM THE CEILING.
- FUTURE SPACE FOR TWO SIZE 1 STARTERS.

PANEL 2A: (EXISTING)						VOLTAGE: 120/240 BUS: 225A, COPPER BUS		PHASE: 1 WIRE: 3	
DESCRIPTION	CABLE NO	LOAD WATTS	BKR SIZE	CIRCUIT	BKR SIZE	LOAD WATTS	CABLE NO	DESCRIPTION	
BUILDING LIGHTING			15	1	2	15			RECEPTACLE LEFT OF PANEL
WATER PIPE HEATER			15	3	4	15	04		BATTERY CHARGER
RECEPTACLE NORTH WALL			15	5	6	15			SPARE
JB1 VENTILATION CONTROL			15	7	8	15			PUMPS 1, 2, & 3 CONTROL
SPARE			15	9	10	15			ALARM PANEL
SUMP PUMP			15	11	12	15	04		??? UNKNOWN
VENT FAN 2 SPEED #105			15	13	14	15			VENT FAN 106
WET WELL LIGHTS			15	15	16	2P			
ENGINE BLOCK HEATER			30	17	18	15			STATION LIGHTS
???			30	19	20	15			STATION HATCH HEATER
???			15	21	22	15			INTERCOM PLUG
???			15	23	24	15	04		GENSET ALTERNATOR HEATER
RECEPTACLE - TELEPHONE PLUG			15	25	26	15	04		GENSET OIL HEATER
SPACE				27	28	15			GENSET BAT. HEATER
SPACE				29	30	15			SPARE
SPACE				31	32				SPARE
SPACE				33	34				SPACE
SPACE				35	36				SPACE
SPACE				37	38				SPACE
SPACE				39	40				SPACE
SPACE				41	42				SPACE
HTG.	-	LTC.	-	MTR.	-	MISC.	-	TOTAL	- kW

1044, 1046, 1048	SUPERCEDED DRAWING SET
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06044-06049	ELECTRICAL DRAWINGS SET
DRAWING NUMBER	REFERENCE DRAWINGS

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SNC-Lavalin Inc.
No. 4489 Expiry: April 30, 2008

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POSTED TO LBIS					
01 RECORD DRAWING	09/03/06	EFB			
00 ISSUED FOR CONSTRUCTION	08/01/18	AEO			
NO. REVISIONS	DATE	BY			

ORIGINAL DRAWING SEALED BY:
C.G. ASMUNDSON
SNC-LAVALIN
2008/01/08
REV. 00

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

WINDSOR PARK WASTEWATER PUMPING STATION
GENERATOR UPGRADE
PLAN AND SECTION
ELECTRICAL BUILDING LAYOUT

CITY DRAWING NUMBER
06046

BID OPPORTUNITY NO. 66-2008

SHEET REV. SIZE
001 01 D

PHASE A = RED
 PHASE B = BLACK
 PHASE C = BLUE

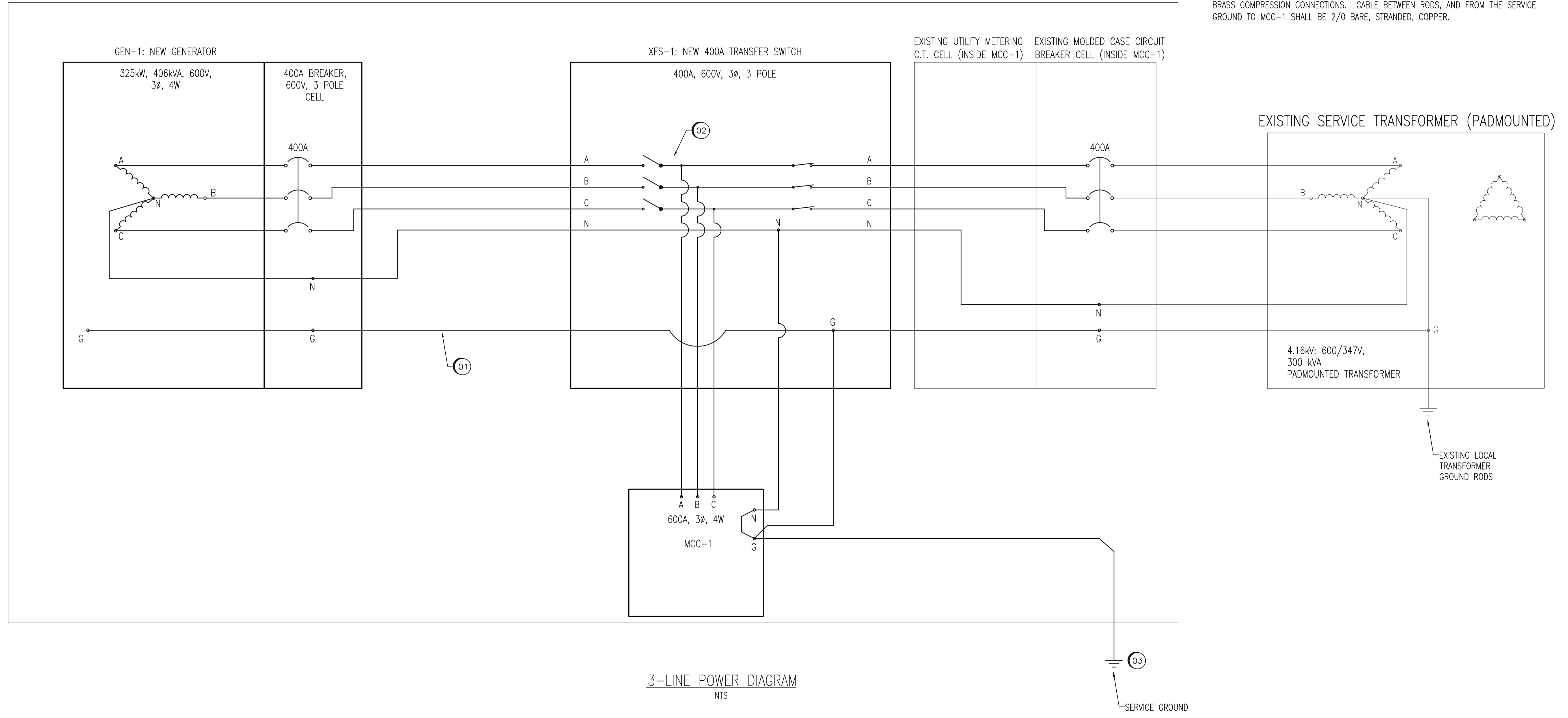
GENERAL NOTES:

1. ALL NON-CURRENT CARRYING METAL STRUCTURES, METAL FRAMES, METAL ENCLOSURES, ETC. SHALL BE BONDED TO GROUND WITH BONDING CONDUCTOR SIZED AS PER CEC TABLE 16.

SPECIFIC NOTES:

- 01 GROUNDING CONDUCTOR SHALL BE #3 COPPER, STRANDED, INSULATED, GREEN COLOUR UNLESS NOTED OTHERWISE. TYPICAL.
- 02 MECHANICALLY INTERLOCKED SWITCH TO PREVENT CLOSING IN TWO POWER SUPPLIES AT THE SAME TIME.
- 03 PROVIDE NEW SERVICE GROUND, AND GROUND CABLE TO MCC-1. SERVICE GROUND SHALL CONSIST OF FOUR (4) 3048mm X 19mm COPPER CLAD RODS, ORIENTED IN A SQUARE, ONE ROD LENGTH APART BURIED 300mm BELOW GRADE. CONNECTIONS SHALL BE CAD WELD, OR BRASS COMPRESSION CONNECTIONS. CABLE BETWEEN RODS, AND FROM THE SERVICE GROUND TO MCC-1 SHALL BE 2/0 BARE, STRANDED, COPPER.

EXISTING ELECTRICAL BUILDING



3-LINE POWER DIAGRAM
 NTS

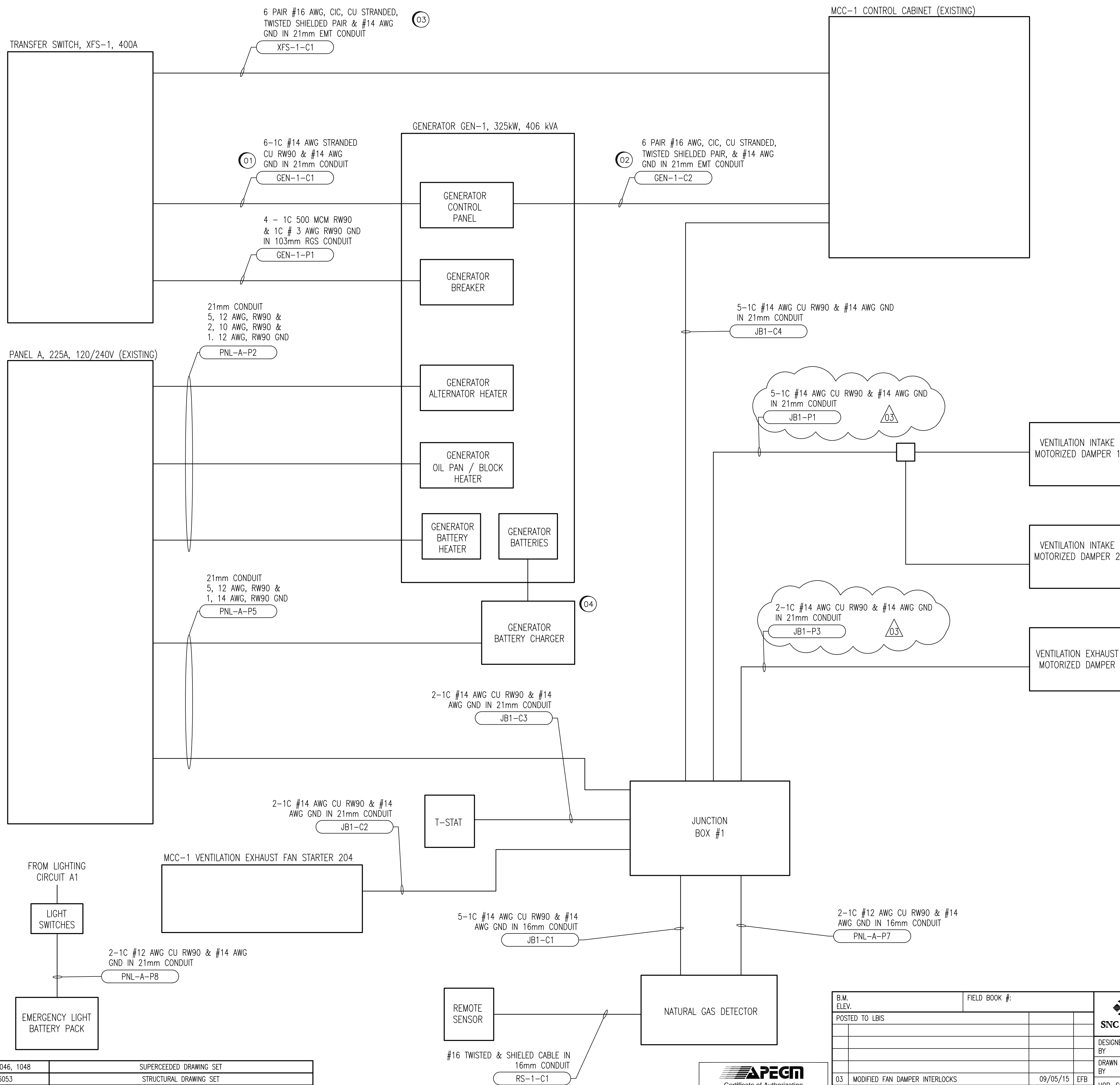
1044, 1046, 1048	SUPERCEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
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06044-06049	ELECTRICAL DRAWING SET
DRAWING NUMBER	REFERENCE DRAWINGS

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 Certificate of Authorization
SNC-Lavalin Inc.
 No. 4489 Expiry: April 30, 2008

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POSTED TO LBIS			ORIGINAL DRAWING SEALED BY: C. G. ASMUNDSON SNC-LAVALIN 2008/01/08 REV. 00
DESIGNED BY D. BECKER	CHECKED BY C. ASMUNDSON	HOR. SCALE NTS	RELEASED FOR CONSTRUCTION
DRAWN BY D. CALVERLEY	APPROVED BY C. ASMUNDSON	VERTICAL	DATE
01 RECORD DRAWING	09/03/06 EFB	DATE 07/04/30	DATE
00 ISSUED FOR CONSTRUCTION	08/01/18 AEO	FILENAME: 06047.dwg	
NO. REVISIONS	DATE BY		

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	
WINDSOR PARK WASTEWATER PUMPING STATION GENERATOR UPGRADE DIAGRAM ELECTRICAL 3-LINE	
CITY DRAWING NUMBER 06047	SHEET REV. SIZE 001 01 D
BID OPPORTUNITY NO. 66-2008	

A1 SIZE - 594mm x 841mm



GENERAL NOTES:

- BOTH ENDS OF EACH CABLE SHALL BE TAGGED WITH THE CABLE NUMBER TAG, PLUS THE USE OF EACH WIRE OR SET OF WIRES WITHIN EACH CABLE. IE/ - SPARE, "GENERATOR RUN", ETC.
- ALL DEVICES SHOWN ARE NEW AND PROVIDED BY THE ELECTRICAL SUBCONTRACTOR AS PART OF THIS CONTRACT, UNLESS SPECIFICALLY NOTED OTHERWISE.

SPECIFIC NOTES:

- 2 WIRES (PLUS GROUND) ARE USED FOR CONTROL OF THE GENERATOR AND GENERATOR STARTUP DURING UTILITY POWER LOSS. THE FOUR (4) REMAINING WIRES SHALL BE MARKED AS "SPARE". PROVIDE THE CABLE IDENTIFICATION TAG AT BOTH ENDS OF THE CABLE.
- 1 PAIR, #16 CIC, SHALL BE CONNECTED FROM THE GENERATOR CONTROLLER "RUNNING SIGNAL" OUTPUT TO MCC-1, CONTROL AND ALARM SECTION. CONNECT TO EXISTING TERMINALS. OTHER WIRES (5 PAIRS OF SPARES) SHALL BE MARKED AS "SPARE" ON BOTH ENDS OF THE CABLE. PROVIDE THE CABLE IDENTIFICATION TAG AT BOTH ENDS OF THE CABLE.
- SIX (6) PAIRS SHALL BE MARKED AS "SPARE" ON BOTH ENDS OF THE CABLE. PROVIDE THE CABLE IDENTIFICATION TAG AT BOTH ENDS OF THE CABLE.
- PROVIDE DC BATTERY CABLES FROM CHARGER TO BATTERIES.

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1044, 1046, 1048	SUPERCEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
06051-06052	MECHANICAL DRAWING SET
06090-06092	ELECTRICAL DRAWING SET
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BLOCK DIAGRAM
 NTS

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	DRAWN BY D. BECKER	APPROVED BY C. ASMUNDSON	ORIGINAL DRAWING SEALED BY: E. M. RYCZKOWSKI SNC-LAVALIN 2008/01/28 REV. 00
03 MODIFIED FAN DAMPER INTERLOCKS	09/05/15	EFB	HOR. SCALE NTS VERTICAL
02 VENTILATION FAN STARTUP SEQUENCE MODIFIED	09/03/06	EFB	
01 RECORD DRAWING	09/03/06	EFB	RELEASED FOR CONSTRUCTION
00 ISSUED FOR CONSTRUCTION	08/01/18	AEO	DATE
NO. REVISIONS	DATE	BY	DATE

FILENAME: 06048.dwg

THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

WINDSOR PARK WASTEWATER PUMPING STATION
 GENERATOR UPGRADE
 DIAGRAM
 ELECTRICAL GENERATOR CONNECTION

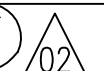
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BID OPPORTUNITY NO. 66-2008

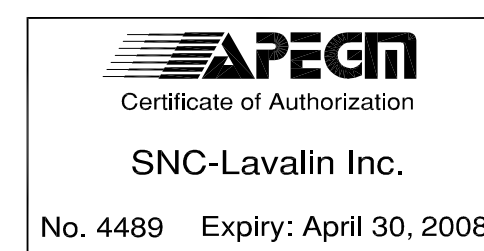
GENERAL NOTES:


1. CABLE LENGTH IS APPROXIMATE ONLY AND IS NOT TO BE CONSTRUED AS ACCURATE.

CABLE LIST


CABLE #	SOURCE	DESTINATION	VOLTS	CABLE TYPE	LENGTH (MTRS)
XFS-1-P1	MOTOR CONTROL CENTER MCC-1	GENERATOR TRANSFER SWITCH XFS-1	600V	4 - 1C 500 MCM RW90 & 1C #3 AWG GND IN 103mm RGS CONDUIT	5
GEN-1-P1	GENERATOR TRANSFER SWITCH XFS-1	GENERATOR	600V	4 - 1C 500 MCM RW90 & 1C #3 AWG GND IN 103mm RGS CONDUIT	11
MCC-1-P1	GENERATOR TRANSFER SWITCH XFS-1	MOTOR CONTROL CENTER MCC-1	600V	4 - 1C 500 MCM RW90 & 1C #3 AWG GND IN 103mm RGS CONDUIT	5
XFRMR-TA-P1	MOTOR CONTROL CENTER MCC-1	TRANSFORMER TA	600V	2 - 1C #10 AWG RW90 & 1C #8 AWG GND IN 27mm EMT CONDUIT	11
PNL-A-P1	TRANSFORMER TA	PANEL A	240V	3 - 1C #4 AWG RW90 & 1C #8 AWG GND IN 35mm EMT CONDUIT	3
PNL-A-P2	PANEL A	GENERATOR ALTERNATOR HEATER	120V	5 - 1C #12 AWG RW90 & 2 - 1C #10 AWG RW90 & #12 AWG GND IN 21mm EMT CONDUIT	15
		GENERATOR OIL PAN / BLOCK HEATER	120V		
		GENERATOR BATTERY HEATER	120V		
PNL-A-P5	PANEL A	GENERATOR BATTERY CHARGER	120V	5 - 1C #12 AWG RW90 & #14 AWG GND IN 21mm EMT CONDUIT	15
		JUNCTION BOX #1	120V		
PNL-A-P7	JUNCTION BOX #1	NATURAL GAS DETECTOR	24V	2 - 1C #12 AWG RW90 & #14 AWG GND IN 16mm EMT CONDUIT	10
PNL-A-P8	PANEL A	EMERGENCY BATTERY PACK	120V	2 - 1C #12 AWG RW90 & #14 AWG GND IN 21mm EMT CONDUIT	10
RS-1-C1	NATURAL GAS MONITOR	REMOTE SENSOR	-	#16 TWISTED & SHIELDED CABLE IN 16mm CONDUIT	3
JB1-P1	JUNCTION BOX #1	VENTILATION INTAKE MOT. DAMPER #1	120V	5 - 1C #14 AWG RW90 & #14 AWG GND IN 21mm EMT CONDUIT 	10
		VENTILATION INTAKE MOT. DAMPER #2	120V		
JB1-P3	JUNCTION BOX #1	VENTILATION EXHAUST MOT. DAMPER	120V	2 - 1C #14 AWG RW90 & #14 AWG GND IN 21mm EMT CONDUIT	10
JB1-C1	JUNCTION BOX #1	NATURAL GAS DETECTOR	120V	5 - 1C #14 AWG RW90 & #14 AWG GND IN 16mm EMT CONDUIT	10
JB1-C2	JUNCTION BOX #1	MCC-1 VENTILATION EXHAUST STARTER	120V	2 - 1C #14 AWG RW90 & #14 AWG GND IN 21mm EMT CONDUIT	10
JB1-C3	JUNCTION BOX #1	VENTILATION THERMOSTAT	120V	2 - 1C #14 AWG RW90 & #14 AWG GND IN 21mm EMT CONDUIT	10
JB1-C4	JUNCTION BOX #1	MCC-1 CONTROLS HAND-OFF-AUTO	120V	5 - 1C #14 AWG RW90 & #14 AWG GND IN 21mm EMT CONDUIT	10
GEN-1-C1	GENERATOR GEN-1	GENERATOR TRANSFER SWITCH XFS-1	120V	6 - 1C #14 AWG STRANDED CU RW90 & #14 AWG GND IN 21mm EMT CONDUIT	12
GEN-1-C2	GENERATOR GEN-1	MCC-1 CONTROL / ALARMS SECTION	120V	6 PAIR #16 AWG, CIC, CU STRANDED, TWISTED SHIELDED PAIR, & #14 AWG GND IN 21mm EMT CONDUIT	12
XFS-1-C1	GENERATOR TRANSFER SWITCH XFS-1	MCC-1 CONTROL / ALARMS SECTION	120V	6 PAIR #16 AWG, CIC, CU STRANDED, TWISTED SHIELDED PAIR, & #14 AWG GND IN 21mm EMT CONDUIT	11

1044, 1046, 1048	SUPERCEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
06051-06052	MECHANICAL DRAWING SET
06090-06092	ELECTRICAL DRAWING SET
06044-06049	ELECTRICAL DRAWING SET
DRAWING NUMBER	REFERENCE DRAWINGS



B.M. ELEV.	FIELD BOOK #:	 SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	
POSTED TO LBIS		DESIGNED BY D. BECKER	CHECKED BY C. ASMUNDSON
		DRAWN BY D. CALVERLEY	APPROVED BY C. ASMUNDSON
02 MODIFIED FAN DAMPER INTERLOCKS	09/05/15	EFB	HOR. SCALE NTS
01 RECORD DRAWING	09/03/06	EFB	VERTICAL
00 ISSUED FOR CONSTRUCTION	08/01/18	AEO	RELEASED FOR CONSTRUCTION
NO. REVISIONS	DATE	BY	DATE
			DATE 07/04/30
			FILENAME: 06049.dwg

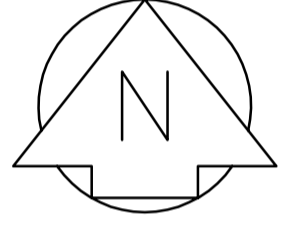
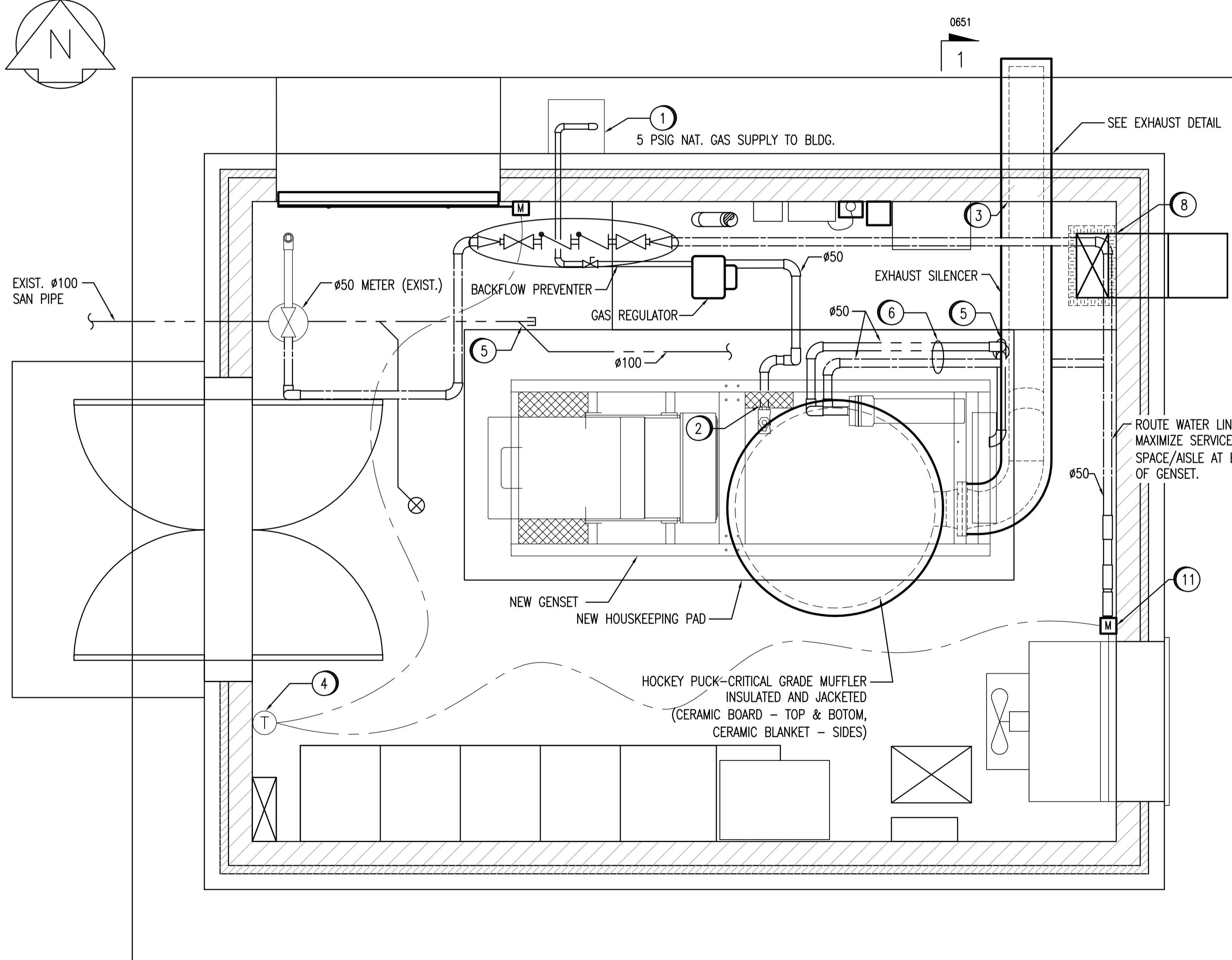
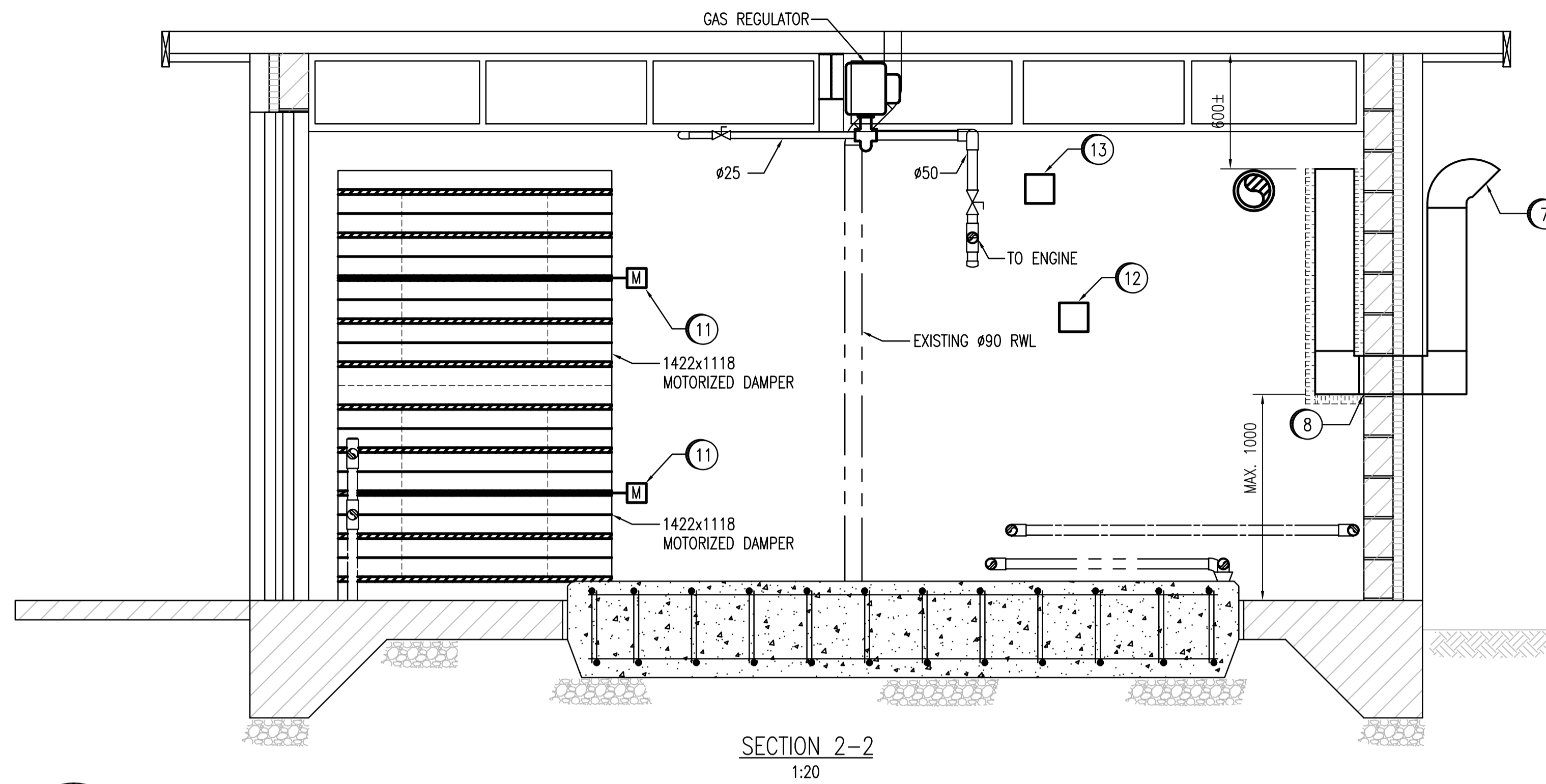
ENGINEER'S SEAL
 ORIGINAL DRAWING
 SEALED BY:
 C.G. ASMUNDSON
 SNC-LAVALIN
 2008/01/08
 REV. 00


THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

WINDSOR PARK WASTEWATER PUMPING STATION
 GENERATOR UPGRADE
 SCHEDULE
 ELECTRICAL CABLE LIST

CITY DRAWING NUMBER	SHEET	REV.	SIZE
06049	001	02	D

BID OPPORTUNITY
 NO. 66-2008



2
0651

2
0651

GENERAL NOTES:

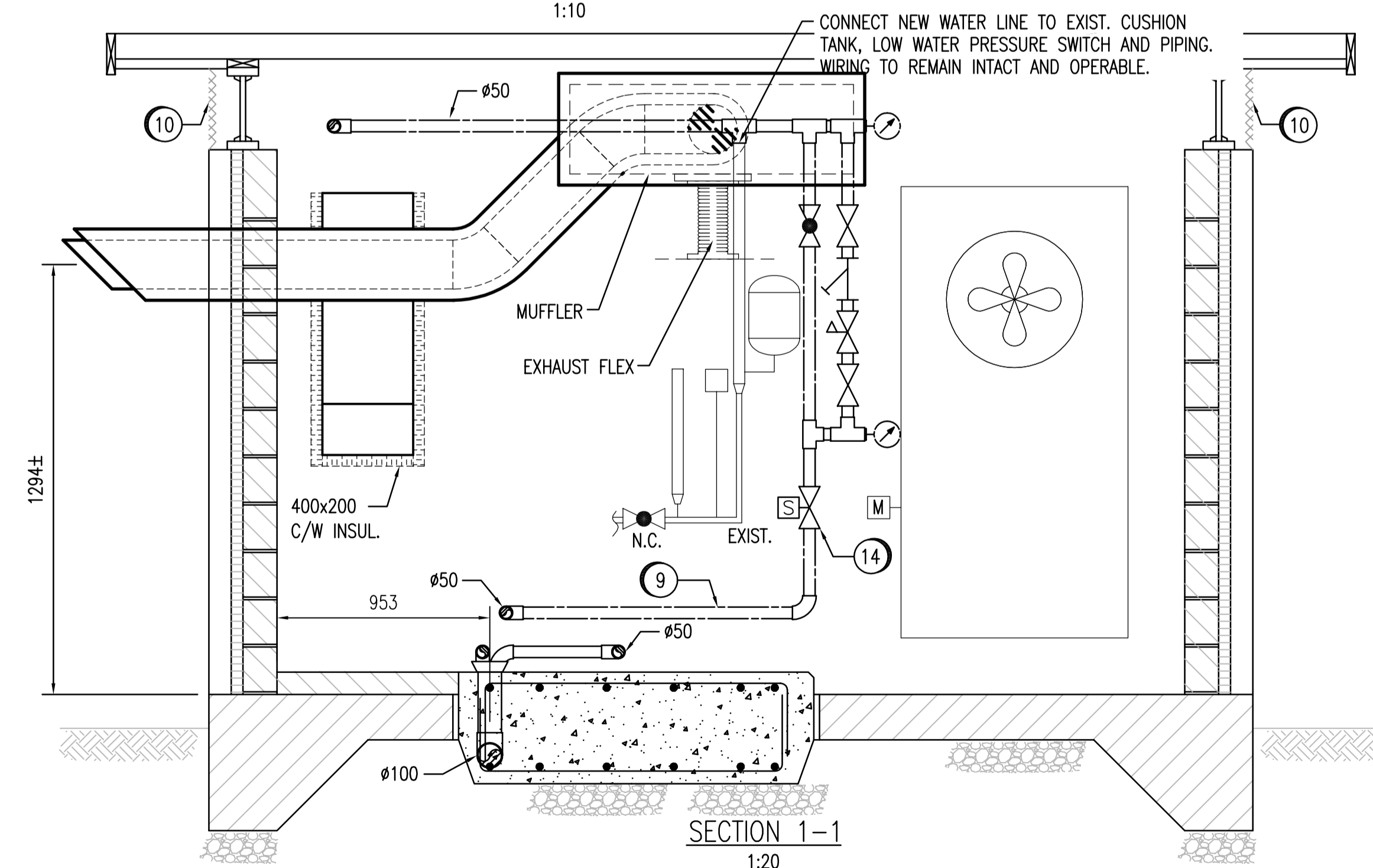
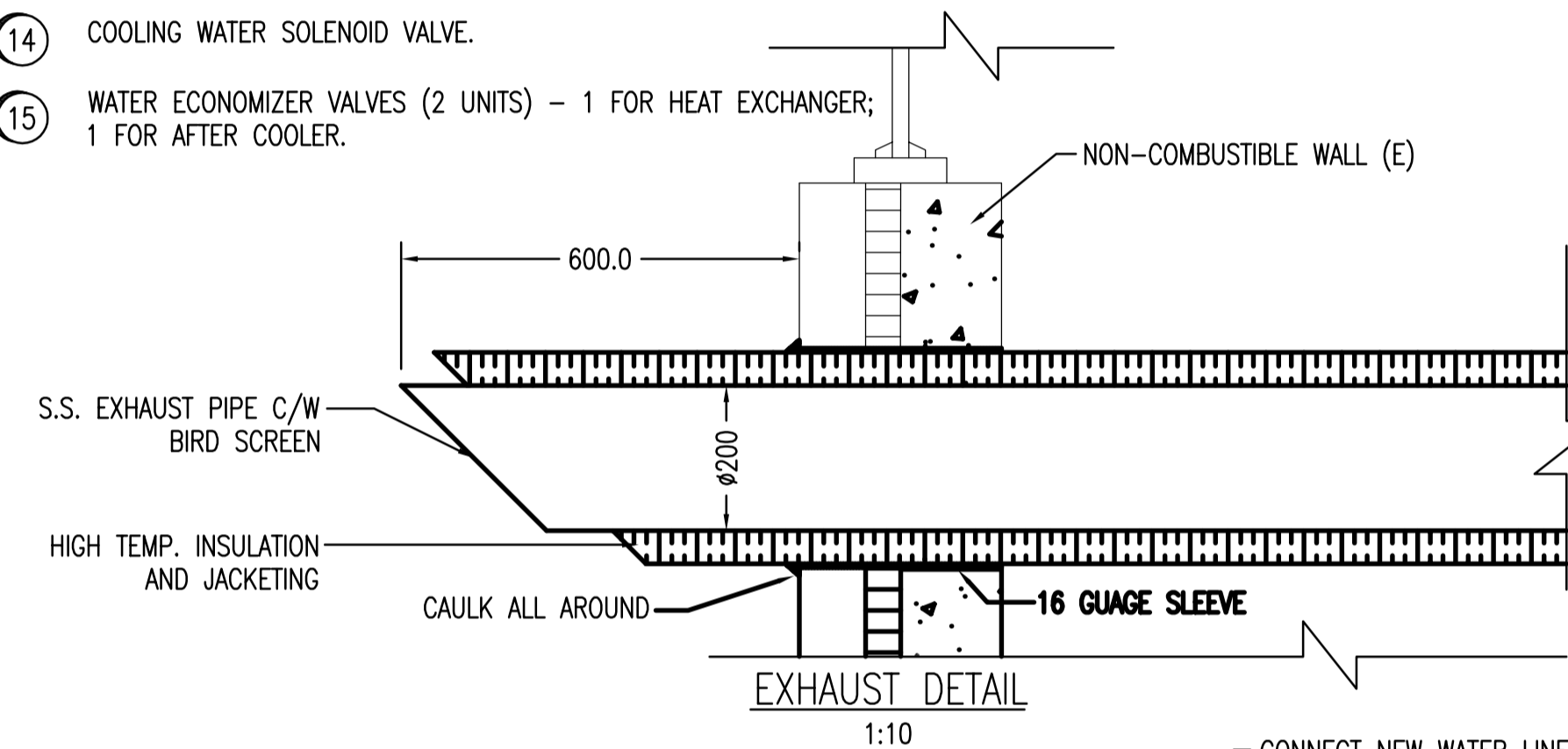
1. EXHAUST SILENCER AND FLEX ARE TO BE SUPPLIED SEPARATELY BY GENERATOR SET MANUFACTURER.

SPECIFIC NOTES:

- ① GAS METER TO BE RELOCATED OUTSIDE OF BUILDING BY OTHERS. CONTRACTOR TO CONFIRM LOCATION WITH CITY OF WINNIPEG AND GAS COMPANY.
- ② NEW 25mm GAS LINE TO ENTER BUILDING THROUGH EXISTING HOLE IN WALL. PATCH TO MATCH EXISTING WALL. NEW AUTOMATIC GAS SHUT OFF VALVE INSTALLED AT GENSET GAS INLET.
- ③ NEW 219mm EXHAUST PIPING TO EXIT BUILDING THROUGH EXISTING HOLE IN WALL. ENLARGE HOLE AS REQUIRED. PATCH TO MATCH EXISTING WALL.
- ④ NEW JOHNSON CONTROLS T26 120V LINE VOLTAGE THERMOSTAT. SET POINT TO BE 30°C TO TURN ON FAN.
- ⑤ NEW 100mm FLOOR DRAIN C/W CUP. CONNECT NEW 100mm DRAIN PIPE TO EXISTING SANITARY LINE. PROVIDE 25mm THICK INSULATION 150mm LENGTH EACH SIDE OF GENSET FOUNDATION SLAB EDGE.
- ⑥ CONNECT NEW 50mm WATER PIPING TO GENERATOR AFTERCOOLER. PIPE RETURN WATER TO NEW FLOOR DRAIN. PROVIDE VIBRATION ISOLATION (FLEX CONNECTORS) AS REQUIRED. INSULATE AND HEAT TRACE.
- ⑦ NEW 400x200 COMBUSTION AIR INTAKE DUCT C/W BIRD SCREEN.
- ⑧ ENTRY LOCATION OF COMBUSTION AIR INTAKE DUCT TO BE DETERMINED BY THE DEMOLITION OF ONE CONCRETE BLOCK.
- ⑨ CONNECT NEW 50mm WATER PIPING TO GENERATOR HEAT EXCHANGER. PIPE RETURN WATER TO NEW FLOOR DRAIN.
- ⑩ REPLACE EXISTING WINDOW COVERING WITH ALUMINIUM EXPANDED METAL MESH AND FRAMES MATCHED TO ADJACENT LIBRARY.
- ⑪ DAMPER ACTUATOR C/W SPRING RETURN FAIL SAFE, BELIMO MODEL AF120-S.
- ⑫ CH4 STAND-ALONE MONITOR C/W REMOTE CONFIGURATION. VULCAIN MODEL VA201MQ1CH4-RS.
- ⑬ VULCAIN REMOTE SENSOR. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
- ⑭ COOLING WATER SOLENOID VALVE.
- ⑮ WATER ECONOMIZER VALVES (2 UNITS) - 1 FOR HEAT EXCHANGER; 1 FOR AFTER COOLER.

LEGEND

- NORMALLY OPEN GLOBE VALVE
- NORMALLY CLOSED GLOBE VALVE
- CONTROL VALVE
- PRESSURE REDUCING VALVE
- GAUGE
- STRAINER
- CHECK VALVE
- THERMOSTAT
- REDUCER
- CONTROL LINE
- SOLENOID VALVE



RECORD DRAWING

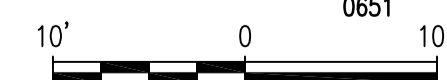
BASED ON CONTRACTOR MARK-UPS OF CONSULTANT DRAWINGS AND/OR ADDENDA OR CHANGE NOTICE ITEMS INCORPORATED

1042	SUPERCEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
06052	MECHANICAL DRAWING SET
06090-06092	ELECTRICAL DRAWING SET
06044-06049	ELECTRICAL DRAWING SET
DRAWING NUMBER	REFERENCE DRAWINGS

PLAN - GENERATOR BUILDING

1:20

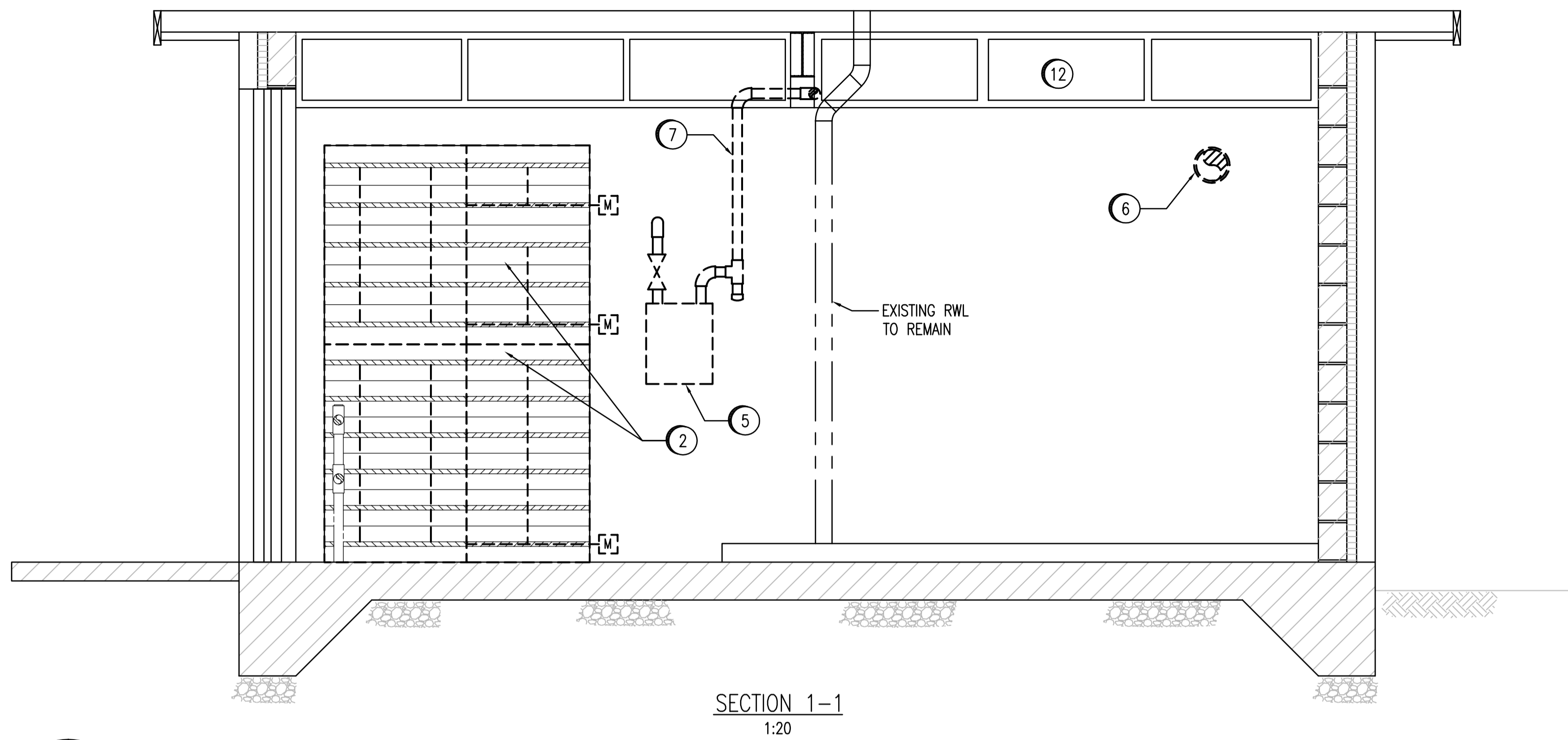
1" = 10'



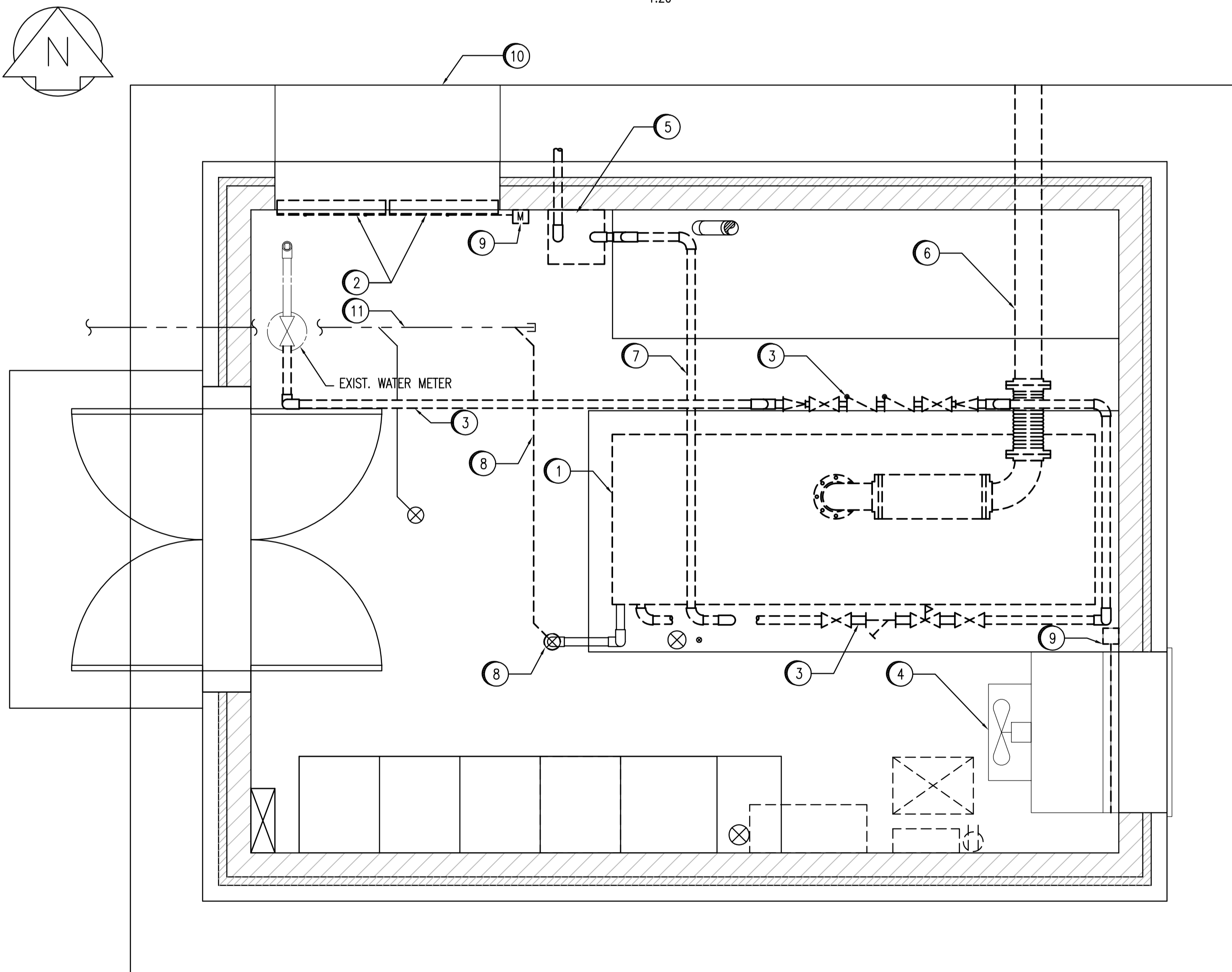
1" = 20'



B.M. ELEV.	FIELD BOOK #:		SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	ENGINEER'S SEAL	THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT
POSTED TO LBIS				DESIGNED BY S. NORSWORTHY	
		DRAWN BY C. FETTERLY	APPROVED BY ASMUNDSON	2008-01-18	WINDSOR PARK WASTEWATER PUMPING STATION GENERATOR UPGRADE PLAN & SECTIONS MECHANICAL LAYOUT MODIFICATIONS
01 RECORD DRAWING	09/03/09 CAF	DATE 07/07/12	RELEASED FOR CONSTRUCTION	00	
00 ISSUED FOR CONSTRUCTION	08/01/18 AEO	DATE	DATE		CITY DRAWING NUMBER 06051
NO. REVISIONS	DATE BY	FILENAME: 06051.dwg			



SECTION 1-1
1:20



PLAN - GENERATOR BUILDING
1:20

1" = 20'

GENERAL NOTES:

- ASBESTOS CONTAINING MATERIAL HAS BEEN IDENTIFIED ON THE ENGINE EXHAUST PIPING. ASBESTOS ABATEMENT WORK TO BE CARRIED OUT BY ABATEMENT CONTRACTOR AS OUTLINED IN THE ASBESTOS SPECIFICATIONS.

SPECIFIC NOTES:

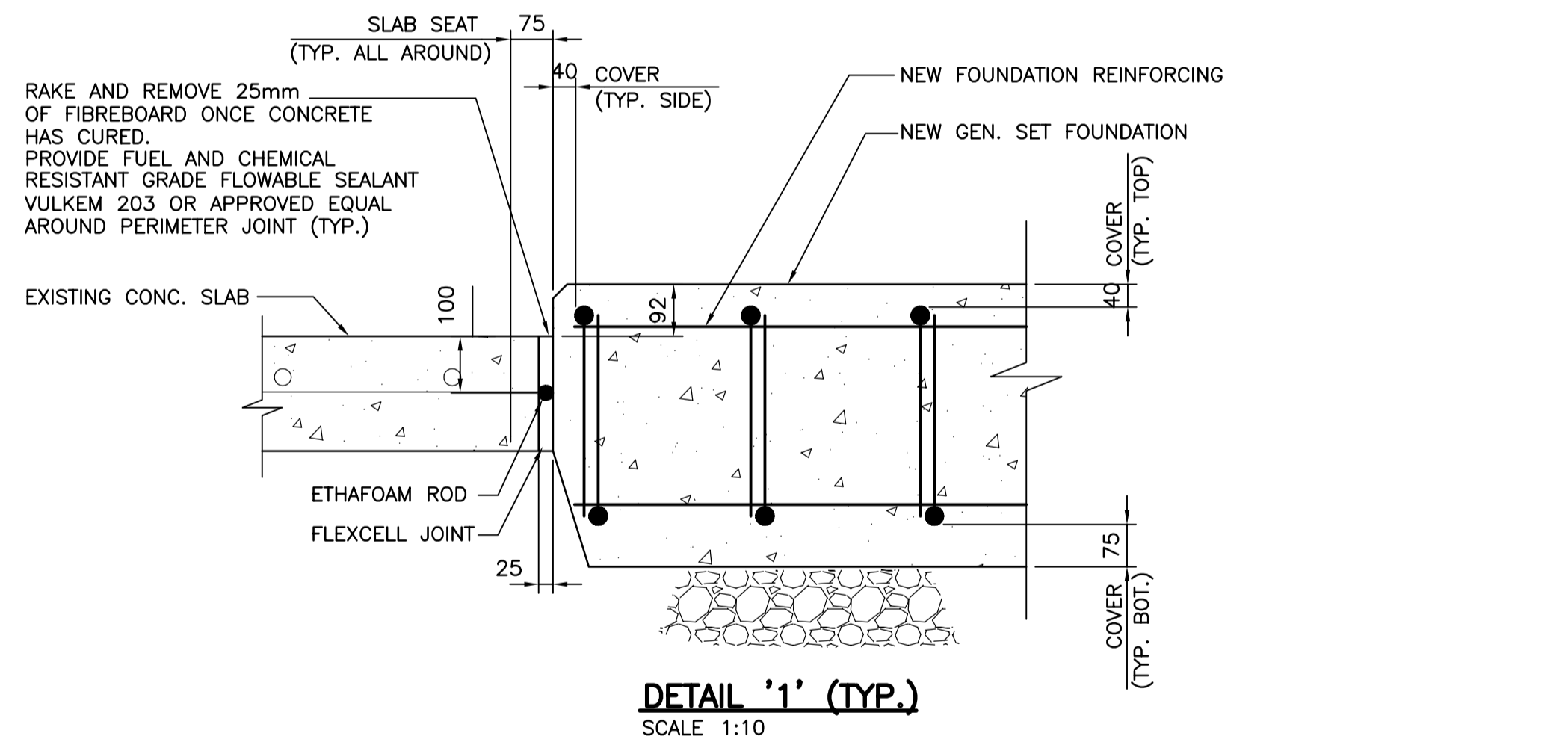
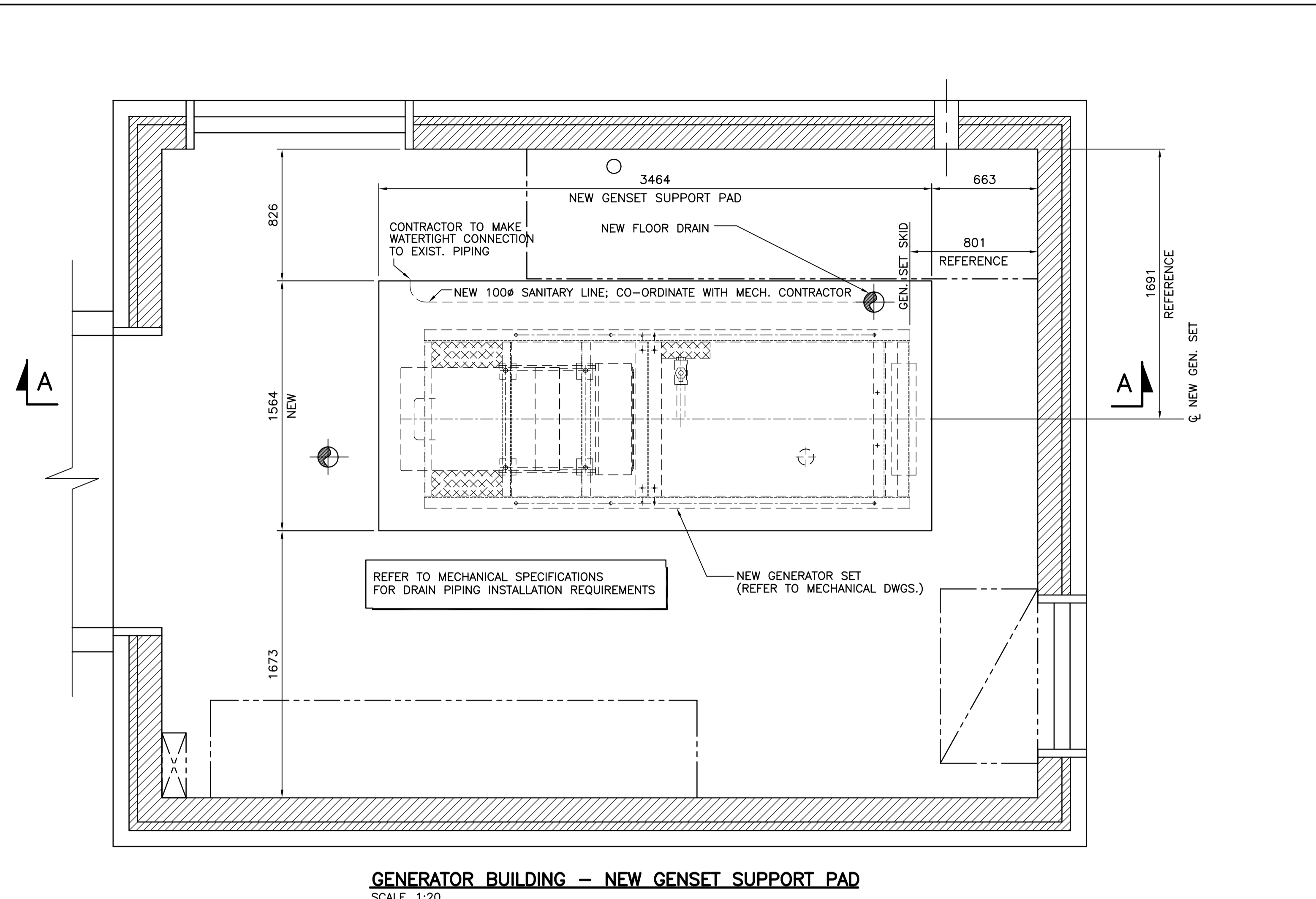
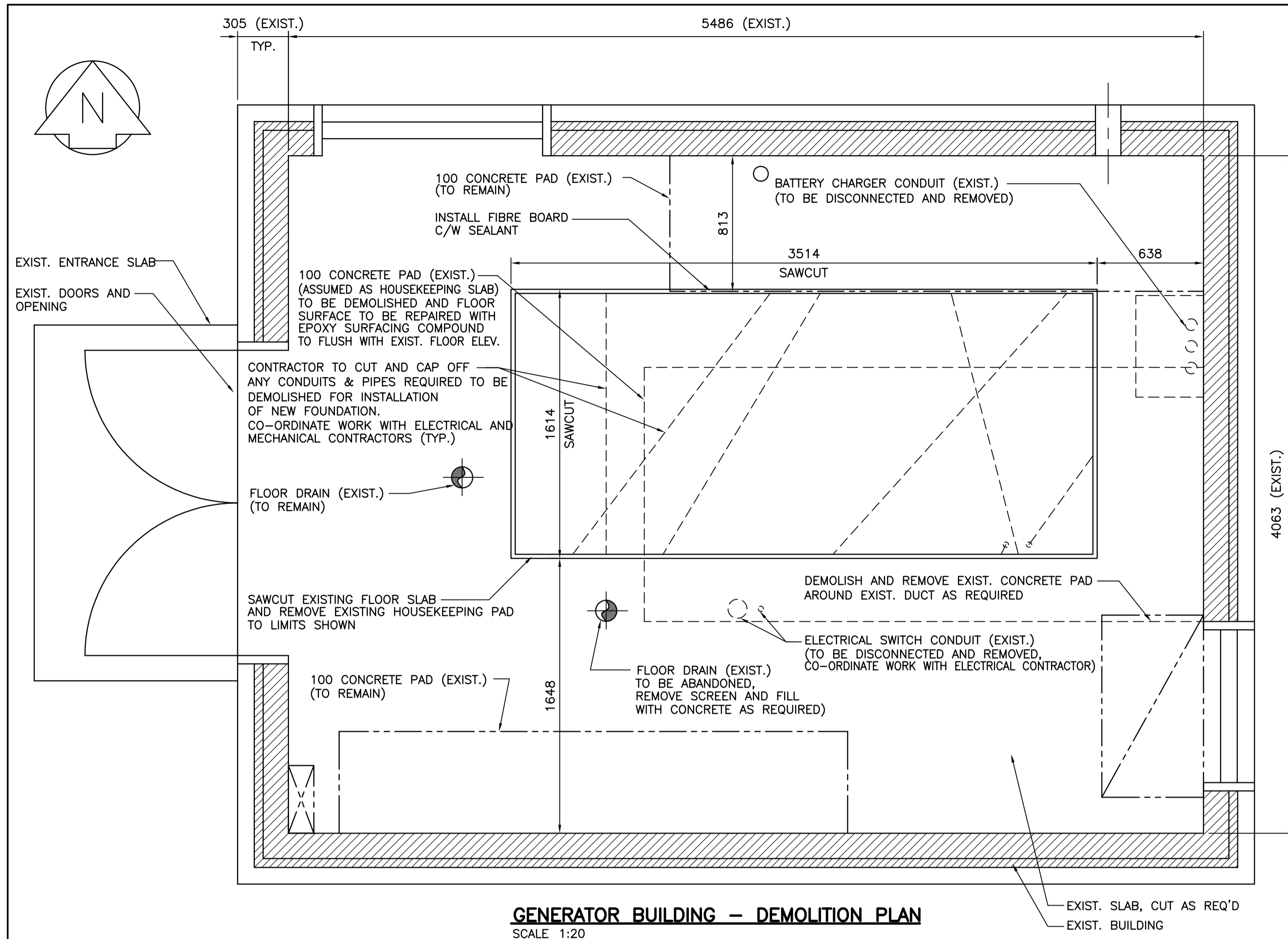
- REMOVE EXISTING 250 KW NATURAL GAS GENERATOR SET, INCLUDING NATURAL GAS REGULATOR.
- EXISTING DAMPERS TO REMAIN.
- REMOVE EXISTING 50mm WATER PIPING, VALVES, FITTINGS, SUPPORTS AND BACKFLOW PREVENTER. MAINTAIN EXISTING METER, HEAT TRACING AND INSULATION. MAINTAIN EXISTING CUSHION/EXPANSION TANK AND LOW WATER PRESSURE SWITCH MOUNTED ON EAST WALL.
- EXISTING EXHAUST FAN AND DUCTWORK TO REMAIN.
- EXISTING GAS METER TO BE RELOCATED OUTSIDE OF BUILDING BY OTHERS. CONTRACTOR TO CONFIRM LOCATION WITH CITY OF WINNIPEG AND GAS COMPANY.
- REMOVE EXISTING ENGINE EXHAUST, SILENCER, EXPANSION COMPENSATER AND SUPPORTS AFTER ASBESTOS REMOVAL.
- EXISTING 50mm GAS PIPING, VALVES, FITTINGS AND SUPPORTS TO BE REMOVED.
- EXISTING 100mm FLOOR DRAIN AND PIPING TO BE REMOVED BACK TO MAIN SANITARY WATER PIPING. (REFER TO DWG 06053)
- EXISTING PNEUMATIC ACTUATOR AND ASSOCIATED PIPING TO BE REMOVED. (TYPICAL OF 4)
- EXISTING INTAKE HOOD TO REMAIN.
- EXISTING 100mm SANITARY PIPING TO REMAIN.
- REMOVE EXISTING WINDOW COVERINGS.

RECORD DRAWING

BASED ON CONTRACTOR MARK-UPS OF CONSULTANT DRAWINGS AND/OR ADDENDA OR CHANGE NOTICE ITEMS INCORPORATED

1042	SUPERSEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
06051	MECHANICAL DRAWING SET
06090-06092	ELECTRICAL DRAWING SET
06044-06049	ELECTRICAL DRAWING SET
DRAWING NUMBER	REFERENCE DRAWINGS

B.M. ELEV.	FIELD BOOK #:	 SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	ENGINEER'S SEAL	 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT
POSTED TO LBIS			DESIGNED BY S. NORSWORTHY CHECKED BY S. NORSWORTHY DRAWN BY D. CALVERLEY APPROVED BY ASMUNDSON RELEASED FOR CONSTRUCTION HOR. SCALE 1:20 VERTICAL 1:20 DATE 07/07/11 DATE	
01 RECORD DRAWING	09/02/25	CAF		WINDSOR PARK WASTEWATER PUMPING STATION GENERATOR UPGRADE PLAN MECHANICAL LAYOUT DEMOLITION
00 ISSUED FOR CONSTRUCTION	08/01/18	AEO		
NO. REVISIONS	DATE	BY	FILENAME: 06052.dwg	CITY DRAWING NUMBER 06052
			BID OPPORTUNITY NO. 66-2008	SHEET REV. SIZE 001 01 D



GENERAL NOTES:

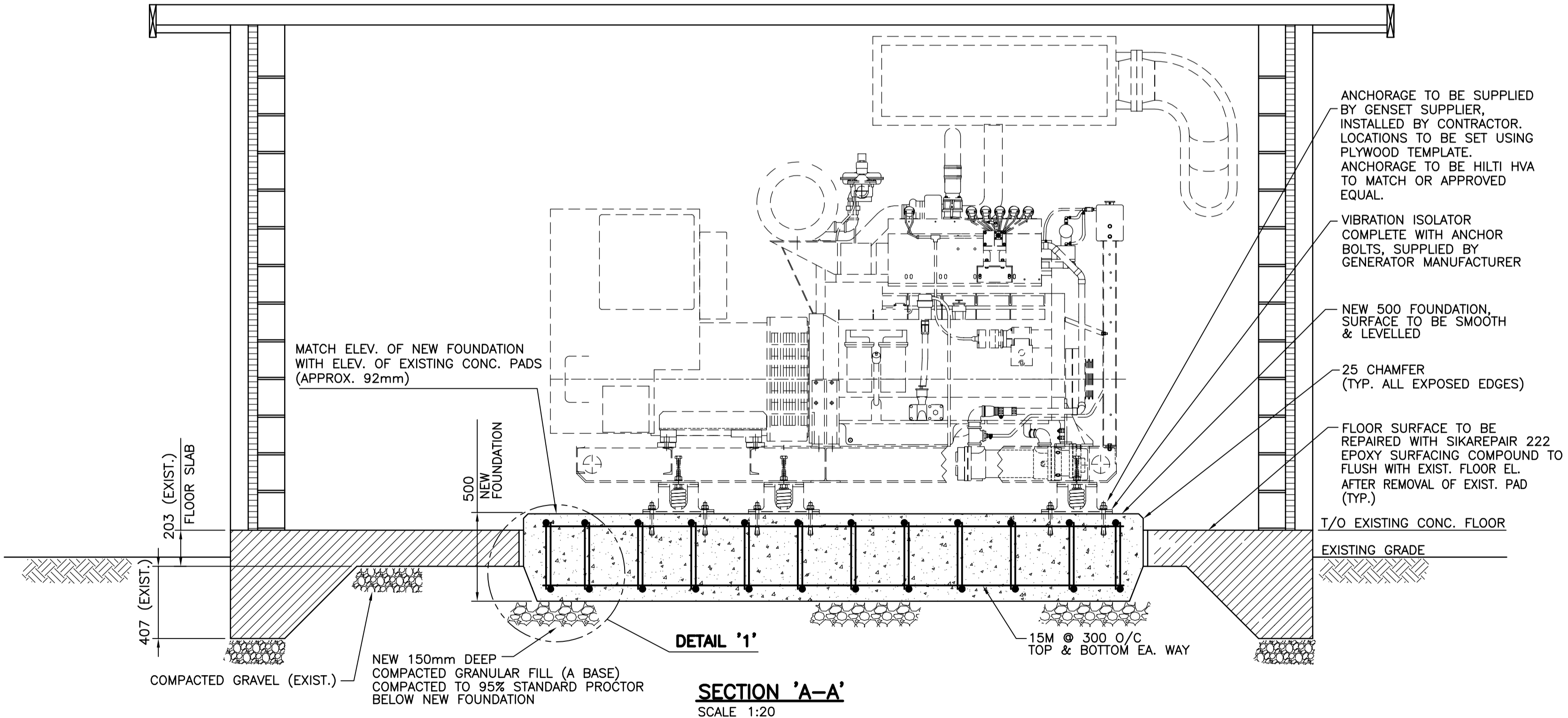
- CO-ORDINATE CONCRETE WORK WITH MECHANICAL AND ELECTRICAL WORK.

REINFORCING STEEL:

- ALL REINFORCING STEEL TO BE CSA G30.12M 400 MPa DEFORMED BARS. REINFORCING STEEL COVER TO CONFORM TO LATEST EDITION OF CSA A23.3 AND AS FOLLOWS UNLESS OTHERWISE NOTED:
SLAB TOP & SIDES - 40mm
SLAB BOTTOM - 75mm
- ALL REINFORCING TO BE HELD IN PLACE AND TIED WITH PROPER ACCESSORIES, SUCH AS HI-CHAIRS TO HAVE 4 LEGS AND TO BE STAPLED OR NAILED TO THE FRAMEWORK.

CONCRETE:

- ALL NEW CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH EQUAL TO 70% OF ITS SPECIFIED 28 DAY STRENGTH PRIOR TO ANY LOADING OF THE CONCRETE SLABS.
- CONCRETE SPECIFICATION:
CEMENT - TYPE HS_b CLASSIFICATION
28 DAYS STRENGTH - 35 MPa
SLUMP - 90mm MAX.
MAXIMUM AGGREGATE - 20mm
ENTRAINED AIR - 5% - 7%
WATER/CEMENT RATIO - 0.40 MAX.
- FULLY VIBRATE ALL CONCRETE DURING PLACEMENT.



ENGINEERING SEAL APPLIES TO NEW GENSET PAD ONLY.

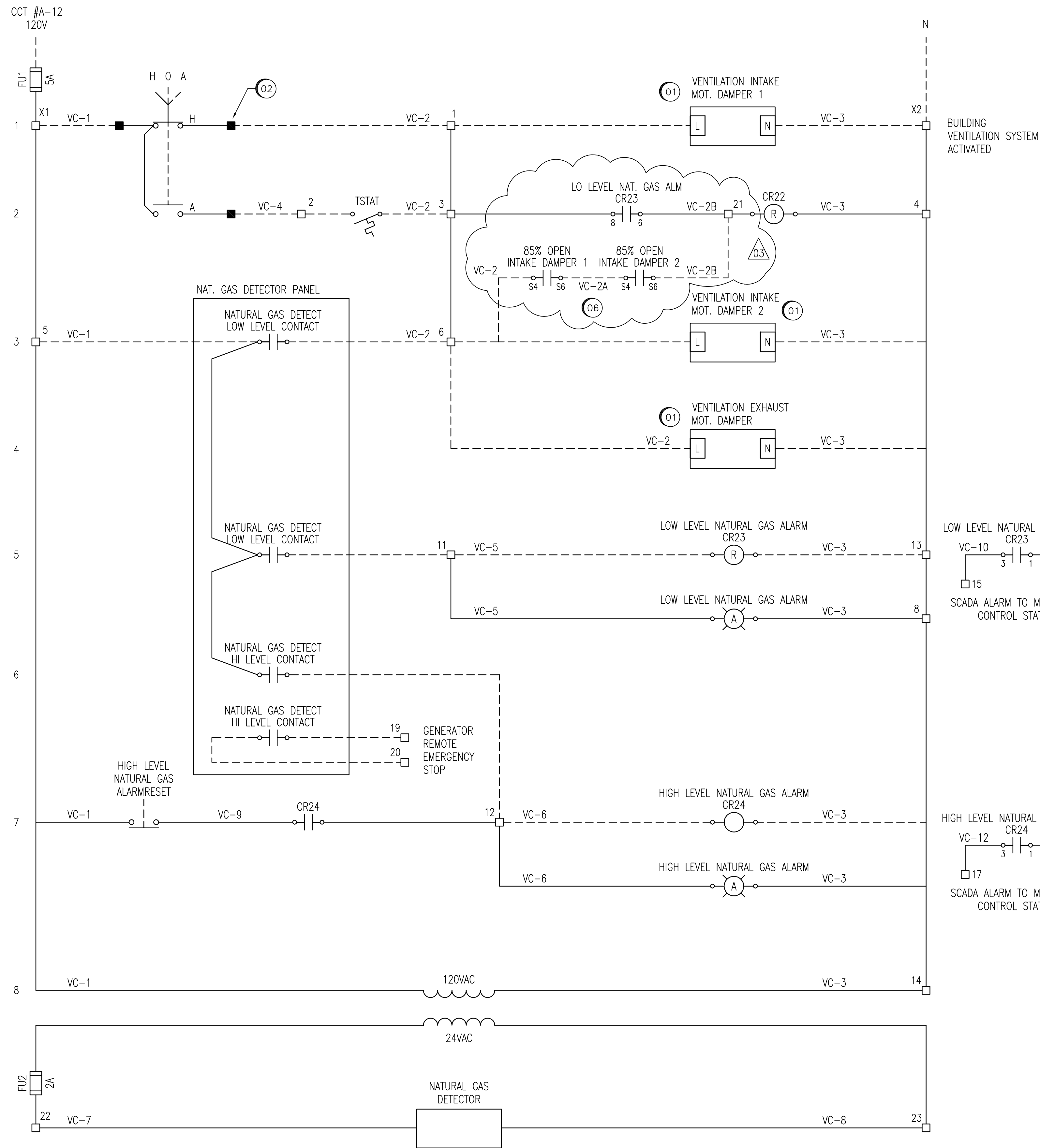
06051-06052	MECHANICAL DWGS. SET
06044-06049, 06090-06092	ELECTRICAL DWGS. SET
76012-04-E8	MISCELLANEOUS DETAILS
76012-04-E2	ORIGINAL DWG. OF DISTRIBUTION AND GENERATOR BUILDING LAYOUT
76012-04-A1	ORIGINAL DWG. OF GENERATING STATION PLAN, ELEVATIONS, SECTIONS AND DETAILS
DRAWING NUMBER	REFERENCE DRAWINGS

APEGM
Certificate of Authorization
SNC-Lavalin Inc.
No. 4489 Expiry: April 30, 2008

B.M. ELEV.	FIELD BOOK #:	SNC-LAVALIN	SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	ENGINEER'S SEAL
POSTED TO LBIS				DESIGNED BY D. COATES CHECKED BY D. COATES DRAWN BY V. AFANASEV APPROVED BY D. COATES HOR. SCALE 1:20 VERTICAL 1:20 DATE 07/07/13 RELEASED FOR CONSTRUCTION
01 RECORD DRAWING	09/03/09 CAF	DATE 07/07/13	DATE	BID OPPORTUNITY NO. 66-2008
00 ISSUED FOR CONSTRUCTION	08/01/18 AEO	FILENAME: 06053.dwg		
NO. REVISIONS	DATE BY			

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	
WINDSOR PARK WASTEWATER PUMPING STATION GENERATOR UPGRADE CONCRETE FOUNDATION PLAN VIEW AND SECTIONS	
CITY DRAWING NUMBER 06053	SHEET REV. SIZE 001 01 D

A1 SIZE - 594mm x 841mm



ELEMENTARY DIAGRAM - VENTILATION / COMBUSTION AIR CONTROL
NTS

LEGEND:

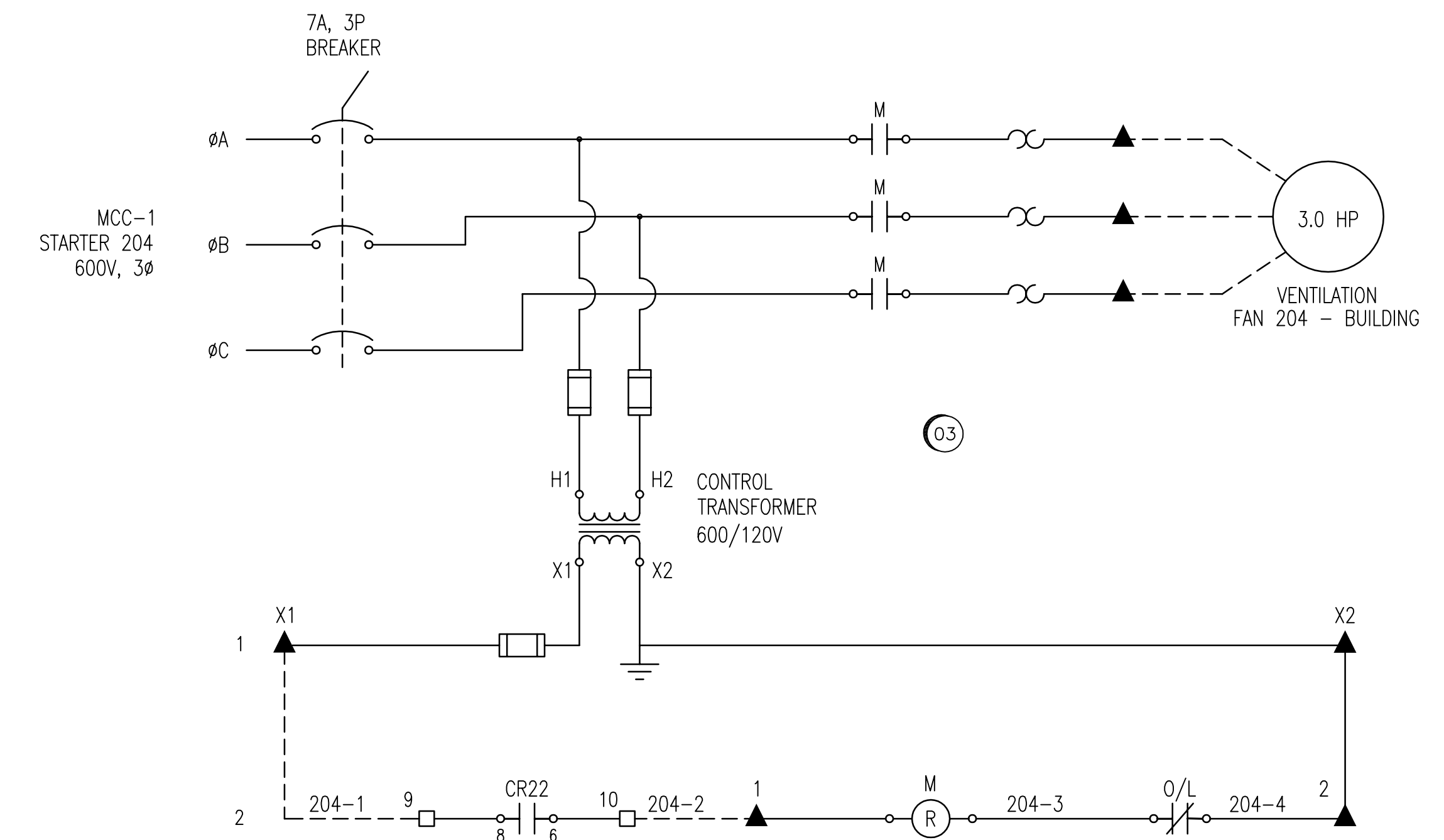
- JUNCTION BOX #1 TERMINAL
- MCC-1 CONTROL CABINET TERMINAL
- ▲ MAGNETIC MOTOR STARTER TERMINAL
- CONTACTOR
- (R) RELAY
- - - - FIELD WIRING
- WIRING INSIDE ENCLOSURE

GENERAL NOTES:

1. THE ELEMENTARY DIAGRAMS AND WIRING SCHEMATICS SHOW THE DESIGN INTENT. IT IS THE RESPONSIBILITY OF THE ELECTRICAL SUBCONTRACTOR TO SITE VERIFY EXISTING SYSTEMS, AND TO PROVIDE ALL DEVICES, MATERIALS, AND LABOUR FOR A COMPLETE AND FUNCTIONAL SYSTEM. THE ELECTRICAL SUBCONTRACTOR SHALL SITE VERIFY EXISTING TERMINAL BLOCKS AND CABLING WITHIN THE MCC-1 CONTROL CABINET AND STARTER 204 IN ORDER TO TIE INTO THE NEW VENTILATION SYSTEM.
2. ALL WIRING SHALL BE A MINIMUM #14 AWG COPPER, RW90.

SPECIFIC NOTES:

- 01 VENTILATION INTAKE DAMPER, AND VENTILATION EXHAUST DAMPER SHALL BE SPRING RETURN CLOSED.
- 02 SITE CONFIRM SUITABLE TERMINALS WITHIN MCC-1 CONTROL ENCLOSURE FOR CONNECTIONS TO THE EXISTING HAND-OFF-AUTO SWITCH.
- 03 MODIFY THE EXISTING STARTER 204 FOR THE VENTILATION FAN (WITHIN MCC-1) TO BE AS SHOWN. TAG WIRES, AND TERMINAL BLOCKS AS PER THIS DRAWING.
- 04 LOW LEVEL NATURAL GAS ALARM WIRING TO SCADA FOR ALARM BACK TO MCPHILLIPS CONTROL STATION. SCADA ALARM TO BE COMMISSIONED BY THE CITY.
- 05 HIGH LEVEL NATURAL GAS ALARM WIRING TO SCADA FOR ALARM BACK TO MCPHILLIPS CONTROL STATION. SCADA ALARM TO BE COMMISSIONED BY THE CITY.
- 06 INTERLOCK VENTILATION FAN 204 START WITH INTAKE DAMPER 85% OPEN CONTACTS. ADJUST CONTACTS (ADJUSTABLE BETWEEN 25% AND 85%) TO 85% OPEN.



ELEMENTARY DIAGRAM - VENTILATION FAN STARTER
NTS

LAST SAVE: 2009/05/15 - 12:29pm
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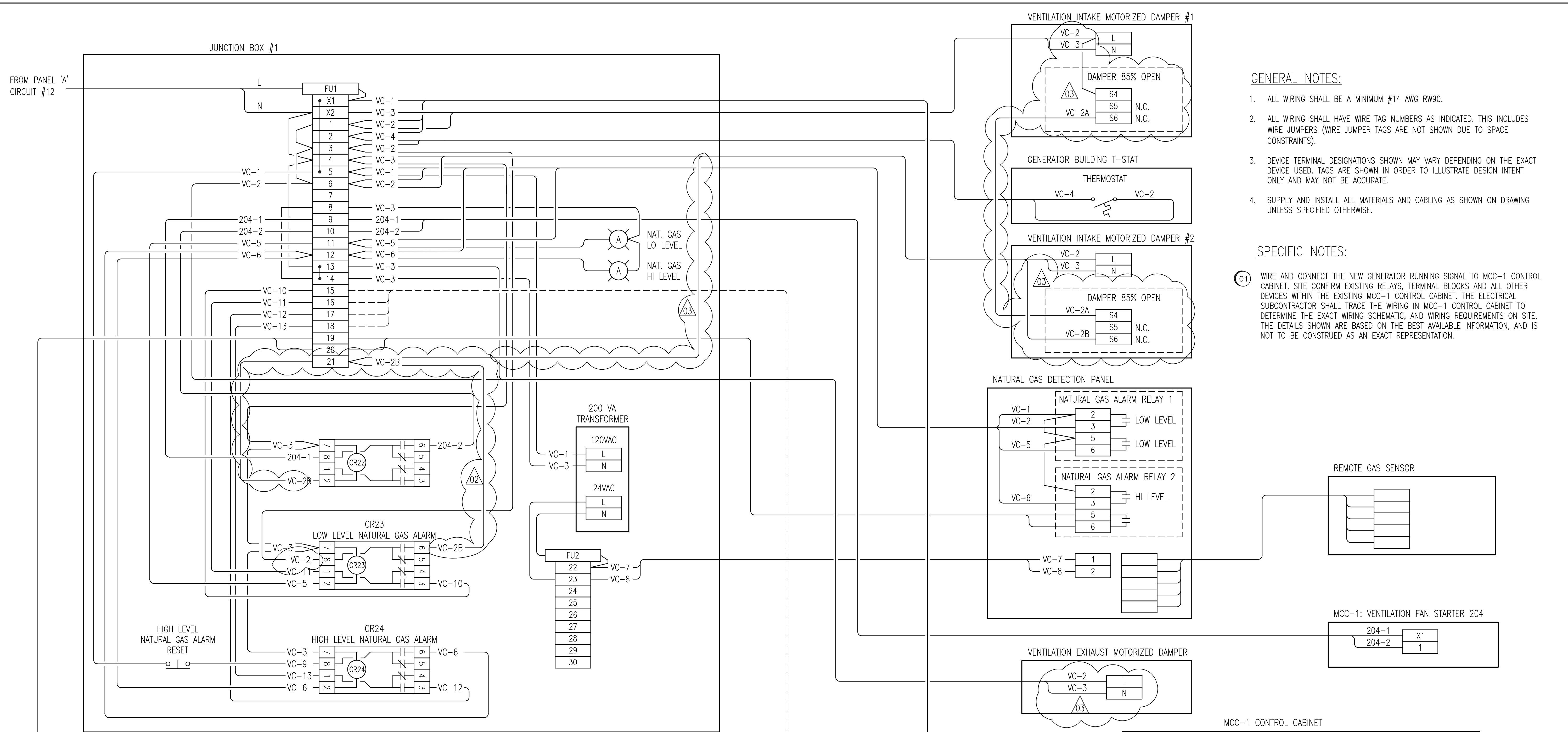
1044, 1046, 1048	SUPERCEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
06051-06052	MECHANICAL DRAWING SET
06090-06092	ELECTRICAL DRAWING SET
06044-06049	ELECTRICAL DRAWING SET
DRAWING NUMBER	REFERENCE DRAWINGS



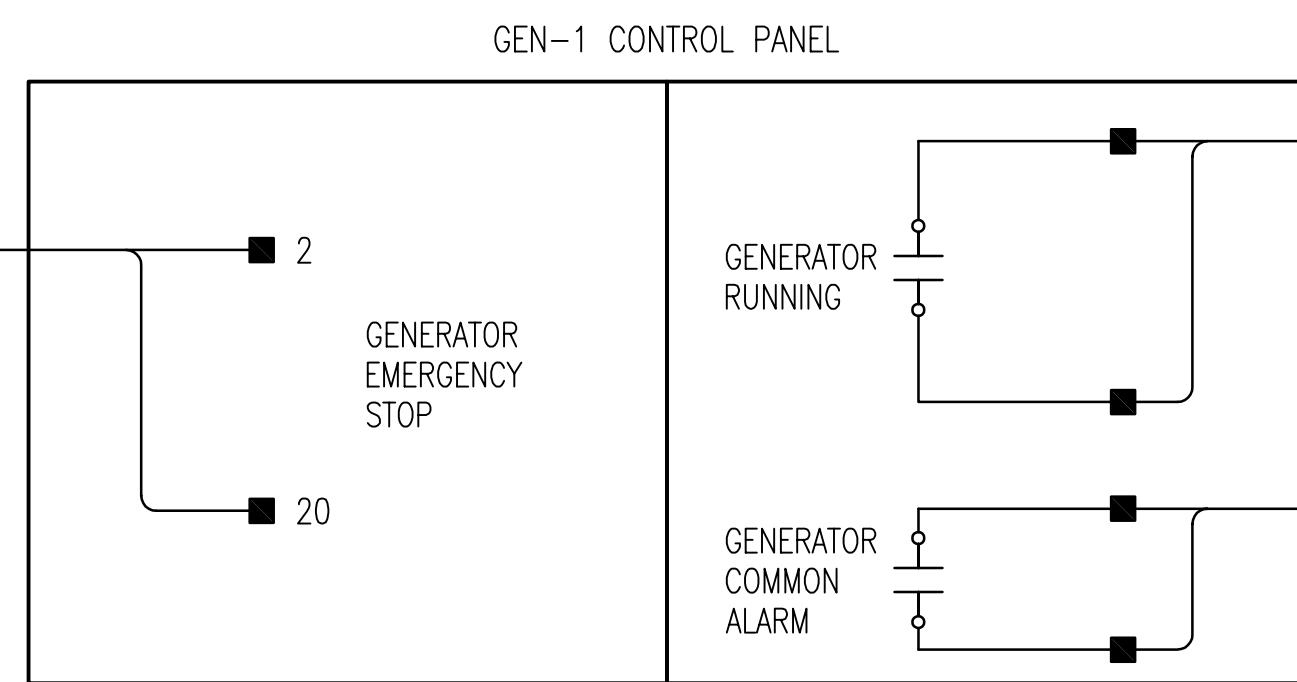
B.M. ELEV.	FIELD BOOK #:			ENGINEER'S SEAL
POSTED TO LBIS		DESIGNED BY D. BECKER	CHECKED BY C. ASMUNDSON	ORIGINAL DRAWING SEALED BY: E. M. RYCZKOWSKI SNC-Lavalin 2008/01/28 REV. 00
		DRAWN BY D. BECKER	APPROVED BY C. ASMUNDSON	
03 MODIFIED FAN DAMPER INTERLOCKS	09/05/15	EFB		WINDSOR PARK WASTEWATER PUMPING STATION GENERATOR UPGRADE ELEMENTARY DIAGRAM GENERATOR VENTILATION AND SHUTOFFS
02 VENTILATION FAN STARTUP SEQUENCE MODIFIED	09/03/06	EFB		
01 RECORD DRAWING	09/03/06	EFB		CITY DRAWING NUMBER 06090
00 ISSUED FOR CONSTRUCTION	08/01/18	AEO		
NO. REVISIONS	DATE	BY	FILENAME: 06090.dwg	SHEET REV. SIZE 001 03 D

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT	
WINDSOR PARK WASTEWATER PUMPING STATION GENERATOR UPGRADE ELEMENTARY DIAGRAM GENERATOR VENTILATION AND SHUTOFFS	
BID OPPORTUNITY NO. 66-2008	SHEET REV. SIZE 001 03 D

A1 SIZE - 594mm x 841mm



WIRING DIAGRAM - VENTILATION / COMBUSTION AIR CONTROL
NTS



WIRING DIAGRAM - MCC-1 CONTROL - GENERATOR CONTROL PANEL
NTS

GENERAL NOTES:

1. ALL WIRING SHALL BE A MINIMUM #14 AWG RW90.
2. ALL WIRING SHALL HAVE WIRE TAG NUMBERS AS INDICATED. THIS INCLUDES WIRE JUMPERS (WIRE JUMPER TAGS ARE NOT SHOWN DUE TO SPACE CONSTRAINTS).
3. DEVICE TERMINAL DESIGNATIONS SHOWN MAY VARY DEPENDING ON THE EXACT DEVICE USED. TAGS ARE SHOWN IN ORDER TO ILLUSTRATE DESIGN INTENT ONLY AND MAY NOT BE ACCURATE.
4. SUPPLY AND INSTALL ALL MATERIALS AND CABLING AS SHOWN ON DRAWING UNLESS SPECIFIED OTHERWISE.

SPECIFIC NOTES:

- 01 WIRE AND CONNECT THE NEW GENERATOR RUNNING SIGNAL TO MCC-1 CONTROL CABINET. SITE CONFIRM EXISTING RELAYS, TERMINAL BLOCKS AND ALL OTHER DEVICES WITHIN THE EXISTING MCC-1 CONTROL CABINET. THE ELECTRICAL SUBCONTRACTOR SHALL TRACE THE WIRING IN MCC-1 CONTROL CABINET TO DETERMINE THE EXACT WIRING SCHEMATIC, AND WIRING REQUIREMENTS ON SITE. THE DETAILS SHOWN ARE BASED ON THE BEST AVAILABLE INFORMATION, AND IS NOT TO BE CONSTRUED AS AN EXACT REPRESENTATION.

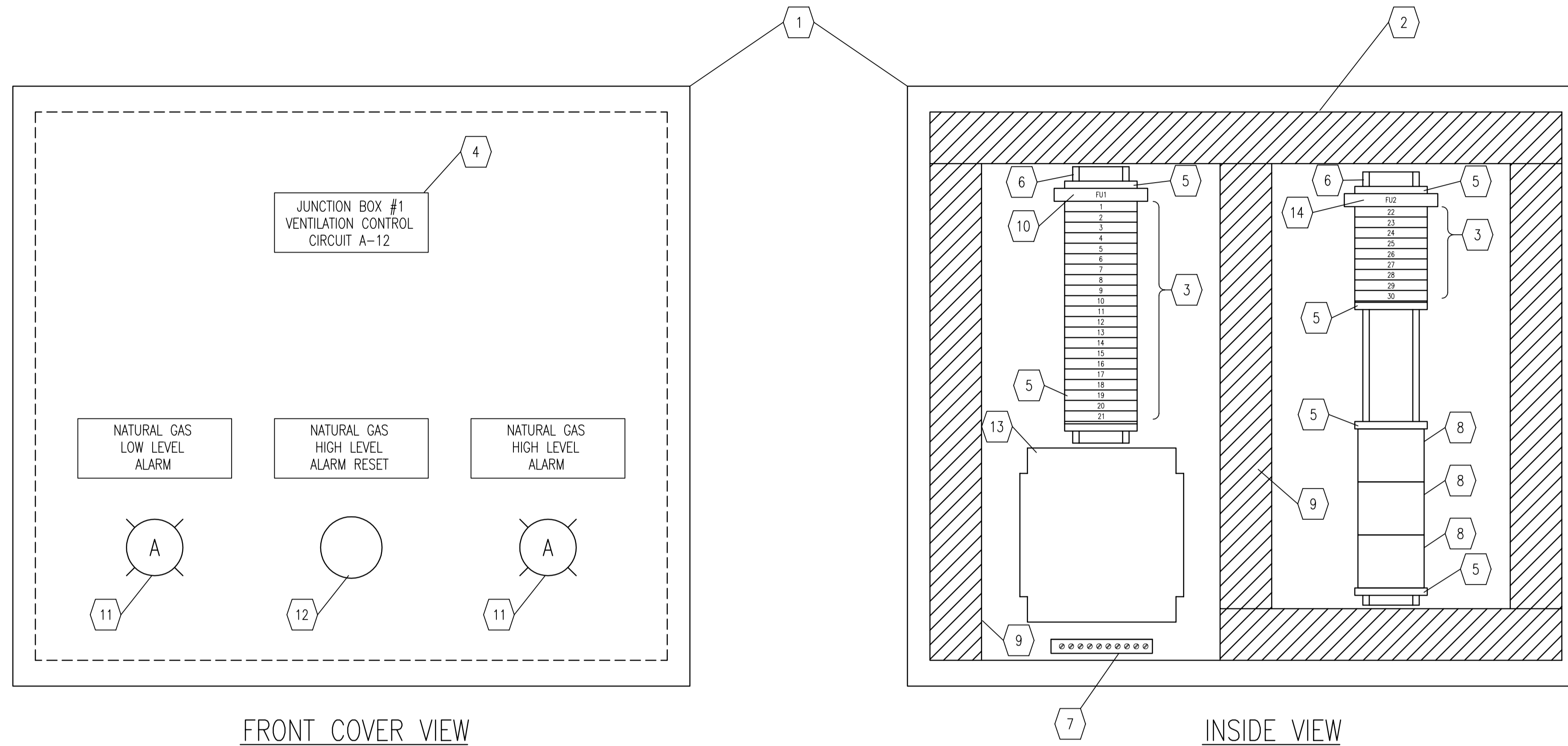
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1044, 1046, 1048	SUPERCEDED DRAWING SET
06053	STRUCTURAL DRAWING SET
06051-06052	MECHANICAL DRAWING SET
06090-06092	ELECTRICAL DRAWING SET
06044-06049	ELECTRICAL DRAWING SET
DRAWING NUMBER	REFERENCE DRAWINGS



B.M. ELEV.	FIELD BOOK #:		SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	ENGINEER'S SEAL	THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT
POSTED TO LBIS				DESIGNED BY D. BECKER	
		DRAWN BY D. BECKER	APPROVED BY C. ASMUNDSON	2008/01/28	WINDSOR PARK WASTEWATER TREATMENT STATION
03 MODIFIED FAN DAMPER INTERLOCKS	09/05/15	EFB	HOR. SCALE NTS	REV. 00	GENERATOR UPGRADE
02 VENTILATION FAN STARTUP SEQUENCE MODIFIED	09/03/06	EFB	VERTICAL		WIRING DIAGRAM
01 RECORD DRAWING	09/03/06	EFB			GENERATOR VENTILATION, SHUTOFFS AND ALARMS
00 ISSUED FOR CONSTRUCTION	08/01/18	AEO	DATE 07/05/25		CITY DRAWING NUMBER
NO. REVISIONS	DATE	BY	FILENAME: 06091.dwg		06091
				BID OPPORTUNITY NO. 66-2008	SHEET REV. SIZE
					001 03 D

LAYOUT:



BILL OF MATERIAL				
ITEM	QTY	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
1	1	NEMA 4X JUNCTION BOX ENCLOSURE - 16"x14"x6"	HOFFMAN	A1614CHQR
2	1	BACKPLATE FOR ITEM 1	HOFFMAN	A12P10
3	3	SAK 4/35 TERMINALS	WEIDMULLER SAK4	0443660000
	1	TERMINAL END PLATE	WEIDMULLER	0117960000
	AS REQ'D	TERMINAL MARKERS	WEIDMULLER	0468260000
4	AS REQ'D	PHENOLIC TYPE NAMEPLATE C/W 1/4" LETTERING.		
5	2	TERMINAL END HOLDER	WEIDMULLER EW35	0383560000
6	AS REQ'D	TS35 MOUNTING RAIL	WEIDMULLER	0383400000
7	1	GROUND BAR, 8 TAPS	ILSCO	D167-8
8	4 *	120V, FORM C RELAY, C/W PUSH TO TEST AND LED.	OMRON	MK2PN-S
	3	RELAY OCTAL BASE	OMRON	PF083A-E
	3	RELAY HOLD DOWN CLIP	OMRON	PFC-A1
9	AS REQ'D	WIRING DUCT - NARROW FINGER SLOTTED	PANDUIT	F1X2LG6
10	1	FUSE TERMINAL WITH LED: ASK 1/EN LD 1D 115VAC	WEIDMULLER	0225560000
	3 *	5A FUSE CARTRIDGE		
11	2	AMBER LED INDICATING LIGHT, 120V.	ALLEN BRADLEY BULLETIN 800H	800H-QRH10R
12	1	PUSHBUTTON, NEMA 4X	ALLEN BRADLEY BULLETIN 800H	800H-GR2A
13	1	CONTROL TRANSFORMER 200 VA, PRIMARY 120/240 VAC, SECONDARY 24 VAC	HAMMOND	PT200PG
14	1	FUSE TERMINAL WITH LED: ASK 1/EN LD 1D 24VAC	WEIDMULLER	0222860000
	3 *	2A FUSE CARTRIDGE		

* = SPARE DEVICE

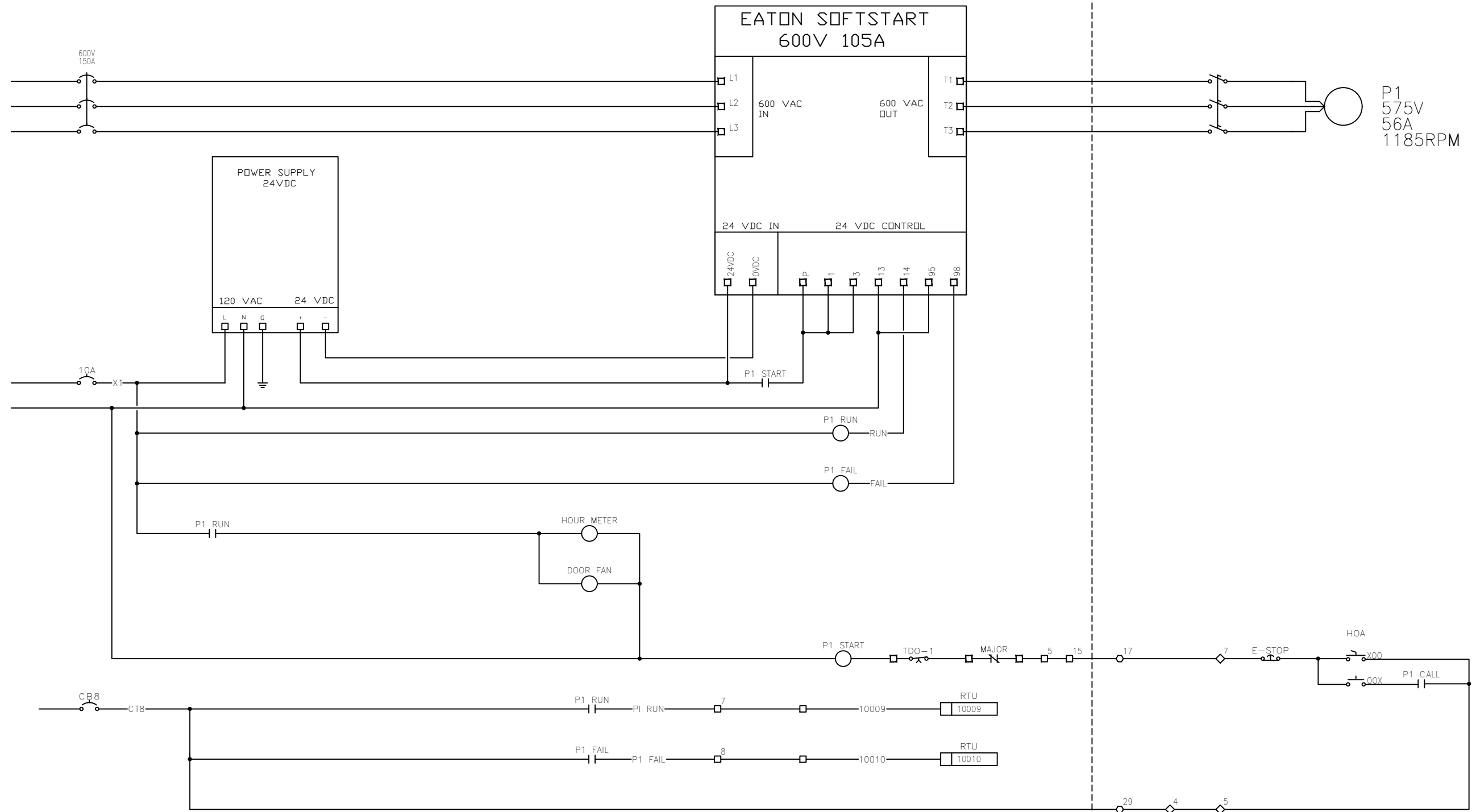
1044, 1046, 1048	SUPERCEDED DRAWING SET
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B.M. ELEV.	FIELD BOOK #:	 SNC-LAVALIN INC. 148 Nature Park Way Winnipeg, MB, Canada R3P 0X7 204-786-8080	ENGINEER'S SEAL	 THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT WINDSOR PARK WASTEWATER PUMPING STATION GENERATOR UPGRADE LAYOUT JUNCTION BOX	
POSTED TO LBIS			ORIGINAL DRAWING SEALED BY: C. G. ASMUNDSON SNC-LAVALIN 2008/01/08 REV. 00		
DESIGNED BY D. BECKER	CHECKED BY C. ASMUNDSON		BID OPPORTUNITY NO. 66-2008	CITY DRAWING NUMBER 06092	
DRAWN BY D. BECKER	APPROVED BY C. ASMUNDSON				SHEET 001
HOR. SCALE 1:2	RELEASED FOR CONSTRUCTION				
VERTICAL					
01 RECORD DRAWING	09/03/06	EFB			
00 ISSUED FOR CONSTRUCTION	08/01/18	AEO			
NO. REVISIONS	DATE	BY	FILENAME: 06092.dwg		

GENERATOR BUILDING

BUNKER



- MC-2
IN BUNKER BY STAIRS
- ◇ MC-1
IN BUNKER BY MOTORS
- MCC
GENERATOR BUILDING


B.M. ELEV.	FIELD BOOK #:
POSTED TO LBIS	
NO.	REVISIONS
	DATE BY

**CITY OF WINNIPEG
WASTEWATER SERVICES
B & I MAINTENANCE**

DESIGNED BY	CHECKED BY
DRAWN BY RG	APPROVED BY
HDR. SCALE VERTICAL	RELEASED FOR CONSTRUCTION
DATE 2/10/2020	DATE

ENGINEER'S SEAL

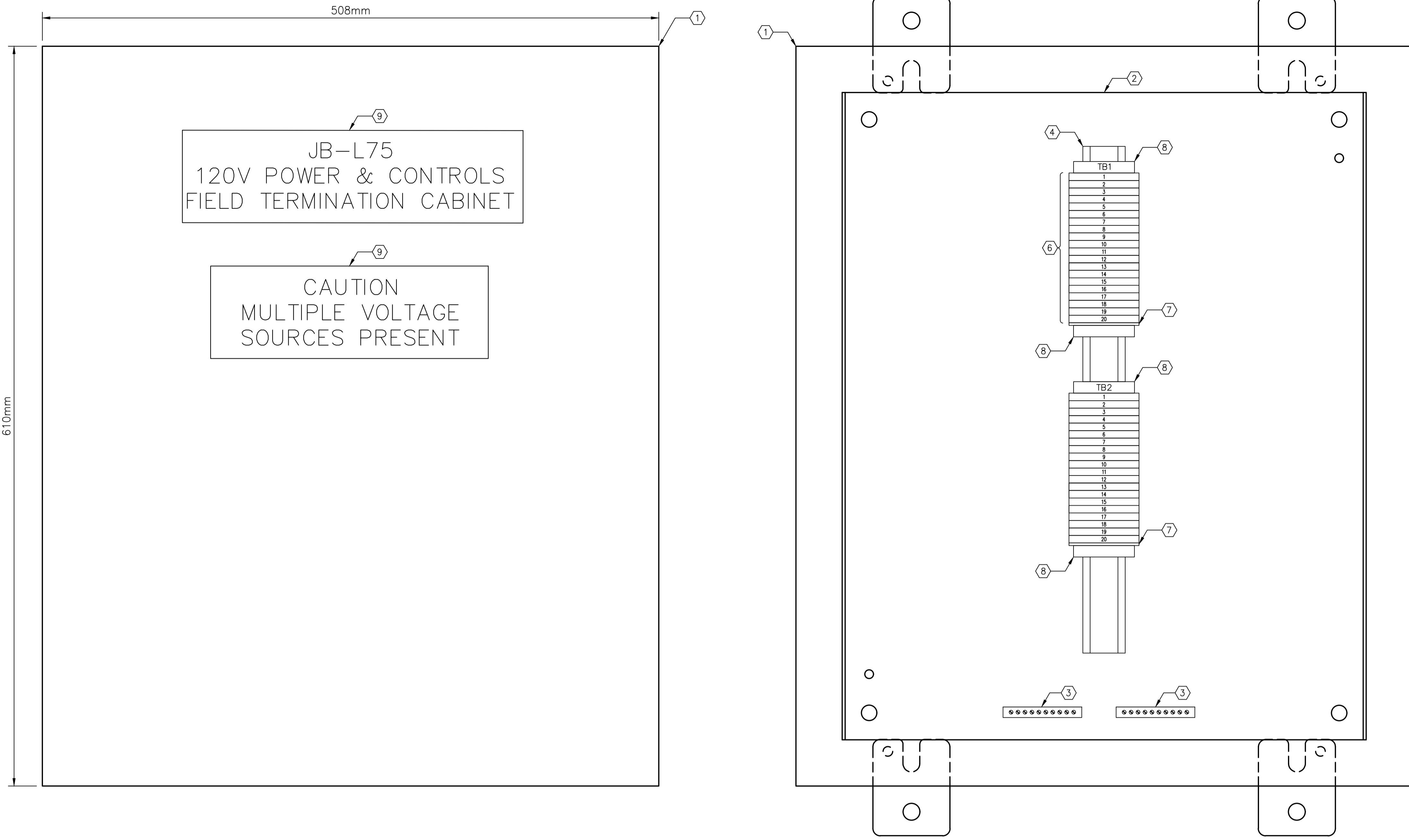
PLOT DATE:


THE CITY OF WINNIPEG
 WATER AND WASTE DEPARTMENT

**WINDSOR PARK LIFT
P1 CONTROL WIRING**

CITY DRAWING NUMBER

SHEET OF



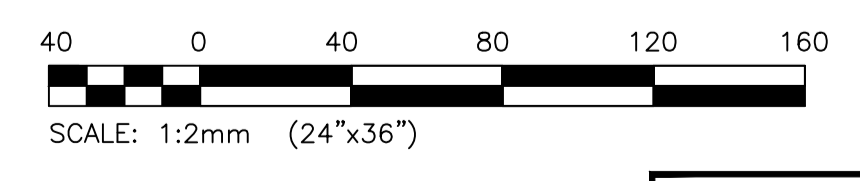
- GENERAL NOTES:**
- CONNECT ALL INCOMING GROUND WIRES TO GROUND BAR.
 - PROVIDE WIRE BARREL FERULES FOR ALL WIRING.
 - ALL TERMINAL BLOCKS SHALL BE NUMBERED AS SHOWN, COMPLETE WITH GROUP LABELING.

BILL OF MATERIALS				
ITEM	QTY	DESCRIPTION	MANUFACTURER	MODEL No.
①	1	SINGLE-DOOR TYPE 12 & 13 WALL-MOUNTED ENCLOSURE	HOFFMAN	A242010LP
②	1	BACKPAN	HOFFMAN	A24P20
③	2	GROUND BAR, 10 TAPS	ILSCO	D167-10
④	AS REQ'D.	35mm DIN RAIL	PHOENIX CONTACT	0801733
⑤	AS REQ'D.	TERMINAL BLOCK MARKER	PHOENIX CONTACT	1004348
⑥	40	FEED-THROUGH TERMINAL	PHOENIX CONTACT	3046184
⑦	2	TERMINAL END PLATE	PHOENIX CONTACT	3047141
⑧	4	TERMINAL END CLAMP	PHOENIX CONTACT	1201442
⑨	2	LAMACOID, WHITE WITH BLACK TEXT	-	-

A EXTERIOR PANEL VIEW
SCALE: 1:2

B INTERIOR PANEL VIEW
SCALE: 1:2

NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
REFERENCE DRAWINGS		



ES ENGINEERS
GEOSCIENTISTS
MANITOBA

Certificate of Authorization
KGS Group
No. 245

B.M. ELEV.			
CONSTRUCTION COMPLETION DATE: YYYY MM DD			
0	ISSUED FOR CONSTRUCTION	2023 11 17	
NO.	REVISIONS	DATE	BY

KGS GROUP	
DESIGNED BY: D. GUEVARRA	CHECKED BY: <i>JMS</i>
DRAWN BY: R. GASPAR	APPROVED BY: <i>JMS</i>
SCALE: NTS NTS	RELEASED FOR CONSTRUCTION
DATE: 2023/10/16	DATE:

ENGINEER'S SEAL
CONSULTANT DRAWING NUMBER
23-0107-014_A5.01

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

WINDSOR PARK LIFT PUMPING STATION
FIRE HALL CABLING RELOCATION
PANEL LAYOUT AND BILL OF MATERIALS
120V POWER & CONTROLS FIELD TERMINATION CABINET
JB-L75

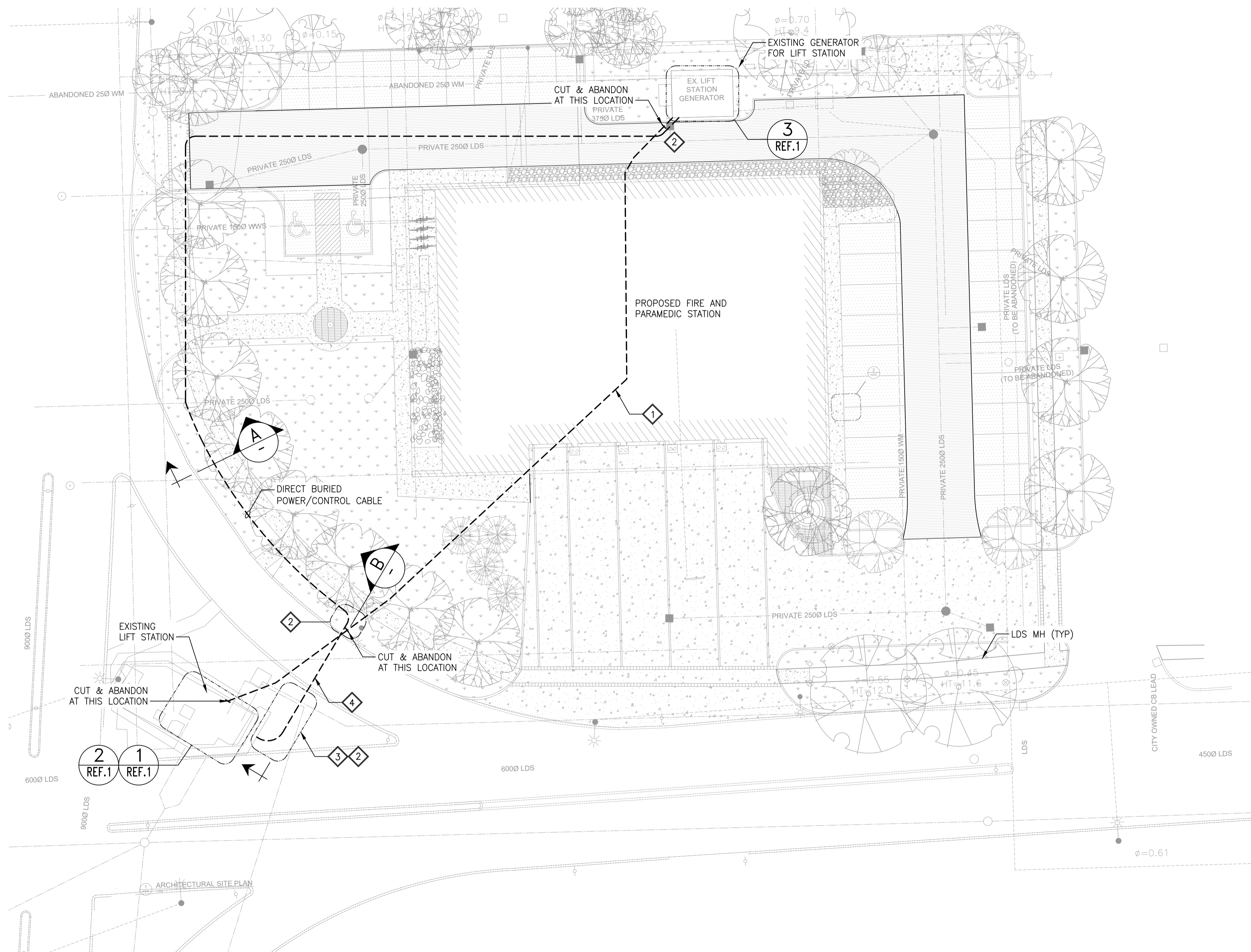
CITY DRAWING NUMBER **1-0197L-E0002-001_r00** SHEET **1** OF **1**

GENERAL NOTES:

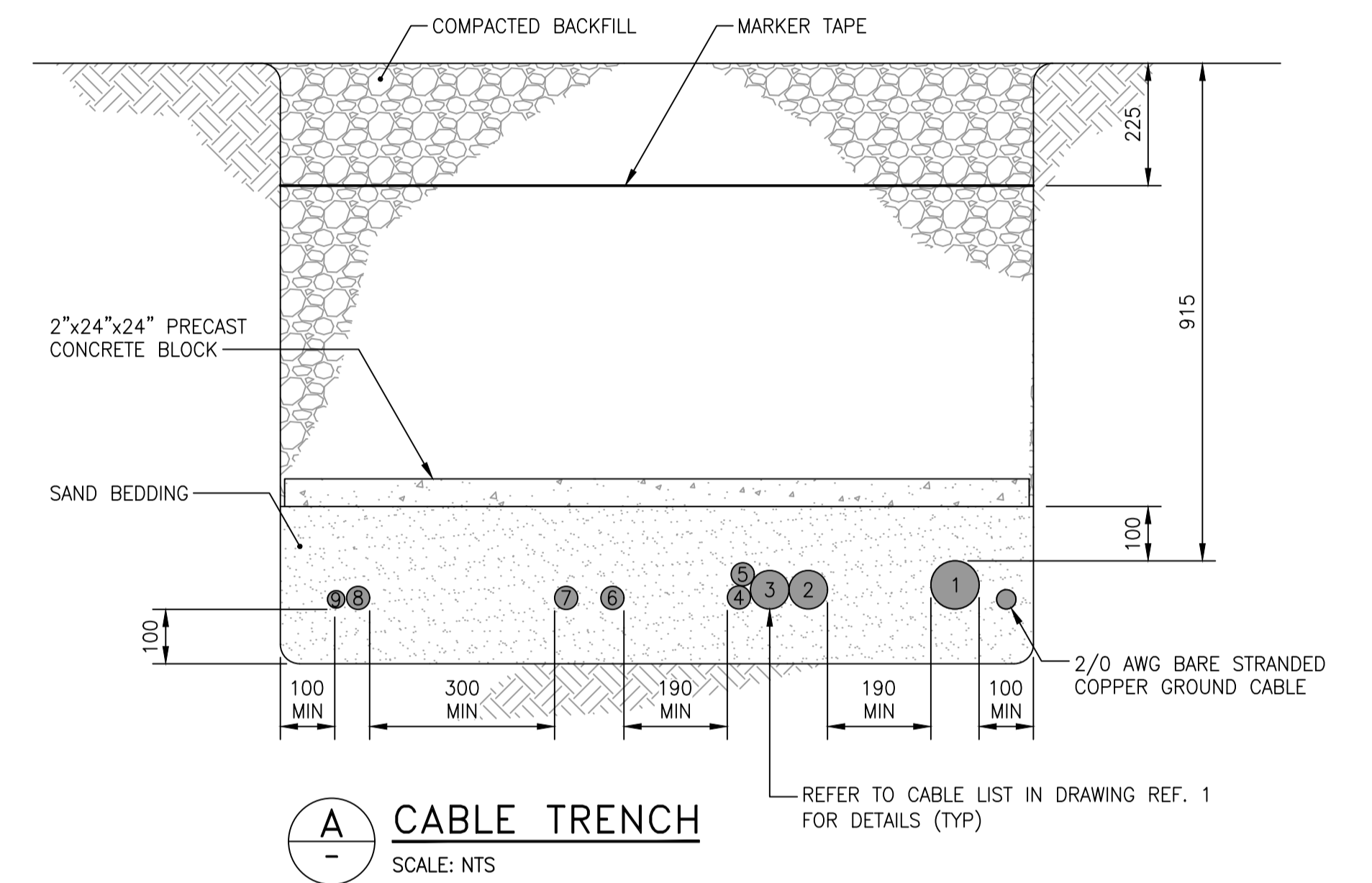
1. ...

KEYNOTES:

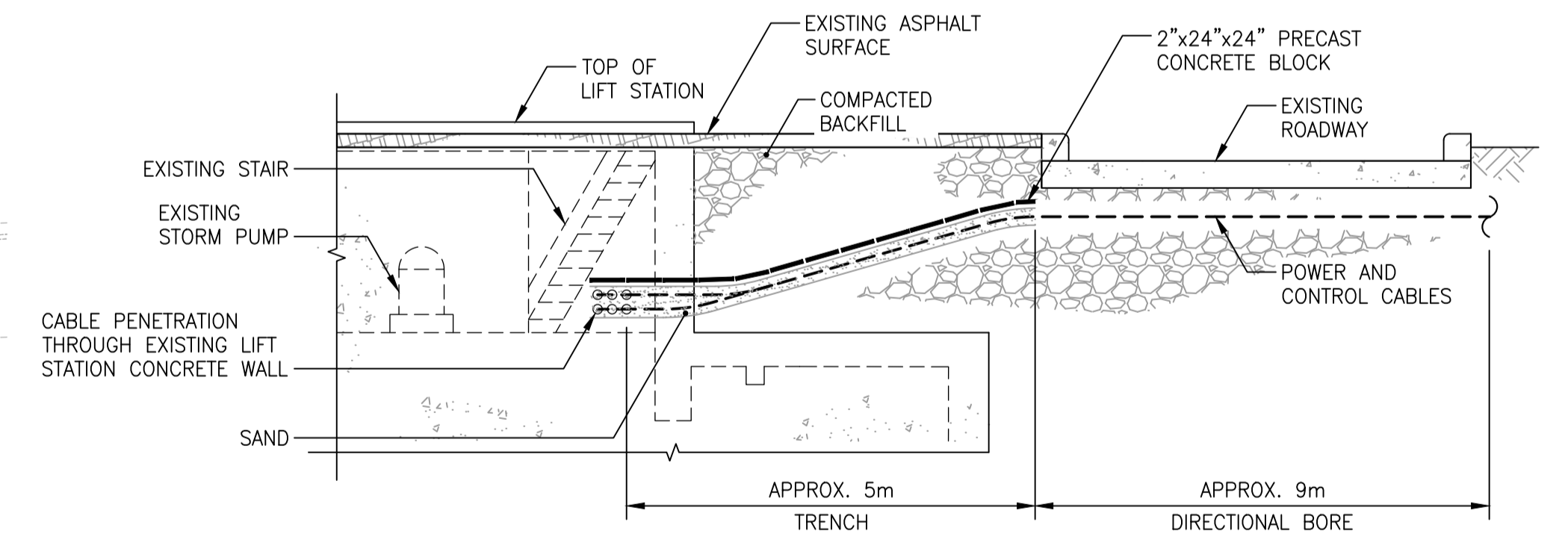
- 1 DISCONNECT AND CUT & ABANDON EXISTING POWER AND CONTROL CABLES AFTER NEW POWER AND CONTROL CABLES HAVE BEEN INSTALLED.
- 2 PROVIDE SOFT DIG EXCAVATION.
- 3 SAW CUT AND REMOVE EXISTING ASPHALT TO ALLOW EXCAVATION AND RESTORE.
- 4 NEW POWER AND CONTROL CABLES CROSSING UNDER THE EXISTING ROAD SHALL BE PUSHED, AND DIRECTIONAL DRILLING SHALL BE PROVIDED.



SITE PLAN
SCALE: 1:250

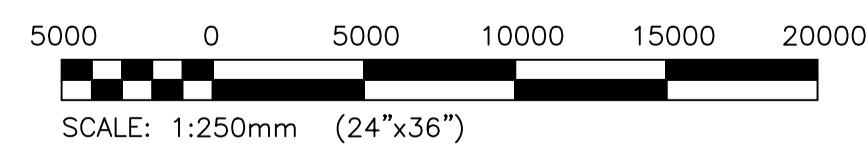


A CABLE TRENCH
SCALE: NTS



B CABLE DIRECTIONAL DRILL DETAIL
SCALE: NTS

10	-	-
9	-	-
8	-	-
7	-	-
6	-	-
5	-	-
4	-	-
3	-	-
2	-	-
1	1-0197L-E0004-001_r00	ELECTRICAL PARTIAL POWER PLAN - PLANS AND SECTIONS - GENERATOR BUILDING AND LIFT STATION
NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
REFERENCE DRAWINGS		



B.M. ELEV.			
CONSTRUCTION COMPLETION DATE: YYYY MM DD			
DESIGNED BY	D. GUEVARRA		
CHECKED BY	<i>[Signature]</i>		
DRAWN BY	R. GASPAR		
APPROVED BY	<i>[Signature]</i>		
SCALE:	NTS		
RELEASED FOR CONSTRUCTION			
0 ISSUED FOR CONSTRUCTION	2023 11 17		
NO.	REVISIONS	DATE	BY

KGS GROUP

DESIGNED BY: D. GUEVARRA
CHECKED BY: *[Signature]*

DRAWN BY: R. GASPAR
APPROVED BY: *[Signature]*

SCALE: NTS
RELEASED FOR CONSTRUCTION

DATE: 2023/10/16

ENGINEER'S SEAL
CONSULTANT DRAWING NUMBER
23-0107-014_E2.01

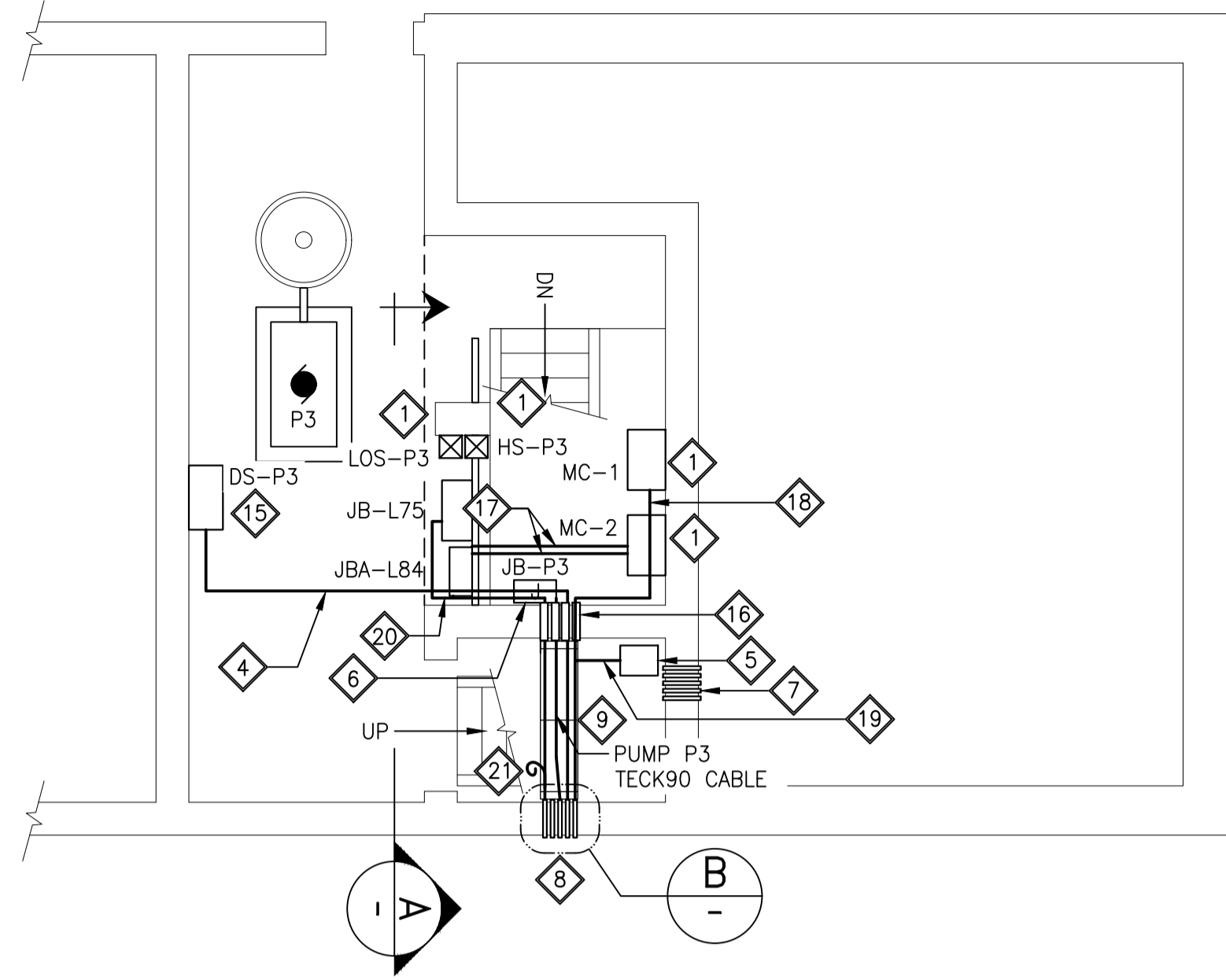
THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

**Windsor Park Lift Pumping Station
Fire Hall Cabling Relocation
Electrical Site Plan**

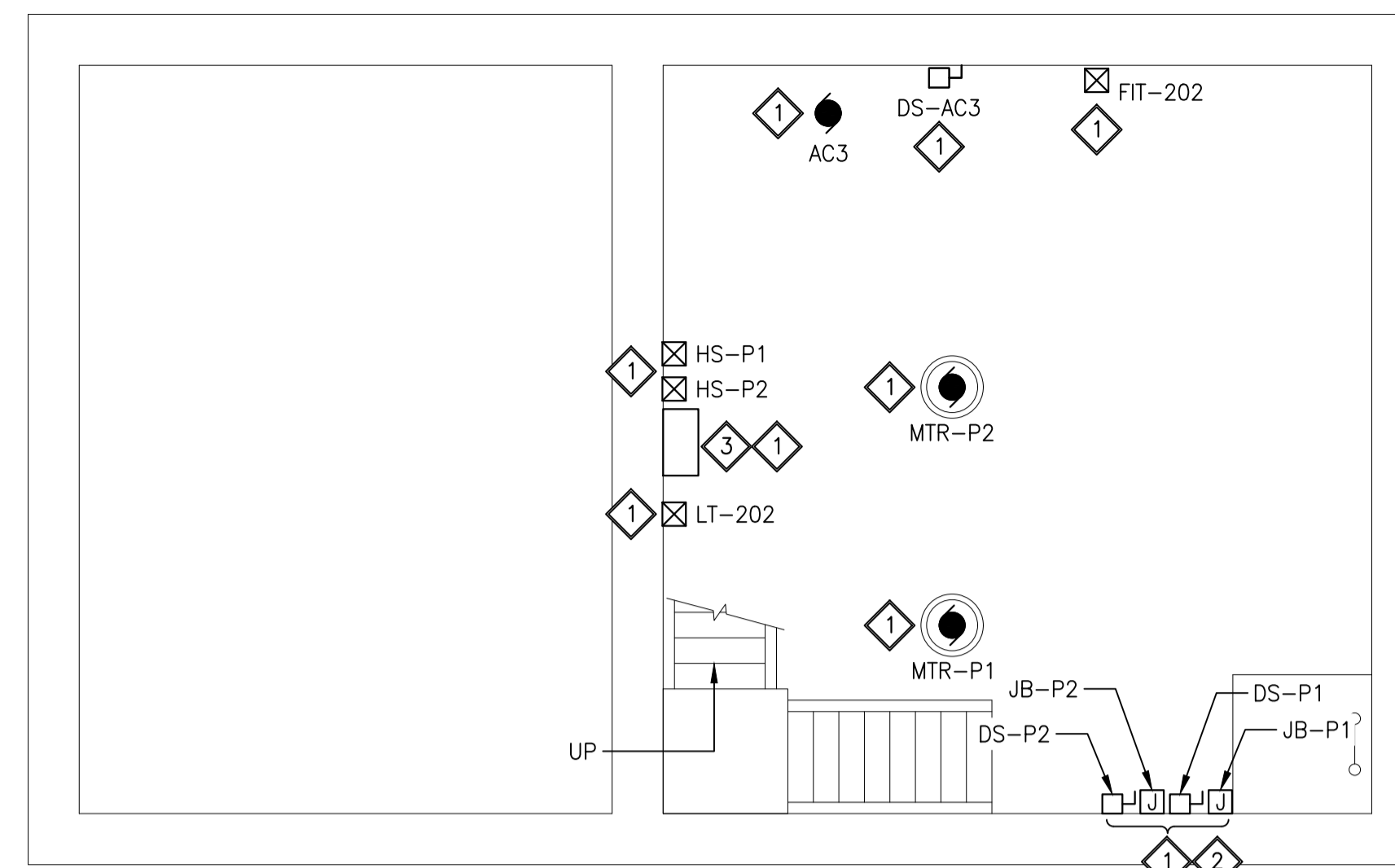
PLANS AND SECTIONS
TRENCHED CABLING AND DETAILS

CITY DRAWING NUMBER: 1-0197L-E0003-001_r00

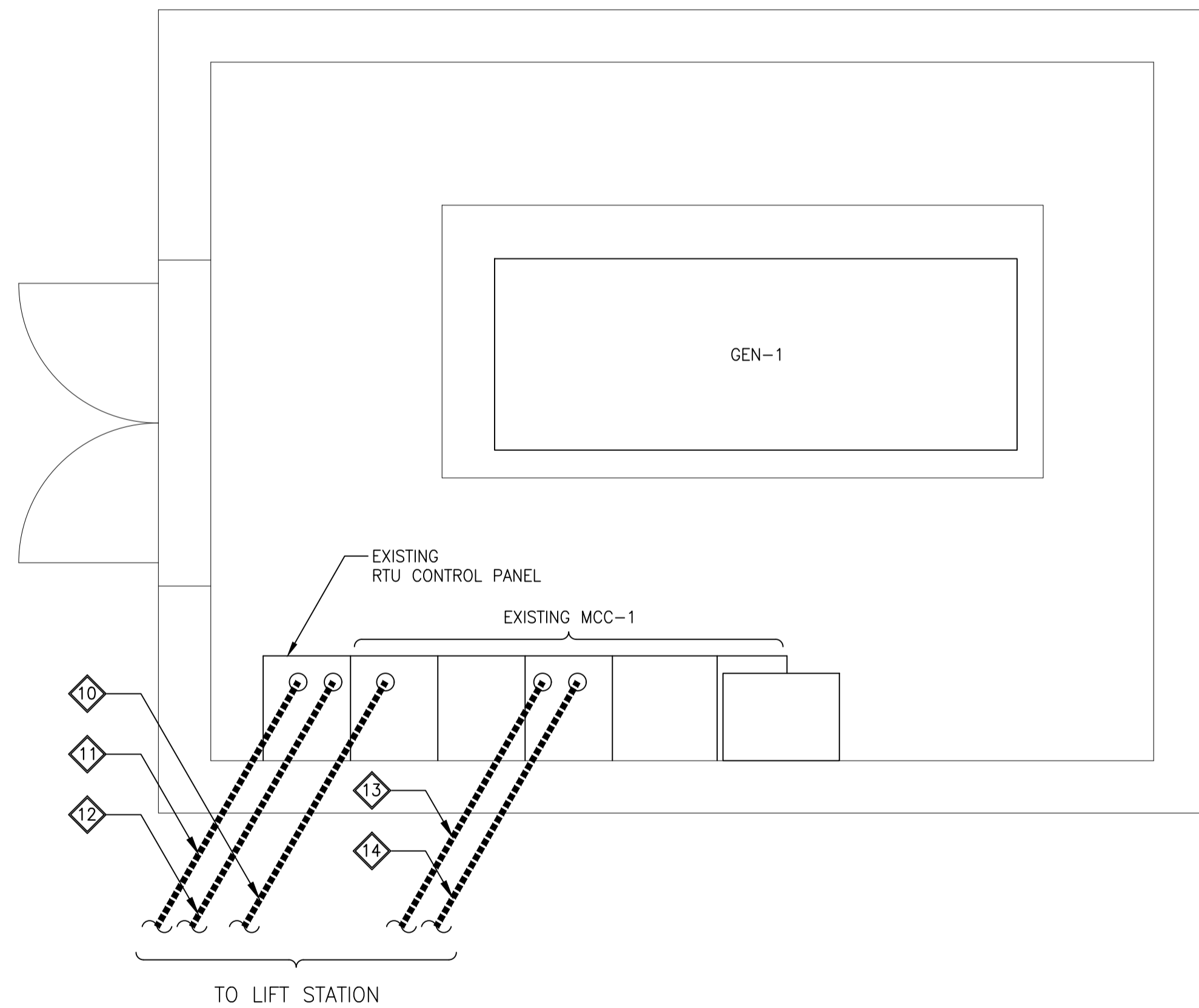
SHEET 1 OF 1



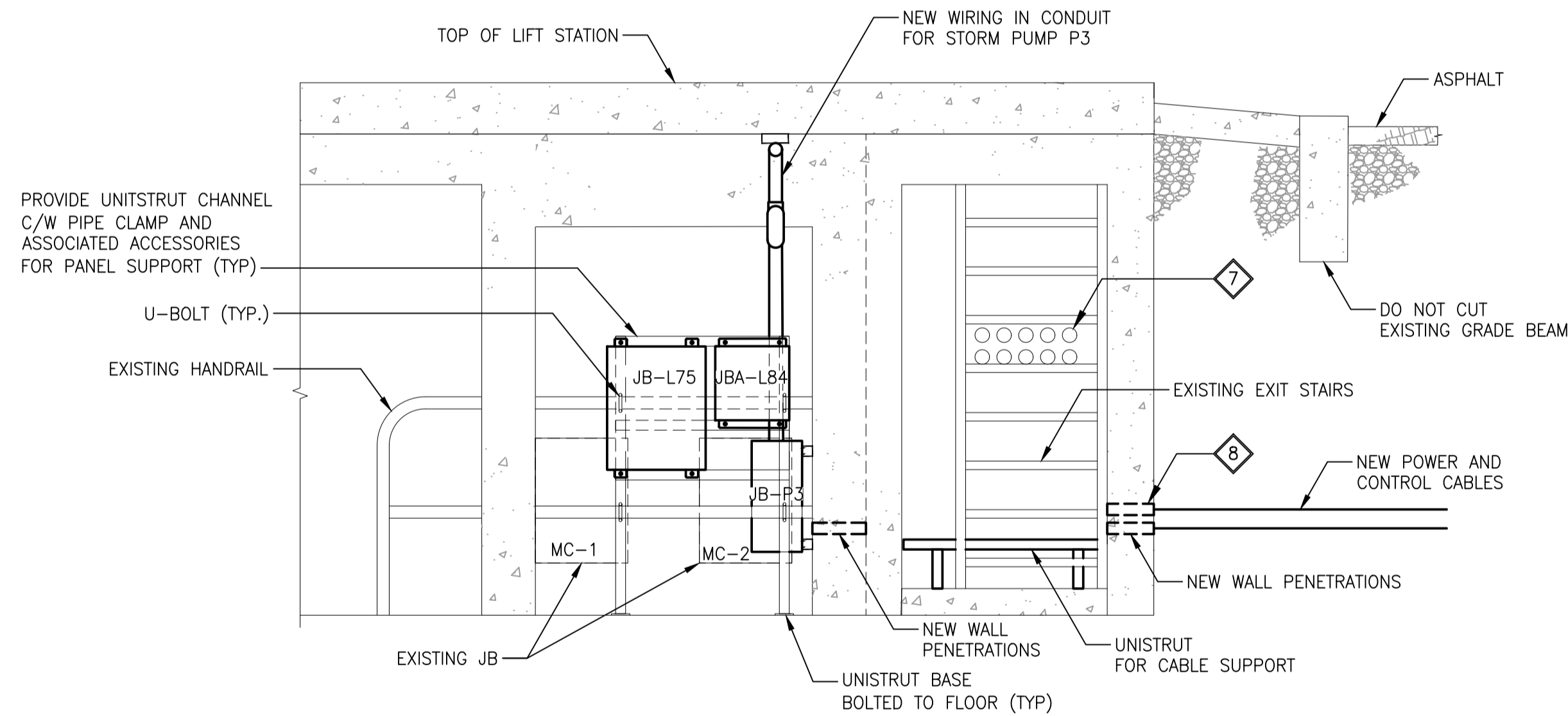
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LIFT STATION STORM PUMP ROOM
POWER PLAN (PARTIAL) AT EL. 229.679m
SCALE: 1:40



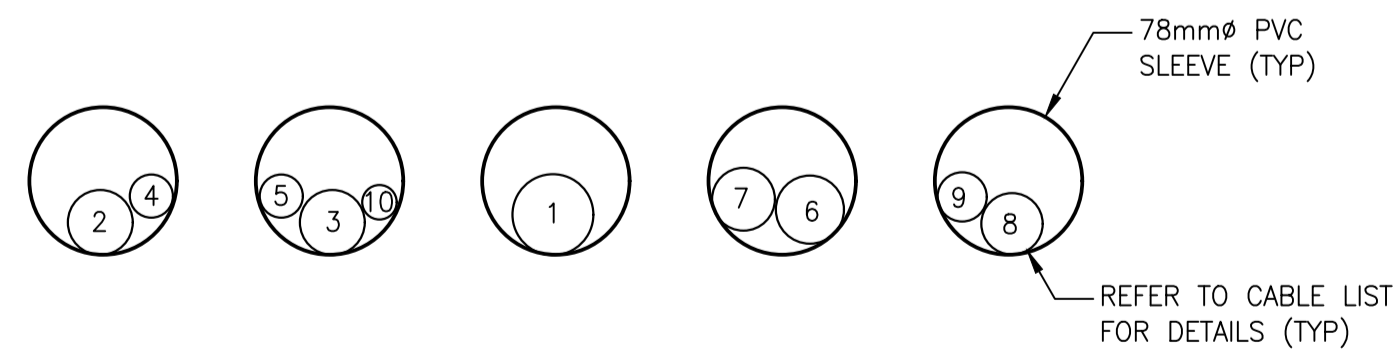
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LIFT STATION MOTOR ROOM
POWER PLAN (PARTIAL) AT EL. 225.383m
SCALE: 1:40



3
GENERATOR BUILDING POWER PLAN (PARTIAL)
SCALE: 1:20



A
JB-L75 AND JBA-L84 SECTION
SCALE: NTS



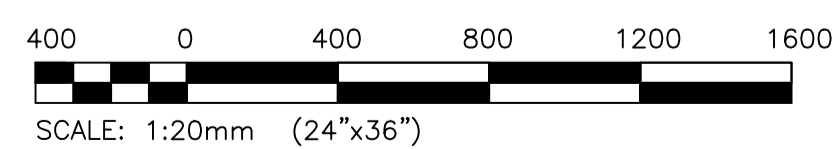
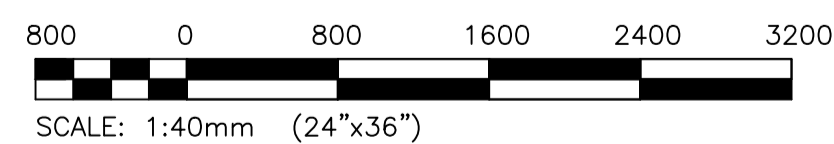
B
CABLE PENETRATION DETAILS
SCALE: NTS

KEYNOTES:

- 1 EXISTING EQUIPMENT TO REMAIN.
- 2 EXISTING P1 AND P2 JUNCTION BOXES AND DISCONNECT SWITCHES.
- 3 EXISTING LEVEL CONTROL PANEL.
- 4 NEW PUMP P3 POWER WIRING IN 53mm DIA. RIGID METAL ALUMINUM CONDUIT.
- 5 UTILIZE THE EXISTING CONCRETE FLOOR OPENING FOR THE NEW CABLE ROUTING AS REQUIRED.
- 6 PROVIDE JUNCTION BOX C/W TERMINAL BLOCKS FOR TRANSITION FROM TECK90 CABLE TO WIRING IN RMC CONDUIT.
- 7 PROVIDE WATERTIGHT SEAL TO WALL OPENINGS AFTER THE EXISTING POWER AND CONTROL CABLES HAVE BEEN REMOVED.
- 8 NEW LOCATION OF POWER AND CONTROL CABLES PENETRATIONS. PROVIDE WATERTIGHT SEAL TO CABLE PENETRATIONS THROUGH EXISTING CONCRETE WALL.
- 9 PROVIDE ALUMINUM STRUT CHANNEL FOR CABLE SUPPORT.
- 10 EXISTING UNDERGROUND FEEDER CABLES ENTERED THE BUILDING THROUGH 100mm DIAMETER PVC PIPE SLEEVES FOR STORM PUMP P3, SANITARY PUMPS P1 AND P2. EXISTING CABLES SHALL BE DISCONNECTED, REMOVED AND REPLACED WITH NEW AS INDICATED IN DRAWING REFERENCES 1 AND 2.
- 11 EXISTING ABANDONED UNDERGROUND CONTROL CONDUCTORS IN 100mm DIAMETER PVC SHALL BE REMOVED. THE EXISTING 100mm DIAMETER PVC CONDUIT SHALL BE CUT AND REPURPOSED AS PVC SLEEVE FOR THE NEW POWER AND CONTROL CABLES.
- 12 EXISTING UNDERGROUND POWER AND CONTROL CABLES IN 100mm DIAMETER PVC ENTERED THE BUILDING THROUGH 100mm DIAMETER PVC PIPE SLEEVES. EXISTING POWER AND CONTROL CABLES SHALL BE DISCONNECTED, REMOVED AND REPLACED WITH NEW AS INDICATED IN DRAWING REFERENCES 3, 4, 5 AND 6.
- 13 EXISTING ABANDONED UNDERGROUND POWER CONDUCTORS IN 100mm DIAMETER PVC SHALL BE REMOVED. THE EXISTING 100mm DIAMETER PVC CONDUIT SHALL BE CUT AND REPURPOSED AS PVC SLEEVE FOR THE NEW POWER CABLES.
- 14 EXISTING 100mm DIAMETER PVC CONDUIT SHALL BE CUT AND REPURPOSED AS PVC SLEEVE FOR 5kW HEATER AND AIR COMPRESSOR CIRCUITS.
- 15 PROVIDE NEW 200A, 3 PHASE, NON-FUSED DISCONNECT SWITCH IN NEMA12.
- 16 PROVIDE PENETRATION THROUGH EXISTING CONCRETE WALL.
- 17 NEW POWER AND CONTROL WIRING IN CONDUIT.
- 18 NEW HEATER TECK90 CABLE.
- 19 NEW P1, P2 AND AC3 POWER CABLES TO ELEV. 753.54.
- 20 NEW POWER AND CONTROL TECK90 CABLE.
- 21 CAT 6 CABLE FROM LIFT THE SHALL BE PROVIDED WITH AN EXTRA 25m LENGTH, COILED AND LOCATED UNDER THE STAIRS.

CABLE LIST		
CABLE	ITEM DESCRIPTION	CABLE TAG
1	3C, #2/0 AWG, TECK90, 1kV FOR STORM PUMP P3	C-P3-1
2	3C, #3 AWG, TECK90, 1kV FOR SANITARY PUMP P2	C-P2-1
3	3C, #1 AWG, TECK90, 1kV FOR SANITARY PUMP P1	C-P1-1
4	3C, #8 AWG, TECK90, 1kV FOR UNIT HEATERS	C-201-1
5	3C, #10 AWG, TECK90, 1kV FOR AIR COMPRESSOR AC3	C-AC3-1
6	20C, #10 AWG, TECK90, 600V FOR 120/20V LIGHTING AND POWER CIRCUITS	C-L75-1
7	20C, #12 AWG, TECK90, 600V FOR DISCRETE CONTROLS SIGNALS	CA-L75-1
8	8 PR, #16 AWG, TWISTED SHIELDED, ACIC FOR ANALOG SIGNALS	CA-L84-1
9	ARMORED CAT6 CABLE	CA-CAT6
10	#2/0 AWG BARE STRANDED COPPER GROUND CABLE	

NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
10	-	-
9	-	-
8	-	-
7	-	-
6	1-0197L-E0006-002_r01	120/240V POWER, CONTROL AND INSTRUMENT CABLING - GENERATOR BUILDING AND LIFT STATION
5	1-0197L-E0006-002_r00	120/240V POWER, CONTROL AND INSTRUMENT CABLING - GENERATOR BUILDING AND LIFT STATION
4	1-0197L-E0006-001_r01	120/240V POWER, CONTROL AND INSTRUMENT CABLING - GENERATOR BUILDING AND LIFT STATION
3	1-0197L-E0006-001_r00	120/240V POWER, CONTROL AND INSTRUMENT CABLING - GENERATOR BUILDING AND LIFT STATION
2	1-0197L-E0005-001_r01	600V EQUIPMENT POWER CABLING - GENERATOR BUILDING AND LIFT STATION
1	1-0197L-E0005-001_r00	600V EQUIPMENT POWER CABLING - GENERATOR BUILDING AND LIFT STATION



NO.	ISSUED FOR CONSTRUCTION	DATE	BY
0	ISSUED FOR CONSTRUCTION	2023 11 17	RG

KGS GROUP	
DESIGNED BY: D. GUEVARRA	CHECKED BY: [Signature]
DRAWN BY: R. GASPAR	APPROVED BY: [Signature]
SCALE: NTS	RELEASED FOR CONSTRUCTION
DATE: 2023/10/16	DATE:

ENGINEER'S SEAL
CONSULTANT DRAWING NUMBER: 23-0107-014_E2.02

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

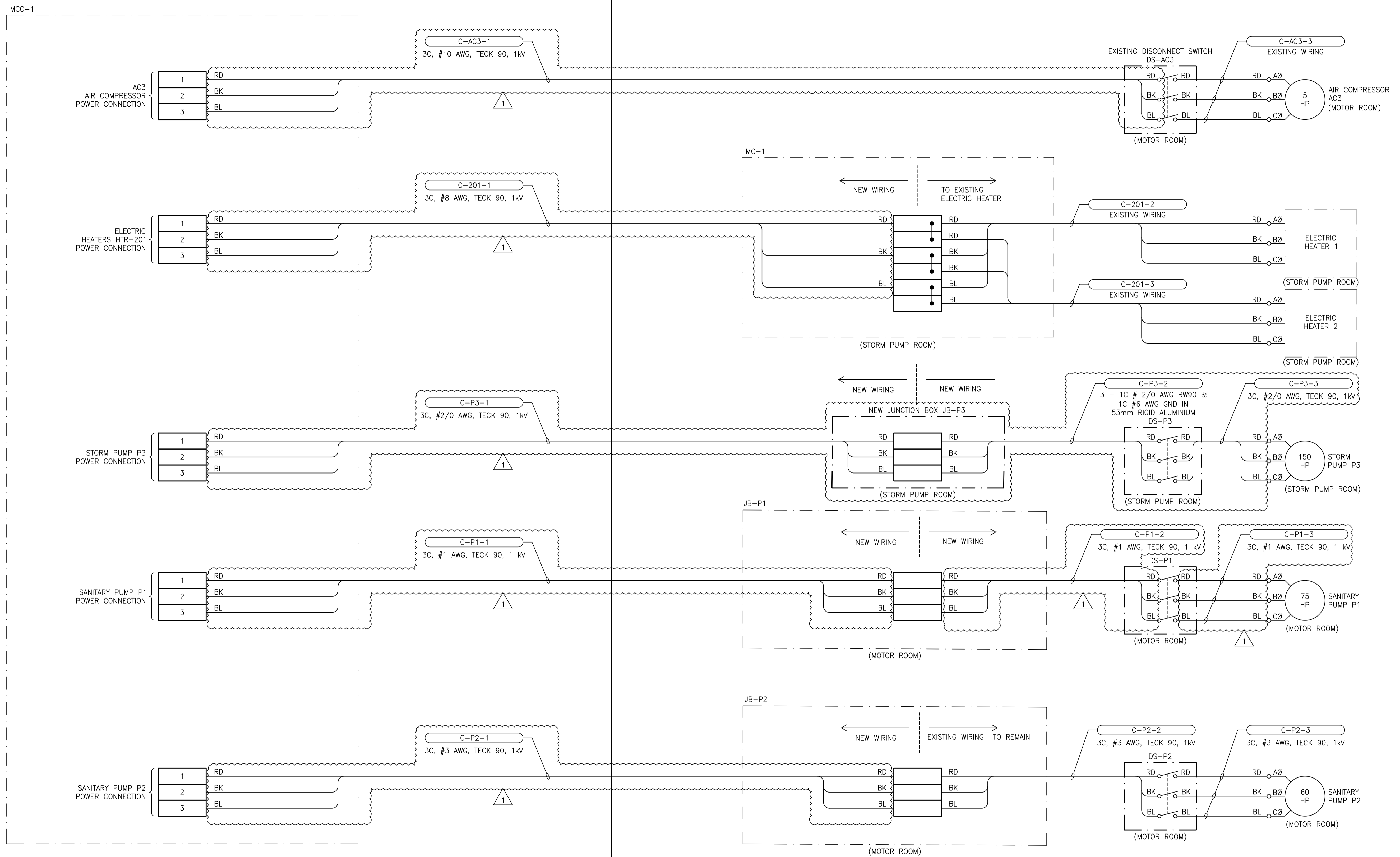
**WINDSOR PARK LIFT PUMPING STATION
FIRE HALL CABLING RELOCATION
ELECTRICAL PARTIAL POWER PLAN**

PLANS AND SECTIONS
GENERATOR BUILDING AND LIFT STATION

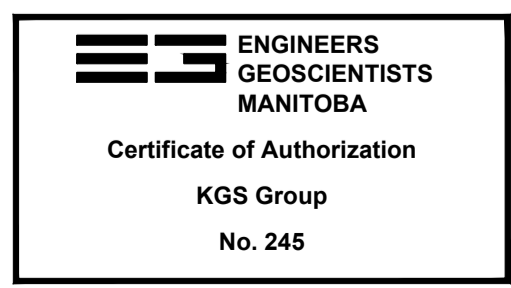
CITY DRAWING NUMBER: 1-0197L-E0004-001_r00 SHEET 1 OF 1

GENERATOR BUILDING

LIFT STATION



NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE



B.M. ELEV.	
CONSTRUCTION COMPLETION DATE: YYYY MM DD	
NO.	REVISIONS
1	ISSUED FOR CONSTRUCTION 2023 11 17 JAB
0	ISSUED FOR DEMOLITION 2023 11 17 JAB
NO.	REVISIONS

KGS GROUP	
DESIGNED BY: D. GUEVARRA	CHECKED BY: J. BOUCHARD
DRAWN BY: R. GASPAR	APPROVED BY: J. BOUCHARD
SCALE: NTS	RELEASED FOR CONSTRUCTION
DATE: 2023/10/16	DATE:

ENGINEER'S SEAL
CONSULTANT DRAWING NUMBER: 23-0107-014_E2.04

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

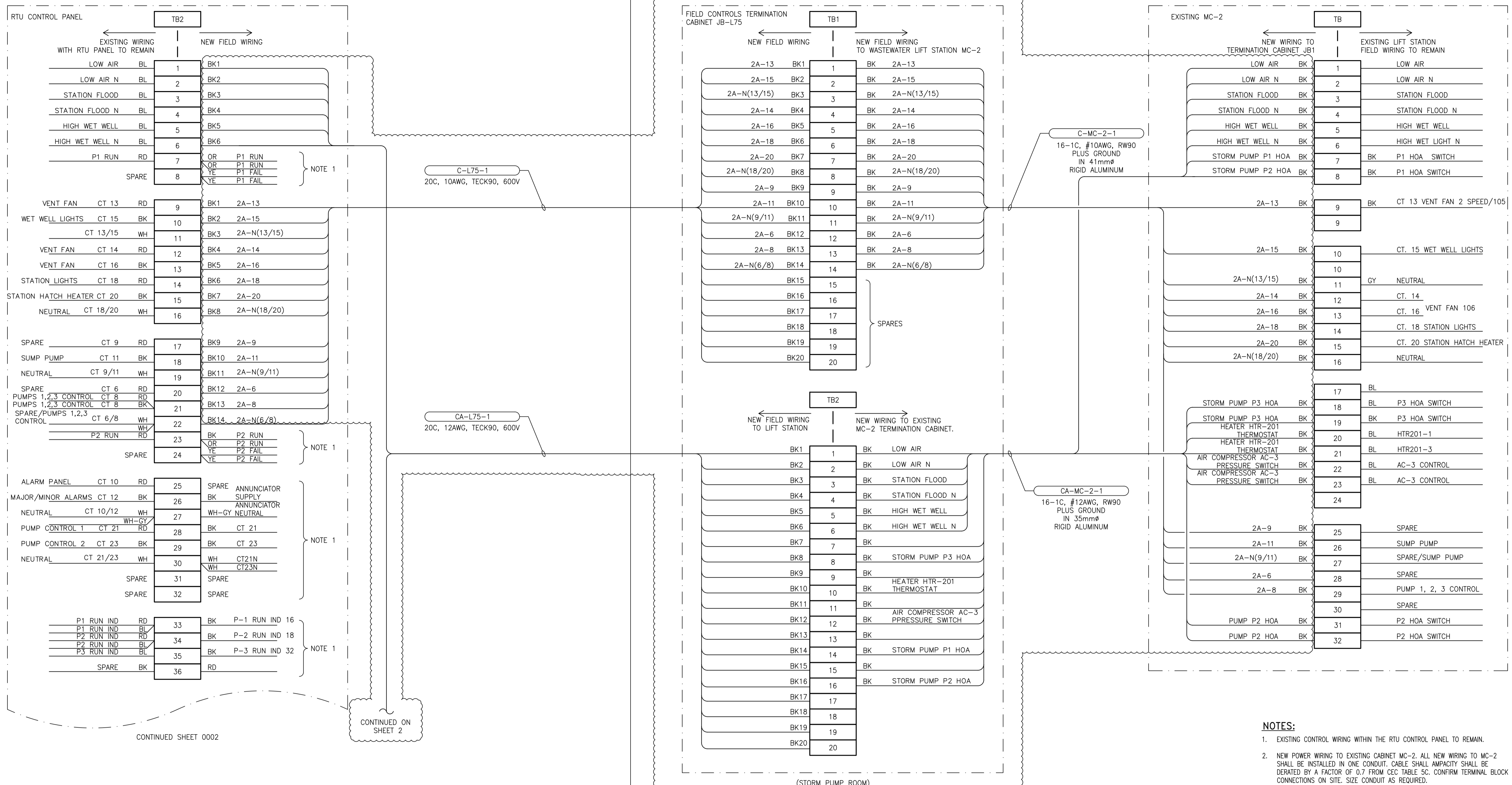
**WINDSOR PARK LIFT PUMPING STATION
FIRE HALL CABLING RELOCATION
CABLE CONNECTION DIAGRAM**

**600V EQUIPMENT POWER CABLING
GENERATOR BUILDING AND LIFT STATION**


CITY DRAWING NUMBER: **1-0197L-E0005-001_r01** SHEET **1** OF **1**

GENERATOR BUILDING

LIFT STATION



NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE




ENGINEERS GEOSCIENTISTS MANITOBA

 Certificate of Authorization

KGS Group


 No. 245

B.M. ELEV.	
CONSTRUCTION COMPLETION DATE: YYYY MM DD	
1 ISSUED FOR CONSTRUCTION	2023 11 17 JAB
0 ISSUED FOR DEMOLITION	2023 11 17 JAB
NO.	REVISIONS



DESIGNED BY: D. GUEVARRA	CHECKED BY: J. BOUCHARD
DRAWN BY: R. GASPAR	APPROVED BY: J. BOUCHARD
SCALE: NTS	RELEASED FOR CONSTRUCTION
DATE: 2023/10/16	DATE:

ENGINEER'S SEAL
CONSULTANT DRAWING NUMBER
23-0107-014_A5.04



THE CITY OF WINNIPEG

 WATER AND WASTE DEPARTMENT

 ENGINEERING DIVISION

WINDSOR PARK LIFT PUMPING STATION

FIRE HALL CABLING RELOCATION

CABLE CONNECTION DIAGRAM

120/240V POWER, CONTROL AND INSTRUMENT CABLING

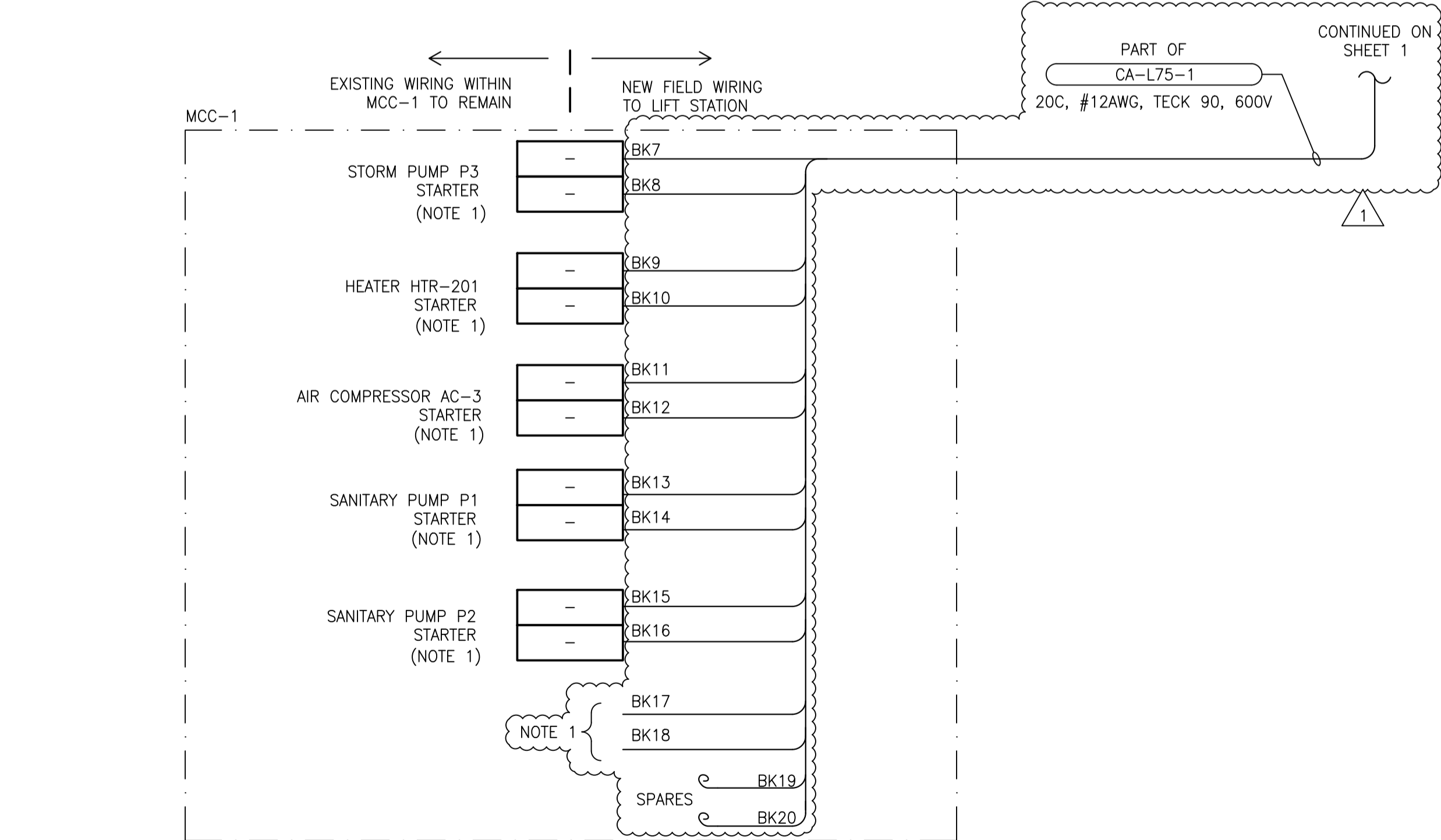
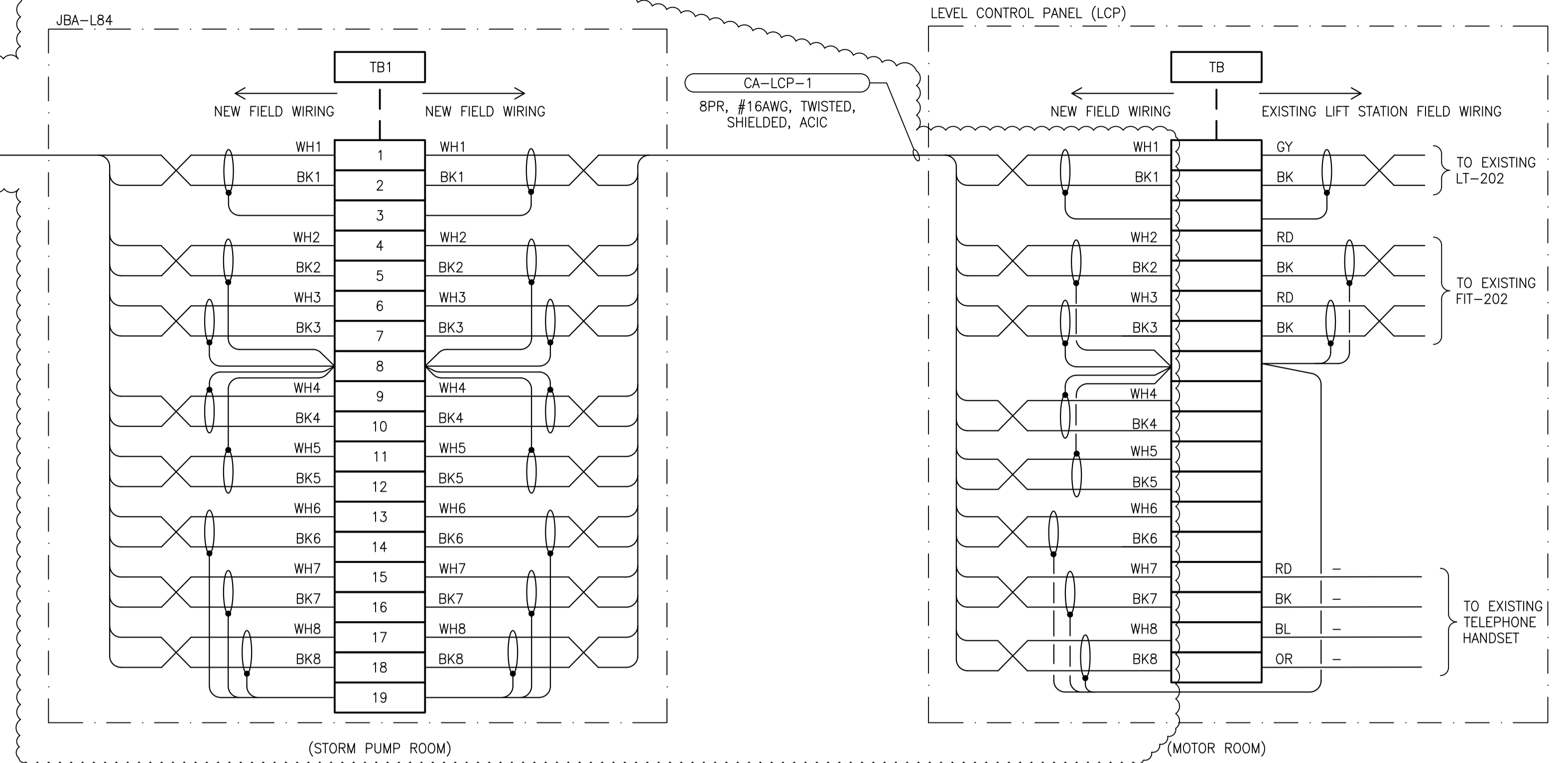
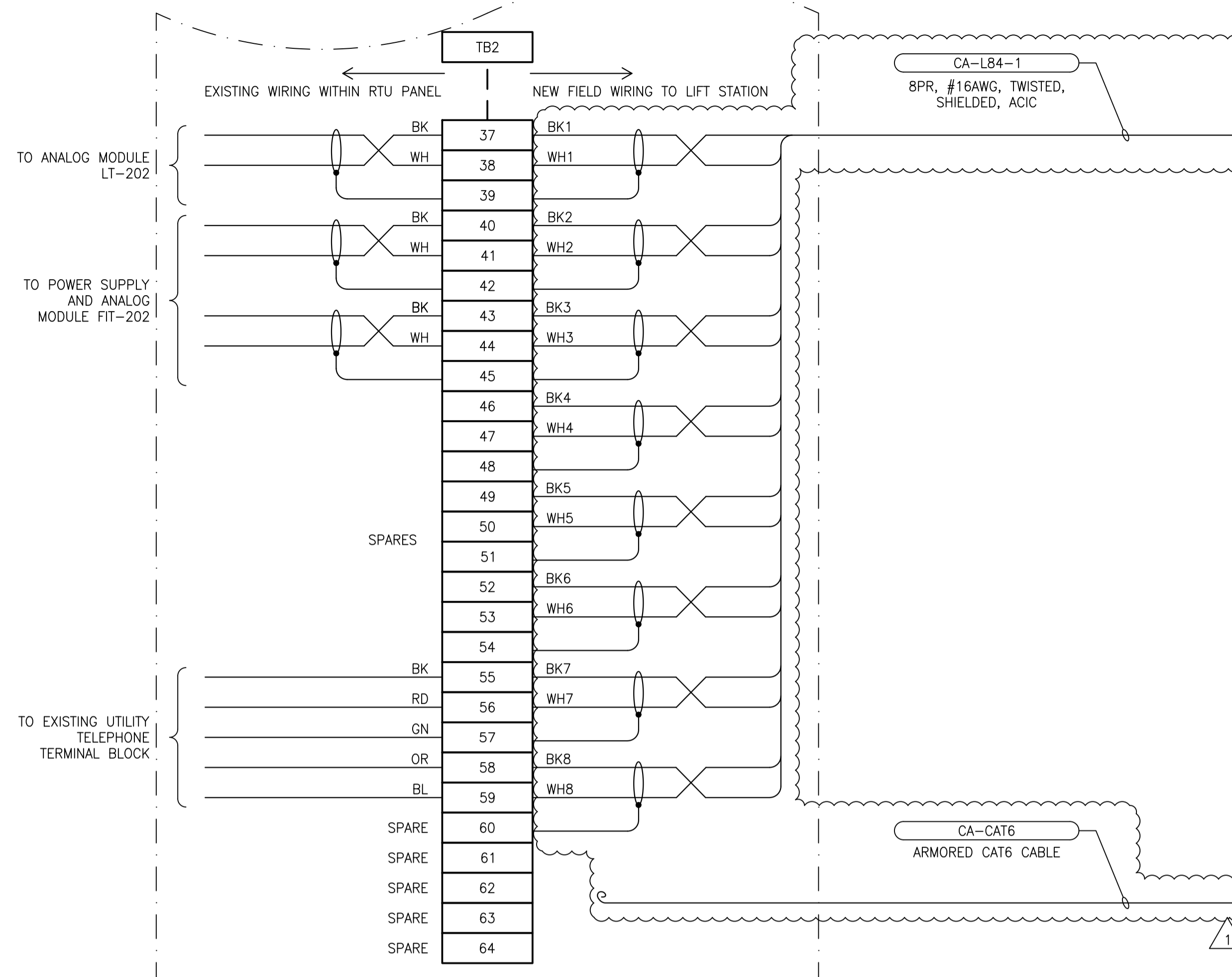
GENERATOR BUILDING AND LIFT STATION

CITY DRAWING NUMBER	1-0197L-E0006-001_r01
SHEET	1 OF 2

GENERATOR BUILDING

LIFT STATION

CONTINUED SHEET 1



- NOTES:**
1. CONFIRM EXACT TERMINAL BLOCK CONNECTION ON SITE AND REVIEW WITH ENGINEER FOR FURTHER DIRECTIONS PRIOR TO ANY SHUTDOWNS AND TRANSITION TO NEW CABLES.

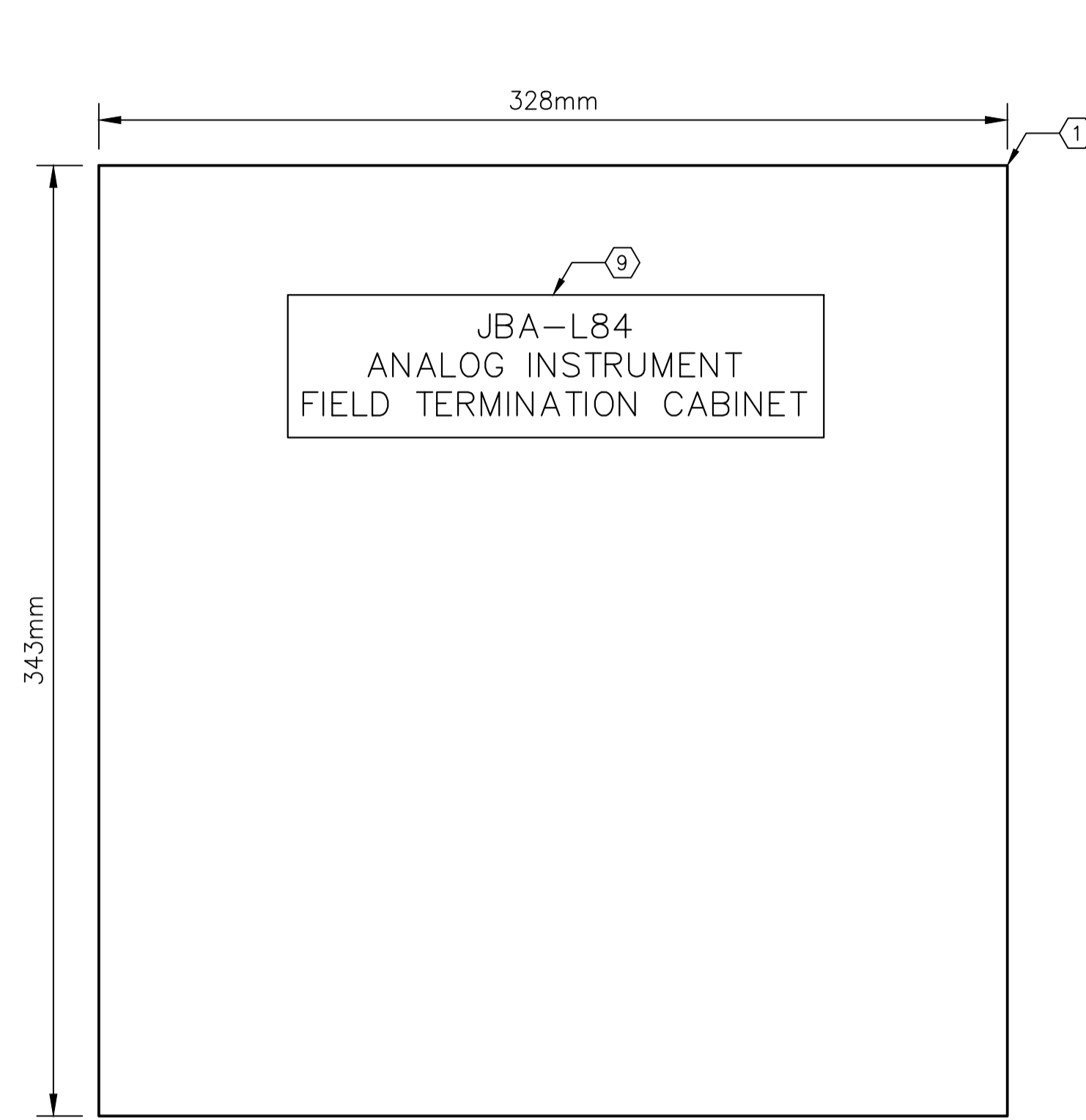
NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE



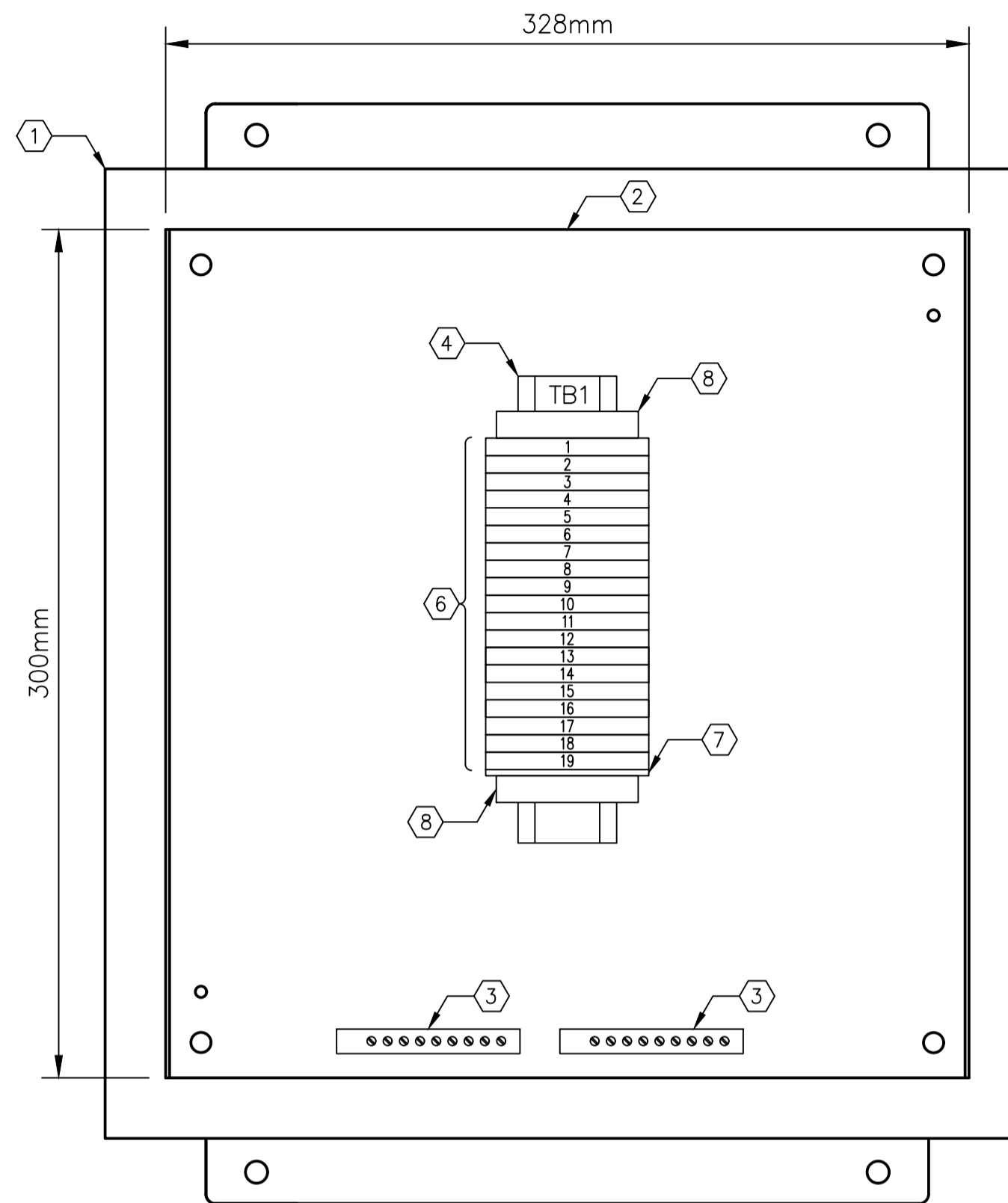
B.M. ELEV. _____ CONSTRUCTION COMPLETION DATE: YYYY MM DD _____			ENGINEER'S SEAL CONSULTANT DRAWING NUMBER 23-0107-014_A5.05	
DESIGNED BY: D. GUEVARRA DRAWN BY: R. GASPAR SCALE: NTS DATE: 2023/10/16	CHECKED BY: J. BOUCHARD APPROVED BY: J. BOUCHARD RELEASED FOR CONSTRUCTION DATE: _____		THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT ENGINEERING DIVISION WINDSOR PARK LIFT PUMPING STATION FIRE HALL CABLING RELOCATION CABLE CONNECTION DIAGRAM 120/240V POWER, CONTROL AND INSTRUMENT CABLING GENERATOR BUILDING AND LIFT STATION CITY DRAWING NUMBER: 1-0197L-E0006-002_r01	
1 ISSUED FOR CONSTRUCTION 2023 11 17 JAB 0 ISSUED FOR DEMOLITION 2023 11 17 JAB		PLOT DATE: 2023 11 16 BID OPPORTUNITY: _____ CONTRACT NUMBER: _____		SHEET 2 OF 2

GENERAL NOTES:

1. CONNECT ALL INCOMING GROUND WIRES TO GROUND BAR.
2. PROVIDE WIRE BARREL FERULES FOR ALL WIRING.
3. ALL TERMINAL BLOCKS SHALL BE NUMBERED AS SHOWN, COMPLETE WITH GROUP LABELING.



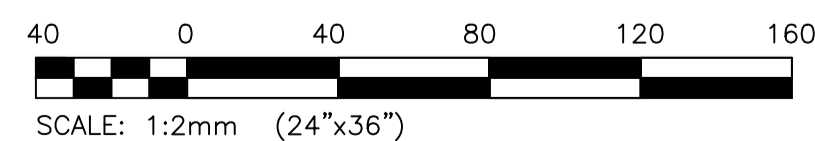
A EXTERIOR PANEL VIEW
SCALE: 1:2



B INTERIOR PANEL VIEW
SCALE: 1:2

BILL OF MATERIALS				
ITEM	QTY	DESCRIPTION	MANUFACTURER	MODEL No.
①	1	SINGLE-DOOR TYPE 12 WALL-MOUNTED ENCLOSURE	HOFFMAN	A1212CH
②	1	BACKPAN	HOFFMAN	A12P12
③	2	GROUND BAR, 10 TAPS	ILSCO	D167-10
④	AS REQ'D.	35mm DIN RAIL	PHOENIX CONTACT	0801733
⑤	AS REQ'D.	TERMINAL BLOCK MARKER	PHOENIX CONTACT	1004348
⑥	19	FEED-THROUGH TERMINAL	PHOENIX CONTACT	3046184
⑦	1	TERMINAL END PLATE	PHOENIX CONTACT	3047141
⑧	2	TERMINAL END CLAMP	PHOENIX CONTACT	1201442
⑨	1	LAMACOID, WHITE WITH BLACK TEXT	-	-

NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE



B.M. ELEV.			
CONSTRUCTION COMPLETION DATE: YYYY MM DD			
NO.	REVISIONS	DATE	BY
0	ISSUED FOR CONSTRUCTION	2023 11 17	

DESIGNED BY: D. GUEVARRA	CHECKED BY: <i>[Signature]</i>
DRAWN BY: R. GASPAR	APPROVED BY: <i>[Signature]</i>
SCALE: NTS	RELEASED FOR CONSTRUCTION: <i>[Signature]</i>
DATE: 2023/10/16	DATE:

ENGINEER'S SEAL	
CONSULTANT DRAWING NUMBER	23-0107-014_A5.06

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

**WINDSOR PARK LIFT PUMPING STATION
FIRE HALL CABLING RELOCATION
PANEL LAYOUT AND BILL OF MATERIALS
ANALOG INSTRUMENT FIELD TERMINATION CABINET
JBA-L84**

CITY DRAWING NUMBER	1-0197L-E0007-001_r00	SHEET 1 OF 1
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CONT. DIV.26 – ELECTRICAL SPECIFICATIONS

- 9.4.8.2. CHANNEL TYPE SUPPORTS FOR TWO OR MORE CABLES AT 300 MM CENTERS.
- 9.4.8.3. CABLE FITTINGS:
 - 9.4.8.3.1. MINIMUM REQUIREMENT: WATERTIGHT, APPROVED FOR TECK CABLE.
- 9.5. TYPE RW90 CONDUCTOR
 - 9.5.1. IN ACCORDANCE WITH CSA C22.2 NO.38
 - 9.5.2. CIRCUIT CONDUCTORS SHALL BE CONCENTRIC STRANDED SOFT COPPER, SIZE AS INDICATED (12 AWG MINIMUM WHERE NOT INDICATED).
 - 9.5.3. INSULATION TO BE CHEMICALLY CROSS-LINKED THERMOSETTING POLYETHYLENE RATED TYPE RW90 XLPE, 600V
 - 9.5.4. SUITABLE FOR INSTALLATION IN TEMPERATURES DOWN TO -40 °C.
 - 9.5.5. 90 °C CONDUCTOR OPERATING TEMPERATURE.
- 9.6. WIRING IDENTIFICATION
 - 9.6.1. PROVIDE WIRING IDENTIFICATION IN ACCORDANCE WITH SECTION 6 – IDENTIFICATIONS.
- 9.7. GENERAL INSTALLATION NOTES
 - 9.7.1. DRAWINGS ARE SCHEMATIC ONLY. ALL ARMoured CABLES SHALL BE SECURELY FASTENED WITH APPROVED CLIPS.
 - 9.7.2. ALL CONDUCTORS, WIRES, ETC. TO BE LABELLED IN INDELIBLE INK AT
 - 9.7.3. ALL SURFACE MOUNTED CABLES SHALL BE PROVIDED WITH A STAND-OF CABLE CLAMP/CLIP.
 - 9.7.4. GROUP CABLES WHERE POSSIBLE.
 - 9.7.5. INSTALL CABLE TAGS.
- 9.8. INSTALLATION OF CONTROL CABLES
 - 9.8.1. GROUND SHIELDS AT ONE END ONLY. WHERE POSSIBLE, GROUND SHIELDS AT THE END WHERE POWER IS SUPPLIED TO THE CABLE. UTILIZE SHIELD GROUNDING BAR IN PANELS, WHERE PRESENT, TO GROUND OVERALL SHIELDS. INDIVIDUAL PAIR SHIELDS TO BE GROUNDED ON APPROPRIATE TERMINALS.
 - 9.8.2. SHIELD DRAIN WIRES, AT THE UNGROUNDED END, ARE TO BE TAPED BACK TO THE CABLE. FULLY INSULATE THE SHIELD. DO NOT CUT THE SHIELD DRAIN WIRE OFF.
 - 9.8.3. ACIC CABLE MAY BE INSTALLED IN CABLE TRAY, PROVIDED THAT:
 - 9.8.3.1. THE CABLE TRAY DOES NOT CONTAIN POWER CABLES, UNLESS SPECIFICALLY AUTHORIZED BY THE CONTRACT ADMINISTRATOR IN WRITING.
 - 9.8.3.2. THE ACIC CABLE VOLTAGE RATING IS EQUAL OR GREATER THAN THE HIGHEST VOLTAGE CONTAINED IN THE CABLE TRAY.

10. HANGERS AND SUPPORT FOR ELECTRICAL SYSTEMS

- 10.1. FRAMING AND SUPPORT SYSTEMS:
 - 10.1.1. CONDUIT SUPPORT STRUCTURES SHALL EMPLOY AN ALUMINUM STRUT FRAMING SYSTEM TOGETHER WITH THE MANUFACTURER'S CONNECTING COMPONENTS AND FASTENERS FOR A COMPLETE SYSTEM.
 - 10.1.2. FINISHES:
 - 10.1.2.1. WET LOCATIONS: ALUMINUM.
 - 10.1.2.2. INDOORS, DRY LOCATIONS: ALUMINUM.
 - 10.1.2.3. NUTS, BOLTS, MACHINE SCREWS: STAINLESS STEEL.
- 10.2. 1.1 CONCRETE AND MASONRY ANCHORS
 - 10.2.1. MATERIALS: HARDENED STEEL INSERTS, ZINC PLATED FOR CORROSION RESISTANCE.
 - 10.2.2. COMPONENTS: NON-DRILLING ANCHORS FOR USE IN PREDRILLED HOLES, SIZED TO SAFELY SUPPORT THE APPLIED LOAD WITH A MINIMUM SAFETY FACTOR OF FOUR.
 - 10.2.2.1. MANUFACTURER: HILTI (CANADA) LIMITED
- 10.3. 1.1 INSTALLATION
 - 10.3.1. SECURE EQUIPMENT TO SOLID MASONRY, TILE AND PLASTER SURFACES WITH LEAD ANCHORS OR NYLON SHIELDS.
 - 10.3.2. SECURE EQUIPMENT TO POURED CONCRETE WITH EXPANDABLE INSERTS.
 - 10.3.3. SECURE EQUIPMENT TO HOLLOW MASONRY WALLS OR SUSPENDED CEILINGS WITH TOGGLE BOLTS.
 - 10.3.4. SUPPORT EQUIPMENT, CONDUIT OR CABLES USING CLIPS, SPRING LOADED BOLTS, CABLE CLAMPS DESIGNED AS ACCESSORIES TO BASIC CHANNEL MEMBERS.
 - 10.3.5. FASTEN EXPOSED CONDUIT OR CABLES TO BUILDING CONSTRUCTION OR SUPPORT SYSTEM USING STRAPS.
 - 10.3.5.1. ONE_HOLE STEEL STRAPS TO SECURE SURFACE CONDUITS AND CABLES 50 MM AND SMALLER.
 - 10.3.5.2. TWO_HOLE STEEL STRAPS FOR CONDUITS AND CABLES LARGER THAN 50 MM.
 - 10.3.5.1. BEAM CLAMPS TO SECURE CONDUIT TO EXPOSED STEEL WORK.
 - 10.3.6. SUSPENDED SUPPORT SYSTEMS.
 - 10.3.6.1. SUPPORT INDIVIDUAL CABLE OR CONDUIT RUNS WITH 6 MM DIA THREADED RODS AND SPRING CLIPS.
 - 10.3.6.2. SUPPORT 2 OR MORE CABLES OR CONDUITS ON CHANNELS SUPPORTED BY 6 MM DIA THREADED ROD HANGERS WHERE DIRECT FASTENING TO BUILDING CONSTRUCTION IS IMPRACTICAL.
 - 10.3.7. FOR SURFACE MOUNTING OF TWO OR MORE CONDUITS USE CHANNELS AT 1.5 M ON CENTRE SPACING.
 - 10.3.8. PROVIDE METAL BRACKETS, FRAMES, HANGERS, CLAMPS AND RELATED TYPES OF SUPPORT STRUCTURES WHERE INDICATED OR AS REQUIRED TO SUPPORT CONDUIT AND CABLE RUNS.
 - 10.3.9. ENSURE ADEQUATE SUPPORT FOR RACEWAYS AND CABLES DROPPED VERTICALLY TO EQUIPMENT WHERE THERE IS NO WALL SUPPORT.
 - 10.3.10. DO NOT USE WIRE LASHING OR PERFORATED STRAP TO SUPPORT OR SECURE RACEWAYS OR CABLES.
 - 10.3.11. DO NOT USE SUPPORTS OR EQUIPMENT INSTALLED FOR OTHER TRADES FOR CONDUIT OR CABLE SUPPORT EXCEPT WITH PERMISSION OF OTHER TRADE AND APPROVAL OF CONTRACT ADMINISTRATOR.
 - 10.3.12. INSTALL FASTENINGS AND SUPPORTS AS REQUIRED FOR EACH TYPE OF EQUIPMENT CABLES AND CONDUITS, AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
 - 10.3.13. TOUCH UP ABRASED SURFACES AND CUT ENDS OF GALVANIZED MEMBERS WITH AN APPROVED GALVANIZING REPAIR COMPOUND.

11. SPLITTERS, JUNCTION PULL BOXES AND CABINETS

- 11.1. JUNCTION AND PULL BOXES
 - 11.1.1. WELDED STEEL CONSTRUCTION WITH SCREW_ON FLAT COVERS FOR SURFACE MOUNTING.
 - 11.1.2. COVERS WITH 25 MM MINIMUM EXTENSION ALL AROUND, FOR FLUSH_MOUNTED PULL AND JUNCTION BOXES.
 - 11.1.3. TYPE AND SIZE AS INDICATED ON THE DRAWINGS, OR SIZED AS PER CODE REQUIREMENTS
 - 11.1.4. UTILIZE STAINLESS STEEL OR PVC CONSTRUCTION FOR NEMA 4X JUNCTION AND PULL BOXES.
- 11.2. CABINETS
 - 11.2.1. NEMA 12: SHEET STEEL CABINET, WITH HINGED DOOR, LATCH, LOCK, 2 KEYS, CONTAINING SHEET STEEL BACKBOARD FOR SURFACE MOUNTING.
- 11.3. EXECUTION
 - 11.3.1. JUNCTION, PULL BOXES AND CABINETS INSTALLATION
 - 11.3.1.1. INSTALL PULL BOXES IN INCONSPICUOUS BUT ACCESSIBLE LOCATIONS.
 - 11.3.1.2. MOUNT CABINETS WITH TOP NOT HIGHER THAN 2 M ABOVE FINISHED FLOOR.
 - 11.3.1.3. INSTALL TERMINAL BLOCKS AS INDICATED IN TYPE T CABINETS.
 - 11.3.1.4. ONLY MAIN JUNCTION AND PULL BOXES ARE INDICATED. INSTALL PULL BOXES SO AS NOT TO EXCEED 30 M OF CONDUIT RUN BETWEEN PULL BOXES.
- 11.4. IDENTIFICATION
 - 11.4.1. PROVIDE EQUIPMENT IDENTIFICATION IN ACCORDANCE WITH SECTION 6 – IDENTIFICATIONS.
 - 11.4.2. INSTALL SIZE 2 IDENTIFICATION LABELS INDICATING SYSTEM NAME, VOLTAGE AND PHASE

12. BONDING AND GROUNDING

- 12.1. PROVIDE A COMPLETE BONDING AND GROUNDING SYSTEM AS REQUIRED BY CODE AND SPECIFIED HEREIN.
- 12.2. PROVIDE A COMPLETE PERMANENT, CONTINUOUS GROUNDING SYSTEM INCLUDING CONDUCTORS AND CONNECTORS.
- 12.3. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE CADWELDED OR COMPRESSION TYPE AND ALL GROUND CONNECTIONS ABOVE GRADE SHALL BE COMPRESSION TYPE CONNECTIONS.
- 12.4. INSTALL RIGID PVC CONDUIT SLEEVES WHERE GROUND WIRES PASS THROUGH CONCRETE SLABS.
- 12.5. PROVIDE UL LISTED BONDING CLAMPS AND TERMINATIONS.
- 12.6. ALL NON-CURRENT CARRYING METAL PARTS SHALL BE GROUNDED AND/OR BONDED IN ACCORDANCE WITH THE CODE.
- 12.7. THE BUILDING STRUCTURAL STEEL SHALL BE BONDED TO THE BUILDING'S GROUNDING SYSTEM.

END OF SPECIFICATIONS

NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
		REFERENCE DRAWINGS



B.M. ELEV.			
CONSTRUCTION COMPLETION DATE: YYYY MM DD			
NO.	REVISIONS	DATE	BY
1	ISSUED FOR CONSTRUCTION	2023 11 17	MS

KGS GROUP			
DESIGNED BY	D. GUEVARRA	CHECKED BY	<i>MS</i>
DRAWN BY	R. GASPAR	APPROVED BY	<i>MS</i>
SCALE:	NTS	RELEASED FOR CONSTRUCTION	
DATE	2023/10/16	DATE	

ENGINEER'S SEAL
CONSULTANT DRAWING NUMBER
23-0107-014_E3.02

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT
ENGINEERING DIVISION

**WINDSOR PARK LIFT PUMPING STATION
FIRE HALL CABLING RELOCATION
CABLE CONNECTION DIAGRAM**

ELECTRICAL SPECIFICATIONS

CITY DRAWING NUMBER **1-0197L-E0008-002**

SHEET **2** OF **2**

Lift Station Data Recoring Sheet

Recorded By	<u>CM</u>	Date	<u>Sept 15/12</u>
Station Name	<u>WINDSOR Park LIFT</u>		
GPS Coordinates	_____		

Electrical Service 1					
Voltage	Phases	Number of conductors	Amperage	Main Breaker	
				Make	Model
600v	3 ϕ	4w.	400A	WESTINGHOUSE	

Electrical Service 2					
Voltage	Phases	Number of conductors	Amperage	Main Breaker	
				Make	Model

Sub Panel					
Voltage	Phases	Amperage	Main Breaker		Spare Slots
			Make	Model	
120/240	1 ϕ 3w.	100A	WESTINGHOUSE	EB2100	LOTS

Transformer	
Configuration	KVA
600 - 120/240	15 kVA

SANITARY Pump

Pump 1 Motor			Make:		
Voltage	Phases	Amperage	Service Factor	Frame	RPM
600v	3 ϕ	150A 60HP/56A	1.15	404YPT	1135
Starter: <u>WESTINGHOUSE A200M4CAC Site 4</u>					
Over Current Protection: <u>150A WESTINGHOUSE BRK MCP431550R</u>					
Overload Protection: <u>FH 85</u>					

SANITARY Pump

Pump 2 Motor			Make:		
Voltage	Phases	Amperage	Service Factor	Frame	RPM
600v	3 ϕ	60HP/56A	1.15	404YPT	1135
Starter: <u>WESTINGHOUSE A200M4CAC Site 4</u>					
Over Current Protection: <u>150A WESTINGHOUSE BRK MCP431550R</u>					
Overload Protection: <u>FH 85</u>					

STORM
PUMP

Pump 3 Motor		Make:			
Voltage	Phases	Amperage	Service Factor	Frame	RPM
600V	3φ	150HP/134A	1.15	K444T	1760
Starter: Westinghouse size 5 WE201K5CE					
Over Current Protection: 250A Westinghouse Brkr.					
Overload Protection: FH27 135A-146A					

Pump 4 Motor		Make:			
Voltage	Phases	Amperage	Service Factor	Frame	RPM
Starter:					
Over Current Protection:					
Overload Protection:					

Pump 5 Motor		Make:			
Voltage	Phases	Amperage	Service Factor	Frame	RPM
Starter:					
Over Current Protection:					
Overload Protection:					

Pump 6 Motor		Make:			
Voltage	Phases	Amperage	Service Factor	Frame	RPM
Starter:					
Over Current Protection:					
Overload Protection:					

General Electrical Condition:

Other Comments:
 Genset Back up.