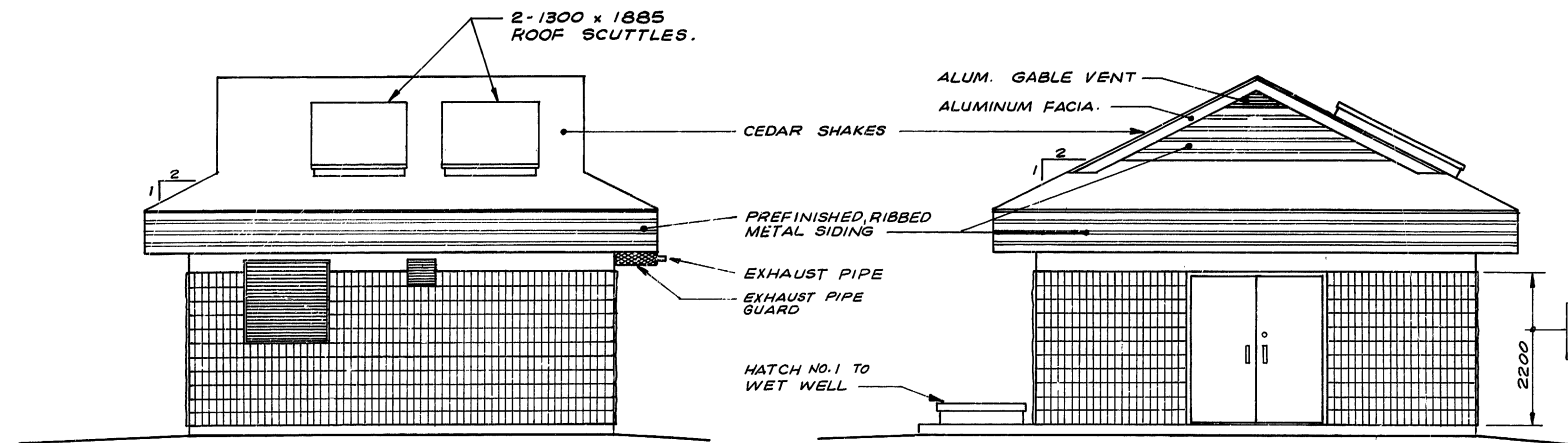
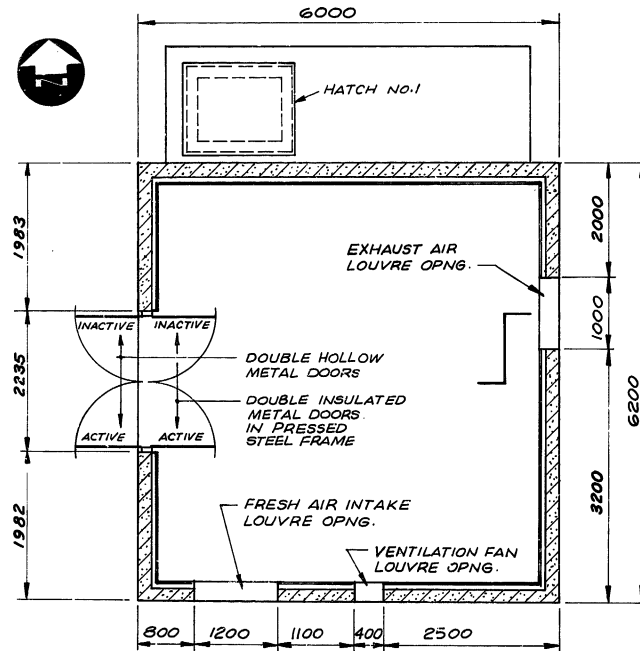


APPENDIX B – HISTORICAL DRAWINGS

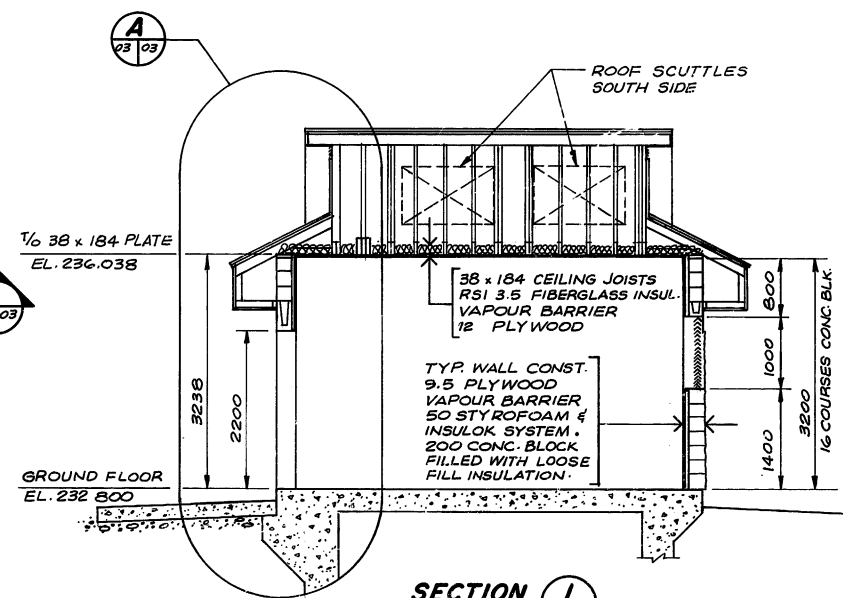


SOUTH ELEVATION
SCALE 1:50

WEST ELEVATION
SCALE 1:50



FLOOR PLAN
SCALE 1:50



SECTION 1
SCALE 1:50

NOTE
LAY 450 WIDE #25 FELT OVER TOP PORTION OF EA. COURSE OF SHAKES. BOT. OF FELTS 380 ABOVE BUTT OF SHAKES.

DOUBLE STARTER COURSE OF SHAKES

19 PLYWOOD

PREFINISHED RIBBED METAL SIDING

DRIP CAP

ANGLE TRIM

PERFORATED ALUM. SOFFIT

6# LAG SCREWS IN LEAD ANCHORS @ 800 %

ALUM. "J" CHANNEL

38 x 140 RAKE RAFTER

ALUMINUM FACIA

38 x 140 BLOCKING @ 600

PREFINISHED, RIBBED METAL SIDING

9.5 PLYWOOD

ALUMINUM SOFFIT

GALV. FLASHING

CEDAR SHAKES

19 PLYWOOD

910 WIDE "ICE & WATER SHIELD" MEMBRANE

190 190 450 FELT TYP. EXP.

SEE NOTE

38 x 89 FRAMING

CONT. 38 x 89

38 x 184 TOP PLATE

CONT. LINTEL BLK. FILLED W. CONC. 2-15 M. CONT.

10# x 200 LG. ANCHOR BOLTS @ 1000

200 CONC. BLK. FILLED W. LOOSE FILL ZONOLITE INSUL.

50 STYROFOAM SECURED BY "INSULOK" SYSTEM

4 MIL. POLY. VAPOUR BARRIER

9.5 PLYWOOD (PAINTED) SCREWED TO "INSULOK" CHANNELS

200 x 400 LINTEL BLK. OVER DOORS, CONC. FILL 2-15M BOT.

9.5 PLYWOOD VAPOUR BARRIER

50 STYROFOAM

PRESS VAPOUR BARRIER INTO BEAD OF SEALANT APPLIED TO BOT. OF STYROFOAM.

40 x 40 PRECOMPRESSED EXPANDING JT. FILLER

13 FLEXCELL

200 REINF. CONC. APRON

25 FLEXCELL

2%

PLACE INSUL. OVER R₂ TO PREVENT CONDENSATION ON U-BOLT.

DOUBLE JAM NUTS

R₂ 75 x 210 x 12 4w 2-14# HOLES

3-38 x 235 BEAM

1/2 CEILING JOISTS EL. 236.038

12 PLYWOOD

12# U-BOLT LIFTING HOOK

CAULK AROUND HOLES

DETAIL B
SCALE 1:15

6.1 FLASHING ALL AROUND & EXTENDED UP INTO THE CAP FLASHING LIP AT TOP OF THE ROOF SCUTTLE CURB. USE STEP FLASHING ON SIDES.

GALV. STEEL ROOF SCUTTLE CURB 1/2" 25 mm FIBER BOARD INSULATION ALL AROUND.

20 x 89 FRAMING 4 SIDES OF EA. REMOVABLE PANEL

1885

4-100# ALUM. VENT LOUVRES

60 OVERLAP ALL AROUND

100 STYROFOAM GLUED TO 19 PLYWOOD

1700

CEGAR SHAKES

100 STYROFOAM GLUED TO 19 PLYWOOD

REMOVABLE PANELS FOR ROOF SCUTTLE OPENINGS

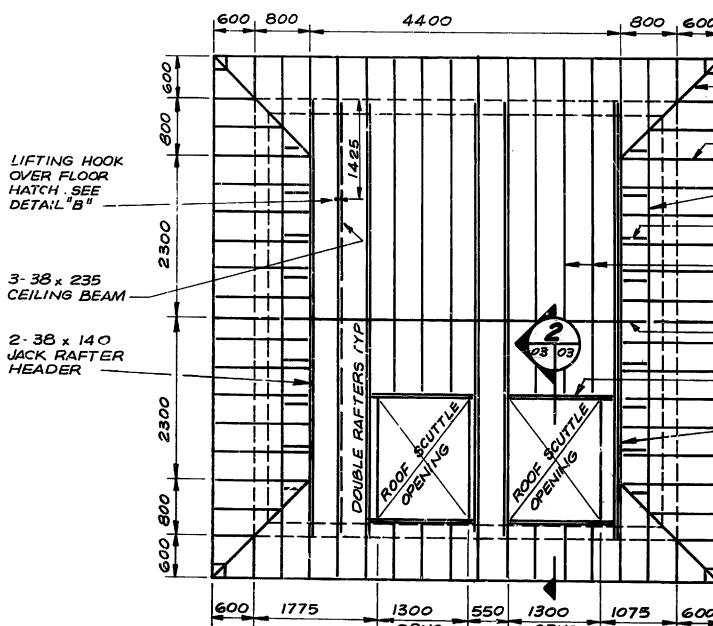
SECTION 2
SCALE 1:25

INSTALL A 910 WIDE STRIP OF "ICE & WATER SHIELD" ALL AROUND ROOF SCUTTLES & EXTEND UP THE CURB TO THE CAP FLASHING LIP.

12 PLYWOOD VAPOUR BARRIER RSI 3.5 FIBERGLASS INSUL. SECURED BY WOOD STRAPPING AROUND ROOF SCUTTLE OPENINGS

6 x 25 FOAM WEATHER STRIPPING TAPE AT ALL JTS. ALSO SEAL ALL JTS. WITH STRIPPABLE CAULKING.

*10 x 100 LG. FLAT HEAD WOOD SCREWS IN CHROME COUNTERSUNK WASHERS @ 200 MAX. ALL AROUND



ROOF FRAMING PLAN
SCALE 1:50

NOTE
CEILING JOISTS 38 x 184 @ 400 EXCEPT WHERE OTHERWISE NOTED. CEILING JOIST LAYOUT SIMILAR TO ROOF RAFTERS. PROVIDE 2 ROWS OF X-BRIDGING.

NO.	REVISIONS	DATE	BY

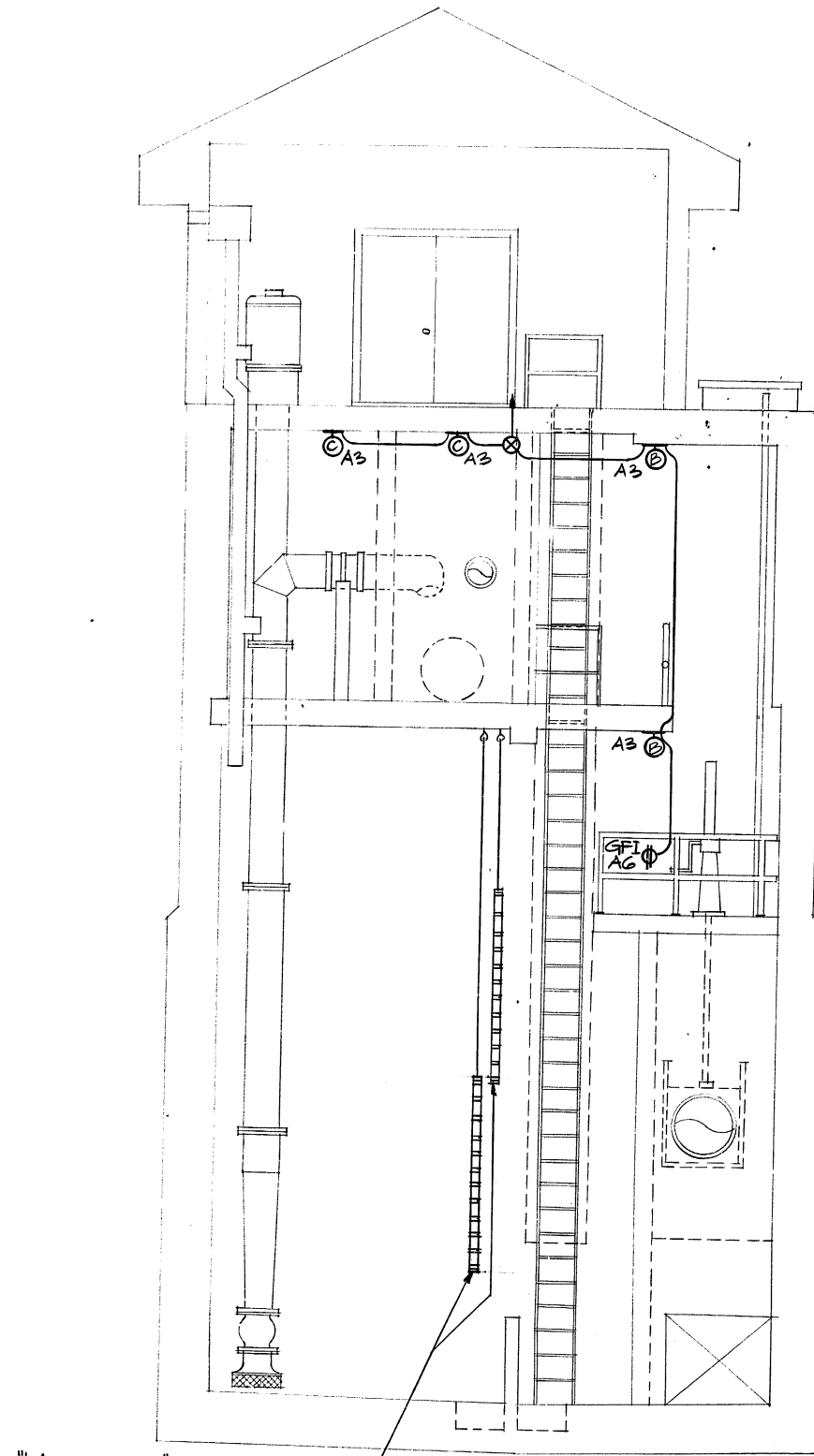
DILLON Consulting Engineers - Planners Environmental Scientists	
DESIGNED BY W.P.S.	CHECKED BY A.G.
DRAWN BY W.P.S.	APPROVED BY M.B. M. J. G.
HOR. SCALE: AS SHOWN	
VERTICAL: AS SHOWN	
DATE: MAR. 87	

ENGINEER'S SEAL 27/6/87 A.F.G. GOSSEN REGISTERED PROFESSIONAL ENGINEER
CONSULTANT DRAWING NO. M-87-D-3

THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION	
KEEWATIN UNDERPASS PUMP STATION	CITY DRAWING NUMBER U229-87-P03
SUPERSTRUCTURE PLANS, ELEVATIONS & DETAILS	SHEET OF B-5679

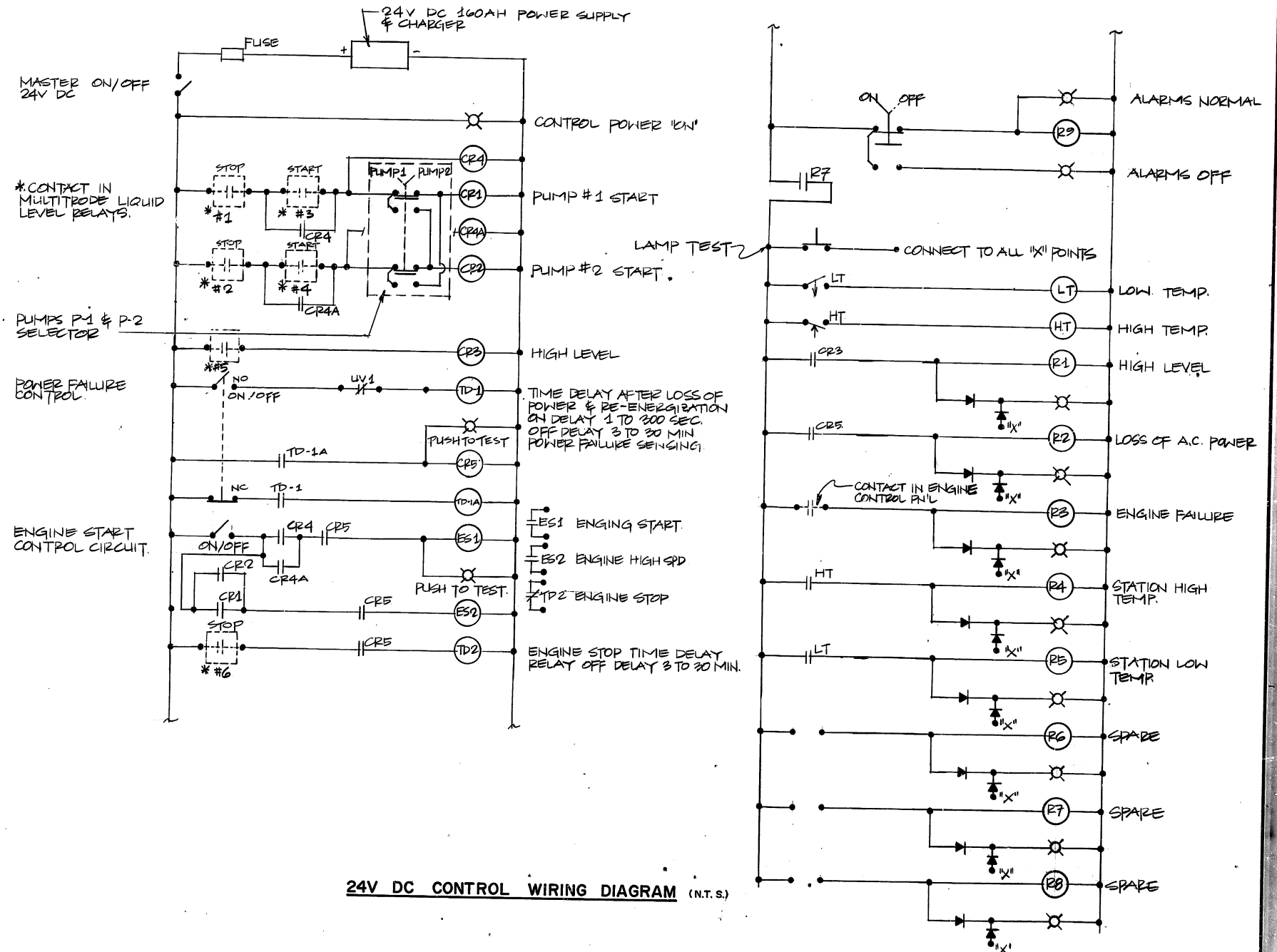
RECORD DRAWING
12/10/88
APPROVED BY: [Signature]
DATE: 12/10/88

AUTHORIZED BY: [Signature] 187-07-23
ACCEPTED BY: [Signature] 770626
DATE: 7/7/87



SECTION
SCALE 1:40

NOTE
TERMINATE SPARE MULTITRODE SENSOR
CONDUCTORS ON TERMINAL BLOCKS IN
CONTROL PANEL & IDENTIFY.



24V DC CONTROL WIRING DIAGRAM (N.T.S.)

NOTE
PROVIDE 1 (ONE) SET OF NO/NC CONTACTS
ON DELAYS R-1 TO R-8 FOR REMOTE
ALARM CONNECTION.

RECORD DRAWING
APPROVED BY: *[Signature]* DATE: 12/10/88

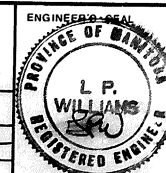
AUTHORIZED BY: *[Signature]* 1987-07-23
ACCEPTED BY: *[Signature]* DATE: 12/10/88

WILLIAMS
1247 Lonsdale Avenue,
Winnipeg, Manitoba,
Canada R3M 1V8
Telephone (204) 453-9220

NO.	REVISIONS	DATE	BY	DATE

BILLON
Consulting Engineers - Planners
Environmental Scientists

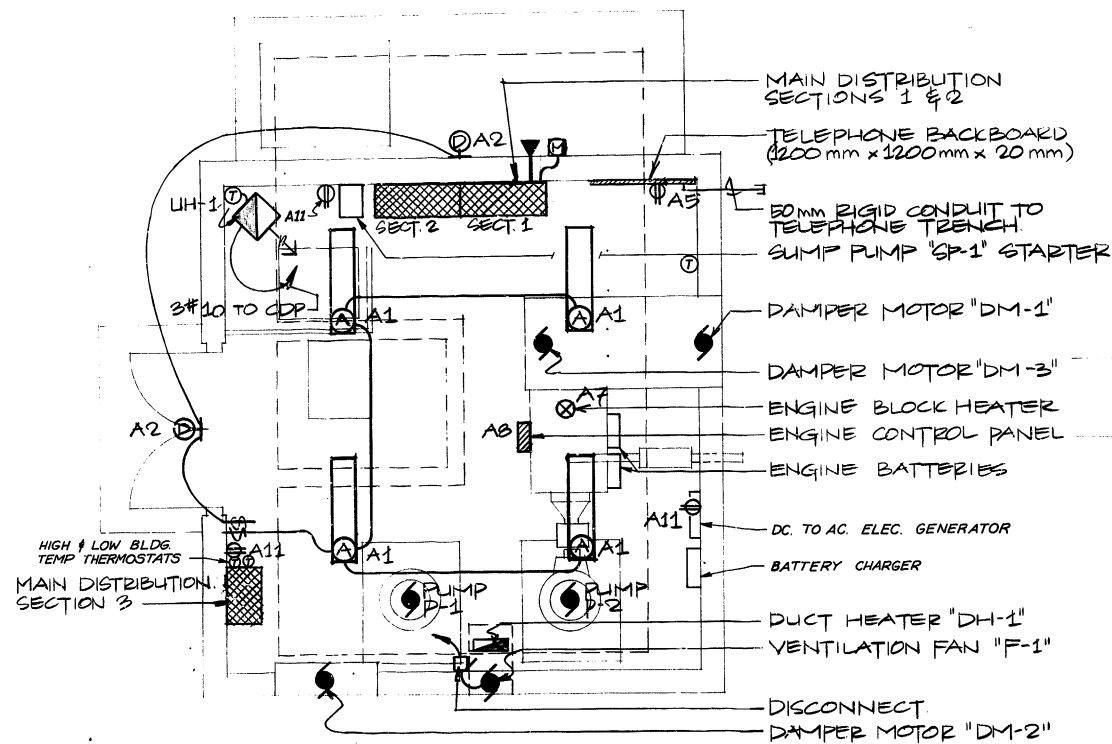
DESIGNED BY: A.E.C.
CHECKED BY: L.P.W.
DRAWN BY: B.A.M.
APPROVED BY: *[Signature]*
HOR. SCALE: VERTICAL:
CONSULTANT DRAWING NO. M-87-D-15



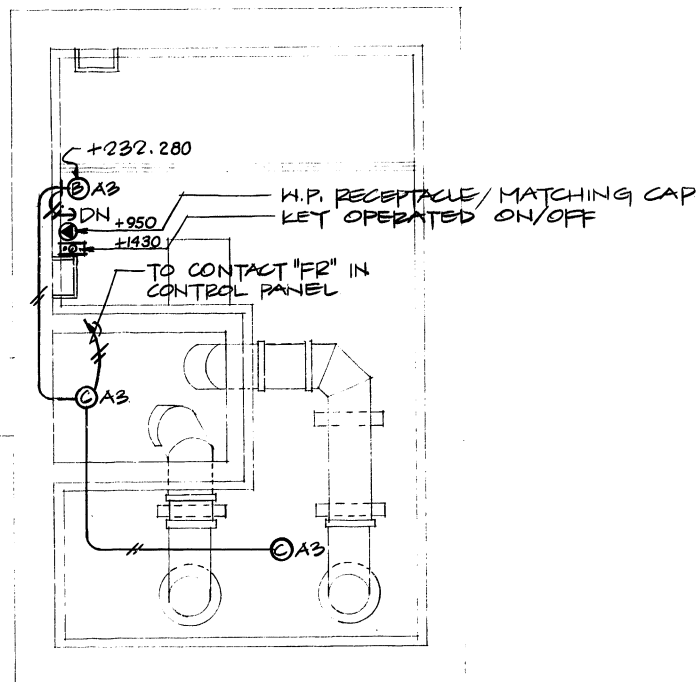
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION

KEEWATIN UNDERPASS
PUMP STATION
ELECTRICAL
SECTION & DETAILS

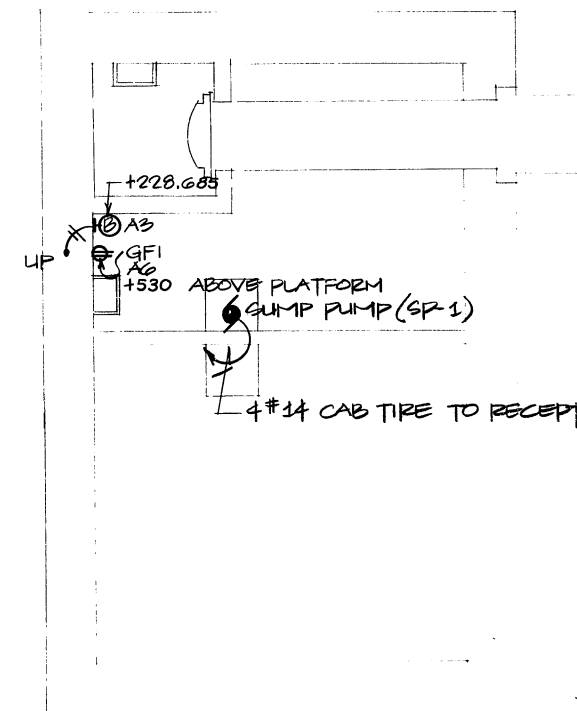
CITY DRAWING NUMBER
U229-97-P15
SHEET OF
B-5691



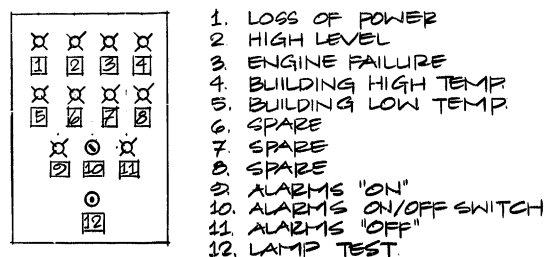
GROUND FLOOR PLAN - ELEV. 232.800
SCALE 1:40



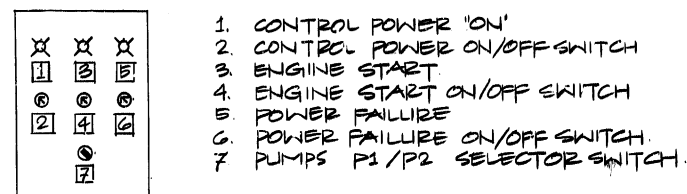
PIPING FLOOR PLAN - ELEV. 229.150
SCALE 1:40



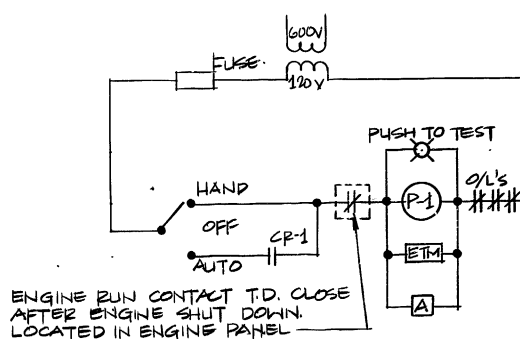
WET WELL PLAN - ELEV. 220.600
SCALE 1:40



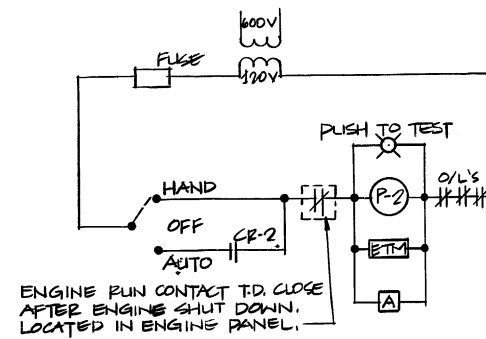
STATUS PANEL SUGGESTED LAYOUT (N.T.S.)



ALARM PANEL SUGGESTED LAYOUT (N.T.S.)



PUMP P-1 WIRING DIAGRAM (N.T.S.)
SEE NOTES #1 & #2



PUMP P-2 WIRING DIAGRAM (N.T.S.)
SEE NOTES #1 & #2

NOTES

- SUPPLY AND INSTALL A SIEMENS #3 UNB TRIPPING UNIT IN THE STARTERS FOR "P-1" & "P-2". WIRE AND CONNECT TO THE THERMISTERS PROVIDED WITH THE PUMP MOTORS.
- WIRE & CONNECT D.C. SOLENOIDS FOR OILERS ON PUMPS "P-1" & "P-2". PROVIDE AUXILIARY RELAYS IN THE STARTERS FOR PUMPS "P-1", "P-2", AND IN THE ENGINE CONTROL PANEL AS REQUIRED.



AUTHORIZED BY: *[Signature]* 1987-07-23
ACCEPTED BY: *[Signature]* 1987-07-23

1217 Lorette Avenue,
Winnipeg, Manitoba
Canada, R3M 1V8
Telephone (204) 453-9220

NO.	REVISIONS	DATE	BY

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY: A.E.C.
CHECKED BY: L.R.W.
DRAWN BY: B.A.M.
APPROVED BY: *[Signature]*

HOR. SCALE
VERTICAL

DATE

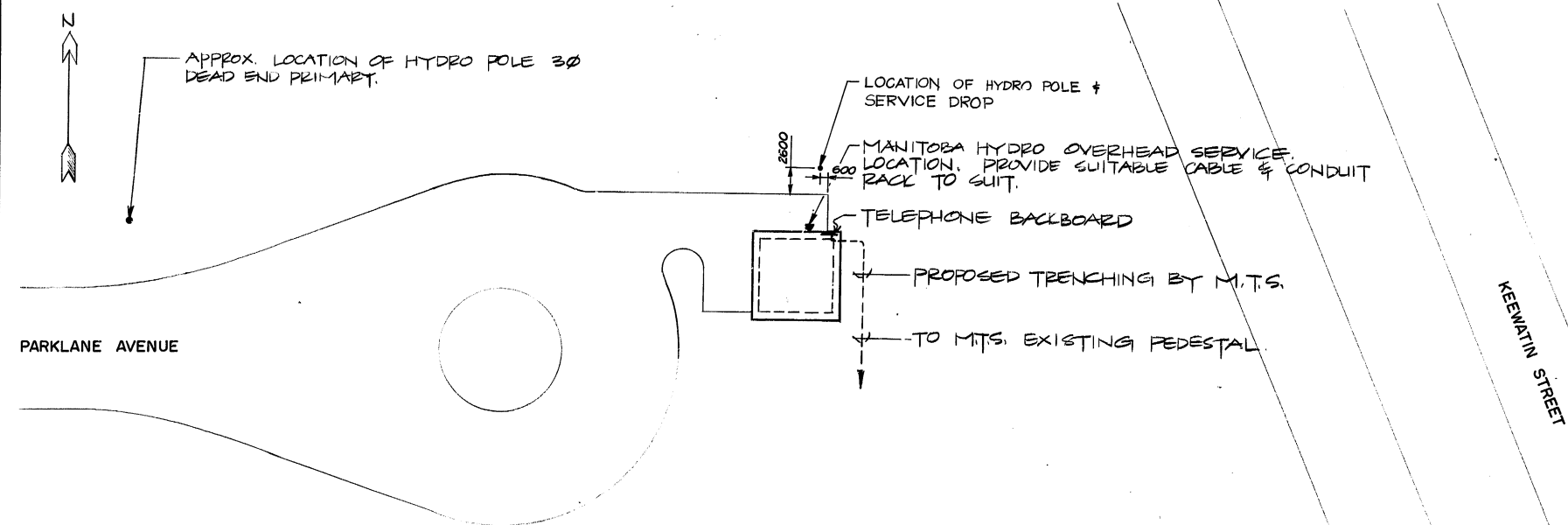
ENGINEER'S SEAL
PROVINCE OF MANITOBA
L.P. WILLIAMS
REGISTERED ENGINEER
CONSULTANT DRAWING NO.
M-87-D-14

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION

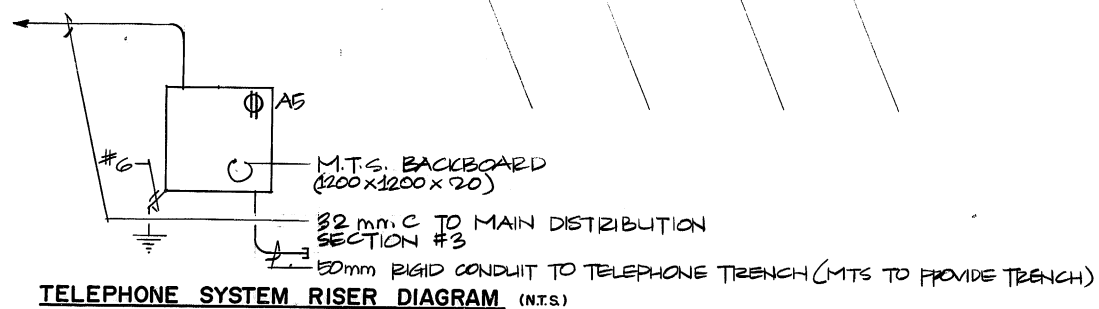
KEEWATIN UNDERPASS
PUMP STATION

ELECTRICAL
FLOOR PLAN & DETAILS

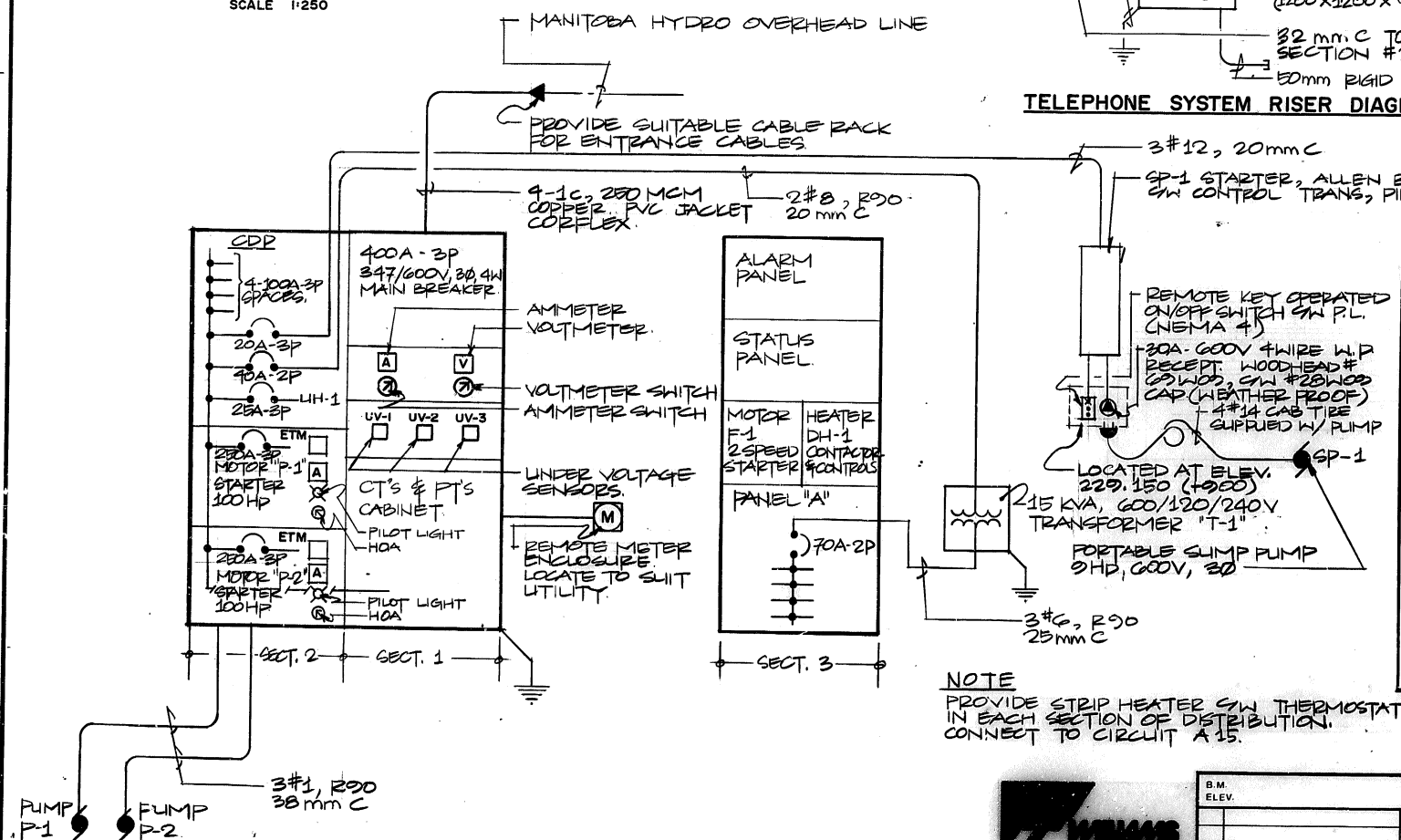
CITY DRAWING NUMBER
U229-87-P14
SHEET OF
B-5690



SITE PLAN - ELECTRICAL
SCALE 1"=250'



TELEPHONE SYSTEM RISER DIAGRAM (N.T.S.)



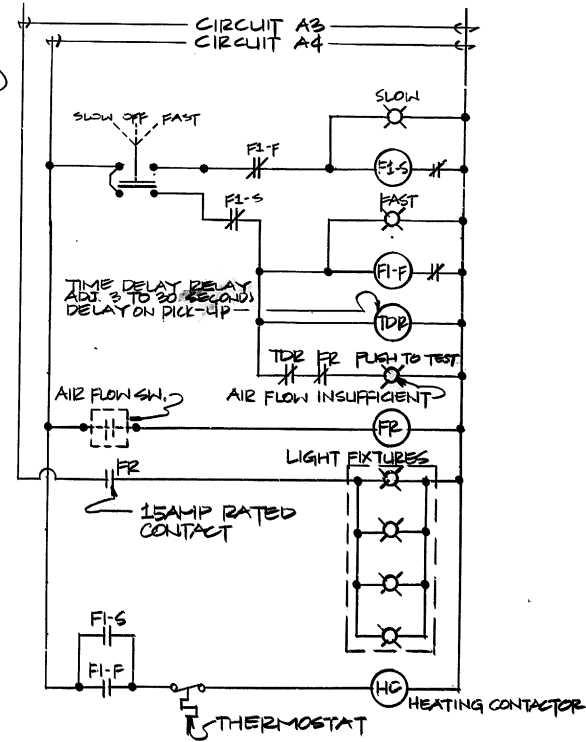
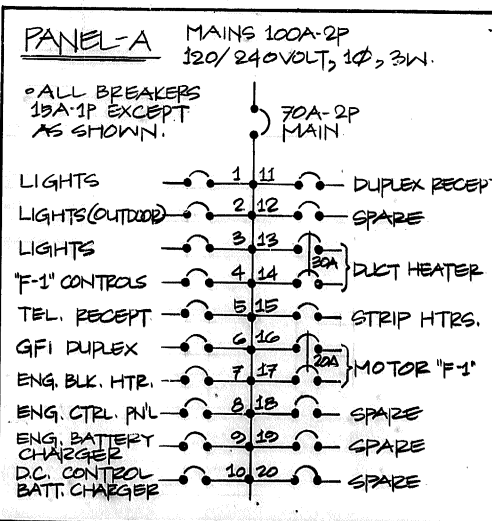
MAIN DISTRIBUTION RISER DIAGRAM (N.T.S.)
400 AMPS, 347/600 V, 30, 4W

SYMBOL SCHEDULE

	FLUORESCENT LIGHTING FIXTURE, TYPE "A"
	INCANDESCENT LIGHTING FIXTURE, WALL OR CEILING MOUNTED, AS SHOWN
	SINGLE POLE, SINGLE THROW WALL SWITCH
	DUPLEX CONVENIENCE RECEPTACLES 15A-125V
	CODE SIZED JUNCTION BOX
	UNIT HEATER
	THERMOSTAT
	MOTOR NO. "P-1"
	MOTOR DISCONNECT
	MAIN DISTRIBUTION BOARD

RECORD DRAWING

DATE: 12/10/88



VENTILATION FAN F-1 WIRING DIAGRAM (N.T.S.)

1217 Lorne Avenue,
Winnipeg, Manitoba,
Canada, R3M 1V8
Telephone (204) 453-9220

AUTHORIZED BY: *[Signature]* 1987-07-23
ACCEPTED BY: *[Signature]* 970426

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: A.E.C.
CHECKED BY: L.P.W.
DRAWN BY: B.A.M.
APPROVED BY: *[Signature]*
HOR. SCALE: VERTICAL:
DATE

ENGINEER'S SEAL
PROVINCE OF MANITOBA
L.P. WILLIAMS
REGISTERED ENGINEER

CONSULTANT DRAWING NO.
M-87-D-13

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION

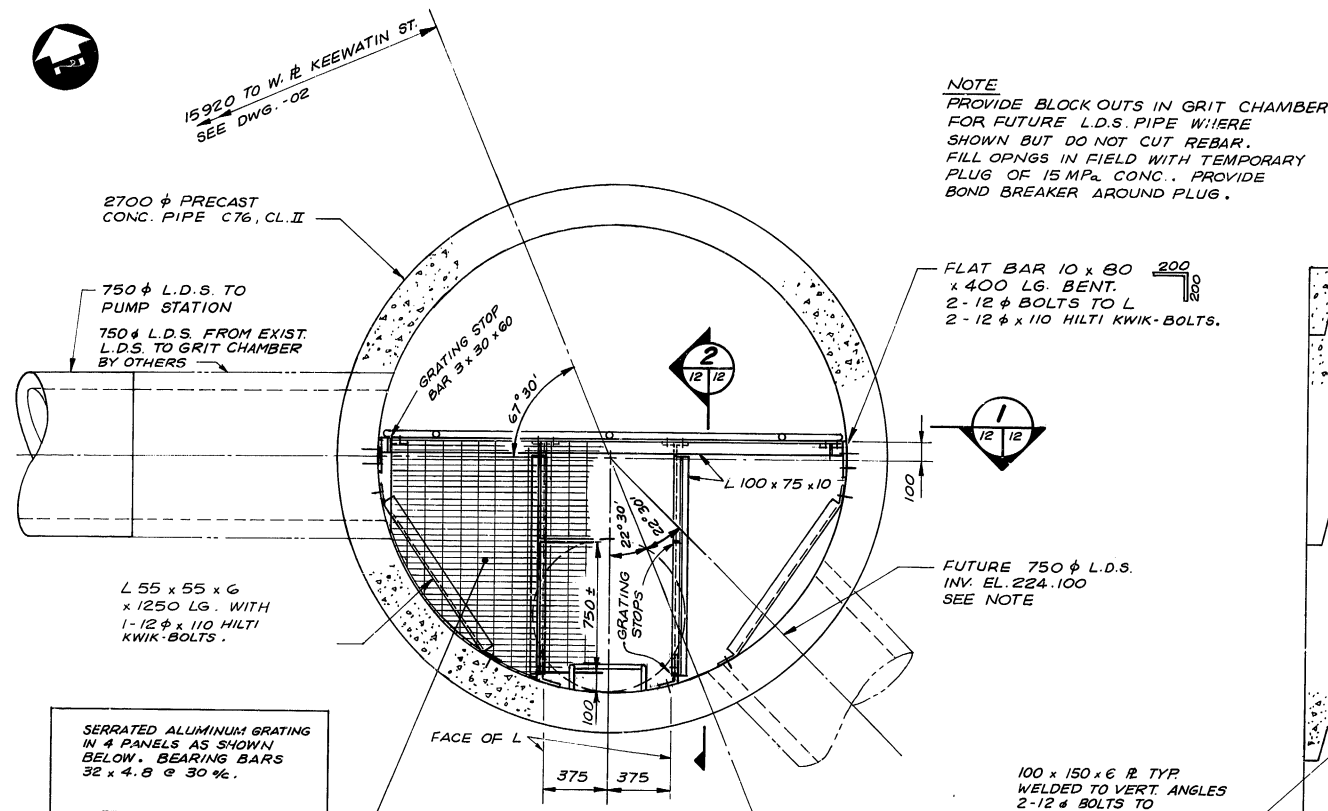
KEEWATIN UNDERPASS
PUMP STATION

ELECTRICAL
SITE PLAN & DETAILS

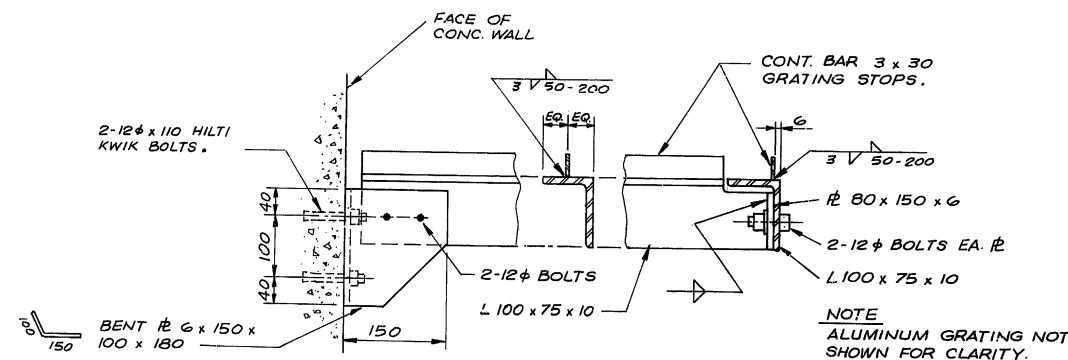
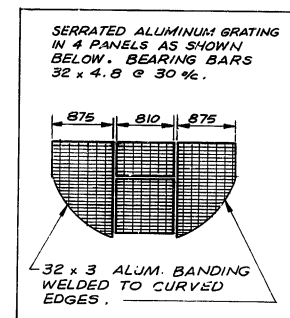
CITY DRAWING NUMBER
U229-87-P13

SHEET CF

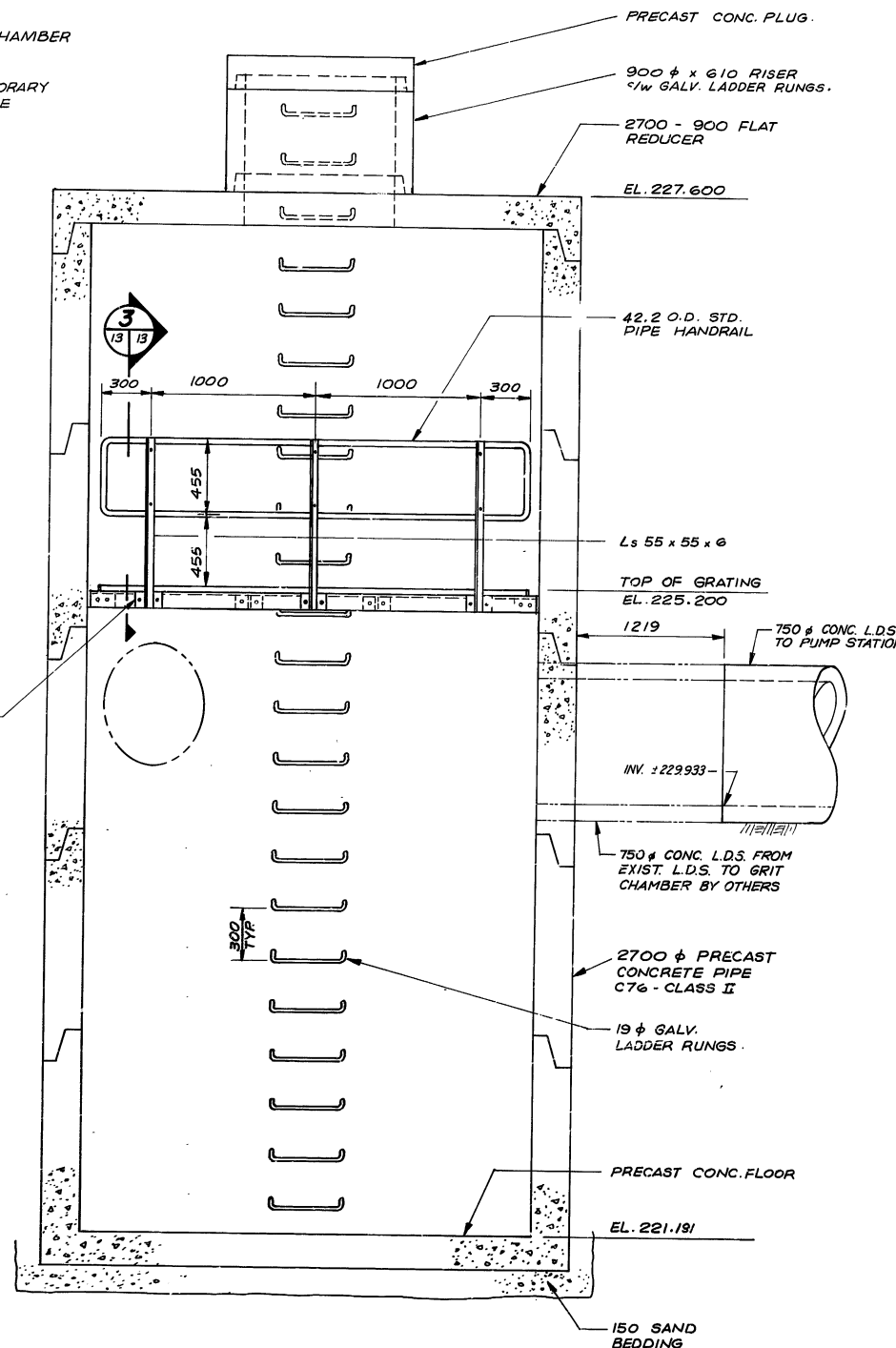
B-5689



PLAN
SCALE 1:20



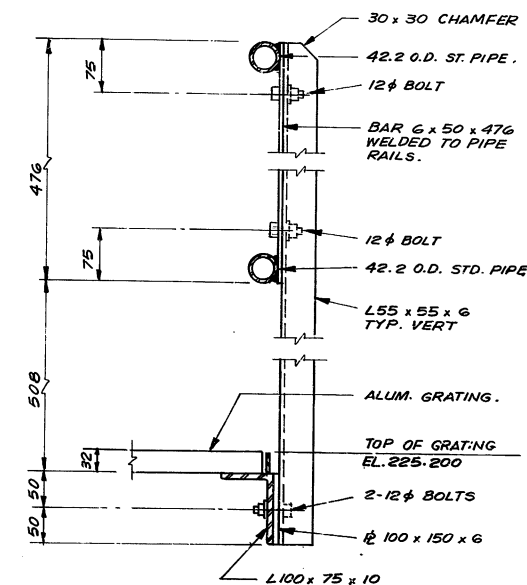
SECTION 2
SCALE 1:5



SECTION 1
SCALE 1:20

NOTES

1. FOR PLAN & PROFILE FROM GRIT CHAMBER TO PUMP STATION SEE DWG. NO. -02
2. ALL STEEL PARTS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
3. ALL BOLTS, NUTS, WASHERS AND CONCRETE ANCHORS SHALL BE STAINLESS STEEL.
4. INSTALLATION OF GRIT CHAMBER MISCELLANEOUS METAL DELETED FROM CONTRACT. TO BE INSTALLED BY OTHERS.

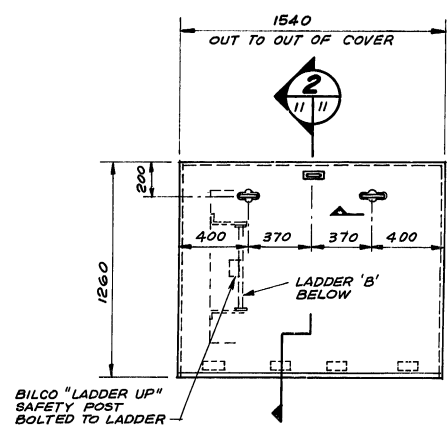


SECTION 3
SCALE 1:5

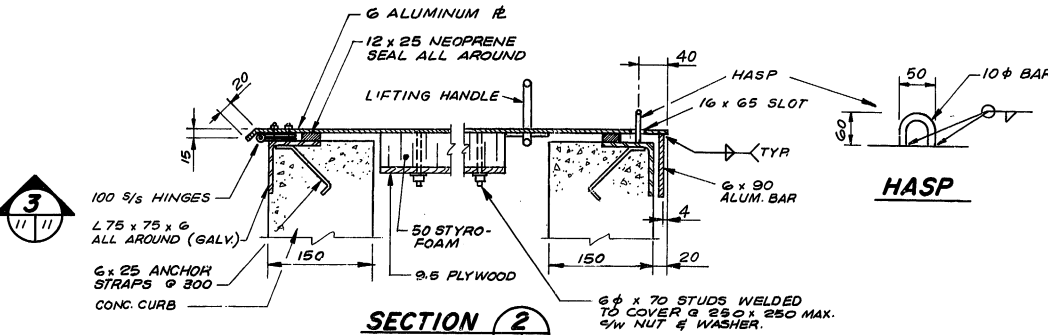
RECORD DRAWING
APPROVED BY: *[Signature]* DATE: 12/10/98

AUTHORIZED BY: *[Signature]* 1997-07-23
ACCEPTED BY: *[Signature]* 8/6/98

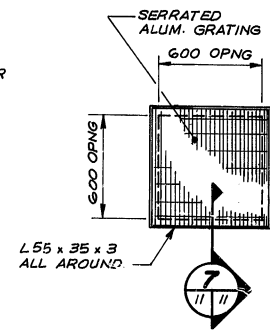
BILLON Consulting Engineers - Planners Environmental Scientists		ENGINEER PROVINCE OF MANITOBA A.F.G. GOSSEN REGISTERED PROFESSIONAL ENGINEER	THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION
DESIGNED BY: W.P.S. DRAWN BY: W.P.S. HOR SCALE: VERTICAL AS SHOWN DATE: MAR. 87	CHECKED BY: A.G. APPROVED BY: <i>[Signature]</i>	CONSULTANT DRAWING NO. M-87-D-12	CITY DRAWING NUMBER U229-87-P12 SHEET: OF B-5688



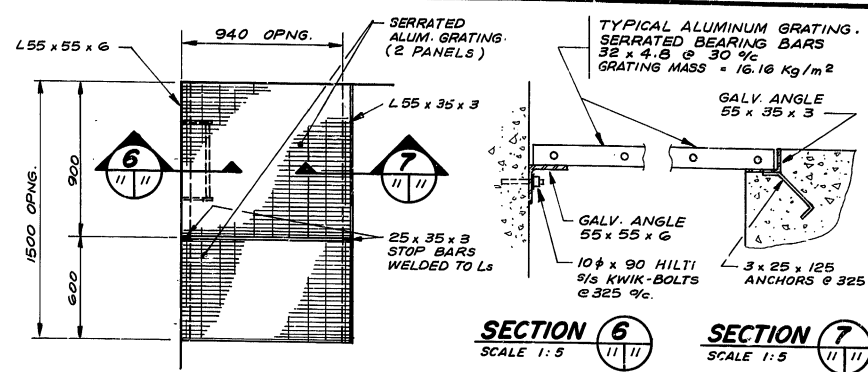
PLAN - HATCH NO. 1
SCALE 1:20



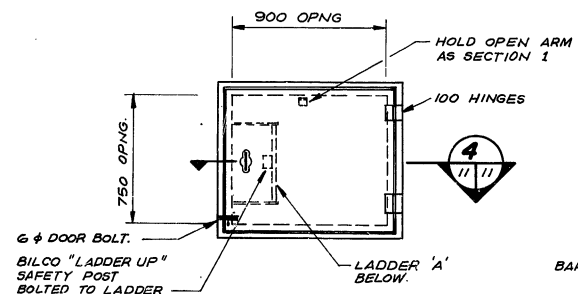
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SCALE 1:5



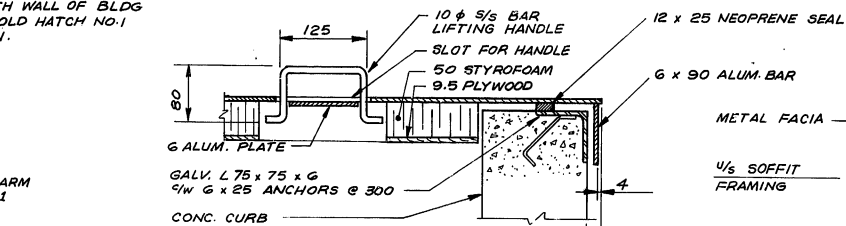
PLAN - GRATING NO. 1
SCALE 1:20



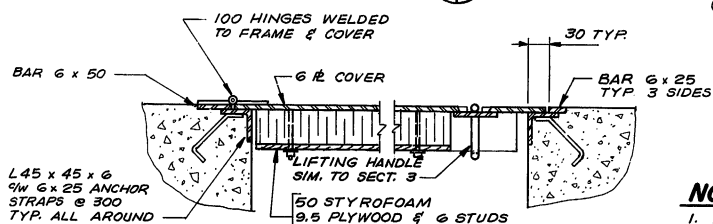
PLAN - GRATING NO. 2
SCALE 1:20



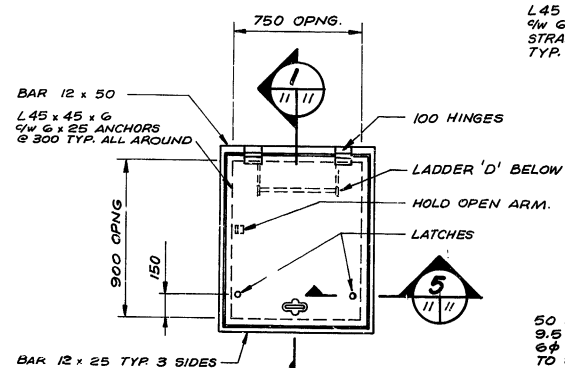
PLAN - HATCH NO.2
SCALE 1:20



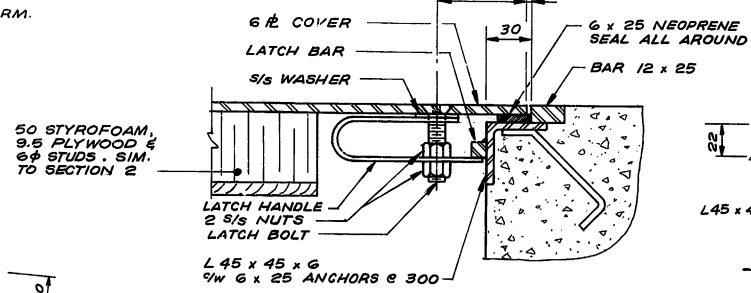
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SCALE 1:5



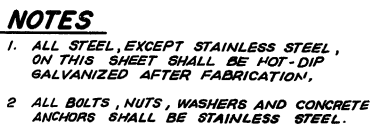
SECTION 4
SCALE 1:5



PLAN - HATCH NO.3
SCALE 1:20

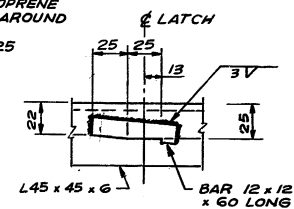


SECTION 5
SCALE 1:2.5

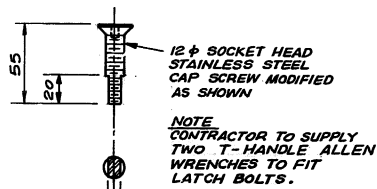


NOTES

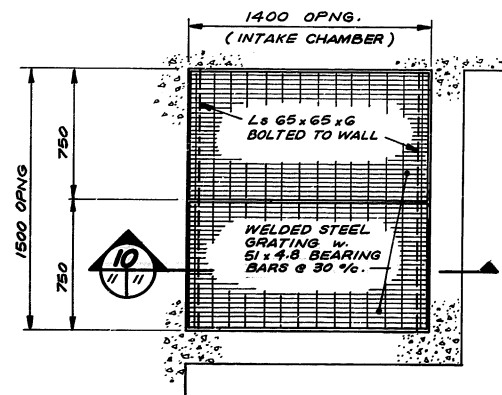
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2. ALL BOLTS, NUTS, WASHERS AND CONCRETE ANCHORS SHALL BE STAINLESS STEEL.



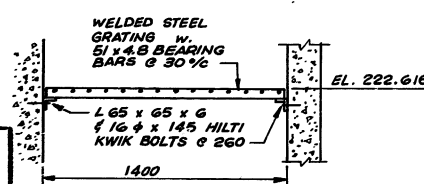
LATCH BAR
1: 2.5



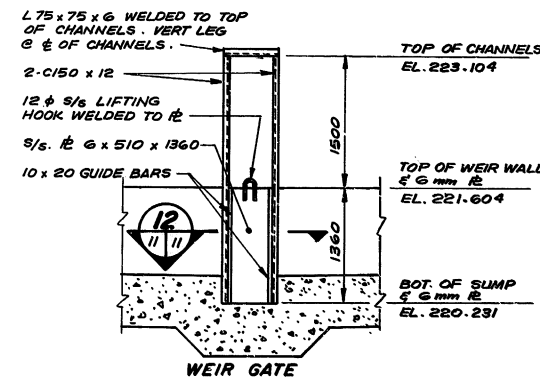
LATCH BOLT
1: 2.5



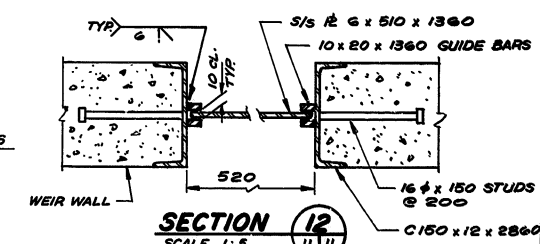
PLAN - BAR SCREEN
SCALE 1:20



SECTION 10



SECTION **II**
SCALE 1:40 **04 11**



SECTION 12
SCALE 1:5

AUTHORIZED BY: <i>W. W. W.</i>	1987-07-23
STREETS & BRIDGES ENGINEER	DATE
ACCEPTED BY: <i>Robert R. G.</i>	870826
BRIDGE ENGINEER	DATE

 **THE CITY OF WINNIPEG**
WORKS AND OPERATIONS DIVISION

**KEEWATIN UNDERPASS
PUMP STATION**

HATCHES, GRATINGS & MISCELLANEOUS DETAILS

CITY DRAWING NUMBER
U229-87-P11

SHEET OF

B-5687

[illegible]

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY	W.P.S.	CHECKED BY	A.G.
DRAWN BY	W.P.S.	APPROVED BY	W.B. Wynn
HOR SCALE:	AS SHOWN		
VERTICAL:			
DATE	FEB. 87		

ENGINEER'S SEAL
PROVINCE OF MANITOBA
23/7/03
A.F.G.
GOSSEN
REGISTERED PROFESSIONAL ENGINEER
CONSULTANT DRAWING NO.
M-87-D-11

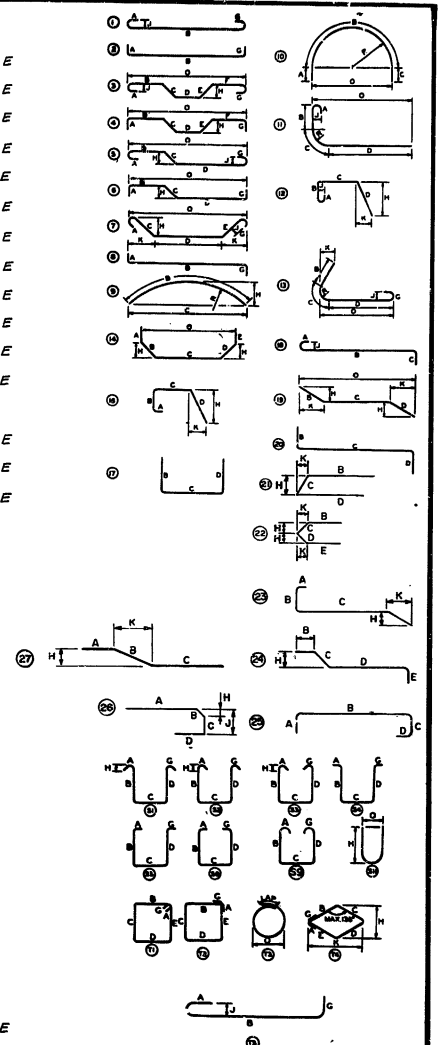
	THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION		DRESS ENGINEER 7 DATE
	KEEWATIN UNDERPASS PUMP STATION <i>HATCHES, GRATINGS & MISCELLANEOUS DETAILS</i>		CITY DRAWING NUMBER U229-87-P11 SHEET OF
			B-5687

MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	R	SHAPE	MASS
CAST IN PLACE CONC. WALLS																		
W30001	73	30	4700	17		2100	2600										L	1885.33
W30002	3	30	2860	17		2100	760										L	47.15
W25001	90	25	2950	ST.													—	1042.09
W25002E	76	25	4000	ST.													—	1193.20
W25003E	2	25	3000	ST.													—	23.55
W25004	2	25	1950	ST.													—	15.31
W25005E	35	25	8830	2	390	8050					390						L	1213.02
W25006E	38	25	6180	2	390	5400					390						L	921.75
W25007	35	25	4650	ST.													—	638.79
W25008	38	25	3000	ST.													—	447.45
W25009	48	25	4700	17		2100	2600										L	885.48
W25010E	3	25	6590	2	390	6200											L	77.60
W25011	3	25	4890	2	390	4500											L	57.60
W25012E	3	25	1150	2	390	760											L	13.54
W25013	20	25	4350	ST.													—	341.48
W25014E	16	25	2350	ST.													—	147.58
W20001	90	20	3516	27	500	716	2300					150		700			—	745.22
W20002E	76	20	3500	ST.													—	626.43
W20003E	2	20	2716	27	500	716	1500					150		700			—	12.79
W20004E	2	20	2700	ST.													—	12.72
W20005	20	20	2100	ST.													—	98.91
W20006	20	20	5700	2	300	5100					300						L	268.47
W20007	20	20	8350	2	300	7750					300						L	393.29
W20008	36	20	4700	17		2100	2600										L	398.50
W15001	160	15	3150	ST.													—	791.28
W15002	4	15	2200	ST.													—	13.82
W15003	52	15	2500	ST.													—	204.10
W15004	155	15	3500	ST.													—	851.73
W15004E	6	15	3500	ST.													—	32.97
W15005E	4	15	2750	ST.													—	17.27
W15006	20	15	8250	2	250	7750					250						L	259.05
W15007E	22	15	5600	2	250	5100					250						L	193.42
W15008	2	15	3135	2	250	2885											—	9.84
W15009	2	15	4245	2	250	4035											—	13.33
W15010	20	15	3350	ST.													—	105.19
W15011	22	15	1700	ST.													—	58.72
W15012	2	15	685	ST.													—	2.15
W15013	2	15	1835	ST.													—	5.76
W15014E	4	15	1300	ST.													—	8.79
W15015E	4	15	2200	ST.													—	13.82
W15016E	3	15	1125	2	500	625											L	5.30
W15017E	24	15	1400	20	500	900											L	52.76
W15018E	10	15	2200	ST.													—	34.54
W15019E	4	15	1600	ST.													—	10.05
W15020E	8	15	1700	ST.													—	21.35
W15021E	4	15	2400	2	300	1800					300						L	15.07
W15022E	4	15	1800	2	300	1300											L	11.30
W15023E	8	15	1200	ST.													—	15.07
W15024	22	15	2350	16	150	850	200	1150				815		815			—	81.17
W15025	45	15	1100	20	350	400	350										—	77.72
W15026	5	15	6120	ST.													—	48.04
W15027	22	15	1800	16		750	750	300				210		210			—	62.18
W15028	11	15	1600	17		800	800										—	27.63
W15029	18	15	1500	16	150	450	200	700									—	42.39
W15030	2	15	5330	ST.													—	16.74
W15031	2	15	400	17		200	200										—	1.28
W15032	2	15	1750	ST.													—	5.50
W15033	2	15	950	27	300	650						460		460			—	2.98

MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	R	SHAPE	MASS
W10001E	60	10	1150	2	300	850											L	54.17
W10002E	4	10	1060	2	300	760											L	3.33
W10003E	12	10	1850	ST.													—	17.43
W10004E	12	10	2325	2	300	2025											L	21.90
W10005E	28	10	2440	2	300	2140											L	53.63
W10006E	4	10	800	2	300	500											L	2.51
W10007E	10	10	4745	ST.													—	37.25
W10008E	36	10	3150	ST.													—	89.02
W10009E	4	10	1150	ST.													—	3.61
W10010E	4	10	1350	ST.													—	4.24
W10011E	20	10	2400	2	300	1800				300							L	48.00
W10012E	2	10	980	2	300	680											L	1.54
W10013	2	10	1180	2	300	880											L	2.36
W10014E	48	10	3150	2	300	2550				300							L	118.70
W10015E	4	10	1975	2	300	1675											L	6.20
W10016E	32	10	1800	2	300	1500											L	45.22
U-BLOCK REINF. IN CONC. BLOCK WALLS																		
BW15001	2	15	1600	ST.													—	5.02
BW15002	2	15	800	ST.													—	2.51
BW15003	2	15	1400	ST.													—	4.40
BW15004	2	15	2400	ST.													—	7.54
BW15005	4	15	5700	ST.													—	35.80
BW15006	4	15	5900	ST.													—	37.05
BW15007	8	15	1200	17		600	600										L	15.07
CONCRETE APRON																		
A20001	21	20	2610	T5	210	2400						160					—	129.08
A20002	13	20	3010	T5	210	2800						160					—	92.15
A20003	10	20	3550	STR.													—	108.68
A20004	18	20	2110	T5	210	1900						160					—	89.44
A15001E	21	15	2400	STR.													—	79.13
A15002	9	15	6100	STR.													—	86.19
A15003E	9	15	6100	STR.													—	86.19
A15004E	13	15	2800	STR.													—	57.15
A15005E	10	15	3550	STR.													—	55.74
A15006E	18	15	1900	STR.													—	53.69
A15007	7	15	5100	STR.													—	56.05
A15008E	7	15	5100	STR.													—	56.05
A15009	9	15	600	STR.	PLAIN BAR												—	8.48

BARS WITH "E" AT THE END OF THE MARK NUMBER ARE EPOXY COATED

TOTAL MASS OF EPOXY COATED BARS THIS SHEET 5568.59 KG.
TOTAL MASS OF UNCOATED BARS THIS SHEET 10625.47 KG.



- NOTES:
- All dimensions are out to out of bar except "A" and "G" on standard 180 and 135 deg. hooks.
 - "T" dimension on 180 deg. hooks to be shown only where necessary to restrict hook size, otherwise standard hooks are to be used.
 - Where "T" is not shown "T" will be kept equal to or less than "L". Where "T" can exceed "L" it should be shown.
 - "H" dimension on stirrups to be shown where necessary to fit within concrete.
 - Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer working should have limits indicated.
 - Figures in circles show types.
 - For recommended diameter "D" of bends, hooks, etc. see tables.

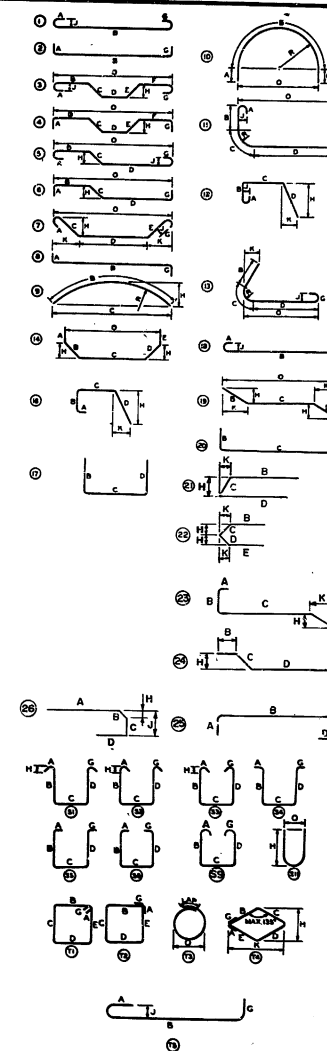
RECORD DRAWING
12/1/2022

AUTHORIZED BY: [Signature] 1987-07-23
ACCEPTED BY: [Signature] 1987-07-23

DILLON Consulting Engineers - Planners Environmental Scientists		ENGINEER'S SEAL 		THE CITY OF WINNIPEG	
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MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	R	SHAPE	MASS
WET WELL FLOOR SLAB																		
WF3000I	90	30	4100	17		2600	1500											2027.66
WF2500I	28	25	4000	ST.														439.60
WF25002	4	25	2950	14		1000	950	1000				707						46.32
WF25003	3	25	3800	14		1000	1800	1000				707						44.75
WF25004	19	25	6800	ST.														507.11
WF25005E	78	25	2000	17		400	1600											612.30
WF2000IE	8	20	2000	ST.														37.68
WF20002E	5	20	2800	ST.														32.97
WF20003E	18	20	8000	ST.														339.12
WF20004E	1	20	3470	17		500	2970											8.17
WF20005E	1	20	4070	17		500	3570											9.58
WF20006E	24	20	5350	ST.														302.38
WF20007E	4	20	2370	17		500	1870											22.33
WF20008E	4	20	3270	17		500	2770											30.80
WF1500IE	14	15	1670	17		200	1470											36.71
WF15002E	6	15	2400	17		200	2200											22.61
WF1000IE	6	10	1440	T2	100	120	500	120	500		100							6.78
TOTAL MASS EPOXY COATED BARS																		1461.43
TOTAL MASS UNCOATED BARS																		3065.44
FLOOR AT TOP OF INTAKE CHAMBER																		
CF1500IE	5	15	650	ST.														5.10
CF15002E	8	15	2280	ST.														28.64
CF15003E	2	15	1650	ST.														5.18
CF15004E	6	15	2340	ST.														22.04
CF15005E	5	15	920	ST.														7.22
CF15006E	5	15	2180	26	1270	141	220	549				100	320					17.11
CF15007E	4	15	1140	17		640	500											7.16
CF15008E	2	15	1390	ST.														4.37
TOTAL MASS EPOXY COATED BARS																		96.82
PIPING FLOOR SLAB																		
PF2500I	4	25	4700	ST.														73.79
PF25002	4	25	6250	17		600	5050	600										98.13
PF1500I	14	15	2400	ST.														52.75
PF15002	4	15	1000	ST.														6.28
PF15003	1	15	1700	ST.														2.67
PF15004	15	15	2000	ST.														47.10
PF15005	10	15	820	ST.														12.87
PF15006	11	15	1920	ST.														33.16
PF15007	15	15	4700	ST.														110.69
PF15008	2	15	1400	ST.														4.40
PF15009	2	15	2600	ST.														8.16
PF15010	2	15	800	ST.														2.51
PF15011	2	15	1800	ST.														5.65
PF15012	3	15	2500	ST.														11.78
PF15013	2	15	2600	17		1300	1300											8.16
PF15014E	30	15	3350	17		500	2850											157.79
PF15015	2	15	1950	17		500	1450											6.12
PF15016	3	15	3140	17		500	2640											14.79
PF15017	2	15	1250	17		500	750											3.93
PF15018	14	15	2700	17		500	2200											59.35

MARK	NO. BARS	SIZE	LENGTH	TYPE	A	B	C	D	E	F	G	H	J	K	L	R	SHAPE	MASS
PF15019E	5	15	2100	17		200	1900											16.49
PF15020E	11	15	4540	ST.														78.41
PF15021	2	15	2300	ST.														7.22
PF15022	2	15	1200	ST.														3.78
PF15023	4	15	1000	ST.														6.28
PF1000I	46	10	1460	T2	100	220	410	220	410		100							52.72
PF10002E	46	10	1120	17		200	920											40.44
PF10003	6	10	1250	ST.														5.89
PF10004	8	10	700	ST.														4.40
TOTAL MASS EPOXY COATED BARS																		293.13
TOTAL MASS UNCOATED BARS																		642.58
GROUND FLOOR SLAB																		
GF2500I	4	25	4700	ST.														73.79
GF25002	4	25	6250	17		225	5800	225										98.13
GF2000I	7	20	2200	ST.														36.27
GF20002	9	20	3000	17		600	2400											63.59
GF1500I	11	15	6000	ST.														103.62
GF15002	4	15	3000	ST.														18.84
GF15003	1	15	1250	ST.														11.78
GF15004	4	15	6120	ST.														38.40
GF15005	2	15	1700	ST.														5.34
GF15006	4	15	4780	ST.														30.02
GF15007	14	15	1200	ST.														26.34
GF15008	4	15	3000	17		500	2500											18.84
GF15009	2	15	5120	ST.														16.08
GF15010	4	15	3300	ST.														20.72
GF15011	4	15	3900	17		500	3400											24.49
GF15012	22	15	5900	ST.														203.79
GF15013	10	15	4150	ST.														65.16
GF15014	8	15	1150	ST.														14.44
GF15015	8	15	1850	ST.														23.24
GF15016	8	15	830	ST.														10.43
GF15017	13	15	6100	ST.														124.50
GF15018	4	15	3600	17		500	3100											22.61
GF15019	2	15	3410	6		1398	212	1800				150						10.71
GF1000I	46	10	1460	T2	100	220	410	220	410		100							52.72
GF10002	21	10	1820	26	250	565	205	800				400	605					30.00
GF10003	16	10	800	17		300	500											10.05
GF10004	4	10	1900	17		550	1350											5.97
GF10005	4	10	1600	17		550	1050											5.02
TOTAL MASS UNCOATED BARS																		1164.89
BARS WITH "E" AT THE END OF THE MARK NUMBER ARE EPOXY COATED																		
TOTAL MASS OF EPOXY COATED BARS THIS SHEET 1851.38 KG.																		
TOTAL MASS OF UNCOATED BARS THIS SHEET 4872.91 KG.																		

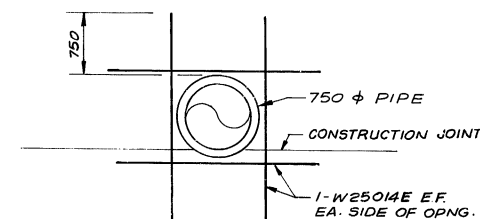
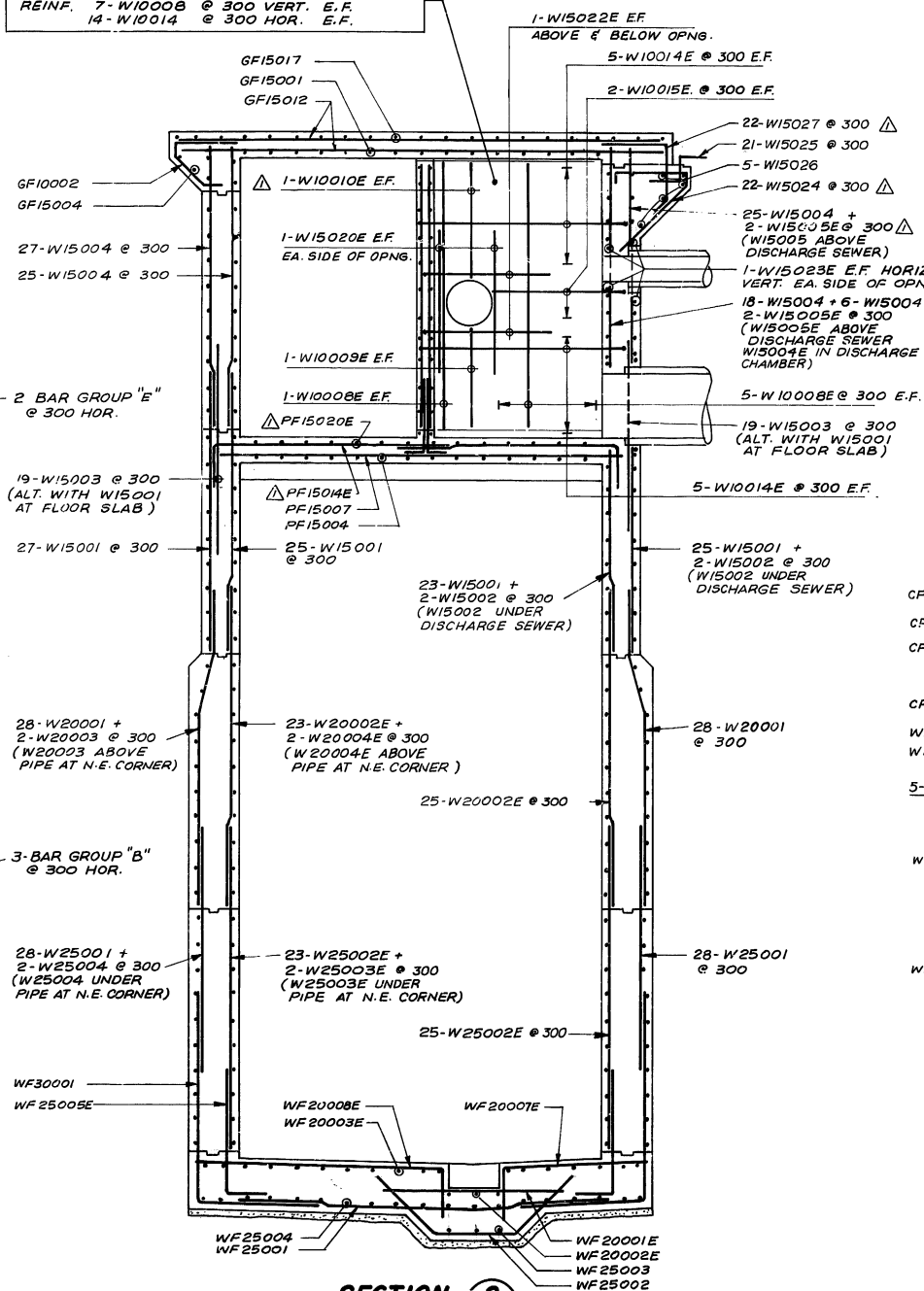


RECORD DRAWING

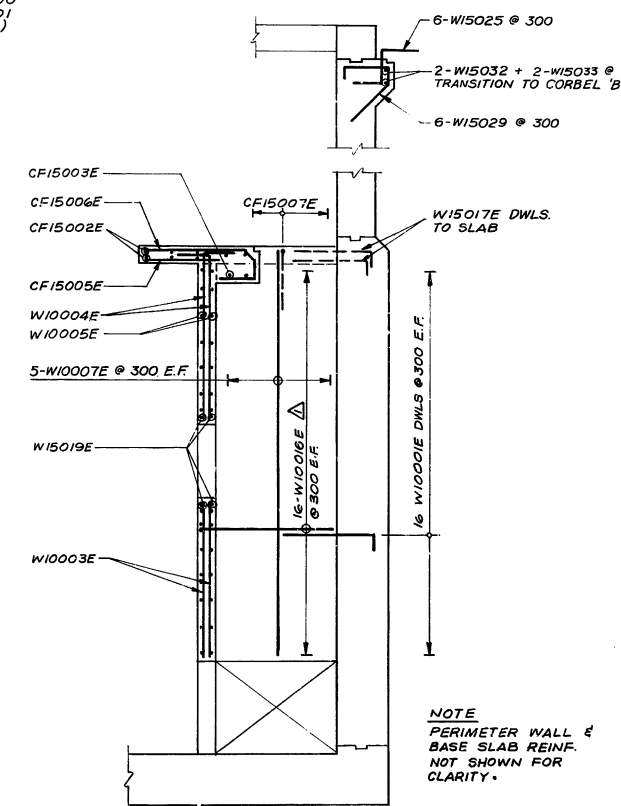
APPROVED BY: *[Signature]* 12/10/88

- NOTES:**
- All dimensions are out to out of bar except "A" and "G" on standard 180 and 135 deg. hooks.
 - "J" dimension on 180 deg. hooks to be shown only where necessary to restrict hook size, otherwise standard hooks are to be used.
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 - Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer working should have limits indicated.
 - Figures in circles show types.
 - For recommended diameter "D" of bends, hooks, etc., see tables.

AUTHORIZED BY: *[Signature]* 1987-07-23
ACCEPTED BY: *[Signature]* 11/01/86



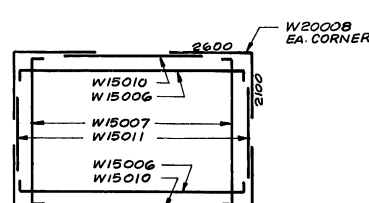
EXTRA REINF. IN PERIMETER WALLS
AT INLET AND DISCHARGE SEWERS



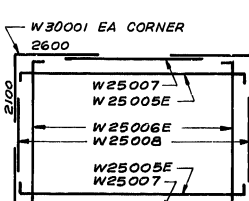
NOTE
PERIMETER WALL &
BASE SLAB REINF.
NOT SHOWN FOR
CLARITY.

SECTION 2
SCALE 1:40 06/07

SECTION 3
SCALE 1:40 06/07



BAR GROUP "F"



RAR GROUP "C"

B.M.			
ELEV.			
	MISC. REBAR CORRECTIONS	11/09/01	S.K.B.
NO.	REVISIONS	DATE	BY

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY	F. A. K.	CHECKED BY	F. A. K.
DRAWN BY	W. R. S.	APPROVED BY	<i>W. B. Wilson</i>
HOR SCALE	AS SHOWN		
VERTICAL			
DATE	MAR. 87		



ENGINEER'S SEAL

23/7/67

CONSULTANT DRAWING NO.

M-87-D-7



THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION

**KEEWATIN UNDERPASS
PUMP STATION**

*SUBSTRUCTURE
WALL REINFORCEMENT*

CITY DRAWING NUMBER
U229-87-P07

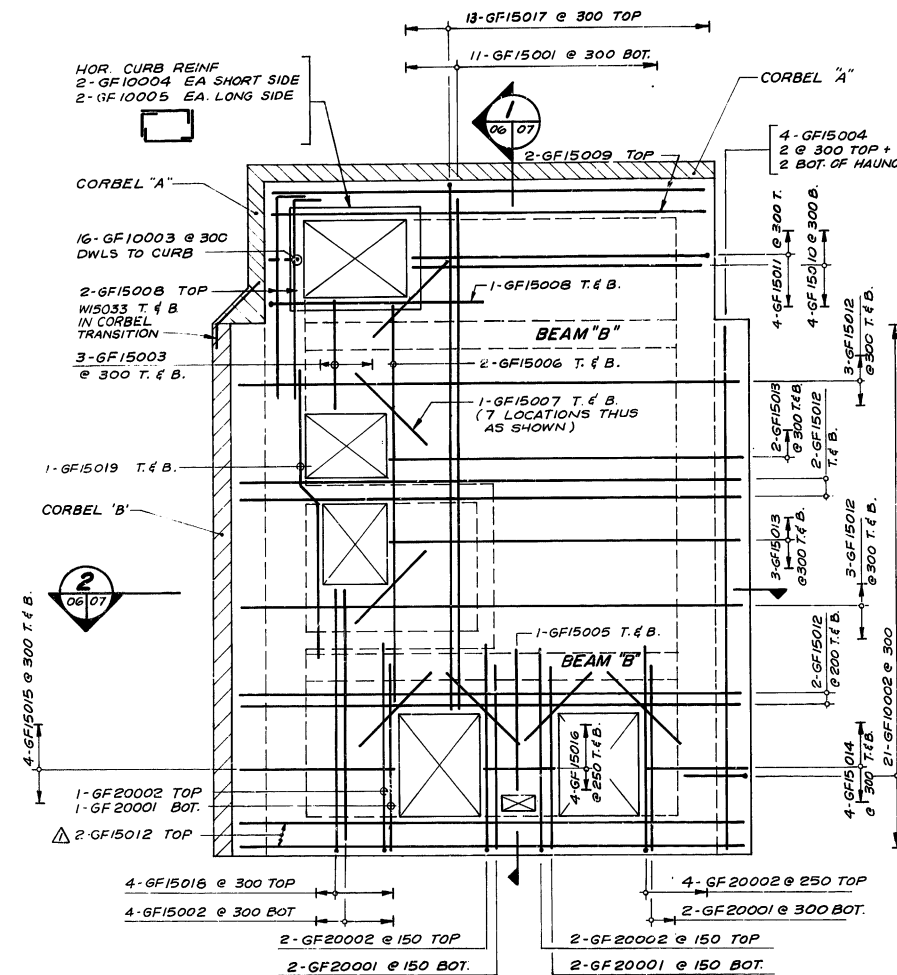
SHEET OF

B-5683

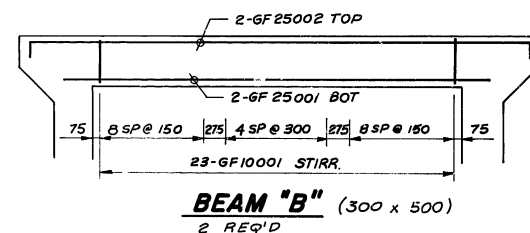
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APPROVED BY: A. Gossen DATE: 12/10/02

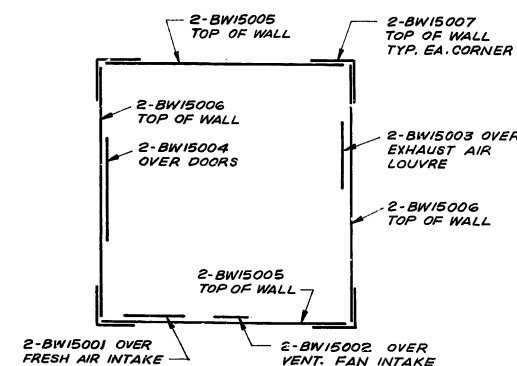
AUTHORIZED BY:	<i>W. J. ...</i>	1987-07-23
	STREETS & BRIDGES ENGINEER	DATE
ACCEPTED BY:	<i>... P. ...</i>	070626
	BRIDGES ENGINEER	DATE



GROUND FLOOR PLAN
SCALE 1:40



BEAM "B" (300 x 500)
2 REQ'D

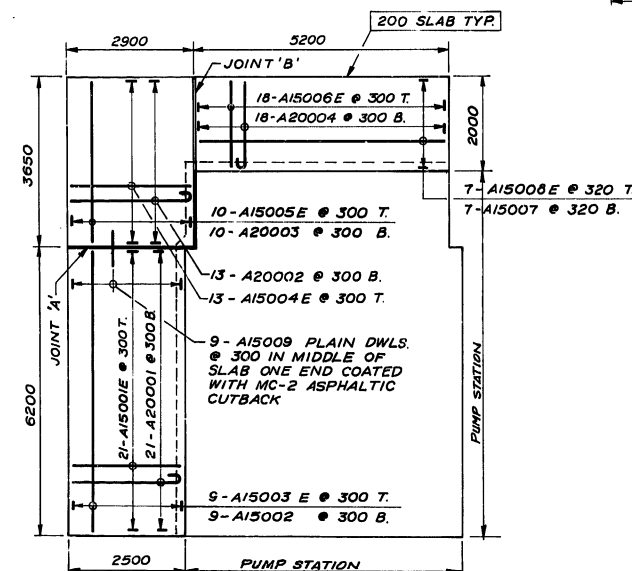


PLAN VIEW

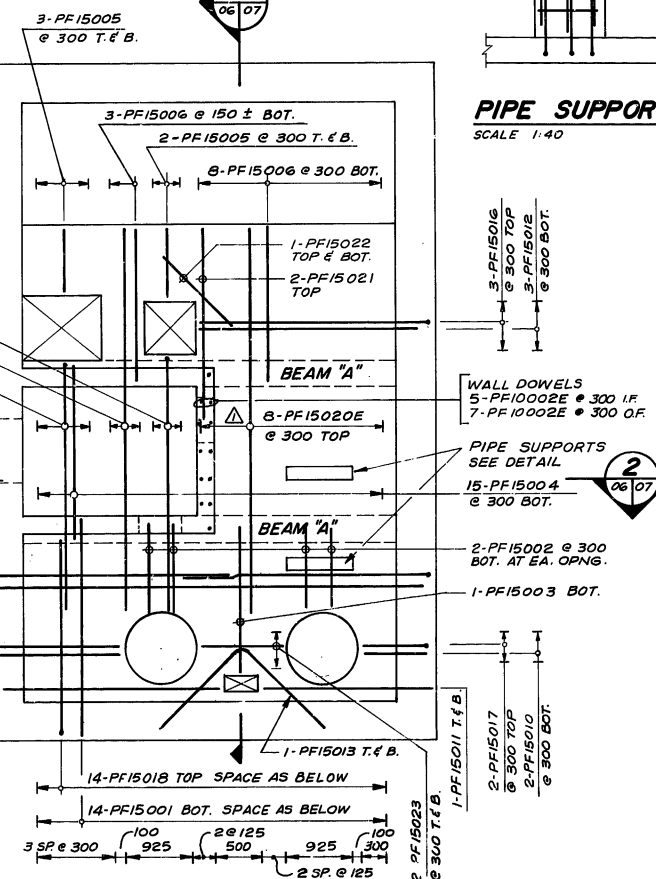
U-BLOCK REINFORCEMENT IN CONCRETE BLOCK WALLS N.T.S.

NOTES:

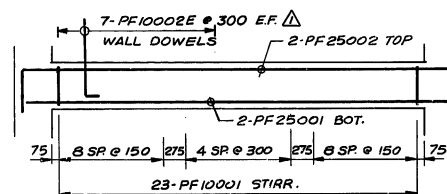
1. **REBAR CODES WITH THE LETTER 'E'**
AT THE END (EG 7-WF20003E)
INDICATE EPOXY COATED BARS
2. **REINFORCING STEEL SHALL CONFORM**
TO C.S.A. G30.12-M, GRADE 400
3. **CONCRETE COVER ON REINFORCEMENT:**
 - a SURFACES CAST AGAINST GROUND 75
 - b TOP OF WET WELL SLAB 50
 - c 600 ϕ 450 mm WALLS 50
 - d 200 mm WALLS 30
 - e FLOOR SLABS (EXCEPT WET WELL) 40



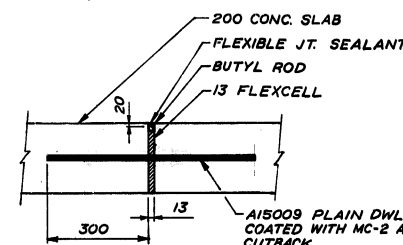
CONCRETE APRON PLAN
SCALE 1" = 75'



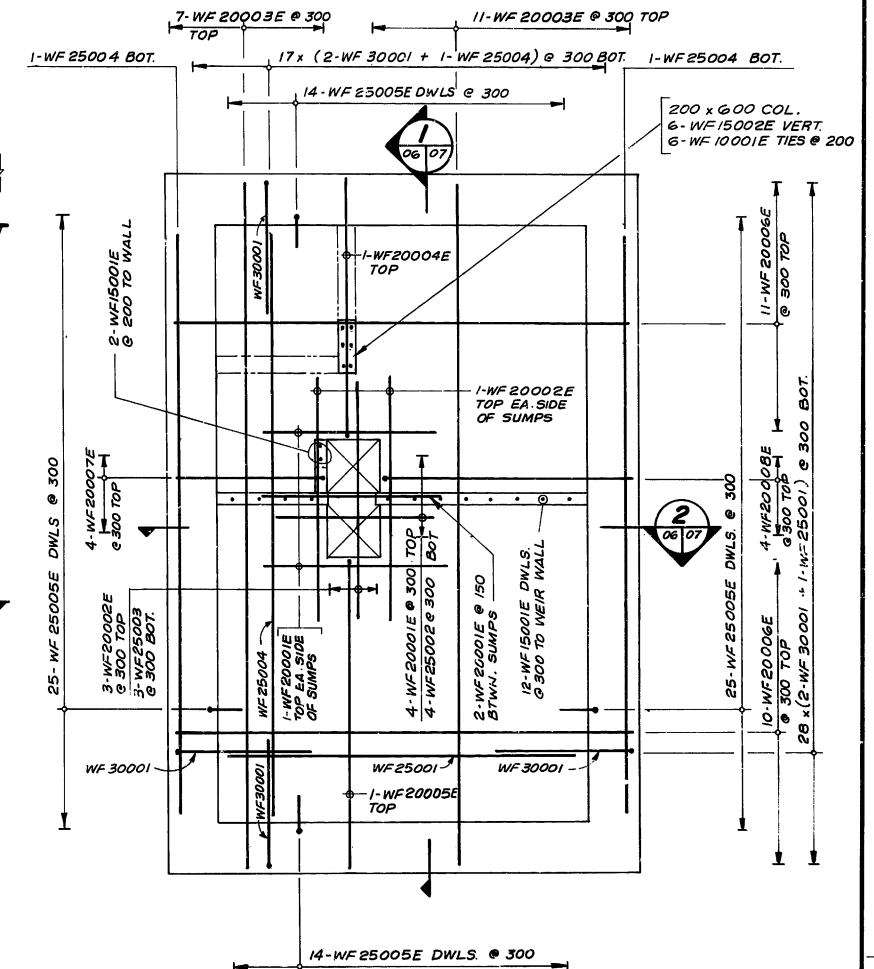
PIPING FLOOR PLAN
SCALE 1:40



BEAM "A" (300 x 500)
2 REQ'D.



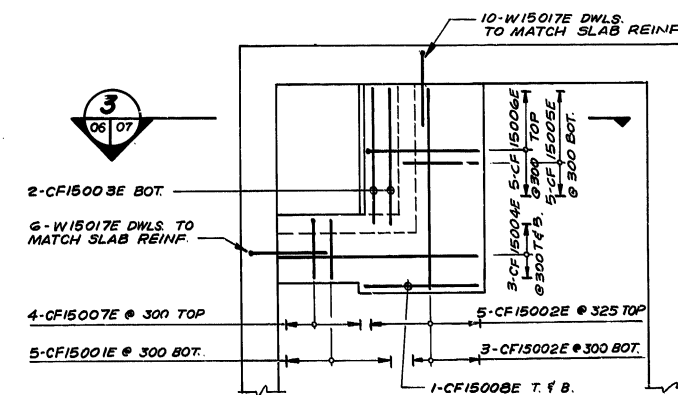
JOINT 'A'
JOINT 'B' SAME WITH
DWL. OMITTED
SCALE 1:10



WET WELL FLOOR PLAN
SCALE 1:40:

RECORD DRAWING

[Signature] 12/10/88
APPROVED BY: DATE



PARTIAL PLAN AT TOP OF
INTAKE CHAMBER
SCALE 1:40

[illegible]

AUTHORIZED BY:	<i>[Signature]</i>	1997-07-2
	STREETS & BRIDGES ENGINEER	DATE
ACCEPTED BY:	<i>[Signature]</i>	9/06/26
		9/77

DILLON
Consulting Engineers • Planners
Environmental Scientists

DESIGNED BY	EAK	CHECKED BY	EA
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ST	DATE	ST	DATE
DRAWN	11-20-68	APPROVED	11-20-68

BY	W.P.S.	BY	<i>[Signature]</i>

3	HOR SCALE	1 40
	VERTICAL	

DATE	MAR 87
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CONSULTANT DRAWING NO. 10-07-5-0

M-87-D-6

 **THE CITY OF WINNIPEG**
WORKS AND OPERATIONS DIVISION

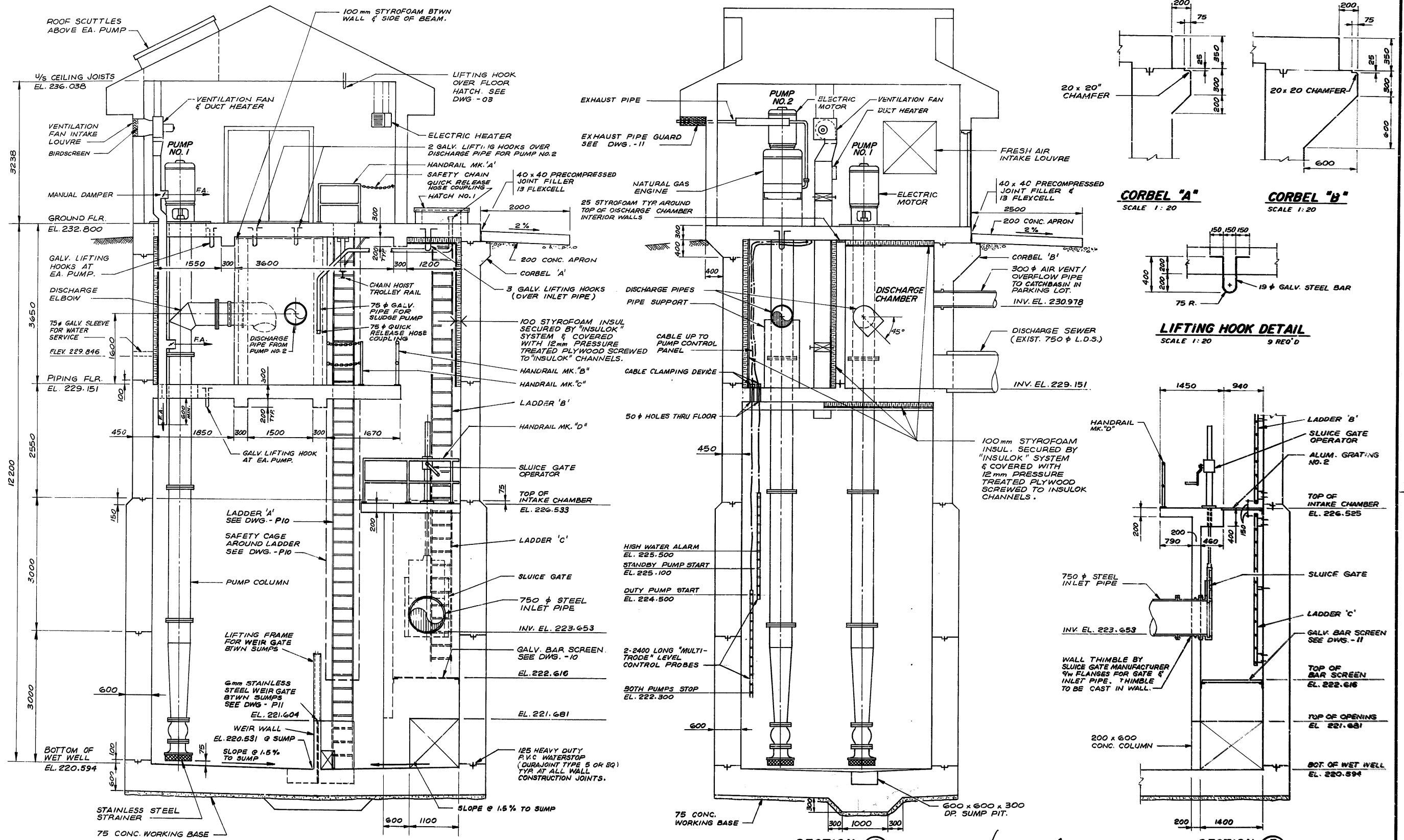
**KEEWATIN UNDERPASS
PUMP STATION**

SUBSTRUCTURE
FLOOR SLAB REINFORCEMENT

CITY DRAWING NUMBER
U229-87-P06

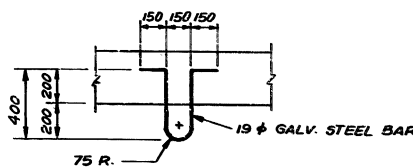
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B-5682 |

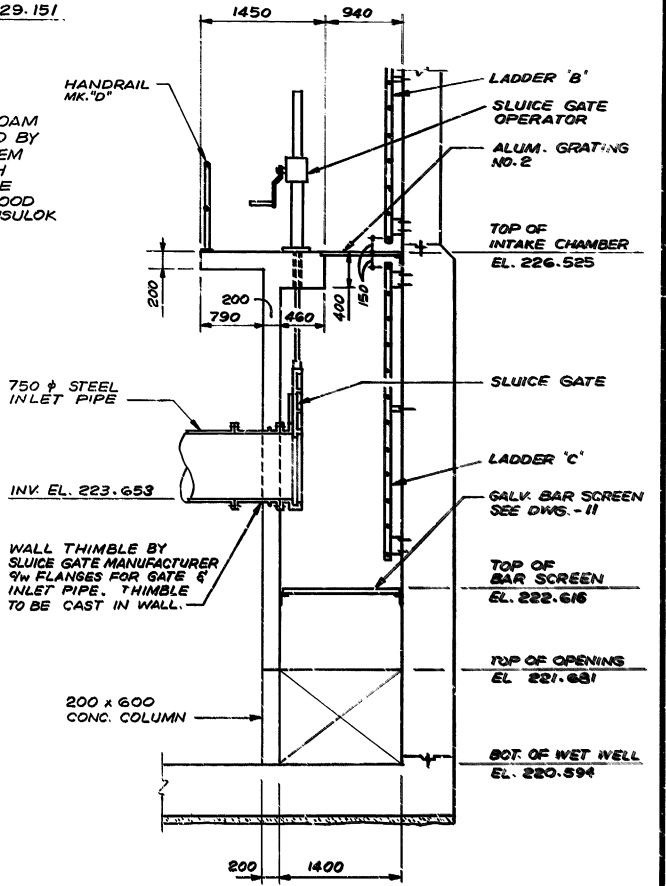


CORBEL 'A'
SCALE 1:20

CORBEL 'B'
SCALE 1:20



LIFTING HOOK DETAIL
SCALE 1:20



SECTION 3
SCALE 1:40

SECTION 2
SCALE 1:40

SECTION 1
SCALE 1:40

RECORD DRAWING
APPROVED BY: *[Signature]* DATE: 12/10/87

NO.	REVISIONS	DATE	BY

DILLON
Consulting Engineers - Planners
Environmental Scientists

DESIGNED BY: A.G. CHECKED BY: A.G.
DRAWN BY: P.S. APPROVED BY: *[Signature]*
HOR. SCALE: AS SHOWN
VERTICAL: MAR. 87

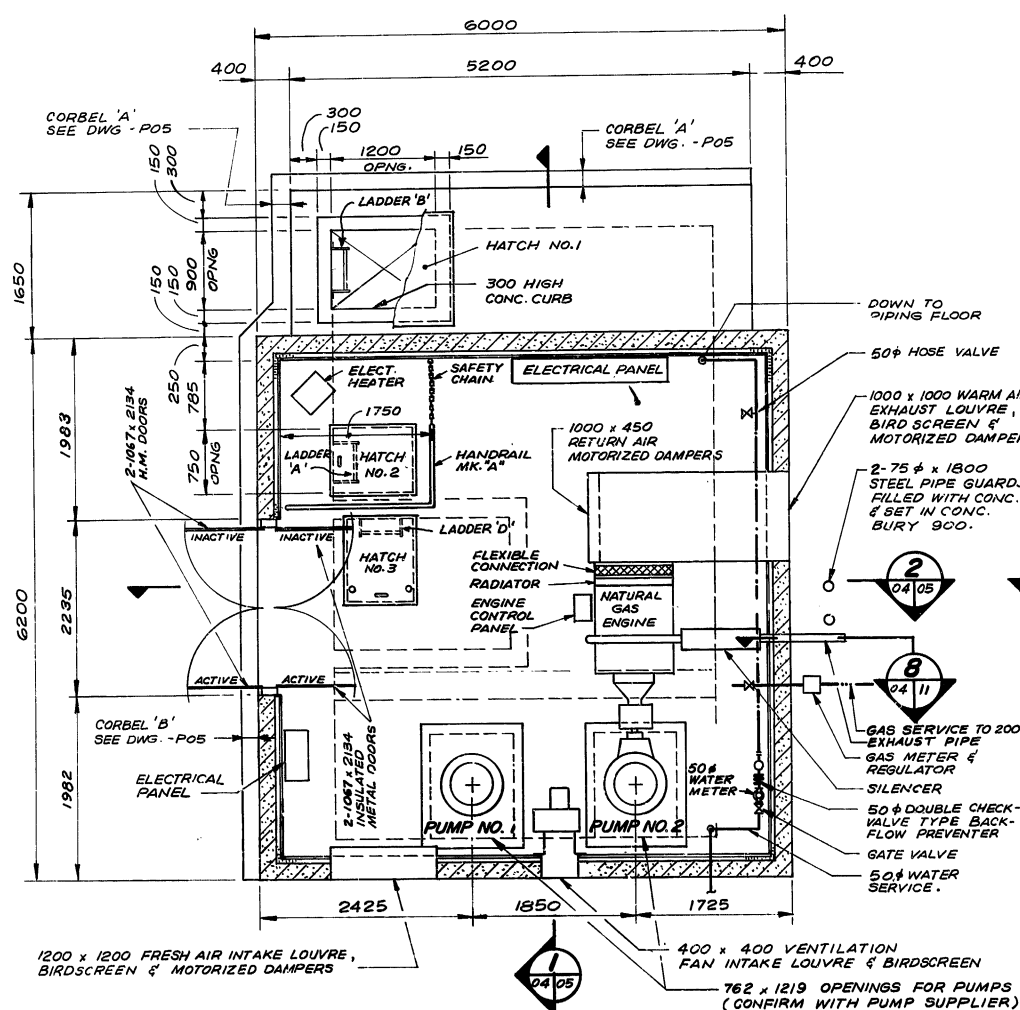
ENGINEER'S SEAL
PROVINCE OF MANITOBA
A.F.G.
CONSULTANT DRAWING NO.
M-87-D-5

THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION

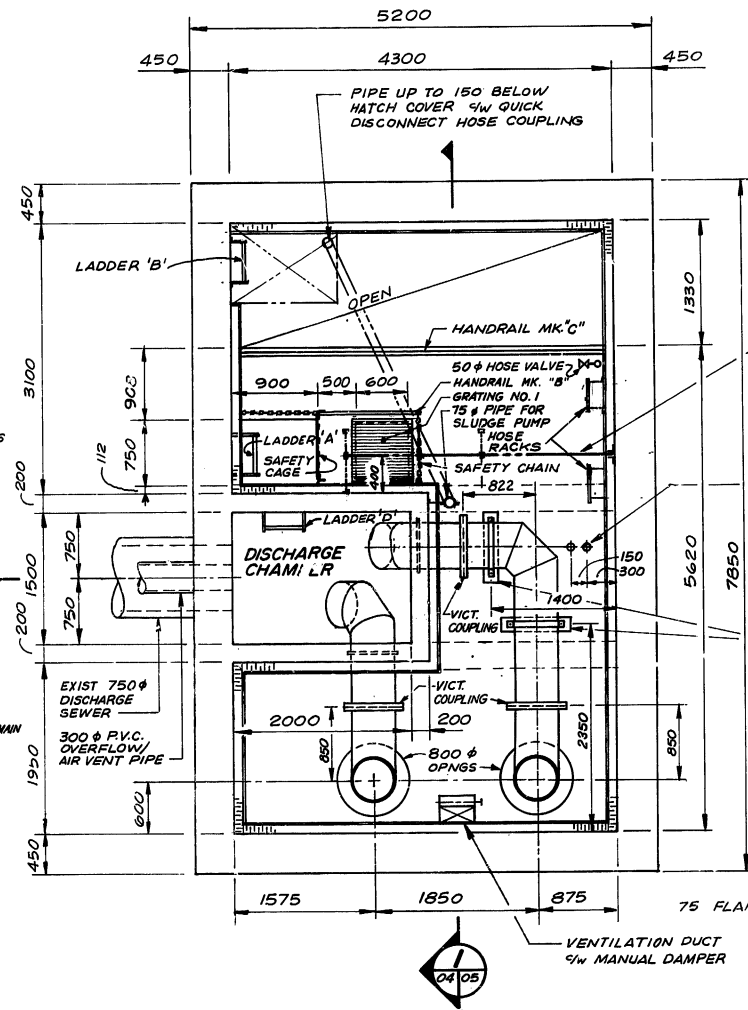
**KEEWATIN UNDERPASS
PUMP STATION**

**SUBSTRUCTURE
CROSS SECTIONS**

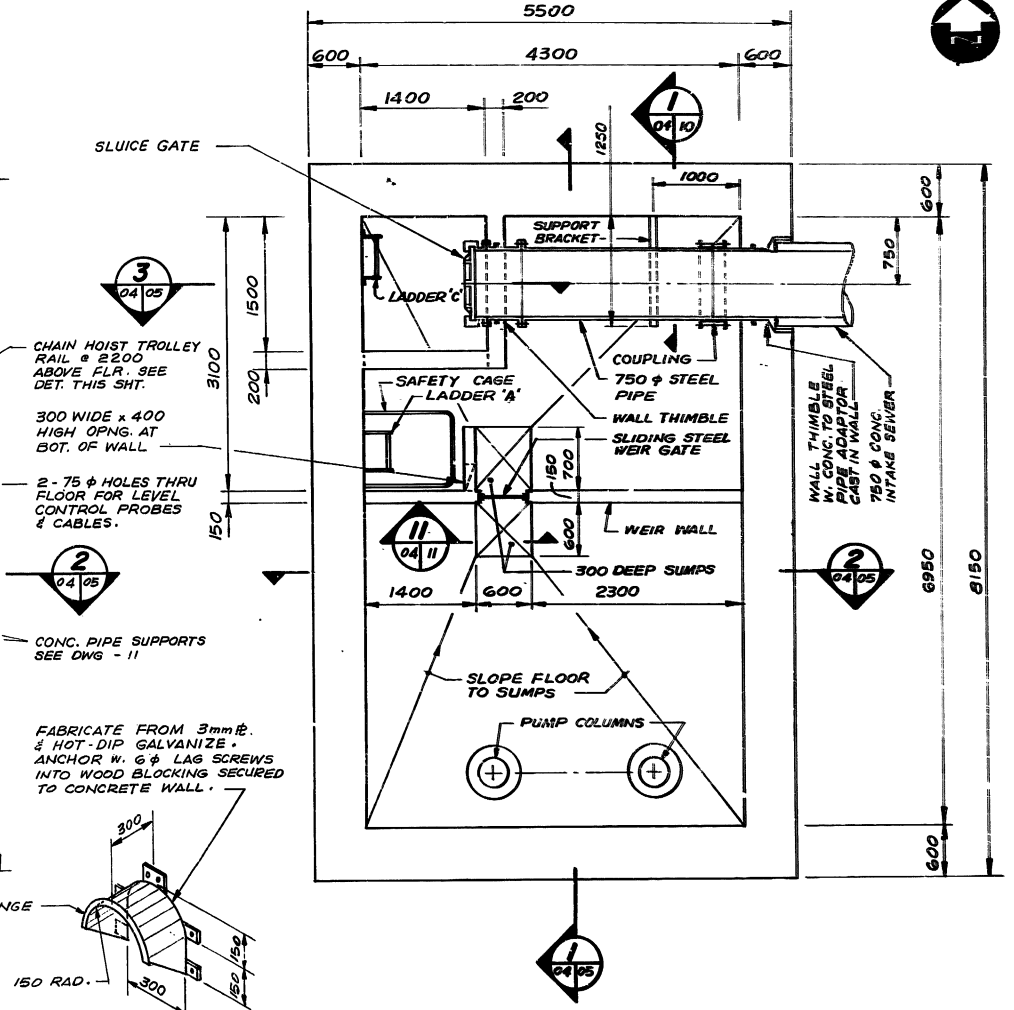
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SHEET OF
B-5681



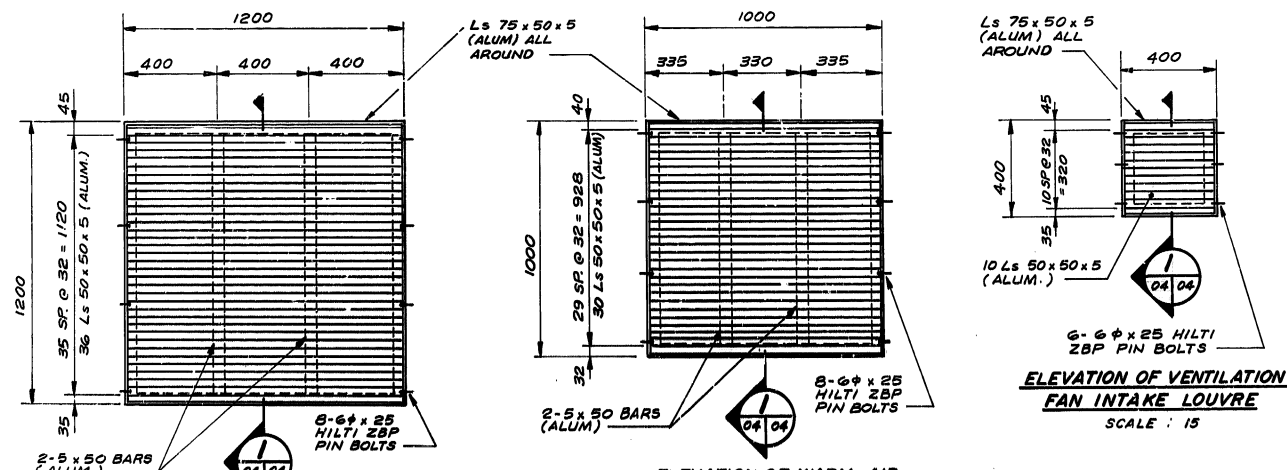
GROUND FLOOR PLAN
SCALE 1:40



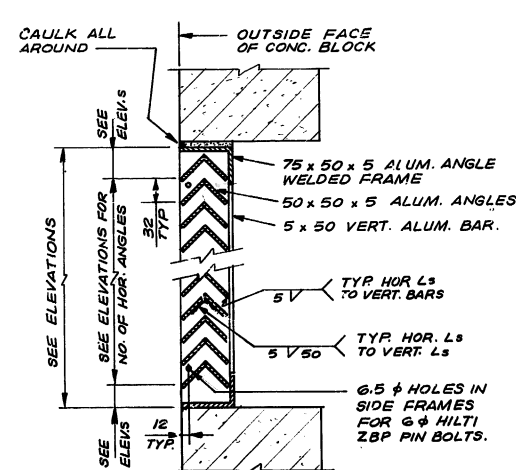
PIPING FLOOR PLAN
SCALE 1: 40



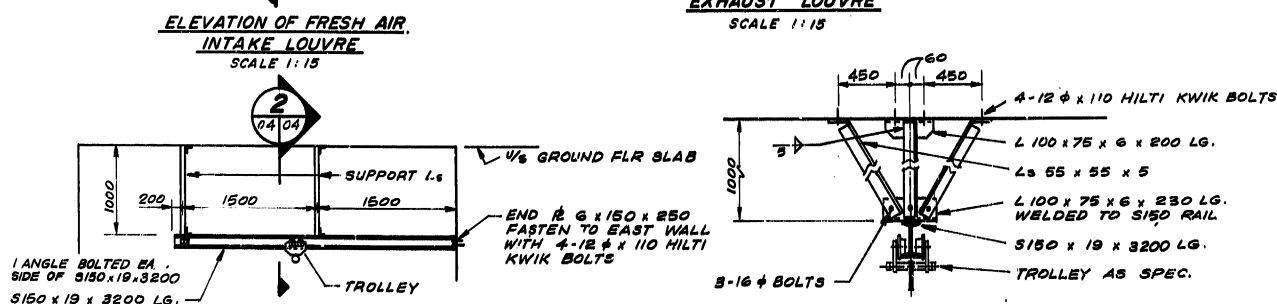
WET WELL PLAN
SCALE 1:40



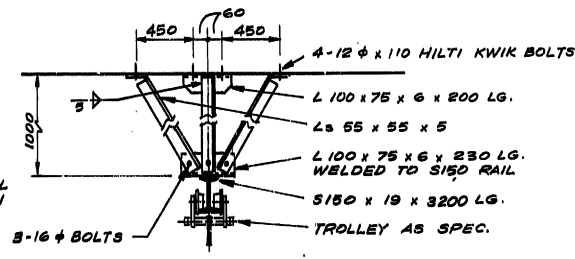
ELEVATION OF VENTILATION
FAN INTAKE LOUVRE
SCALE : 15



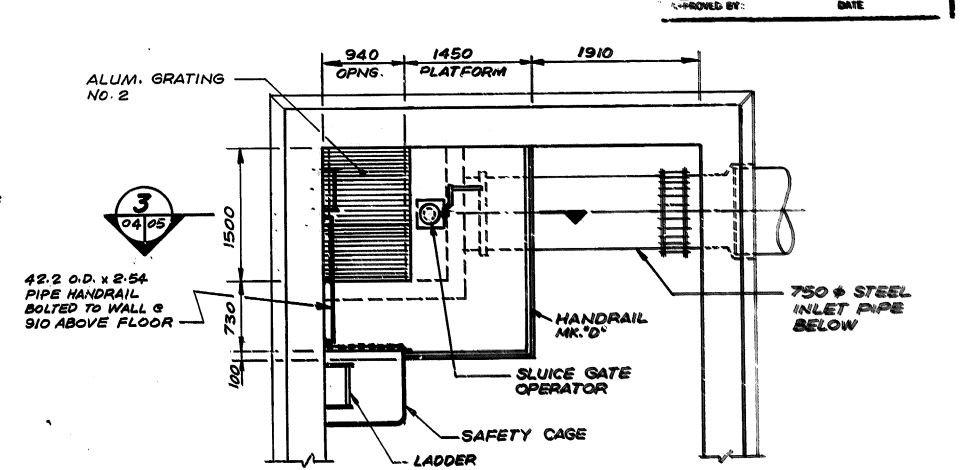
SECTION 1
SCALE 1:5 04 04



ELEVATION OF CHAIN HOIST TROLLEY RA'IL
SCALE 1.40



SECTION 2
SCALE 1:15 04/04



PARTIAL PLAN AT TOP OF
INTAKE CHAMBER
SCALE 1"=40

AUTHORIZED BY:	<i>[Signature]</i>	1987-07-2
	STREETS & BRIDGES ENGINEER	DATE
ACCEPTED BY:	<i>[Signature]</i>	870626
	BRIDGE ENGINEER	DATE

B.M. ELEV.		 DILLON Consulting Engineers • Planners Environmental Scientists					
				DESIGNED BY	A.G.	CHECKED BY	A.G.
				DRAWN BY	W.P.S.	APPROVED BY	<i>W.B. Wylgatt</i>
				HOR. SCALE: VERTICAL		AS SHOWN	

ENGINEERS-SEAL
23/3/87
REGISTERED PROFESSIONAL
CONSULTANT DRAWING NO.
M-87-D-4

	THE CITY OF WINNIPEG WORKS AND OPERATIONS DIVISION	
	KEEWATIN UNDERPASS PUMP STATION	
FLOOR PLANS		CITY DRAWING NUMBER U229-87-PC 4 SHEET 1 OF 1
		B-5680