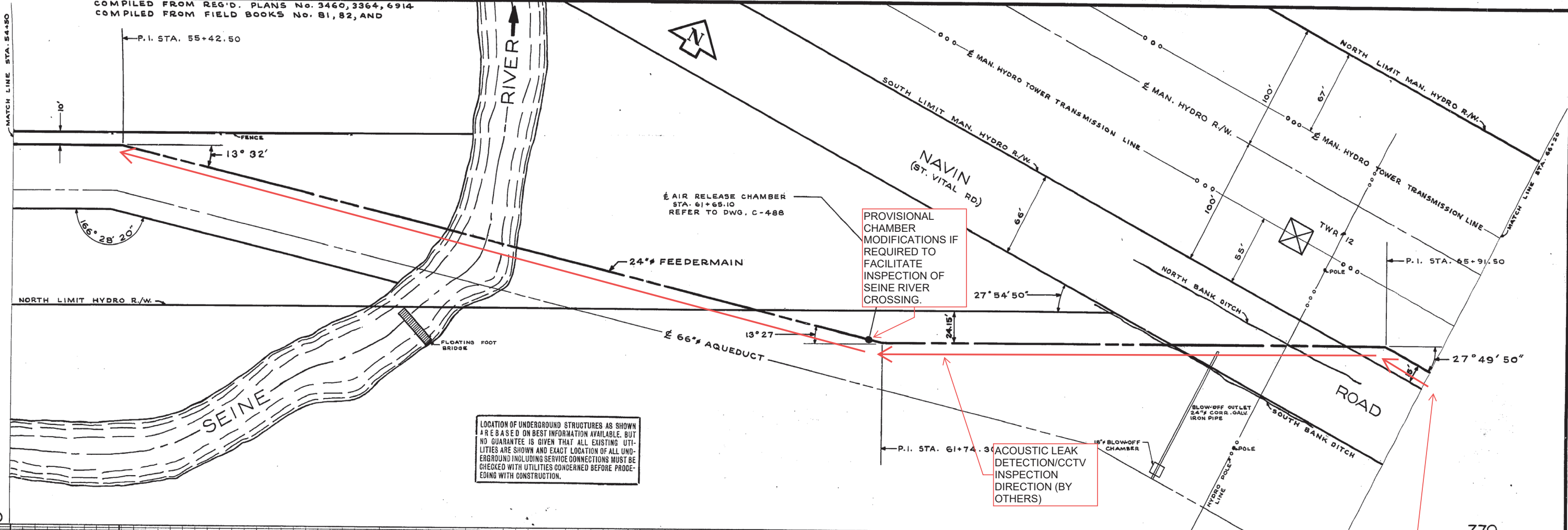


COMPILED FROM REG'D. PLANS No. 3460, 3364, 6914
COMPILED FROM FIELD BOOKS No. 81, 82, AND



LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN AND EXACT LOCATION OF ALL UNDERGROUND INCLUDING SERVICE CONNECTIONS MUST BE CHECKED WITH UTILITIES CONCERNED BEFORE PROCEEDING WITH CONSTRUCTION.

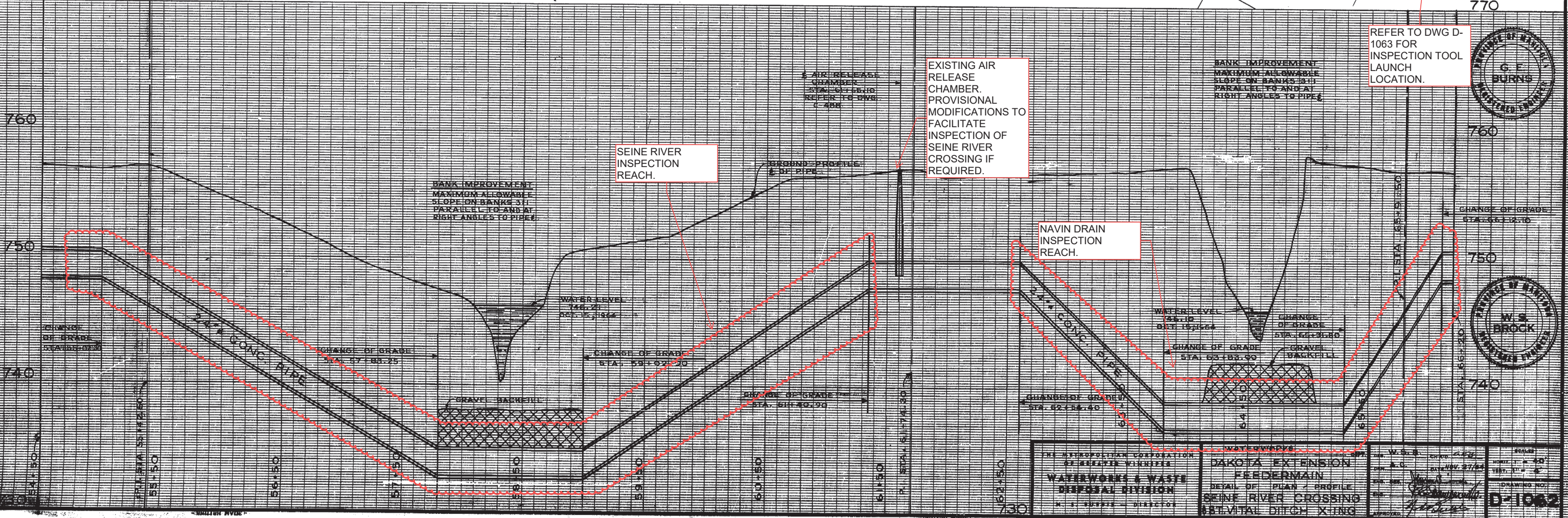
PROVISIONAL CHAMBER MODIFICATIONS IF REQUIRED TO FACILITATE INSPECTION OF SEINE RIVER CROSSING.

ACOUSTIC LEAK DETECTION/CCTV INSPECTION DIRECTION (BY OTHERS)

770

770

REFER TO DWG D-1063 FOR INSPECTION TOOL LAUNCH LOCATION.

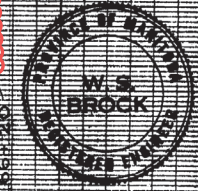


760

750

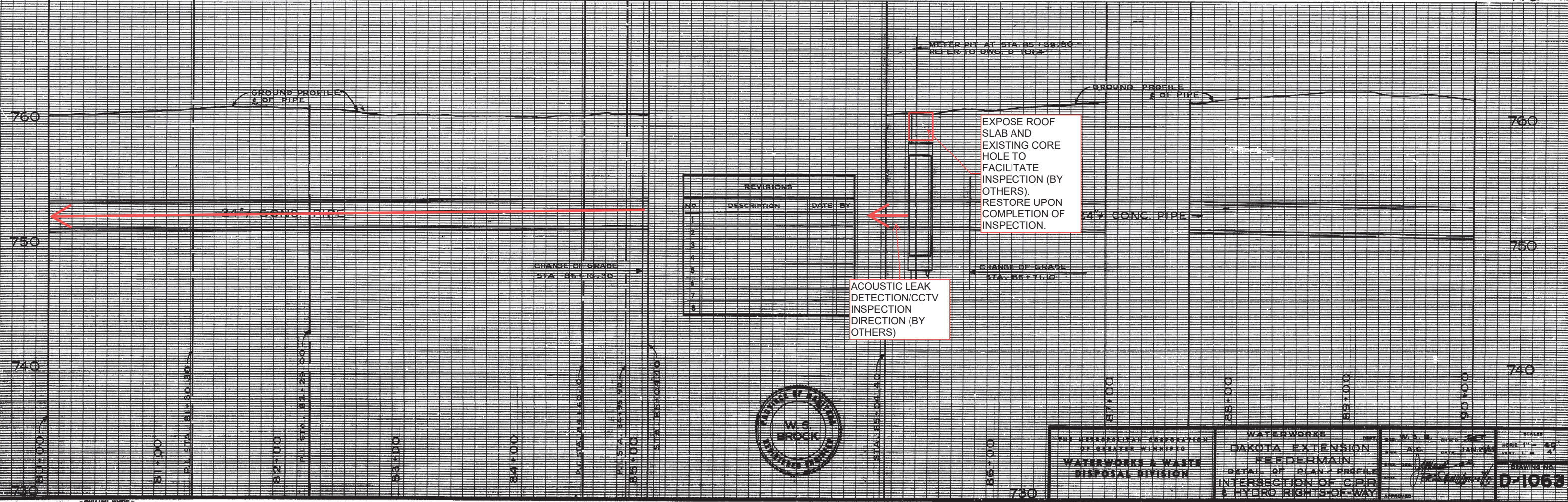
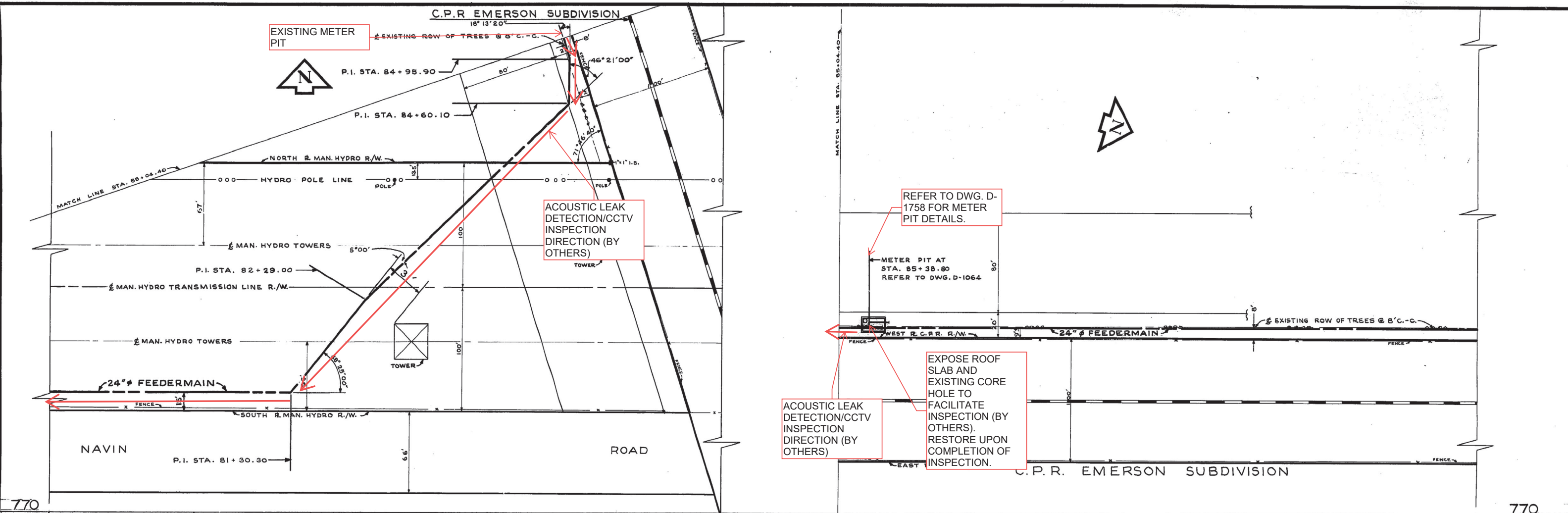
740

730



THE REPRODUCTION OR REPRODUCTION OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER IS PROHIBITED.		SCALE: AS SHOWN	
WATERWORKS & WASTE DISPOSAL DIVISION		DAKOTA EXTENSION FEEDERMAIN	
DETAIL OF PLAN & PROFILE		SEINE RIVER CROSSING	
ST. VITAL DITCH CROSSING		DRAWING NO. D-1062	
APPROVED: <i>[Signature]</i>		DATE: <i>[Date]</i>	

AS CONSTRUCTED AUG. 17, 65 A.C.

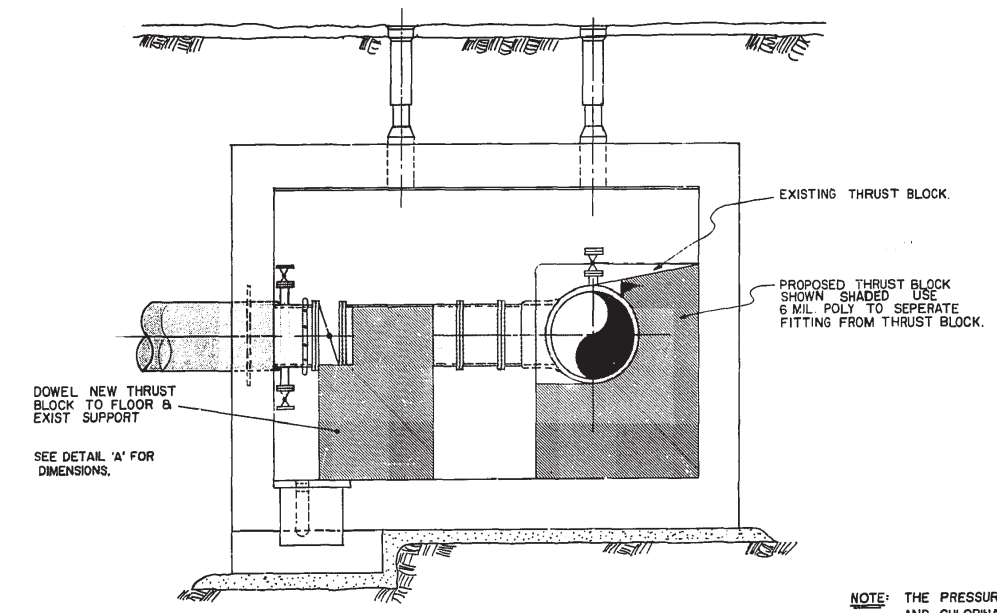


REVISIONS			
NO.	DESCRIPTION	DATE	BY
1			
2			
3			
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7			
8			

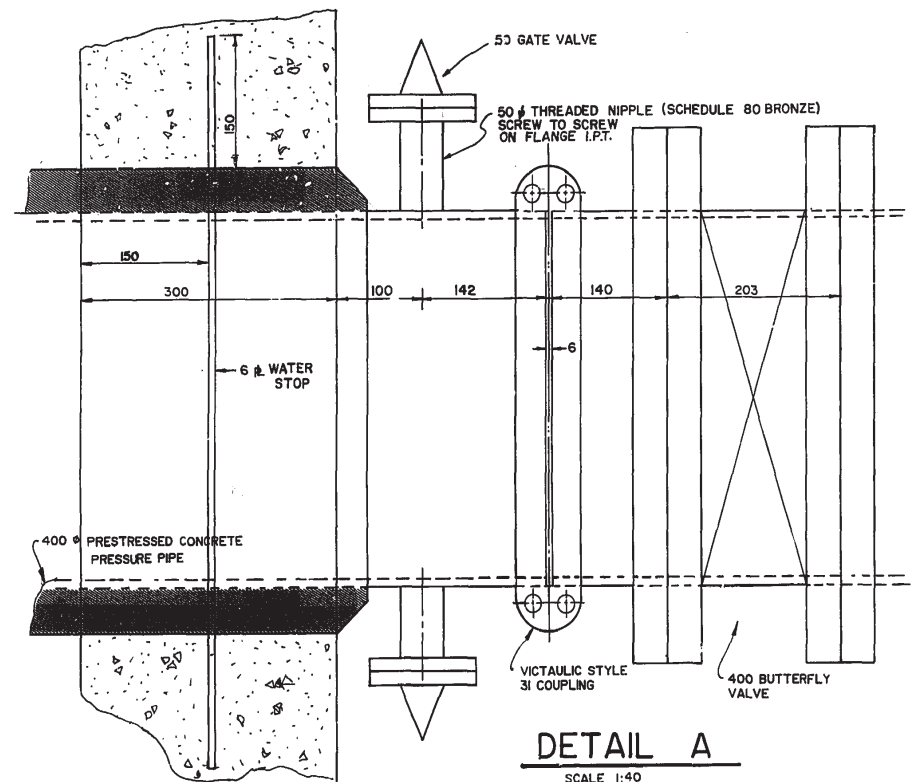


THE MINNESOTA CORPORATION OF GREAT LAKES DISTRICT WATERWORKS & WASTE DISPOSAL DIVISION	WATERWORKS DEPT. W.S.B.	SCALE HORIZ. 1" = 40' VERT. 1" = 4'
	DAKOTA EXTENSION FEEDERMAIN	DRAWING NO.
	DETAIL OF PLAN-PROFILE INTERSECTION OF C.P.R. & HYDRO RIGHTS-OF-WAY	D-1063
	DATE: JAN 1964	APPROVED:

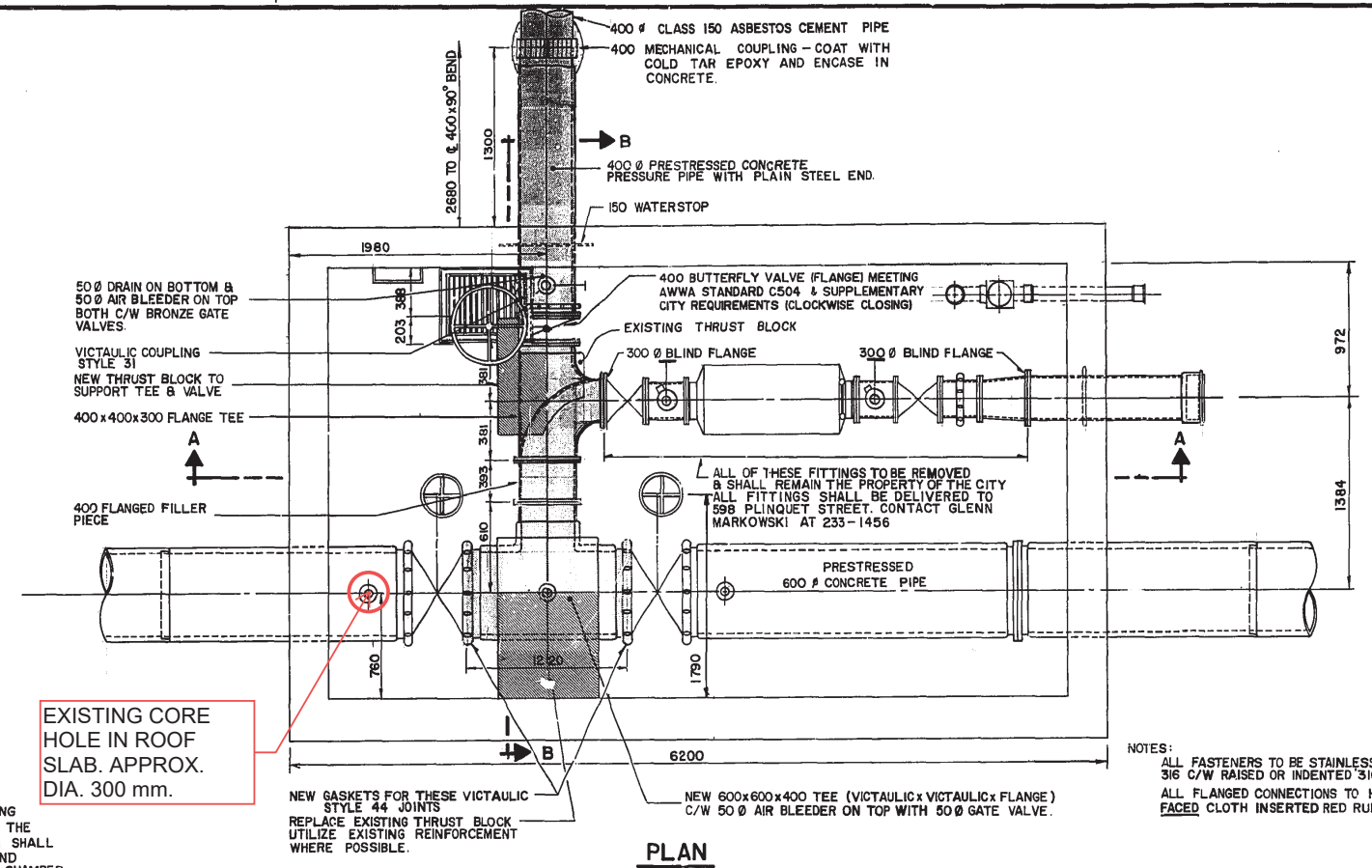
REF. or DRAWING No. D-1758 FILE # FE 10370 DETAILS



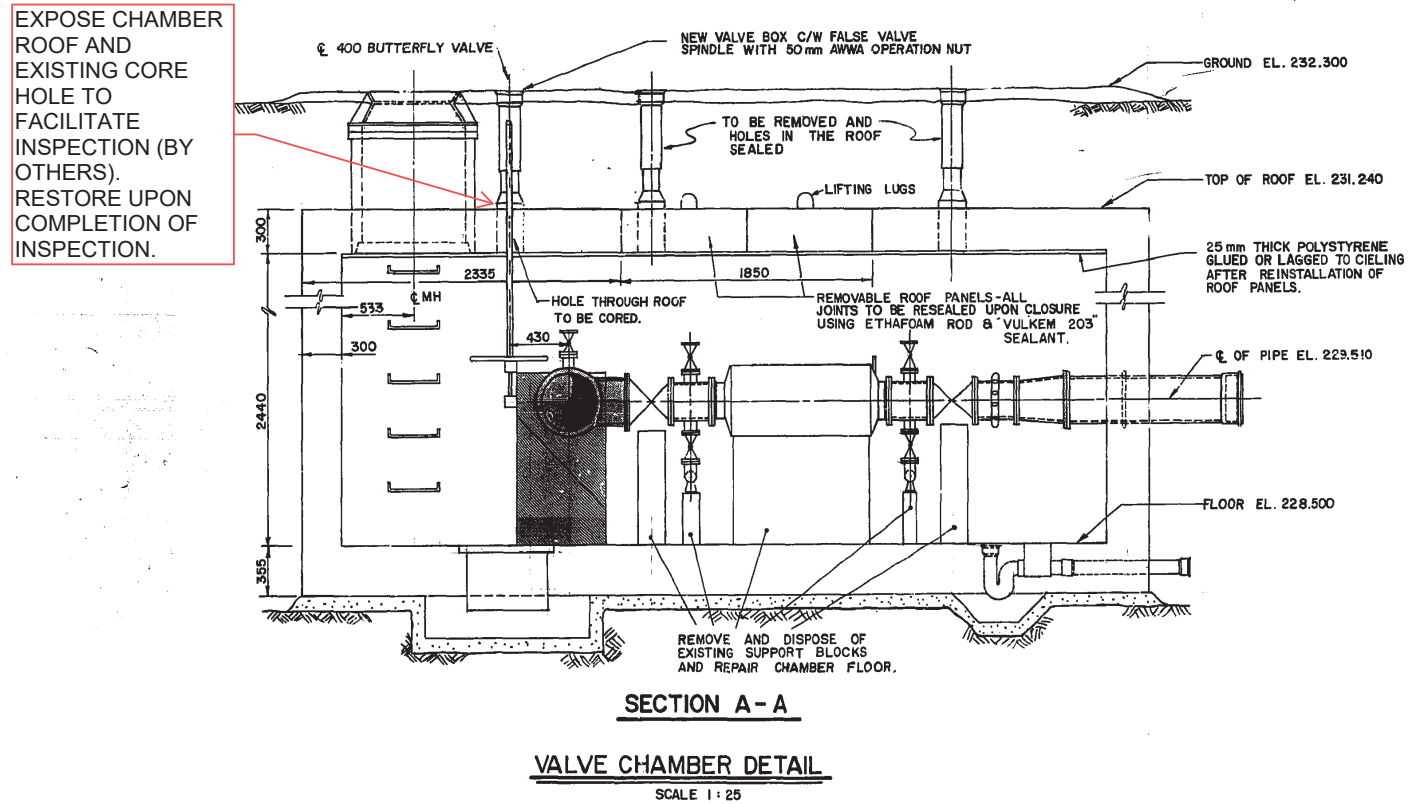
SECTION B-B



DETAIL A
SCALE 1:40



PLAN



SECTION A-A
VALVE CHAMBER DETAIL
SCALE 1:25

NOTE: THE PRESSURE TESTING AND CHLORINATION OF THE NEW 400 # WATERMAIN SHALL INCLUDE THE PIPING AND FITTINGS WITHIN THE CHAMBER.

EXISTING CORE HOLE IN ROOF SLAB. APPROX. DIA. 300 mm.

EXPOSE CHAMBER ROOF AND EXISTING CORE HOLE TO FACILITATE INSPECTION (BY OTHERS). RESTORE UPON COMPLETION OF INSPECTION.

NOTES:
ALL FASTENERS TO BE STAINLESS STEEL TYPE 316 C/W RAISED OR INDENTED 3/16 NUMERALS.
ALL FLANGED CONNECTIONS TO HAVE FULL FACED CLOTH INSERTED RED RUBBER GASKETS.

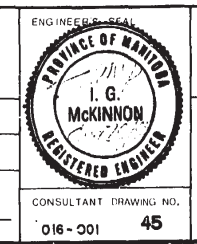
Bench Mark 55 - 011 232.282 m
Tolt. in 7.6 m Conc. pile, 60 m N. of Route 165 and 15 m E. of C.P.R. tracks.

150 mm W.M.	WATERMAIN	150 mm W.M.	HYDRO M.T.S.	150 mm W.M.	WATERMAIN
Hydrant Valve	Hydrant Valve	Concrete	Hydrant Valve	Hydrant Valve	Hydrant Valve
300 mm L.D.S.	LAND DRAINAGE SEWER	300 mm L.D.S.	ASPHALT	300 mm L.D.S.	LAND DRAINAGE SEWER
250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.	PROPERTY LINE	250 mm W.W.S.	WASTE WATER SEWER
Manhole	Manhole	Survey Bar	Survey Bar	C Profile	C Profile
Catch Basin	Catch Basin				
Curb Inlet	Curb Inlet				
Junctions	Junctions				
Culvert	Culvert				
Gas	Gas				
EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED

LOCATION APPROVED UNDERGROUND STRUCTURES
SUPV U/G STRUCTURES COMMITTEE DATE
NOTE: LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

2	TITLE BLK CHANGED - WATER MAIN VALVE CHAMBER	11.02.83	R.T.
1	ADDED CHAIR, NUTS AND THROUST BOLT, DETAILS & REVISIONS	11.02.83	at 11:00 AM
NO	REVISIONS	DATE	BY

E. H. HANSON & ASSOCIATES LTD.
ENGINEERING SERVICES
CLARK SOLMUNDSON & ASSOCIATES INC.
Consulting Engineers
DESIGNED BY I McK CHECKED BY I McK
DRAWN BY JV / GK APPROVED BY
HOR SCALE AS SHOWN VERTICAL
RELEASED FOR CONSTRUCTION
DATE AUG 1985



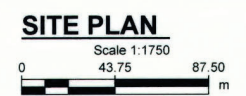
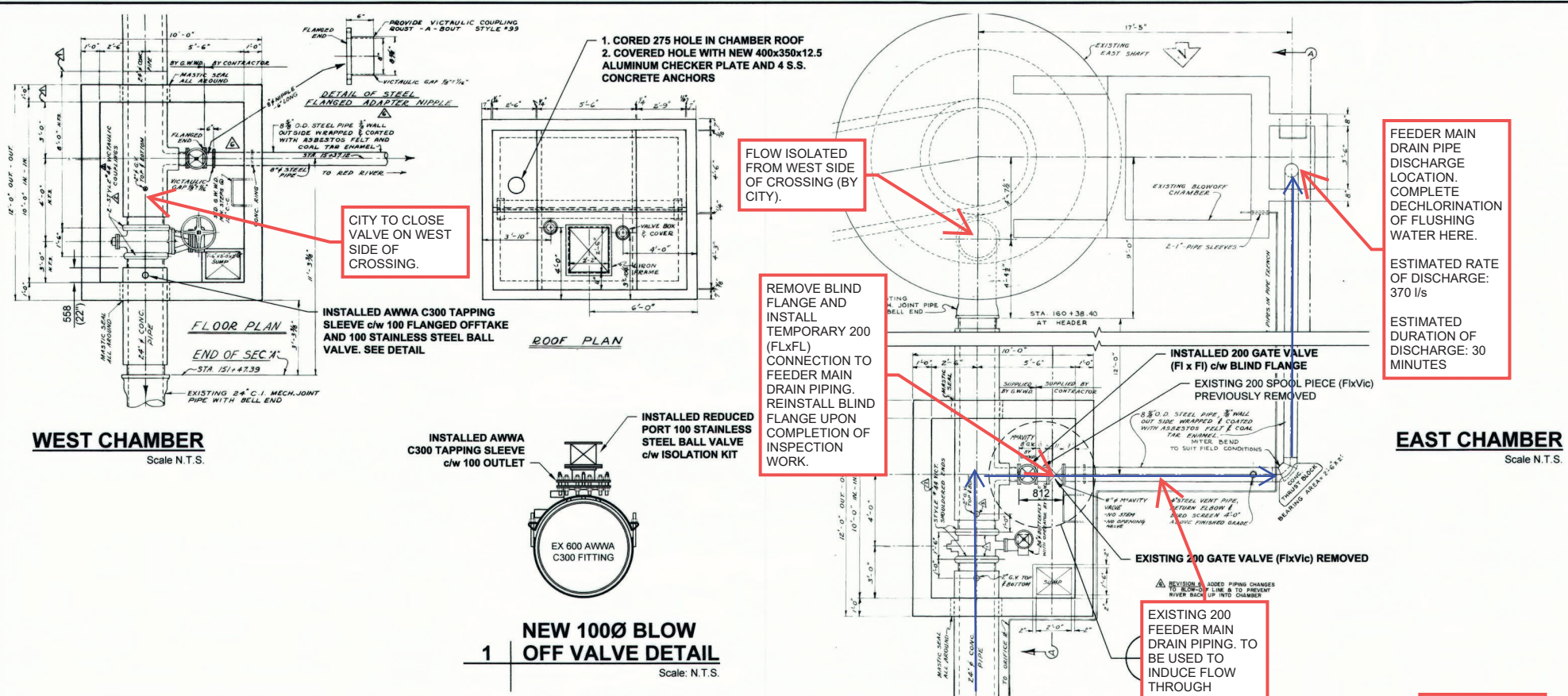
THE CITY OF WINNIPEG
WORKS AND OPERATIONS DIVISION
DAKOTA EXTENSION FEEDERMAIN
VALVE CHAMBER - STA. 85+29.73
PUBLIC RESERVE - N. OF BISHOP GRANDIN BLVD., W. OF C.P.R. EMERSON SUBDIVISION
CITY DRAWING NUMBER SHEET OF
D-1758

METRIC
WHOLE NUMBERS INDICATE MILLIMETERS
DECIMALIZED NUMBERS INDICATE METERS

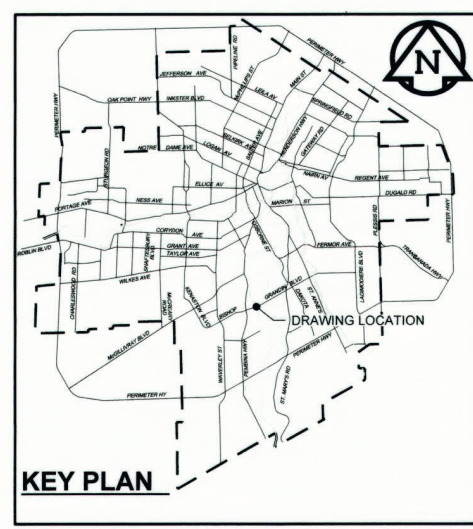
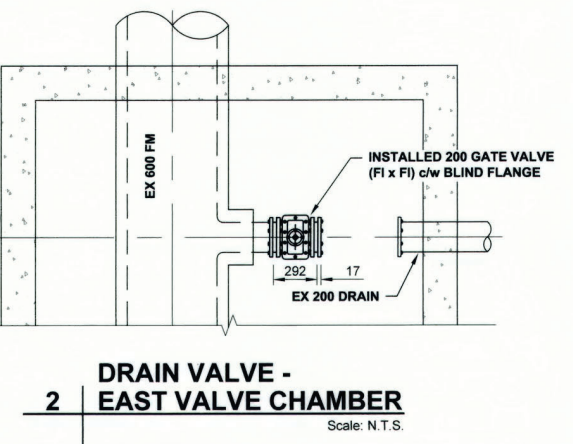
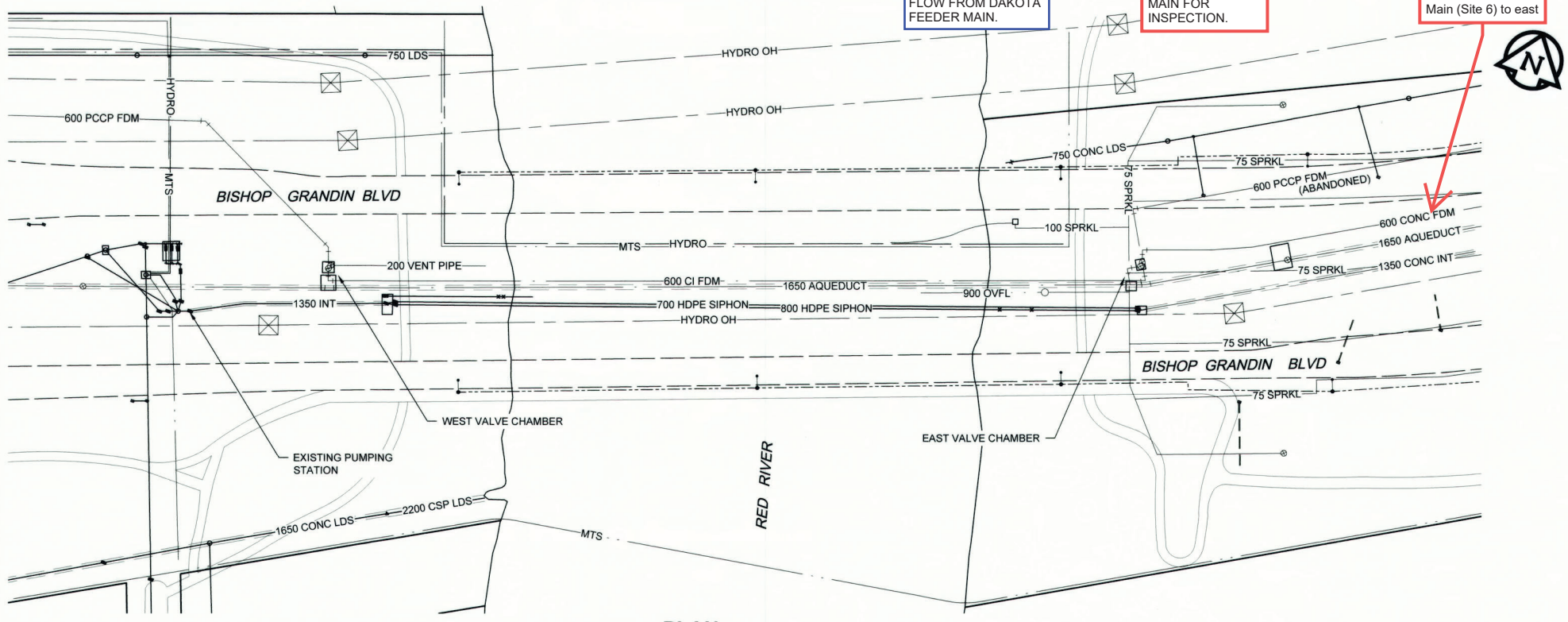
D SIZE 22" x 34" (559mm x 864mm)

PLOT: 1/27/2020 4:05:27 PM

AECOM REVIEW DRAFT CHK
AECOM FILE NAME: 60549028-SHT-30-0000-C-1006.dwg, Saved By: ccooperk



MATERIAL LIST	MANUFACTURER	MATERIAL SPECIFICATION	SPECIAL FEATURES
ITEM			
200 BLIND FLANGE	U.S. PIPE FABRICATION	ASME/ANSI B16.5 12516	
200 DRAIN VALVE	MUELLER	ANSI/AWWA C509	100Ø OUTLET
600 TAPPING SLEEVE	ROBAR INDUSTRIES LTD	Flange: AWWA C207 CLASS D Steel: ASTM C36 Straps & Fasteners: SS 316 Gasket: NBR ASTM D2000 Coatings: AWWA C213 ANSI B16.34 CLASS 150	75Ø OPENING
100 REDUCED PORT STAINLESS STEEL BALL VALVE	M.A. STEWART & SONS LTD		
400 X 350 X 12.5 THICK CHECKERPLATE ALUMINUM	J-CON		
CONTRACTOR:	J-CON CIVIL LTD		
CONSTRUCTION PERIOD:	SEPT. 14, 2018 to NOV. 8, 2019		



ES ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
AECOM Canada Ltd.
No. 4671 Date: Jun 27/20

CONSTRUCTION COMPLETION DATE:
NOVEMBER 8, 2019

RECORD DRAWING

BID OPPORTUNITY NO. 492-2018

150 WM	WATERMAIN	150 WM	150 WM	CURB STOP	150 WM	WATERMAIN	150 WM
○	HYDRANT	●	+	REDUCER	+	HYDRANT	+
⊙	VALVE	⊙	×	COUPLING	×	VALVE	×
300 LDS	LAND DRAINAGE SEWER	300 LDS	○	ANODE	○	LAND DRAINAGE SEWER	300 LDS
250 WWS	WASTE WATER SEWER	250 WWS	▽	HYDRO	▽	WASTE WATER SEWER	250 WWS
○	MANHOLE	●	MTS	MTS	○	PAVEMENT CROWN	○
□	CATCH BASIN	■	GAS	GAS	○	NW PROPERTY LINE	○
△	CURB INLET	▲	TESTHOLE	TESTHOLE	○	S/E PROPERTY LINE	○
▭	CULVERT	▭	LAMP STANDARD	LAMP STANDARD	○	NW GUTTER	○
—	PIPE ABANDONMENTS	—	TREE	TREE	○	S/E GUTTER	○
+	SURVEY BAR	+			○		○
EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PLAN	NEW	EXISTING	LEGEND - PROFILE

LOCATION APPROVED
UNDERGROUND STRUCTURES

SUPR U/G STRUCTURES DATE COMMITTEE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE. BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO.	REVISIONS	YY/MM/DD	BY
1	ISSUED FOR RECORD	19/11/28	KLC
0	ISSUED FOR CONSTRUCTION	18/06/01	KLC



DESIGNED BY	ADB	CHECKED BY	DATE
DRAWN BY	KLC	APPROVED BY	DATE
HOR. SCALE	AS NOTED	RELEASED FOR CONSTRUCTION	DATE
VERT. SCALE	N/A		

PROFESSIONAL'S SEAL
PROVINCE OF MANITOBA
A. D. BRAUN
Member
24453
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG WATER AND WASTE DEPARTMENT

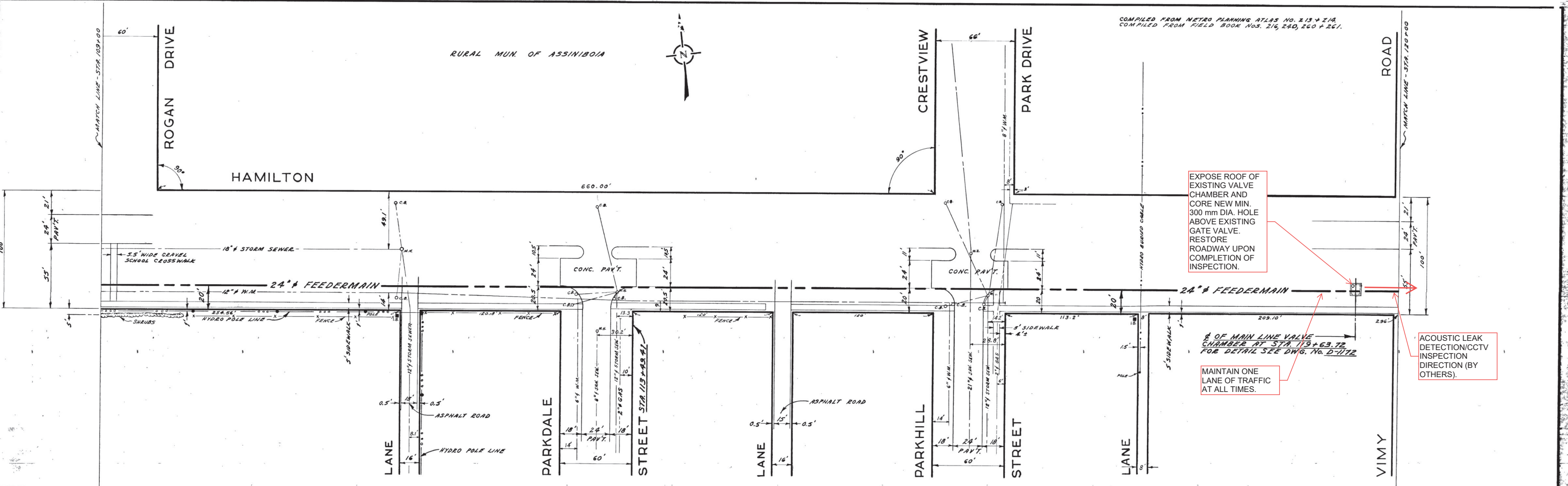
PROVISION OF PIPELINE ACCESS MODIFICATIONS, CLEANING AND SUPPORT SERVICES FOR RIVER CROSSING INSPECTIONS - PHASE TWO

SITE 6
FORT GARRY - ST. VITAL FEEDER MAIN

SHEET 8 OF 8
CITY DRAWING NUMBER
D-15161
REV 1

COMPILED FROM METRO PLANNING ATLAS No. 213 + 21A
COMPILED FROM FIELD BOOK Nos. 216, 240, 260 + 261.

RURAL MUN. OF ASSINIBOIA

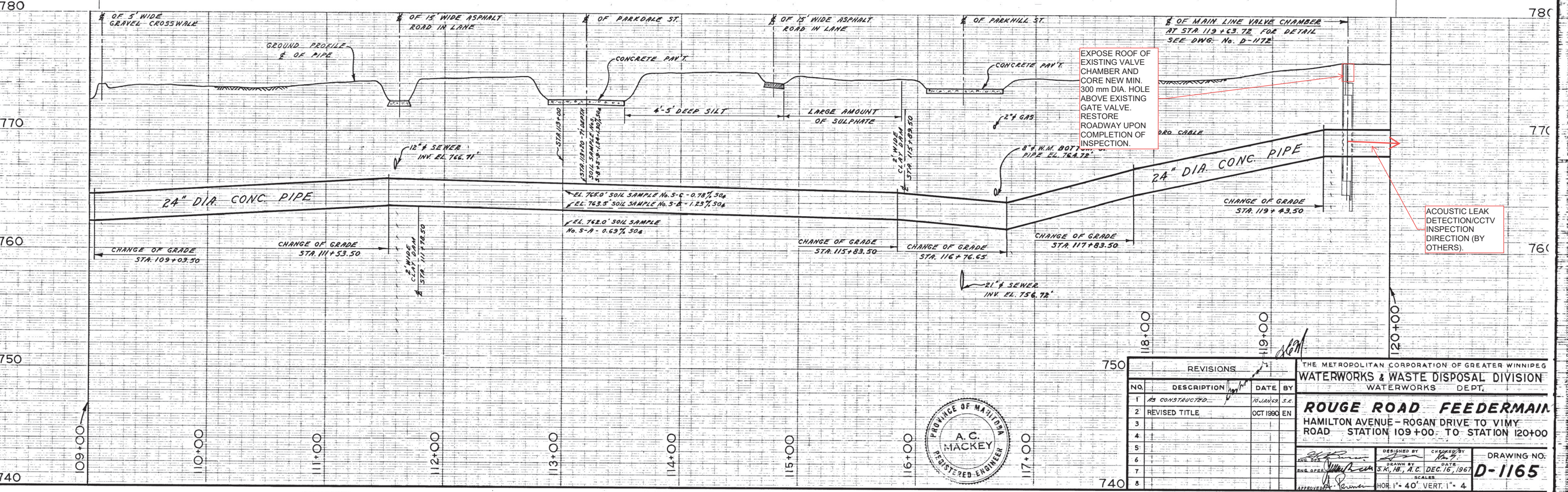


EXPOSE ROOF OF EXISTING VALVE CHAMBER AND CORE NEW MIN. 300 mm DIA. HOLE ABOVE EXISTING GATE VALVE. RESTORE ROADWAY UPON COMPLETION OF INSPECTION.

MAINTAIN ONE LANE OF TRAFFIC AT ALL TIMES.

ACOUSTIC LEAK DETECTION/CCTV INSPECTION DIRECTION (BY OTHERS).

1/2 OF MAIN LINE VALVE CHAMBER AT STA. 119+63.72 FOR DETAIL SEE DWG. No. D-1172



EXPOSE ROOF OF EXISTING VALVE CHAMBER AND CORE NEW MIN. 300 mm DIA. HOLE ABOVE EXISTING GATE VALVE. RESTORE ROADWAY UPON COMPLETION OF INSPECTION.

ACOUSTIC LEAK DETECTION/CCTV INSPECTION DIRECTION (BY OTHERS).

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	AS CONSTRUCTED	NOV 1969	S.E.
2	REVISED TITLE	OCT 1969	EN
3			
4			
5			
6			
7			
8			

THE METROPOLITAN CORPORATION OF GREATER WINNIPEG
WATERWORKS & WASTE DISPOSAL DIVISION
WATERWORKS DEPT.

ROUGE ROAD FEEDERMAIN
HAMILTON AVENUE - ROGAN DRIVE TO VIMY ROAD
STATION 109+00 TO STATION 120+00

DESIGNED BY: [Signature]
DRAWN BY: [Signature]
DATE: DEC. 16, 1967

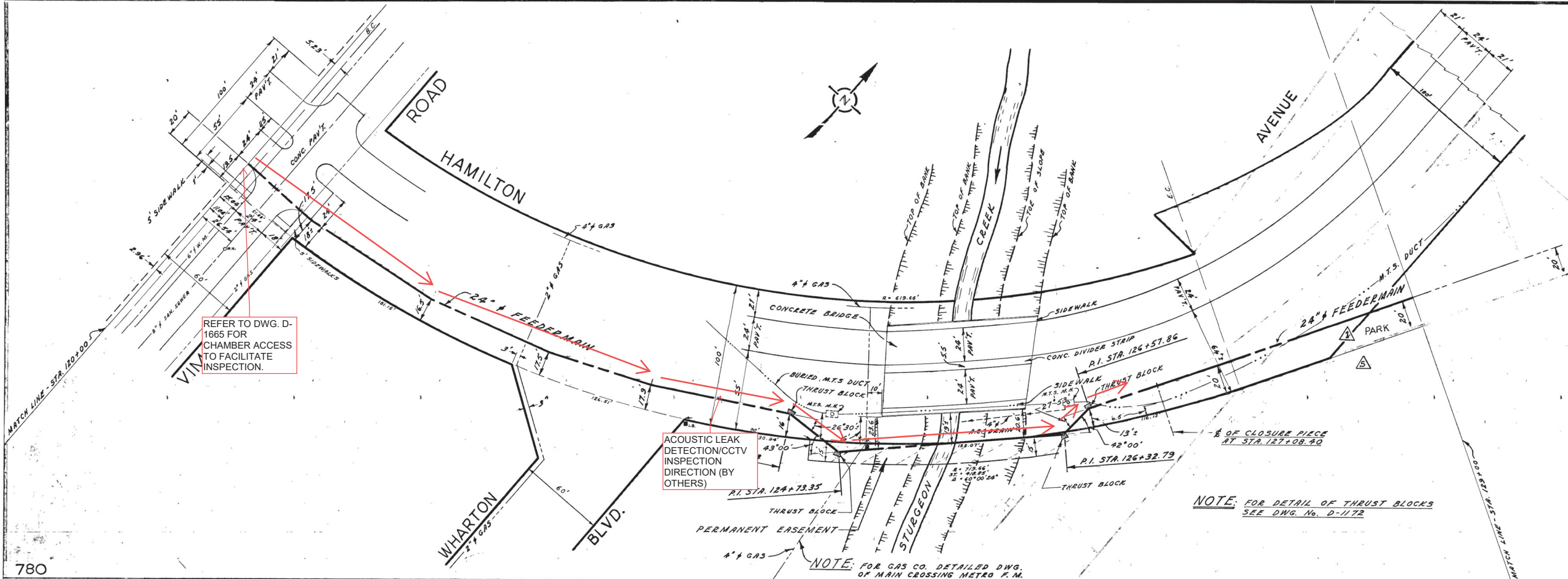
DRAWING NO. **D-1165**

HOR. 1" = 40' VERT. 1" = 4'



City of Winnipeg
W002000

D-1165



REFER TO DWG. D-1665 FOR CHAMBER ACCESS TO FACILITATE INSPECTION.

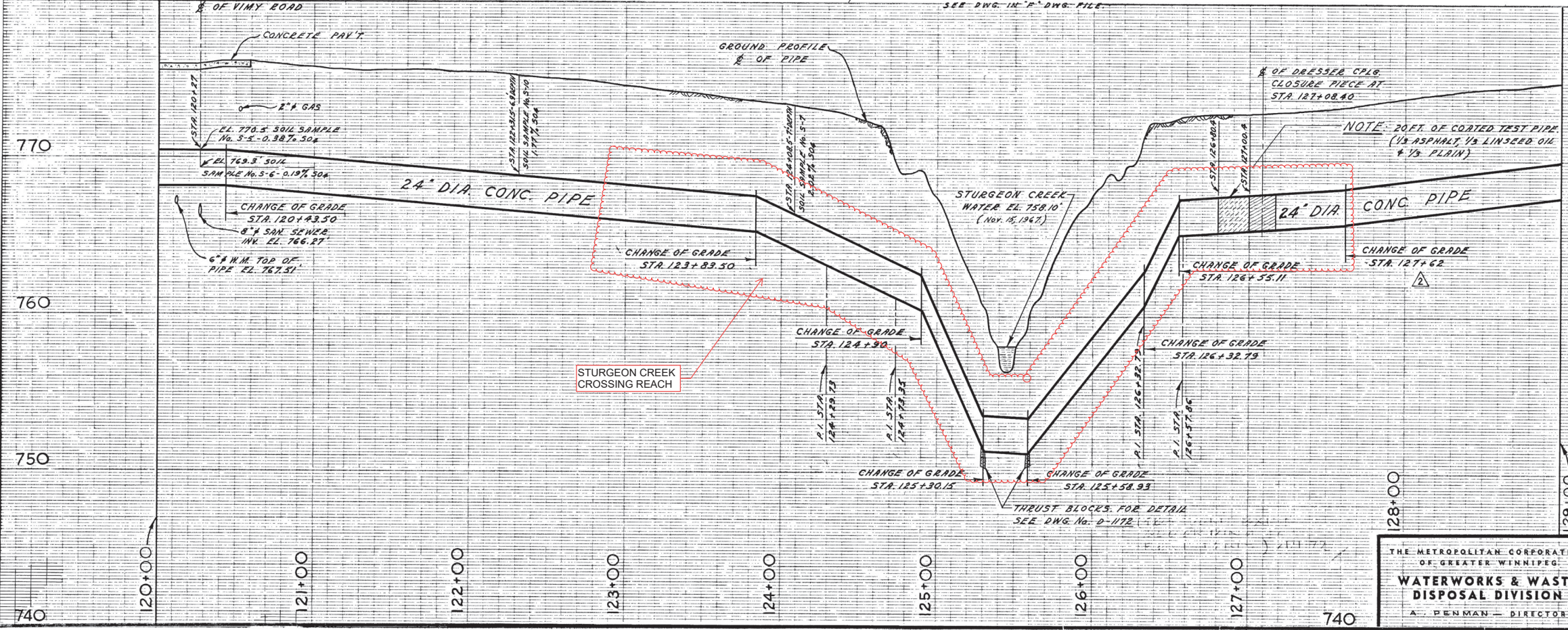
ACOUSTIC LEAK DETECTION/CCTV INSPECTION DIRECTION (BY OTHERS)

NOTE: FOR DETAIL OF THRUST BLOCKS SEE DWG. No. D-1172

NOTE: FOR GAS CO. DETAILED DWG. OF MAIN CROSSING METRO T.M. SEE DWG. IN "A" DWG. FILE

780

780



REVISIONS			
No.	DESCRIPTION	BY	DATE
1	ALIGNMENT OF 24" F.M. CHANGED	A.C.	APRIL 30/68
2	PIPE PROFILE REVISED	A.C.	APRIL 30/68
3	MATCH LINE & TITLE BLOCK REVISED	A.C.	APRIL 30/68
4	AS CONSTRUCTED (MINN'T)	S.K.	13 MAY 69
5	TITLE & PROPERTY LINE REVISED	MD	JAN 91
6			

770

760

750



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

WATERWORKS
ROUGE ROAD FEEDERMAIN
HAMILTON AVENUE - VIMY ROAD
TO STURGEON CREEK
STA. 120+00 TO STA. 129+00

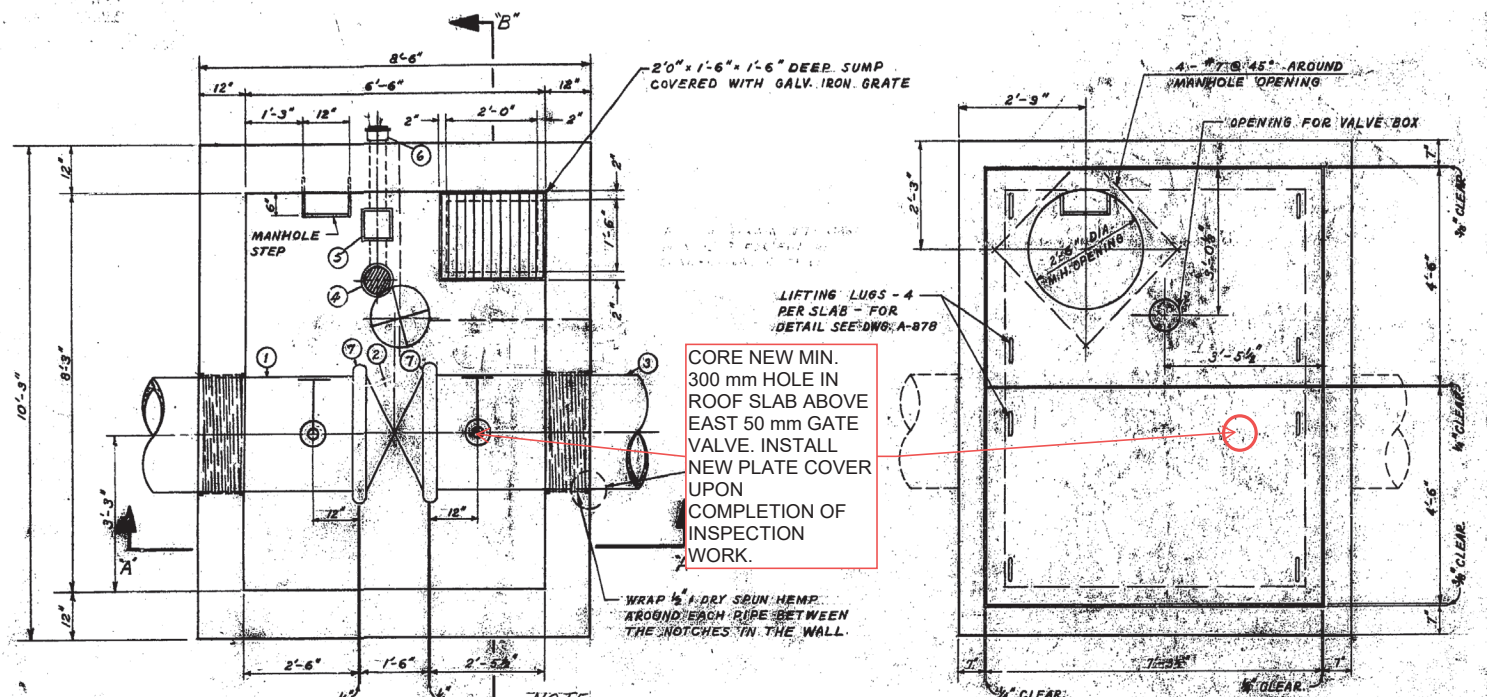
DEPT. DES. *A.C. Mackey* CHK'D. *Bob*
ORN. S.K.A.C. DATE DEC. 18/67
ENG. DES. *A.C. Mackey*
ENG. OFFER *A.C. Mackey*
APPROVED *A.C. Mackey*

SCALE
HORIZ. 1" = 40'
VERT. 1" = 4'
DRAWING NO.
D-1166

740

740

740



FLOOR PLAN

ROOF PLAN

NOTE: VALVE CHAMBER AT STA. 61+68.52 HAS A 4" PIT DRAIN CONNECTED TO SEWER ON POSTAGE AND TELE. SECTIONS. INSTALLED 7'-4" x 1'-0" AND 1'-1'-0" WITH BEAMS OF BRICES TO M.H. FRAME 7'-0" DEPTH FROM TOP OF ROOF SLAB TO M.H. COVER.

NOTE: VALVE CHAMBER AT STA. 119+63.72 HAS A 4" PIT DRAIN WITH PLUG. THEREFORE NOT CONNECTED TO SEWER AND CONTAINS A SUMP. M.H. SECTION INSTALLED 1'-1'-0" WITH NO BRICES TO M.H. FRAME. 4'-0" DEPTH FROM TOP OF SLAB TO M.H. COVER.

EXPOSE ROOF SLAB TO FACILITATE ACCESS FOR INSPECTION. RESTORE ROAD UPON COMPLETION OF INSPECTION WORK.

24" DIA. MAIN LINE VALVE CHAMBER	
STATION	ELEV. $\frac{1}{2}$ OF PIPE
STATION 61+68.52	ELEV. 764.89'
STATION 119+63.72	ELEV. 759.16'

LIST OF MATERIALS		
NO.	DESCRIPTION	QUANTITY
1	24" x CONC. PIPE SPIGOT TO VICTAULIC 6' LONG	1
2	24" x BUTTERFLY VALVE (CONCRETE VALVE) WITH BRASS HANDS 1'-2" LONG	1
3	14' LONG VICTAULIC TO BELL 6' LONG	1
4	4" x 4" x 1/2" TRAP & DRAIN WITH SCREW-ON COVER	1
5	4" x BRASS WATER VALVE	1
6	4" x C.I. PIPE	1
7	24" x STYLE #44 VICTAULIC COUPLING	2
8	2" x BRONZE GATE VALVE - SCREWED ENDS	2
9	2" x BRONZE NIPPLE - SCREWED ENDS	2
10	3" x BRONZE NIPPLE - SCREWED ENDS	2
11	3" x BRONZE GATE VALVE - SCREWED ENDS	2
12	3/4" - 90° GALV. ELBOW - SCREWED ENDS	2

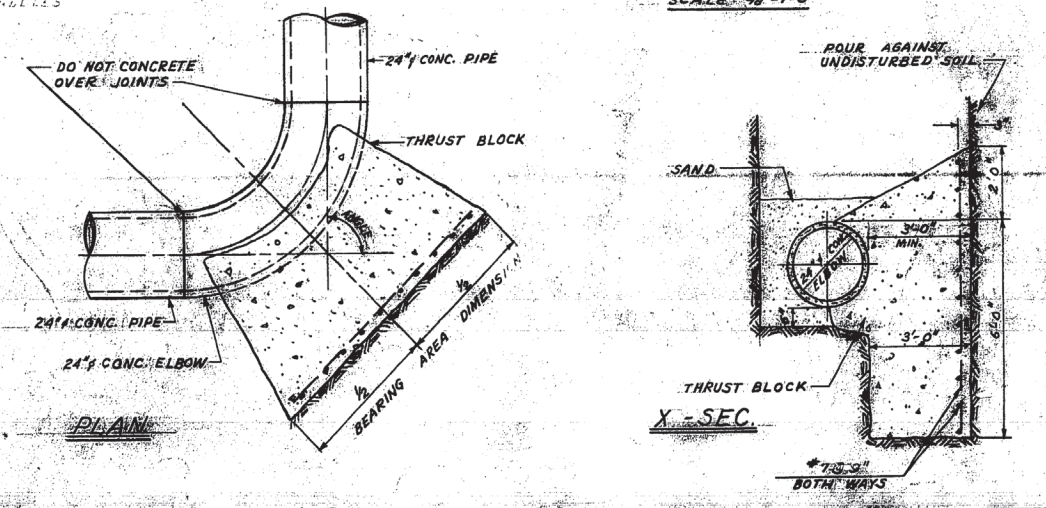
NOTE: BUILDING PAPER PLACED BETWEEN THIRST AND CONCRETE SADDLES.

NOTE: PLACE BUILDING PAPER BETWEEN ALL VICTAULIC VALVE JOINTS AND ELBOWS TO PREVENT LEAKS.

LIST OF THRUST BLOCKS			
No.	LOCATION	ANGLE	BEARING AREA
1	P.I. STA. 33+03.60	5°00'00"	3'-0" x 2'-6"
2	P.I. STA. 34+23.85	5°00'00"	3'-0" x 2'-6"
3	P.I. STA. 61+28.31	75°07'00"	8'-0" x 7'-0"
4	P.I. STA. 61+28.09	55°00'00"	5'-0" x 4'-9"
5	P.I. STA. 66+38.54	45°00'00"	6'-0" x 5'-5"
6	P.I. STA. 89+00.59	74°58'50"	8'-0" x 7'-0"
7	P.I. STA. 105+15.38	7°30'00"	3'-0" x 2'-6"
8	P.I. STA. 105+36.10	7°30'00"	3'-0" x 2'-6"
9	P.I. STA. 124+29.73	26°30'00"	3'-0" x 4'-3"
10	P.I. STA. 124+29.35	23°00'00"	3'-0" x 2'-0"
11	P.I. STA. 125+32.78	42°00'00"	4'-0" x 7'-0"
12	P.I. STA. 125+32.86	27°53'00"	3'-0" x 4'-6"
13	STA. 125+30.15 (CHANGE OF GRADE)	18°00'00"	2'-0" x 8'-0"
14	STA. 125+30.93 (CHANGE OF GRADE)	11°00'00"	2'-0" x 8'-0"
15	P.I. STA. 125+31.08	19°00'00"	3'-0" x 2'-0"
16	P.I. STA. 127+33.93	185°00'00"	6'-0" x 8'-0"
17	P.I. STA. 128+23.77	16°00'00"	6'-0" x 8'-0"
18	P.I. STA. 125+31.93	32°00'00"	4'-0" x 7'-0"
19	P.I. STA. 126+20.01	72°00'00"	4'-6" x 8'-0"

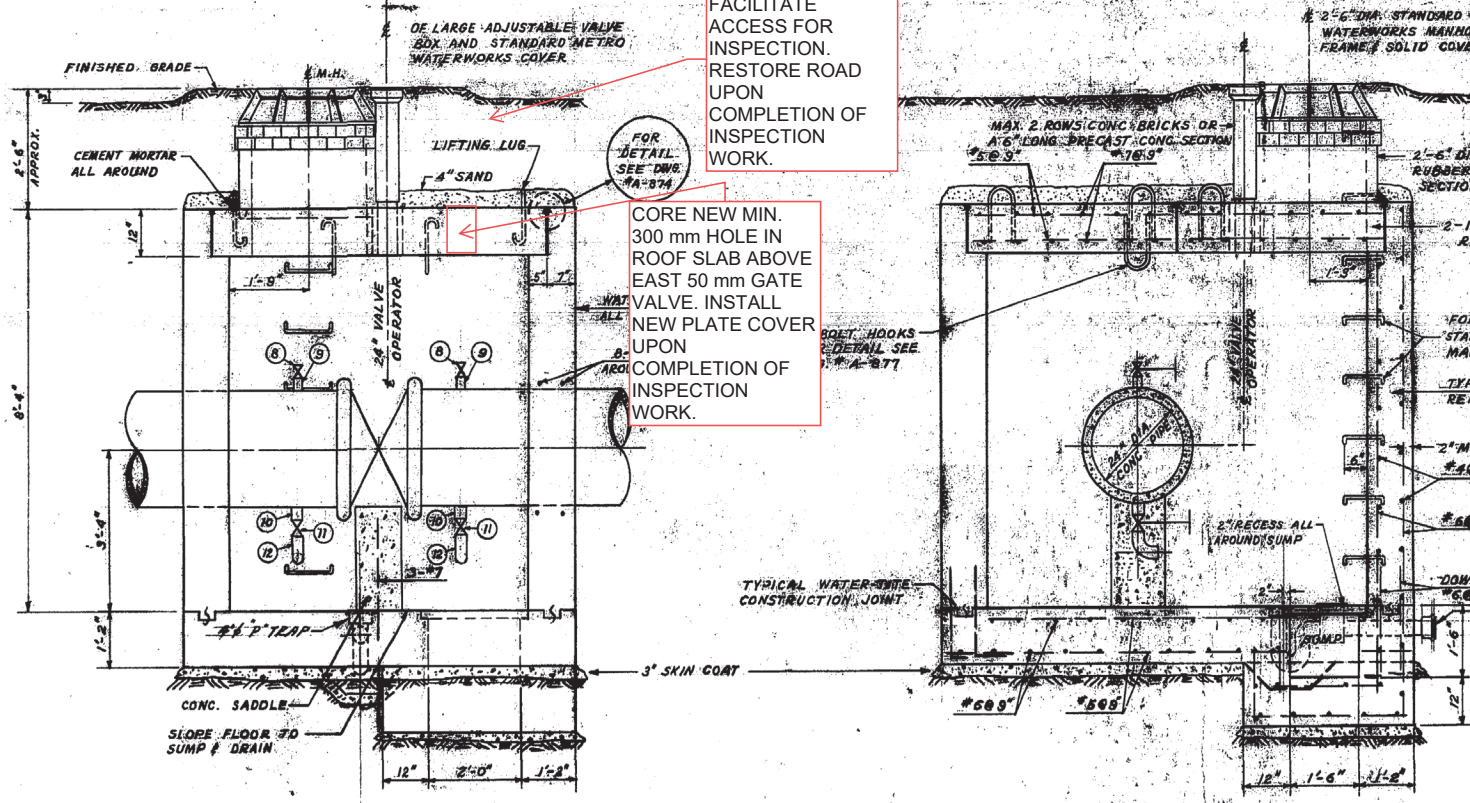
NOTE: BUILDING PAPER PLACED BETWEEN CONCRETE PIPE AND THRUST BLOCK FOR T.B. NO. 13 AND NO. 14.

TYPICAL THRUST BLOCK DETAIL FOR 24" - 75° TO 90° CONC. ELBOWS SCALE: 3/8" = 1'-0"



PLAN

X-SEC.



SEC. A-A

SEC. B-B

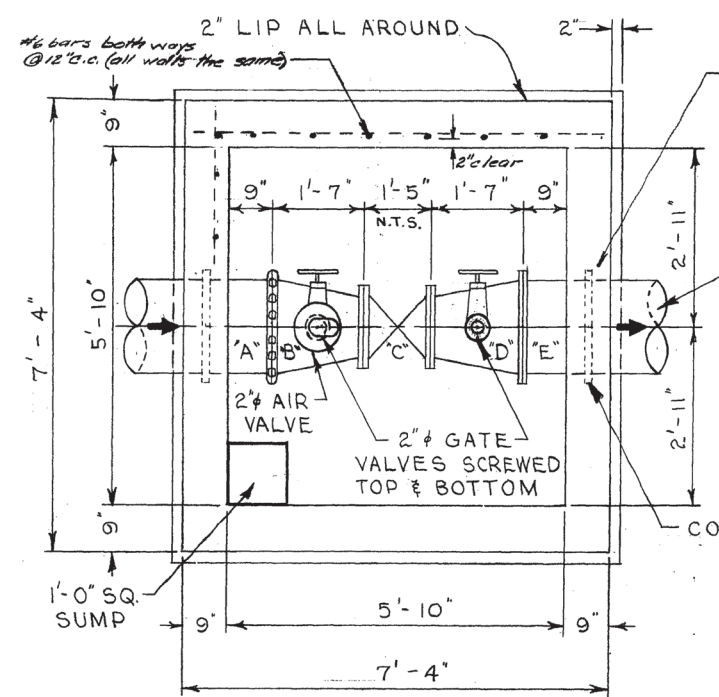
TYPICAL 24" DIA. MAIN LINE VALVE CHAMBER SCALE: 1/4" = 1'-0"

REVISIONS		
No.	DESCRIPTION	BY DATE
1	THRUST BLOCKS No. 13 & 14 DELETED	A.C. APRIL 1968
2	THRUST BLOCK No. 15 RELOCATED	A.C. APRIL 1968
3	AS CONSTRUCTED.	S.E. 15 MAY 68
4		
5		

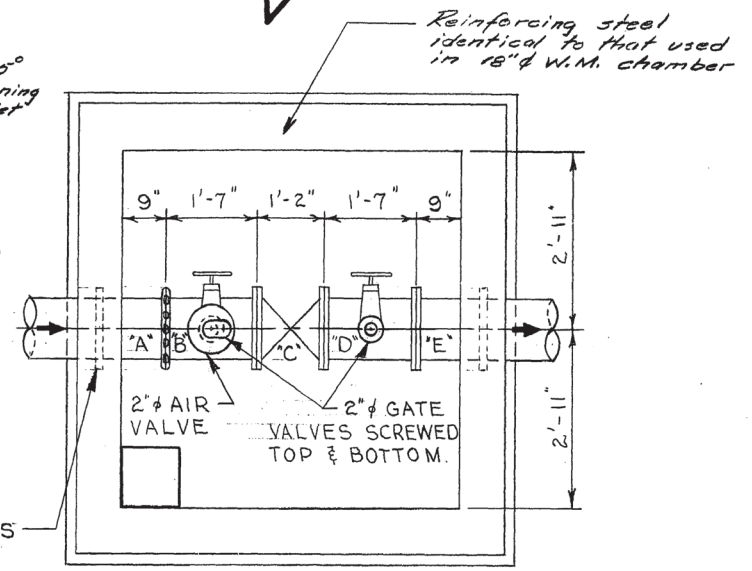
TYPICAL THRUST BLOCK DETAILS FOR 24" - 45° OR LESS - CONC. ELBOWS SCALE: 3/8" = 1'-0"



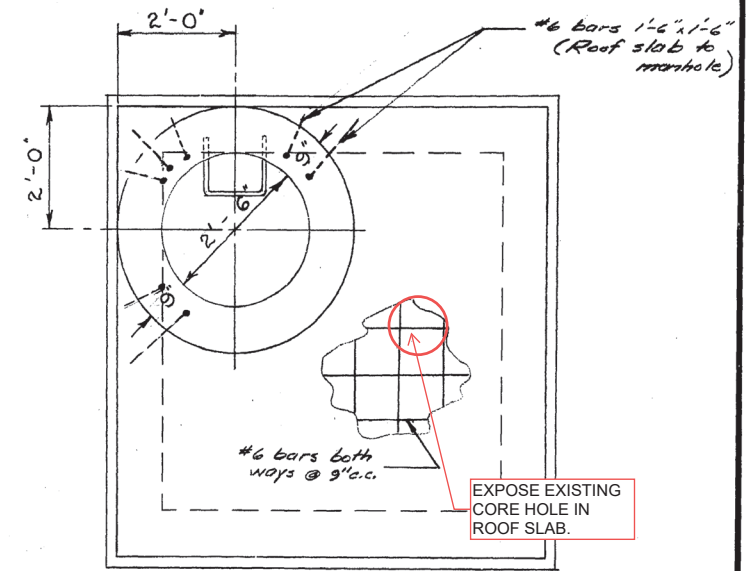
THE METROPOLITAN CORPORATION OF GREATER WINNIPEG WATERWORKS & WASTE DISPOSAL DIVISION A. PENMAN - DIRECTOR	DEPT. WATERWORKS ROUGE ROAD FEEDERMAIN MAIN LINE VALVE CHAMBERS & THRUST BLOCK DETAILS	DES. CH'D. <i>Rob</i> DRN. A.C. DATE: JAN 10/68 ENG. DES. <i>Penman</i> ENG. OPR. <i>Penman</i> APPROVED <i>Penman</i>	SCALED AS SHOWN DRAWING NO. D-1172
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FLOOR PLAN
FOR 18" DIA. WATERMAIN

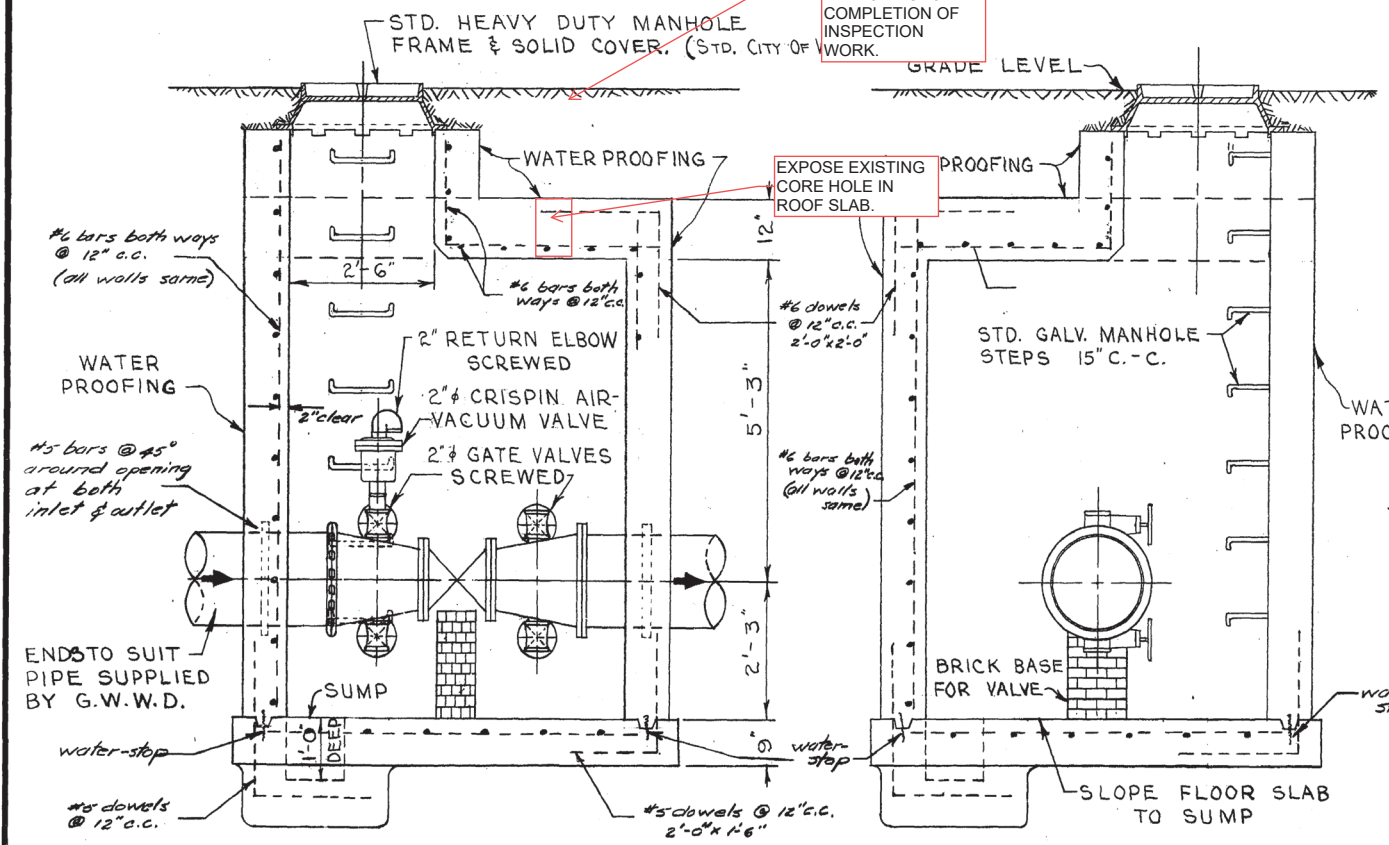


FLOOR PLAN
FOR 12" DIA. WATERMAIN
(SAME CHAMBER DIMENSIONS AS)
(FOR 18" WATERMAIN)



ROOF PLAN
FOR 18" OR 12" DIA. WATERMAIN

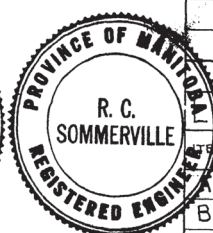
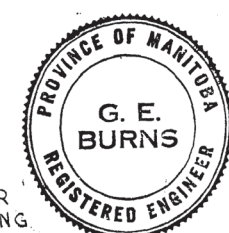
EXCAVATE TO EXPOSE CHAMBER ROOF TO FACILITATE INSPECTION (BY OTHERS). RESTORE UPON COMPLETION OF INSPECTION WORK.



LONGITUDINAL SECTION
FOR 18" OR 12" DIA. WATERMAIN

X-SECTION
FOR 18" OR 12" DIA. WATERMAIN

Note: Reinforcing steel to be 2" clear



NOTE:
PIPE THROUGH CHAMBER WALLS SHALL BE C.I. OR STEEL. A.C. PIPE WILL NOT BE ALLOWED.

LIST OF MATERIALS FOR 18" WATERMAIN

ITEM	DESCRIPTION	NO. REQ'D
A	18" C.I. PIPE - ENDS TO SUIT	1
B	18" x 16" REDUCER - VICT. CPLG. TO FLGE.	1
C	16" GEARED GATE VALVE FLGED. (N.R.S.)	1
D	18" x 12" REDUCER FLGED.	1
E	18" C.I. PIPE - ENDS TO SUIT.	1
	2" CRISPIN AIR-VACUUM VALVE SCREWED.	1
	2" RETURN ELBOW SCREWED.	1
	2" BRASS GATE VALVE SCREWED WITH NIPPLES	4

LIST OF MATERIALS FOR 12" WATERMAIN

ITEM	DESCRIPTION	NO. REQ'D
A	12" C.I. PIPE - ENDS TO SUIT.	1
B	12" C.I. PIPE - VICT. CPLG. TO FLGE.	1
C	12" GATE VALVE FLGED. (N.R.S.)	1
D	12" C.I. PIPE FLGED.	1
E	12" C.I. PIPE - ENDS TO SUIT.	1
	2" CRISPIN AIR-VACUUM VALVE SCREWED	1
	2" RETURN ELBOW SCREWED.	1
	2" BRASS GATE VALVE SCREWED WITH NIPPLES	4
	1-18" OR 12" VICTAULIC COUPLING REQUIRED.	

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	5.6 FEET ADDED TO STA. CHAINAGE.	30 June 60	S.K.

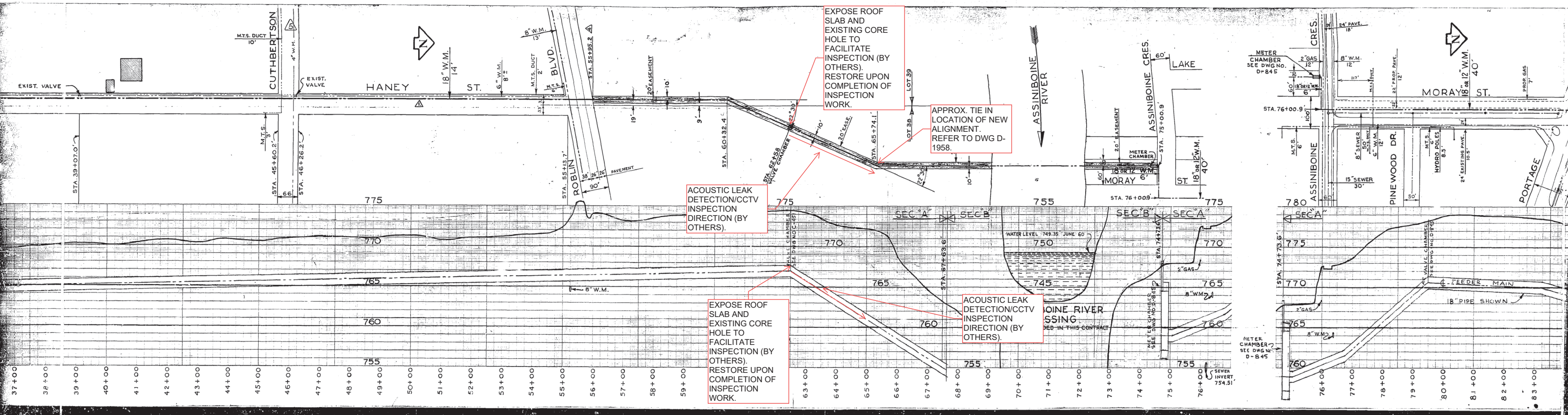
GREATER WINNIPEG WATER DISTRICT
MUNICIPAL WATERMANS

TITLE:
HANEY - MORAY WATERMAIN
GATE VALVE CHAMBER
@ STA. 62 + 55.6

APPROVED BY: *G. E. Burns*
DESIGNED BY: *NWS.*
CHECKED BY: *BOS*
DRAWN BY: *S.K.*
DATE: 16 JUNE 60.

SCALES:
1/2" INCH = 1'-0" FT.
OTHERWISE AS NOTED.

DRAWING NO.
C-451



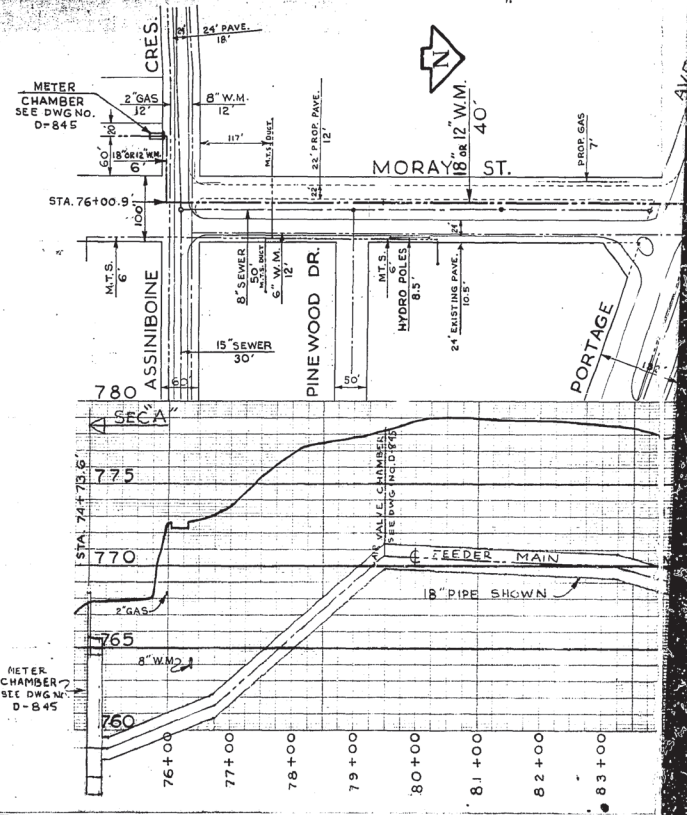
EXPOSE ROOF SLAB AND EXISTING CORE HOLE TO FACILITATE INSPECTION (BY OTHERS). RESTORE UPON COMPLETION OF INSPECTION WORK.

APPROX. TIE IN LOCATION OF NEW ALIGNMENT. REFER TO DWG D-1958.

ACOUSTIC LEAK DETECTION/CCTV INSPECTION DIRECTION (BY OTHERS).

EXPOSE ROOF SLAB AND EXISTING CORE HOLE TO FACILITATE INSPECTION (BY OTHERS). RESTORE UPON COMPLETION OF INSPECTION WORK.

ACOUSTIC LEAK DETECTION/CCTV INSPECTION DIRECTION (BY OTHERS).

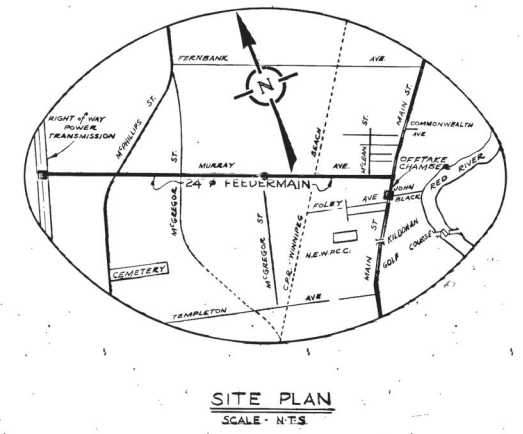
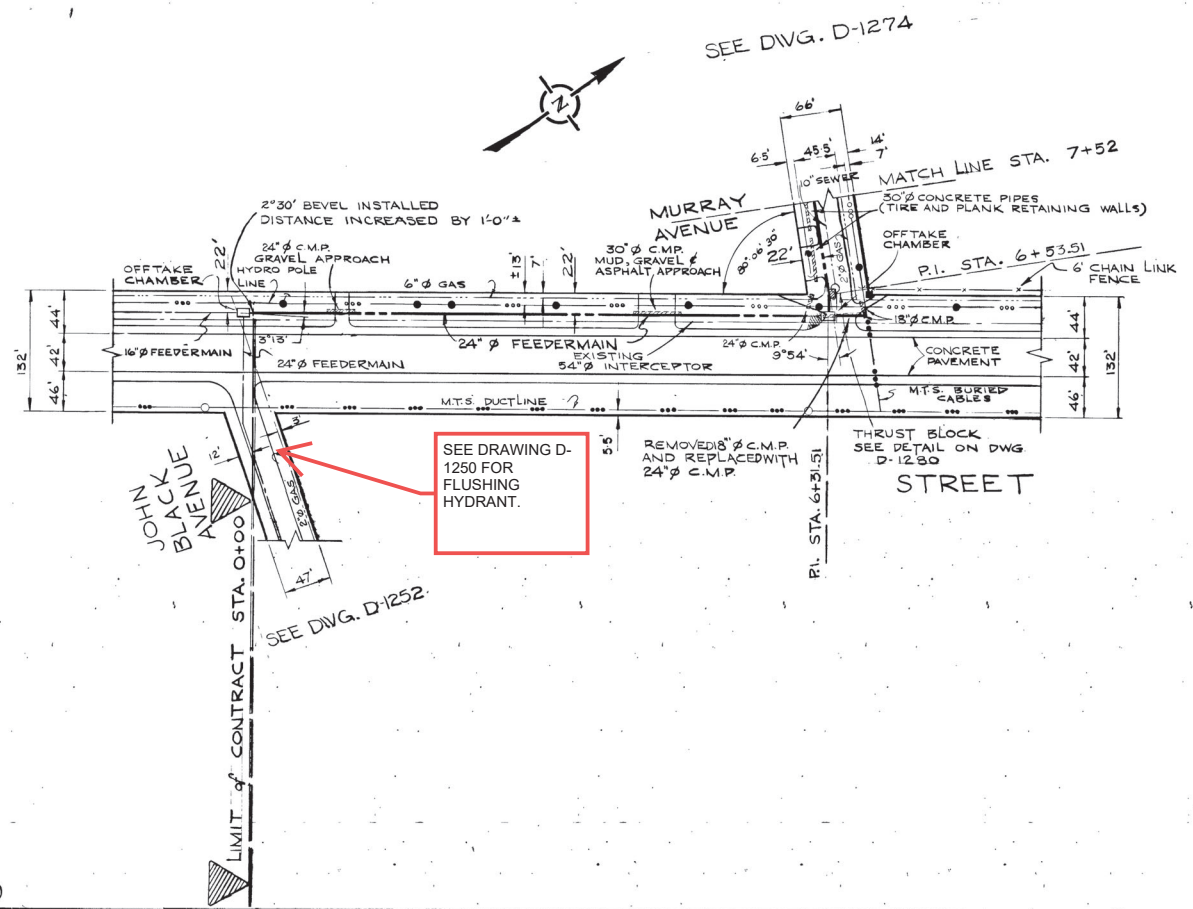


METER CHAMBER SEE DWG NO. D-845

METER CHAMBER SEE DWG NO. D-845

SEWER INVERT 754.51

SEE DWG. D-1254



LEGEND

WATERWORKS, WASTE AND DISPOSAL; UNDERGROUND UTILITIES

PROPOSED FORCEMAIN, INTERCEPTOR OR SECONDARY SEWER _____

EXISTING FORCEMAIN, INTERCEPTOR OR SECONDARY SEWER _____ W.W.D. 24" SEWER

PROPOSED FEEDERMAIN _____

EXISTING FEEDERMAIN _____ W.W.D. 24" F.W.M.

W.W.D. — WATERWORKS, WASTE AND DISPOSAL

OTHER UNDERGROUND UTILITIES

COMMUNITY SEWER _____

COMMUNITY WATERMAIN _____

GAS _____

HYDRO DUCT _____

M.T.S. DUCT OR CABLE _____

STREET LIGHTING, RAILWAY SIGNAL OR TRAFFIC SIGNAL CABLE _____

SURFACE UTILITIES

COMMUNITY BOUNDARY LINE _____

FENCE LINE _____ X _____

POLE LINE _____

RAILWAY LINE _____

MISCELLANEOUS SYMBOLS

CATCH BASIN _____ ○

CULVERT _____ □

HYDRANT _____ ⊕

MANHOLE _____ ⊙

HYDRO OR M.T.S. POLE _____ ●

LAMP STANDARD _____ ⊛

RAILWAY OR TRAFFIC SIGNAL STANDARD _____ ⊛

SURVEY BAR _____ ⊠

TREE _____ ⊗

VALVE _____ ⊙

NOTES

2	REVISED TITLE	91-01-18	M.T.S.
1	AS BUILT	28-10-74	M.S.
NO.	DESCRIPTION	DATE	BY
REVISIONS		SURVEYED BY	
FIELD BOOK(S) NO. F-387, F-394, F-408, F-426		P.M. GALKA	
LAND SURVEY PLAN(S) NO. B.M.		DATE	
		MAY 14, 1974	

The City of Winnipeg

Waterworks, Waste and Disposal Division

Branch Operations (Waterworks)

MURRAY AVENUE FEEDERMAIN

MAIN STREET - FROM JOHN BLACK AVENUE TO MURRAY AVENUE
STA. 0+00 TO STA 7+52

DESIGNED BY	DRAWN BY
CHECKED BY	DATE
APPROVED BY	DATE
SCALE	DRAWING NO.
HOR. - 1" = 100'	VERT. - 1" = 4'-0"
	D-1273

AS BUILT

SURVEY ENGINEERING

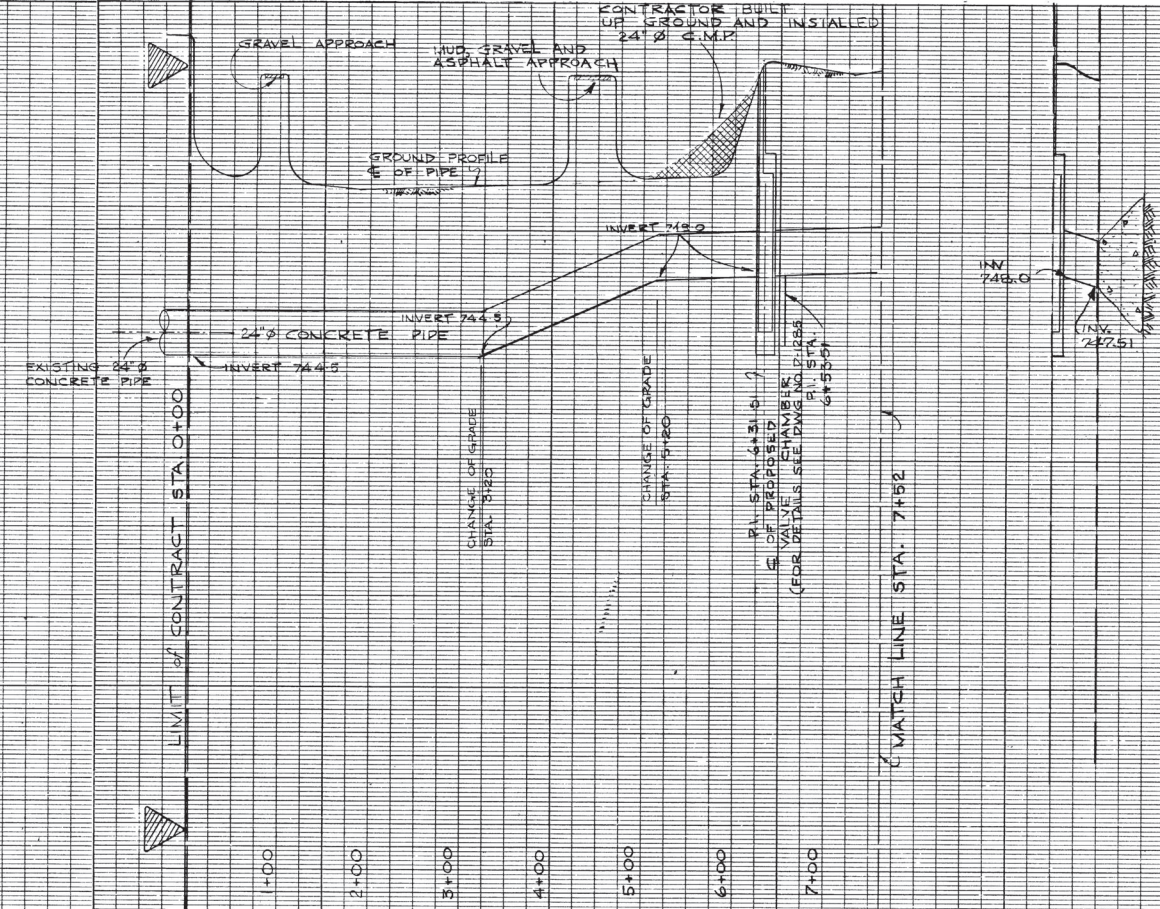
DATE

760

750

740

730



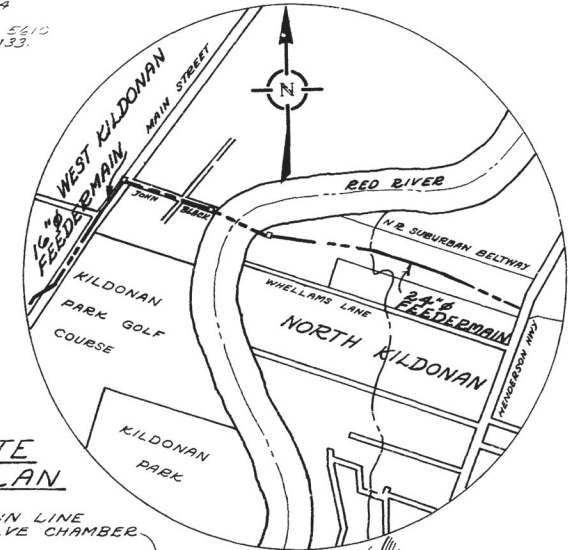
NOTE LAYING SCHEDULE FILED UNDER F-679

NOTE

A 16' x 20' SECTION OF PIPE WAS LAIN NORTH OF PIPE LINE OF FUTURE PAVING OF MURRAY AVE FOR DETAIL SEE F-426 PG. 34 FOR THE TO P.I.

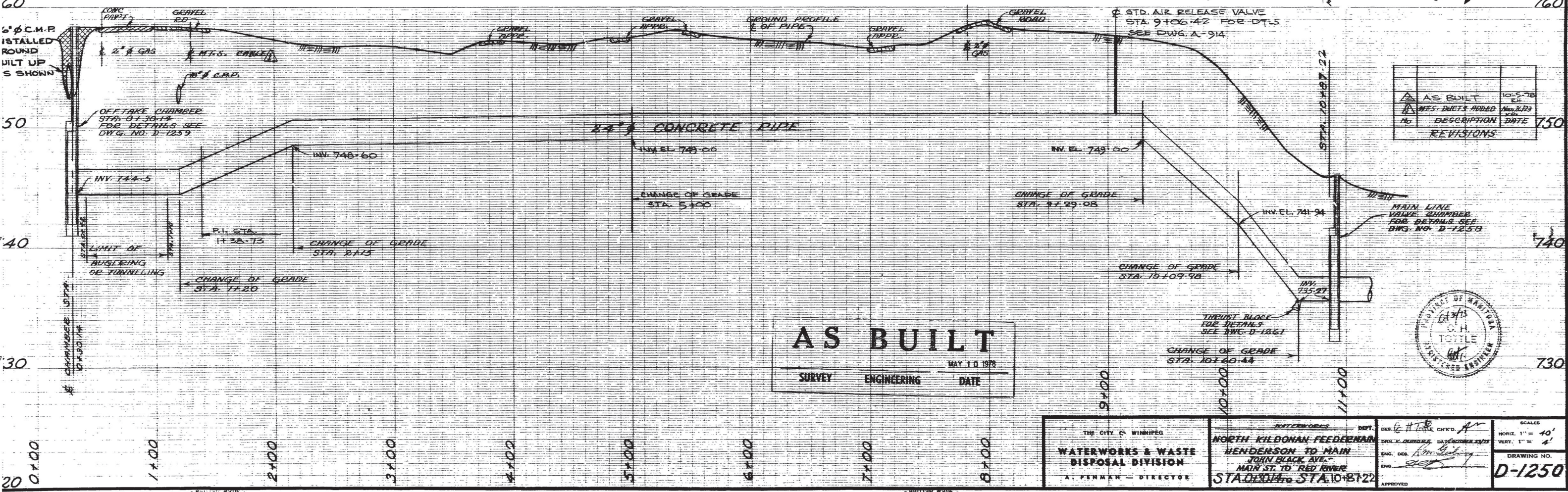
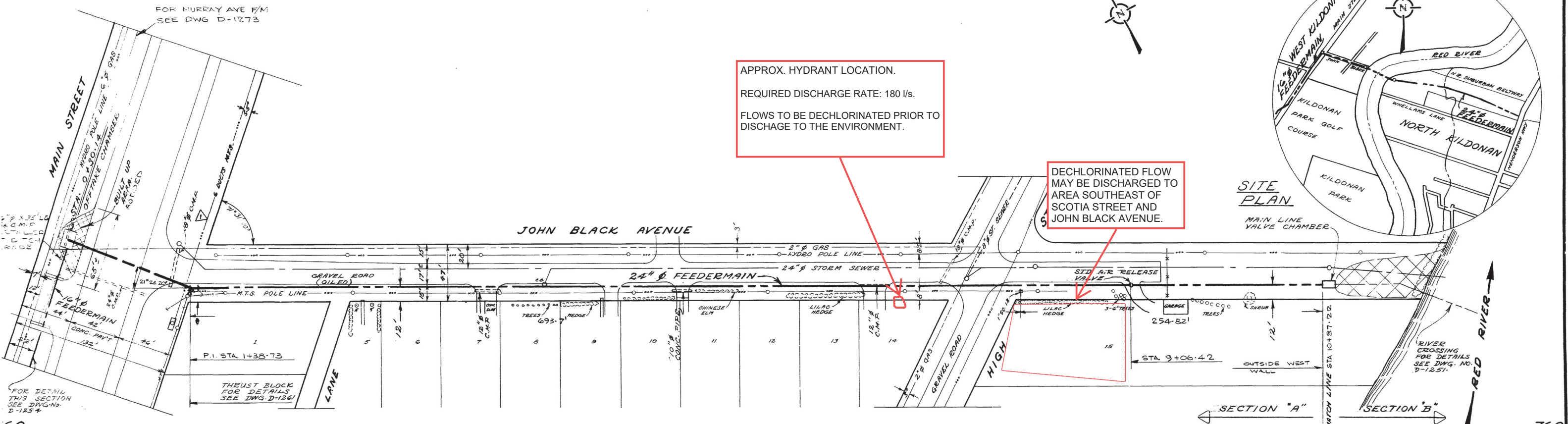
City of Winnipeg
W003013

D-1273



APPROX. HYDRANT LOCATION.
REQUIRED DISCHARGE RATE: 180 l/s.
FLOWS TO BE DECHLORINATED PRIOR TO DISCHARGE TO THE ENVIRONMENT.

DECHLORINATED FLOW MAY BE DISCHARGED TO AREA SOUTHEAST OF SCOTIA STREET AND JOHN BLACK AVENUE.



No.	DESCRIPTION	DATE
1	AS BUILT	10-5-78
2	RES. DIM'S ADDED	Nov. 2, 1979

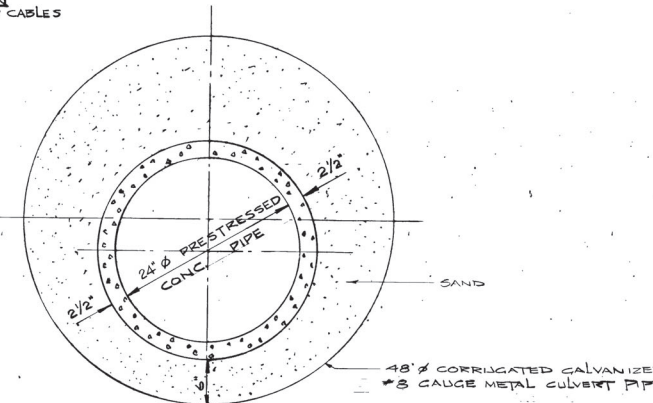
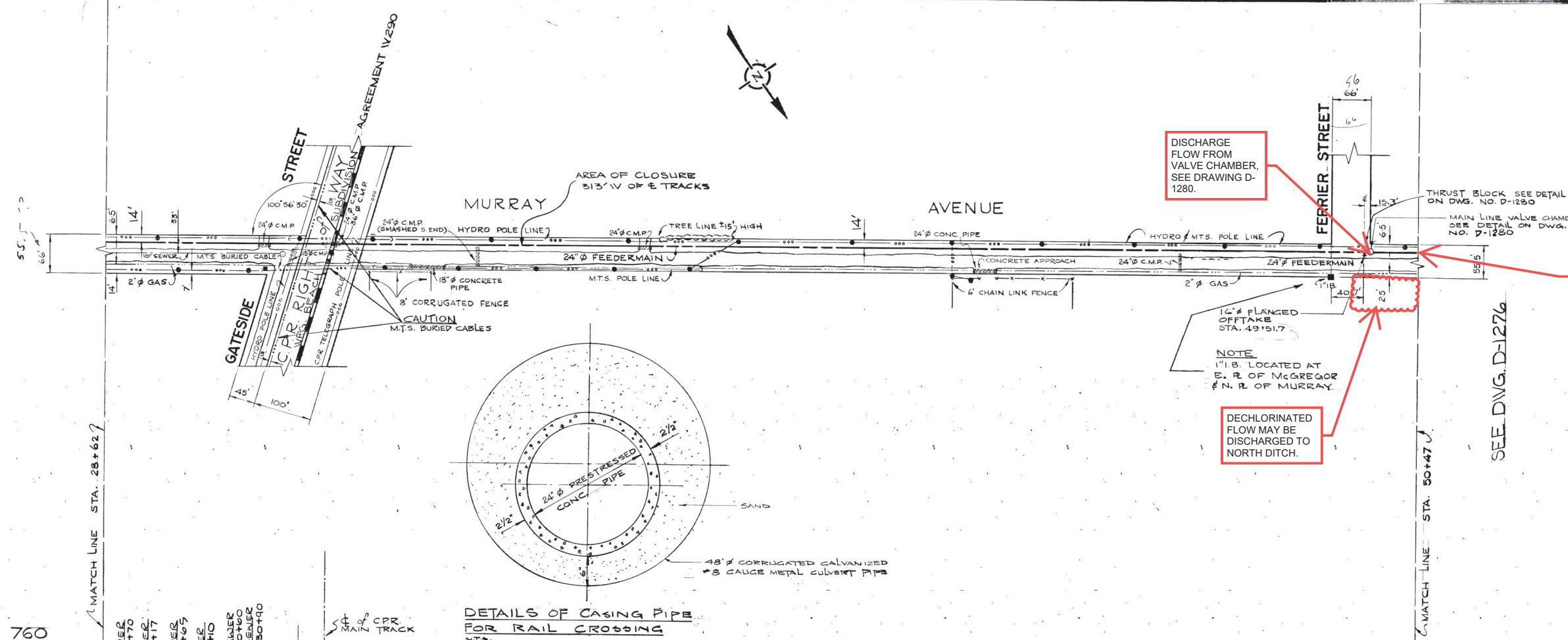
AS BUILT
MAY 1 0 1978
SURVEY ENGINEERING DATE



<p>THE CITY OF WINNIPEG WATERWORKS & WASTE DISPOSAL DIVISION A. PENMAN - DIRECTOR</p>	<p>NORTH KILDONAN FEEDERMAIN HENDERSON TO MAIN JOHN BLACK AVE. MAIN ST. TO RED RIVER STA. 10+01.16 TO STA. 10+87.22</p>	<p>SCALE HORIZ. 1" = 40' VERT. 1" = 4' DRAWING NO. D-1250</p>
--	--	--

APPROVED BY
D. S. ...

SEE DWG. D-1274



LEGEND

WATERWORKS, WASTE AND DISPOSAL; UNDERGROUND UTILITIES

PROPOSED FORCEMAIN, INTERCEPTOR OR SECONDARY SEWER _____

EXISTING FORCEMAIN, INTERCEPTOR OR SECONDARY SEWER _____ W.W.D. 24" SEWER

PROPOSED FEEDERMAIN _____

EXISTING FEEDERMAIN _____ W.W.D. 24" W.M.

W.W.D. — WATERWORKS, WASTE AND DISPOSAL

OTHER UNDERGROUND UTILITIES

COMMUNITY SEWER _____

COMMUNITY WATERMAIN _____

GAS _____

HYDRO DUCT _____

M.T.S. DUCT OR CABLE _____

RAILWAY SIGNAL CABLE _____

RY LINE _____

MISCELLANEOUS SYMBOLS

CATCH BASIN ○

CULVERT [Symbol]

HYDRANT [Symbol]

MANHOLE [Symbol]

HYDRO OR M.T.S. POLE [Symbol]

LAMP STANDARD [Symbol]

RAILWAY OR TRAFFIC SIGNAL STANDARD [Symbol]

SURVEY BAR [Symbol]

TREE [Symbol]

VALVE [Symbol]

NOTES

AS BUILT

D. S. G. W. Alex. Nov 25/76

SURVEY ENGINEERING DATE

3	REVISED TITLE & STREET NAMES	91-01-22 M.T.S
	6-6" SEWER CROSSINGS ADDED	781003 R4
	AS BUILT	1-11-76 M.S.
NO.	DESCRIPTION	DATE BY
REVISIONS		
FIELD BOOK(S) NO. F-387, F-394, F-408, F-426		SURVEYED BY D.M. GALKA.
LAND SURVEY PLAN(S) NO.		DATE MAY 14, 1974
B. M.		

The City of Winnipeg

Waterworks, Waste and Disposal Division

Branch Operations (Waterworks)

MURRAY AVENUE FEEDERMAIN

FROM A POINT 220 FT EAST OF GATESIDE STREET TO FERRIER STREET
 STREET STA. 28+62 TO STA 50+47

DESIGNED BY [Signature]

CHECKED BY [Signature]

APPROVED BY [Signature]

DRAWN BY f. kolbert

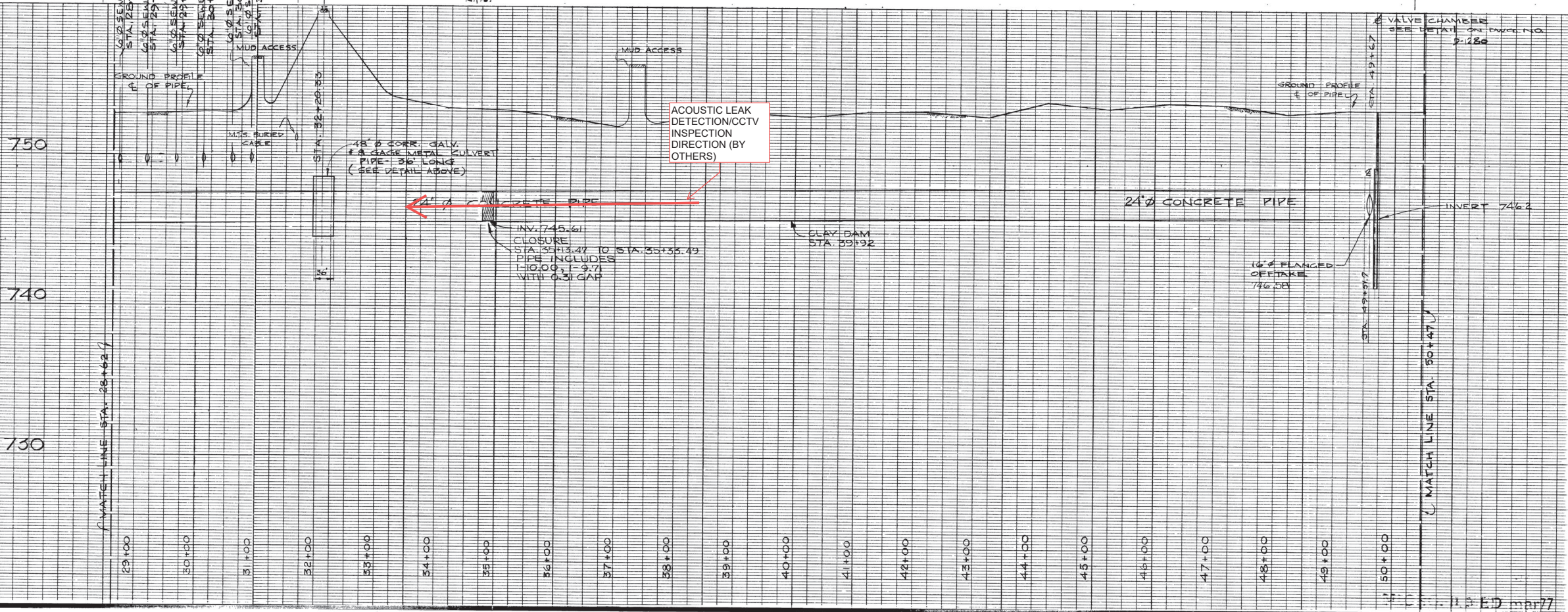
DATE SEPT. 10-74

SCALE HOR. - 1" = 100'
 VERT. - 1" = 4'-0"

DRAWING NO. **D-1275**

D-1275

City of Winnipeg
W003015



ACOUSTIC LEAK
 DETECTION/CCTV
 INSPECTION
 DIRECTION (BY
 OTHERS)

INV. 745.61
 CLOSURE
 STA. 35+13.47 TO STA. 35+33.49
 PIPE INCLUDES
 10.00' x 9.71'
 WITH 0.31' GAP

CLAY DAM
 STA. 39+92

16" FLANGED
 OFFTAKE
 49+51.7

VALVE CHAMBER
 SEE DETAIL ON DWG. NO. D-1280

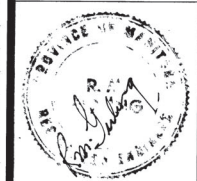
MATCH LINE STA. 50+47

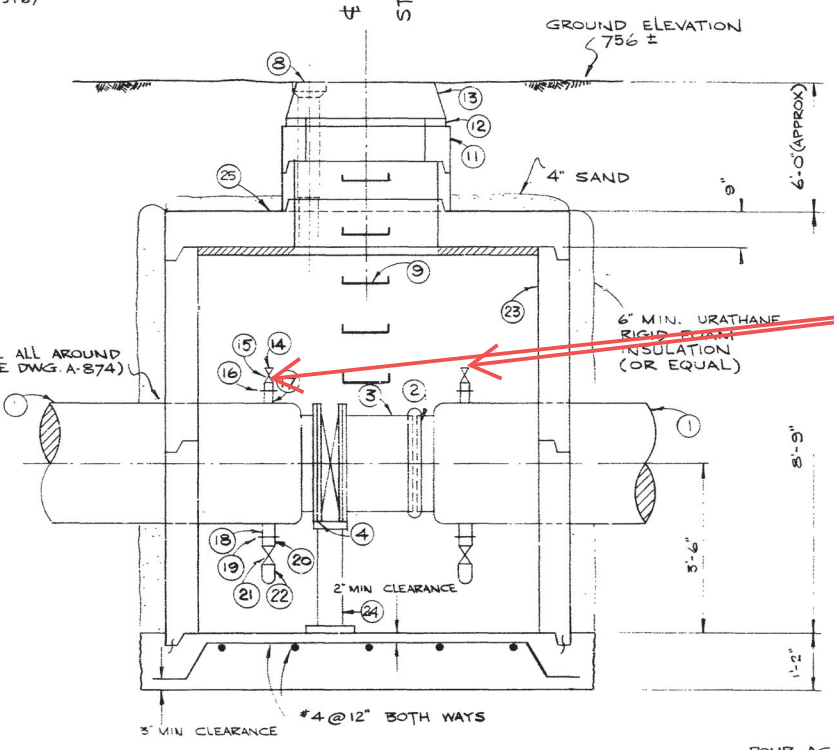
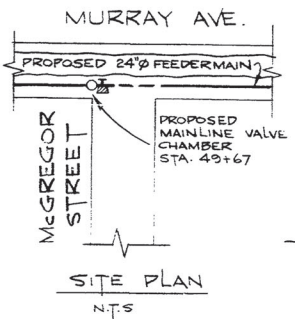
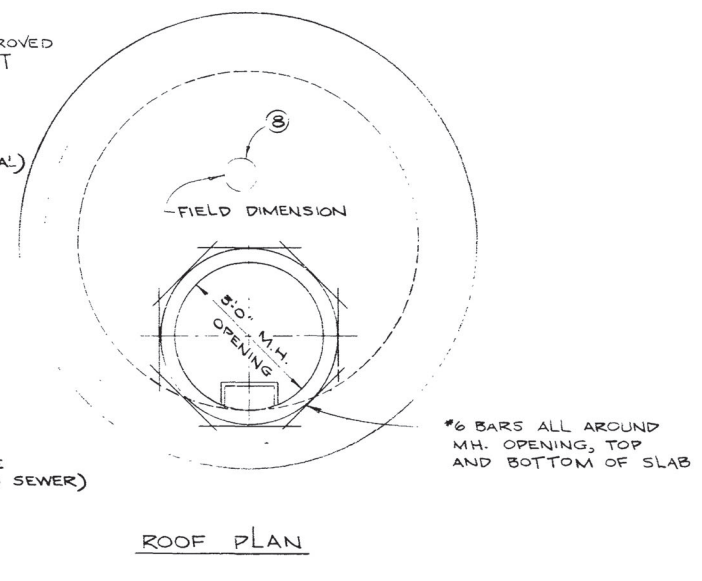
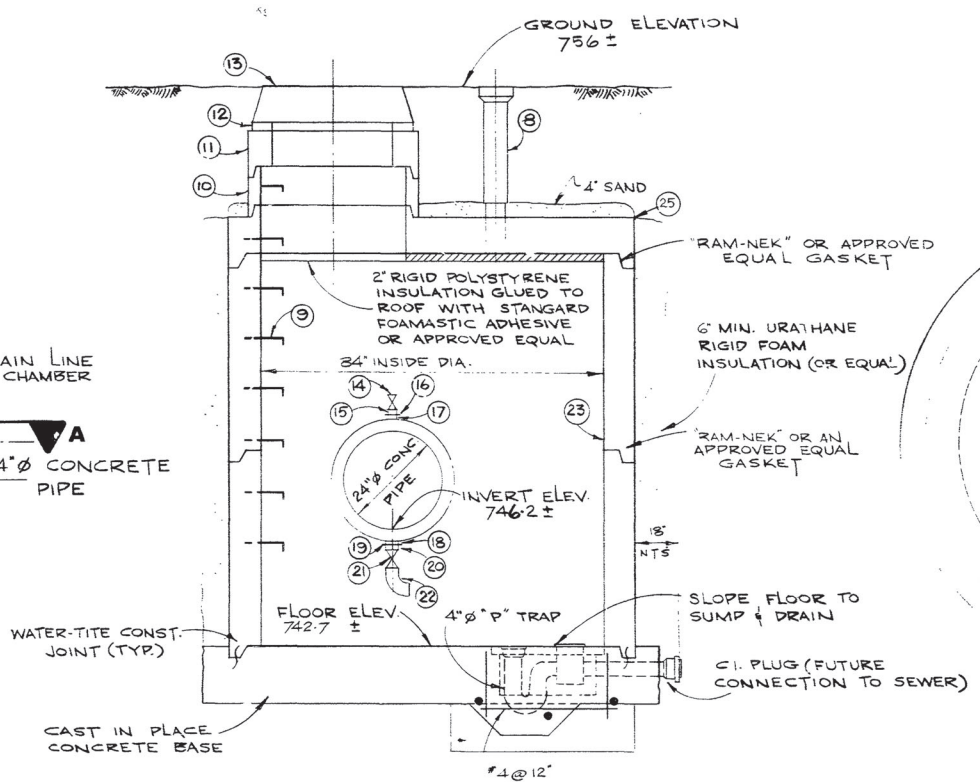
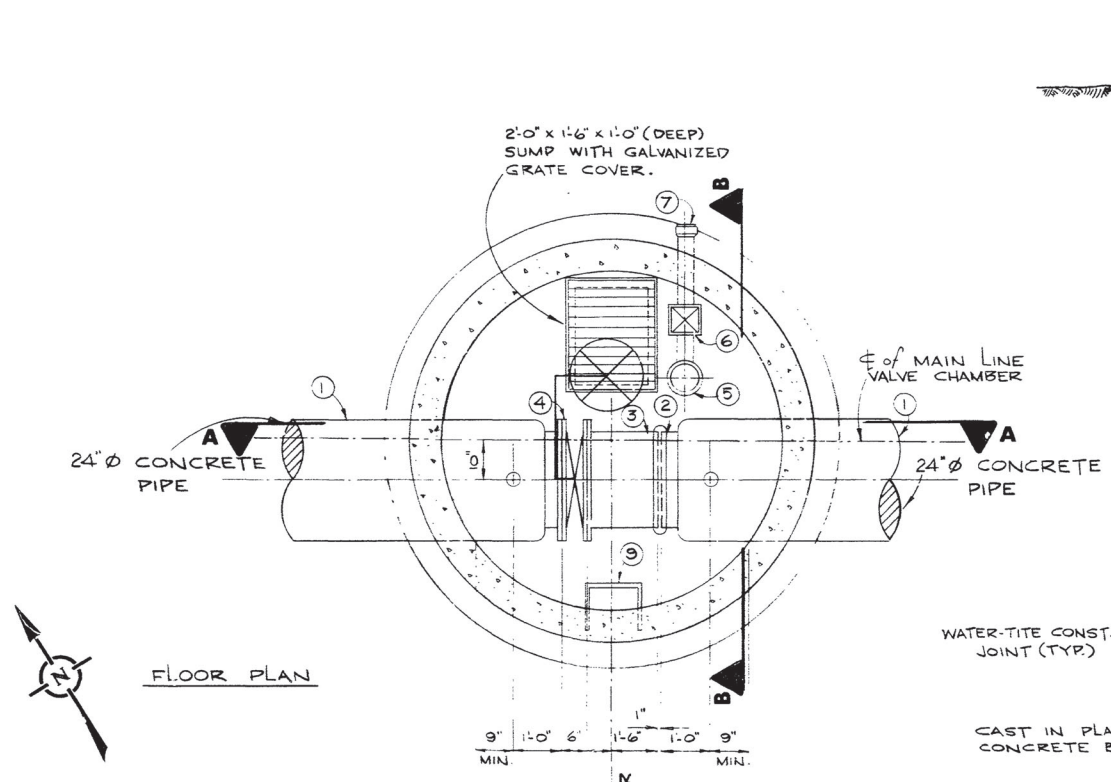
MATCH LINE STA. 28+62

SEE DWG. D-1276

DISCHARGE
 FLOW FROM
 VALVE CHAMBER,
 SEE DRAWING D-
 1280.

DECHLORINATED
 FLOW MAY BE
 DISCHARGED TO
 NORTH DITCH.



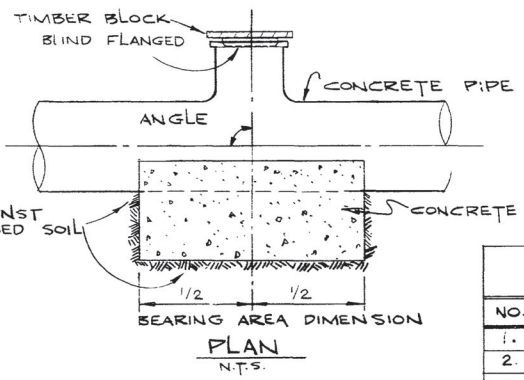
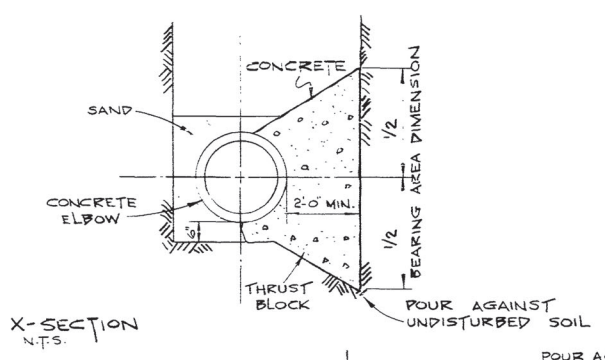
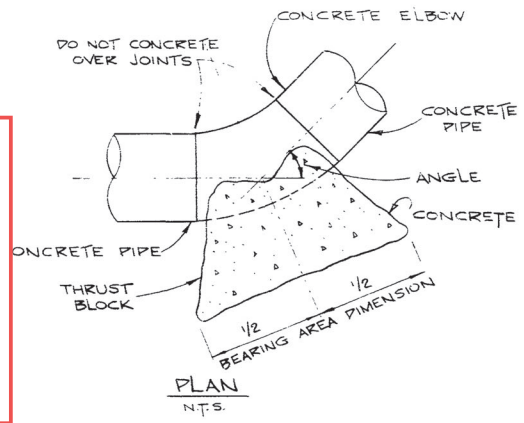


DISCHARGE FLOW FROM both 50 mm PORTS AT MINIMUM.

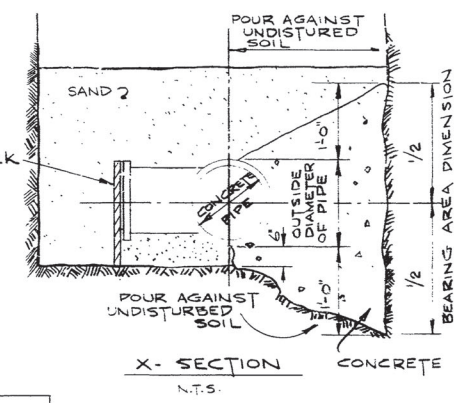
REQUIRED DISCHARGE RATE: 60 TO 100 l/s.

FLows TO BE DECHLORINATED PRIOR TO DISCHARGE TO THE ENVIRONMENT.

TYPICAL THRUST BLOCK DETAILS FOR 20" & 24" ϕ - 45° OR LESS CONC ELBOWS SCALE - N.T.S.



THRUST BLOCKS FOR TEES N.T.S.



X-SECTION CONCRETE N.T.S. MICROFILMED mar77

LIST OF THRUST BLOCKS				
NO.	LOCATION	PIA.	ANGLE	BEARING AREA
1.	P.I. STA. 6+52.39	24"	9°54'	3'-0" x 3'-0"
2.	STA 49+57	24"	90°	4'-6" x 10'-0"
3.	STA 98+20.39	24"	90°	4'-6" x 10'-0"

List of Materials

	Quantity
1. 4'-0" short prestressed concrete pipe	2
*2. Victallic coupling style #51	1
3. 1'-6" prestressed concrete pipe adapter	1
4. 24" Butterfly valve w/air style	1
5. 4" C.I. "P" trap and drain with screw-on cover.	1
6. 4" Backwater valve.	1
7. 4" C.I. pipe spigot to bell	1
8. Large adjustable valve box and standard City of Winnipeg Waterworks cover.	1
9. Standard City of Winnipeg manhole steps at 12" centre to centre. For details see Drawing No. 817.	1
10. 36" ϕ ASTM C76-70 Class II precast concrete manhole section with "Ram-Nek" or an approved equal gasket.	1
11. 30" x 36" ϕ ASTM C76-70 Class II precast concrete eccentric flat top reducer section.	1
12. Maximum 2 rows concrete brick or a 6" long precast section.	1
13. Standard City of Winnipeg Waterworks manhole frame and solid cover.	1
14. 2" ϕ Bronze gate valve - threaded.	2
15. 2" ϕ Bronze nipple-threaded.	2
16. 2" ϕ Threaded Flange	2
17. 2" ϕ Steel outlet-Flanged	2
18. 3" ϕ Steel outlet - Flanged	2
19. 3" ϕ Threaded Flange	2
20. 3" ϕ Bronze Nipple Threaded	2
21. 3" ϕ Bronze Gate Valve - Threaded.	2
22. 3" ϕ Elbow - Threaded and Galvanized.	2
23. 84" ϕ ASTM C76-70 Class II precast concrete manhole section with "Ram-Nek" or an approved equal gasket	1
24. Grinnell 24" adjustable pipe gate support (Fig. 264) or approved equal.	1
25. 84" to 36" ϕ eccentric reducer	1

* To be supplied by The City

NOTE
Waterproofing to be applied to all exterior walls.

1	AS BUILT	9-11-76 m.s
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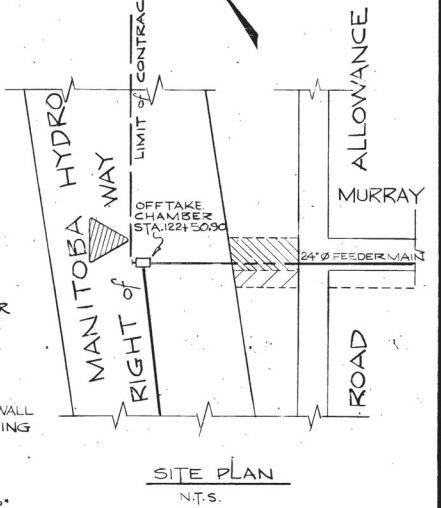
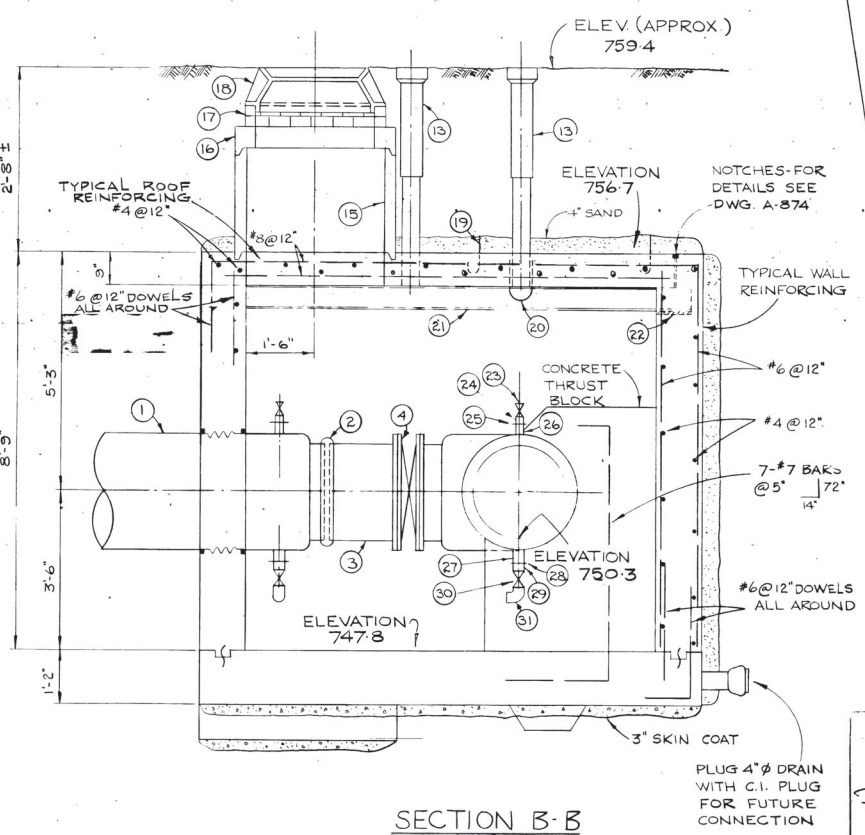
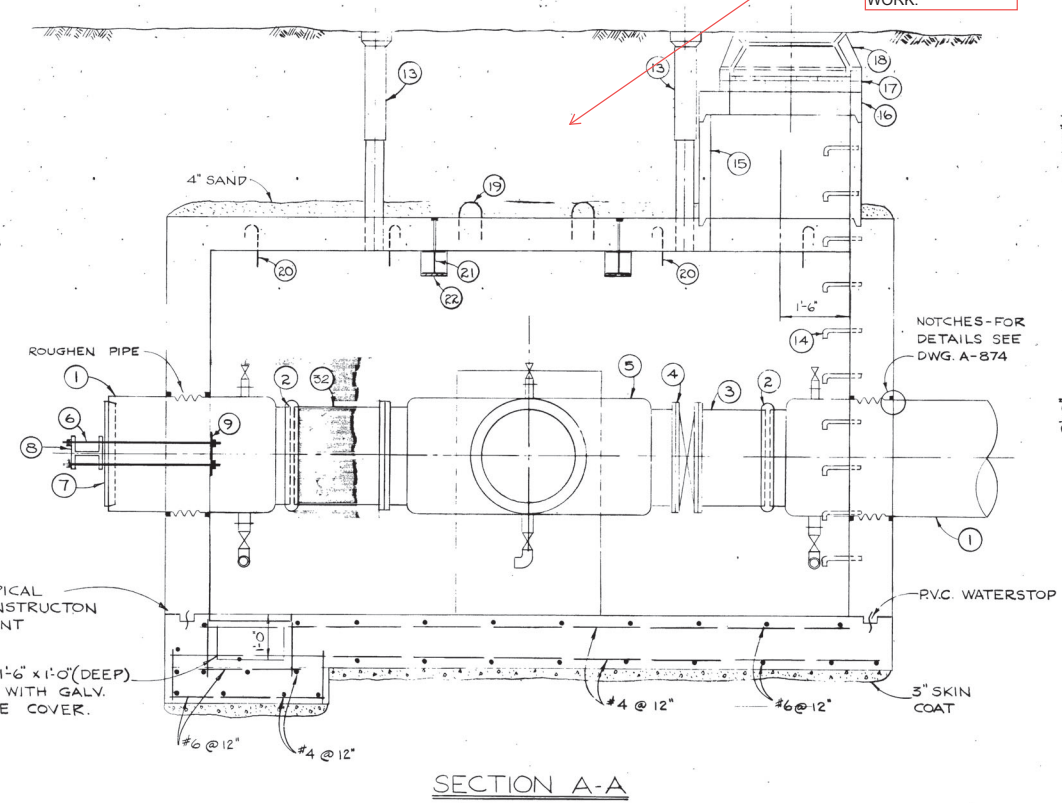
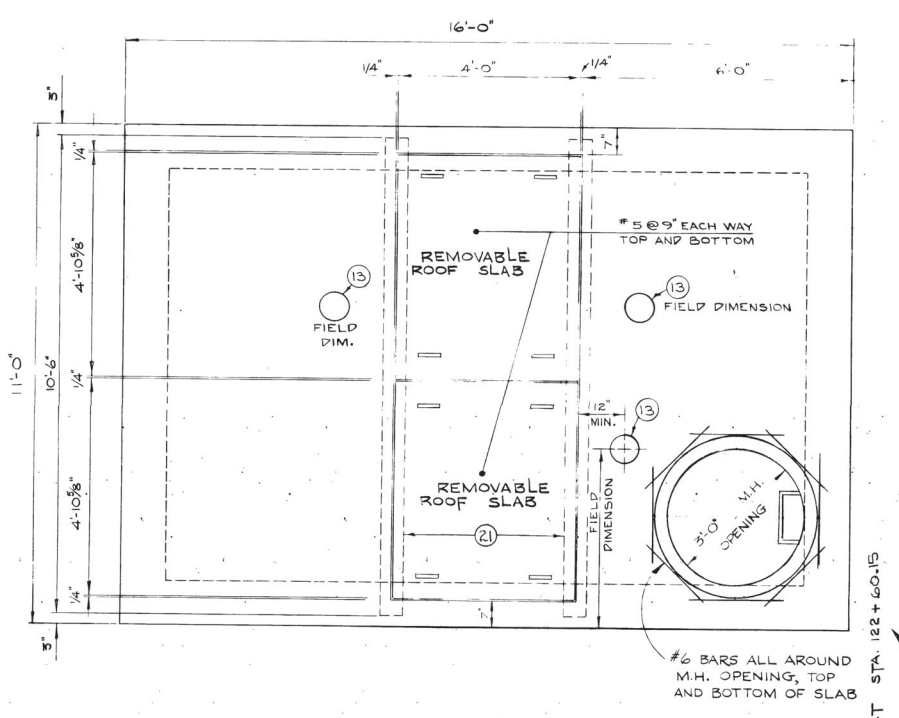
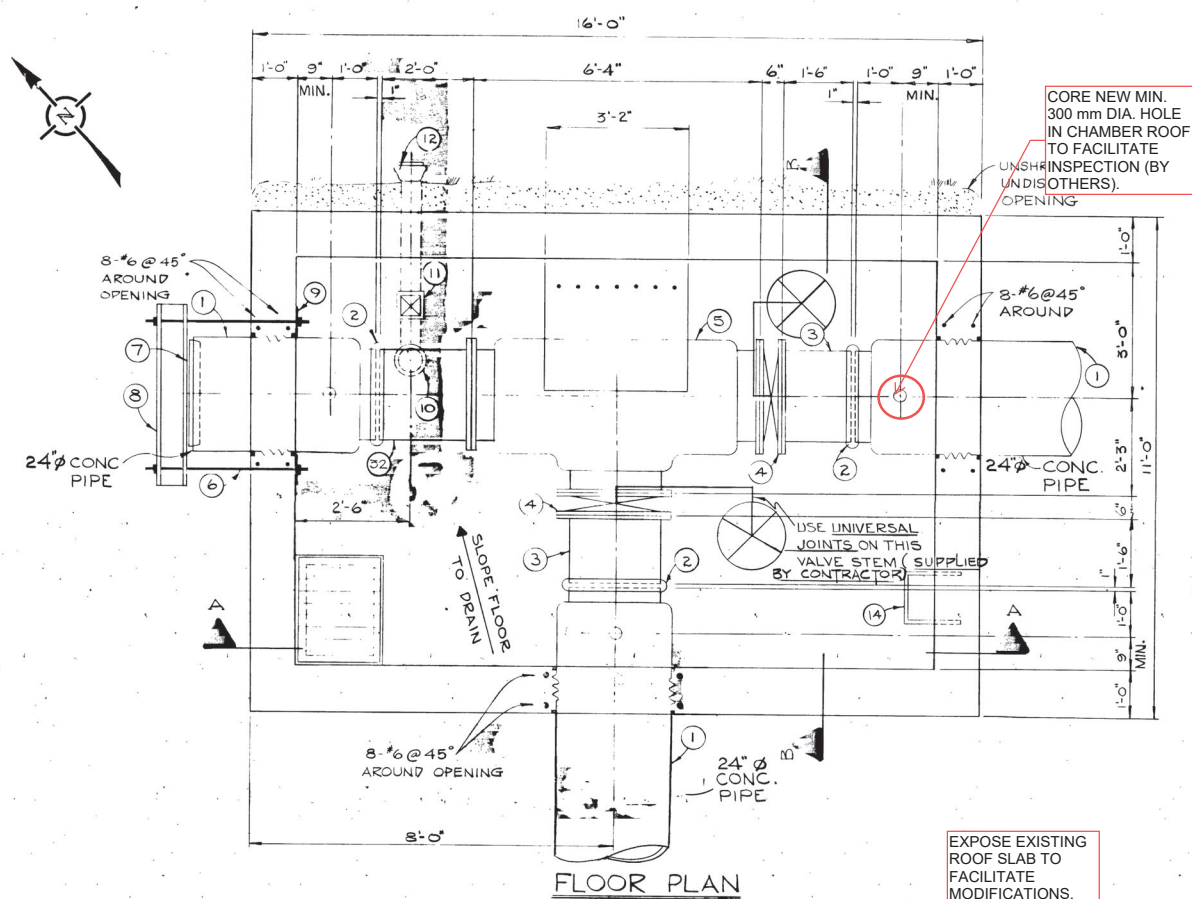
NO.	DESCRIPTION	DATE	BY

The City of Winnipeg
Waterworks, Waste and Disposal Division

Branch Operations (Waterworks)
-MURRAY AVENUE FEEDERMAIN-
MAINLINE VALVE CHAMBER- STA. 49+67
THRUST BLOCK - STA. 6+52.39,
STA. 49+57 & STA. 98+20.39

DESIGNED BY <i>Kub</i>	DRAWN BY f. Kolbert
CHECKED BY <i>[Signature]</i>	DATE SEPT. 10-74
APPROVED BY <i>[Signature]</i>	
SCALE 1/2" = 1'-0"	DRAWING NO. D-1280

D. S. ... Wilcox Nov 25/76



LIST OF MATERIALS FOR OFFTAKE CHAMBER

No.	Description	Quantity
1*	4'0" short prestressed concrete pipe	3
2*	Victaulic coupling style #51	3
3*	1'6" prestressed concrete adaptor	2
4*	Butterfly Valve wafer style	2
5*	Prestressed concrete tee flange to flange to flange	1
6	4'0"x1 5/8" galvanized bolts c/w cadmium plated nuts and washers	8
7*	Concrete Plug	2
8	W 12 x 19 steel beam	2
9	10"x10" galvanized plate 1/2" thick	2
10	4"Ø C.I. "P" trap and drain with screw on cover	1
11	4" backwater valve	1
12	4"Ø C.I. Pipe spigot to bell	1
13	Large adjustable valve box and standard City of Winnipeg Waterworks Cover C/W stems	3
14	Standard City of Winnipeg manhole steps at 12" center to center. For details see drawing No. A-817	3
15	36"Ø ASTM C-76 Class II precast concrete manhole section with "Ramtek" or an approved equal gasket.	1
16	30"x36"Ø ASTM C-76 Class II precast concrete eccentric flat top reducer section.	1
17	Maximum 2 rows concrete brick or a 6" long precast concrete section. Standard City of Winnipeg waterworks manhole frame and solid cover.	1
18	Lifting Lugs. For details see drawing No. A-878.	8
19	U-bolt hook. For details see drawing No. A-877	4
20	U-bolt hook. For details see drawing No. A-877	4
21.	W6 x 20 steel beam (6 40.12)	2
22	Bearing plate 9"x6"x3/8"	4
23	2"Ø bronze gate valve - threaded	3
24	2"Ø bronze nipple - threaded	3
25	2"Ø threaded flange	3
26	2"Ø steel outlet - flanged	3
27	3"Ø steel outlet - flanged	3
28	3"Ø threaded flange	3
29	3"Ø bronze nipple - threaded	3
30	3"Ø bronze gate valve - threaded	3
31	3"Ø 90° elbow - threaded and galvanized	1
32*	2'-0" x 2'-0" filler piece	1

* To be supplied by the City.
Notes:
1. Waterproofing to be supplied to all exterior walls.
2. Concrete on tee to be roughened and coated with epoxy bonding agent prior to pouring of thrust block.

NO.	DESCRIPTION	DATE	BY
2	REMOVED THRUST BEAM FROM SOUTH WALL	91-01-18	M.T.
1	AS BUILT	0-11-76	M.S.

REVISIONS:

FIELD BOOK(S) NO. _____ SURVEYED BY _____

LAND SURVEY PLAN(S) NO. _____ DATE _____

B. M. _____

The City of Winnipeg
Waterworks, Waste and Disposal Division

Branch Operations (Waterworks)

MURRAY AVE. FEEDER MAIN VALVE CHAMBER

MAN. HYDRO R.O.W. @ MURRAY AVE EX STA 122+50.90

AS BUILT

D.S. Wally Linn November DATE

SURVEY ENGINEERING

MICROFILMED mar/11

DESIGNED BY _____ DRAWN BY P. Kolbert

CHECKED BY _____ DATE OCT. 10.74

APPROVED BY _____

SCALE 1/2" = 1'-0" DRAWING NO. D-1286

LBIS 96.09.24