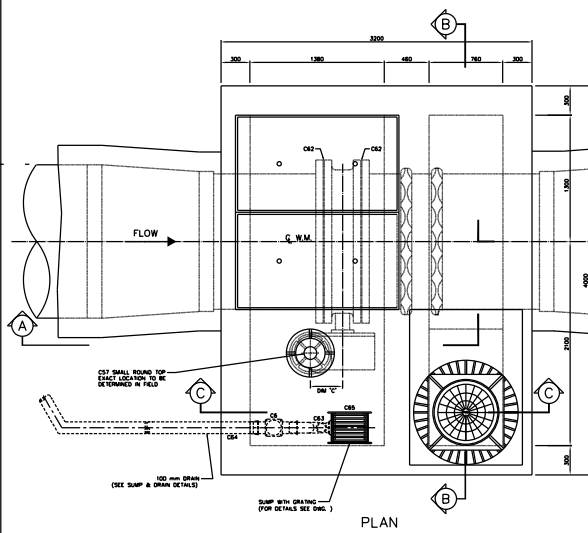
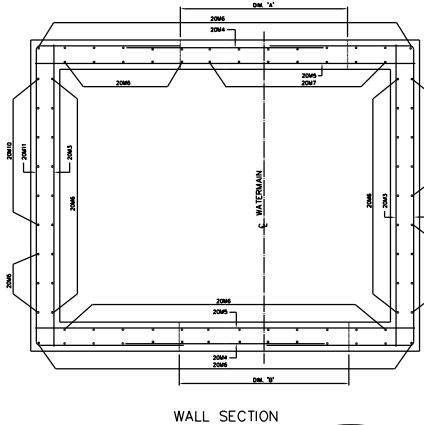
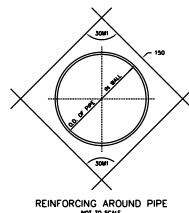
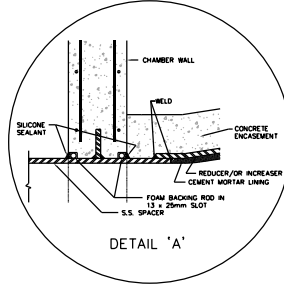




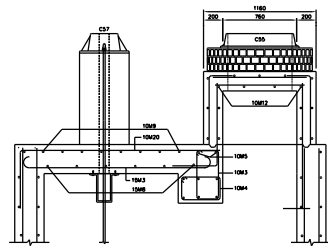
CHAMBER No.	DM. 'A'	DM. 'V'	DM. 'C'	DM. 'Y'	DM. 'W'



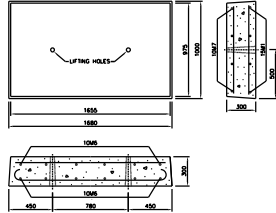
WALL SECTION



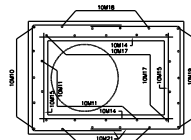
DETAIL 'A'



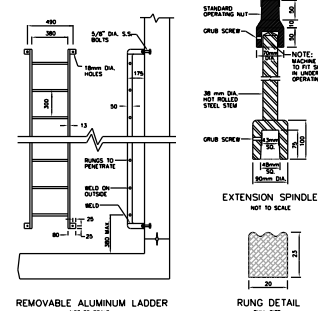
SECTION C



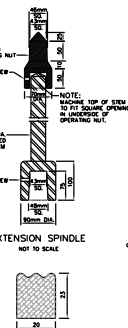
REMOVABLE SLAB (2 REINFORCING)



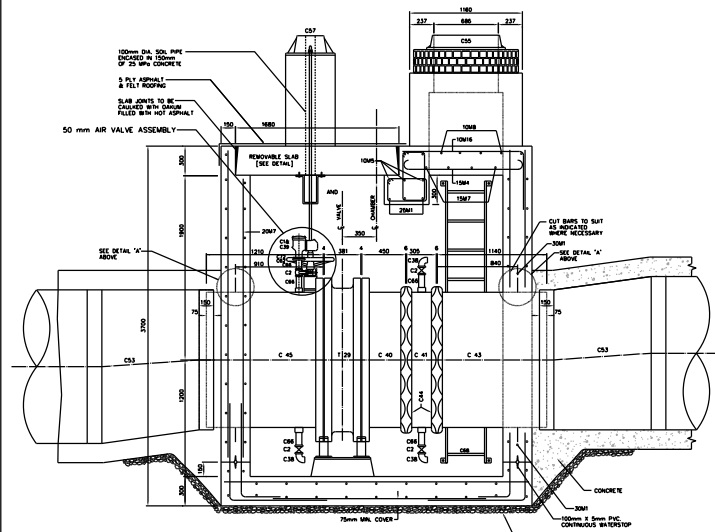
SECTION D-D



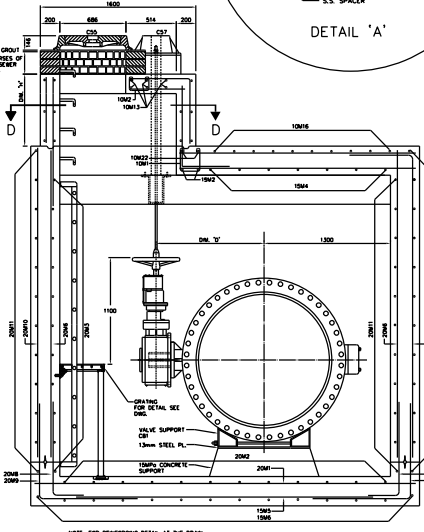
REMOVABLE ALUMINUM LADDER NOT TO SCALE



RUNG DETAIL FULL SIZE



SECTION A



SECTION B

NOTES

- 25MPa CONCRETE TO BE USED EXCEPT AS NOTED.
- MAXIMUM SIZE OF COARSE AGGREGATE TO BE 20mm.
- COVER TO MAIN REINFORCING TO BE 50mm OR AS INDICATED.
- ALL BAR DIMENSIONS ARE OUT TO OUT.
- BARS TO BE BENT COLD, MINIMUM INSIDE RADIUS TO 4 DIAMETERS.
- ALL CROSSING BARS TO BE WELL WIRED.
- ALL REINFORCING STEEL TO BE DEFORMED BILLET-STEEL BARS GRADE 350, CONFORMING TO C.S.A. STANDARD C30.12M.
- ALL LAPS IN REINFORCING STEEL TO BE AT LEAST 30 DIAMETERS IN LENGTH OR AS SHOWN, AND TO BE STAGGERED.
- ALL BRICKWORK TO BE OF HIGH QUALITY HARD SEWER BRICK, LAID IN FULL MORTAR BED AND JOINTS, PARGED INSIDE AND OUTSIDE.
- WATERSTOP (P.V.C.) TO BE PROVIDED AT ALL CONSTRUCTION JOINTS.
- WHERE NECESSARY ADJUST REINFORCING STEEL TO SLIT WATERSTOPS AND OPENINGS.
- PROVIDE SLUMP PIT WITH GRATING AND SLOPE FLOOR TO SLUMP 10mm/METRE.
- DRAIN OUTLET TO BE LOCATED AT NEAREST POINT TO EXISTING SEWER.
- DRAIN CONNECTION TO SEWER TO BE MADE BY CONTRACTOR UNLESS OTHERWISE NOTED IN THE GENERAL SPECIFICATIONS.
- LADDERS, GRATINGS AND RAILINGS TO BE ALUMINUM AND OF REMOVABLE TYPE WITH STAINLESS STEEL BOLTS.
- TOP TWO STEPS AND ANY ADDITIONAL STEPS IN THE CHIMNEY TO BE OF THE REMOVABLE TYPE.
- CHAMBERS DEEPER THAN 1200mm FROM SURFACE ELEVATION TO TOP OF VALVE OPERATING SPINDLE SHALL HAVE EXTENSION SPINDLE AND GUIDE BRACKET.
- ALL ALUMINUM SURFACES CONTACTING CONCRETE TO RECEIVE ONE COAT OF BUTYRUS PAINT.
- 'X' DEPENDS ON HEIGHT OF CHIMNEY (DM.Y) AND BARS SHALL BE COUNTED TO ENSURE THAT THE BOTTOM BAR IS LESS THAN 150mm ABOVE THE CHAMBER ROOF.

BENDING SCHEDULE

BAR No.	DA	TOTAL LENGTH	CHIMNEY	SHAPE	O.C.	No. REIN.
10M1	10	900	220 220 220	AS SHOWN	200	7
10M2	10	710	220 220 220	AS SHOWN	200	8
10M3	10	1440	220 220 220	AS SHOWN	200	22
10M4	10	1440	220 220 220	AS SHOWN	200	22
10M5	10	2900	220 220 220	AS SHOWN	200	22
10M6	10	1900	220 220 220	AS SHOWN	200	22
10M7	10	1900	220 220 220	AS SHOWN	200	22
10M8	10	2400	220 220 220	AS SHOWN	200	22
10M9	10	2400	220 220 220	AS SHOWN	200	22
10M10	10	2400	220 220 220	AS SHOWN	200	22
10M11	10	2400	220 220 220	AS SHOWN	200	22
10M12	10	2400	220 220 220	AS SHOWN	200	22
10M13	10	2400	220 220 220	AS SHOWN	200	22
10M14	10	2400	220 220 220	AS SHOWN	200	22
10M15	10	2400	220 220 220	AS SHOWN	200	22
10M16	10	2400	220 220 220	AS SHOWN	200	22
10M17	10	2400	220 220 220	AS SHOWN	200	22
10M18	10	2400	220 220 220	AS SHOWN	200	22
10M19	10	2400	220 220 220	AS SHOWN	200	22
10M20	10	2400	220 220 220	AS SHOWN	200	22
10M21	10	2400	220 220 220	AS SHOWN	200	22
10M22	10	2400	220 220 220	AS SHOWN	200	22
10M23	10	2400	220 220 220	AS SHOWN	200	22
10M24	10	2400	220 220 220	AS SHOWN	200	22
10M25	10	2400	220 220 220	AS SHOWN	200	22
10M26	10	2400	220 220 220	AS SHOWN	200	22
10M27	10	2400	220 220 220	AS SHOWN	200	22
10M28	10	2400	220 220 220	AS SHOWN	200	22
10M29	10	2400	220 220 220	AS SHOWN	200	22
10M30	10	2400	220 220 220	AS SHOWN	200	22
10M31	10	2400	220 220 220	AS SHOWN	200	22
10M32	10	2400	220 220 220	AS SHOWN	200	22
10M33	10	2400	220 220 220	AS SHOWN	200	22
10M34	10	2400	220 220 220	AS SHOWN	200	22
10M35	10	2400	220 220 220	AS SHOWN	200	22
10M36	10	2400	220 220 220	AS SHOWN	200	22
10M37	10	2400	220 220 220	AS SHOWN	200	22
10M38	10	2400	220 220 220	AS SHOWN	200	22
10M39	10	2400	220 220 220	AS SHOWN	200	22
10M40	10	2400	220 220 220	AS SHOWN	200	22
10M41	10	2400	220 220 220	AS SHOWN	200	22
10M42	10	2400	220 220 220	AS SHOWN	200	22
10M43	10	2400	220 220 220	AS SHOWN	200	22
10M44	10	2400	220 220 220	AS SHOWN	200	22
10M45	10	2400	220 220 220	AS SHOWN	200	22
10M46	10	2400	220 220 220	AS SHOWN	200	22
10M47	10	2400	220 220 220	AS SHOWN	200	22
10M48	10	2400	220 220 220	AS SHOWN	200	22
10M49	10	2400	220 220 220	AS SHOWN	200	22
10M50	10	2400	220 220 220	AS SHOWN	200	22
10M51	10	2400	220 220 220	AS SHOWN	200	22
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10M92	10	2400	220 220 220	AS SHOWN	200	22
10M93	10	2400	220 220 220	AS SHOWN	200	22
10M94	10	2400	220 220 220	AS SHOWN	200	22
10M95	10	2400	220 220 220	AS SHOWN	200	22
10M96	10	2400	220 220 220	AS SHOWN	200	22
10M97	10	2400	220 220 220	AS SHOWN	200	22
10M98	10	2400	220 220 220	AS SHOWN	200	22
10M99	10	2400	220 220 220	AS SHOWN	200	22
10M100	10	2400	220 220 220	AS SHOWN	200	22

FOR REINFORCING AT DRAIN REFER TO SLUMP AND DRAIN DETAIL DWG.

MATERIAL LIST

MARK	SUPPLIED BY CONTRACTOR	MARK	SUPPLIED BY CONTRACTOR
120	1-1200mm HORIZONTAL BUTTERFLY VALVE	C40	1-1200mm FABRICATED S.S. FL.-VCT. CONNECTION
C41	1-1200mm FABRICATED S.S. FL.-VCT. SPACER	C42	1-1200mm FABRICATED S.S. VCTALIC CONNECTION
C43	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C44	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C45	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C46	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C47	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C48	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C49	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C50	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C51	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C52	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C53	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C54	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C55	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C56	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C57	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C58	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C59	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C60	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C61	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C62	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C63	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C64	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C65	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C66	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C67	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C68	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY
C69	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY	C70	1-1200mm FABRICATED S.S. FLANGE ASSEMBLY

FOR DETAILS OF C40, C41, C42, C43, C44, C45 AND C61 SEE DWG.

		Toronto Engineering & Construction Services		Title Subfile1 Subfile2	
GENERAL MANAGER, TORONTO WATER		DIRECTOR, Design and Construction Linear Underground Infrastructure		1200 mm HORIZONTAL BUTTERFLY VALVE CHAMBER (Position B)	
CHIEF ENGINEER AND EXECUTIVE DIRECTOR, Engineering & Construction		MANAGER, Design and Construction Linear Underground Infrastructure		DESIGN Design DRAWN Drawn CHECKED Checked CONTRACT No. X-X	
No. DATE REVISIONS INITIAL SIGNED		SCALE SCALE DATE DATE		DRAWING NUMBER T-1110.11-2 SHEET X OF X	