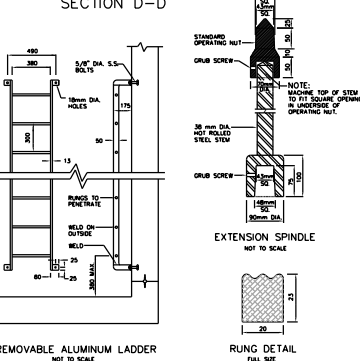
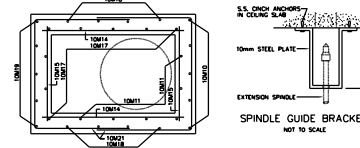
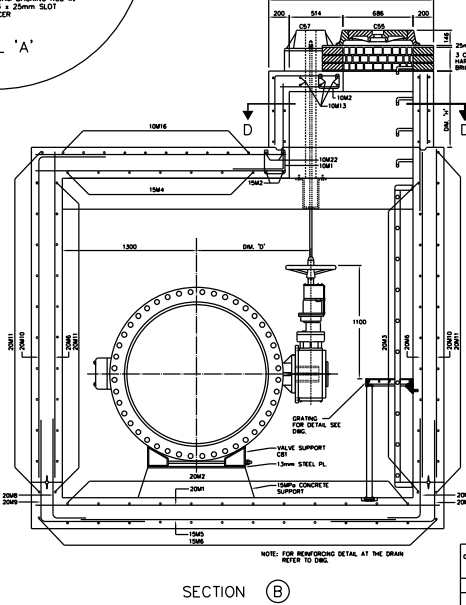
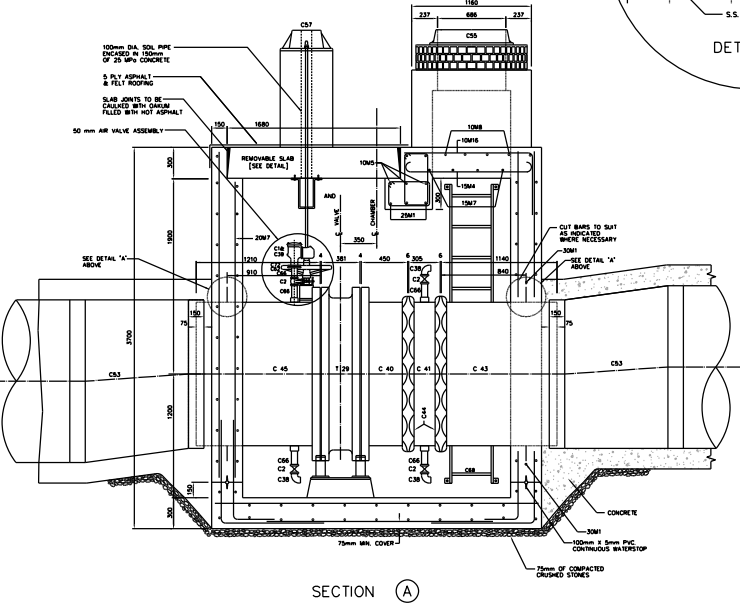
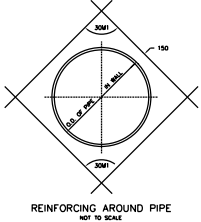
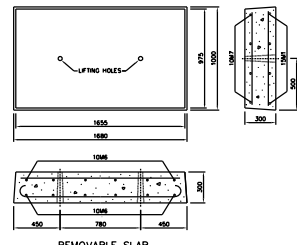
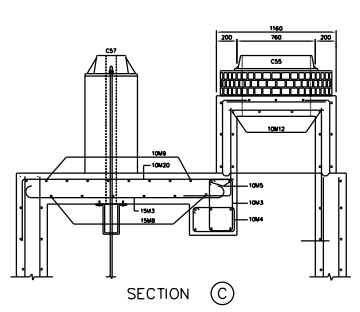
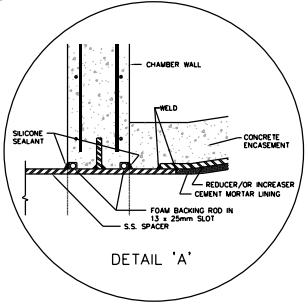
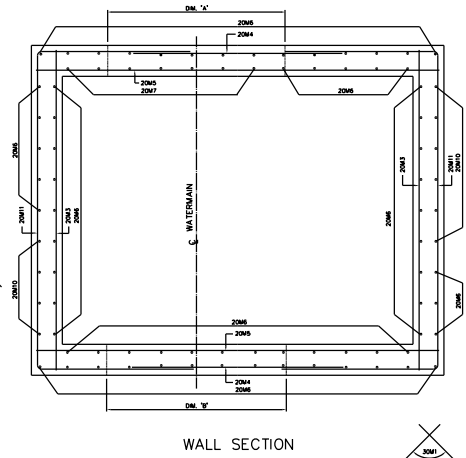


CHAMBER No.	DM. 'A'	DM. 'B'	DM. 'C'	DM. 'D'	DM. 'E'



CHAMBERS	CHANGE	REVISION	SURFACE ELEV.	DIFFERENCE IN ELEV.	COVER LOCATION	DRAIN TYPE/OUTLET DIA.	FOR LOCATION REFER TO PLAN	REMARKS

- 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 C50.12M.
  - 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 SUIT WATERSTOPS AND OPENINGS.
  - PROVIDE SUMP PIT WITH GRATING AND SLOPE FLOOR TO SUMP 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.
  - ALL BRICKWORK, 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 BITUMINOUS PAINT.
  - 'X' DEPENDS ON HEIGHT OF CHIMNEY [DM.'H'] AND BARS SHALL BE COUNTED TO ENSURE THAT THE BOTTOM BAR IS LESS THAN 150mm ABOVE THE CHAMBER ROOF.

**BENDING SCHEDULE**

BAR No.	SHAPE	Q.C.	No. REQS.
10M1	10	300	20
10M2	7/10	130	230
10M3	1640	520	230
10M4	1340	380	220
10M5	3900	380	220
10M6	900	300	24
10M7	1580	300	8
10M8	2400	300	4
10M9	1600	300	6
10M10	H-100	300	5
10M11	H-405	300	4
10M12	614	300	4
10M13	1080	200	6
10M14	1600	300	2
10M15	1060	300	2
10M16	1850	1270	600
10M17	H-430	H-200	450
10M18	H-180	H-100	300
10M19	H-494	H-100	614
10M20	2620	2040	600
10M21	2920	900	1060
10M22	4260	600	3100
15M1	15	1940	1580
15M2	2400	3100	3100
15M3	2400	2040	3100
15M4	1820	1270	300
15M5	3000	3000	300
15M6	2200	3000	300
15M7	2400	3000	300
15M8	1600	3000	300
15M9	2000	3000	300
20M1	30	3100	300
20M2	3100	3000	300
20M3	3100	3000	300
20M4	3100	3000	300
20M5	3100	3000	300
20M6	3100	3000	300
20M7	2800	3000	300
20M8	1310	1050	300
20M9	2060	1050	1050
20M10	3710	3150	600
20M11	4120	1500	3100
25M1	25	4460	3900
30M1	30	O.D. + 600	AS SHOWN

**MATERIAL LIST**

MARK	SUPPLIED BY CITY OF TORONTO	MARK	SUPPLIED BY CONTRACTOR
129	1-1300mm HORIZONTAL BUTTERFLY VALVE	C06	1-1300mm FABRICATED S.S. FL-VCT CONNECTION
C01	1-1300mm FABRICATED S.S. VCT-VCT SPACER	C07	1-1300mm FABRICATED S.S. VCT-VCT CONNECTION
C02	1-1300mm FABRICATED S.S. VCT-VCT CONNECTION	C08	2-1300mm VCT COUPLINGS, STYLE 44 SHOULDERED
C03	1-1300mm FABRICATED S.S. VCT-VCT CONNECTION	C09	1-1300mm FABRICATED S.S. FLANGE ASSEMBLY
C04	2-1300mm VCT COUPLINGS, STYLE 44 SHOULDERED	C10	2-1300mm to 1300mm ECCENTRIC REDUCERS
C05	1-1300mm FABRICATED S.S. VCT-VCT CONNECTION	C11	1-CM VCT SQUARE FRAME WITH SUMP COVER AND PLUG FOR VALVE CHAMBERS AS PER SPEC-022
C06	1-1300mm FABRICATED S.S. FL-VCT CONNECTION	C12	5-CMCH ANCHORS WITH 1/2" S.S. BOLTS & NUTS
C07	1-1300mm FABRICATED S.S. VCT-VCT CONNECTION	C13	5-CMCH ANCHORS WITH 1/2" S.S. BOLTS & NUTS
C08	2-1300mm VCT COUPLINGS, STYLE 44 SHOULDERED	C14	80-845 x 24mm S.S. BOLTS AND NUTS
C09	1-1300mm FABRICATED S.S. FLANGE ASSEMBLY	C15	80-845 x 24mm S.S. STUDS
C10	2-1300mm to 1300mm ECCENTRIC REDUCERS	C16	2-1300mm DA. GLOVE INSPIRED RUBBER CASSETS
C11	1-CM VCT SQUARE FRAME WITH SUMP COVER AND PLUG FOR VALVE CHAMBERS AS PER SPEC-022	C17	1-STEEL PLATE, 340mm x 800mm x 8mm
C12	5-CMCH ANCHORS WITH 1/2" S.S. BOLTS & NUTS	C18	2-STANDARD BUTTERFLY VALVE STOPPERS
C13	5-CMCH ANCHORS WITH 1/2" S.S. BOLTS & NUTS		
C14	80-845 x 24mm S.S. BOLTS AND NUTS		
C15	80-845 x 24mm S.S. STUDS		
C16	2-1300mm DA. GLOVE INSPIRED RUBBER CASSETS		
C17	1-STEEL PLATE, 340mm x 800mm x 8mm		
C18	2-STANDARD BUTTERFLY VALVE STOPPERS		



Toronto Engineering & Construction Services

Title  
SubTitle 1  
SubTitle 2

GENERAL MANAGER, TORONTO WATER	DIRECTOR, Design and Construction Linear Underground Infrastructure	1350 mm HORIZONTAL BUTTERFLY VALVE CHAMBER (Position A)			
EXECUTIVE DIRECTOR, Engineering & Construction Services	MANAGER, Design and Construction Linear Underground Infrastructure	DESIGN	Design	DRAWN	Drawn
		CHECKED	Checked	CONTRACT No. X-X	
		SCALE	SCALE	DRAWING NUMBER	T-1110.12-1
		DATE	DATE	SHEET	X OF X

No.	DATE	REVISIONS	INITIAL	SIGNED