



- 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 CUT TO CUT.
 - BARs TO BE BENT COLD, MINIMUM INSIDE RADIUS TO 4 DIAMETERS.
 - ALL CROSSING BARS TO BE WELL WREID.
 - ALL REINFORCING STEEL TO BE DEFORMED BILLET-STEEL BARS GRADE 350, CONFORMING TO C.S.A. STANDARD G30.21M.
 - 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 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 BITUMINOUS PAINT.
 - *'d' DEPENDS ON HEIGHT OF CHIMNEY [DIM 'H'] AND BARS SHALL BE COUNTED TO ENSURE THAT THE BOTTOM BAR IS LESS THAN 150mm ABOVE THE CHAMBER ROOF.

MATERIAL LIST

MARK	SUPPLIED BY CONTRACTOR	MARK	SUPPLIED BY CONTRACTOR
F28	1-1350mm HORIZONTAL BUTTERFLY VALVE	C40	1-1350mm FABRICATED S.S. FL-VCL CONNECTION
C41	1-1350mm HORIZONTAL BUTTERFLY VALVE	C41	1-1350mm FABRICATED S.S. VCL-VCL SPACER
C42	1-1350mm FABRICATED S.S. VCL-VCL CONNECTION	C42	1-1350mm FABRICATED S.S. VCL-VCL CONNECTION
C43	1-1350mm VCL CONNECTION TYPE AS INDICATED	C43	1-1350mm VCL CONNECTION TYPE AS INDICATED
C44	1-1350mm FABRICATED S.S. FLANGE ASSEMBLY	C44	1-1350mm VCL CONNECTION TYPE AS INDICATED
C45	1-1350mm FABRICATED S.S. FLANGE ASSEMBLY	C45	1-1350mm FABRICATED S.S. FLANGE ASSEMBLY
C3	2-1500mm X 1350mm CECEVIC RENDERS	C36	2-1500mm X 1350mm CECEVIC RENDERS
C36	1-1350mm RIBbed SQUARE FRAME WITH CIRCULAR COVER AND FLUE FOR VALVE CHAMBER	C37	6-80mm X 32mm S.S. BOLTS & NUTS
C37	1-1350mm RIBbed SQUARE FRAME WITH CIRCULAR COVER AND FLUE FOR VALVE CHAMBER	C38	6-80mm X 32mm S.S. BOLTS & NUTS
C38	3-50mm SS304 SH90 STREET ELBOW	C39	6-80mm X 32mm S.S. STUDS
C39	3-50mm SS304 SH90 STREET ELBOW	C40	2-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C40	1-1350mm VCL CONNECTION TYPE AS INDICATED	C41	1-CC RIBBED FRAM WITH CLEANSING AND COVER
C41	1-1350mm VCL CONNECTION TYPE AS INDICATED	C42	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C42	1-1350mm VCL CONNECTION TYPE AS INDICATED	C43	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C43	1-1350mm VCL CONNECTION TYPE AS INDICATED	C44	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C44	1-1350mm VCL CONNECTION TYPE AS INDICATED	C45	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C45	1-1350mm VCL CONNECTION TYPE AS INDICATED	C46	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C46	1-1350mm VCL CONNECTION TYPE AS INDICATED	C47	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C47	1-1350mm VCL CONNECTION TYPE AS INDICATED	C48	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C48	1-1350mm VCL CONNECTION TYPE AS INDICATED	C49	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C49	1-1350mm VCL CONNECTION TYPE AS INDICATED	C50	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C50	1-1350mm VCL CONNECTION TYPE AS INDICATED	C51	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C51	1-1350mm VCL CONNECTION TYPE AS INDICATED	C52	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C52	1-1350mm VCL CONNECTION TYPE AS INDICATED	C53	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C53	1-1350mm VCL CONNECTION TYPE AS INDICATED	C54	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C54	1-1350mm VCL CONNECTION TYPE AS INDICATED	C55	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C55	1-1350mm VCL CONNECTION TYPE AS INDICATED	C56	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C56	1-1350mm VCL CONNECTION TYPE AS INDICATED	C57	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C57	1-1350mm VCL CONNECTION TYPE AS INDICATED	C58	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C58	1-1350mm VCL CONNECTION TYPE AS INDICATED	C59	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C59	1-1350mm VCL CONNECTION TYPE AS INDICATED	C60	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C60	1-1350mm VCL CONNECTION TYPE AS INDICATED	C61	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C61	1-1350mm VCL CONNECTION TYPE AS INDICATED	C62	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C62	1-1350mm VCL CONNECTION TYPE AS INDICATED	C63	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C63	1-1350mm VCL CONNECTION TYPE AS INDICATED	C64	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C64	1-1350mm VCL CONNECTION TYPE AS INDICATED	C65	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C65	1-1350mm VCL CONNECTION TYPE AS INDICATED	C66	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C66	1-1350mm VCL CONNECTION TYPE AS INDICATED	C67	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C67	1-1350mm VCL CONNECTION TYPE AS INDICATED	C68	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C68	1-1350mm VCL CONNECTION TYPE AS INDICATED	C69	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C69	1-1350mm VCL CONNECTION TYPE AS INDICATED	C70	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C70	1-1350mm VCL CONNECTION TYPE AS INDICATED	C71	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C71	1-1350mm VCL CONNECTION TYPE AS INDICATED	C72	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C72	1-1350mm VCL CONNECTION TYPE AS INDICATED	C73	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C73	1-1350mm VCL CONNECTION TYPE AS INDICATED	C74	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C74	1-1350mm VCL CONNECTION TYPE AS INDICATED	C75	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C75	1-1350mm VCL CONNECTION TYPE AS INDICATED	C76	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C76	1-1350mm VCL CONNECTION TYPE AS INDICATED	C77	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C77	1-1350mm VCL CONNECTION TYPE AS INDICATED	C78	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C78	1-1350mm VCL CONNECTION TYPE AS INDICATED	C79	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C79	1-1350mm VCL CONNECTION TYPE AS INDICATED	C80	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C80	1-1350mm VCL CONNECTION TYPE AS INDICATED	C81	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C81	1-1350mm VCL CONNECTION TYPE AS INDICATED	C82	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C82	1-1350mm VCL CONNECTION TYPE AS INDICATED	C83	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C83	1-1350mm VCL CONNECTION TYPE AS INDICATED	C84	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C84	1-1350mm VCL CONNECTION TYPE AS INDICATED	C85	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C85	1-1350mm VCL CONNECTION TYPE AS INDICATED	C86	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C86	1-1350mm VCL CONNECTION TYPE AS INDICATED	C87	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C87	1-1350mm VCL CONNECTION TYPE AS INDICATED	C88	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C88	1-1350mm VCL CONNECTION TYPE AS INDICATED	C89	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C89	1-1350mm VCL CONNECTION TYPE AS INDICATED	C90	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C90	1-1350mm VCL CONNECTION TYPE AS INDICATED	C91	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C91	1-1350mm VCL CONNECTION TYPE AS INDICATED	C92	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C92	1-1350mm VCL CONNECTION TYPE AS INDICATED	C93	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C93	1-1350mm VCL CONNECTION TYPE AS INDICATED	C94	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C94	1-1350mm VCL CONNECTION TYPE AS INDICATED	C95	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C95	1-1350mm VCL CONNECTION TYPE AS INDICATED	C96	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C96	1-1350mm VCL CONNECTION TYPE AS INDICATED	C97	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C97	1-1350mm VCL CONNECTION TYPE AS INDICATED	C98	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C98	1-1350mm VCL CONNECTION TYPE AS INDICATED	C99	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C99	1-1350mm VCL CONNECTION TYPE AS INDICATED	C100	1-1350mm PA. CLINCH PREFERRED RUBBER GASKETS [FULL FACE, ONE PIECE]
C100	1-1350mm VCL CONNECTION TYPE AS INDICATED		

FOR DETAILS OF C40, C41, C43, C45 AND C81 SEE DWG.

CHAMBERS

CHAMBER No.	CHANGE	MAINTENANCE ELEV.	SURFACE ELEV.	DIFFERENCE IN ELEV.	COVER LOCATION	DRAIN TYPE/OUTLET DIM.	FOR LOCATION REFER TO PLAN No.	REMARKS



Toronto Engineering & Construction Services

Title
Sub#01
Sub#102

1350 mm HORIZONTAL BUTTERFLY VALVE CHAMBER (Position B)

DESIGN Design DRAWN Drawn CHECKED Checked CONTRACT No. X-X

SCALE SCALE DRAWING NUMBER T-1110.12-2 SHEET X OF X

DATE DATE

No.	DATE	REVISIONS	INITIAL	SIGNED

GENERAL MANAGER, TORONTO WATER	DIRECTOR, Design and Construction Linear Underground Infrastructure
CHEF ENGINEER AND EXECUTIVE DIRECTOR, Engineering & Construction Services	MANAGER, Design and Construction Linear Underground Infrastructure